

OIL SPILL PUBLIC INFO. CENTER



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[Shoreline evaluations, 1990].

CB-01 – CH-900

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SHORELINE EVALUATION

SEGMENT ST/ CB-01 SUBDIVISION A (1 OF 1) DATE 4/26/90

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

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: [Signature] DATE: 5/8/90

OILING CATEGORIZATION:

Wide 0 m: Medium 245 m: Narrow 49 m: V.Light 3548 m: No Oil 398 m
Subsurface Oil Observed: Yes X No Maximum Depth 30 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pickup of mousse in area indicated on sketch maps, 2) manual removal of tarmats in areas indicated on sketch maps, and 3) bioremediation of area indicated on sketch maps. Work should be conducted after 6/1 with approval of USFWS due to eagle nest constraint.

TAG COMMENTS:

TAG APPROVAL DATE: 5/7/90

ADEC Art Weiner Dist Weiners
EXXON Andy Talar FOSC: [Signature] DATE: 5-18-90
NOAA Gary Peters Gary Peters
USCG G.A. Reiter G.A. Reiter

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

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

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

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

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

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

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

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

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 unholed intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

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

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

71-HH Finfish harvesting

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

7JJ Invertebrate harvesting

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

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST CB-01 SUBDIVISION: A 101 DATE 04/26/90

USCG

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

ADEC

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

COMMENTS AP @ SITE #2 is concentrated @ end of Beach on Bedrock terrace - suggest removal - SITE #3 area for concern - suggest further monitoring SITE #4 ✓ suggest removal of 19 AP mat - SITE #5 - manual removal of AP along isthmus - SITE #6 ✓ Considering area & distribution oiling is low end of WIDE - manual removal of MO displacement of B/C to expose residual oil to wave action - SITE #11 Subsurface oiling noted in S - Possible tell site - SITE #12 ✓ Removal of AP Although high energy area - Bedrock terrace & platform - AP is located in protected areas - Video taken

LAND MANAGER 04/27/90 - *90JEF008 available from Homer ADEC officeNAME Dick Noonan SIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 06-12-89

SEGMENT ST/ CB-01 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~~	~~ST~~	~~SL~~	~~ST~~	~~SL~~	~~ST~~	SU	U	M	U				
7	40					X	.		X							X							S-S, P
8	40					X	.		X							X							S-S, C
9	40					X	.		X							X							S-S
10	40					X	.		X							X							S-S
11	40					X	.		X							X							G-G
12	40					X	.		X							X							G-C, B
13	35					X	.		X							X							S-S
14	30				X		.	?		X						X					Y	20	S-S
15	30				X		.	?		X						X					Y	20	S-S, P
16	30				X		.	?		X						X					Y	20	S-S, P
17	30					X	.		X									X					S-S, P
18	40		X				.		X					X		X							P-P
19	50					X	.		X							X							S-S
20	40		X				20-30		X	X						X							S-S

COMMENTS

PIT 13

Small pieces of mouse on individual pebbles.
Generally < 1% residue.

REVIEWED 7W DATE 4/30/90

SHORELINE OILING SUMMARY (PAGE ³ 2)

REVISION 04-12-80

SEGMENT ST/ CB-01 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	SPEED (Y/N)	!	SURFACE SUBSURFACE SEDIMENTS
		OP	OR	OL	OP	NO		UO	UC	~~1/2~~	~~3/4~~	~~5/8~~	~~1~~	~~2~~	~~3~~	SU	U	M	U						
21	30		X				5-20		X	X						X									J-G
22	20					X	.		X							X									P-G, P
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COMMENTS

REVIEWED

7W

DATE

4/30/90

OG R1 GILLIE
SEGMENT ST/ CB-01
SUBDIVISION A-1 of 1
DATE 04, 26/90

SKETCH MAP (GENERAL)

CHECKLIST

- ☒ M Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Bdry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWM/LWL
- ☐ SSI
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pix Location(s)
- ☐ Photo Location(s)

LEGEND

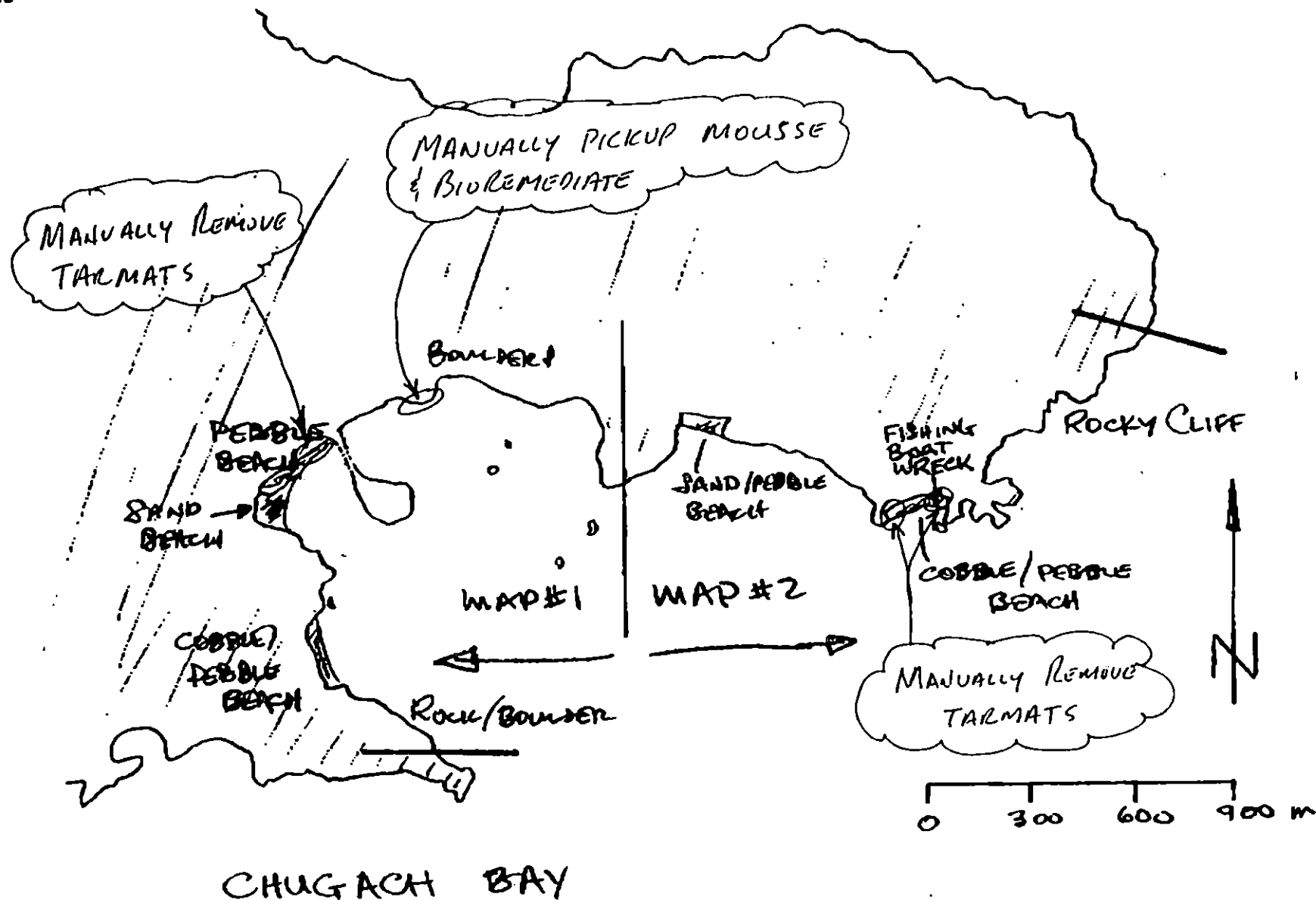
- 1 Δ
Pix - No Subsurface Oil
- 2 Δ
Pix - Subsurface Oil
- CT/C

Continuous Distribution
- CT/B

Broken Distribution
- CT/P

Patchy Distribution
- CT/S

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



CHUGACH BAY

Oil Character Length (m): AP 20 PO 0 CV 0 CT 100 ST 10 MS 5 PT 0 TB 0 FL 10 NO 6638

REVISION 00/04/00

OG R1 GILLIE
 SEGMENT ST/ CB-01
 SUBDIVISION A-1 of 1
 DATE 04/26/90

CHECKLIST

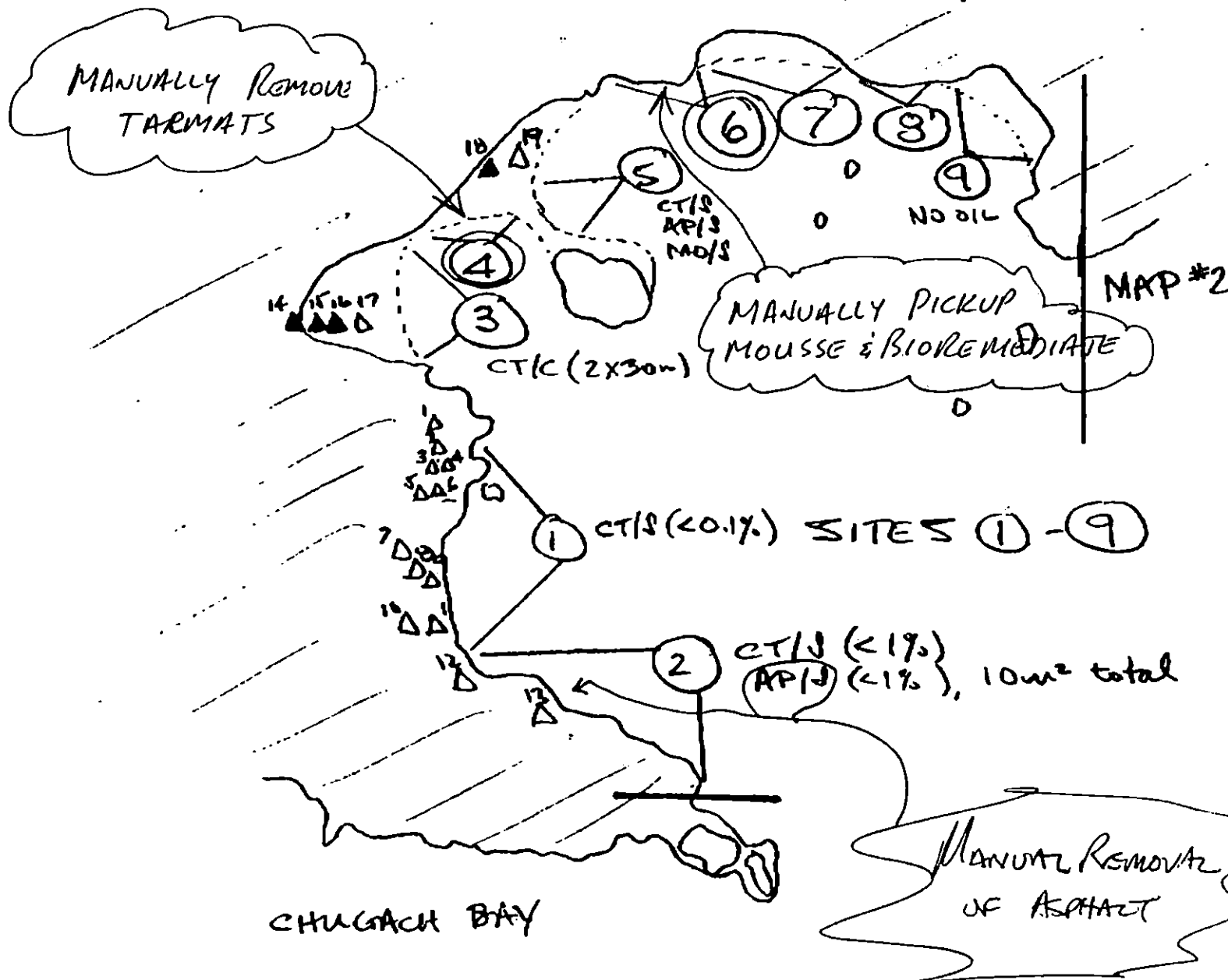
☒ N Arrow
☒ Approx. Scale
☒ Seg/Sub Entry
☐ Oil Dist.
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. HWA/LWA
☐ SSL
☐ Profile Location(s)
☐ Profile(s)
☒ P/L Location(s)
☐ Photo Location(s)

LEGEND

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

ETCH MAP MAP #1 (WEST HALF)

0 300 600m



CHUGACH BAY (CB-01)

SKETCH MAP #1 (WEST HALF)

1 of 3

SITE 1: LOW ANGLE PEBBLE/COBBLE/SAND BEACH OVERLYING WAVE-CUT PLATFORM (500 M)

- ① - BEACH IN LITZ
- ② - BEDROCK REEF IN WITZ AND LITZ
- ③ - MINOR CT/S (< 0.1%) ON TREE ROOTS AND LOGS IN Su-LITZ.
- ④ - 9 PITS DUG, NO SUBSURFACE OIL

SITE 2: LOW ANGLE BOULDER/COBBLE SHORELINE OVERLYING W/C PLATFORM (500 M)

- ① - CT/S (< 1% COVER) ON LANDWARD SIDE OF VERTICAL ROCKS.
- ② - AP/S (< 1% COVER) ON COBBLE/PEBBLE SUBSTRATE IN LITZ BETWEEN BOULDERS. TOTAL OF 10 M² AND 3 CM THICK.

SITE 3: SAND BEACH (200 M LONG, 100 M WIDE)

- ① CT/C BAND (2 M X 30 M) ON ROCK AT SOUTH END
- ② OILED LOGS IN LITZ, LARGE AMOUNT OF DEBRIS
- ③ FILM FOR 5 M AT BEACH WATER TABLE EXPOSURE
- ④ PITS 14-16 INDICATE POSSIBLE FILM OF OIL ON SUBSURFACE SEDIMENTS

CHUGACH BAY (CB-01)

SKETCH MAP #1 (WEST HALF)

2 of 3

SITE 4: DEBBLE/SAND BEACH 400 M LONG

- ① OILED LOGS IN PUTZ
- ② PIT 13 CONTAINS RESIDUAL OIL
- ③ - LARGE PIECES OF SOFT ASPHALT PAVEMENT
2-3 m² IN AREA OF LOGS IN PUTZ.
- PARTLY COVERED WITH SAND AND BURIED
TO 10 CM DEPTH.
- ASPHALT PAVEMENT IS FROM 3-8 CM THICK
- TOTAL AREA 15 m²

MANUALLY
REMOVE
TAR MATS

SITE 6: BOULDER ARMOUR OVER COBBLE/PEBBLE AND WAVE CUT-PLATFORM

- ① CT/P ON Boulders
- ② FL/P IN SOME TIDE POOLS
- ③ MO-AP/B - AREA 30m x 70m (50%)
- MOUSSE, MOUSSE SATURATED SEDIMENTS AND
SOFT ASPHALT PAVEMENT TYPICALLY 1-2 CM
THICK AND UP TO 5 CM PENETRATION
- NEED TO TURN BOULDERS OVER TO EXPOSE OIL
- ④ MO/B - AREA SOUTH AND BEHIND BIG ROCK WITH
SPRUCE TREES:
WITZ - 5x40m, MO/P 1 UNDER BOULDER
MITZ - 10x50m, MO/P " "
(30%)

MANUALLY
KUP MOUSSE
& BIOREMEDIATE



- Boulder Armour
- COBBLE/PEBBLES

CHUGACH BAY (CB-01)

3 of 3

SKETCH MAP #1 (WEST HALF)

SITE 5: BOULDER/COBBLE/PEBBLE TOMBOLO (300M LONG)
TO ISLAND (300M)

- ① SPLATTER OF MOUND AND ASPHALT PAVEMENT
UNDER AND AROUND BASE OF BOULDER & COBBLES
- ② MS/S (<1%), MITZ
- ③ AP/S (<1%), SMALL PIECES, APPROX 10 CM
DIAMETER EACH, EXTENDS INTO PORWEEED TIDE ZONE
- ④ CT/S (<1%) ON ISLAND
- ⑤ MO/S (10%) SOUTH SIDE NEAR ISLAND

SITE 6: BOULDER VENEER OVER WAVE-CUT
PLATFORM (100M WIDE)

SEE PAGE 2

SITE 7: PEBBLE/COBBLE BEACH (200M LONG)

- ① CT/S (<1% ON BOULDER)
- ② OTHERWISE NO OIL

SITE 8: HIGH ANGLE BOULDER / VERTICAL ROCK

- ① CT/S (<0.1% COVER)

SITE 9: PEBBLE/BOULDER/SAND BEACH (200M LONG)

- ① BEDROCK W/C PLATFORM IN MITZ
- ② NO OIL

RICK LIE

3MENT ST/ CB-01

BDIVISION A-1 of 1

TE 04, 26/90

HECKLIST

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

EGEND

1 Δ
No Subsurface Oil

2 Δ
Subsurface Oil

CT/C
Continuous Distribution

CT/B
Open Distribution

CT/P
Patchy Distribution

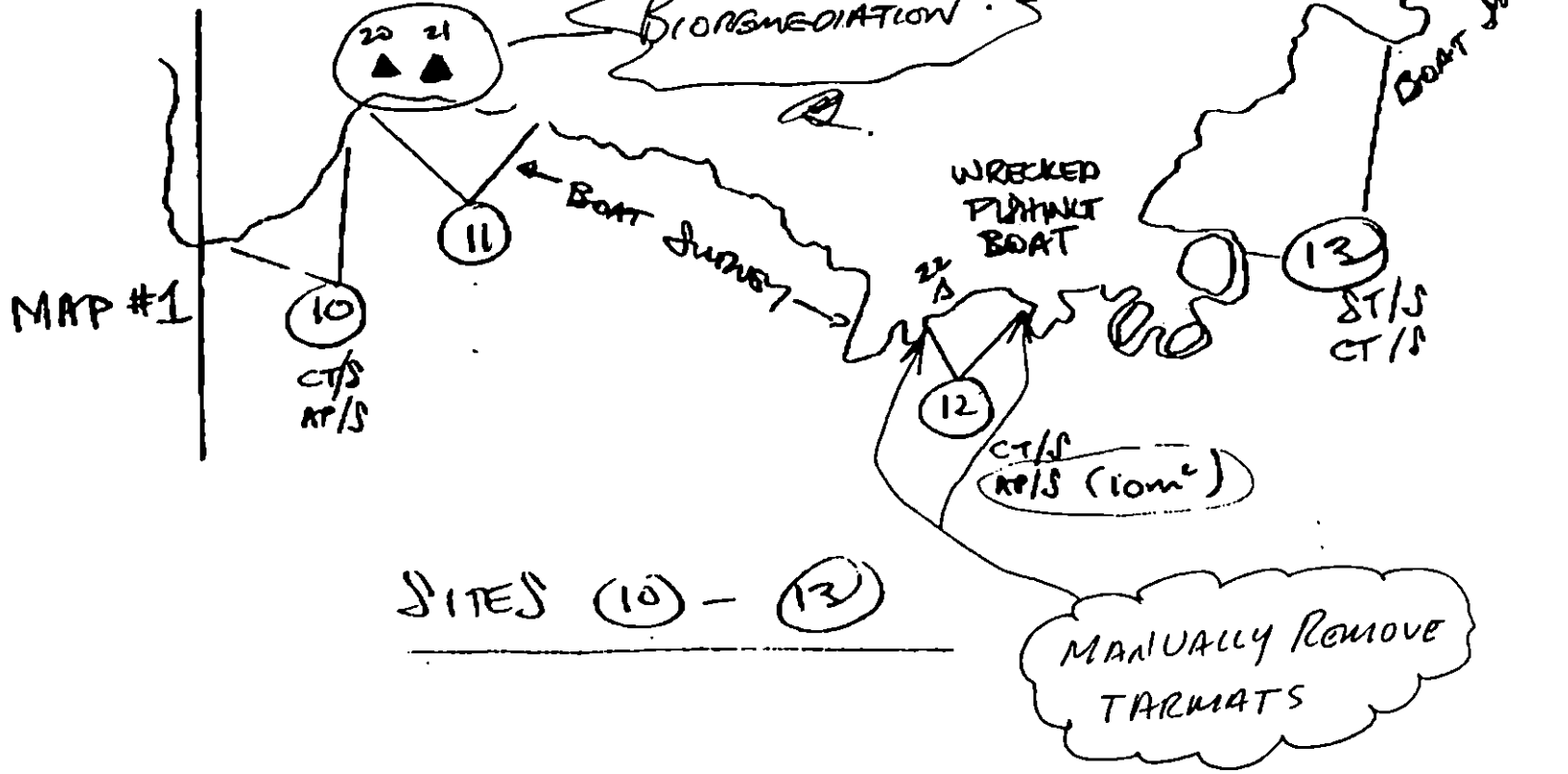
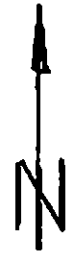
CT/S
Washed Distribution

Red Vegetation

1 →
Photo location, direction,
and number

SKETCH MAP MAP #2 (EAST HALF)

0 300 600 m



SITES (10) - (13)

MANUALLY REMOVE
TARMATS

APR-28-1990 15:10 FROM SEA TRADER

TO

EXXON855HTJ

P.10

REVISION 002490

Character Length (m) AF PO CY CT S RT PT TB FL NO

CHUGACH BAY (CB-01)

SKETCH MAP #2 (EAST HALF)

1 of 1

SITE 10: HIGH ANGLE BEDROCK SLOPE (10 M HIGH)

- ① CT/S, AP/S (BOTH < 1% COVER) IN CREVICES OF ROCK
- ② TOTAL 2 m² AP
- ③ NO OIL ON MOST EAST SIDE

SITE 11: SAND / PEBBLE BEACH (80 M LONG)

- ① NO OIL ON SURFACE
- ② SUBSURFACE OIL IN PITS 20 + 21

SITE 12: COBBLE / BOULDER / SAND BEACH (200 M LONG)

- ① SITE AND MITE: SUBSTRATE OVER WAVE/CUT PLATFORM.
- OILED LOGS, LARGE AMOUNT OF WOOD DEBRIS
- ② MITE: BOULDERS WITH CT/P
AP/S IN COBBLE / PEBBLE SEDIMENT
BETWEEN BOULDERS, < 10% COVER, FL/S IN POOLS
- APPROX 10 M² AP NEAR WRECKED BOAT (KATHY JOANNE)
- ③ - APPROX 20 M² AP (MAX 8 CM THICK) AT WEST END
MITE BEHIND REEF AND BELOW "STORAGE SITE". MAY BE PARTLY COVERED BY GRAVEL.

MANUALLY
REMOVE
ANIMATSSITE 13: HIGH ANGLE ROCK PLATFORM

- ① FL/S, < 0.1% COVER
- ② ST/S, CT/S < 1% COVER
- ③ AP/S, < 1% COVER IN SUBSTRATE BETWEEN ROCKS AND BOULDERS < 10 m²

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/9

Segment ST / CBOO1 Subdivision A Date (mo / day / yr) 4-26-90Time (24 hr) 7:15 Biologist David Lohr

- (A) Substrate type and % of segments:
 (1) Bedrock 30 (2) Boulder 20 (3) Cobble 20 (4) Pebble 10 (5) Sand 20 (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 35 Moderate 35 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-13-5Frames 25-27

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:

See page 2

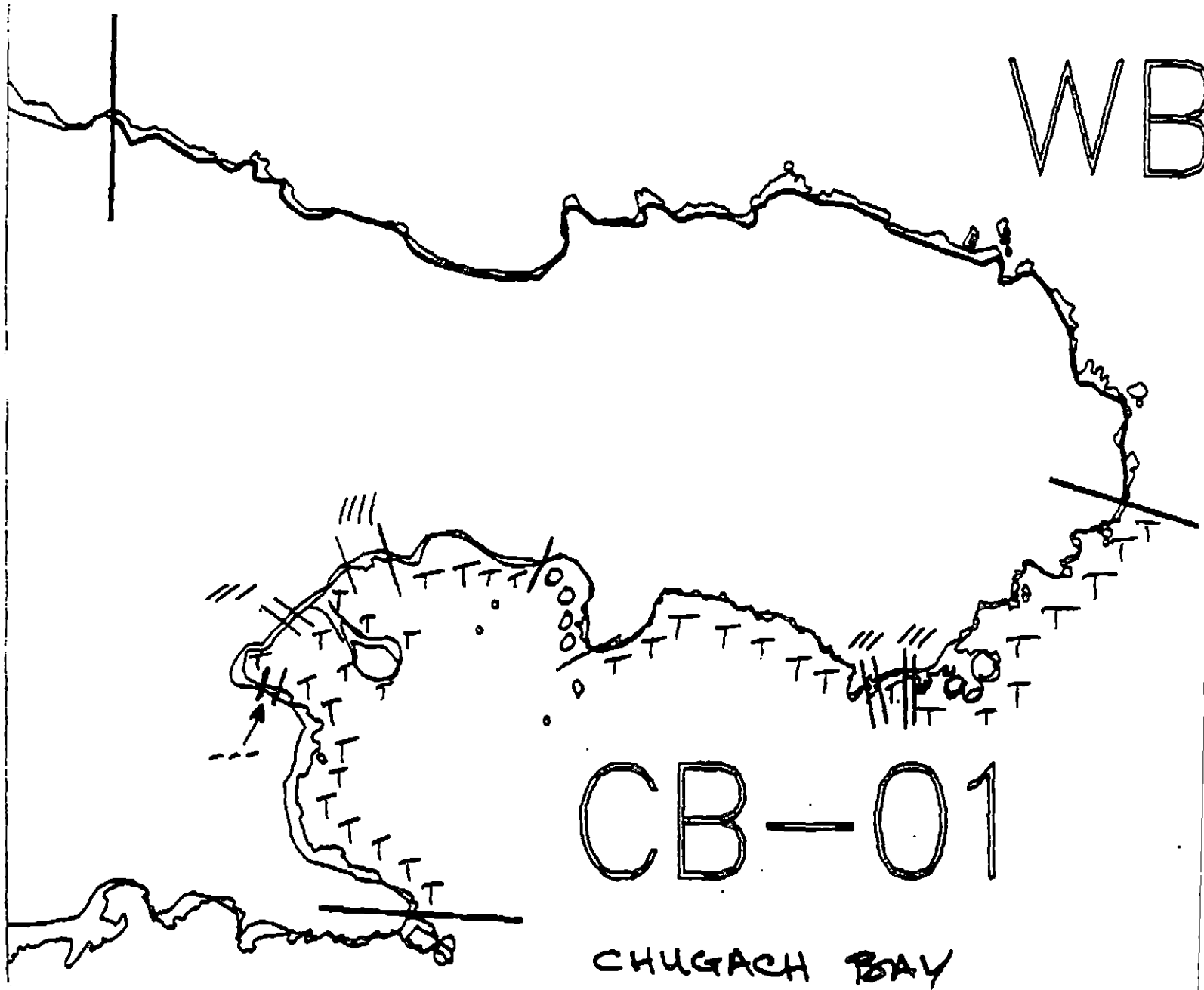
Ecological Considerations:

Unknown - no information available

WB-8
WB-9



00



CB-01

CHUGACH BAY

XXXX Wide

//// Medium

--- Narrow

TTTT

ADEC Segment Length: -5343m-

~~CB-1~~
CB-1

Map Key: PWS-718a

Name: Rick Gilme

Date: 09/26/90



ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CB-1 SUBDIVISION A (1 of 1)

WORK WINDOW

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

* EXAM 'A' Study Site AH-3 - DO NOT REMOVE STAKES FROM BACK OF INTERLIDAL ZONE

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

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

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

[Signature]

Date

6/13/90

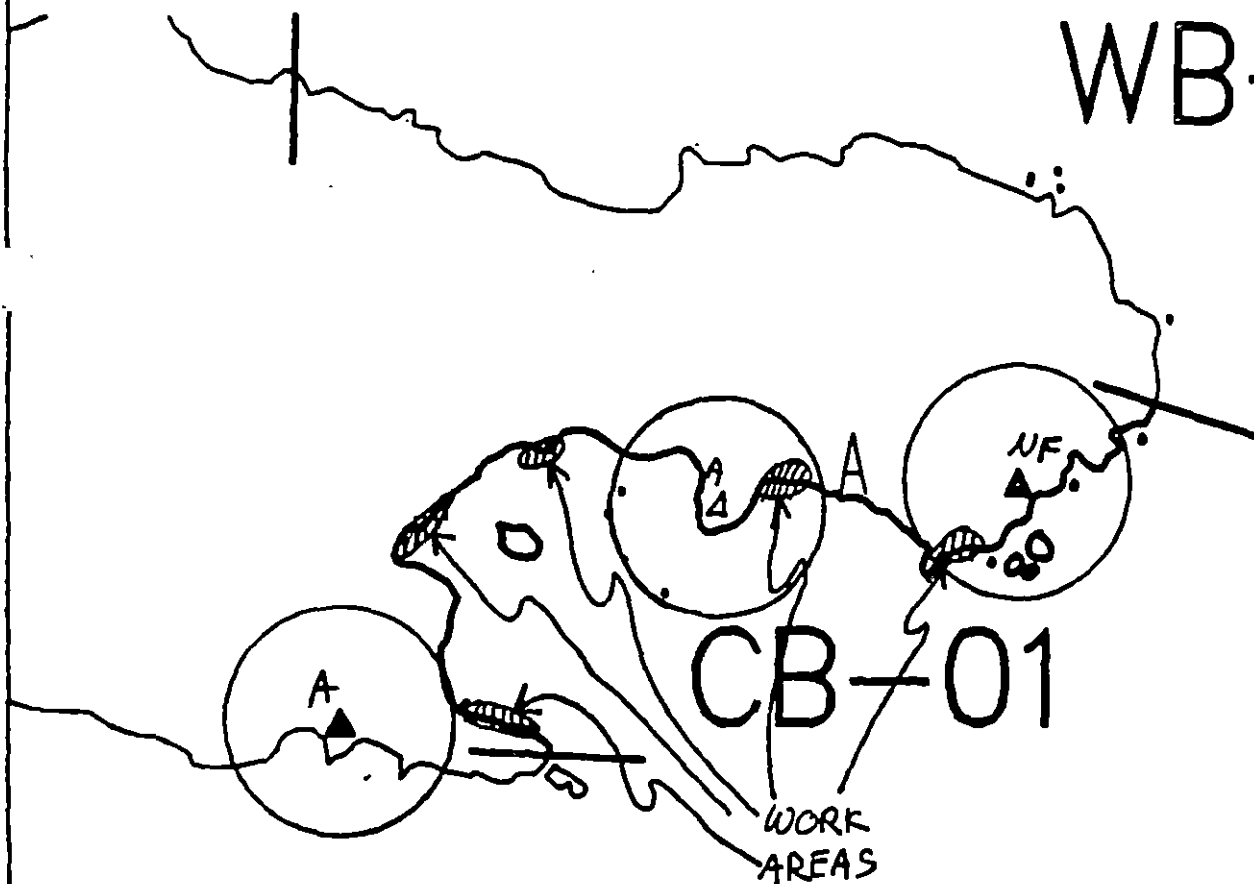
Prepared by

[Signature]

Date

6/12/90

WB-05



ECOLOGY MAP
SEGMENT CB-1
SUBDIVISION A (1 of 1)

- ★ Seabird Colony
- ▲ Eagle Nest

WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT CB-01 A SUBDIVISION A DATED 07/17/90

MODIFICATION CLASS I CLASS II ✓ CLASS III

1. REASON FOR MODIFICATION

ADDITIONAL OILING FOUND. BLT ABOVE HIGH TIDE Z
AREA WHERE OIL WAS FOUND 10' x 30', BURIED
BY 12" TO 18" OF GRAVEL. OIL LENSE APPROX. 4"
THICK. (SEE ATTACHED MAP FOR LOCATION)

2. SUGGESTED ADJUSTMENT TO WORK PLAN

MECHANICAL REMOVAL OF OVERBURDEN. RECOVERY
OF MOUND + SEDIMENT.

3. TIMING ISSUES

WHEN MECHANICAL EQUIPMENT IS AVAILABLE
IN THE AREA.

ADEC L. Patch

EXRON Timothy W. Turner

USCG Pat M. [Signature]

LAND MANAGER (If field rep is on scene)

WORK PLAN ADDENDUM

Segment CB 01

Subdivision A

Dated 07/20/90

MODIFICATION

1. REASON FOR MODIFICATION

REQUEST FROM FIELD FOR MECHANICAL ASSISTANCE TO
ACCESS OIL BELOW BERM.

2. ADJUSTMENT TO WORK PLAN

MANUALLY ACCESS OIL IF POSSIBLE, SHOULD MECHANICAL
MEANS BE NECESSARY THIS IS AUTHORIZED. Removal of OP/mousse
followed by Customblen.

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

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

SHPO APPROVAL NEEDED YES X
~~NO~~

SHPO SIGNATURE Rachel Jean Dale 7/20/90

ABOVE INSPECTION CONSTRAINT APPLIES

TAG APPROVAL DATE 07/20/90

ADEC JOHN BAUER John Bauer

EXXON ANDY TEAL Andy Teal

NOAA Burl Wescott Burl Wescott

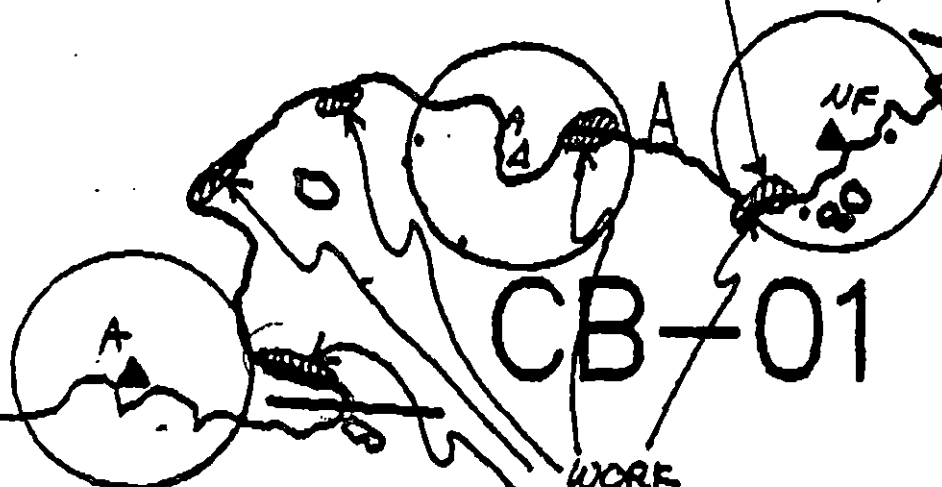
USCG G.A. REITER G.A. Reiter

FOSC [Signature] DATE 7-28-90

OIL FOUND IN
STORM BERM ABOVE
BEDROCK OUTCROP.

07/16/90 JH

WB-05



CB-01

WORK
AREAS



Exxon Company, USA



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

★ Seabird Colony
▲ Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ CB-02 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1J Purse seine area (7/1 to 8/31)
5T-4 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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

OILING CATEGORIZATION:

Wide 0 m: Medium 38 m: Narrow 46 m: V.Light 4998 m: No Oil 3039 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

*accessible
and mousse*

COMMENTS: Recommended treatment includes manual removal of tarmats in areas shown on sketch map (east portion only). Work should be conducted after 6/1 with approval of USFWS regarding eagle nest constraint.

TAG COMMENTS:

TAG APPROVAL DATE: May 5, 1990
ADEC Art Wenzel Art Wenzel
EXXON Mark N. Silbert Mark N. Silbert FOSC: My L DATE: 5-18-90
NOAA Gary Patrae Gary Patrae
USCG G.A. Reger G.A. Reger

PWS, SEWARD, STEWART AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ CB-02 SUBDIVISION: A-10f1 DATE 04/26/90

SCG

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

UL oiling within segment suggest manual removal of AP which is concentrated in protected areas on the base of bedrock platform at the base of gravel beaches (beach) last 200 m was not surveyed on foot -

LAND MANAGER

NAME Dick Moen SIGNATURE Dick Moen

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 26-1-20

OG RICK GILLIE USCG DAVE THOMAS SEGMENT ST/ CB-02
 BIO DAVE LOHVE LAND REP DICK MOONIN (DT) SUBDIVISION A (1 OF 1)
 EXXON FRANK BOX ADEC CLARA CROSBY TIME 18:30 10:20 20:30
 TEAM NO. 13 TIDE LEVEL +6 to +2 DATE 04/26/90
 EST SUBDIVISION LENGTH: 10,168 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W 10 E
 SURFACE SEDIMENTS: R 50 % B 30 % C 15 % P 5 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 50 % Hang 40 % Vert 10 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 5 m N 5 m VL 5,000 m NO 4,353 m

SURFACE OIL

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

PAVEMENT H F (S) 25 sq. m by 5 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☐ . NO ☒TYPE 0#BAGS 0

Photographs:

Roll No. JT-13-5Frames 28, 29

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		US	UC	1	2	3	4	5	6	7	8					
1	20					X	.		X									X				C-P, S
2	30					X	.		X									X				C-C
3	30					X	.		X									X				C-C
4	25					X	.		X									X				P-P, S
							.															
							.															

COMMENTS

GEOMORPHOLOGY: - WEST 1/3 IS VERY STEEP UPLAND WITH BOWLER BEACHES.
 - MID 1/3 IS ROCKY CLIFF WITH COBBLE POCKET BEACHES
 - EAST 1/3 IS WIDE ROCK PLATFORM AND REEF WITH PEBBLE BEACHES.

OILING: MOSTLY NO OIL TO VERY LIGHT. 2 SMALL AREAS OF CONCENTRATED AP.

REVIEWED JWDATE 4/30/90

OG RH GILLIE

SEGMENT ST/ CB-02

SUBDIVISION A-1 of 1

DATE 04/26/90

CHECKLIST

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

LEGEND

1 Δ

Pl - No Subsurface Oil

2 Δ

Pl - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Spaced Distribution

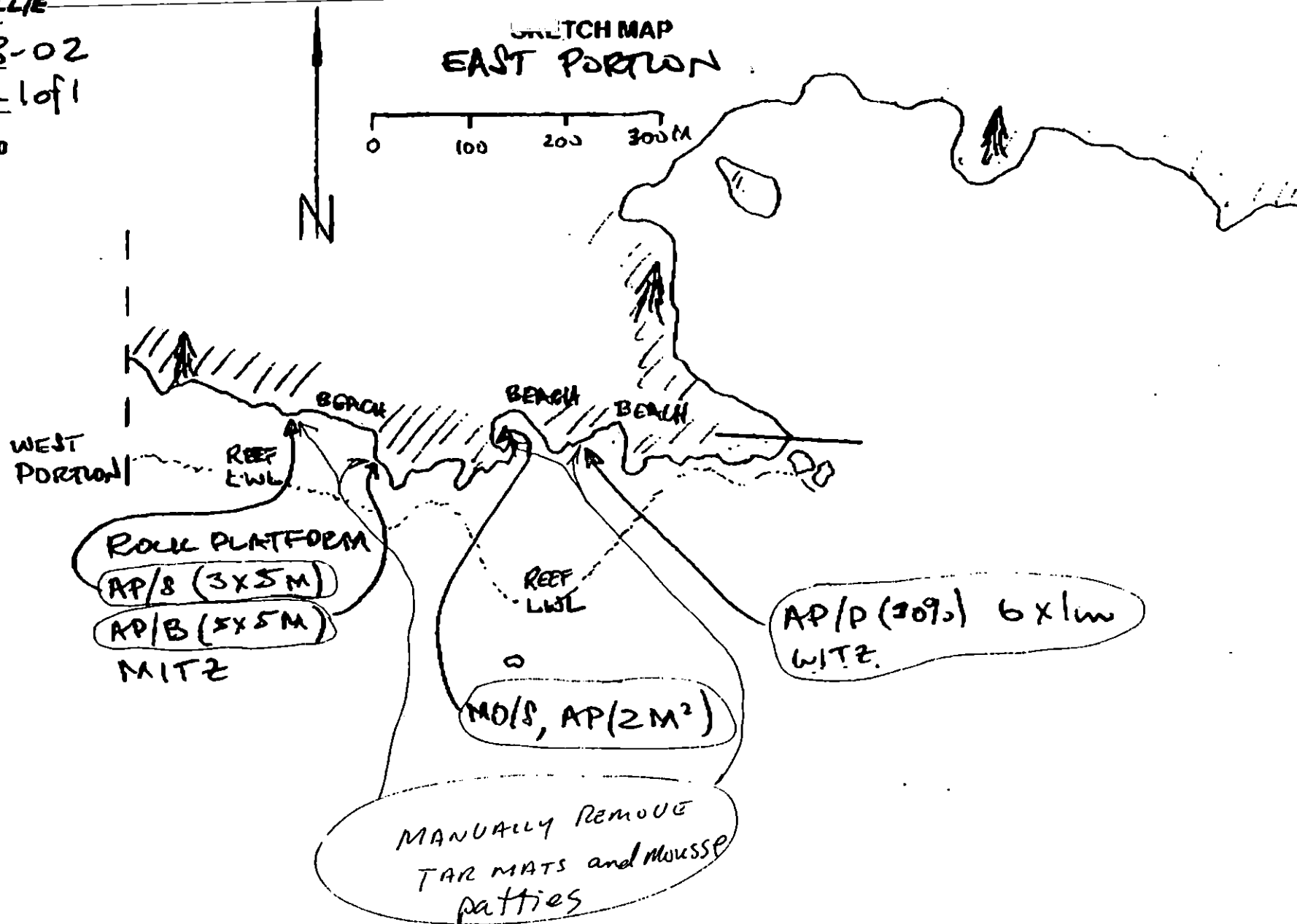
Oil Vegetation

1 →

Photo location, direction, and number

SKETCH MAP EAST PORTION

0 100 200 300 M



DATE 04, 26 90

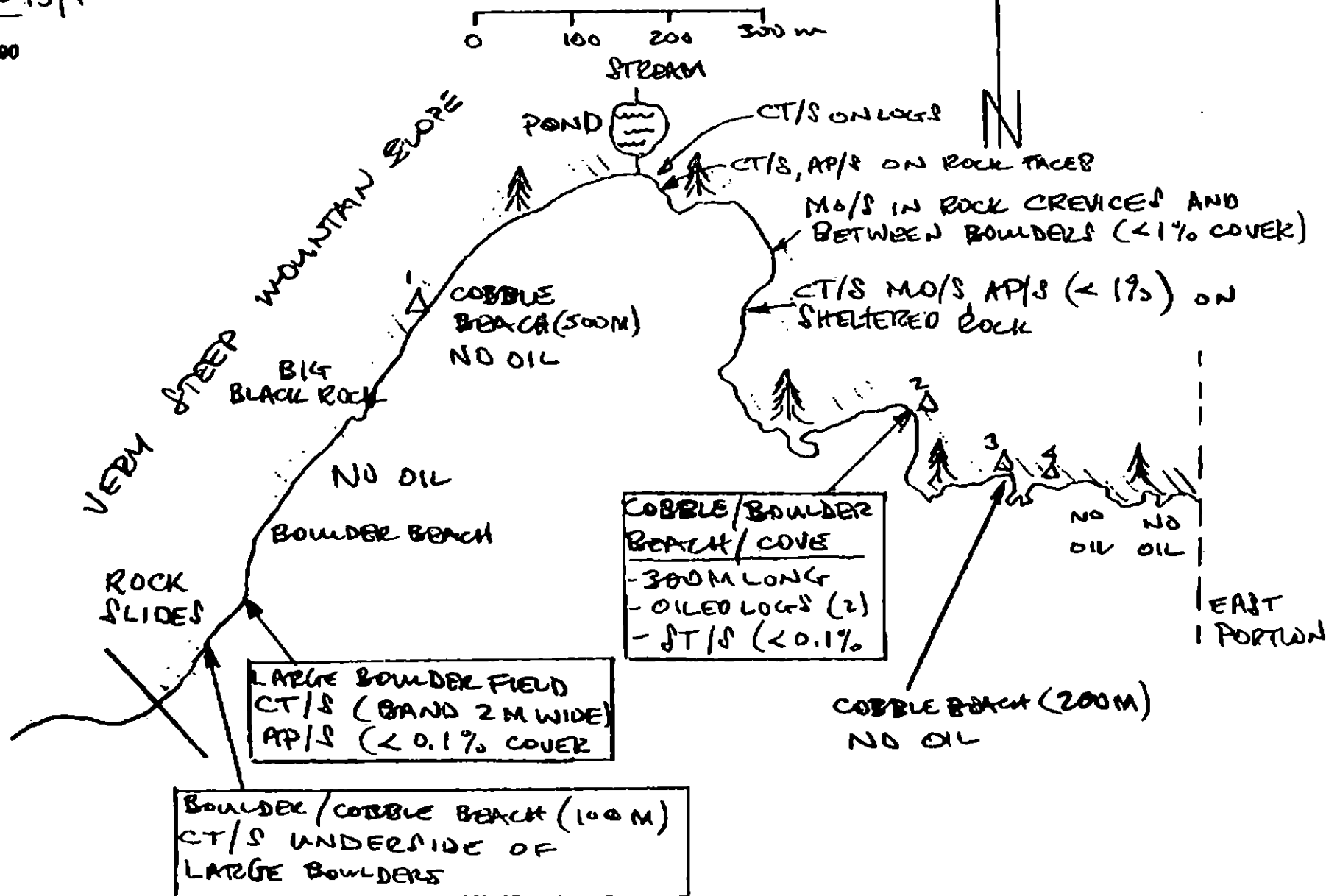
CHECKLIST

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

LEGEND

- 1 
P1a - No Subsurface Oil
- 2 
P1i - Subsurface Oil
- 
CT/C
Continuous Distribution
- 
CT/D
Broken Distribution
- 
CT/P
Patchy Distribution
- 
CT/S
Splashed Distribution
- Oiled Vegetation
- 1 
Photo location, direction and number

S...CH MAP
WEST PORTION



Oil Character Length (in): AP 23 PO 0 CV 0 CT 30 ST 10 MS 6 PT 0 TB 0 FL 0 NO 10 109
 (OR TOTAL ELEMENTS)

THE WINNING EQUATION

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/1

Segment ST / LB002 Subdivision A Date (mo / day / yr) 4-27-90

Time (24 hr) 7:00 Biologist David Lohse

(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 25 Moderate 40 Low 35

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

Photographs: Roll No. ST-13-5

Frames 28, 29

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

See Page 2

Ecological Considerations:

Unknown- no information available

Shoreline Ecological Summary

ZotZ

Segment ST-CB002

Subdivision A

4-27-90

Biologist: David Lohse

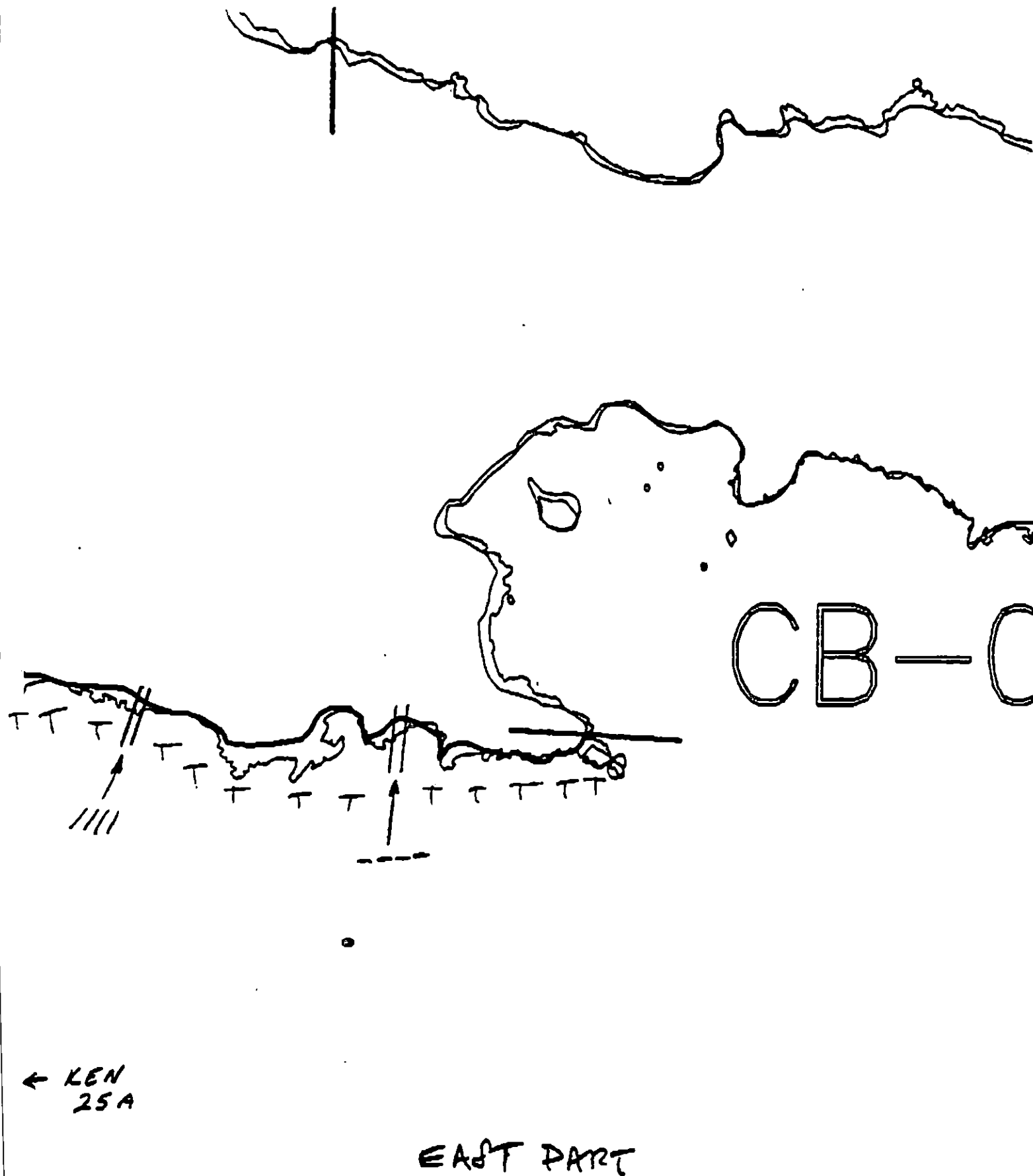
Wildlife Observations/General Comments

1. Present in low intertidal: Rhodomenia, Halosaccion, Ulva, Enteromorpha, Alaria, Evasterias, Zostera, Kathrina tunicata, Nuella, coralline algae, Lamhinaria, Porphyra, Anelopus, Mopalia, Anthopleura, unidentified red algal "blade", unknown sponges (yellow, orange, pink).

mid intertidal: Ectocarpus, Enteromorpha, Ulva, Porphyra, Ralfsia, Endocladia, Nuella, Scytosiphon, Anthopleura, coralline algae, Kathrina tunicata, Rhodomenia, unknown red "branch" (Rhodomenia?), Pycnopodia, Halosaccion, Siphonaria, unknown solid-yellow dors. & nudibranch, Zostera, Mopalia, unknown yellow sponge (in tide pool)

high - Porphyra

2. Several Harlequin ducks, gulls and cormorants, 3 land otters, one mature bald eagle, and one black bear were spotted in this segment. The bear was digging in beach wrack at high tide line.
3. Algal cover in low intertidal was ~95% on bedrock (one site estimated), and 75-80% on boulders (2 sites estimated).
4. Barnacle mortality on mid-intertidal boulders was ~30% (one ~~site~~ site estimated).
5. One stream found in segment. See OG map for location. No information available ^{to me} on whether ^{or not} anadromous streams are present in this segment.



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

CB-2

ADEC Segment Length: 8122m

0 500 600 900

Map Key: KEN-25b

Name: Rick GillieDate: 04/26/90

WB—

CB—

LEN
253 →

WEST PART

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO " " " "

CB-2

ADEC Segment Length: 8122m

0 300 600 900

Map Key: KEN-250

Name: Rick GillieDate: 04/26/90

Note Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CB-2 SUBDIVISION A (1 of 1)

WORK WINDOW

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

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 tarmat removal within 400m of active nest. No constraint to tarmat removal more than 400m from active nest.
1J	Purse Seine Area	No constraint to tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

Date

Prepared by

Date

WB-04

A CB-02

CB-0

WORK
AREAS



Exxon Company, USA
Map Key: KEN-CB-2
June 10, 1990



ECOLOGY MAP
SEGMENT CB-2
SUBDIVISION --- (--- of ---)
METERS

0 1000 2161

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

1 inch = 3545 feet

SHORELINE EVALUATION

SEGMENT ST/ CB-003 SUBDIVISION A (1 OF 3) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Subsistence area - invertebrate harvesting (7JJ) - Contact Port Graham Native Association for exact dates; Salmon stream mouth - fry out migrating (1A) - 3/1 to 5/15; Salmon stream mouth - spawning (1B) - 7/10 to 8/31. Contact ADF&G Habitat Division prior to treatment for permit.

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

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

OILING CATEGORIZATION:

Wide 0 m: Medium 19 m: Narrow 0 m: V.Light 586m: No Oil 925 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Manual pick-up of tar patties and balls and trowl up mousse between cobble. Recommend working between 5/15 and 7/10, due to above constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/12/90
ADEC JOHN BAKER
EXXON ANDY TEAL
NOAA Barl Wescott
USCG M. J. HALL

FOSC: DATE: 5-8-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST CB-003 SUBDIVISION: A DATE 3-29-90

USCG

NAME R. B. HITTLE DCISIGNATURE R. B. Hittle☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

1. I concur with all the finding of this report

2. A Ten (10) man crew could do most of this work
in three (3) to five (5) days. all work done by hand3. man hours stated above are for Subdivision A and B
of Segment CB-003

ADEC

NAME Russell KunibeSIGNATURE Russell Kunibe☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

There were tar patties and balls along both sides of the anadromous salmon stream. In the low intertidal there were tar balls, patties and mats which were within 50m of the stream bed. Along the cobbles in the U1T2 below the rock faces at the SE end of the subsegment were mouse patties. Careful manual pick up would remove these. Additionally there is a small amount of oiled debris along the storm berm which should be picked up.

LAND MANAGER

NAME Patrick NormanSIGNATURE Patrick Norman☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Recommend pick up of patties and tarballs on the west side of stream and on the east side extending from the inside of the stream mouth outward towards the west. Shovels and rakes will work best in this case. Work was performed last year in this area and more can be done this year to further help the natural cleaning of the beach.

CB-3-A Chugach Bay 3/29/90
wildlife observations and comments

Most of the subsegment is a cobble/gravel, moderate wave energy beach, relatively depauperate in terms of biota. There are moderately dense Littorina sittana of all sizes in mid-intertidal, scattered mussels from about 5-25mm in length, moderately dense barnacles (mostly Balanus glandula). Oil in various forms scattered along south side of anadromous fish stream. The intertidal community is also richer on south side of stream, especially as you move out toward mouth of bay. Several kinds of leafy and filamentous red algae abundant, including Halosaccion, Callophyllis, Plocamium. Also Ulva and some laminarians. On this shore boulders and cobbles are stable, and there are many vertical faces in intertidal zone. Large Balanus cariosus present, chitons (Katharina) common, also limpets (Notogaster scutum, Collisella pelta, Acmaea persona). Littorina laying eggs beneath boulders. Nucella emarginata common, eating barnacles. In general, a healthy, mature community is present on south side of stream, despite presence of oil.

7 JJ - SUBSISTENCE AREA - INVERTEBRATE HARVESTING - CONTACT CAC FOR EXACT DATES

1A - SALMON STREAM MOUTH - FRY OUT MIGRATING 1 MAR - 15 MAY

1B - SALMON STREAM MOUTH - SPAWNING 10 JULY - 31 AUG

SHORELINE OILING SUMMARY

REVISION NO. 53/22/90

OG Randy Sneyel USCG Bryan Hittle SEGMENT ST/ CR-003 (1 of 3 sub)
 BIO Mike Ewert LAND REP Pat Norman (PGVC) SUBDIVISION A (1 of 1)
 EXXON John Dean ADEC Russell Knaibe TIME 8:00 to 13:00
 TEAM NO.: 17 TIDE LEVEL: -1.3 to +7.2 DATE 3/29/90
 EST. SUBDIVISION LENGTH: 1650 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W To N
 SURFACE SEDIMENTS: R 5 % B 10 % C 30 % P 35 % G 15 % S 10 % M 0 % V 1 %
 SLOPE: Long 33 % Hang 67 % Vert % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 30 m N 0 m VL 350 m NO 1270 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	C	B	P	S	SP BR	DEL RW	GY	SL DBR	TL LBR	SU	UI	M	U	
ASPHALT PAVEMENT		X	✓					X	X	✓	X			
POOLED				X					X		X			
COVER				X				X			X			
COAT				X				X			X			
STAIN				X		X		X			X			
MOUSSE		X							X			X		
PATTIES			X						X		X			
TARBALLS														
FILM														
NO OIL										X			X	

PAVEMENT: H (F) S 4 sq. m by 2 cmPATTIES / TARBALLS 60 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-17-1Frames 1-13

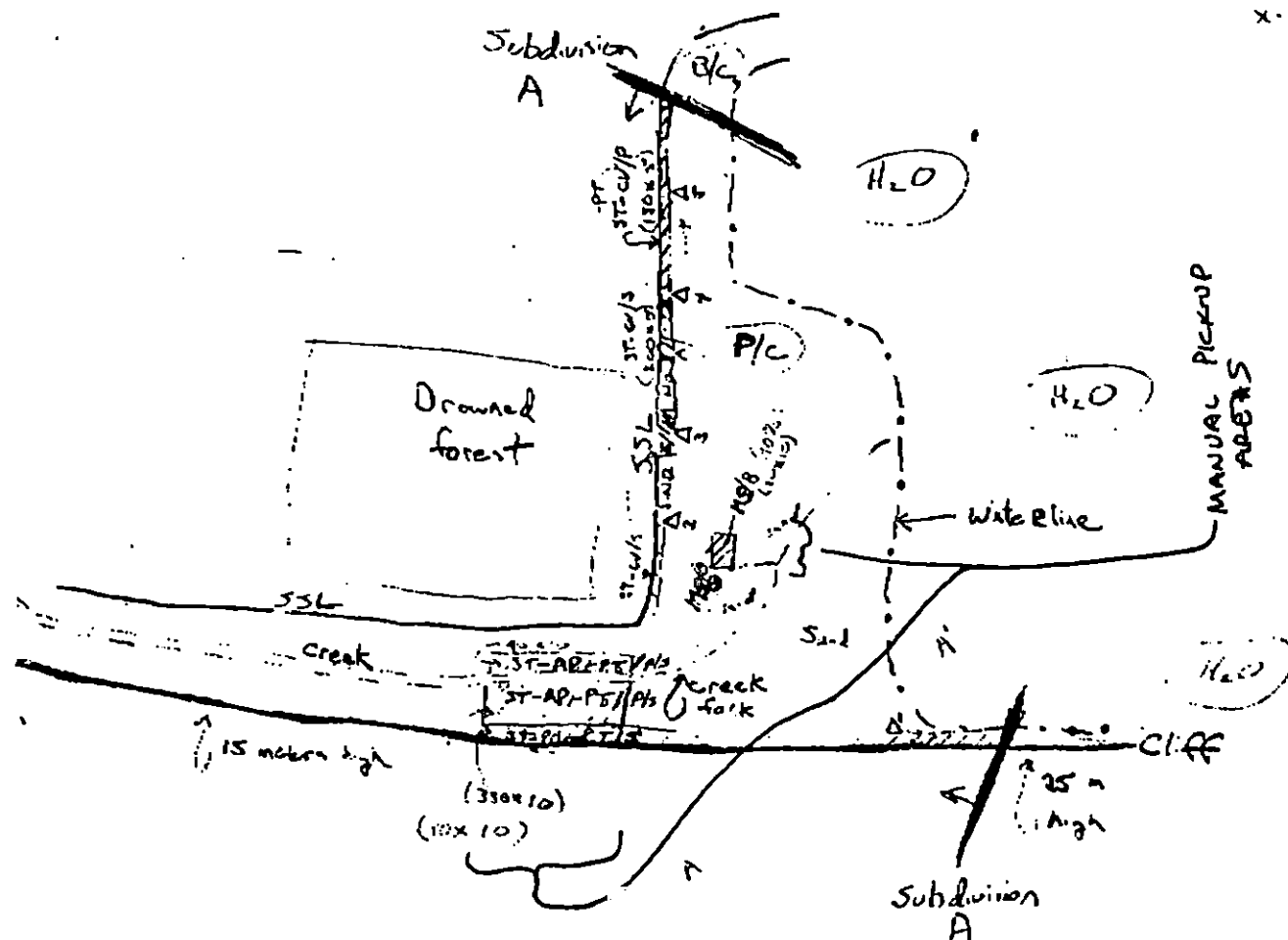
SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	5BL BR	5BL RW	GY BL	5BR TL	5BR LR	SU	UI	M	U			
1	30					X	0-0		X								X				P, G, P
2	25					X	0-0		X								X				P
3	30					X	0-0		X								X				P
4	40					X	0-0		X								X			X	P
5	30					X	0-0		X								X				P
							.														

COMMENTS

The subdivision consists of a north facing beach with steep cliffs and an east-facing beach without cliffs. Light staining and occasional mounds/patties were observed along much of the cliff area and SSL (East-facing beach). Much of the length of this subdivision was along a stream channel. No oil was observed beyond a distance of 100 feet from the south of the channel.

Cold Vegetation



0.1 character
length: AP IS PO 32 CV 400 CT 400
ST 400 ME 35 PT 150 TG 130 FLQ NO 1270

DATE 3 / 29 80

CHECKLIST

___ N Arch
 ___ Appnt. Scale
 ___ Sup/Sub Library
 ___ OS Dist.
 ___ Width
 ___ Length
 ___ % Cover
 ___ Substrate Character
 ___ Ext. INK/LIN.
 ___ SCI
 ___ Profile Location(s)
 ___ Pen(s)
 ___ Pk Location(s)

LEGEND

1. A

Fit - No Subsurface CG

24

PM - Substation ON

CT/C

Conditions Distribution

CT/D

Broken Distribution

CT/P

Patching Distribution

CT/9

Splashed Disturbance

Cited Vegetation

1

30 notes.

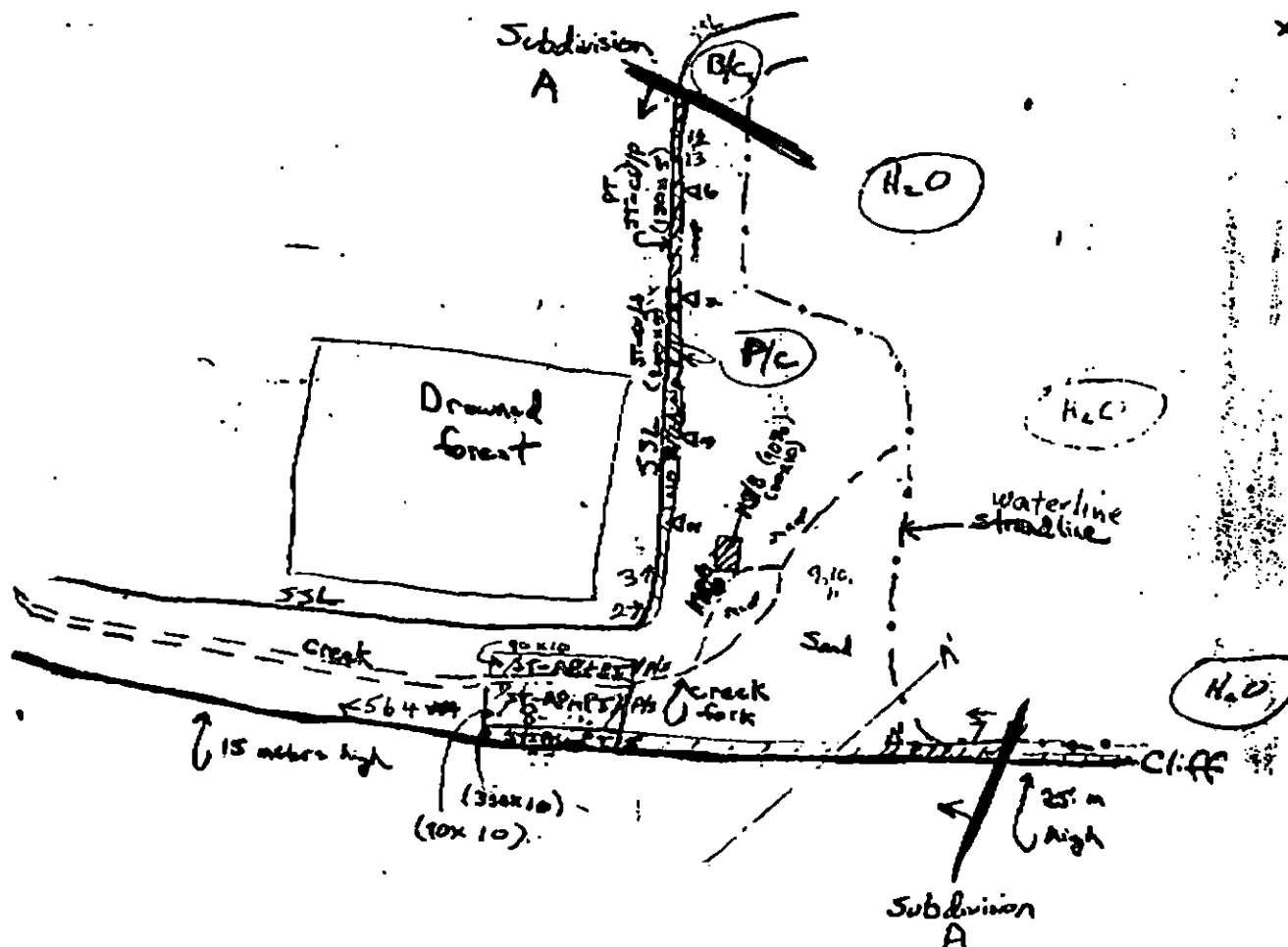
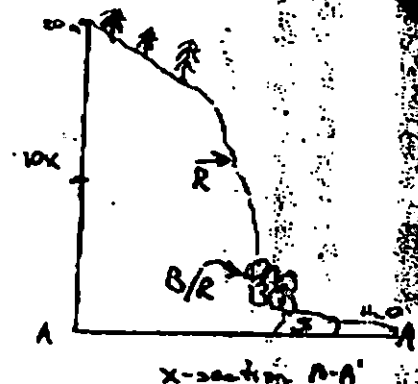
• 3/29/90

Photographer M. Fawcett
ST-17-1

SKETCH MAP

(Numbers = frame no.)

(arrow = view direction, no arrow means closeup or vertical view)



SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / CB 3 Subdivision A Date (mo / day / yr) 3 / 29 / 90me (24 hr) 0800-1130 Biologist M. Fawcett

- (A) Substrate type and % of segments:
 (1) Bedrock 5 (2) Boulder 10 (3) Cobble 30 (4) Pebble 45 (5) Sand 10 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense _____ Moderate (includes gravel) 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 (O)

Photographs:
Roll No. ST-17-1Frames 1-13

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

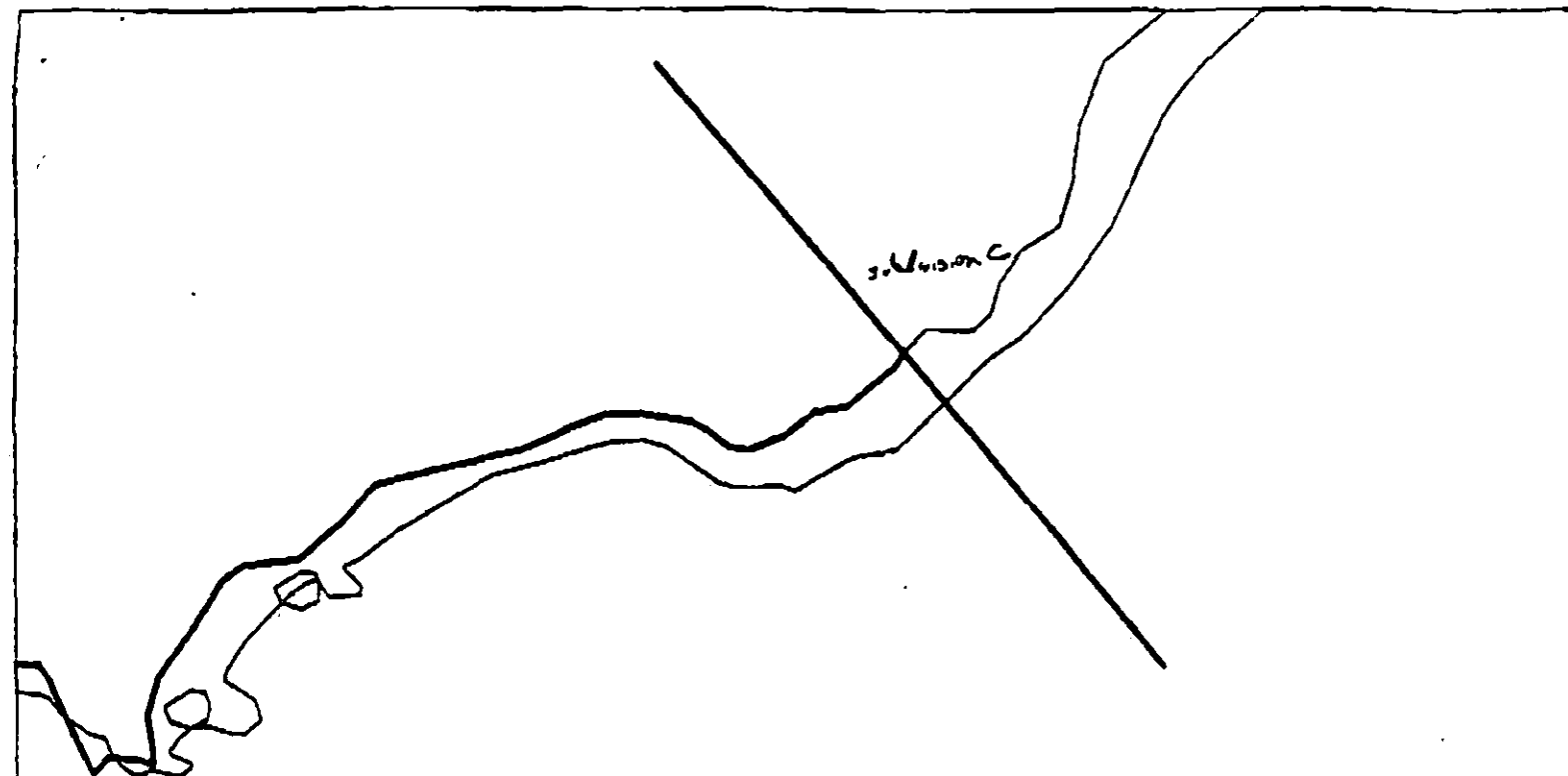
- see attached sheet

- "pebble" category in (A) includes pebbles & gravel, taken from OG form

Ecological Considerations:

AB Anadromous fish stream at southwest corner of head of bay - scattered mousse, mats, streaks of oil near south bank of stream

Otherwise, not a particularly sensitive area in re: cleanup procedures - most of segment is barren



← KEN
26B

(XX Wide
//// Medium
--- Narrow

CB-3

ADEC Segment Length: 4347m

TTTT Very Light

0000 No Oil

0 100 200 300



Map Key: KEN-26c

Name: Siegel

Date: 29 Mar 90

subdivision B

subdivision C

000/xx///-TTT/000

← KEN 20A

KEN
26C →

XXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

CB-3

ADEC Segment Length: 4347m

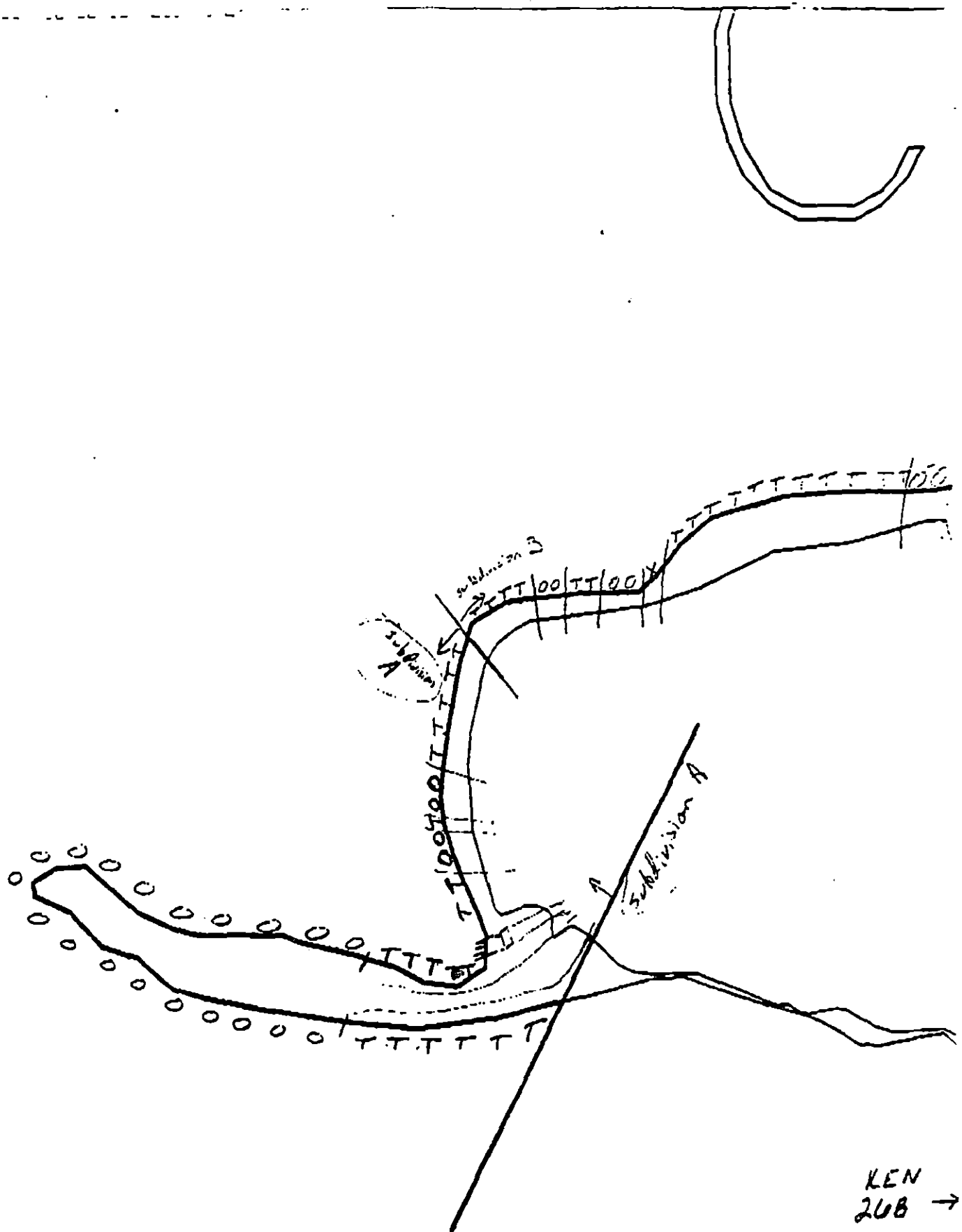


Map Key: KEN-26b

Name: SEEGAL

Date: 29 Mar 90

Data Entered:



YVXX Wide

/// Medium

---- Narrow

TTTT Very Light

0000 No Oil

CB-3

ADEC Segment Length: 4347m

0 100 200 300

Map Key: KEN-26a

Name: Randy Siegel

Date: 27 Mar 90

Data Entered:

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 242-~~20~~²⁰-10190

SEGMENT CB-003 SUBDIVISION A

WORK WINDOW

Manual Pickup
Tarmat Removal

OPEN

Bioremediation and Spot Washing
Less Than 100m From Stream

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

Bioremediation and Spot Washing
More Than 100m From Stream

OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (242-~~20~~²⁰-10190) is in Subdivision A. This subdivision is closed to bioremediation and spot washing less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation and spot washing are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation and spot washing more than 100m from stream. No constraint to manual pickup and tarmat removal.

5T Bald Eagle Nest

NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.

OTHER ECOLOGICAL CONSIDERATIONS

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

SEE SUBDIVISION CONSTRAINT ADDENDUM CB-003A
FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC

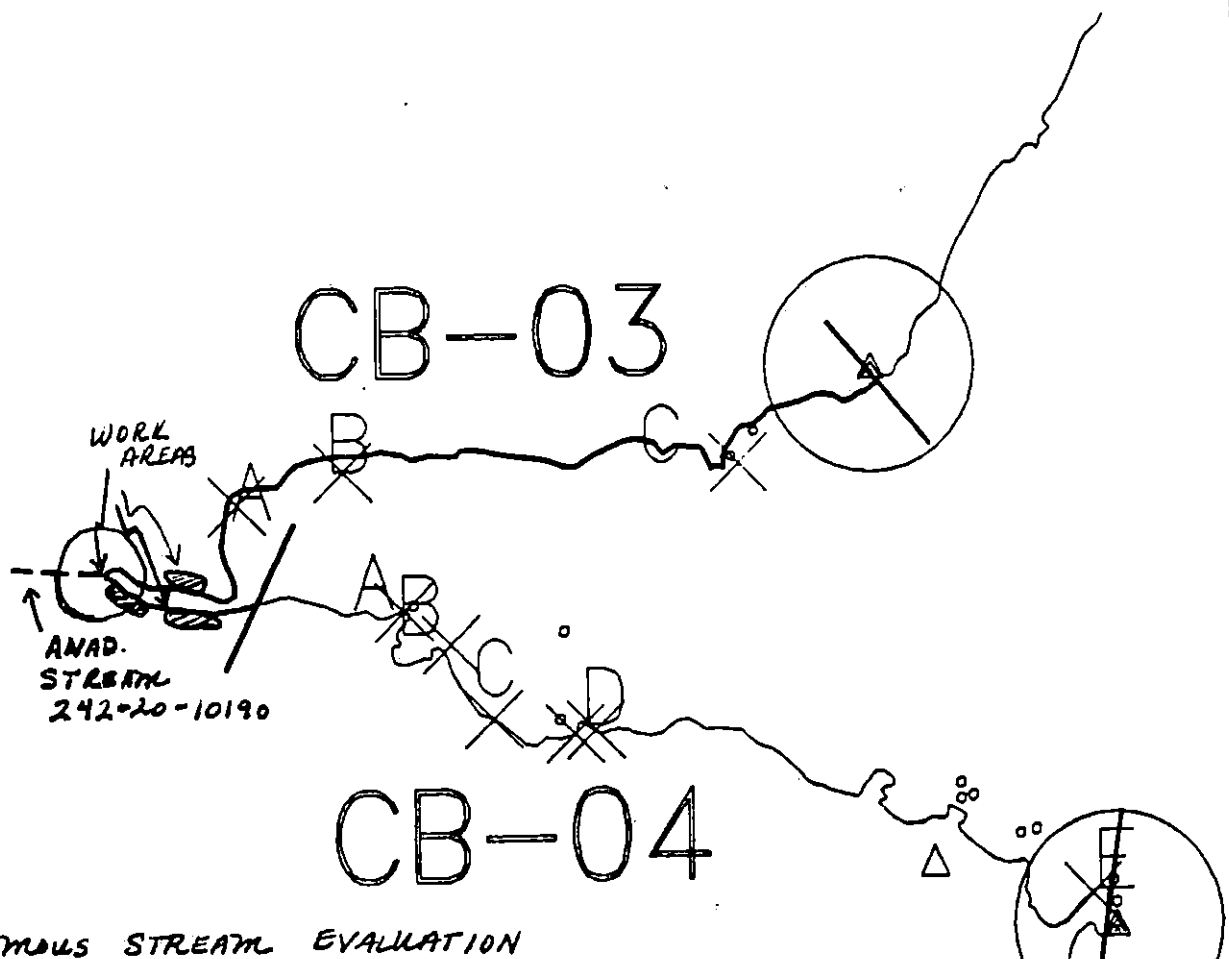
Date

6-19-90

Prepared by

Date

6/15/90



ANADROMOUS STREAM EVALUATION



Exxon Company, USA
Map Key: KEN-08-3
June 10, 1990



ECOLOGY MAP
SEGMENT CB-3
SUBDIVISION A (1 of 3)
METERS
0 731 1461

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

1 inch = 2397 feet

SHORELINE EVALUATION

SEGMENT ST/ CB-003 SUBDIVISION B (2 OF 3) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Susistence area - Invertebrate harvesting (7JJ) - contact Port Graham Native Association for exact date; Salmon stream mouth - fry out migrating (1A) - 3/1 to 5/15; Salmon stream mouth spawning (1B) - 7/10 to 8/31; Possible bald eagle nest area contact ADF&G and USFS to verify eagle nest location map.

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

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

OILING CATEGORIZATION:

Wide 87 m: Medium 25 m: Narrow 30 m: V. Light 477 m: No Oil 301 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pick-up of asphalt pavement and trowling up mousse between cobbles. Work should be conducted 5/15 to 7/10 due to above constraints.

IF TROWLING OF MOUSSE IS NOT EFFECTIVE - SPOT WASH AS REQUIRED WHERE APPROPRIATE MOVEMENT OF COBBLES TO ACCESS MOUSSE

TAG COMMENTS:

TAG APPROVAL DATE: 4/12/90
ADEC John Bauer
EXXON David Tate
NOAA Burt Wierhoff
USCG M. J. Hall

FOSC: WJL DATE: 5-8-90

FIELD SHORELINE COMMENT SHEET

INSTRUMENT ST / CB-003 SUBDIVISION: B DATE 3-29-90

USCG

NAME

R. B. HIRZLE del SIGNATURE R. B. Hirzle

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

1. I Concur with all the finding of this report
2. as a Estment I think a 10 man crew could do most of the clean up work in this area (CB-003 subdivisio A+B) in three to five days.
3. All work should be down by hand

ADEC

NAME

Russell Kunibe SIGNATURE Russell Kunibe

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

In the runoff waters in this subsection there was shoon. Ranging from silver to brown. The "asphalt" area at the east end of this. subsegment was only weathered on the surface. Under the boulders and cobbles there was mousse which was collected in globs over 1 cm. in thickness. and ^{saturated} mousse and sediment from 1cm to 3cm penetration. All of the oiled areas in this subsegment needs to have manual pick up of the mousse and finer mousse saturated sediments and asphalt. Additionally the small boulders and cobbles need to be turned over to expose the mousse (break up). If significant shoon develops due to treatment booming may be necessary. An additional cold or warm water flush of the beach may be needed to dislodge the mousse from the rocks. After removal of all gross contamination

LAND MANAGER

NAME

Patrick Norman SIGNATURE Patrick Norman

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Shovel and hand travel work can be done in this area, also recommend cold or warm water flushing in the areas with large cobbles and boulders to break up mousse patches

bio remediation may be appropriate

CB-3-B

Chugach Bay

3/29/90

Barnacles in this subsection fairly dense on some bedrock, less dense on cobbles and boulders. Appears to be considerable sand-scouring. Many barnacles and littorines on bedrock coated with oil, but alive, appear o.k.

Patchy mussels in crevices. The second bight from the western end of this subsection has larger, more stable boulders - moderate covering of barnacles, Fucus, mussels, littorines

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG Randy Siegel USCG Bryan Hottle SEGMENT ST/ CR-3 (3 divisions)
 BIO Mike Gwilt LAND REP Pat Norman (PGVC) SUBDIVISION B (3rd of 3 divisions)
 XXON John Dean ADEC Russell Kumber TIME 9:00 to 13:00
 EAM NO.: 17 TIDE LEVEL: -1.8 to +7.2 DATE 3 / 29 / 90
 EST. SUBDIVISION LENGTH: 500 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 15 % B 40 % C 30 % P 10 % G 5 % S 0 % M 0 % V 0 %
 SLOPE: Long 90 % Hang 10 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 75 m M 40 m N 40 m VL 220 m NO 135 m

SURFACE OIL

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

PAVEMENT: H F S 400 sq. m by 4 cm

PATTIES / TARBALLS 30 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	✓		
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE _____

#BAGS _____

Photographs:

Roll No. ST-17-1

Frames 14-22

SUBSURFACE OIL

*** Oiled interval of less than 5 cm in Pit 1 does not constitute subsurface oil. M.R.

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS	
		OP	OR	OL	OF	NO		UO	UC	30 OR	35 OR	40 OR	45 OR	50 OR	SU	U	M	L			
18	10			X		X	0-5		X						X		X			X	P, G
							.														
							.														
							.														
							.														
							.														

COMMENTS

South-facing beach with a lot of bedrock + boulders underlying high-angle cliff. Several significant patches of asphalt oil overlaying 1-2 cm of mousse. The mousse overlays bedrock. Stretches of the beach face were stained. Difficult to dig pits along beach due to boulders.

* AP was underlain by MS/C, usually 1 cm thick. The mousse was underlain by bedrock. Locations shown on

OG Randy Siegel
SEGMENT ST/ CB-003

SUBDIVISION 3

DATE 3 / 29 90

CHECKLIST

☐ N Avail
☐ Apprat. Scale
☐ Seg/Sub Brdry
☐ OS Dist.
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. FW/LA/VL
☐ SGI
☐ Profile Location(s)
☐ Profile(s)
☐ Pit Location(s)

LEGEND

1 Δ

PM - No Subsurface CR

2A

Fig. - Subsurface Oil

CT/C

Considerations During Installation

CT/D

Broken Distribution

CT/P

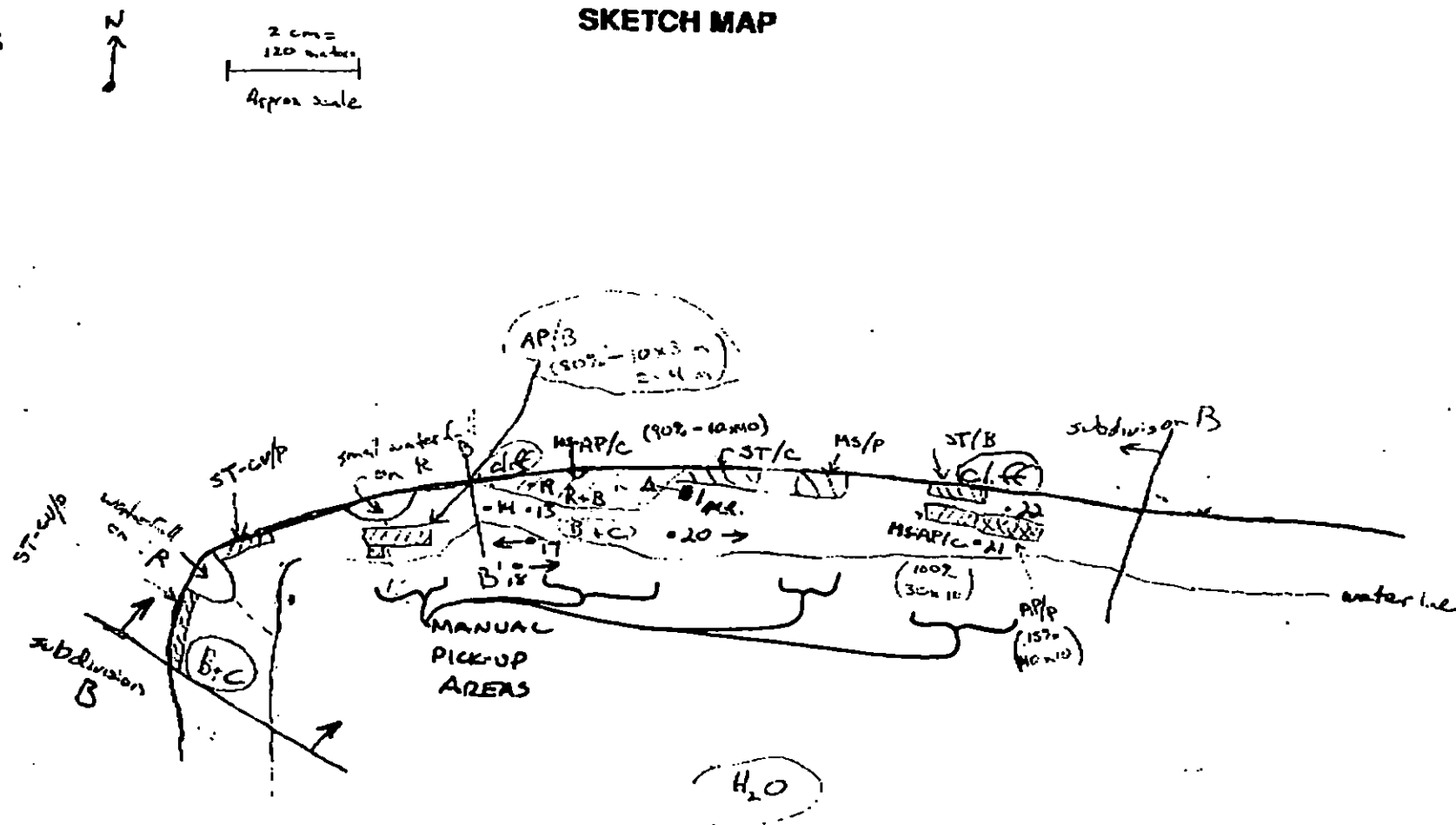
Patchy Distribution

CT/3

Splashed Distribution

Cold Vegetables:

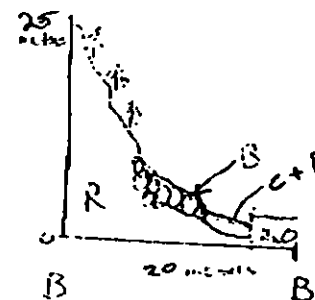
SKETCH MAP



all character length

NP 100 PG 5 C.V. 150 CT 200 ST 500 MS 75

PT 50 TR 50 100 NO 325



Randy Siegel

AGENT BT/CB-003

DIVISION B

TE 3/29/90

CHECKLIST

- ☐ N Area
- ☐ Agent's Name
- ☐ Agent's Duty
- ☐ Agent's Unit
- ☐ Agent's Rank
- ☐ Agent's Date
- ☐ Agent's Character
- ☐ Agent's Name
- ☐ Agent's Rank
- ☐ Agent's Location
- ☐ Agent's Position
- ☐ Agent's Location

Legend

- ☐ Agent's Subdivision
- ☐ Agent's Subdivision

- ☐ Subdivision

CT/C

Subdivision

CT/B

Subdivision

CT/P

Subdivision

CT/S

Subdivision

CT/V

Subdivision

CT/W

Subdivision

CT/X

Subdivision

CT/Y

Subdivision

CT/Z

Subdivision

SKETCH MAP

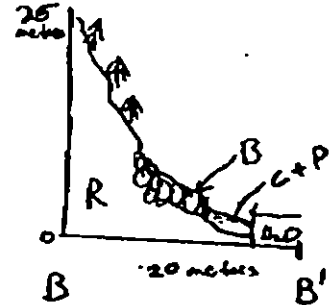
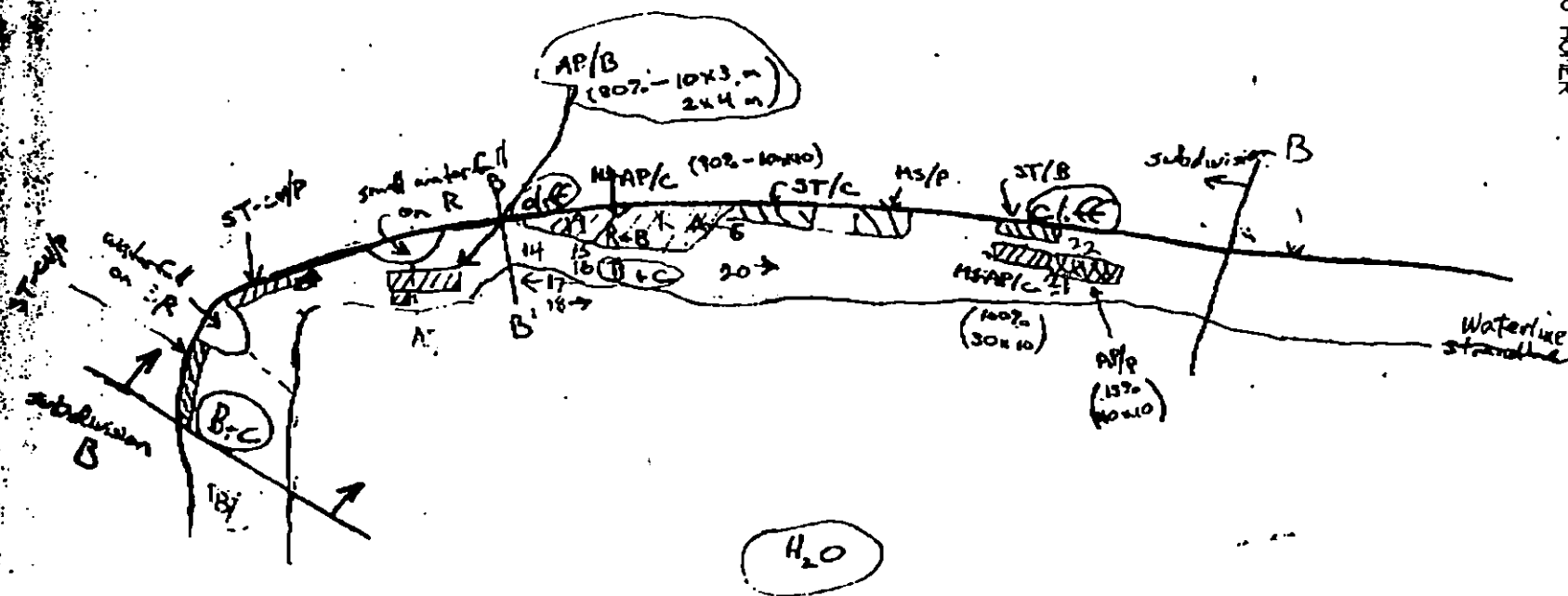
Photographer M. Fawcett

ST-17-1

3/29/90



2 cm = 120 meters
Approx scale



SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / CB 3 Subdivision B Date (mo / day / yr) 3 / 29 / 90

ne (24 hr) 1130-1300 Biologist M. Fawcett

- (A) Substrate type and % of segments:
 (1) Bedrock 15 (2) Boulder 40 (3) Cobble 30 (4) Pebble 15 (5) Sand 0 (6) Silt 0
(including gravel)
- (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 (O)

Photographs:
Roll No. ST-17-1

Frames 14-22

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

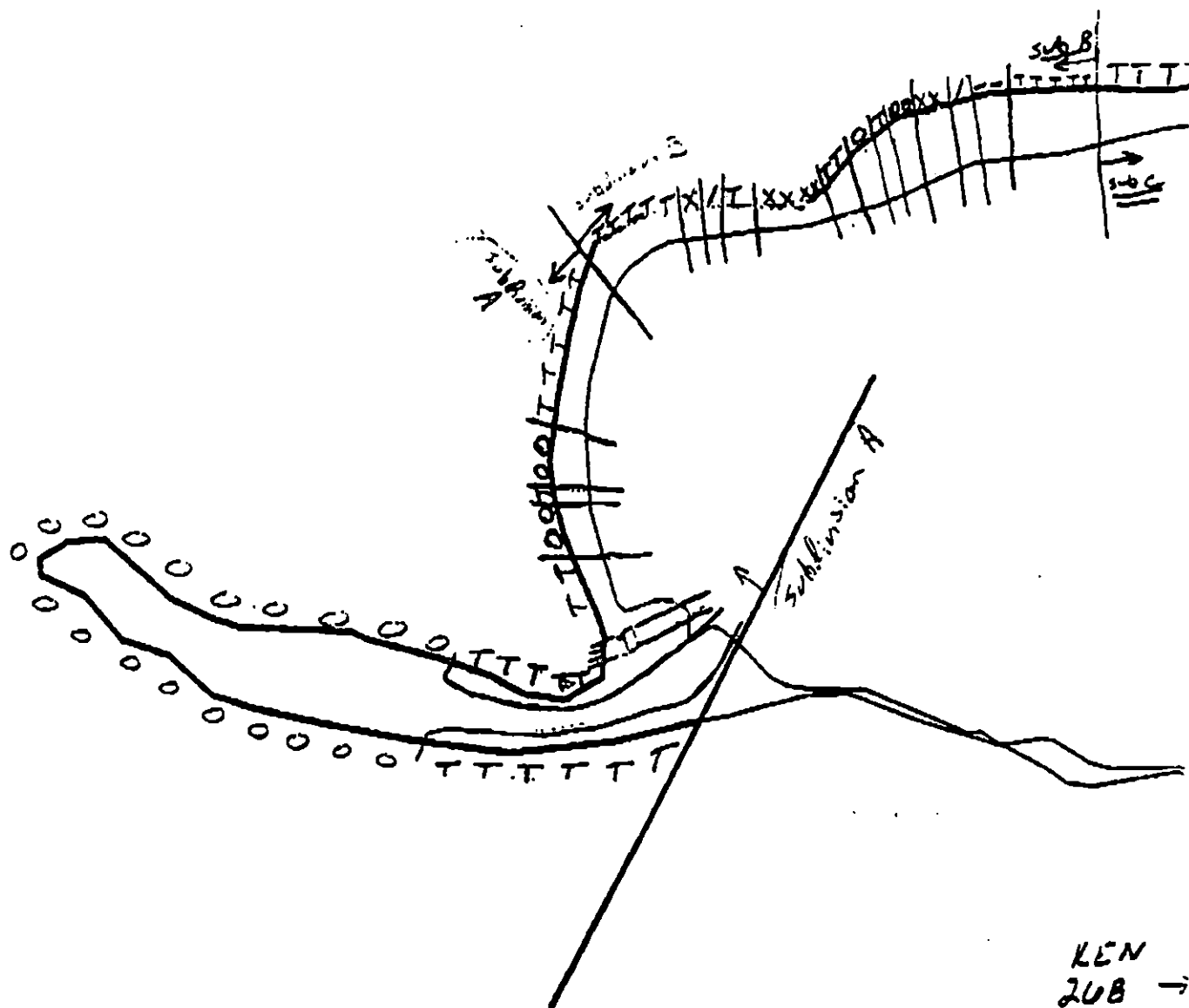
NOT PRESENT

Wildlife Observations/ General Comments:

1 river otter came ashore and climbed up small stream
 2 bald eagles seen
 1 harbor seal - see attached sheet for further comments

Ecological Considerations:

Biota sparse, not a very sensitive area re: cleanup procedures.



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

CB-3

ADEC Segment Length: 4347m



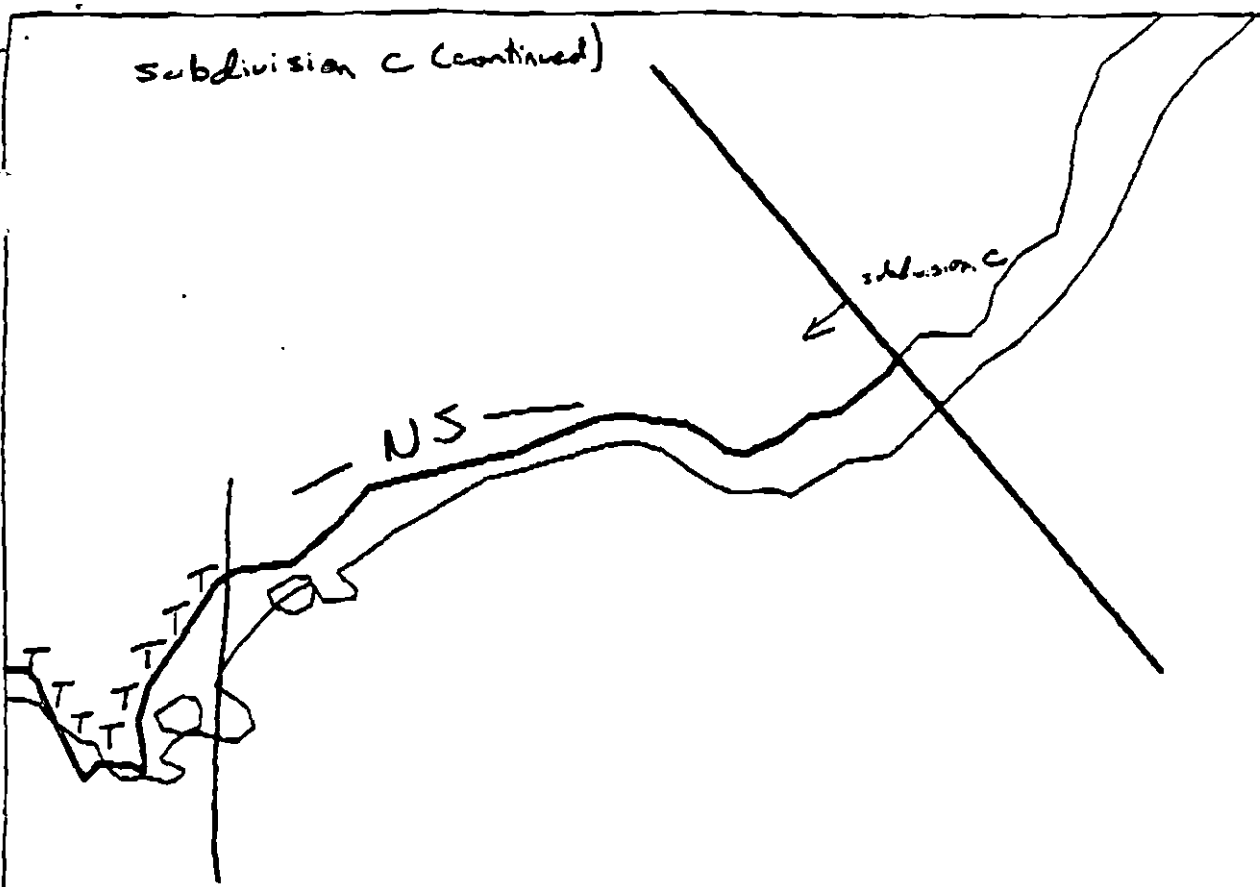
Map Key: KEN-26a

Name: Randy Siegel

Date: 3/31/90

Notes: _____

Subdivision C (continued)

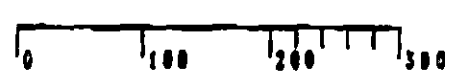


← KEN
26B

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

CB-3

ADEC Segment Length: 4347m



Map Key: KEN-26c

Name: Ruby Siegel

Date: 3/31/90

WORK PLAN ADDENDUM

Segment CB-003B

Subdivision B

Dated 6/20/90

MODIFICATION

1. REASON FOR MODIFICATION

NEWLY DISCOVERED LEASE OF "OR" OIL NOT IDENTIFIED DURING
SSAT.

2. ADJUSTMENT TO WORK PLAN

- MANUAL TILL + CUSTOMBLEN OF THE BURIED OIL LEASE

SHPO APPROVAL NEEDED YES X
NO

SHPO SIGNATURE Charles E. Effner 6/20/90

TAG APPROVAL DATE 6/20/90

ADEC Sam Morris R. J. H. H.

EXXON ANDY T. E. B. A. L.

NOAA Joseph T. Tolbert J. T. Tolbert

USCG G. A. REITER G. A. Reiter

FOSC J. J. J. J. DATE 7/5/90

WORK PLAN ADDENDUM

Segment CB-03

Subdivision B

Dated 07/24/90

MODIFICATION

1. REASON FOR MODIFICATION

SECOND RECOMMENDATION BY THE FIELD

2. ADJUSTMENT TO WORK PLAN

MANUAL REMOVAL OF SURFACE OIL (TARMATS/MOUSSE)
INIPOL, ~~SEA~~ REMAINING SURFACE OILING CONDITIONS AS REQUIRED.
CUSTOMER IN THE AREA CONTAINING THE SUBSURFACE LENSE.

SHPO APPROVAL NEEDED YES _____
NO X

SHPO SIGNATURE _____

TAG APPROVAL DATE 7-24-90

ADEC JOHN BAUER John Bauer

EXXON AMY TEAL Amy Teal

NOAA Suzanne Westcott Suzanne Westcott

USCG G.A. REITER G.A. Reiter

FOSC WJL DATE 7-26-90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CB-3 SUBDIVISION B (2 of 3)

WORK WINDOW	
Manual Pickup	OPEN
Spot Washing	WORK BEFORE 7/1

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B	Salmon Stream	NO CONSTRAINT. ADF&G catalogued anadromous stream (242-20-10190) is more than 100m from work area.
1J	Purse Seine Area	Closed to spot washing after 7/1. No constraint to manual pickup.
7JJ	Subsistence: Invertebrate Harvesting	NO CONSTRAINT. Per contacts with Mark Kuwada/ADF&G 5/22/90 and Pat Norman/Port Graham Village Corporation 5/20/90 by Rex Coulter/Exxon.
5T	Bald Eagle Nest	NO CONSTRAINT. Work site is more than 400m from nest.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic to essential minimum after 7/1. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

TAG APPROVAL DATE 5/29/90
ADEC Art Weiner Art Weiner
EXXON Andy Teal Andy Teal
NOAA Burt Wescott Burt Wescott
USCG G.A. Reiter G.A. Reiter

FOSC

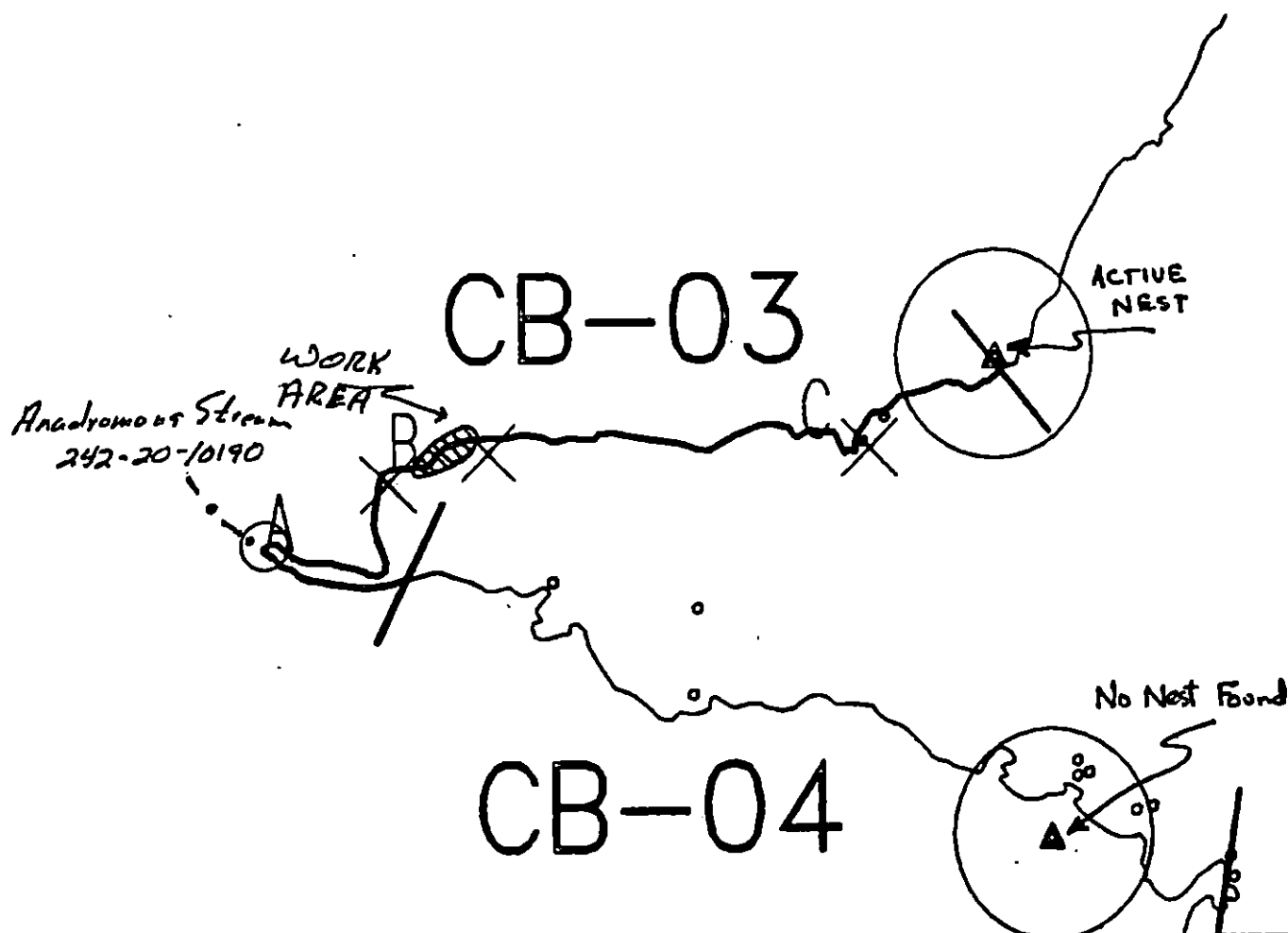
DATE

Prepared By: Anders Meyer REL Co

Date

5/28/90

Incorporates information from
USFWS Bald Eagle Survey
on 5/20/90



Exxon Company, USA



ECOLOGY MAP
SEGMENT CB-3
SUBDIVISION B (2 of 3)

★	Seabird Colony
▲	Eagle Nest

Revised 7/20/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CB-3 SUBDIVISION B (2 of 3)

WORK WINDOW

Manual Pickup

OPEN

Spot Washing & bioremediation

OPEN TO 7/23
WORK BEFORE 7/1

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 584-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

NO CONSTRAINT. ADF&G catalogued anadromous stream (242-20-10190) is more than 100m from work area.

1J Purse Seine Area

Closed to spot washing after 7/23. No constraint to manual pickup. *7/23 bioremediation*

7JJ Subsistence:
Invertebrate Harvesting

NO CONSTRAINT. Per contacts with Mark Kuwada/ADF&G 5/22/90 and Pat Norman/Port Graham Village Corporation 5/20/90 by Rex Coulter/Exxon.

5T Bald Eagle Nest

NO CONSTRAINT. Work site is more than 400m from nest.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic to essential minimum after 7/23. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

TAG APPROVAL DATE 5/29/90
ADEC Ant Weiner
EXXON Andy Earl
NOAA Bruce Werrick
USCG G.A. TEETER

FOSC

DATE

Prepared By: Under Mfg. RSC

Date

5/28/90

COMMERCIAL PURSE SEINE AREA
CLOSED THROUGH 7/23, NO
CONSTRAINT TO BIOREMEDIATION
AS PER CONVERSATION OF TOM
MOWAT W/ LEE GUIN, ADF&G
ON 7/20/90

*Confirmed
& noted by
FOSC.
7/20/90
MTS*

3
SHORELINE EVALUATION

SEGMENT ST/ CB-003 SUBDIVISION C (3 OF 3) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Subsistence area - invertebrate harvesting (7JJ) - Contact Port Graham Native Association for exact dates; Salmon stream mouth - fry out migrating (1A) - 3/1 to 5/15; Salmon stream mouth - spawning (1B) - 7/10 to 8/31. Contact ADF&G Habitat Division prior to treatment for permit.

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

SHPO SIGNATURE

Charles J. Hanner

DATE:

April 12, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 73 m: Narrow 0 m: V.Light 1459 m: No Oil 227 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Manual removal of asphalt, mousse, and oiled trash and debris.

TAG COMMENTS:

TAG APPROVAL DATE: 4/12/90

ADEC

JOHN BAKER

EXXON

ANDY BIRK

NOAA

Burt W. Smith

USCG

M. J. Hall

FOSC:

My L

DATE: 5-8-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CB-3 SUBDIVISION: C DATE 3/31/90

USCG

NAME R. Bryan Hirtle SIGNATURE R. Bryan Hirtle

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

I am in full agreement with the findings of the
Shoreline Oiling Summary sheet for CB-003 subdivision C

ADEC

NAME Russell Kuntze SIGNATURE Russell Kuntze

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

See attached. 1 page.

LAND MANAGER

NAME Patrick Norman SIGNATURE Patrick Norman

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Recommend manual pickup of patties and mats thru out this section.

Segment CB-3 Subdivision C Date of survey 3/31/90

ADEC representative Russell Kunibe

Signature Russell Kunibe

Date 4/1/90

Description:

In this subdivision the majority of the oiling consists of stains and coating on the rocks which sometimes collects into small pools in the cracks of the rocks. In between the cobbles there were a few areas in the UITZ and upper MITZ where mousse and asphalt had collected.

Recommended treatment:

Manual pick up of the mousse and asphalt patties and mats which have collected between the cobbles at the west end of this subdivision. This would be accomplished in conjunction with the work in the east end of CB-3 subdivision B. Otherwise no treatment recommended.

CB3-C

Chugach Bay

Wildlife Observations

M Fawcett

3/31/90

P. 1 of 2

The west end of this subsection begins at the mouth of a small, non-anadromous stream. The subsection consists of large bedrock outcrops, some resembling spits, separated by boulder/cobble pocket beaches. Near the seaward end, outcrops become more prominent, forming tall stacks, vertical faces, surge channels, and so on, with less area occupied by pocket beaches. In the boulderfields Littorina are dense in the mid-intertidal area, many breeding aggregations seen, also new recruits (1-2mm) densely packed into crevices. Mussels moderately dense in boulderfields, increasingly dense on bedrock nearer seaward end. Biota in general becomes increasingly abundant toward mouth of Bay, as expected. Most of the mussel beds are composed of young mussels up to about 6-7mm, the majority 2-4mm in length. There are scattered patches of much older mussels. Balanus cariosus are very dense in many areas in low intertidal, esp. on bedrock. Toward seaward end, a few Pisaster were seen in low pools. Large Tealia (red anemones; abundant in tidepools. Katharina ^(chitons) of all sizes abundant, and a few ^{other chitons} Mopalia, Ischnochiton and Tonicella were seen. The limpets Notoacmea scutum, Collisella pelta and Acmaea persona abundant. Besides Fucus, common algae included Ulva, Enteromorpha, Halosaccion, Rhodomymenia, Plocamium, Hedophyllum, Endocladia. Surfgrass (Phyllospora).

CB3-C (cont)

3/31/90

P. 2 of 2

feeding on barnacles and mussels, and a few small breeding aggregations with egg capsules were seen.

Birds observed: 1 surf scoter, several harlequin ducks
1 adult bald eagle
Glaucous-winged gulls
ravens

SHORELINE OILING SUMMARY

OG Randy Siegel USCG Brian Hirtle SEGMENT ST/ CB-3 (3 subdivisions)
 BIO Mike Fawcett LAND REP Pat Norman (PGVC) SUBDIVISION C (3rd of 3)
 EXXON John Dean ADEC Russell Kunibe TIME 08:30 to 13:00
 TEAM NO.: 17 TIDE LEVEL: +2.1 to +2.4 DATE 3 / 31 / 90
 EST. SUBDIVISION LENGTH: 1314 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 15 % B 35 % C 25 % P 10 % G 10 % S 5 % M 0 % V 0 %
 SLOPE: Long 30 % Hang 20 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 15 m N 0 m VL 700 m NO 189 m
 NS $\pm$ 250 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	IC	IS	IP	IR	SP	SM	SL	ST	SV	SU	US	MS	LU
ASPHALT PAVEMENT		☒	☒	☒				☒	☒	☒	☒	☒	☒
POOLED													
COVER				☒				☒			☒		
COAT			☒	☒	☒	☒	☒	☒	☒	☒	☒		
STAIN			☒	☒	☒	☒	☒	☒	☒	☒	☒		
MOUSSE		☒	☒	☒				☒	☒	☒	☒	☒	☒
PATTIES			☒	☒	☒			☒	☒	☒	☒	☒	☒
TARBALLS					☒			☒	☒	☒	☒	☒	☒
FILM				☒	☒	☒				☒	☒		
NO OIL										☒			☒

PAVEMENT: H (F) S 120 sq. m by 2 cmPATTIES / TARBALLS 30 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

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

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE _____

#BAGS _____

Photographs:

Roll No. ST-17-2Frames 21-37

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SP	SM	SL	ST	SV	SU	US	MS	LU		
1	10					☒	0-0		☒						☒					S, G
2	12					☒	0-0		☒						☒					G, R

COMMENTS

South-facing beach with a lot of bedrock + boulders underlying high-angle cliffs. Most of the length of this subdivision contained no observed oiling or was very light - occasional deep splashes of stain/coat on cliff face. Several patches of asphalt to mousse occurred beneath boulders in "sheltered" areas. Did not survey last 250 meters on east end because weather closed in.

REVISION: 03/2/80

DATE 3 / 31 90

↑
N

2 cm = 150'
Approximate
Scale

SEARCH MAP

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Sep/Sub Bndry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HVAL/LVAL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PH Location(s)
- ☐ Photo Location(s)

LEGEND

- 1 Δ**
P1 - No Subsurface Oil

- 2 ▲**
Fig - Subsurface On

CT/C
Continuous Distribution

CT/B

Broken Distribution

CT/P

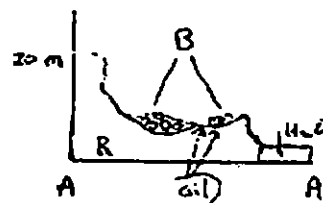
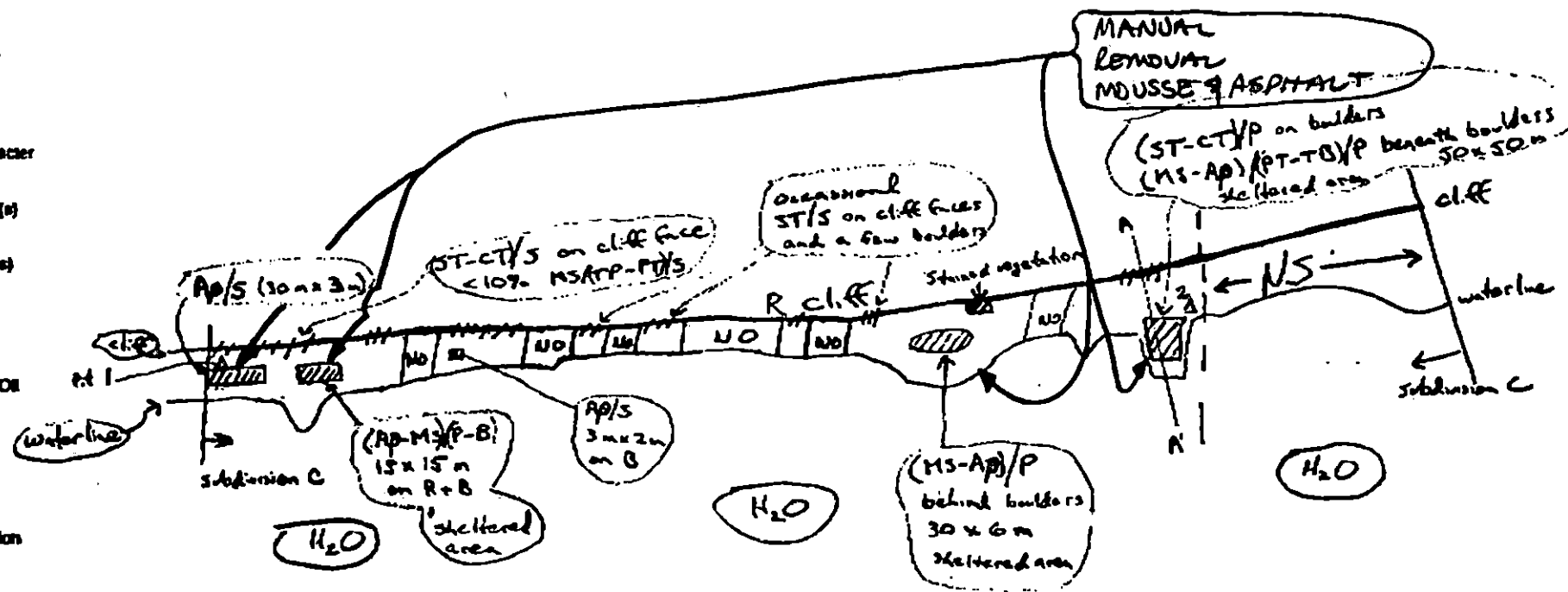
Patchy Distribution

CT/S

Splashed Distribution

Older Vegetation

- 1 ➡
Photo location, direction,
and number



Oil Character Length (m): AP 150 PO 50 CV 100 CT 700 ST 700 MS 150 PT 50 TB 100 FL U/A NO 250

REVISION: 03/24/00

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/90

Segment ST / CB-3 Subdivision C Date (mo / day / yr) 3 / 31 / 90

Time (24 hr) 0830-1300 Biologist Michael Fawcett

- (A) Substrate type and % of segments:
 (1) Bedrock 15 (2) Boulder 35 (3) Cobble 25 (4) Pebble 20 (5) Sand 5 (6) Silt 0
 (incl. gravel)
- (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 (O)

Photographs:
 Roll No. ST-17-2
 Frames 21-37

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

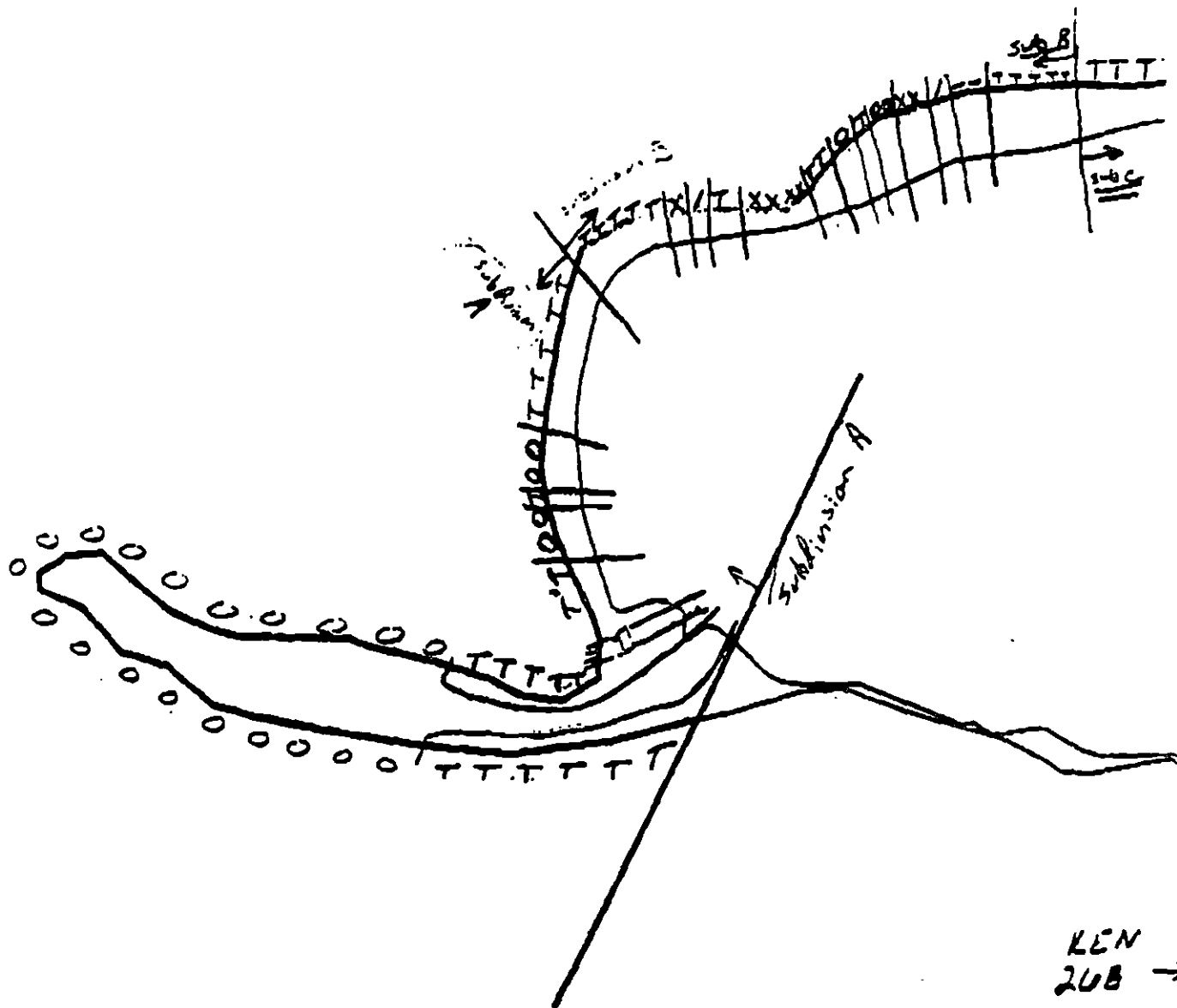
Wildlife Observations/ General Comments:

see attached sheet

* density of gastropods is relative to gastropods of the same species at other sites, in terms of no./m² - it is not related to percent cover as used in describing sessile organisms

Ecological Considerations:

Avoid trampling healthy biota.



KEN
20B →

[illegible]

KEN
26C →

CB - 3

ADEC Segment Length: 4347m

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

4

0000 No Oil

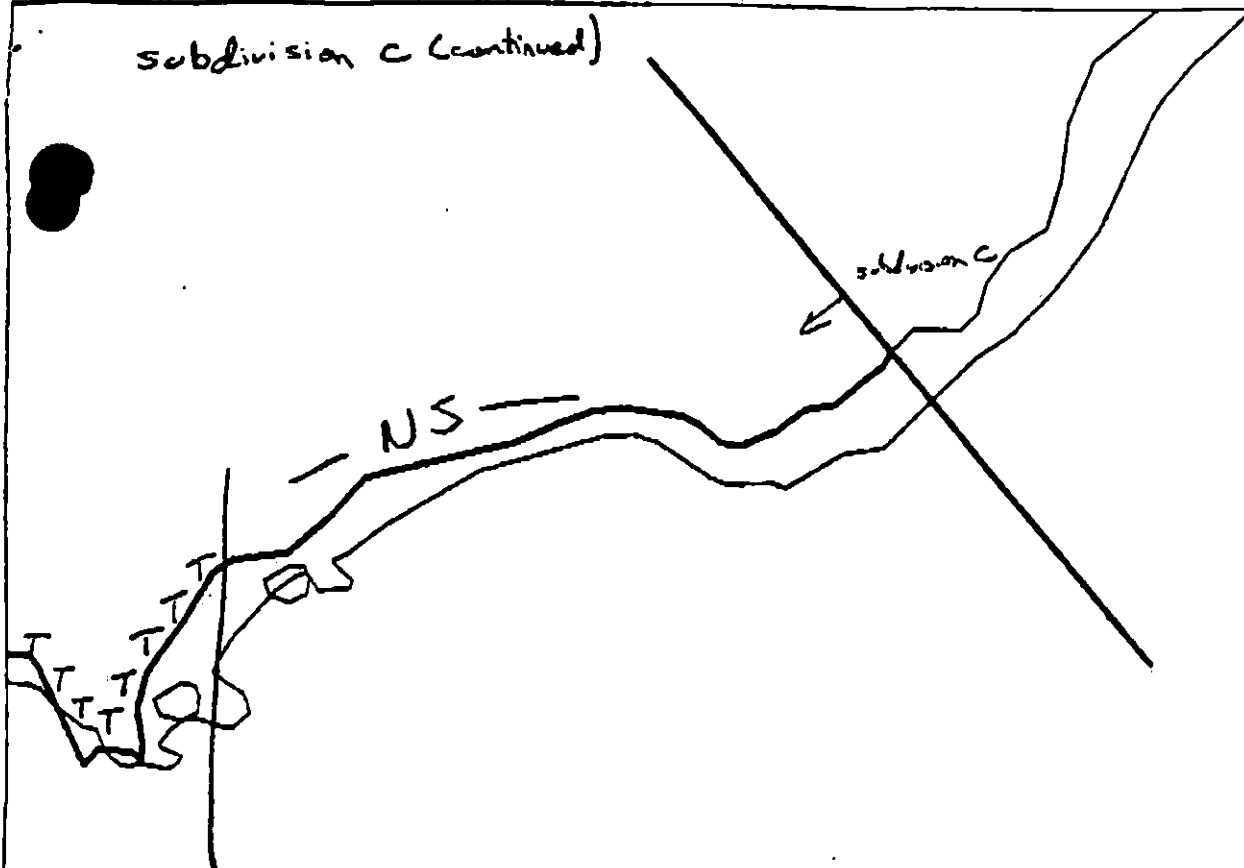
Map Key: KEN-26b

Name: Edy Araya

Date: 3/31/90

Data Entered:

subdivision C (continued)



← KEN
26B

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

CB-3

ADEC Segment Length: 4347m



Map Key: KEN-26c

Name: Randy Siegel

Date: 3/31/90

Data Entered:

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ CB-003 STREAM NO: 242-20-10190 A DATE 4/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
5T-1 All bald eagle nests (3/1 to 6/1)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Subject stream exists within subdivision A (1 of 3). No additional ecological constraints.

SHPO SIGNATURE: Rachel Dean Durr DATE: 5/22/90

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: Recommend manual removal of pavement and oiled vegetation as indicated on attached sketch map. Contact ADF&G and USFWS for work window dates

TAG COMMENTS: Bioremediation (CUSTOMER) IF REQUIRED FOLLOWING TARMAT REMOVAL

MANUAL REMOVAL OF SPOT WASH OF CONTIGUOUS COVER AS INDICATED ON SKETCH

TAG APPROVAL DATE: 5/18/90.

ADEC Art Weimer Art Weimer

EXXON Andy Barr Andy Barr

NOAA Gary Petrac Gary Petrac

USCG G.A. REITER G.A. Reiter

FOSC:

DATE: 6 Jun 90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

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

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

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

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

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

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

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

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

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

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

1H. Remote release site

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

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

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

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

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

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

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

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

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

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

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

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

4, 3P Harbor seal and sea lion pupping (5/15 to 7/1)

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

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

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

ADF&G Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Roth 267-2208

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

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

6V. Anchorages (8/1 to 9/15)

6W. Forest Service cabins (8/1 to 9/15)

6X. Lodge (8/1 to 9/15)

6Y. Special use destination

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

7-HH Finfish harvesting

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

7JJ Invertebrate harvesting

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

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CE-003 SUBDIVISION: ^{ASC*} 242-20-10190 DATE 29 APR 90

USCG

NAME Kerwin L. Dreher SIGNATURE CWO K. L. Dreher

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Type A manual removals

~~ADEG~~ → ADFG

NAME LEE GLENN SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Type A. manual removal

1. Pick up pellets and tarballs scattered 480 meters up the north side of the stream and 300 meters up the south side.
2. Remove tarballs located in the intertidal area below the storm berm.
3. Remove oil from the rock outcropping along the south side of the stream near the mouth in the intertidal area.

1. Contact Lee Glenn prior to work so an ADEG observer can be placed on site. The attached ADEG assessment completed has not changed from the 4-29-90 ADEG site survey.

LAND MANAGER → NONE NAME [Blank] SIGNATURE [Blank]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS



CHUGACH BAY, HEAD

CB-03

ANAD. CAT. #

292-20-10190



Group A

ADF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS SS DS TS AVS SCH MMS PTA 2 REGION: PWS IP, CI K, AP
 METHOD: Aerial Ground Boat Cordova
 3 DATE: 4-16-90 18 HIGH TIDE TIMES: 0513 21 TEAM RECORDER: Doug Hill
 4 START TIME: 1348 19 HIGH TIDE HTS: 11.2 22 OBSERVERS: Suzanne Melone
 5 STOP TIME: 1510 17 LOW TIDE TIMES: 1229 23 AGENCY: ADF&G
 6 SEGMENT #: C3-3 18 LOW TIDE HTS: 1.5 24 PHOTOS TAKEN: Y N
 7 STATION #: _____ 19 TIDE HT AT SURVEY: LOW Roll 10-1405-H Frames _____
 8 K-UNIT: _____ Ebb Flood Slack _____ 25 VIDEO TAKEN: Y N TAPES: _____
 9 STAT AREA: 242-20 20 USCG QUAD: Soldovia A-5 Starts _____ Ends _____
 10 LAT: 59° 11' 10 11 LONG: 151° 38' 00 26 SAMPLES TAKEN: Y N Number _____
 12 SOURCE: Map Local SM/DPH-4/16/90-1420
 13 LOCATION: AFS 242-20-10190 Chugach Cr. SM/DPH-4/16/90-1405
 14 DESCRIPTION: S.W. head of Chugach Bay Biological _____
 Water _____

EXTENT OF OIL

27 SURFACE COVERAGE

L	M	H	S	L	M	H	S

 28 SURFACE THICKNESS

L	M	H	S	L	M	H	S

 29 PENETRATION

L	M	H	S	L	M	H	S

 30 OVERALL OIL IMPACT: N VL L N M
 31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain
 32 OILED DEBRIS: Y N
 33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cove
 Lagoon Marsh
 34 WAVE EXPOSURE: High Moderate Low
 35 SUBSTRATE TYPE: Bedrock 10% Boulder 20% Cobble 20%
 Gravel 60% Sand 20% Mud/silt _____

36 CATALOGED ANAD. FISH STREAM? Y N
 37 CATALOG #: 242-20-10190
 38 STREAM NAME: Chugach Cr.
 39 OIL IN STREAM BED? Y N
 40 OIL ON STREAM BANKS? Y N
 41 OIL ON BEACH ADJACENT TO MOUTH? Y N
 (within 50 meters)
 42 OIL WITHIN 1 MILE OF STREAM? Y N

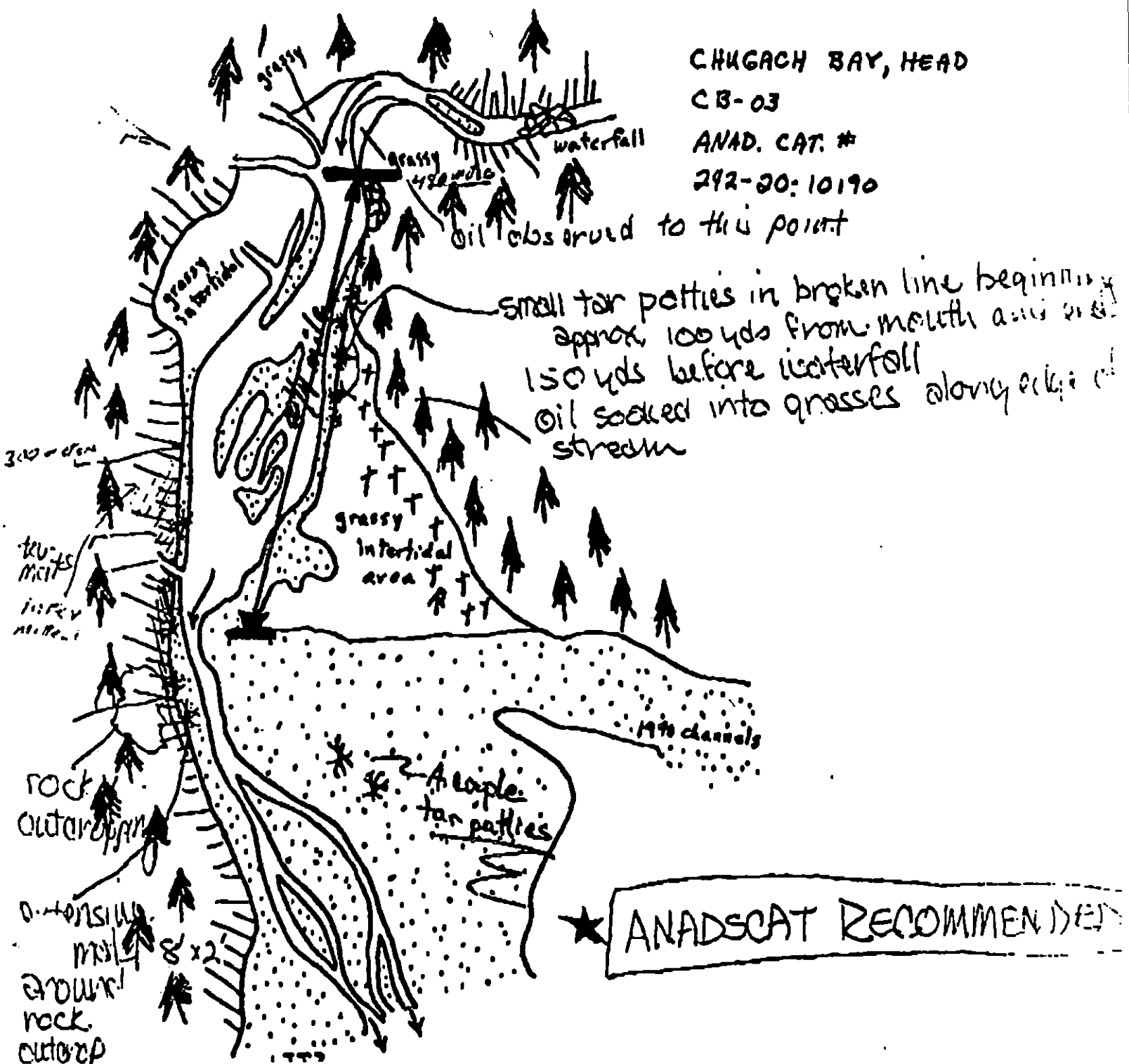
Where: _____

43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION
 Species Aerial Ground

COMMENTS: The south side of the mouth of Chugach Stream has significant tar mats. This side of the stream also contains tar patties w/ algae growing on them. (This was common at Black Lagoon also). The north side of the stream had small tar mats and a broken line of oiled debris upstream almost to the waterfall.

FRAME(S)	DESCRIPTION
71. 2, 2, 3, 4, 5, 6, 7	Roll 005
2, 3, 4	Aerials of Chugach Bay Creek mouth & lagoon
1	with shore-mounds / Tar mat, 4-2" thick
2, 3, 4	Mussel sand heavily lumpy with layers of 15' from recent Holocene
5	Algae growing on tar mat - black crust + kind of moss
6, 7	Algae growing on black crusty layer of oil
	Aerials of Chugach Bay Creek mouth



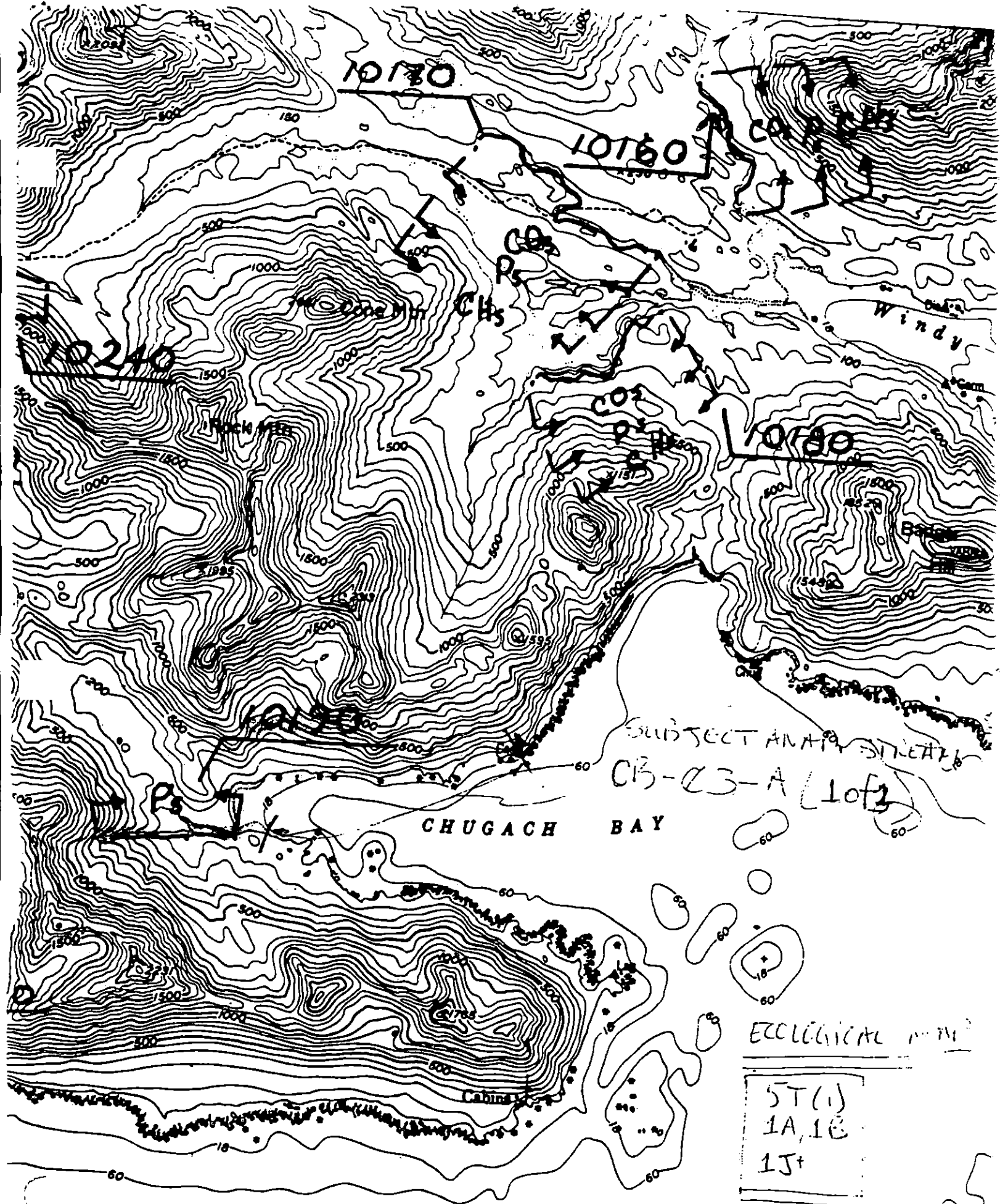
Seg ID: CB-003 Subdiv: 242-20-10190
Survey Date: 4/29/90
Comments by: Ken Critchlow

Oil in several forms was observed, most of which was distributed along the left or west bank of the stream. Oil on the east bank was restricted to cover well upstream and to a couple of patches of small tarballs.

The MITZ along the west bank was characterized by moderate densities of juv/adult barnacles, large numbers of which were dead or more commonly represented by scars on the rock. The abundance of barnacle scars was the highest I have observed in BOA or Pu's. This mortality doesn't appear to have been due to oiling since there was generally no evidence of oil throughout most of the area in which scars were observed. I am guessing that mortality resulting in barnacle removal was the result of ice scour.

I recommend that asphalt pavement and tarballs be removed by shovel. Areas of bedrock with oil cover should be scraped and the oil collected for disposal. Bioremediation isn't recommended

Ken Critchlow



SHORELINE EVALUATION

SEGMENT ST/ CB-04 SUBDIVISION A (1 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

7JJ Subsistence area: Invertebrate harvesting

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: *Charles E. H. [Signature]*

DATE: 4/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 45 m: Narrow 118 m: V.Light 433 m: No Oil 0 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

 No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

X Tarmat: Breakup

X Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

 Spot Washing: Wands

 Beach Cleaner

 Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of tarmat,
2) manual pick up of mousse patties, tarballs and pooled oil, 3) biore-
mediation of surface oil in areas shown on attached sketch map. Work
should be conducted after consulting ADF&G to avoid periods of invert-
ebrate harvesting.

TAG COMMENTS:

TAG APPROVAL DATE: 4/24/90

ADEC ART WENIER

EXXON AMY TATE

NOAA Edith Elliott

USCG M. J. HALL

FOSC: *[Signature]*

DATE: 5-12-90

KODIAK ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (4/15 to 7/31)
 1B Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
- 1D Kotol Bay Hatchery release
 Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.
- 1H Remote release site
- 1I Gill net area
- 1J Purse seine area
 Mainland, West side Kodiak, Shuyak & Moser/Olga Bay - 6/9 to 10/1.
 East side Kodiak, East side Afognak - 7/4 to 10/1.
- 1K Purse seine hook-off
- 1L Set net sites
 USFWS setnet uplands permit 5/15 to 9/15.
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/15 to 6/30)
 Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/10 to 6/30)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 8/31)
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (6/1 to 9/15)
- 6V 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 (8/1 to 9/30)
- 7HH Finfish harvesting
- 7I Deer harvesting (8/1 to 1/7)
- 7JJ Invertebrate harvesting
- 7KK Bear harvesting (4/1 to 5/15 and 10/25 to 11/30)
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CB-4 SUBDIVISION: A DATE 4/2/90

USCG

NAME R. Bryan Hirtle SIGNATURE R. Bryan Hirtle DCI

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

I agree with the findings of The Shoreline
Oiling Summary Sheet for this Segment

ADEC

NAME Russell Kunibe SIGNATURE Russell Kunibe

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Most of this segment had only very light oiling remaining. The first pocket beach to the east of the head of the bay had asphalt and mousse saturated sediments between the cobbles and boulders. There was a thin cover and coat with a small amount of pooling mousse in the cracks of the rocks on the bedrock.
Recommended treatment: Manual pick up of the mousse and asphalt.

LAND MANAGER

NAME Patrick Norman SIGNATURE Patrick Norman

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Manual pick up of exposed asphalt and mousse concentrations should help in cleaning subdivision A of CB-4. This will not clean the majority of oil in this area so other alternatives along with manual pick up should be looked into. VCI worn or hot water flushing.

SHORELINE OILING SUMMARY

REVISION NO. 03/22/88

OG Randy Siegel USCG Bryan Kirtle SEGMENT ST/ CB-4 (5 subdivisions)
 BIO Mike Gussett LAND REP Pat Norman (Pgue) SUBDIVISION A
 EXXON John Dean ADEC Russell Kniebe TIME 08:20 10:0:10
 TEAM NO.: 17 TIDE LEVEL: 0.0 to +2.9 DATE 4/9/90
 EST. SUBDIVISION LENGTH: 500 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 30 % B 40 % C 10 % P 10 % G 5 % S 5 % M 0 % V 0 %
 SLOPE: Long 30 % Hang 70 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W N/A m M 60 m N 160 m VL 780 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	C	S	P	B	SB	BR	GY	SL	TL	LB	SU	U	M	L
ASPHALT PAVEMENT			X	✓				X			X			
POOLED		X		✓				X			X	X		
COVER				X	X						X			
COAT		+	✓	X	X						X			
STAIN		+	✓	X	X						X			
MOUSSE			X	✓						X	X			
PATTIES			X							X	X			
TARBALLS				X				X			X			
FILM				X			X				X			
NO OIL											✓			✓

PAVEMENT: H F S 80 sq. m by 2 cmPATTIES / TARBALLS 100 BAGSNEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE -#BAGS 0Photographs. - None -Roll No. ST-17-6Frames 1-5

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	SB	BR	GY	SL	TL	LB	SU	U	M	L		
1	15					X	0-0		X							X					S

COMMENTS

This subdivision is north-facing shoreline composed of rocks and boulders with a number of ~~long~~ pocket beaches along it. Various algal zones were observed on the beaches and on the rocks separating the beaches.

* Some sheen on pooled water observed.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02-72

Segment ST/ CB 4 Subdivision A Date (mo / day / yr) 4 / 9 / 90

Time (24 hr) 0820-0940 Biologist M. H. Fawcett

- (A) Substrate type and % of segments:
 (1) Bedrock 30 (2) Boulder 40 (3) Cobble 10 (4) Pebble 10 (5) Sand 10 (6) Silt 0 ^(incl. gravel)
- (B) Overall % cover of biota (% of segment): Dense 1 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 1 / 1

Frames 1-5

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:

see attached sheet

Ecological Considerations:

1.1.1 invertebrate harvesting

DATE 4/9 90

CHECKLIST

___ M Area
 ___ Approx. Seals
 ___ Sed/Subs Grndy
 ___ Org Dist.
 ___ Width
 ___ Length
 ___ % Cover
 ___ Substrate Character
 ___ Est. Hgt./A.W.
 ___ S.S.
 ___ Profile Location(s)
 ___ Profile(s)
 ___ P/L Location(s)
 ___ Photo Location(s)

LEGEND

FIG - The Information Gap

2A
Pitt - Indianapolis OH

CT/C
Confidential Discussion

Background Information

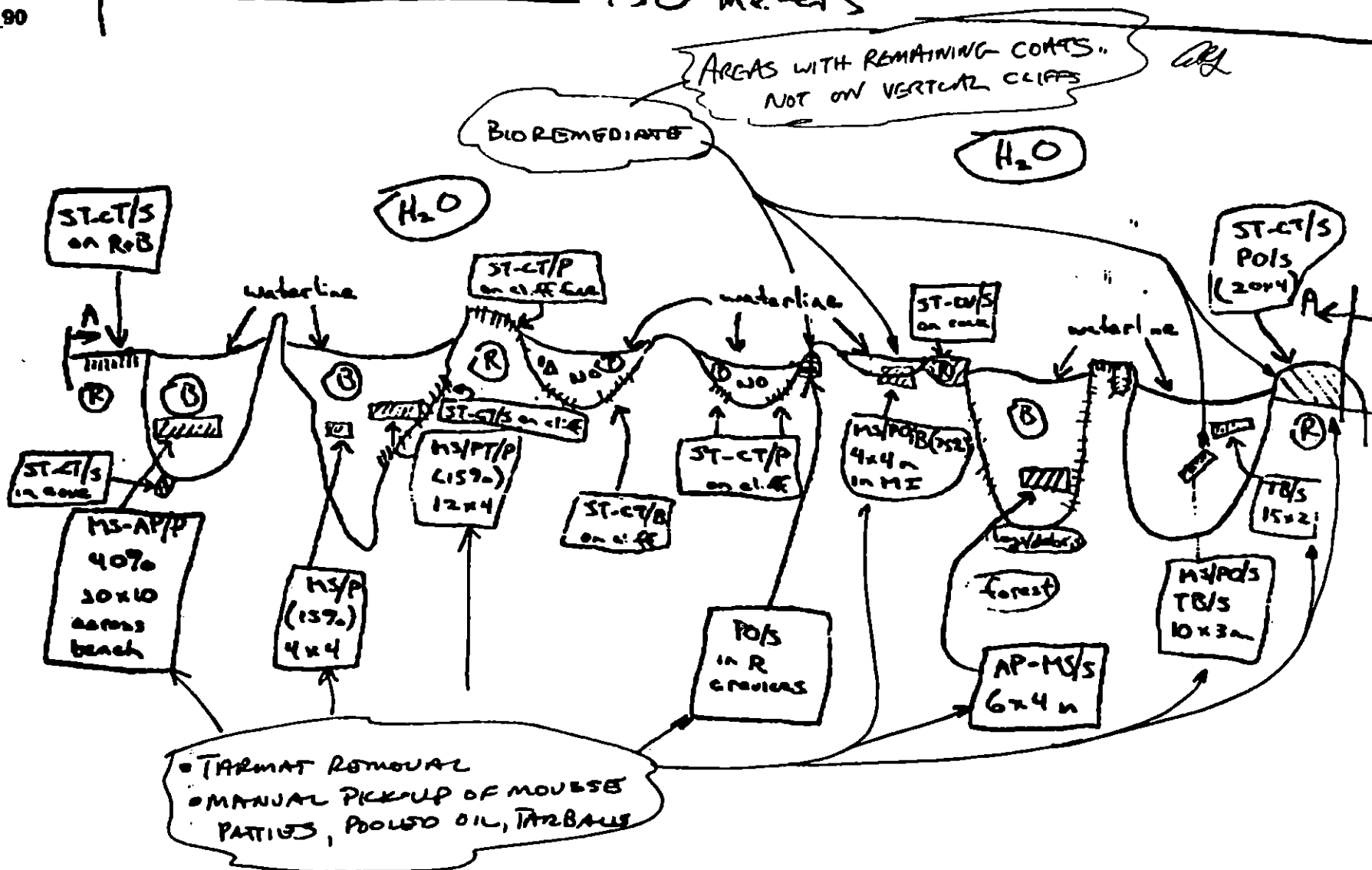
CT/P

Participatory Distinctions

CT/S

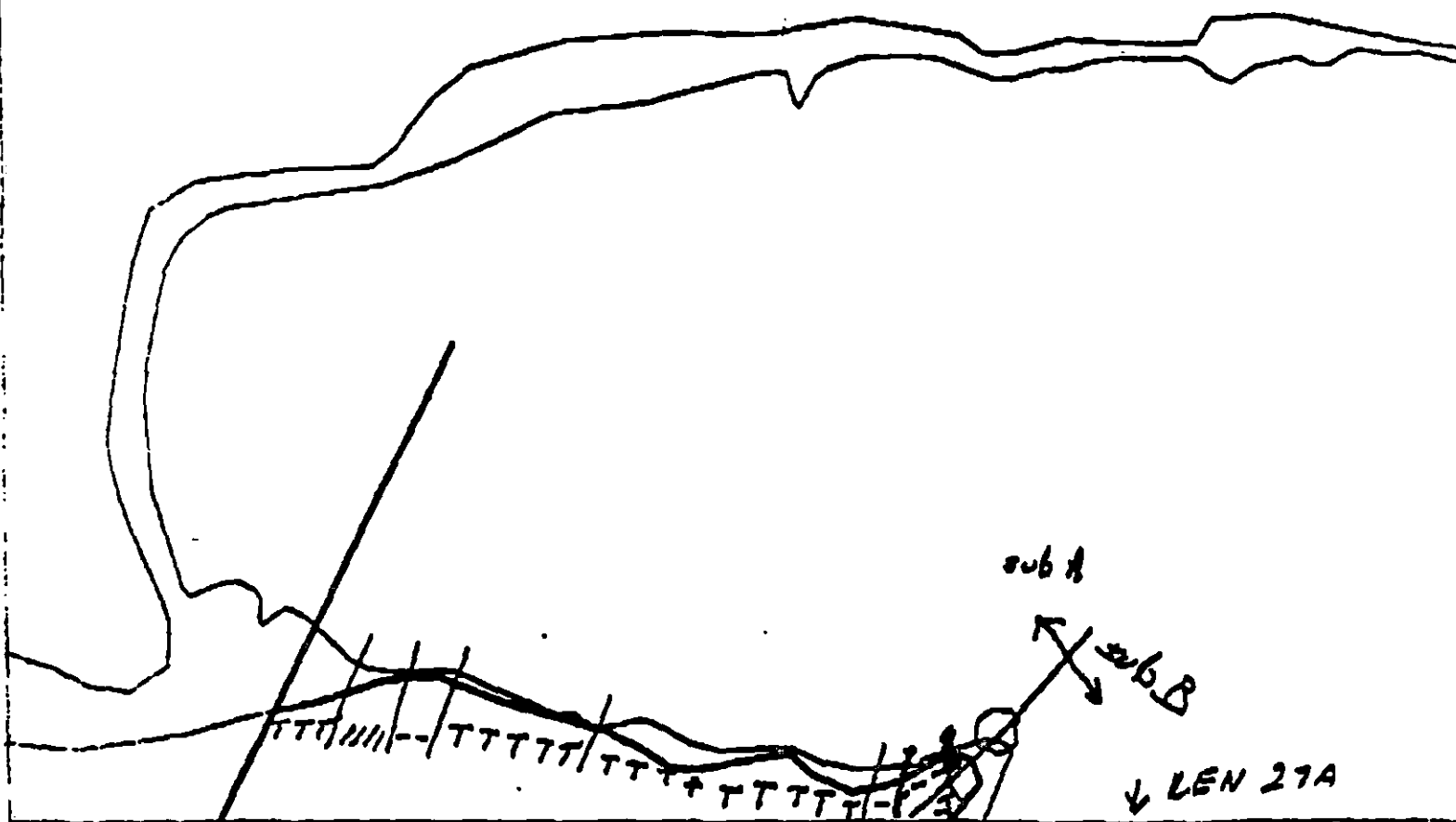
Other Vegetables

Photo location, direction,
and number



CB

—



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

CB-4

ADEC Segment Length: 4795m



Map Key: KER-270.

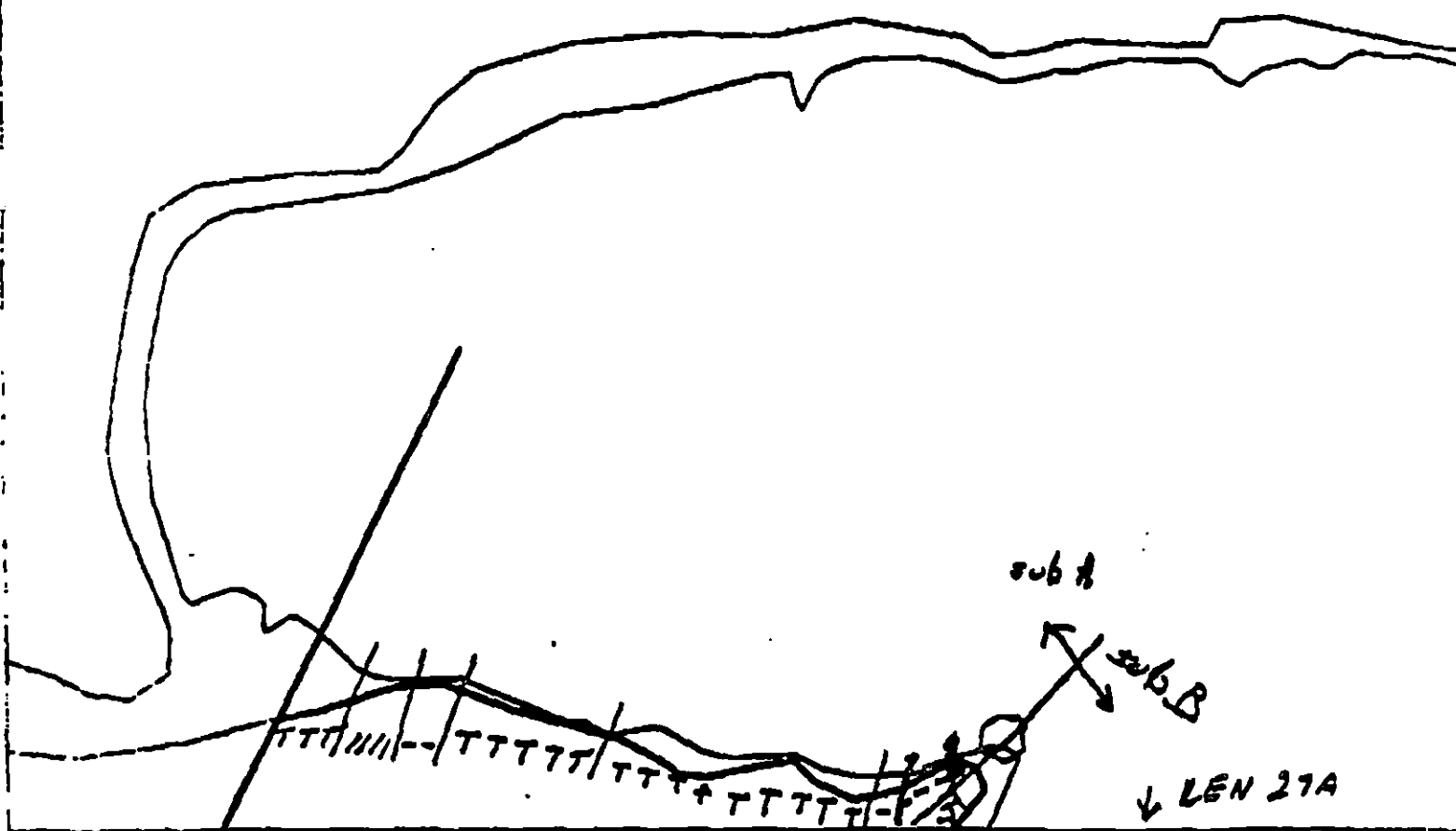
Name: Rocky Desert

Date: 4/8/90

Date Entered:

CB

—



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

CB-4

ABEC Segment Length: 4795m

0 100 200 300

METERS

Map Key: KEN-270.

Name: Lucy A. [Signature]

Date: 4/8/90

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ CB-04 SUBDIVISION B (2 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

7JJ Subsistence area: Invertebrate harvesting

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: [Signature]

DATE: 4/25/90

OILING CATEGORIZATION:

Wide 53 m: Medium 0 m: Narrow 0 m: V.Light 377 m: No Oil 49 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of tarmat,
2) manual pick up of mousse and pooled oil, 3) manual pick up of oiled
debris and logs with greater than 10% coverage, 4) bioremediation of
surface oil in areas shown on attached sketch map. Work should be
conducted after consulting ADF&G to avoid periods of invertebrate
harvesting.

TAG COMMENTS:

TAG APPROVAL DATE: 4/24/90

ADEC [Signature]

EXXON [Signature]

NOAA [Signature]

USCG [Signature]

FOSC: [Signature]

DATE: 5-12-90

KODIAK ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ CB-4 SUBDIVISION: B DATE 4/9/90

ICG
NAME R. Bryan HIRTLE SIGNATURE R. Bryan Hirtle

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

I agree with the findings of the shoreline oiling Summary Report for Segment CB-004 sub. B

ADEC
NAME Russell Kunibe SIGNATURE Russell Kunibe

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

This subdivision included a small cove on the south shore of the point. The lowest oiling was between the cobbles and boulders on a long wide beach on the west side of the cove. This beach was protected from waves by a rock ridge to the east.

Recommended treatment: Manual pick up of the mousse and asphalt. This may be effective in the large oiled area and should be considered.

LAND MANAGER

NAME Patrick Norman SIGNATURE Patrick Norman

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Manual pick up of exposed Asphalt and mousse patches should be done up the Area. also recommend additional work on the oiling of this subsection, last year we worked it on 2 times and because of time constraints did not do every good job.

SHORELINE OILING SUMMARY

REVISION NO. 0003/90

OG Randy Siegel USCG Bryan Kittle SEGMENT ST/ CR-4 (3 subdivisions)
 BIO Mike Kucsek LAND REP Pat Norman (PWC) SUBDIVISION B
 EXXON John Dean ADEC Russell Runke TIME 10:10 to 11:00
 TEAM NO.: 17 TIDE LEVEL: +2.9 to +5.4 DATE 4/9/90
 EST. SUBDIVISION LENGTH: 510 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 15 % B 40 % C 15 % P 10 % G 10 % S 10 % M 0 % V 0 %
 SLOPE: Long 50 % Hang 50 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 60 m M N/A m N N/A m VL 330 m NO 120 m

SURFACE OIL

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

PAVEMENT: H (F) S 300 sq. m by 2 cmPATTIES / TARBALLS 150 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

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

DEBRIS COLLECTED
☐ YES ☒ NOTYPE -#BAGS 2

Photographs:

Roll No. ST-17-6Frames 6-12

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW	OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO			1	2	3	4	5	6	7	8	BU	U	M	LI		
1	25					X	0-0	X									X					S
2	25					X	0-0	X									X					S
3	25					X	0-0	X									X					G
4	25					X	0-0	X									X					P
							-															
							-															

COMMENTS

This subdivision consists primarily of a large beach. The beach is surrounded by low-angle cliffs to the east & west and a low-angle SSK to the south. The western half of the beach contained significant oiling while little oiling was observed on the eastern half.

* Sheen on some pooled water.

OG Randy Siegel

SEGME T/ CB4

SUBDIVISION B

DATE 4/9/90

SKETCH MAP

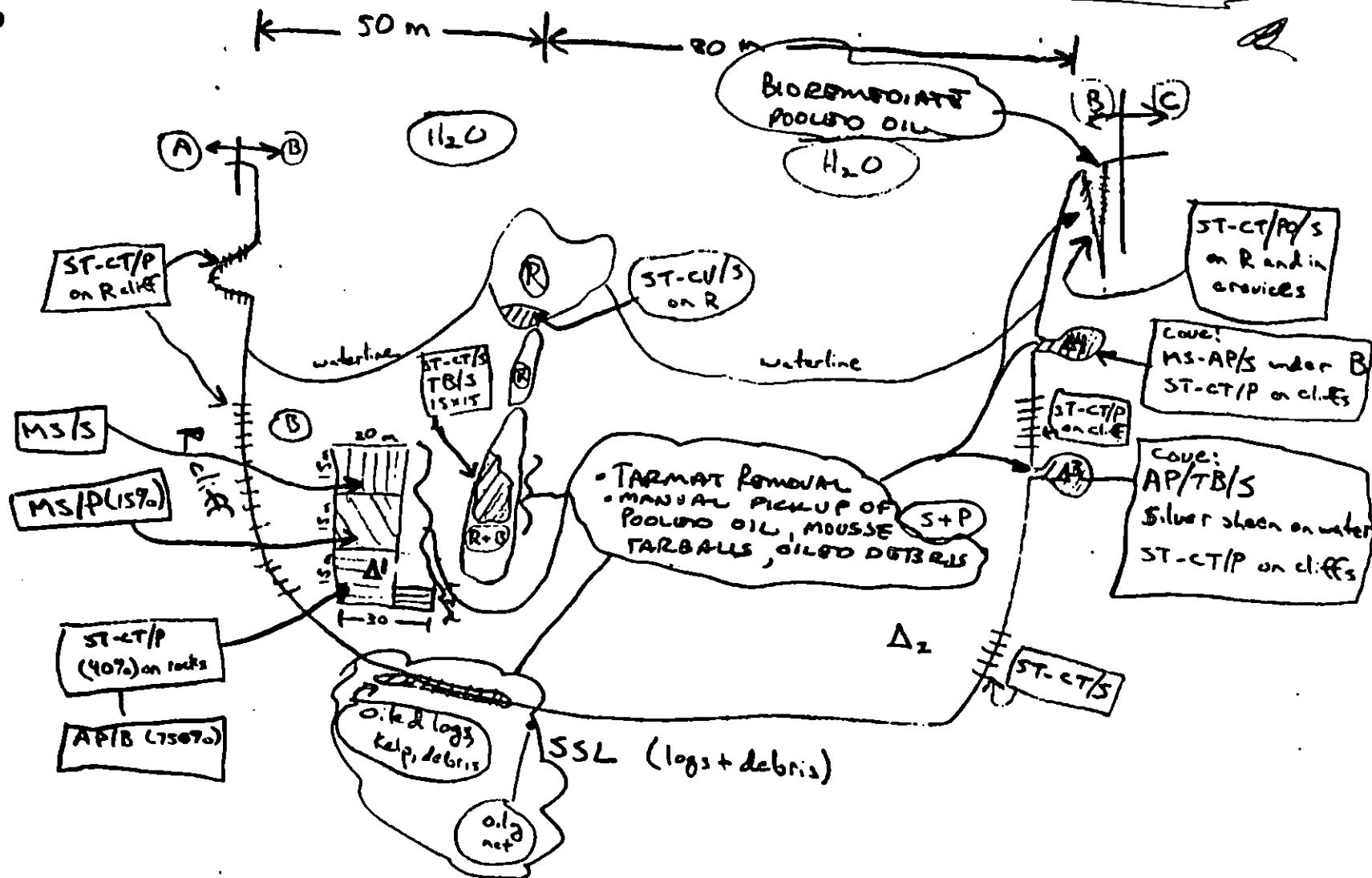
BIOREMEDIATION COATS NOT ON VERTICAL CLIFFS

CHECKLIST

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

LEGEND

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



Oil Character Length (m): AP 50 PO 10 CV 30 CT 250 ST 250 MS 50 PT 30 TB 30 FL V/A NO 120

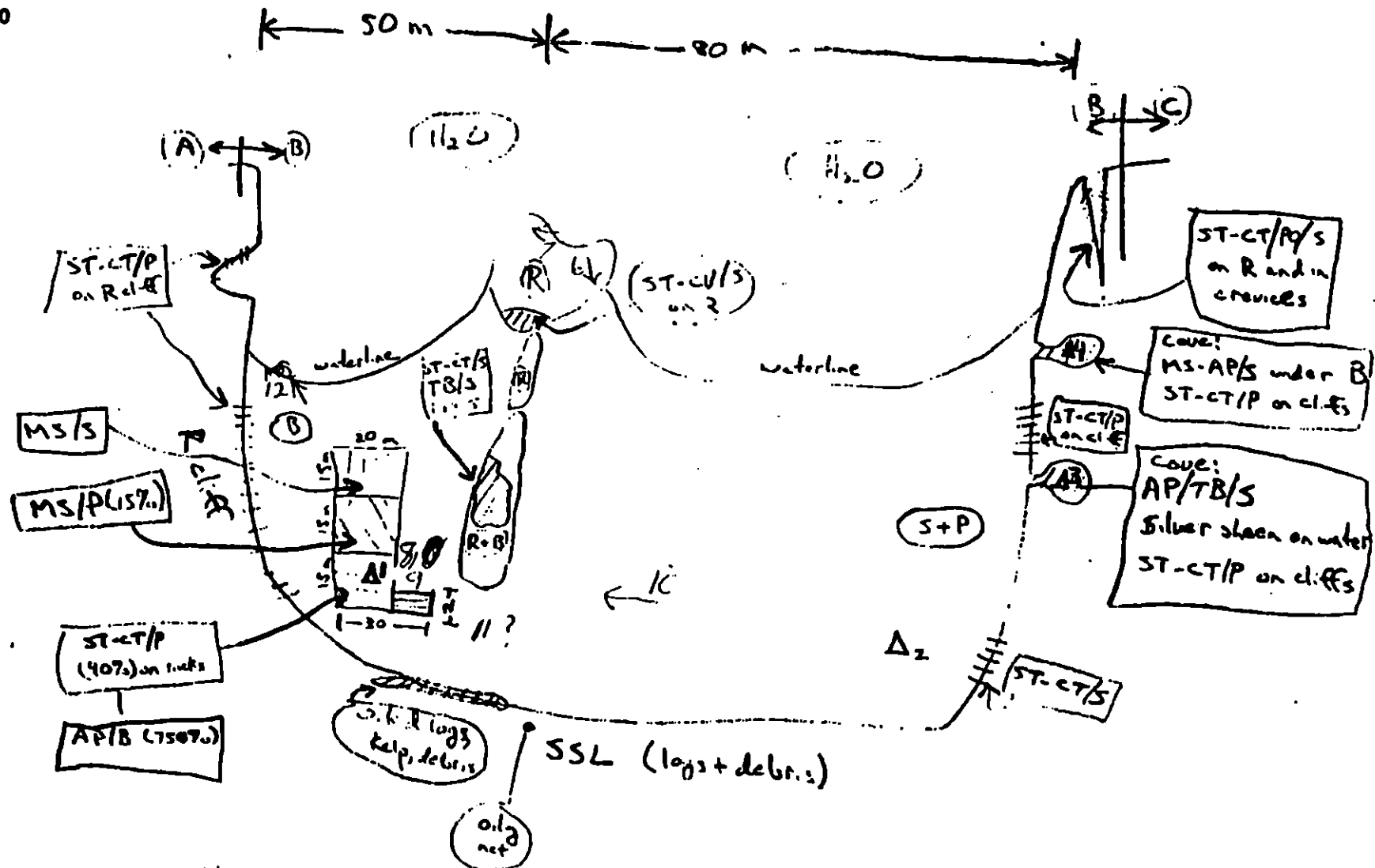
REVISION: 03/24/90

CHECKLIST

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

LEGEND

- 1 Δ
PH - No Subsurface Oil
- 2 Δ
PH - Subsurface Oil
- $\boxed{CT/C}$
Continuous Distribution
- $\boxed{CT/B}$
Broken Distribution
- $\boxed{CT/P}$
Patchy Distribution
- $\boxed{CT/S}$
Splashed Distribution
- $\bullet \rightarrow$
Oiled Vegetation
- $\bullet \rightarrow$
Photo location, direction, and number



Oil Character Length (m): AP 50 PO 10 CV 30 CT 250 ST 250 MS 50 PT 30 TB 30 FL N/A NO 120

SHORELINE ECOLOGICAL SUMMARY

REVISION: 0322

Segment ST CB4 Subdivision B Date (mo / day / yr) 4/9/90Time (24 hr) 0940-1120 Biologist M.H. Fawcett(A) Substrate type and % of segments:
(1) Bedrock 15 (2) Boulder 40 (3) Cobble 15 (4) Pebble 10 (5) Sand 20 (6) Salt 0 ^(incl. gravel)(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-17-6Frames 6-11

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

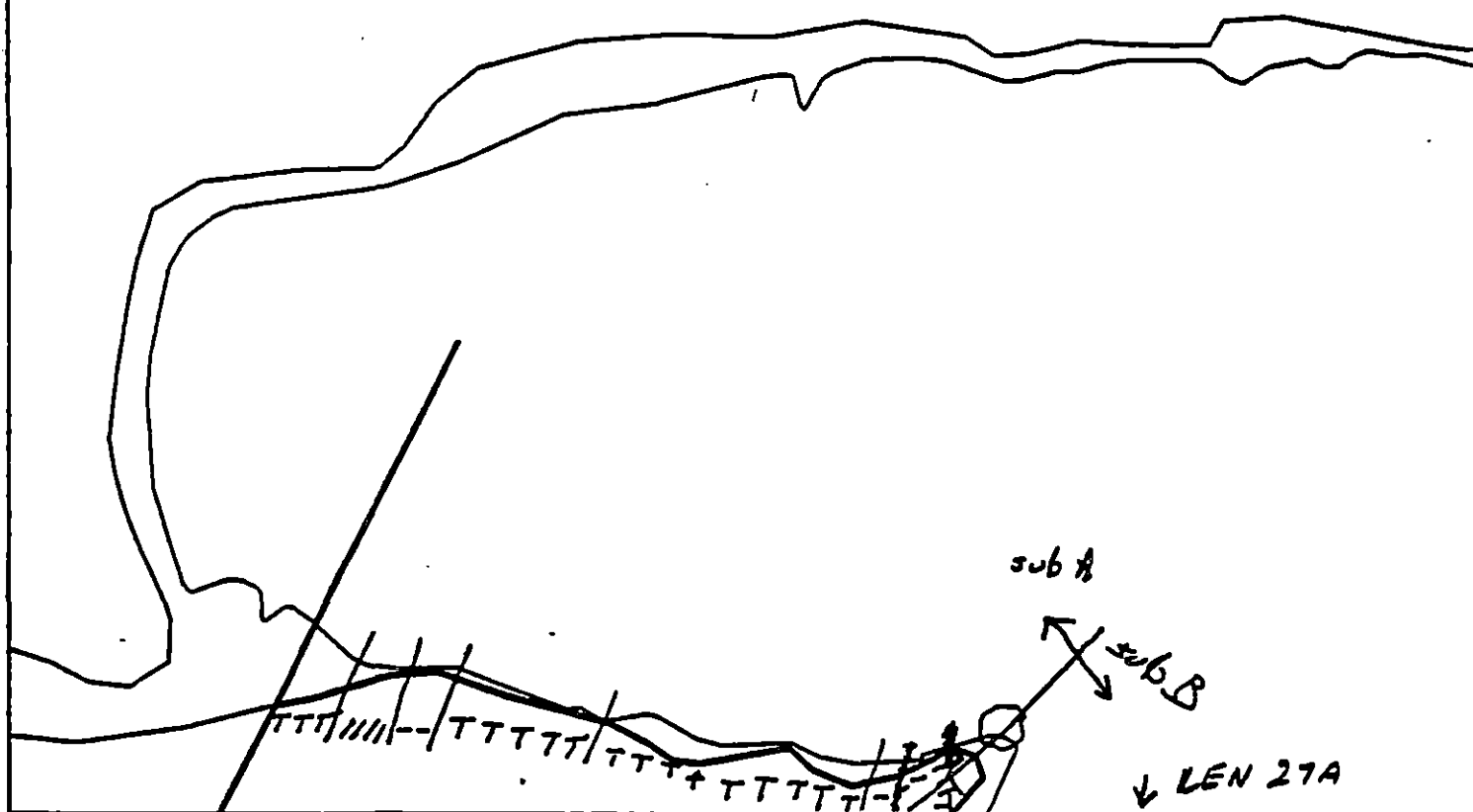
Wildlife Observations/ General Comments:

4 river otters left beach and climbed up small non-anadromous stream. The bedrock outcrops and pocket boulder beaches in this subarea support a rich community very similar to the one described in the Ecological Considerations: attachment to CB4A

7JJ

CB

—



XXXX Wide

//// Medium

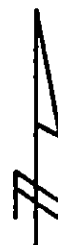
--- Narrow

TTTT Very Light

0000 No Oil

CB-4

ADEC Segment Length: 4795m



Map Key: KEN-270.

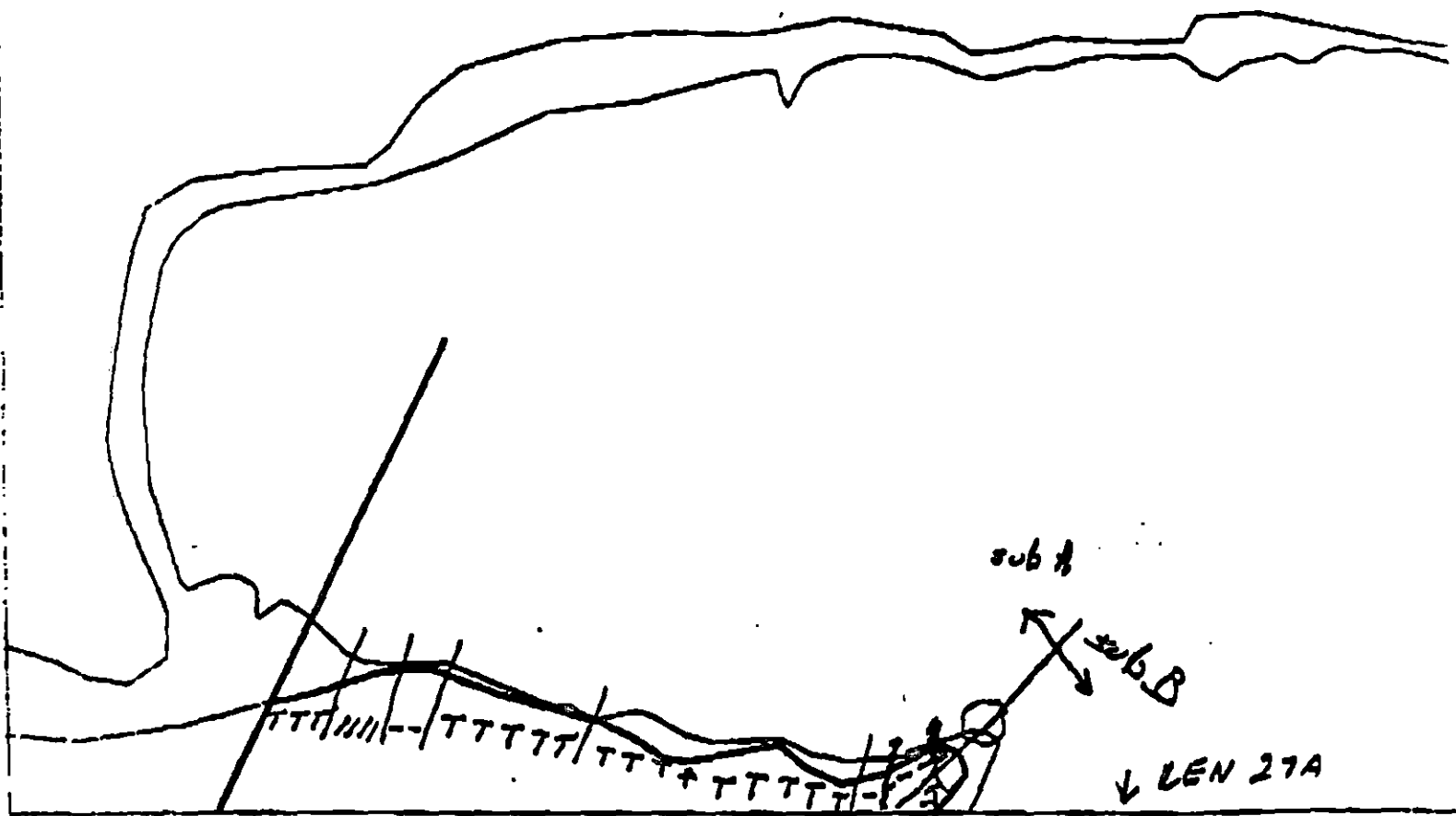
Name: Randy Siegel

Date: 4/2/90

Date Entered:

CB

—



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

CB-4

ADEC Segment Length: 4793m

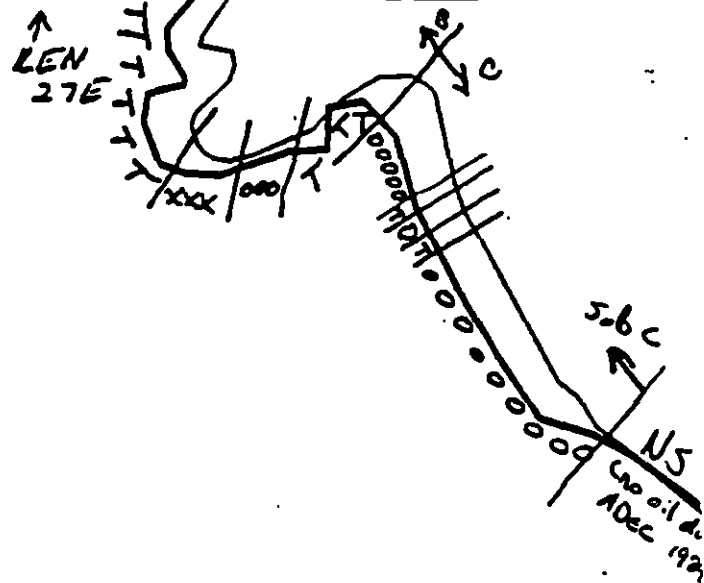


Map Key: KEN-270.

Name: Andy Siegel

Date: 4/8/90

Date Entered:



CB -

LEN
278 -

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

CB-4

ADEC Segment Length: 4795m



Map Key: KEN-27a.

Name: Barry Seagel

Date: 4/2/20

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ CB-04 SUBDIVISION C (3 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

7JJ Subsistence area: Invertebrate harvesting

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Holmes DATE: 7/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 30 m: No Oil 300 m
Subsurface Oil Observed: Yes X No Maximum Depth 25+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pick up of oiled debris and logs if greater than 10% coverage, 2) bioremediation of subsurface oil in areas shown on attached sketch map. Work should be conducted after consulting ADF&G to avoid periods of invertebrate harvesting.

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/24/00
 ADEC ART WERNER Art Werner
 EXXON FRANK TOL Frank Tol
 NOAA Ray Allen G Petrac
 USCG M. J. HALL M. J. Hall

FOSC: W L DATE: 5-12-90

KODIAK ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ CB-4 SUBDIVISION: C DATE 4/9/90USCGNAME R. Bryan HIRZLE SIGNATURE R. Bryan Hirtle☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

I agree with the findings of the shoreline
oiling summary report for this segment

ADECNAME Russell Kanibe SIGNATURE Russell Kanibe☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Manual Pick up of more and oiled debris

LAND MANAGERNAME Patrick Norman SIGNATURE Patrl Nam☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

manual pick up of any surface and subsurface monee in
the area noted on the map of subsection C of CB-4 should clean
a majority of oil remaining in this subsection.

SHORELINE OILING SUMMARY

REVISION NO. 03/2/90

OG Randy Siegel USCG Bryan Hirtle SEGMENT ST/ CB-4 (5 subdivisions)
 BIO Mike Fawcett LAND REP Pat Norman SUBDIVISION C
 EXXON John Dean ADEC Russell Kneib TIME 11:00 to 11:30
 TEAM NO.: (1) TIDE LEVEL: +5.4 to +6.3 DATE 4/9/90
 EST. SUBDIVISION LENGTH: 300 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 40 % B 40 % C 5 % P 5 % G 45 % S 5 % M 0 % V 0 %
 SLOPE: Long 10 % Hang 60 % Vert 30 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W N/A m M N/A m N N/A m VL 25 m NO 275 m

SURFACE OIL

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

PAVEMENT: H (F) S 0.5 sq. m by 2 cmPATTIES / TARBALLS 1 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

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

DEBRIS COLLECTED
☐ YES ☒ NOTYPE #BAGS 0

Photographs:

Roll No. ST-17-6Frames 13 ---

SUBSURFACE OIL

* Discrete mousse tarballs, were observed in the pit, rather than a continuous layer.

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CE)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SA SP	SB PW	SC SL	SD TL	SE LR	SU	U	M	L					
1	25		X				5-25	X							X		X						P, G
2	25		X				5-25	X							X		X						P, G
3	25					X	0-0		X								X						P
4	25					X	0-0		X								X						P
							.																
							.																

COMMENTS

This subdivision consists of a stretch of bedrock cliff and a large gravel and pebble beach (80 m x 30 m). To the southeast of the beach, there is about 500 meters of shoreline that we didn't survey, as no oiling was observed during ADEC's Sep/Oct 1989 survey. Oiling was generally light within the surveyed section, although a possible buried oil lense may have been present in a portion of the gravel and pebble beach.

DATE 4 / 9 80

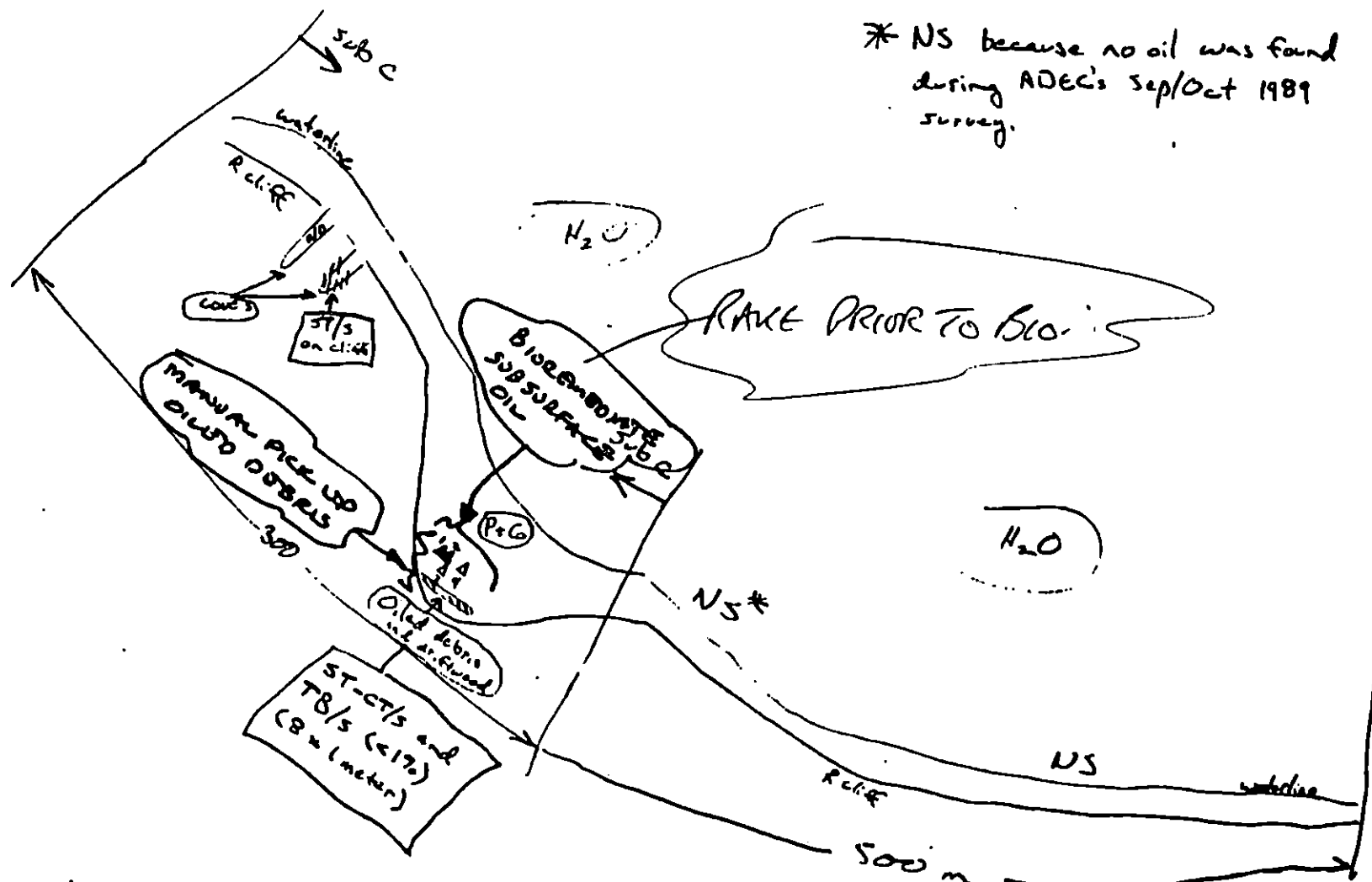
SKETCH MAP

CHECKLIST

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

LEGEND

- 1 ▲
P1 - No Subsurface Oil
- 2 ▲
P1 - Subsurface Oil
- CT/C
Continuous Distribution
- CT/B
Broken Distribution
- CT/P
Patchy Distribution
- CT/S
Splashed Distribution
- Oiled Vegetation
- 1 ➡
Photo location, direction and number



Oil Character Length (m): AP N/A PO N/A CV N/A CT 25 ST 25 MS N/A PT N/A TB 8 FL N/A NO 375

REVISION 02/24/04

DATE 4 / 9 / 90

CHECKLIST

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

LEGEND

- 1 Δ**
PH - No Subsurface Oil

- 2 ▲**
PM - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Spliced Distribution

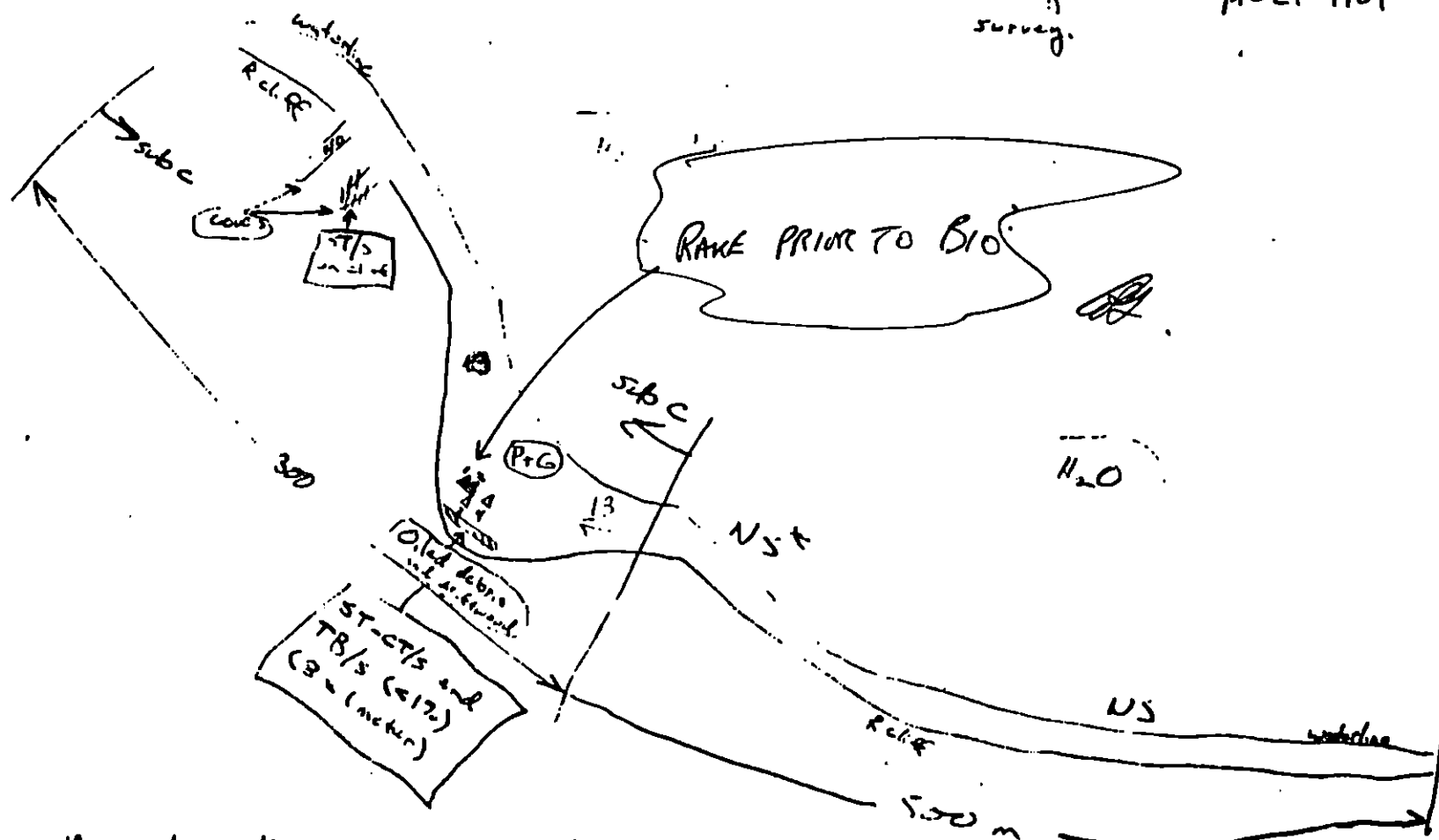
Old Vegetation

- 1 
- Photo location, direction,
and number

SKETCH MAP

photos
ST-17-6

* NS because no oil was found during ADEC's Sep/Oct 1989 survey.



Oil Character Length (m): AP N/A PO N/A CV N/A CT 25 ST 25 MS N/A PT N/A TB 8 FL N/A NO 275

REVISION: 02/24/04

SHORELINE ECOLOGICAL SUMMARY

REVISED 02

Segment ST/ CB4 Subdivision C Date (mo / day / yr) 4/9/90Time (24 hr) 1120-1150 Biologist M.H. Fawcett(A) Substrate type and % of segments:
(1) Bedrock 40 (2) Boulder 40 (3) Cobble 5 (4) Pebble 5 (5) Sand 10 (6) Silt 0 (incl. gravel)(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-17-6Frames 13

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

Most of the subsection is vertical bedrock. young mussels (1989, 90) dense in crevices
Pebble beach unstable, no macro-biota

Ecological Considerations:

7 J J

LEN
275

TTTT

LEN
275

SUBDIVISION
C

US

CB

LEN
275 →

XXXX Wide

CB-4

Map Key: KEN-270

Name: Early Seigel

Date: 4/2/20

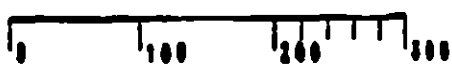
Notes: Entered

/// Medium

--- Narrow ADEC Segment Length: 4795m

TTTT Very Light

oooo M. 0:1



↑
KEN
27E

TTTT

↑
C

CB

==

KEN
27S →

XXXX Wide

/// Medium

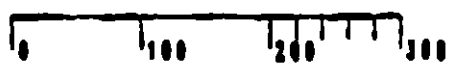
--- Narrow

TTTT Very Light

0000 No Oil

CB-4

ADEC Segment Length: 4795m



METERS



Map Key: KEN-27a

Name: Larry Beagle

Date: 4/9/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ CB-04 SUBDIVISION D (4 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

7JJ Subsistence area: Invertebrate harvesting

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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

OILING CATEGORIZATION:

Wide 8 m: Medium 0 m: Narrow 0 m: V.Light 47 m: No Oil 64 m
Subsurface Oil Observed: Yes X No Maximum Depth 9+ 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 and pooled oil, 2) bioremediation of areas shown on attached sketch map. Work should be conducted after consulting ADF&G to avoid periods of invertebrate harvestings.

TAG COMMENTS:

TAG APPROVAL DATE: 4/24/90
ADEC ART WEAVER
EXXON ANN TATE
NOAA G. Petros
USCG M. J. Hall

FOSC: W L DATE: 5-12-90

KODIAK ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CB4 SUBDIVISION: D DATE 4/9/90

USCG
NAME R. Bynne Harte SIGNATURE R. Bynne Harte Dei

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

I agree with the Shoreline Summary report
For CB-004, D

ADEC
NAME Russell Kunibe SIGNATURE Russell Kunibe

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

The heaviest oily was in an area 10m wide long and 15m wide in the U1T2
Near the upper part of the oiled zone the mouse saturated sediments were
under a thin layer of gravel. Much of the
Recommended treatment: Manual Pick up of mouse and mouse saturated sediments

LAND MANAGER
NAME Patrick Nansen SIGNATURE Patrick Nansen

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

manual pick up of exposed Asphalt and mouse patches
should work in this area.

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG Randy Siegel USCG Bryan Hittle SEGMENT ST/ CB-4 (5 subdivisions)
 BIO Mike Sweet LAND REP Pat Norman (Nave) SUBDIVISION 0
 EXXON John Dean ADEC Russell Kunitz TIME 17:40 to 18:40
 TEAM NO.: 17 TIDE LEVEL: +6.1 to +1.8 DATE 4/9/90
 EST. SUBDIVISION LENGTH: 1070 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 15 % B 40 % C 10 % P 5 % G 25 % S 5 % M 0 % V 0 %
 SLOPE: Long 25 % Hang 75 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 15 m M N/A m N N/A m VL 45 m NO 40 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	S	P	R	SP	BP	OP	BP	OP	BP	OP	BP	SU	U	M	L
ASPHALT PAVEMENT																
POOLED				✓									✓			
COVER																
COAT			✓	X		X							X			
STAIN			✓	X		X							X			
MOUSSE			X									X	X			
PATTIES																
TARBALLS				X								X	X			
FILM																
NO OIL													X		X	X

PAVEMENT: H F (S) 60 sq. m by 2 cmPATTIES / TARBALLS 50 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE -#BAGS 0Photographs: NONERoll No. ST-17-6Frames 15-22

SUBSURFACE OIL* oiled interval < 5 cm in pit*1 does not constitute subsurface oil / 7d

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	SA	BP	OR	FW	DT	SP	DR	TL	LR	SU	U	M		
1	15	X					0-5		X							X		X					G
2	15	X					5-9		X							X		X					G
3	15					X	0-0		X									X					G,P
4	13					X	0-0		X									X					G,R
							.																
							.																

COMMENTS This subdivision consists of a gravelly beach behind a bedrock point, about 100 meters long. The remaining 1990 meters of the subdivision were not surveyed, either because of inaccessibility (rock cliffs)—about 1200 meters, or No Oiling observed during ADEC's Sp/Oct 1989 survey—about 790 meters. A patch of oiling, about 30 x 15, was observed on the ~~beach~~ currently surveyed beach.

OG Randy Siegel

SEGMENT ST/ CB-4

SUBDIVISION D

DATE 4/9/90

CHECKLIST

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

LEGEND

1 Δ

Pht - No Subsurface Oil

2 Δ

Pht - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Oiled Vegetation

1 $\Rightarrow$

Photo location, direction, and number

sub C $\leftarrow$ sub D $\rightarrow$

G beach

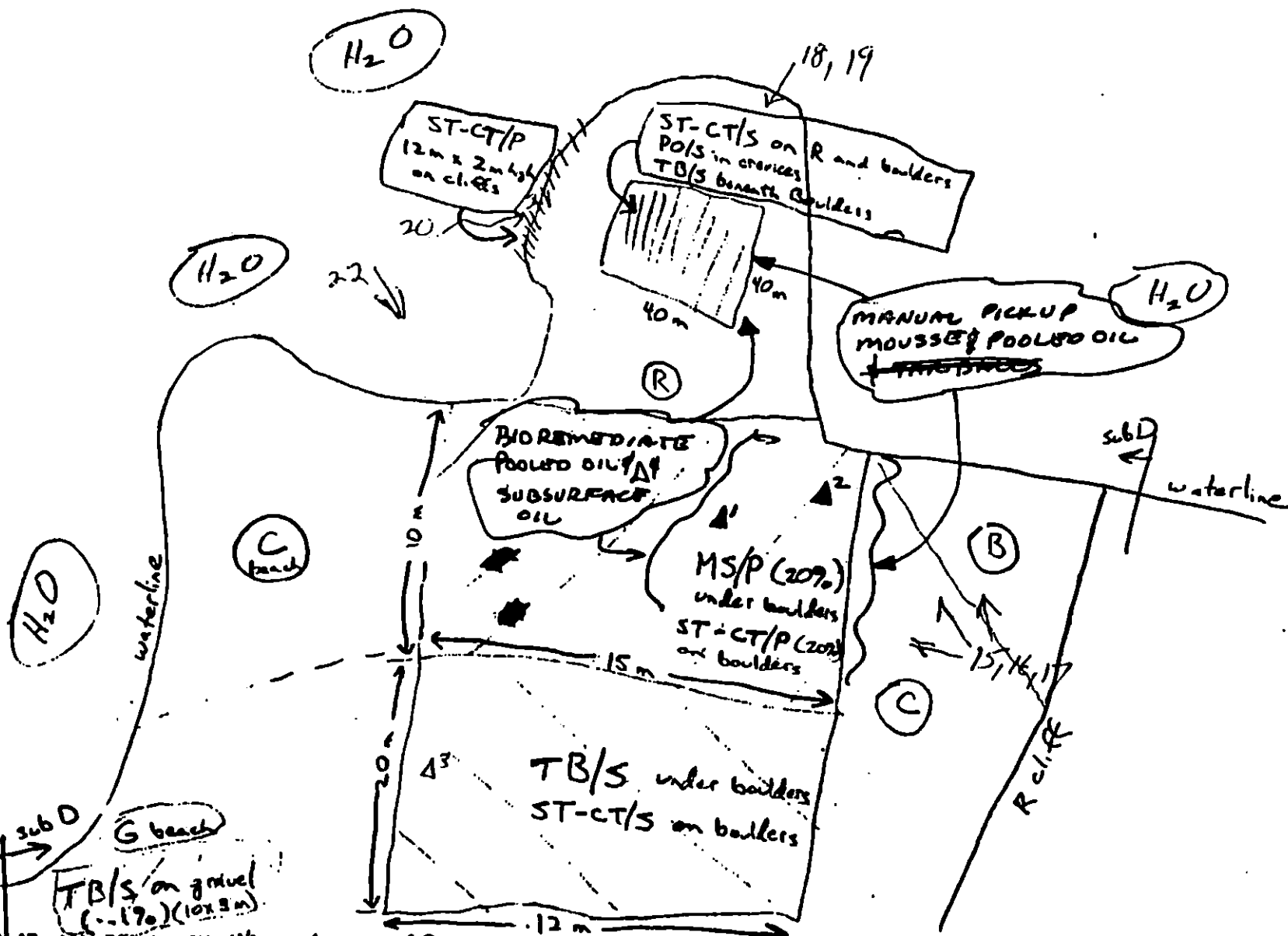
TB/S on gravel
(-1%) (101.9 m)

Oil Character Length (m): AP N/A PO 10 CV N/A CT 60 ST 60 MS 15 PT N/A TB 60 FL N/A NO 40

SKETCH MAP

10 m
App. Scale

N
 $\uparrow$



OG Randy Siegel

SEGMENT ST/ CB-4

SUBDIVISION D

DATE 4 / 9 90

CHECKLIST

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

LEGEND

1 Δ

Pit - No Subsurface Oil

2 Δ

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

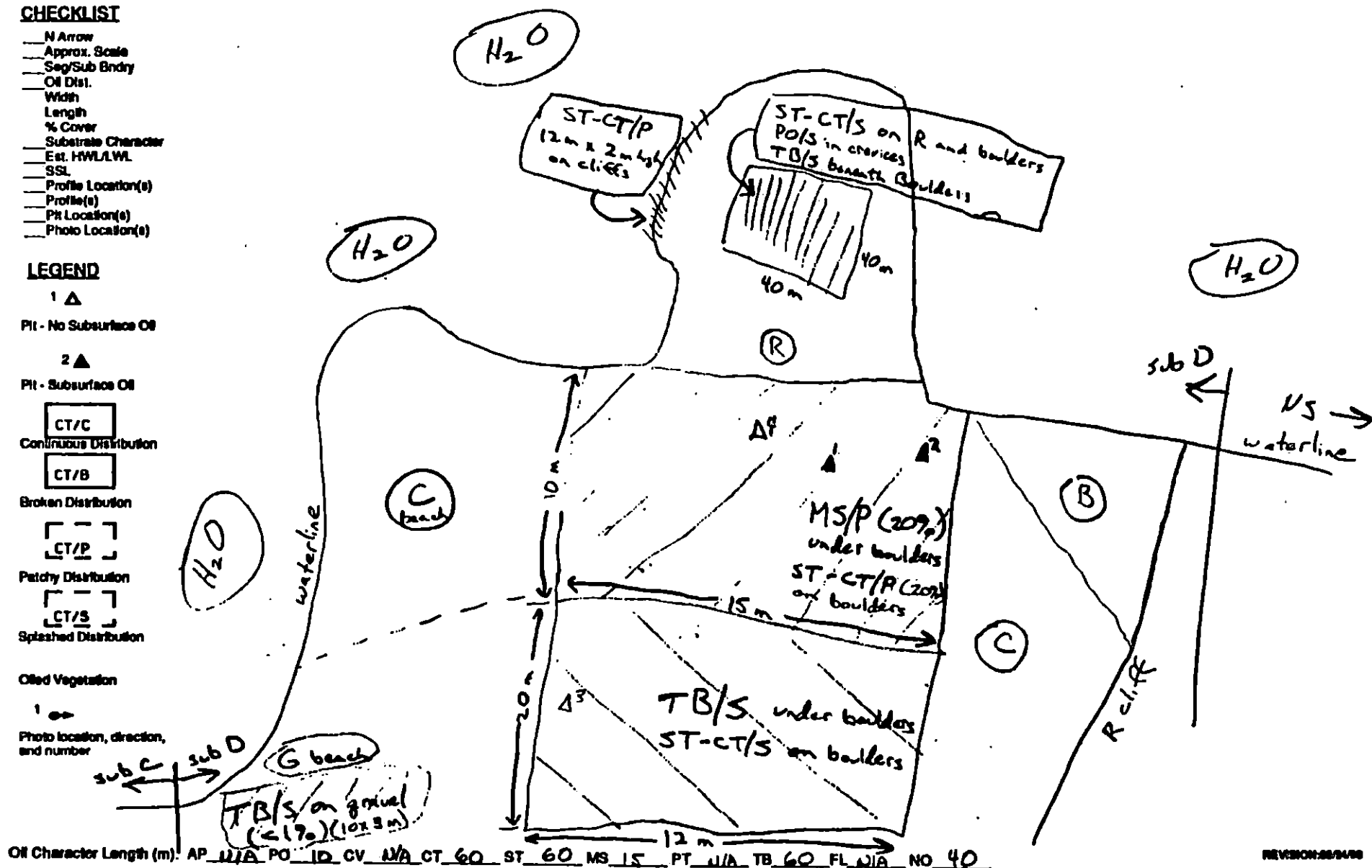
CT/S

Splashed Distribution

Oil'd Vegetation

1 $\Rightarrow$

Photo location, direction, and number



SHORELINE ECOLOGICAL SUMMARY

Segment ST/ C84 Subdivision D Date (mo / day / yr) 4/9/90Time (24 hr) 1745-1820 Biologist M. H. Fawcett

(A) Substrate type and % of segments:

(1) Bedrock 15 (2) Boulder 40 (3) Cobble 10 (4) Pebble 5 (5) Sand 30 (6) Silt 0 (incl. gravel)(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-17-6Frames 15-22

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

1 mature bald eagle
see attached sheet

Ecological Considerations:

755

C 348 Chugach Bay

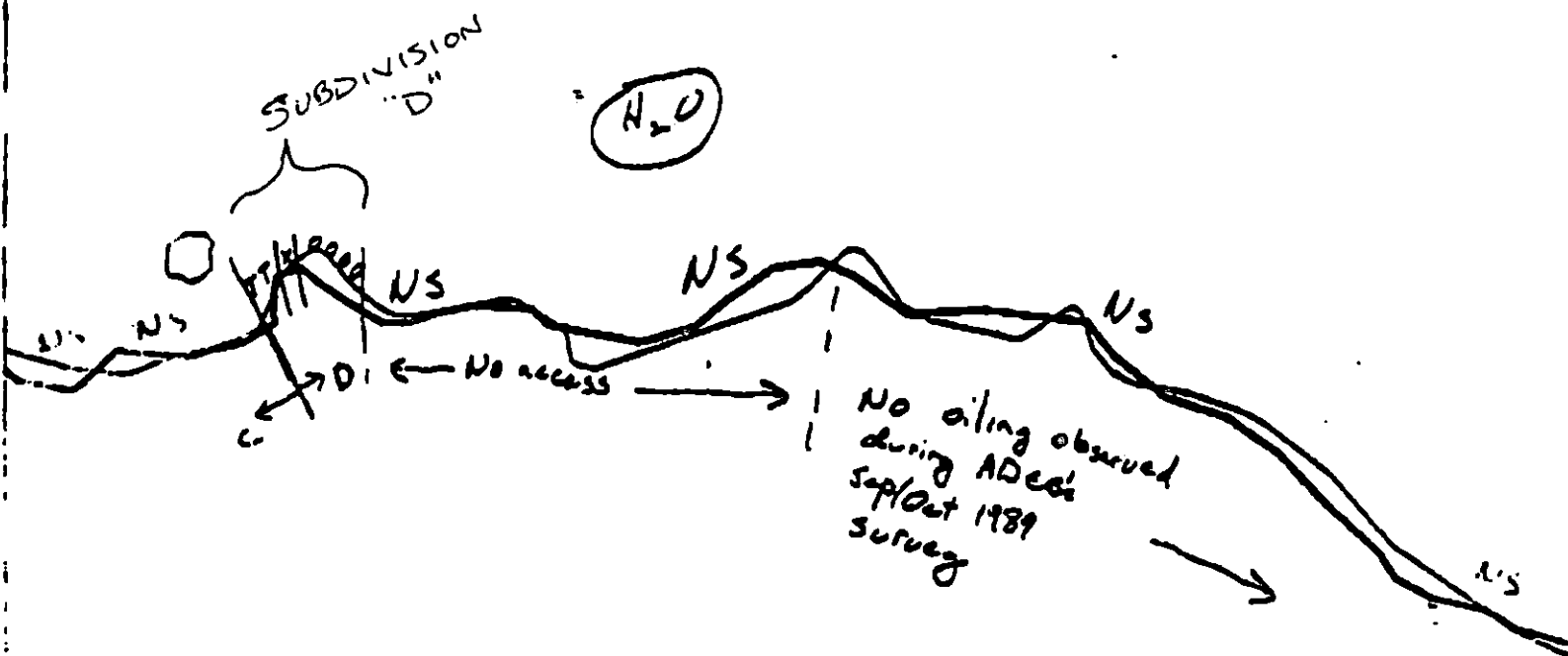
4/9/90

Wildlife Observations/Comments

M. H. Fawcett

The area of interest here is a bedrock outcrop with a small sand/cobble neck behind it, and a boulderfield on the lee side (west) of the point. The remaining oil is mostly restricted to the sand neck, part of the boulderfield, and part of the VTZ bedrock on the west side of the outcrop. On the coated bedrock nearly all barnacles have oil on them, but most (>75%) are alive. Numerous littorines were observed on the hardened oil. The oiled boulders in the boulderfield are mainly in the VTZ, where animals and plants are normally scarce. In the MTZ boulders immediately below, littorine snails ranging in size from 2mm (this year's hatch) to 10mm are moderately abundant, and barnacles (Balanus glandula and Chthamalus) are sparse.

The exposed side of the outcrop has typical healthy tide pools lined with Lithothamnion and containing large Katharina, limpets (Notoacmaea scutellata, Acmaea mitra and Collisella pelta), Balanus cariosus, anemones (Anthopleura and Tealia).



← KEN 27A

KEN 27C →

XXXX Wide

CB-4

//// Medium

--- Narrow

ADEC Segment Length: 4785m

TTTT Very Light



Map Key: KEN-27b

Name: Ruby Dargatzis

Date: 4/9/10

SHORELINE EVALUATION

SEGMENT ST/ CB-04 SUBDIVISION E (5 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

7JJ Subsistence area: Invertebrate harvesting

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Hines

DATE: 4/24/90

OILING CATEGORIZATION:

Wide 66 m: Medium 69 m: Narrow 0 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, 2) manual pick up of pooled, coated, covered and stained areas, 3) bio-remediation of areas shown on attached sketch map. Work should be conducted after consulting ADF&G to avoid periods of invertebrate harvesting.

TAG COMMENTS:

TAG APPROVAL DATE: 4/24/90

ADEC ART WEAVER Art Weaver

EXXON ARMY T&E Army T&E

NOAA Gary Petric Gary Petric

USCG M.J. HALL M.J. Hall

FOSC:

DATE: 5-12-90

KODIAK ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (4/15 to 7/31)
 1B Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
- 1D Kotol Bay Hatchery release
 Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.
- 1H Remote release site
- 1I Gill net area
- 1J Purse seine area
 Mainland, West side Kodiak, Shuyak & Moser/Olga Bay - 6/9 to 10/1.
 East side Kodiak, East side Afognak - 7/4 to 10/1.
- 1K Purse seine hook-off
- 1L Set net sites
 USFWS setnet uplands permit 5/15 to 9/15.
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/15 to 6/30)
 Restrict boat traffic to essential minimum. Avoid damage to unholed intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/10 to 6/30)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 8/31)
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (6/1 to 9/15)
- 6V 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 (6/1 to 9/30)
- 7HH Finfish harvesting
- 7H Deer harvesting (8/1 to 1/7)
- 7JJ Invertebrate harvesting
- 7KK Bear harvesting (4/1 to 5/15 and 10/25 to 11/30)
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CB-4 SUBDIVISION: E DATE 4/9/90

USCG
NAME R. Bryson Hirtle SIGNATURE R. Bryson Hirtle

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

I agree with the shore line Diking Summary report for CB-004, E

ADEC
NAME Russell Kunibe SIGNATURE Russell Kunibe

☐ NO TREATMENT RECOMMENDED
COMMENTS CB-4 E.

☒ TREATMENT SUGGESTED

Manual pick up and break up of asphalt and mounds,

LAND MANAGER
NAME Derrick Norman SIGNATURE Derrick Norman

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

manual pickup of exposed Asphalt and any mounds should help the natural clearing process on this subsequent. It would be very inaccessible to get to to do work or let water washing to remove weathered stain.

SHORELINE OILING SUMMARY

REVISION NO. 002300

OG Randy Siegel USCG Bryan Wirtle SEGMENT ST/ CR-4 (5 subdivisions)
 BIO M. Ke. Gussert LAND REP Pat Vorman (Pawc) SUBDIVISION E
 EXXON John Deere ADEC Russell Kumbie TIME 18:45 to 19:45
 TEAM NO.: 17 TIDE LEVEL: +1.8 to +1.5 DATE 4/9/90
 EST. SUBDIVISION LENGTH: 280 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 40 % B 40 % C 10 % P 5 % G 3 % S 2 % M 0 % V 0 %
 SLOPE: Long 90 % Hang 10 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 130 m M 150 m N N/A m VL N/A m NO N/A m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	R	B	P	S	SP	BP	OP	BP	SP	SU	U	M	U
ASPHALT PAVEMENT	X	✓		+	X					X	+		
POOLED				X	X					X			
COVER		+	X	✓	X					+	X	X	✓
COAT		X	+	✓	X					X	X	X	
STAIN		X	+	✓	X					X	X	X	
MOUSSE													
PATTIES													
TARBALLS													
FILM				X			X			X			
NO OIL													✓

PAVEMENT: (H) F S 100 sq. m by 2 cmPATTIES / TARBALLS 150 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE —#BAGS 0Photographs: DoneRoll No. ST-17-6Frames 23-27

SUBSURFACE OIL

* Flm Silver sheen on large supratidal pool.
No pits dug due to presence of boulders and bedrock.

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				SU	U	M	U		
0							-								
							-								
							-								
							-								
							-								
							-								

COMMENTS

This subdivision consists of a bedrock point with areas of boulders on cobbles and boulders. Various types of oiling were observed across most of the subdivision. Bands of asphalt were observed beneath boulders in one area and staining-coating of rock faces (cliffs and boulders) were observed in several areas. The area is irregular lithologically and quite rugged.

OG Randy Siegel

SEGMENT ST/ CB-4

SUBDIVISION E

DATE 4/9/80

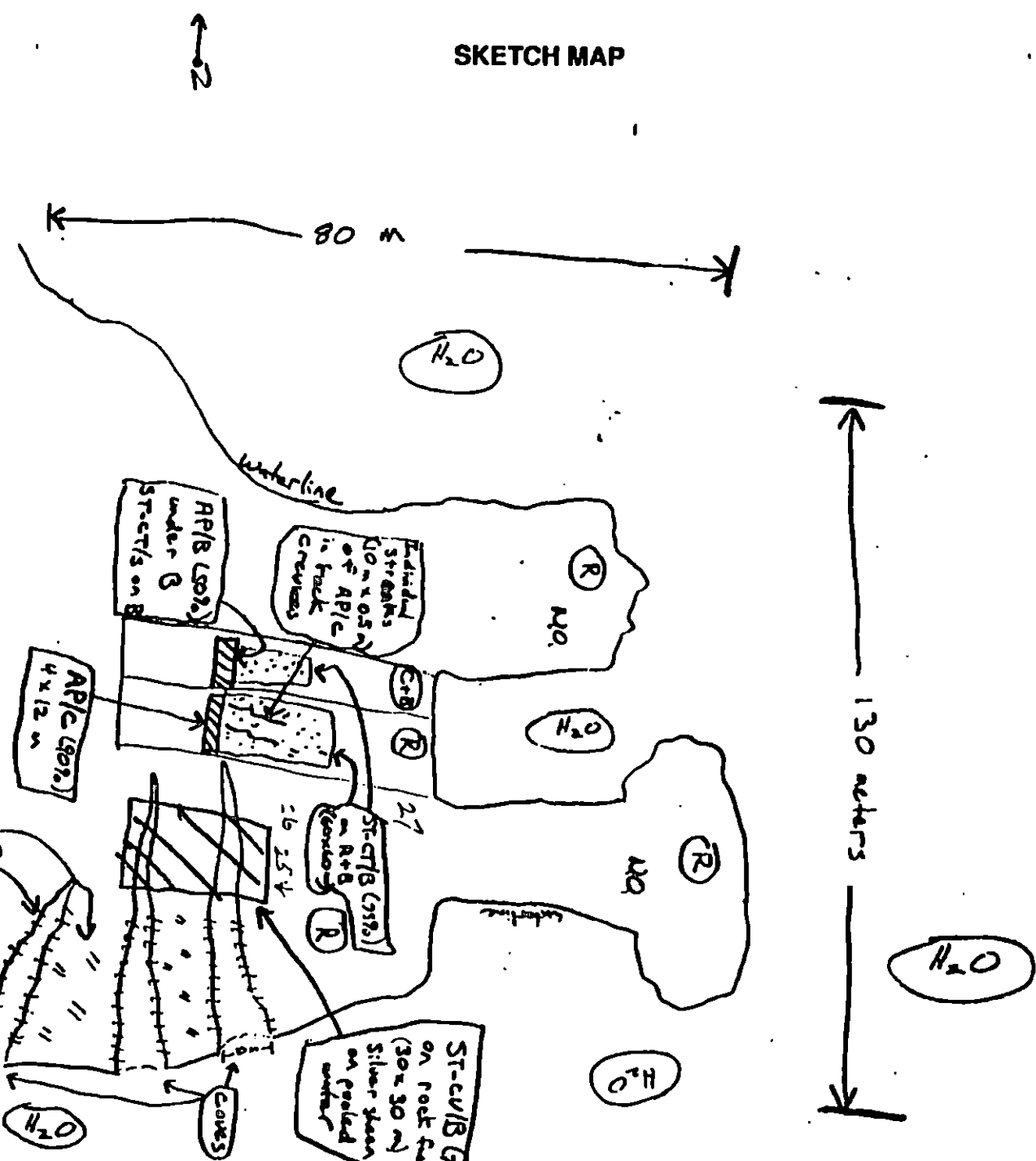
CHECKLIST

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

LEGEND

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

SKETCH MAP



Photos ST-17-6

Oil Character Length (m): AP 100 PO NA CV 150 CT 150 ST 150 MB 2 PT NA TB NA FL 5 NO NA

SHORELINE ECOLOGICAL SUMMARY

Segment ST/ CR4 Subdivision E Date (mo / day / yr) 4/9/90Time (24 hr) 1845-2000 Biologist M. H. Fawcett

(A) Substrate type and % of segments:

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

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

Photographs: ST-17-6
Roll No. ST-17-6Frames 23-27

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:

see attached sheet

Ecological Considerations:

755

CB4E Chugach Bay

4/19/90

M.H. Fawcett

Wildlife Observations & Comments

The main feature of this subsegment is a large, wave exposed rocky headland containing vertical faces, deep crevices, and large and small pools at all tide levels. Large pools even at the supra-tidal level are densely populated with organisms. One supra-tidal pool in a heavily coated area (photos ST-17-6-25, 26) has oil coating rock at the waterline and some sheen on the water, yet is filled with algae (Endocladia and diatoms) and thousands of littorines, incl. many newly hatched (1-2mm). Most of the oil-coated rock is in the upper and supra-tidal areas, where flora and fauna are sparse (except in pools, and except for barnacles on some vertical faces). The pools are all lined with Lithothamnion (pink encrusting coralline alga) overlain with articulated corallines, miscellaneous leafy and filamentous red and green algae, plus some kelps in LTZ pools. The pools contain many large, old chitons (Katharina) and limpets (Acmaea mitra and Notoacmaea scutum) and barnacles (Balanus cariosus), plus numerous others: chitons (Tonic lineata, T. insignis, Nopalia lignosa, Lepidozona sp.)

CB4E

P. 2. of 2

limpets (Collisella pelta), starfish (Leptasterias), nudibranchs, littorines, sabellid worms, sponges, ascidians, isopods, etc. In general, this is a healthy, mature intertidal community.

The presence of 3 separate piles of bird feathers and breastbones near trees above the intertidal zone suggests that some raptor has been feeding there.



← KEN 27A

KEN
27C →

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

CB-4

ADEC Segment Length: 4795m

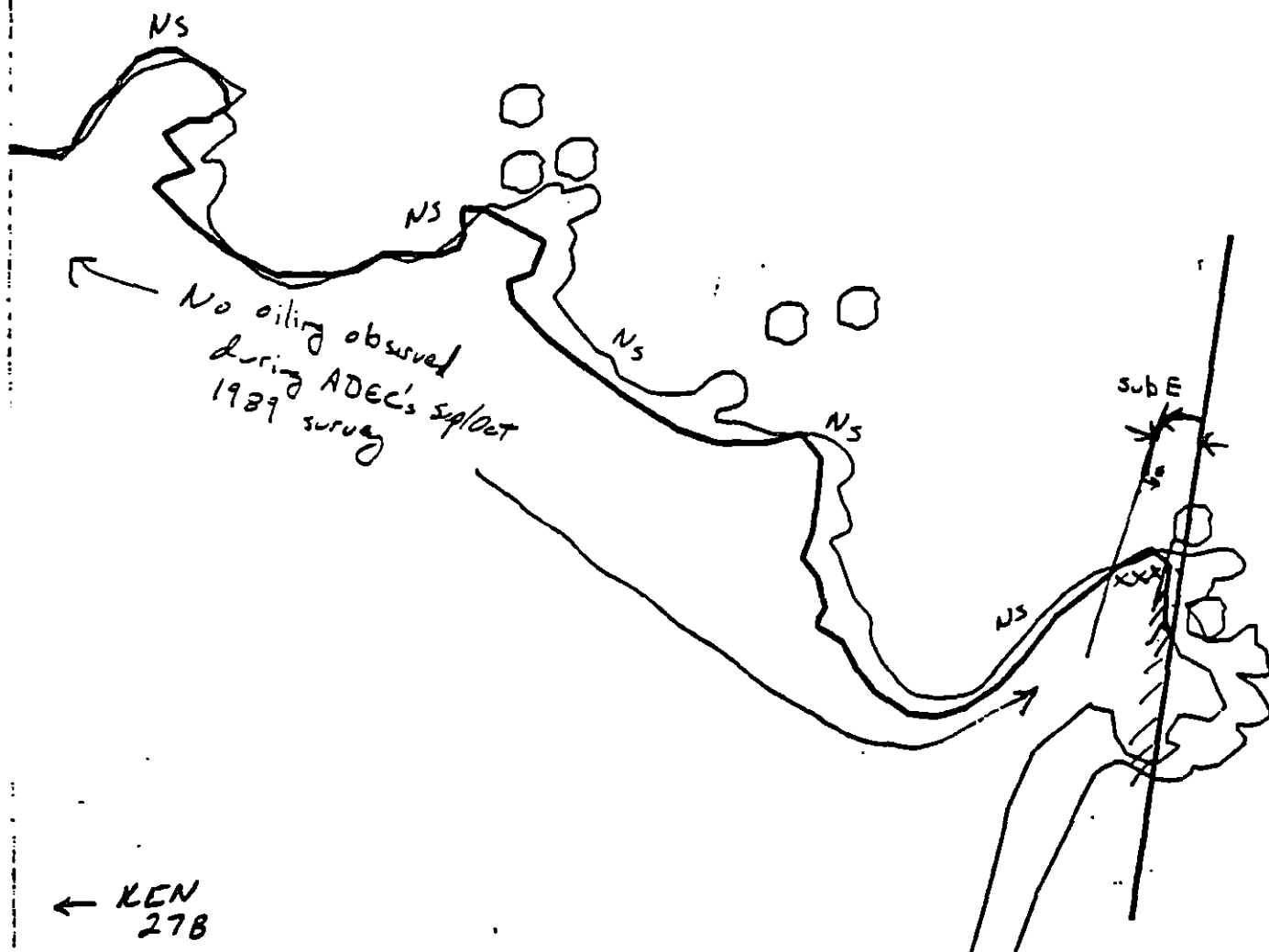


Map Key: KEN-27b

Name: Andy Bezel

Date: 4/9/90

Date Entered:



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

CB-4

ADEC Segment Length: 4795m



Map Key: KEN-27c

Name: Randy Siesel

Date: 4/7/90

Data Entered:

SHORELINE EVALUATION

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

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (catalog #16820) outmigration (1A) - 3/1 to 5/15;
Spawning (1B) - 7/10 to 8/31.

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

SHPO SIGNATURE: V. Miller 2/4/90 DATE: April 11, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 173 m: No Oil 190 m
Subsurface Oil Observed: Yes X No Maximum Depth 7 cm

RECOMMENDATIONS:

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

COMMENTS: Bioremediate as indicated on attached sketch map. All
work to be performed 5/15 to 7/10, based on anadromous stream con-
straints. Bioremediate to within 100m of stream only.

RAKE IN THE VITZ WHERE POSSIBLE PRIOR TO BIOREMEDIATION.

TAG COMMENTS:

TAG APPROVAL DATE: 4/11/90
ADEC JOHN BAUER
EXXON ANDY TEAL
NOAA Burl Wescott
USCG G.A. REITER

FOSC: DATE: 5-18-90

NOTIFY CWC 24 HRS IN ADVANCE
OF WORK

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / ST CH-001 SUBDIVISION: A DATE 3/31/90

USCG

NAME

KERWIN DREHER

SIGNATURE

CWO2 K. L. Dreher☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Due to oiling observed, sensitivity of the area based on prior surveys, and my own observations I feel a small degree of cleanup is necessary. A team of laborers with shovels can remove the noted amount of oiled strat with minimal impact on the structure of the beach.

DEC

NAME

PATRICK ENDRES

SIGNATURE

Patrick J. Endres☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Degree of oiling observed: primarily weathered stain and coating on cobble/pebble surface. Subsurface oil contained in fine sediments under cobbles; sporadic patches, and only a few inches of penetration.

I recommend a small work crew of manual removal operations and perhaps (Bioremediation?) Notes adjacent anadromous stream

LAND MANAGER

NAME

Phil Wilson

SIGNATURE

☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

Not fit for duty, for further info contact below persons.

Exxon. - George P. Sailer

CWO2 K. L. Dreher

APP. NO. 1990

SHORELINE OILING SUMMARY

OG N. Bissini USCG 2. Preher SEGMENT ST/ CH-001
 BIO C. Coates LAND REP absent (NVC) SUBDIVISION A (LOFI)
 EXXON G. Stiles ADEC P. Endres TIME 10:45 to 2:00
 TEAM NO.: 14 TIDE LEVEL: -1 ft to +5 ft DATE 3/31/1990
 EST. SUBDIVISION LENGTH: 200 m ☒ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock maybe snow-covered grass
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 2 % B 1 % C 65 % P 25 % G 5 % S 2 % M 0 % V 0 %
 SLOPE: Long X % Hang 0 % Ven 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 85 m NO 115 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	B	P	S	SP	OR	OL	OF	NO	SU	U	M	U
ASPHALT PAVEMENT													
POOLED													
COVER				X		X				X			
COAT			X			X		X		X	X		
STAIN			X					X				X	
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL										S			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	0	0	0
Vegetation	0	0	0
Trash	0	0	0
Debris	0	0	0

DEBRIS COLLECTED
☐ YES ☒ NOTYPE 0#BAGS 0

Photographs:

Roll No. ST-14-1Frames 1-2

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm-cm)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OF	OR	OL	OF	NO		UO	UO	SP	OR	OL	OF	NO	SU	U	M	U		
1						X									X					PG
2	20		X				5-7	X		X					X					PG
3	20		X				5-7	X				X			X					PG
4	15		X				0-4	X		X						X				CPG
5	15		X				0-4	X				X				X				CPG
6						X									X					PG

COMMENTS

High storm berm and supratidal zone covered by ~3 ft. of snow
 in CT/P and ST/P zone, there are >50% stained cobbles - weathered stain - some algae
 growing over stained zones on cobbles
 The U.I. was splashed / covered with oil that appeared to have been carried up by
 the tide. There are also a small number (<20) of oil / stain spots - 1/2 inch.

ADE
Patrie
EN

SHORELINE OILING SUMMARY (PAGE 2 of)

REVISION 03/22/90

SEGMENT ST/ CH-001 SUBDIVISION A

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SL BR	DL RW	GL SL	DR TL	LR	SU	UI	MI	LI					
7	30					X	.									X							PG
8	25					X	.											X					CPG
9	25					X	.													X			CPG
10	25					X	.											X					CPG
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COMMENTS

REVIEWED JW DATE 4-1-90

1 Bigger

ST/CHOOH

N A

131 90

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site
indy

Character
LVL

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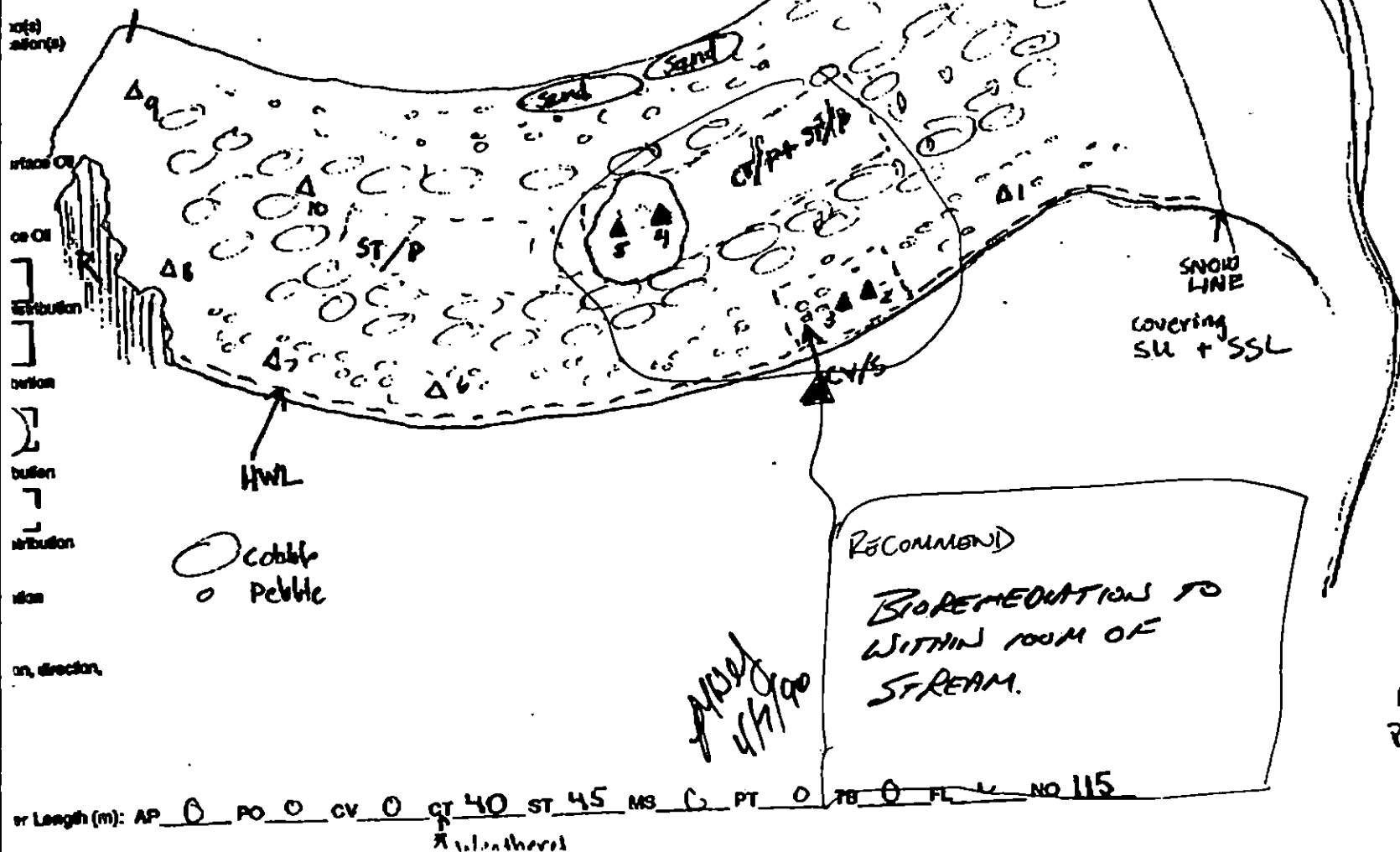
on, direction

SKETCH MAP

end of
subdivision

SALMON
STREAM

WATER
SCALE 200M



MAR-31-1990 19:15 FROM CORDOVA

TO

SCAT TEAM

P.04

ADEC
Patrick Embrey

REVISION 02/04/90

SHORELINE ECOLOGICAL SUMMARY

Segment ST / CH001 Subdivision A Date (mo / day / yr) 03. 31. 90Time (24 hr) 1100 - 1400 Biologist KA Coates(A) Substrate type and % of segments:
(1) Bedrock 2 (2) Boulder 1 (3) Cobble 65 (4) Pebble 25 (5) Sand 7 (6) Silt(B) Overall % cover of biota (% of segment): Dense 5% Moderate 70% Low 5%

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

Photographs: 1
Roll No. 1Frames 1-2
overviews

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
												* on scattered pebbles

MYTILUS

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments:

4 sepiions nearshore, c. 20 diving ducks, few quillo
 salmon fry migration stream
 no additional sensitivities noted.

ADEL
Patrick Env

Ecological Considerations:

moderate to high energy beach; moderately productive when visited.
 animals observed appeared "healthy", with some live barnacles
 on bedrock mid-upper intertidal with oil on test; remediation
 with due consideration to effects on new and

page 2 of 2

Shoreline Ecological summary

Segment: ST-CH001 Subdiv. 4 Date: 03.31.90

Time: 1100-1400 Biologist: KA Coates

Notes:

1. upper intertidal rocks with patchy coating on individual rocks and overgrowing patches of green algae (? Cladophora / ? not Enteromorpha)
2. upper band of green algae in a band ~ 3-4 m. wide between c. +1 - +2 m. tides
3. oiled barnacles in upper intertidal both living and dead, in approx. same proportions as remaining populations of barnacles, on which no oil was seen
4. Bangia abundant throughout mid-lower Fucus zone.
5. Endocladia, Ulva, leafy reds and some Laminariales common below Fucus
6. Other abundant organisms throughout intertidal were the amphipods
7. No large limpets were found and less than 5% of mussels were longer than 3-4 cm.

ADEC
Patricia Encheta

A

CH-

not surveyed

420 m

CH-1

XXXX Wide

//// Medium

---- Narrow

ADEC Segment Length: 785m

Map Key: PWS-35

Name: Norma Bigger

1/2/10

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CH-1 SUBDIVISION A (1 of 1)

WORK WINDOW

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

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

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream 226-20-16280 is present in Segment CH-1. Subdivision A is closed to manual raking and bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, manual raking and bioremediation are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to manual raking and bioremediation more than 100m from stream.

5T Bald Eagle Nest

NO CONSTRAINT. Eagle nest located in adjacent Segment CH-3 is more than 400m from recommended treatment area.

OTHER ECOLOGICAL CONSIDERATIONS

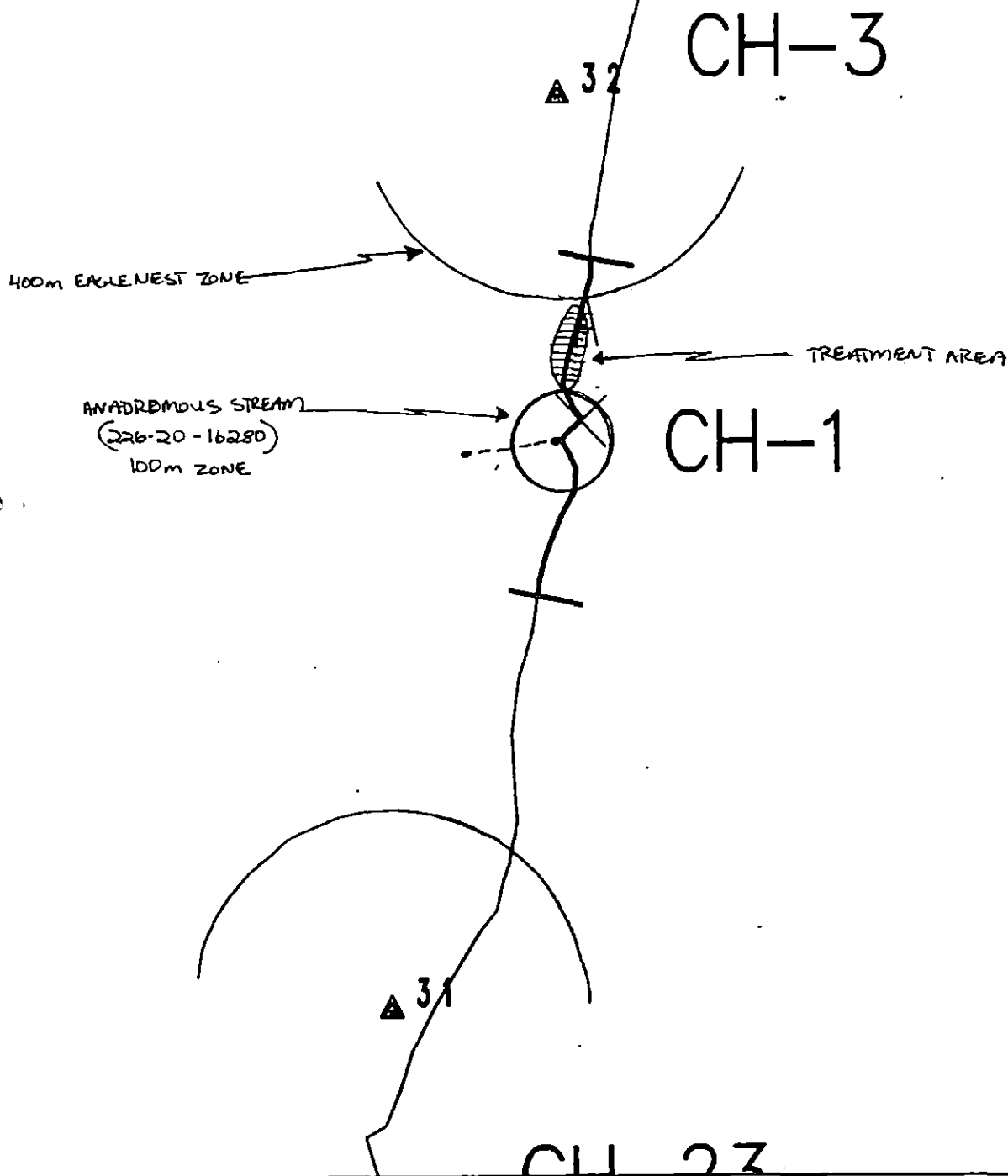
No disturbance to stream bed or banks. No flushing of pollutants or sediment into stream drainage; do not allow inpool to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical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

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-20-16280)
FOR ADDITIONAL CONSTRAINT INFORMATION

TAG APPROVAL DATE 5/29/90.
ADEC ART WENION Art Wenion
EXXON ANDY TATZ ANDY TATZ
NOAA BURROTT BURROTT
USCG G.A. REITER G.A. REITER

FOSC [Signature] Date MAY 29 1990

Prepared by [Signature] Date 5/29/90



Exxon Company, USA
Map Key: PMS-QT-1
May 11, 1990



ECOLOGY MAP
SEGMENT CH-1
SUBDIVISION A (1 of 1)
METERS
0 337 674

- ★ Seabird Colony
- △ Eagle Nest

1 inch = 1106 feet

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ CH-01 STREAM NO: 226-20-16280 DATE 4/25/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. Subject salmon stream lies within Subdivision U (2 of 2).

NOTE: Subdivision U was unsurveyed due to snow coverage. Stream is just beyond boundary of A and U.

SHPO SIGNATURE: J. David McMan DATE: 5/10/90

Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

 No Treatment Recommended

X Treatment Recommended

 Manual Pickup

 Bioremediation

X Tarmat Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

 Spot Washing: Wands

 Beach Cleaner

 Other (see comments)

COMMENTS: Recommended treatment includes manual removal of tarmat in
area indicated on sketch map. Work should be conducted between 6/15
and 7/15 with approval of ADF&G due to salmon stream constraint.

TAG COMMENTS:

TAG APPROVAL DATE: 5/10/90

ADEC Art Weiser

EXXON Andy Tate

NOAA Russel H. Hascott

FOSC: W L DATE: 5-18-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1 Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1 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 287-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or 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
- I Herring spawning (4/1 to 6/15)
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
 ADF&G Don Calkins 267-2403
- SR Seabird colony (5/1 to 9/1)
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- SS Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
 ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (6/1 to 9/15)
 6V Anchorages (6/1 to 9/15)
 6W Forest Service cabins (6/1 to 9/15)
 X Lodge (6/1 to 9/15)
 Y Special use destination
- 7Z Subistence area: Salmon harvesting (5/1 to 9/30)
 7HH Finfish harvesting
 7H Deer harvesting (8/15 to 2/28)
 7JJ Invertebrate harvesting
 Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ CH 001 SUBDIVISION: 16280 DATE 4/25/90USCGNAME CWO MC MAHON SIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

1. MANUAL CLEAN-UP; REMOVE TAR MATS
LEFT SIDE

ADFG
ADEGNAME TOM CROWE SIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

MANUAL REMOVAL OF TAR MAT BAND ON
RIGHT SIDE OF CREEK AT UPPER INTERTIDAL.

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

ASC # 226-42-16280

Segment CH-001

Observations A tar band covering a gravel substrate extends along the high tide line south of the channel. This band has not appreciably weathered since ADF&G staff visited the site in early December. No other oil, either surface or subsurface, was observed at the site.

Treatment Recommendations Manually remove the tar band.

ASC # 226-20-16258

Segment CH-016

Observations One tar patty was found along the boulder rubble east of the channel. A very light and sporadic stain coated a region of the lower and mid intertidal zone west of the channel. No significant amounts of subsurface oil were observed.

Treatment Recommendations The insignificant quantities observed at the site do not warrant further treatment.

ASC # 226-20-16255

Segment CH-014

Observations Sporadic tar mats and patties coat cobbles along high tide line of this moderately exposed site. Some of the patties lie just beneath the surface (see ADF&G Multi-Assessment Data Form diagram).

Treatment Recommendations Manual removal of tar mats and patties. Care must be taken to ensure that buried tar patties are removed.

WILDLIFE OILING SUMMARY (ANAD.)

REVISION NO.

OG: William Reid USCG: McMAHON SEGMENT ST/ C4001 17
 BIO: Michael Fawcett LAND REP: STRAMZZZ-20-1640 OF
 EXXON: Gus Garcia ADPG: Mike Vindorf TIME: 10:30
 TEAM NO. 15 TIDE LEVEL: 12 FT DATE: 25 / APR / 90
 EST. SUBDIVISION LENGTH: 70 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☐ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 5 % B 5 % C 60 % P 35 % G 5 % M 5 % V
 SLOPE: Long 10 % Hang 10 % Vert 5 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ Hk
 OIL CATEGORY LENGTH: W 5 m M 5 m N 5 m VL 5 m NO 79

SURFACE OIL

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

PAVEMENT H (F) S 25 sq. m by 5

PATTIES / TARBALLS 5

NEAR SHORE SHEEN? (NO) BR RW SL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

Did you Col DEBRIS ☐ YES ☒ NO
 TYPE _____
 #BAGS _____

Photographs:

Roll No. _____

Frames _____

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	SURFACE SUBSURF SEDIME
		OP	OR	OL	OF	NO		W	M	W	M	N	VL	W	M	N	U			
1	30					X								X					N	P/C/G
2	20					X								X					N	P/C/G
3	30					X								X					N	P/C/G
4	35					X								X					N	P/C/G
5	40					X								X					N	P/C/G
6	35					X								X					N	P/C/G

COMMENTS

REVIEWED W

DATE 4-27-

APR-25-1990

FROM

EXXON UMD CURTIS

10

SCH 1EAM

P.13

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

1

Photo location, direction, and number

Oil Vegetation

Splashed Distribution

CT/S

Fatly Distribution

CT/P

Broken Distribution

CT/B

Continuous Distribution

CT/C

PI - Subsurface Oil

2

PI - No Subsurface Oil

1

LEGEND

Photo Location(s)

Profile(s)

Est. HAVL/ML

Substrate Character

% Cover

Length

Width

Oil Dist.

Depth/Soil Body

Apprx. Scale

M Angle

CHECKLIST

DATE 25, APR 90

STRAH 226-20-15200

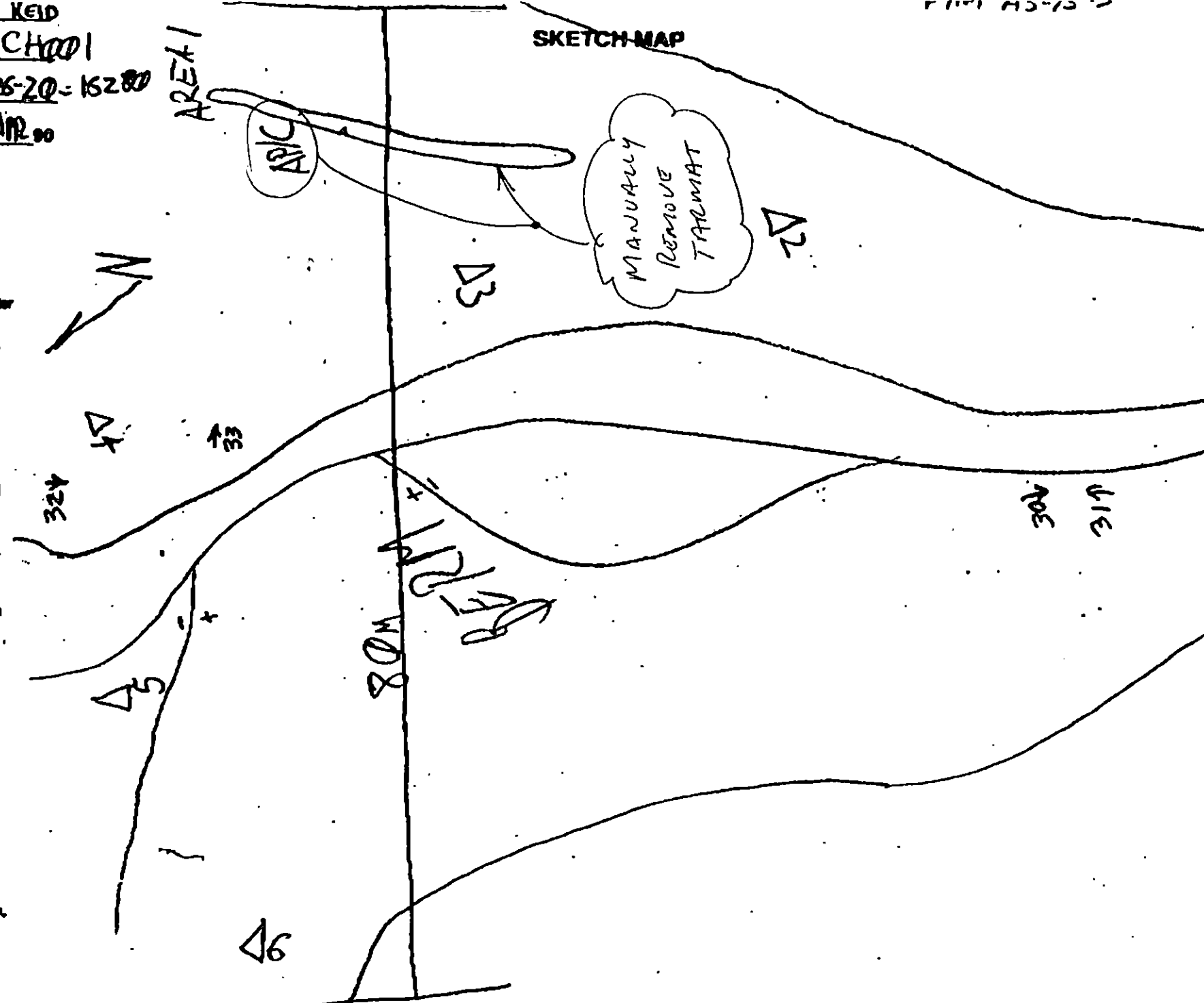
SI NT ST/ CH001

ILLIAN KEID

1360

SKETCH MAP

FILE 13-73



REVISION:0001

15/54

ADP&G MULTI-ASSESSMENT DATA FORM

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

METHOD: Aerial Ground Boat

3 DATE: 4/25/90 18 HIGH TIDE TIMES: 1500 21 TEAM RECORDED: TOM CROWE

4 START TIME: 1025 19 HIGH TIDE HTS: +11 FT 22 OBSERVERS: MIKE WILSON

5 STOP TIME: 1113 17 LOW TIDE TIMES: 0830 23 AGENCY: ADF+G (ANADSCAT)

6 SEGMENT #: CH 001 16 LOW TIDE HTS: -4 24 PHOTOS TAKEN: Y (N)

7 STATION #: _____ 15 TIDE HT AT SURVEY: +1 Roll #: _____ Frame: _____

8 K-UNIT: _____ 25 VIDEO TAKEN: Y (N) TAPES: _____

9 STAT AREA: _____ 20 USCG QUAD: SEW B-3 Starts: _____ Ends: _____

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

12 SOURCE: Map _____ Ocean _____ Oil _____

13 LOCATION: EAST COAST OF CHENEGA Sediment _____

14 DESCRIPTION: _____ Biological _____

15 _____ Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	N	NE	E	L	N	NE	E
27 SURFACE COVERAGE	30	1						
28 SURFACE THICKNESS	4cm							
29 PENETRATION	3cm							

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

31 OIL TYPES: Pooled _____ Mousse _____ Tar Aliphatic Sticky _____ Stain _____

32 OILED DEBRIS: Y (N)

33 SHORELINE TYPE: Headland _____ Low-lying Rocks _____ Beach Coast

34 WAVE EXPOSURE: High Moderate _____ Low _____

35 SUBSTRATE TYPE: Bedrock _____ Boulder _____ Cobble X

Gravel X Sand _____ Mud/silt _____

36 CATALOGED ANAD. FISH SKELET Y N

37 CATALOG #: 226-20-16280

38 STREAM NAME: _____

39 OIL IN STREAM BED? Y (N)

40 OIL ON STREAM BANKST (N) N

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

42 OIL WITHIN 1 MILE OF STREAM Y N

Where: _____

43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS: SMALL AREA OF TARP MAT IS ONLY SIGN
THAT THIS BEACH HAS BEEN OILED

214

Segment CH001

4/25/90

Stream 226-20-16280

Michael Fawcett

Ecological Summary

This stream is larger than most in the area, with high shale cobble/pebble banks and crossing a long, mostly barren shale beach. Fucus and barnacles occur in abundance in two depressed areas of MTZ on either side of the stream near the mouth. Mussels are very dense beneath the densest Fucus, and are otherwise scattered and sparse. Littorines are moderately dense throughout MTZ-LTZ. The only oil remaining was a small strip of surface asphalt on the UTZ berm south of the stream. Manual removal suggested. There are no ecological constraints re: intertidal bioto.

M H Fawcett

16/5

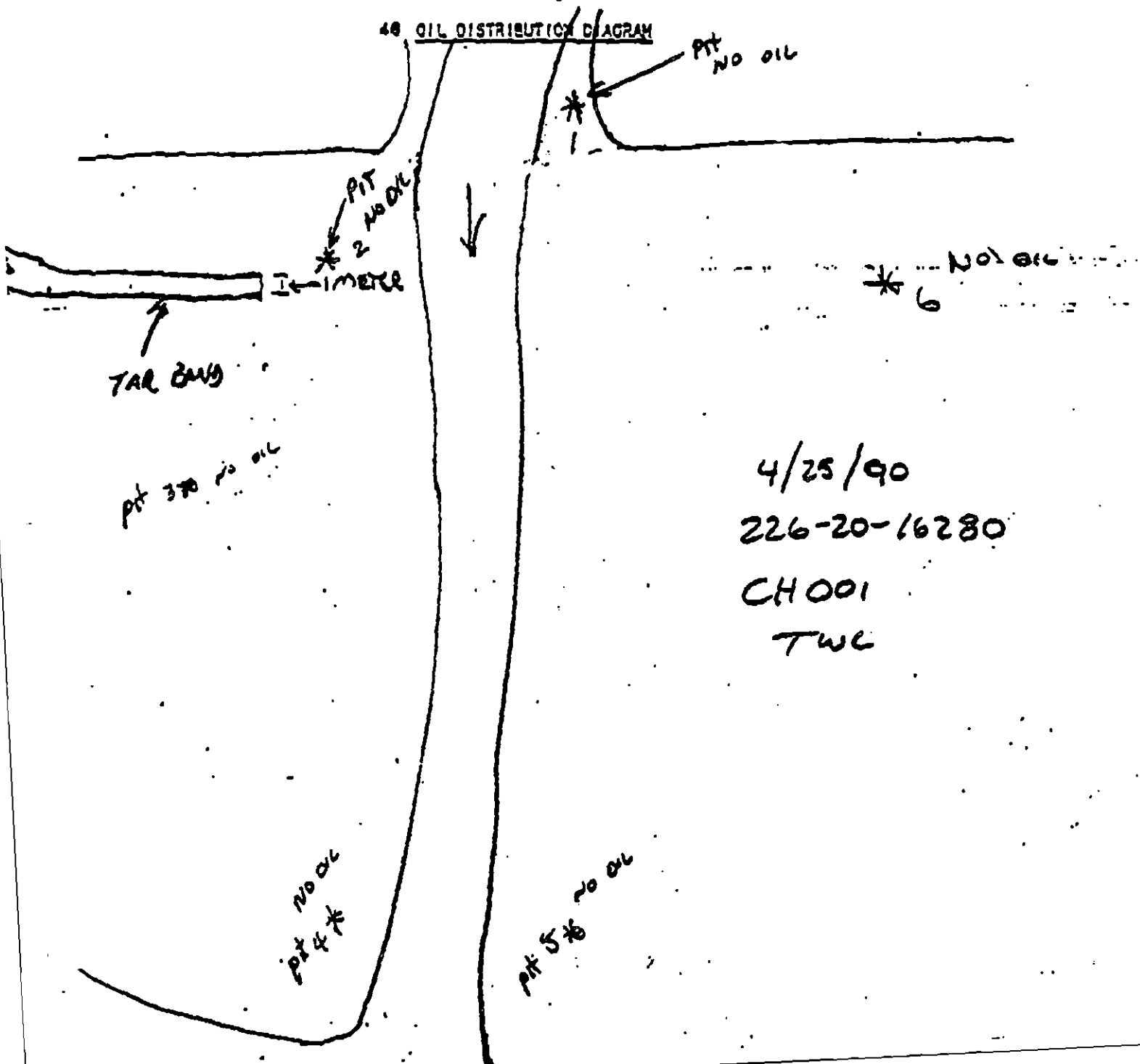
48 PHOTOLCC

(S) DESCRIPTION

RECOMMEND: MANUAL REMOVAL OF TAR SAND

I agree with recommendation. M. H. Fennell

48 OIL DISTRIBUTION DIAGRAM



4/25/90

226-20-16280

CH001

TWC

ECOLOGICAL MAP

1A, 1B

SUBDIVISION A
(1 of 2)

TTTTTTT

00000

00000

CH-

STATION STREAM
226-20-162EC
(P, 2/40)

LOCATED WITHIN
SUBDIVISION 2 of 2
CH-01-U

not surveyed - LI SUBDI. 10.
(2 of 2)

420 m

XXXX Wide

//// Medium

---- Narrow

CH-1

ADEC Segment Length: 785m

Map Key: PWS-35

Name: Norma Bigger

Date: 3/31/90

5/28/90

400m EAGLE NEST ZONE

ANADROMOUS STREAM
(226.20-16280)
100m ZONE

TREATMENT AREA

CH-3

CH-1

CH 23

▲ 32

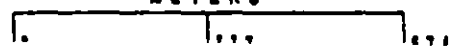
▲ 31



Exxon Company, USA
Map Key: PWS-CH-1



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



- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1106 feet

SHORELINE EVALUATION

SEGMENT ST/ CH-02 SUBDIVISION A (1 OF 2) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (no. 16180) - Salmon Fry outmigration (1A) - 3/1 to 5/15 and salmon spawning (1B) - 7/10 to 8/31; Tent sites (60) - 6/1 to 9/15.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permit. Avoid disturbance/damage to uncoiled biota and substrate.

SHPO SIGNATURE: M. J. Hall DATE: April 12, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 20 m: V.Light 144 m: No Oil 71 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

RECOMMENDATIONS:

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

COMMENTS: Breakup and removal tarmat, manual pickup of pooled mousse, and bioremediation of coated areas to within 100m of anadromous stream only. Work between 5/15 - 7/10 based on salmon spawning constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/12/90
ADEC John Bauer
EXXON Arvid T. Galt
NOAA Burt W. Wescott
USCG M. J. Hall

FOSC: DATE: 5-9-90
a cwr Rep is to be present for cleanup

⑥

FIELD SHORELINE COMMENT SHEET

SEGMENT CR-002 SUBDIVISION: A DATE 4/1/90

USCG

NAME Kevin L. Dohen SIGNATURE Kevin L. Dohen☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Non mechanical scooping or shoveling on mousse in upper tidal. Trowelling of patchy mousse in super tidal would be favored.

ADEC

NAME Patrick J. Endres SIGNATURE Patrick J. Endres☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Most of the oil observed was patchy, and varied in condition. Some areas of asphaltting and pooled oil merit manual removal. A sheen was noted in the lower intertidal zone extending about 50 meters. A shiny black oil existed in the top 1-4 inches of the sediment. All of this is within 100 yds of an anadromous stream. I would like to see the oil removed but question the overall effects of the procedure - whatever that may be.

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

SHORELINE OILING SUMMARY

REVISION NO. 02/28/90

OG D. LITTLE USCG KIRWEN DREHER SEGMENT ST/ CH-002
 BIO KATHRYN COATES LAND REP Not-Avg. 1.66% SUBDIVISION A (1 CF?)
 EXXON GEORGE STILES ADEC PATRICK ENDRES TIME 09:30 to 12:00
 TEAM NO.: 14 TIDE LEVEL: 5.7 km to 0 feet DATE 4/1/90
 1ST. SUBDIVISION LENGTH: 300 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☒ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 5 % B 35 % C 25 % P 20 % G 5 % S 0 % M 5 % V 5 %
 SLOPE: Long 85 % Hang 10 % Ver 5 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 20 m VL 130 m NO 150 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	A	B	C	D	SP	BP	OT	ST	LT	LR	SW	U	M	U		
ASPHALT PAVEMENT			X						X			X				
POOLED				X						X		X	X			
COVER			X			X						X				
COAT			X			X						X				
STAIN			X			X						X	X			
MOUSSE																
PATTIES																
TARBALLS																
FILM				X			X						X			
NO OIL											S				X	

PAVEMENT: H F (S) 6 sq. m by 2 cm

PATTIES / TARBALLS 2 BAGS

NEAR SHORE SHEEN? NO BR (RW) SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE

#BAGS

Photographs:

Roll No. ST-14-1

Frames 3-9

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SP	BP	OT	ST	LT	LR	SW	U	M	U				
1	25					X	.									X							organics/gr
2	45					X	.										X						p g c
3	40		X				3 - 6		X					X			X						p c organics
4	30	X		X			10 - 15		X					X			X						p g b
5	25					X	.											X					g p c
6	25					X	.													X			g p c

COMMENTS

The eastern side of the bay consisted of bedrock outcrops and cobble/boulder talus. Well-sorted sediments were found near the stream mouth as a wash ridge. Oil was confined to small patches of AP, PO and CV behind large cobbles and boulders in UT, except in the area near northern end. Elsewhere only patchy stains and sheen were visible on the surface. In the subsurface, pits 3 and 4 were near a large stack and pit 7 was near a large bedrock pillar.

SEGMENT ST/ CH-002 SUBDIVISION A

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR							PIT ZONE				A N A	SUBSURFACE SEDIMENTS		
		OP	OR	OL	OF	NO		VO	UC	50L BR	100L RW	OF TL	DBR TL	LOB	SU	U	M	U						
7	20		✓		X		5-10		X✓		X			✓			X✓							GBPC
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COMMENTS

REVIEWED SW DATE 4-3-90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 000000

Segment ST A Date (mo/day/yr) 4.01.90Time (24 hr) 4:00

A) Substrate type and % of segments:

(1) Bedrock 0 (2) Boulder 25 (3) Cobble 25 (4) Pebble 25 (5) Sand 0 (6) SM —(B) Overall % cover of biota (% of segment): Dense 20 Moderate 40 Low 40

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

Photographs: Roll No. ST-74-1Frames 3-9

BARNACLES

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

NOT PRESENT

3-4

MYTILUS

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

NOT PRESENT

U

4

ASTROPODS

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

NOT PRESENT

U

4

FUCUS

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

NOT PRESENT

U

Wildlife Observations/ General Comments: (see also ST-CH002-B)

Loons (2) to east, mergansers (few) to west, eagles perching (no nests observed), whales off mouth of bay (? humpback)

Sensitivities: anadromous stream, tent sites - supralittoral

Ecological Considerations: includes exposed sheltered habitats. Sens - NO ADDITIONAL

Settlement and total density of Mytilus on subdivision A

overall low. Lower midtidal and low-intertidal

diversity moderately high and "healthy" including in

region of shallow subsurface oil. High impact remediation

in or affecting these areas not recommended. In higher

numbers of

⑤ page 2 of 2.

ment: ST CHAD Subdivision: A Date 04.01.90
Time: 0915-1145 Biologist: KA COBOS

Notes:

1. Red algae, including Polysiphonia, Palmeria, Habasaccion dense below low water and at mid-tide among Fucus; in exposed areas encrusting red Lithothamnion common up to mid-tide. Ulva also abundant into lower mid-tide area. Diversity of unidentified browns throughout mid to lower intertidal (3-4 species).
2. Lower diversity in subdivision A rel. to subdivision B may reflect freshwater influence from stream.
3. Larger gastropods found in exposed areas near mouth of bay, including limpets, Notacmea scutum, (?gen. name) Collisella pelta and poss. C. digitalis and Nucella lamellosa.
4. Oligochaeta moderately abundant under cobbles in upper intertidal over sediments with ~~sediment~~ oils.
5. Overall population densities in exposed bedrock areas denser and more extensive.
6. Numerous small (juvenile) fish along waters edge. Note smaller faunal members eg. amphipods as spring food source.

AVER
RUE

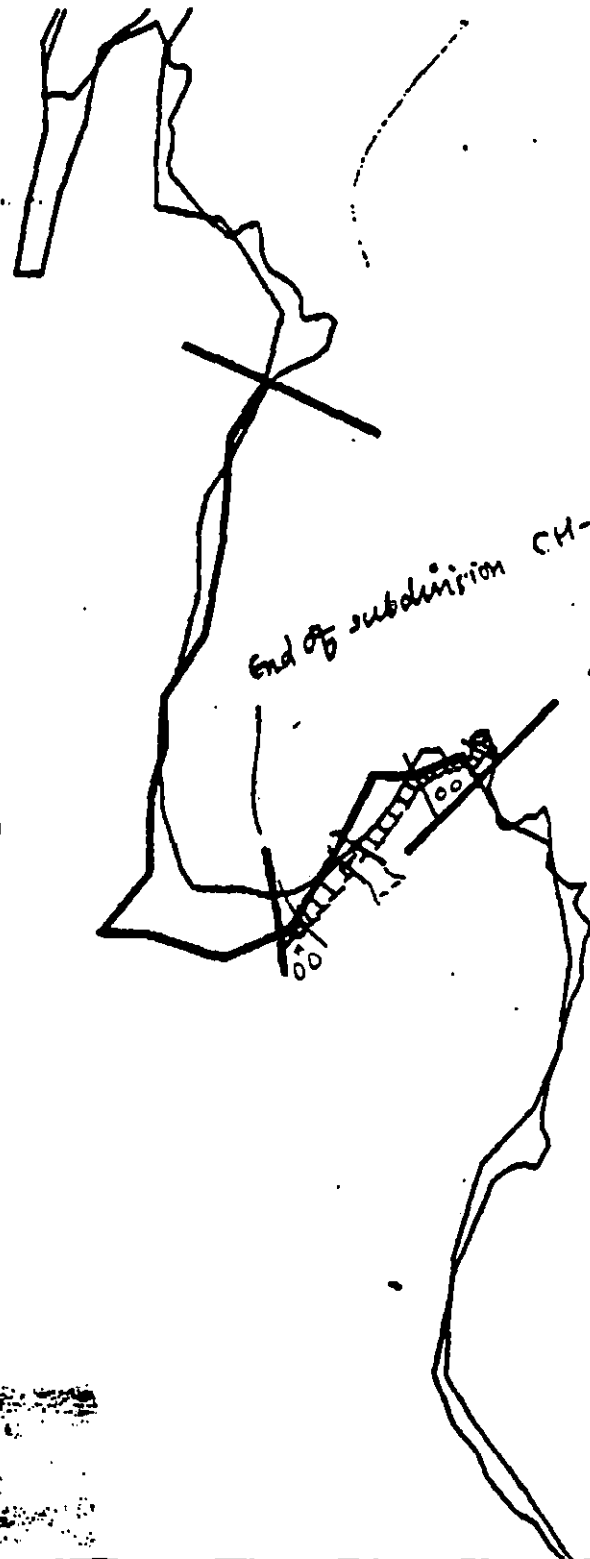
APR-01-1990 21:42 FROM CORDOVA

David Henderson

Oil Character Length (in): AP 2 PO 5 CV 15' CT 80 ST 80 MS - PT - TB - FL 30 ND 80

FOE AOF

CH-2



CH

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

CH-2

ADEC Segment Length: 836m



Map Key: PWS-46
Name: D. LITTLE
Date: 4/1/90
Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CH-2 SUBDIVISION A (1 of 2)

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

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-20-16180) forms the boundary between Subdivisions A and B. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup and tarmat removal.

1K Purse Seine Hook-off

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

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. Restrict boat and air traffic to essential minimum after 7/20. No flushing of pollutants or sediments into stream drainage; do not allow Inpol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible; authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to uncolled biota and substrate.

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-20-16180)
FOR ADDITIONAL CONSTRAINT INFORMATION

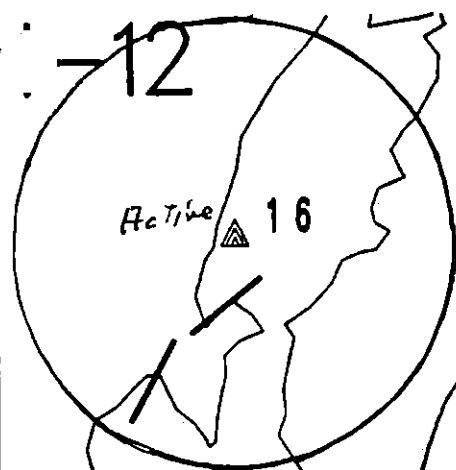
TAG ADDENDUM DATE 5/29/90
ADEC Art Wemmer
EXXON Andy Ray
NOAA B. W. Scott
USCG G.A. Reiter

FOSC

DATE MAY 29 1990

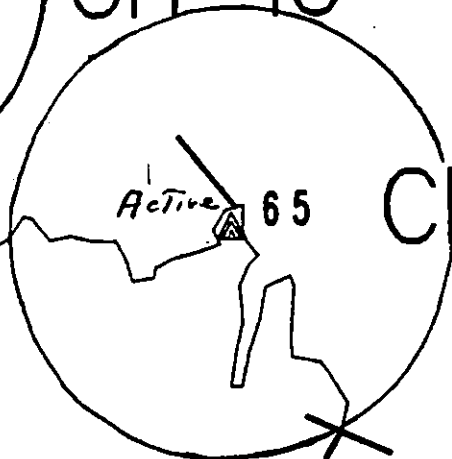
Prepared by: Anders Meyer WWS

Date: 5/28/90



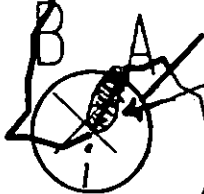
CH-10

Incorporates information from
USFWS Bald Eagle survey 5/12/90



CH-9

CH-2



WORK
AREA

Anadromous
Stream
226-20-16180

CH-8

CH-7

CH-6



Exxon Company, USA

Map Key: PWS-01-2

11 1000



ECOLOGY MAP 5/28

SEGMENT CH-2

SUBDIVISION A (1 of 2)

METERS



Seabird Colony



Eagle Nest

1 inch = 1167 feet

SHORELINE EVALUATION

SEGMENT ST/ CH-02 SUBDIVISION B (2 OF 2) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (no. 16180) - Salmon Fry outmigration (1A) - 3/1 to 5/15 and salmon spawning (1B) - 7/10 to 8/31; Tent sites (60) - 6/1 to 9/15.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permit. Avoid disturbance/damage to unoiiled biota and substrate.

SHPO SIGNATURE: Mark E. Hume DATE: April 12, 1990

OILING CATEGORIZATION:

Wide 42 m: Medium 0 m: Narrow 0 m: V. Light 967 m: No Oil 91 m
Subsurface Oil Observed: Yes X No Maximum Depth 25 cm

RECOMMENDATIONS:

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

COMMENTS: Manual pickup of oil spill response debris as shown on sketch map. Breakup and removal of tarmat, and bioremediation of areas of subsurface and surface oiling as shown on map. Do not bioremediate within 100m of stream. Work between 5/15 and 7/10 based on anadromous stream constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/14/90

ADEC John Bauer EXXON Amoy Tetz NOAA Burl Wescott FOSC: ML DATE: 5-18-90

FIELD SHORELINE COMMENT SHEET

(15)

SEGMENT CH-002 SUBDIVISION: B DATE 4/1/90USCG
NAME Kerwin L. Dreher SIGNATURE Kerwin L. Dreher☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Quantity of asphalt on subsection B of CH-002 should be shoveled or scooped up by a small clean up crew. Pockets of small amounts of oil at the lower-tidal zone (water's edge) should not be treated due to probable damage to the eco sys. In the upper tidal zones consider trowelling mousse pockets. Small amount of oiled debris in dead tree should be removed but do not treat the tree.

AUEC
NAME Patrick J. Endres SIGNATURE Patrick J. Endres☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Various areas of surface oiling, (i.e. asphalt + other pockets near boulders and cobbles) should be removed manually. There is an extensive area of the lower intertidal zone that has subsurface oiling that is of concern to me. However, due to its location intertidally, and surrounding substrate, and biota present, I have reservations about the practicality of retrieving it ??? (without significant destruction to the area.) See map for specifics

LAND MANAGER
NAME [redacted] SIGNATURE [redacted]☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

(1)

Most of the subdivision consisted of a Boulder/cobble mid to upper shore and a cobble/pebble /occasional boulder lower shore. At the head of the bay was a large pebble/cobble flat with occasional scratch ridges traversing it, in addition to a

RUE

(10)

REVISION 05/28/90

SHORELINE OILING SUMMARY (PAGE 2 of 2)

SEGMENT ST/ CH.-002 SUBDIVISION B

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-DB)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UD	~~W~~	~~B~~	~~Y~~	~~G~~	~~P~~	BO	U	M	L		
7	25	X					0 - 5		X	X								X		B/C/G / shell hash
8	20		X				0 - 5		X				X					X		B/G/P
9	25		X				0 - 10		X				X					X		B/G/P
10	20		X				0 - 5		X	X								X		B/P/G
11	35	X		X			15 - 25	X		X								X		p/B watertable at 30cm
12	30	X		X			5 - 20		X	X								X		p/G/C/M
13	20		X				0 - 15	X		X								X		p/P/G watertable at 15cm
14	30		X				5 - 25	X		X								X		p/B/C watertable at 25cm
15	25					X	-											X		p/B
16	25					X	-										X			p/B/C
17	20		X				0 - 6	X					X					X		p/B water's edge
18	25					X	-											X		p/B
19	25					X	-										X			p/B/C
							-													

COMMENTS

All except pits 2, 3, 6, 15, 16, 18 + 19 were found to contain subsurface oil.
 Except at 11 and 12 The pits contained similar types of oil — brown to black blobs of OR occasionally containing lens of OP — which would produce numerous sheens and occasional brown particles on water.

1 T T L C

ST/CH-002

ON B

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Isle
Entry

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SKETCH M

20 cm CT bathtub ring

pebble/boulder pocket beach

Bedrock

2m CV band on rock cliff

Pickup Mr. PARNES

PO in rock crevices/boulders in numerous small patches

Pom-poms in tree - oiled

P/u Pom-Poms

Boulder/cobble/pebble

Shoen

BIO Areas
WHERE
Found

Start of subdivision CH-002 B

cobble/boulder

swash ridge granule/pebble

Small distributary

AP 2

AP 3

AP 4

AP 5

AP 6

AP 7

AP 8

AP 9

AP 10

AP 11

AP 12

AP 13

AP 14

AP 15

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AP 254

(15) Page 10+2

REVISION: 02/29/90

SHORELINE ECOLOGICAL SUMMARY

Segment ST/ CH002 Subdivision B Date (mo / day / yr) 4. 01. 90Time (24 hr) 1145-1500 Biologist EA Coates

(A) Substrate type and % of segments:

(1) Bedrock 30 (2) Boulder 25 (3) Cobble 30 (4) Pebble 12 (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-114-1Frames 10-17

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
4 U-L

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
L

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
4 U-L

Wildlife Observations/ General Comments: (see also ST-CH002-A)

Loons to east, mergansers to west, eagles perching (no nests observed), whales off mouth of bay (? humpbacks)

sensitivities: anadromous stream; benthos - supralittoral.

Ecological Considerations:

sens: - NO ADDITIONAL

Higher productivity and diversity than subdivision A (east side of CH-002). Midtidal communities relatively dense including under cobble and in pebble (sand) of stream

RFE
ADL

(14) page 2 of 2

Segment: ~~SE-Channel~~ Subdivision: B Date: 04.01.90
Time: 1145-1520 Biologist: KA Coates

Notes:

1. Overall denser, more productive flora and fauna than subdiv. A. Open sun exposure to east.
2. In lower intertidal of stream outflow gravel-cobble fan - newly settled *Mytilus* and gastropods were abundant in addition to amphipods.
3. Lower intertidal in cobble-boulder area, invertebrate egg masses - probably gastropods were numerous (small yellow masses). Elongate (.5-1 m) tubular mass of white eggs drifted to shore on rising tide - also thought to be mollusc/gastropod.
4. Additional invertebrates noted in some abundance just below water: amphipods moving in and out of *Ulva* and filamentous-type browns, *Palmeria* and *Polysiphonia*; *Dermasterias imbricatus* (1 spm), *Pycnopoda heliothoides* (3 spm) - largest c. .25 m diameter.

Large *Balanus cariculus* relatively common and moderately abundant on undercut surfaces of boulders. *B.* (? *Semibalanus*) abundant on boulders along with spat in to upper intertidal. Both larger and newly settled specimens on coated rocks. Filamentous green abundant

CH-9

(1)

end of subdivision CH-002-B

start of subdivision
CH-002-B

CH

XXXX Wide
//// Medium

CH-2

Map Key: PWS-46

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CH-2 SUBDIVISION B (2 of 2)

WORK WINDOW

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

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B	Salmon Stream	ADF&G catalogued anadromous stream (226-20-16180) forms the boundary between Subdivisions A and B. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup and tarmat removal.
1K	Purse Seine Hook-off	Closed to bioremediation after 7/20. No constraint to manual pickup or tarmat removal.

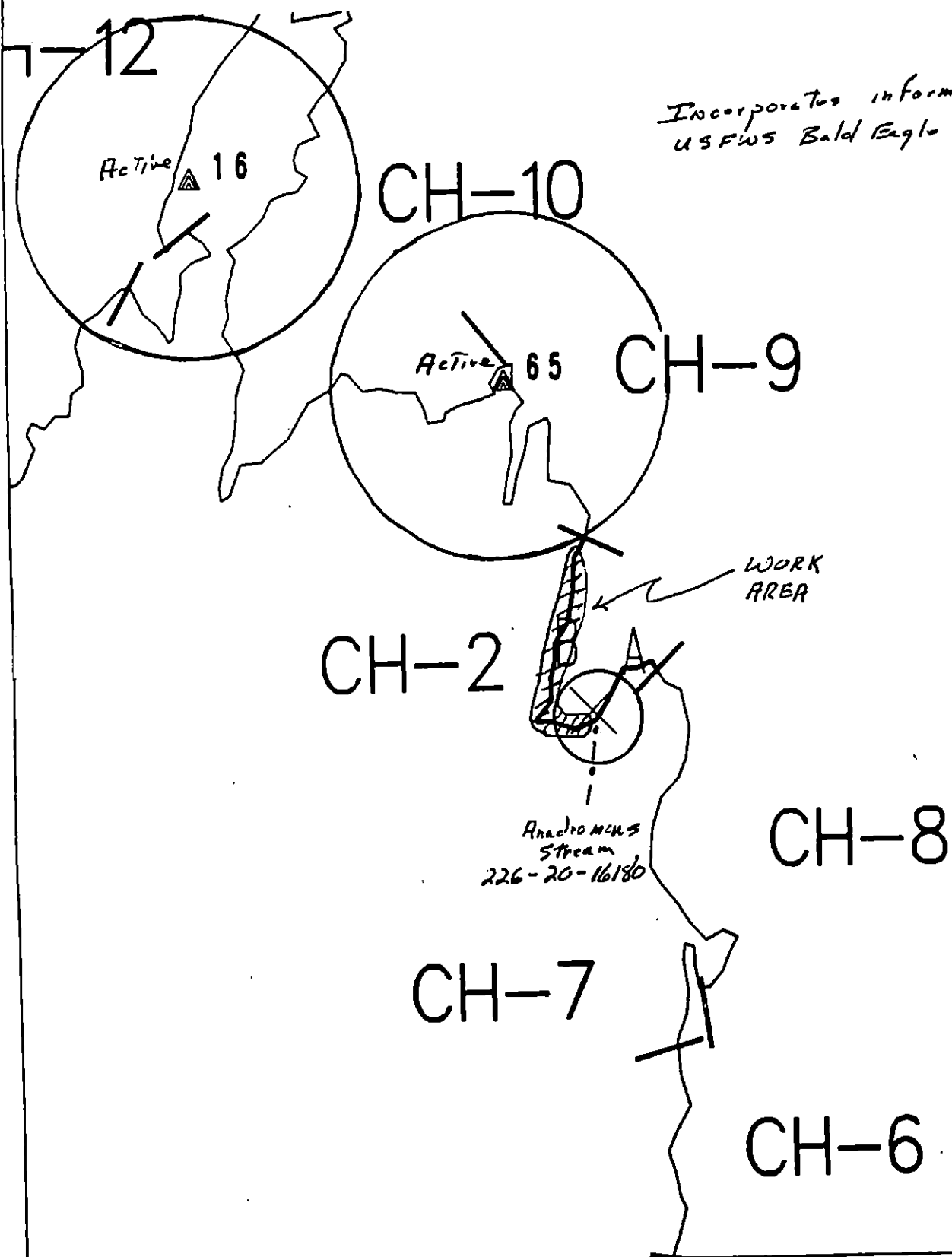
OTHER ECOLOGICAL CONSIDERATIONS

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

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-20-16180) FOR ADDITIONAL CONSTRAINT INFORMATION

TAG APPROVAL DATE 5/29/90
ADEC Art Weiner Art Weiner FOSC [Signature] Date MAY 29 1990
EXXON Amy Gail [Signature]
NOAA Balescott [Signature]
USCG G.A. Heiter G.A. Heiter

Prepared by [Signature] WNS Date 5/28/90



Incorporates information from
USFWS Bald Eagle survey 5/12/90



Exxon Company, USA



ECOLOGY MAP 5/28
SEGMENT CH-2
SUBDIVISION B (2 of 2)
METERS

★	Seabird Colony
▲	Eagle Nest

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CH-2 SUBDIVISION B (2 of 2)

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
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.)

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B	Salmon Stream	ADF&G catalogued anadromous stream (226-20-16180) forms the boundary between Subdivisions A and B. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup and tarmat removal.
1K	Purse Seine Hook-off	Closed to bioremediation after 7/20. No constraint to manual pickup or tarmat removal.

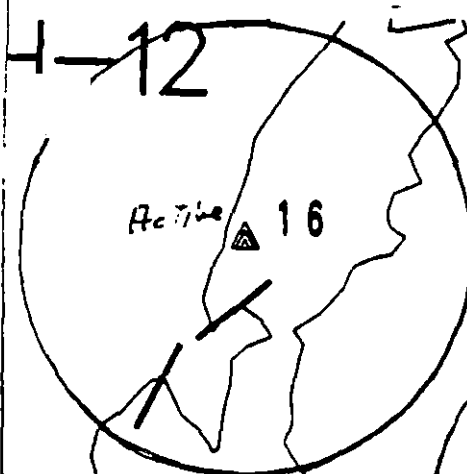
OTHER ECOLOGICAL CONSIDERATIONS

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

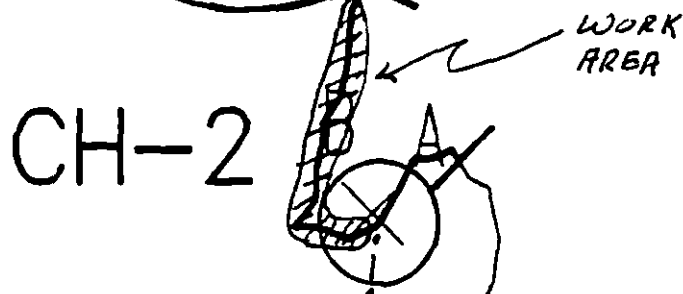
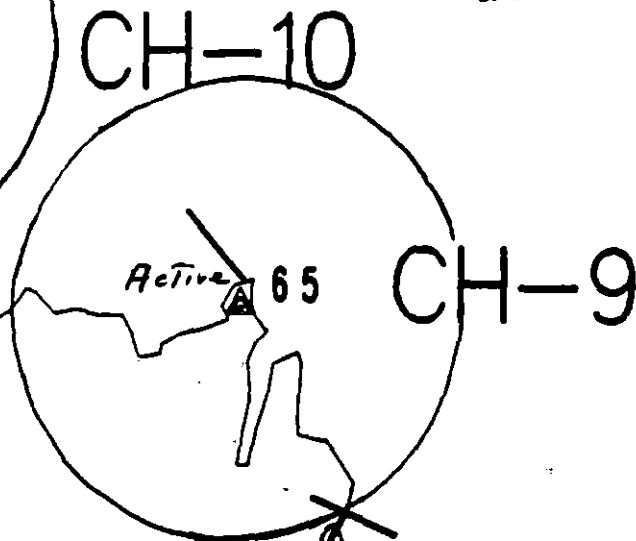
**SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-20-16180)
FOR ADDITIONAL CONSTRAINT INFORMATION**

TAG APPROVAL DATE 6/24/90
 ADEC Kay Morgan R. J. D. Smith
 EXXON Amey Tetu Mark
 NOAA Jessam Talbot J. C. Kane
 USCG G. A. Reiter
 FOSC D. Zampolli Date 6/7/90

Prepared by Andee Meyer PP Date 6/4/90



Incorporates information from
USFWS Bald Eagle survey 5/12/90



Anadromous
Stream
226-20-16180

CH-8

CH-7

CH-6



Exxon Company, USA
Map Key: PMS-CH-2



ECOLOGY MAP 5/28

SEGMENT CH-2

SUBDIVISION B (2 of 2)

METERS



Seabird Colony



Eagle Nest

ANADROMOUS FISH STREAM EVALUATION

Subdivisions A & B

SEGMENT ST/ CH-002 STREAM NO: 226-20-1618 DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
1K Purse seine hook-off (7/20 to 9/5)
6U Recreation: Tent sites (6/1 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any damage to unoiled biota and substrate. See above. Eagle nest in adjacent segment CH-009 is approximately 800 m from stream mouth and does not affect work constraints. Since the oiled areas are a considerable distance away from the rich intertidal areas, no special constraints on treatment procedures are required.

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

Subsurface Oil Observed: Yes X No Maximum Depth 28cm

RECOMMENDATIONS:

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

COMMENTS: Recommend manual removal of tarmat, tarballs and patties followed by bioremediation as indicated on the attached sketch map. Work should be completed before 7/9.

TAG COMMENTS: Manual Removal of TARMATS TO INCLUDE ACCESSING THE SURFACE TARMATS AS REQUIRED.

TAG APPROVAL DATE: 5/23/90

ADEC ART WEINER Art Weiner

EXXON ANDY TER Andy Ter

NOAA Burl Weiratt Burl Weiratt

USCG G.A. BEINER G.A. Beiner

FOSC: W L DATE: 6-8-90

notely cvc 24 hrs print cleanup

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
 AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)
 1E Main Bay Hatchery release (4/20 to 6/15)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
 AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (8/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (8/11 to 7/25)
 Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
 ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
 ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (8/1 to 9/15)
 6V Anchorages (8/1 to 9/15)
 6W Forest Service cabins (8/1 to 9/15)
 6X Lodge (8/1 to 9/15)
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 7H 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 1 CH 002 SUBDIVISION: 16180 DATE 4/26/90

USCG

NAME CWO MR MATHON

SIGNATURE



☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

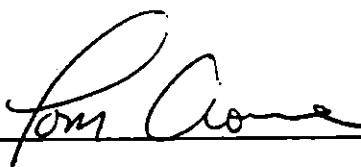
1. MANUAL CLEAN-UP: REMOVE TAR MATS
2. BIOREMEDIATION RIGHT SIDE (LOOKING ON SHORE)

ADFTG

ADEC

NAME TOM CROWE

SIGNATURE



☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Bury solid pellets of fertilizer in storm berm 12" deep (see map). No in situ recommended. Manually remove tar mats excavate tar mat where buried (see map) and remove. Till area #3 with shovels.

LAND MANAGER

NAME

SIGNATURE

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

2/42

Alaska Department of Fish and Game

ANADSCAT Observations and Recommendations
Team 15 - Michael Wiedmer and Tom Crowe

26 April 1990

ASC # 226-20-16180Segment CH-002

Observations The intertidal zone surrounding this channel is confined to a low energy, elongated cove. Southeast of the channel, mousse patties are broadly scattered through the intertidal zone. Northwest of the channel, heavy tar occurs throughout the upper- and mid-intertidal zone. A large portion of the tar in this area is buried by a mobile gravel berm. In the supra-tidal zone, a grassy area contains intermittent tar patties.

Treatment Recommendations Manually remove all tar mats and patties. Uncover the tar mats buried by the gravel berm and manually remove oil. See the ADF&G Multi-Assessment Data Form for additional treatment suggestions.

ASC # 226-20-15060Segment EB-001

Observations The only oil observed at the site was a very light stain in a small upper-intertidal area south of the channel.

Treatment Recommendations No treatment is required.

ASC # 226-20-15044Segment MA-009

Observations The intertidal portion of this site is composed of a very unstable, mobile gravel substrate. No oil was observed either surface or subsurface.

Treatment Recommendations No treatment is recommended.

BUMBLINE OILING SUMMARY (ANAD.)

OG William Reid USCG McMahon SEGMENT ST/ CH 002 28/90
 BIO Michael Fawcett LAND REP T. A. George STRAITS 226-20-5000 OF
 EXXON Gus Garcia ADPG Mike Vindner TIME 8:10
 TEAM NO. 15 TIDE LEVEL -3 ft DATE 6 / Apr / 90
 EST. SUBDIVISION LENGTH: 8.5 m ☐ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 15 % S 55 % C 30 % G 0 % M 0 % V 0
 SLOPE: Long 0 % Hang 0 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 2.4 m M 0 m N 10 m VL 0 m NO 50

SURFACE OIL

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

PAVEMENT H 60 sq m by 5PATTIES / TARBALLS 7 BA

NEAR SHORE SHEEN? NO BR RW SL 1

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

Did You Coll

DEBRIS

☐ YES ☒ NO

TYPE

#BAGS

Photographs:

Roll No. A5-15-6Frames 7-13

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE SUBSURFACE SEDIMENT
		OF	ON	OL	OF	NO		NO	NO	1	2	3	4	5	6	7	8				
1	35					X								X					N		P/G/C
* 2	20	X					0.8	X	X					X					N		P/G/C
3	40					X								X					N		P/G/C
4	40					X								X					N		P/G/C
* 5	25	X					0-1.5	X	X	X				X					N		P/G/C
* 6	20	X					0-3	X	X					X					N		P/G/C

COMMENTS

REVIEWED

TW

DATE 5-1-90

[illegible]

COMMENTS

* OILED INTERVAL ~~1-2~~ < 5 cm IN PIT NOS. 2, 5, 6 AND 8 DOES NOT CONSTITUTE SUBSURFACE OIL

REVIEWED JW DATE 5-1-90

Oil Character: In (wt): AP PO CV CT ST MS r TD FL NO

A hand-drawn sketch map of a site, oriented with North (N) at the top. The map features several labeled areas and features:

- Top Left:** A rectangular area labeled "MANUAL REMOVAL OF TAR/MAT, TARBALLS AND PATTIES." with an arrow pointing to it from the label "ST/C".
- Top Center:** A large, irregularly shaped area labeled "AREA 4".
- Top Right:** A rectangular area labeled "AREA 3" with dimensions "60X2M".
- Bottom Left:** A rectangular area labeled "AREA 2" with dimensions "30X2M".
- Bottom Center:** A large, irregularly shaped area labeled "AREA 1" with dimensions "60X2M". Inside this area, there are several smaller labels: "CT/C", "TB/D", "BETA", and "AP/B".
- Bottom Right:** A rectangular area labeled "AREA 5" with dimensions "60X2M".
- Other Labels:** "BIOREMEDIATION" is written vertically in the center. "CV/B" is written vertically on the right side. "AP/B" is written vertically on the bottom right. "AP/B" is also written vertically on the bottom left. "AP/B" is written vertically on the bottom right. "AP/B" is written vertically on the bottom right. "AP/B" is written vertically on the bottom right.
- Other Features:** A "Sink Field" is labeled at the top left. A "Sink Field" is labeled at the top right. A "Sink Field" is labeled at the top right. A "Sink Field" is labeled at the top right.

25/12

ACFSG MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: ES SS GS TS AVS SCHA MMS PTA 2 REGION: FMS KP, CI X, AP
 METHOD: Aerial Ground Boat
 3 DATE: 4/26/90 15 HIGH TIDE TIMES: 1526, 21 TEAM RECORDER: Mike W. Rumer
 4 START TIME: 0805 16 HIGH TIDE HTS: 11.2, 22 OBSERVERS: TOM CROWE
 5 STOP TIME: 0946 17 LOW TIDE TIMES: 0901, 23 AGENCY: AOFIG (ANAOSEAT)
 6 SEGMENT #: CH002 18 LOW TIDE HTS: -3.6, 24 PHOTOS TAKEN: Y 15
 7 STATION #: 19 TIDE HT AT SURVEY: -3.6 Roll #: _____ Frame: _____
 8 K-UNIT: _____ Ebb Slack Flood Slack 25 VIDEO TAKEN: Y 10 TAPE#: _____
 9 STAT AREA: 20 USCG QUAD: SEW A2 Start: _____ End: _____
 10 LAT: 11 LONG: 26 SAMPLES TAKEN? Y N Number
 12 SOURCE: Map Loran 011
 13 LOCATION: CHEVAGA NORTH Sediment
 14 DESCRIPTION: NORTHERN TIP OF CHEVAGA ISLAND Biological
 Water

EXTENT OF OIL

	SHORELINE				STREAM			
	L	M	H ²	S	L	M	H ²	S
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION								
30 OVERALL OIL IMPACT:	N	VL	L	M	<u>H</u>			
31 OIL TYPE:	Pooled	Mousse	<u>Tap</u>	<u>Asphalt</u>	Sticky	Stain		
32 OILED DEBRIS?	Y	N						
33 SHORELINE TYPE:	Headland	Low-lying Rocks	<u>Beach</u>	<u>Cove</u>				
		Lagoon	Marsh					
34 WAVE EXPOSURE:	High	Moderate	<u>Low</u>					
35 SUBSTRATE TYPE:	Bedrock	Boulder	Cobble	<u>X</u>				
	Gravel	<u>X</u>	Sand		Mud/silt			

36 CATALOGED ANAD. FISH STREAM? Y N
 37 CATALOG #: 226-20-16180
 38 STREAM NAME: _____
 39 OIL IN STREAM BED? Y N
 40 OIL ON STREAM BANKS? Y N
 41 OIL ON BEACH ADJACENT TO MOUTH? Y N
 (within 50 meters)
 42 OIL WITHIN 1 MILE OF STREAM? Y N
 Where: _____

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS: _____

NE(S)

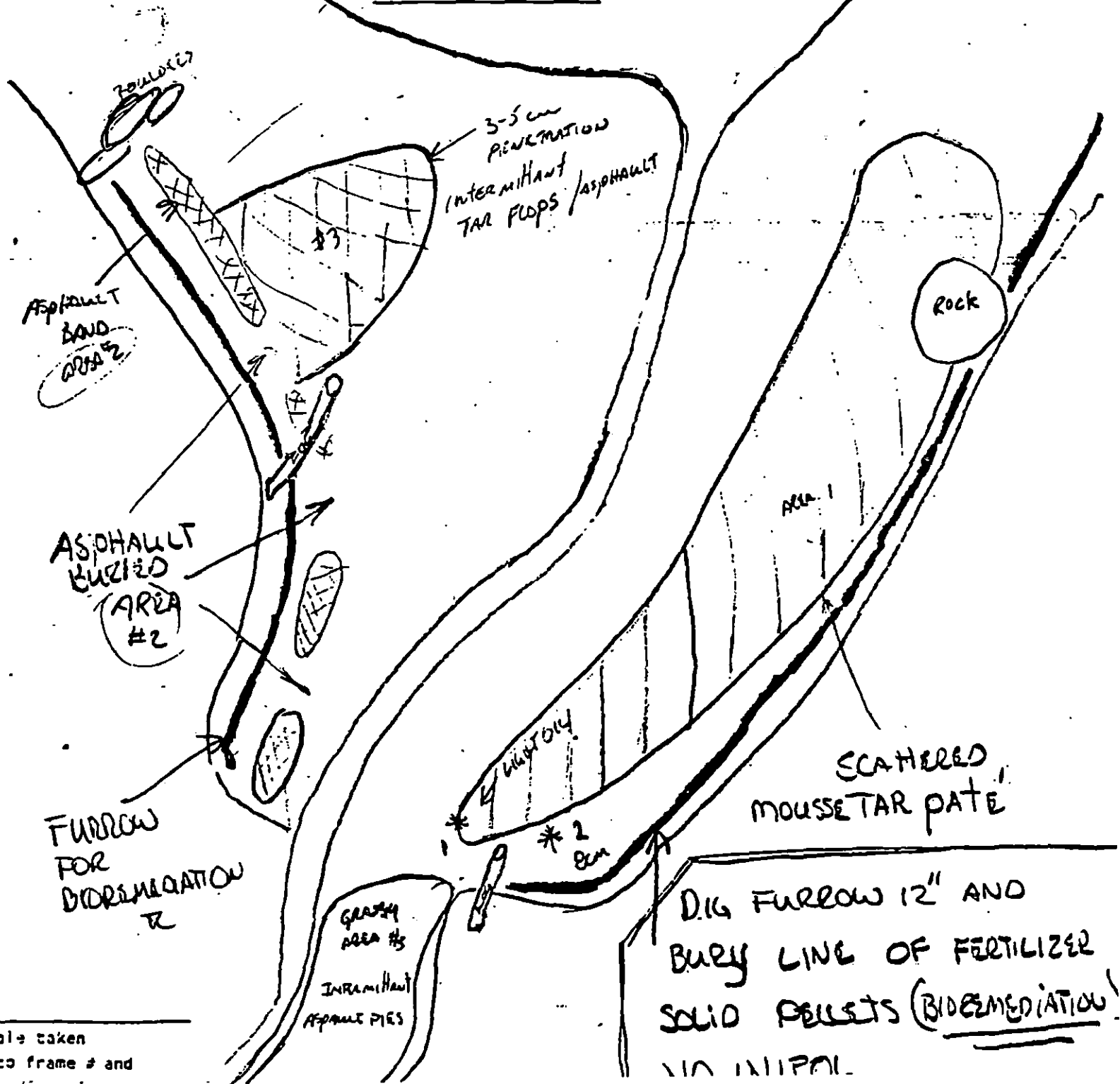
DESCRIPTION

RECOMMENDATION: (FERTILIZER)

BURY SOLID PELLETS IN STORM DRAIN 12" AT SPOTS INDICATED ON MAP. NO INEPOI RECOMMENDED. MANUALLY REMOVE TAR MATS. EXCAVATE TAR MAT WHERE BURIED (SEE MAP) AND REMOVE TILL AREA #3 WITH SHOVELS.

I agree with recommendations. *M. J. Fennell*

46 OIL DISTRIBUTION DIAGRAM



32/42

segment CH002

4/26/90

Stream 246-20-0180

Michael Fawcett

Ecological Summary

This medium-sized stream has a fairly long intertidal portion and a shale boulder/cobble/pebble/gravel delta. The area around the stream mouth has some infaunal clams, worms, etc., but is mostly barren on the surface except for recently settled barnacle spat. A biologically rich boulder area exists beginning about 20m either side of the stream mouth. A variety of algae occur there including Ulva, filamentous green algae, Rhodomele, Bangia (or Nemaclion), Costaria, Fucus, and others. Pycnapalis are abundant, also gunnels, blennies, hermit crabs, littorines, limpets and whelks. A bed of eelgrass begins at about -2.0 ft and goes out into the subtidal zone. One mature eelgrass and one common loon were sighted. One pink salmon smolt was seen. Remaining oil consists of bedrock stains and surficial and buried tar mats. Manual removal and bioremediation are recommended. Since the oiled areas are a considerable distance away from the rich intertidal areas, no special constraints on cleanup procedures are required.

M. Fawcett

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-20-16180

SEGMENT CH-2 SUBDIVISION A & B

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
Bioremediation Less Than 100m From Stream	WORK PRIOR TO 7/10 (ADF&G MONITOR REQ.)
Bioremediation More Than 100m From Stream	WORK PRIOR TO 7/20

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-20-16180) forms the boundary between Subdivisions A & B. The work area 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.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic to essential minimum after 7/20. No disturbance to stream bed or bank. No flushing of pollutants or sediments into stream drainage; do not allow Inlpol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible; authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

SEE SUBDIVISION CONSTRAINT ADDENDA CH-2A & CH-2B
FOR ADDITIONAL CONSTRAINT INFORMATION.

TAG APPROVAL DATE 5/29/90.
ADEC ART WILSON
EXXON ANDY SAZ
NOAA B. Wescott
USCG G.A. REITER

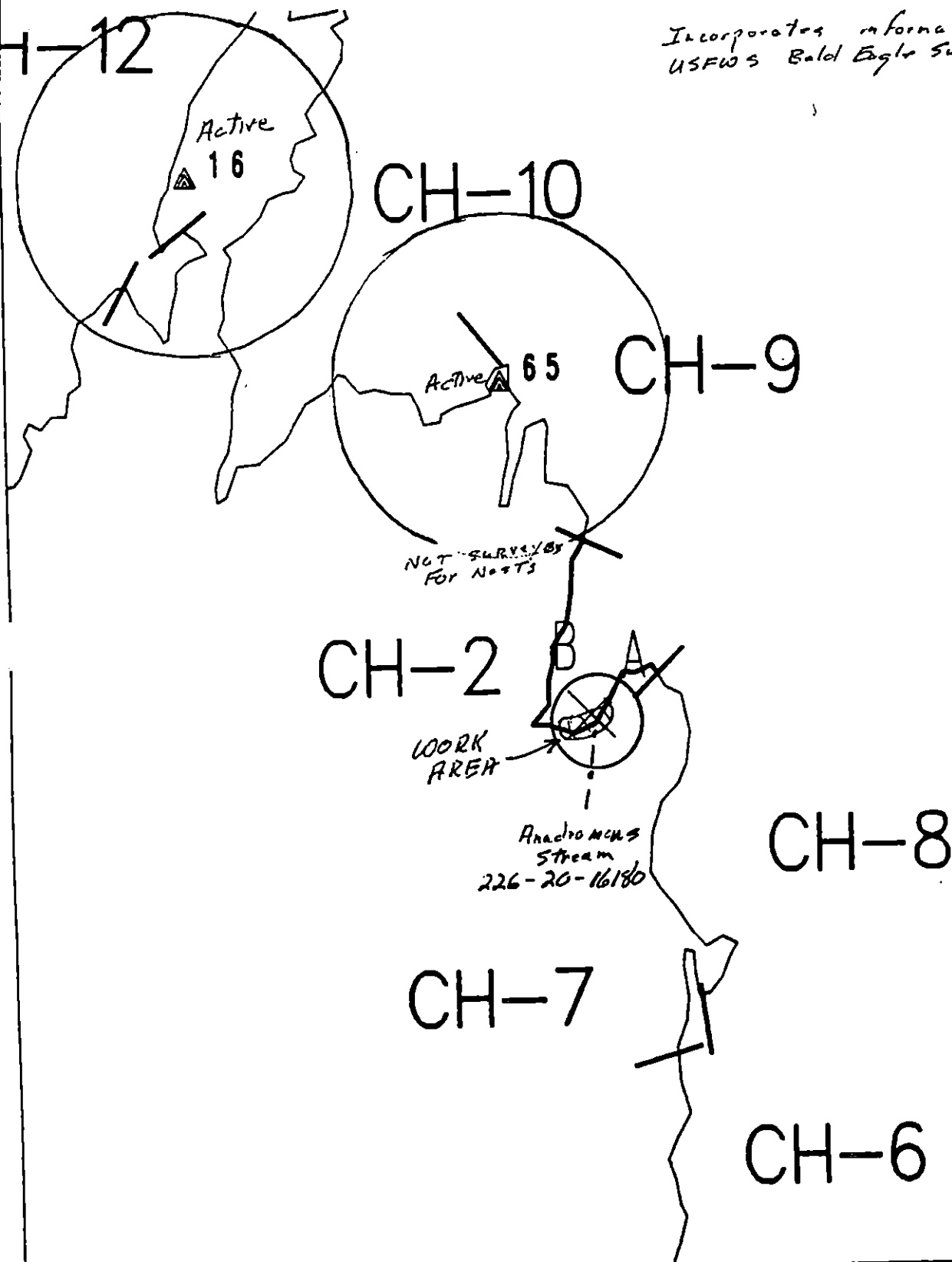
FOSC

DATE MAY 29 1990

Prepared By Anders Mann WRK

Date 5/29/90

Incorporates information from
USFWS Bald Eagle Survey 5/12/90.



Exxon Company, USA

ECOLOGY MAP 5/28
SEGMENT CH-2
SUBDIVISION A+B (___ of ___)
METERS

SEGMENT ST/ CH-03 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: *J. H. Mc Mahon*

DATE: 5/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 71 m: Narrow 73 m: V.Light 537 m: No Oil 292 m

Subsurface Oil Observed: Yes X No Maximum Depth 22 cm

RECOMMENDATIONS:

 No Treatment Recommended

X Treatment Recommended

 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 is bioremediation of surface and sub-
surface oil in the area shown on attached sketch map. Work should be
conducted after 6/1 with approval of USFWS regarding eagle nest.

TAG COMMENTS:

TAG APPROVAL DATE: 5/1/90.

ADEC ART WENDOL *Art Wendol*

EXXON ANDY ENL *Andy Enl*

NOAA GARY PETRUS *Gary Petrus*

USCG KENNETH KIDNEY *Kenneth Kidney*

FOSC: *YL* DATE: 5-9-90

a CVC rep will be present for cleanup.

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CH-3 SUBDIVISION: A DATE 4/21/90

USCG

NAME J.A. SCHULTZ - SIGNATURE Jerry Schultz

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

THE NATURE OF SUBSURFACE OIL SUGGESTS THAT SOME FORM OF BIOREMEDIATION IS CALLED FOR HOWEVER THAT RESIDUE LOCATED IN THE SUPRATTOAL MAY HAVE TO WAIT UNTIL A LATER TIME PERIOD.

ADEC

NAME Mike Ebel SIGNATURE Michael Ebel

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

CH-3-A: This mostly surface pebbles, subsurface grading to gravel, underneath cobble four, beach face was very lightly oiled with occasional splashes of mostly brown on the south end of segment. Around midway (moving northward) the surface cobbles would pick up a higher frequency of stains grading to coats still yk but increasing in distribution from the former splashes into a broken band. Near this same area we began to find yk coated small cobbles + pebbles in the STZ ≈ 2 cm below the surface layer. These clasts had a thin, DBL, sticky film coating their surfaces with $\approx 35\%$ of the rocks coated in a layer 3-5 cm. (cont.)

LAND MANAGER

NAME Danack Searns SIGNATURE Danack Searns

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

I would suggest checking the beginning of CH003 in the for subsurface oil (OR, OF) because we didn't expect it to be up so far. It wasn't until we got approx. Half way down the segment ~~we did finally~~ check for oil in the UI. Bioremediation for this beach is recommended since it is 100 meters from KREEC.

DIS REGARD checking the beginning of CH003
We Did check it and we found no Oil.

14/36

deep. Thus, the UTZ band (lookon) had a separation area of clean sed. ~~from the~~ STZ storm berm containing the 3-5 cm layer $\approx$ 6 m further up the beach face. Moving further North we picked up a subsurface oil layer (refer to sketch map + note pits # 7 - 17) ranging from the UTZ - STZ, extending $\approx$ 150 m. The oil texture was on the average somewhere between an OF + OR grading from shiny black to light brown with a layer varying from $\approx$ 2 - 17 cm thick. Because of the subaerobic biotic communities occupying the first $\approx$ 25 cm of substrate I would opt for the Bio enhancement method of granular fertilizers to be used along this 150 m section of shoreline. I would like to be made clear on this point; let granular fertilizer stand on its own merits and then we should consider adding a solvent such as butoxy-ethanol etc. which is a second step of optimizing the fertilizer principal. If a small set of subsurface tests is needed to get the granules below the surface this should be tried on comparable segments with a similar oiling condition, exposure, + sed type. Other similar segments should be tried without the mixing into the sed, and others should be left without any treatment to gain a knowledge based on experience about what works.

15/26 A side note to the bio treatments would be to try real bioremediation where indigenous microbes are collected, reproduced and replaced back to their habitats.

SHORELINE OILING SUMMARY

REVISION NO. 08/13/90

OG Randy Siegel USCG Jerry Schulte SEGMENT ST/ CH-3
 BIO Lewis Shorman LAND REP Ray Selanoff (cyc) SUBDIVISION A (1 OF 1)
 EXXON Leonard Herbst ADEC Mike Ghal TIME 15:20 10/17/90
 TEAM NO. 12 TIDE LEVEL 3.2' to 1.3' DATE 4/21/90
 EST. SUBDIVISION LENGTH: 979 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 5 % B 5 % C 20 % P 68 % G 10 % S 0 % M 0 % V 0
 SLOPE: Long 10 % Hang 90 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 60 m N 60 m VL 480 m NO 379 m

SURFACE OIL

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

PAVEMENT H F S 0 sq. m by 0 ciPATTIES / 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 Rope/plastic#BAGS 1Photographs: * PICKED-UP ALL TRASHRoll No. -None-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		US	US	1	2	3	4	SU	U	M	V				
1	25					X	0-0		X					X							P
2	25					X	0-0		X					X							P
3	25					X	0-0		X						X						P
4	30					X	0-0		X					X							P
5	40					X	0-0		X					X							P
6	40					X	0-0		X						X						P, G

COMMENTS This segment consisted of a pebble beach with cobbles and some boulders. Hi-angle ~~soil~~ soil slopes with grass and trees on slopes. Southern portion had little to no oiling - some St-CT. Further north, individual pebbles and cobbles were coated with shiny black oil, sometimes concentrated in bands. A number of pits along a 150-meter transect revealed 70 REVIEWED DATE 4-23-90
 shiny black oiling (in one case OBR OR) pit depth. No water in pit

2/36

SEGMENT ST/ CH-3 SUBDIVISION A (2 OF 3)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR						PIT ZONE				A	N	SHEEN (Y/N)	↓	SURFACE SUBSURFACE SEDIMENT
		OP	OR	OL	OF	NO		VO	VC	1	2	3	4	5	6	SU	U	M	U					
* 7	30				X		3.5		X					X	X							-	-	P
8	40					X	0.0		X								X					-	-	P
9	15					X	3.5		X	X					X							-	-	B, P, G
* 10	15				X		3.5		X	X					X							-	-	G, R
* 11	22				X		2.20		X	X							X					-	-	G, R
* 12	30				X		3.5		X	X							X					-	-	P, G
13	30					X	0.0		X									X				-	-	P, G
14	30					X	0.0		X							X						-	-	P, G
15	30					X	0.0		X								X					-	-	P, G
16	37	X					5.22		X				X				X					-	-	P, G
17	30				X		10.20		X	X						X						-	-	G, R
18	32					X	3.5		X	X							X					-	-	B, P, G
19	30					X	0.0		X								X					-	-	P, G
20	25					X	0.0		X							X						-	-	P

COMMENTS

subsurface
After finding no oil in the SU along the northern portion of the segment, we ~~did~~ returned to the southern portion and dug additional pits in the SU. ~~Because~~ The additional pits (#20-25) were all uniled, confirming the estimated extent of subsurface oiling from pits #1-19. The results for pits 21-25 are listed on the next page, even though they will not be entered into the data base.

* OILED INTERVAL < 5cm IN PITS 7, 10, 11 AND 12 DOES NOT CONSTITUTE SUBSURFACE OIL

3/36

REVIEWED JW DATE 4-23-90

SEGMENT ST/ CH-3 SUBDIVISION A (3 OF 3)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (CM)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE SUBSURFACE SEDIMENT
		OP	OR	OL	OF	NO		UC	UC	~~SL~~	~~BL~~	~~ST~~	~~BR~~	~~GR~~	~~OR~~	EU	U	M	U				
21	25					X	0-0		X							X					-	-	P
22	20					X	0-0		X							X					-	-	P
23	25					X	0-0		X								X				-	-	P
24	40					X	0-0		X								X				-	-	P
25	40					X	0-0		X							X					-	-	P.G
							.																
							.																
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							.																
							.																
							.																
							.																
							.																

COMMENTS

4/30

REVIEWED JW DATE 4-23-90

SE(IT ST/ CH-3

SUBDIVISION A

DATE 4 / 21 90

CHECKLIST

--- N Azimuth
 --- Approx. Scale
 --- Sog/True Drift
 --- CR Dist.
 --- Watch
 --- Length
 --- % Cover
 --- Substrate Character
 --- E of HORIZON
 --- S.W.
 --- Profile Location(s)
 --- Profile(s)
 --- Pit Location(s)
 --- Photo Location(s)

LEGEND

1. A

Fig. 10. Subcutaneous Cell

2A

Fig - Substrate ON

C1/C

Case of a young man with a fracture of the femur.

Abstract

LET/P

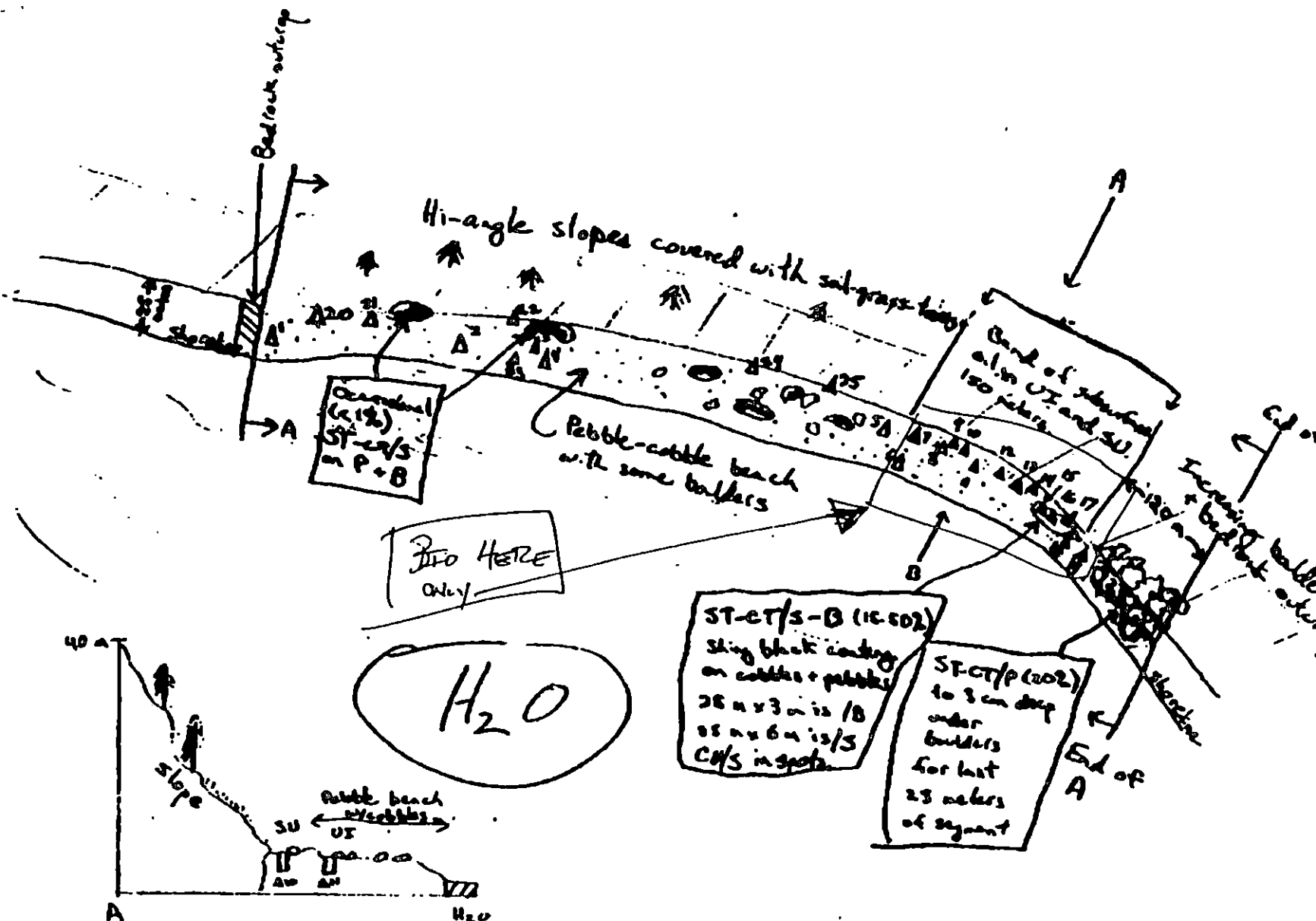
Project Description

CT/S

Systematic Literature Review

Global Vegetation

1

**Photo location, direction,
and number**

Oil Character Length (in): AP 0 PO 0 CV 50 CT 480 ST 480 MS 0 PT 0 TB 0 FL 0 NO 379

100

Segment ST/ CH-3 Subdivision A Date (mo/day/yr) 4/21/90Time (24 hr) 1530-1730 Biologist SHARMAN(A) Substrate type and % of segment: SHADIV
(1) Bedrock 5 (2) Boulder 5 (3) Cobble 20 (4) Pebble 60 (5) Sand 10 (6) Silt — ^{granular}(B) Overall % cover of biota (% of segment): Dense — Moderate — Low X
SHADIV

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS (ANGULA, LITTORINA, LIMAETA)

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments: Pair (?) of adult eagles, 1 sea lion. Deer tracks & scat common in supratidal where there is sign of considerable browsing of beach margin elderberry buds/new shoots. 1 deer carcass in supratidal, bones & some hide, young or, scavenged no oil, poor long bone marrow, splenic starvation/malnutrition winterkill. Interestingly, this border/cobble/pebble single beach (cont.)

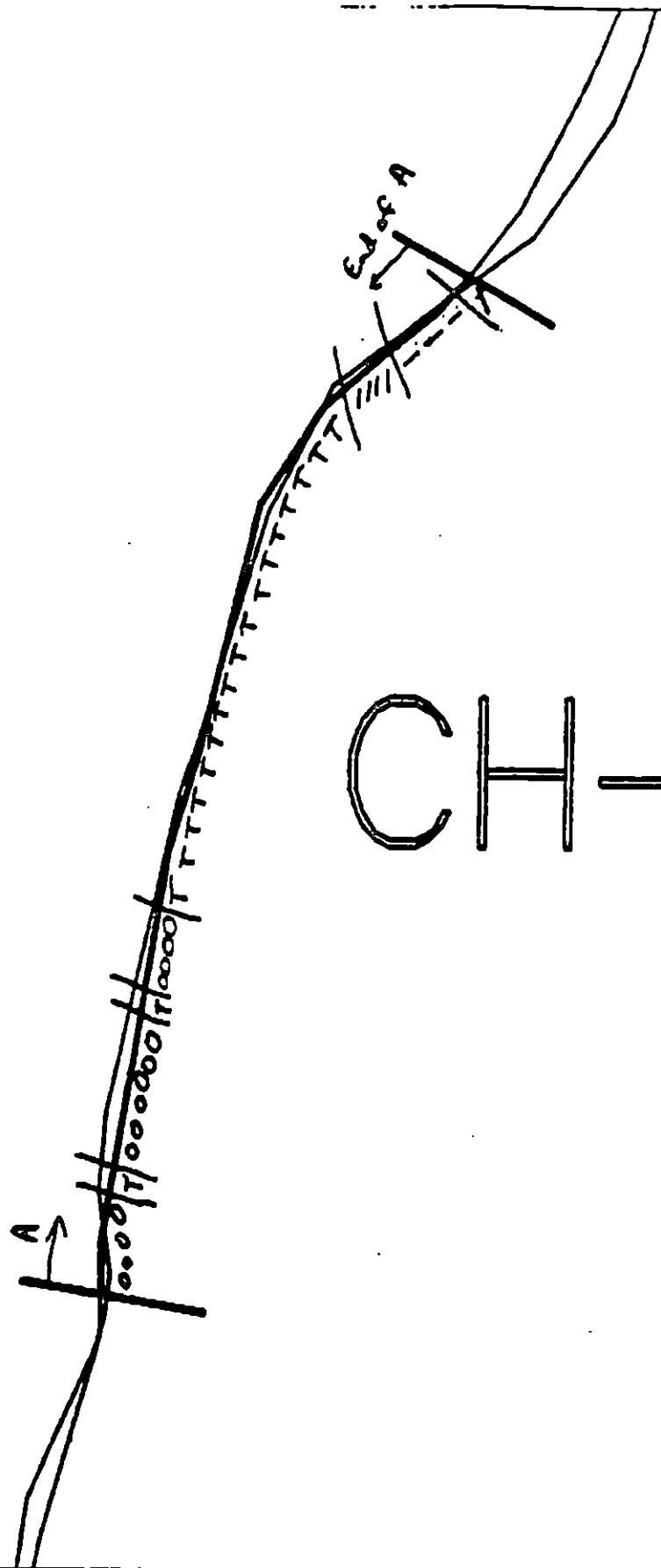
Ecological Considerations:

Resource sensitivities previously listed for this segment include use as a Special Use Destination (code 6T) and presence of a Bald Eagle nest (code 5T) in the central portion of the segment. We failed to locate the nest on this survey. A naturally low diversity/abundance beach, probably relatively resistant to treatment impacts (as it appears, it was to oiling). However, remember that an anadromous stream is in the adjacent segment to the S. (CH-1).

11/36

General Comments (cont.):

is quite depauperate - low diversity + low abundance/coverage. This is to be expected for this beach type, by no means necessarily attributable to idling. Sub-boulder (dingle) biota generally limited to a few Porrea and amphipods. Spat settlement is very good here, as has been observed elsewhere along S. Clatsop Island over the past several days. Some Entomomorpha among boulders/cobbles, Fucus in LTE. For this beach type, an apparently normally depauperate intertidal community with good recruitment.



CH-3

6/30

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

CH-3

ADEC Segment Length: 974m



Map Key: PWS-51
 Name: Reddy Street
 Date: 4/21/90
 Date Entered:

ELCLEGY MAP

BALD EAGLE NEST

End of A

CH-3

6/30

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

CH-3

ADEC Segment Length: 974m



Map Key: PWS-51

Name: *Redy Angel*

Date: *4/21/90*

Date Entered:

SHORELINE EVALUATION

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

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

7II Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: *J. David McMan* DATE: 5/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 189 m: V.Light 1130 m: No Oil 286 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 5/1/90

ADEC *Art Weiner*
EXXON *Andy Galt*
NOAA *Gary Petrac*
USCG *Kenneth Keane*

FOSC: *[Signature]* DATE: 6-19-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
 AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/1)
 1E Main Bay Hatchery release (4/20 to 6/10)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
 AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (8/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (8/11 to 7/25)
 Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- P Harbor seal and sea lion pupping (5/15 to 7/1)
 30, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
 ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
 ADF&G Tom Rothy 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (8/1 to 9/15)
 6V Anchorages (8/1 to 9/15)
 6W Forest Service cabins (8/1 to 9/15)
 6X Lodge (8/1 to 9/15)
 6Y Special use destination
- 7Z Subistence area: Salmon harvesting (5/1 to 9/30)
 7HH Finfish harvesting
 7H Deer harvesting (8/15 to 2/28)
 -JJ 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 / CH4 SUBDIVISION: A (ENTIRE SEGMENT) DATE 4/22/95

USCG
NAME JERRY SCHULTZ SIGNATURE Jerry Schultz

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC
NAME MIKE EBEL SIGNATURE Michael G. Ebel

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

CH-4-A: Widespread tar coats and stains were found along the length of this segment generally confined to a narrow, VL broken band. Taken as an average, the majority of the segment could be represented by patchy coats and stains intermittent along the segment's length and confined to the UTZ. Because of the small amount of "oil" actually present and the lack of a method to retrieve the thin tar coats under the boulders, I recommend no further impact.

LAND MANAGER
NAME PAT SELANOFF (CVC) SIGNATURE Pat Selanoff

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO 36

OG Randy Siegel USCG Terry Schultz SEGMENT ST/ CH-4
 BIO Lewis Shanon LAND REP At Seaside Cove SUBDIVISION A (1 OF 1)
 EXXON Leonard Herbert ADEC Mike Ebel TIME 17:30 to 18:30
 TEAM NO. 12 TIDE LEVEL 95' to 107.5' DATE 4/21/90
 EST. SUBDIVISION LENGTH: 1636 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 20 % B 40 % C 15 % P 20 % G 5 % S 0 % M 0 % V 0
 SLOPE: Long 75 % Hang 15 % Vert 10 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 65 m VL 1200 m NO 271 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	B	P	S	1	2	3	4	5	6	7	8	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER				X	X								X			
COAT		X	✓	0	X	✓	0						X	✓		
STAIN		X	✓	0	X	✓	0						X	✓		
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL													X		X	X

PAVEMENT H F S 0 sq. m by 0PATTIES / TARBALLS 0 BAGNEAR 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 Penguins / R#BAGS 2

* ALL COLLECTED

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	SHEEN (Y/N)	↓	SURFACE SUBSURFACE SEDIMENT
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	6	7	8	SU	U	M	U				
1	20					X	0-0		X									X					—	—	G
2	7					X	0-0		X									X					—	—	G, R
3	25					X	0-0		X									X					—	—	G
4	35					X	0-0		X									X					—	—	P
							.																		
							.																		

COMMENTS

Stretch of shoreline with hi-angle forested cliffs above, and boulder talus below with occasional cobbles, pebbles and gravel, below. Light oiling across most of the segment, either as a band of patchy or broken skins along cliff faces, 2 cm to 1 meter high, or as a band of cover beneath boulders, 1-2 meters under.

16/36

REVIEWED WDATE 4-23-90

OG Randy Siegel
 SEGMENT ST/ Ch4
 SUBDIVISION A

DATE 4/21/90

Approx. Scale
 300 metres

SKETCH MAP
 #1

→ N

CHECKLIST

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

LEGEND

1 Δ
 Pit - No Subsurface Oil

2 Δ
 Pit - Subsurface Oil

CT/C
 Continuous Distribution

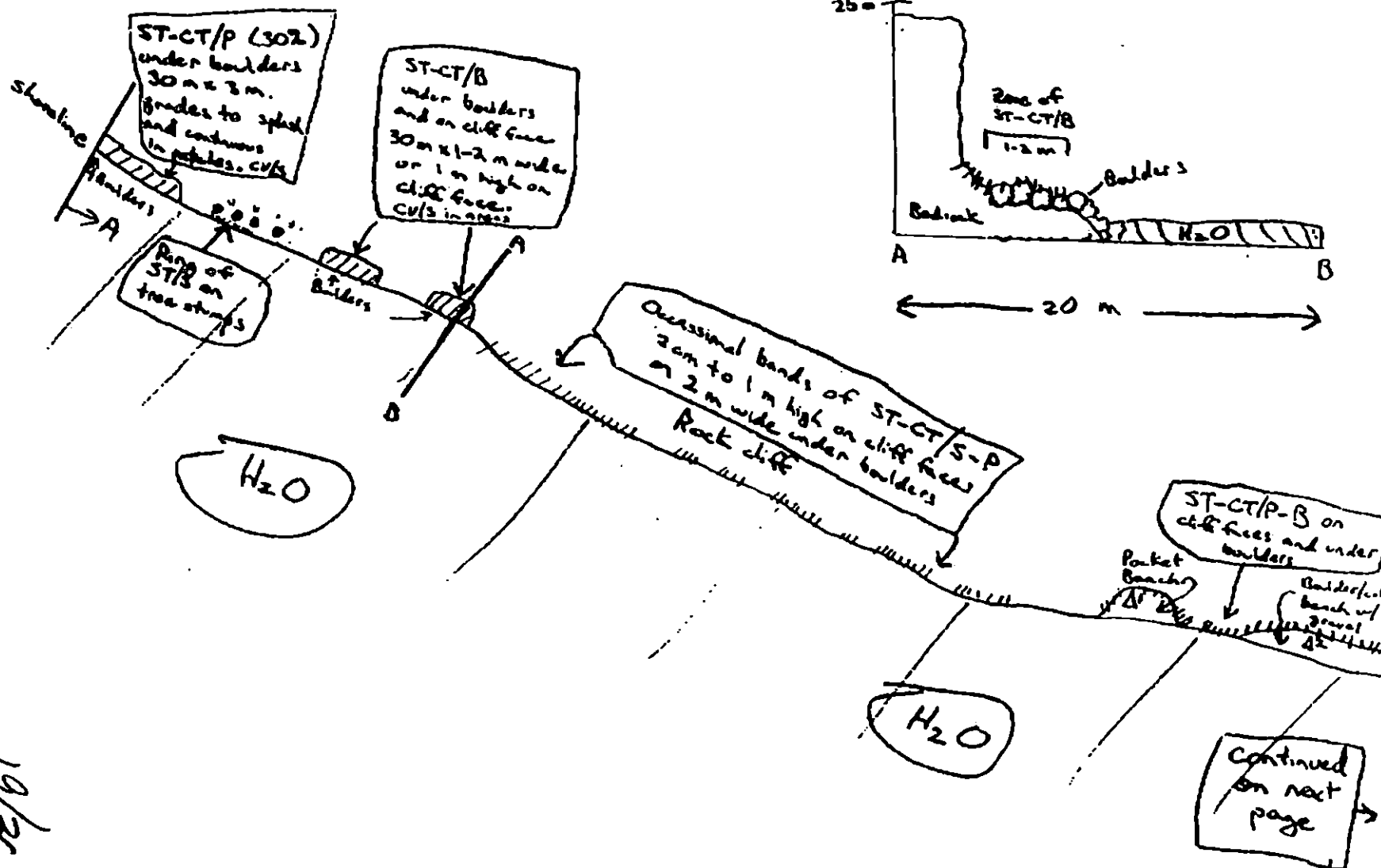
CT/B
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

eee
 Oil Vegetation

1 →
 Photo location, direction,
 and number



OG Rav Regel

SEGMENT ST/ CH-4

SUBDIVISION A

DATE 4 / 21 90

CHECKLIST

- ☐ H Area
- ☐ Approx. Scale
- ☐ Seg/Sub Body
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HARA WL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pile Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ

PI - No Subsurface Oil

2 Δ

PI - Subsurface Oil

CT/C

Continuous Distribution

CT/D

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

lll

Oiled Vegetation

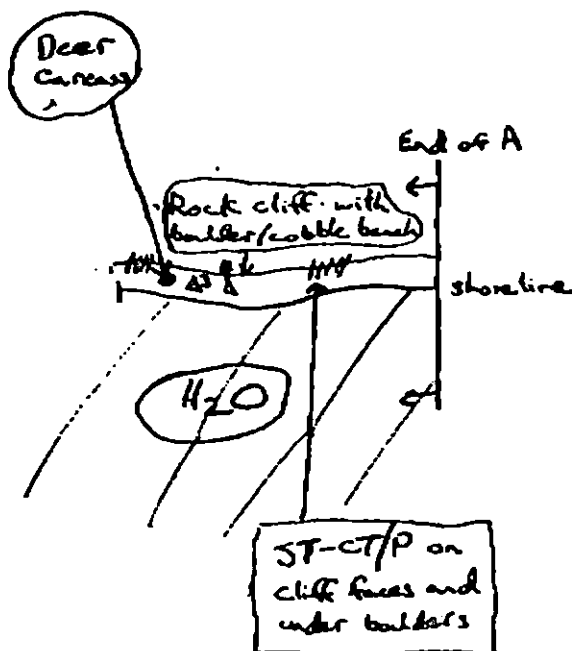
1 ●→

Photo location, direction,
and number

Approximate Scale
300 meters

S CH MAP
#2

→ N



20/36

Oil Character Length (m): AP 0 PO 0 CV 50 CT 1200 ST 1200 MS 0 PT 0 TB 0 FL 0 NO 271

REVISED: 08/04/90

SHORELINE ECOLOGICAL SUMMARY (Page 1 of 2)

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

Time (24 hr) 1730-1830 Biologist SHARMAN

(A) Substrate type and % of segments: SUBSTR.
(1) Bedrock 20 (2) Boulder 40 (3) Cobble 15 (4) Pebble 20 (5) Sand 5 (6) Silt

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

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

Photographs:
Roll No.
Frames

BARNACLES

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

MYTILUS

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

GASTROPODS (ANCELLA, LITTORINA, LIMAEYS)

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

FUCUS

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

Wildlife Observations/ General Comments: 1 pigeon guillemot, 2 harbor seals, 1 *Ctenophore* in water (1st I've seen this spring), 1 bird in intertidal zone, 1 deer carcass in UTE (skull, few bones, some hide - young ♀, scavenged, no oil, poor long bone marrow impurities, starvation/malnutrition, winterkill?). Generally a very rich + productive bedrock/boulder intertidal habitat along ongoing (cont.)

Ecological Considerations:

Resource sensitivities previously listed for this segment include Special Use Designation (code 64) and use for subsistence deer harvesting (code 7II). No particular ecological concerns, especially if the area is left alone!

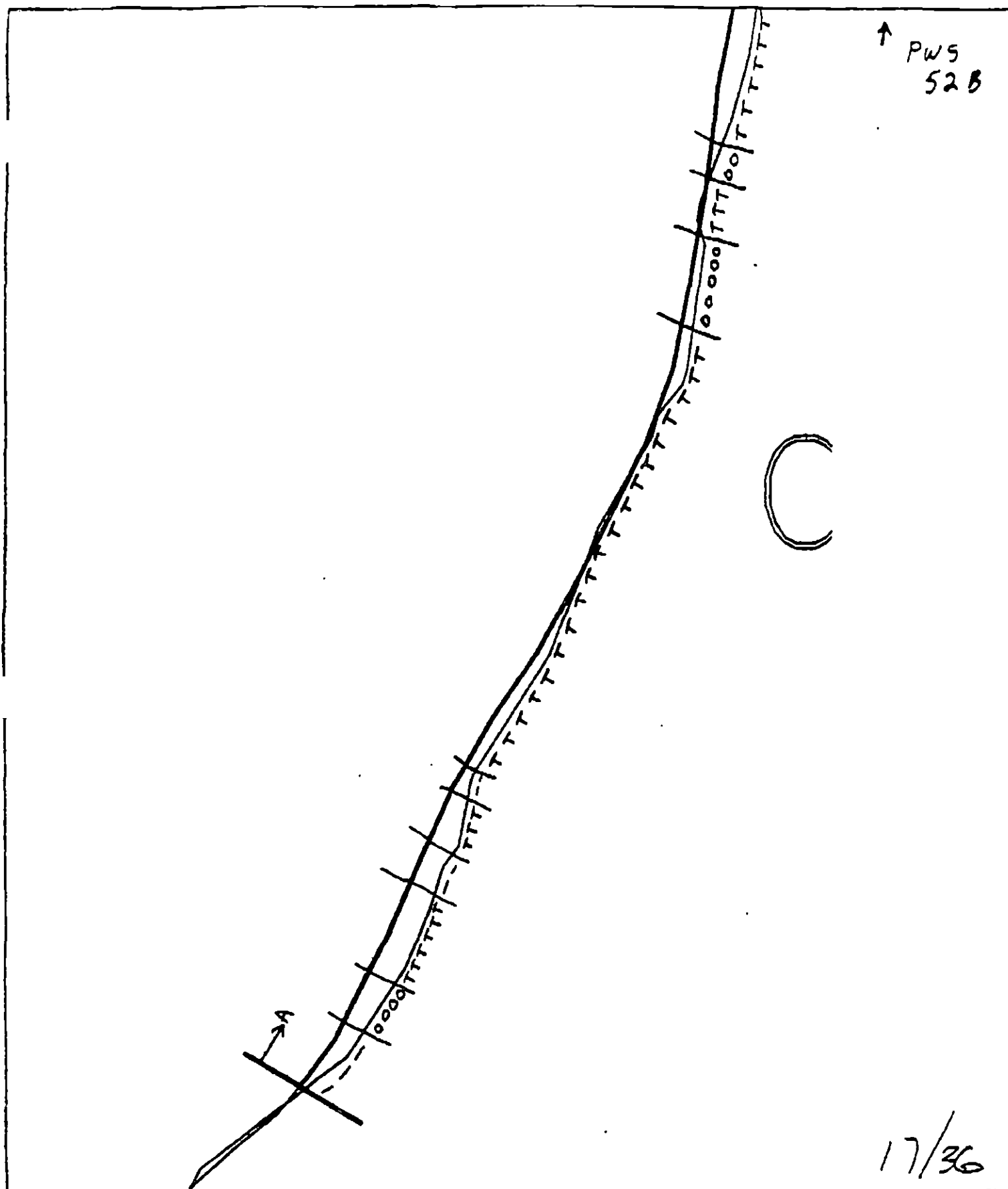
CH-4

Shoreline Ecological Summary (cont.)
(Page 2 of 2)

Slarman
4/21/90

General Comments (cont.):

good recruitment - very successful barnacle spat settlement, good Fucus / Odonthallia recruitment. Normal levels of mortality (e.g., 5-20% for barnacles). As along the other steep/cliffy sections of this coast, there is a very high abundance of Nucella ~~landless~~ paysoni upon larvae in the MTZ. The Boulder/cliff LTZ is exceedingly rich: Fucus, Odonthallia, Geytoniopsis, ulvalae, Enteromorpha, green filamentous (Acrosiphonia?), foliose red algae, finely dissected Reda (Polyisiphonia / Pteroisiphonia?), Pseudobalanus cariosus, abundant spat, Nucella, Spirorbis, Pyrosomella, Dermastris, Leptasterias, Anthopleura spp., Pagurus, piddies, amphipods, Lithothamnium, etc. etc. Perfectly normal + healthy.



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

CH-4

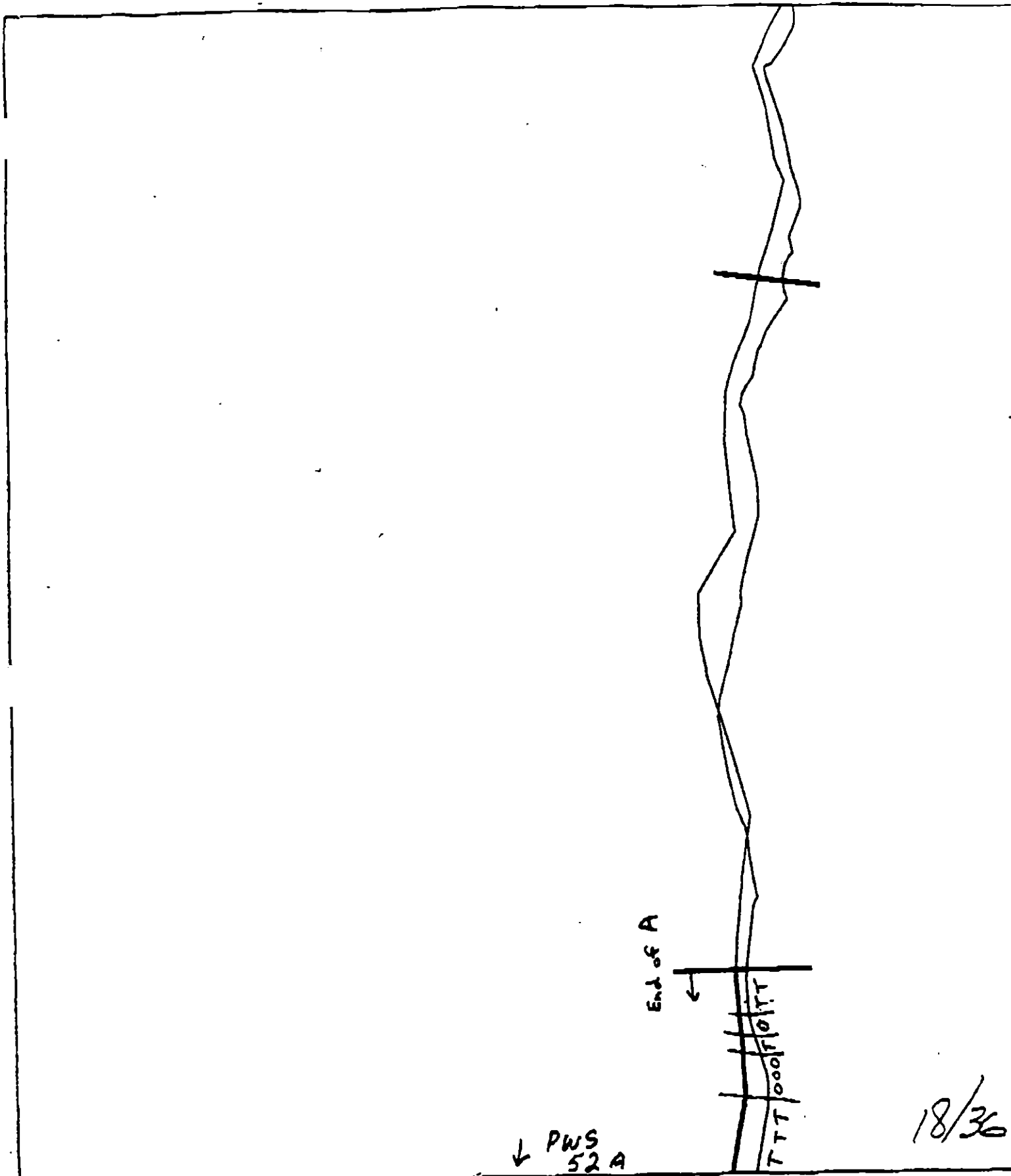
ADEC Segment Length: 1605m



Map Key: PWS-52a

Name: Ruby SiegelDate: 4/21/90

Data Entered:



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

CH-4

ADEC Segment Length: 1605m



Map Key: PWS-52b

Name: Baby Sings

Date: 4/21/90

Date Entered:

SEGMENT ST/ CH-05 SUBDIVISION A (1 OF 1) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

7II Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 154 m: No Oil 684 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

☒ No Treatment Recommended
☐ Treatment Recommended
☐ Manual Pickup
☐ Bioremediation
☐ Tarmat Removal

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

COMMENTS:

 TAG COMMENTS:

 TAG APPROVAL DATE: 5/3/90

ADEC Art Weimer
EXXON Art Weimer
NOAA Gary Peterson
USCG Ken Keith

FOSC: My L DATE: 5-9-90

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
AGENCY CONTACT PERSON: ADF&G John Morison 257-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (5/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (5/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (5/1 to 9/15)
6V Anchorages (5/1 to 9/15)
6W Forest Service cabins (5/1 to 9/15)
6X Lodge (5/1 to 9/15)
6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH Finfish harvesting
7H Deer harvesting (8/15 to 2/25)
7JJ Invertebrate harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CH5 SUBDIVISION: A (^{ENTIRE}~~SEGMENT~~) DATE 4/23/90

USCG
NAME JERRY SCHULTZ SIGNATURE Jerry Schultz

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS
CONTINUING NATURAL WASHING APPEARS TO WORK WELL

ADEC
NAME MIKE EBEL SIGNATURE Michael J. Ebel

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

CH-5-A: Very little oil found here. The occasional splashes and coats were found at different locations along segment length but recovery by treatment would be ~~be~~ ineffective. No subsurface oil, no further impact recommended.

LAND MANAGER
NAME PAT SELANOFF (CVC) SIGNATURE Pat Selanoff

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS
Hopefully the natural cleaning process will work

8/46

OG Randy Sregel USCG Terry Schulte SEGMENT ST/ CH-S
 BIO Lewis Sherran LAND REP Pat Selanoff (CWC) SUBDIVISION A (1 OF 1)
 EXXON Leonard Herbert ADEC Mike Ebel TIME 15:45 to 16:30
 TEAM NO. 12 TIDE LEVEL +4.4 to +2.3 DATE 4/22/90
 EST. SUBDIVISION LENGTH: 837 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 10 % B 20 % C 30 % P 30 % G 10 % S 0 % M 0 % V 0
 SLOPE: Long 0 % Hang 80 % Vert 20 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 125 m NO 711

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	c	s	n	e	SW	SE	NE	NW	SW	SE	NE	NW
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 0PATTIES / TARBALLS 0 BACNEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE Rope, plastic#BAGS 1

Photographs:

Roll No. NoneFrames —

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	T	SURFACE SUBSURFACE SEDIMENT
		OP	OS	OL	OF	NO		SO	UC	SW	SE	NE	NW	SW	SE	NE	NW				
1	30					X	0-0		X					X					—	—	P
2	30					X	0-0		X						X				—	—	P
3	22					X	0-0		X						X				—	—	P, G
4	20					X	0-0		X					X					—	—	P, G
							.														
							.														

COMMENTS

Short stretch of shoreline with shoreline/vertical rock cliffs
 and cobble-pebble beach. Very light oiling across segment.
 Stain-coat oil splashy distribution on sections of rock cliff and
 on rocks on beach. Deer carcass not observed.

2/46

REVIEWED SWDATE 4-25-90

SEGMENT CH-5

SUBDIVISION A

DATE 4/22/90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Body
- ☐ Off Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/LVL
- ☐ SCL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pn Location(s)
- ☐ Photo Location(s)

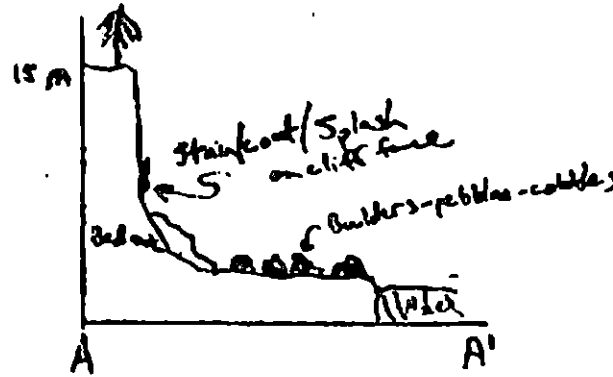
LEGEND

- 1 Δ₁
Pn - No Subsurface Oil
- 2 Δ₂
Pn - Subsurface Oil
- CT/C
Continuous Distribution
- CT/B
Broken Distribution
- CT/P
Pecdy Distribution
- CT/S
Splashed Distribution
- lee
Oiled Vegetation
- 1 →
Photo location, direction, and number



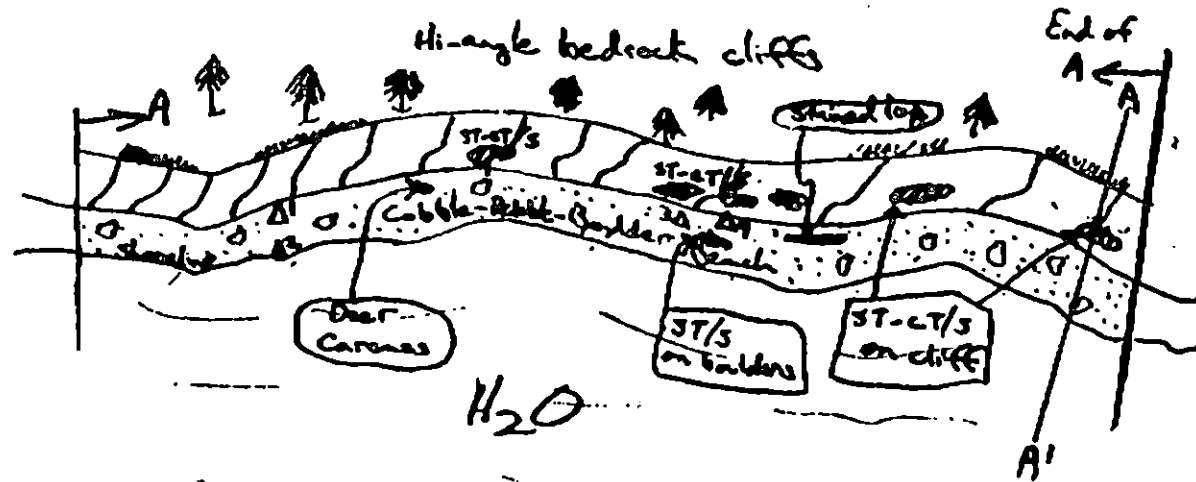
Oil Character Length (m): AP 0 PO 0 CV 0 CT 125 ST 125 MS 0 PT 0 TB 0 FL 0 NO 711

SKETCH MAP



→ N

Approximate Scale
300 meters



H₂O

Segment ST / CH-5 Subdivision A Date (mo / day / yr) 4/22/90Time (24 hr) 1545-1620 Biologist SHARMAN(A) Substrate type and % of segments: SUBDIV.
(1) Bedrock 10 (2) Boulder 20 (3) Cobble 30 (4) Pebble 30 (5) Sand 10 (6) SR granule(B) Overall % cover of biota (% of segment): Dense SUBDIV. Moderate Low X

(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 (ALICULA, LITTORINA, LIMAEUS)

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/General Comments: 2 adult eagles, bird track in supratidal, dead deer in supratidal fringe (no skull, few bones, hair, noiled, lower jaw indicates yearling, cause of death unknown but poor long bone marrow indicates starvation/malnutrition w/interbill). Intertidal zone appears to be naturally barren area, great for large boulders. There is, however, a good spot net, and recruitment locally (cont.)

Ecological Considerations:

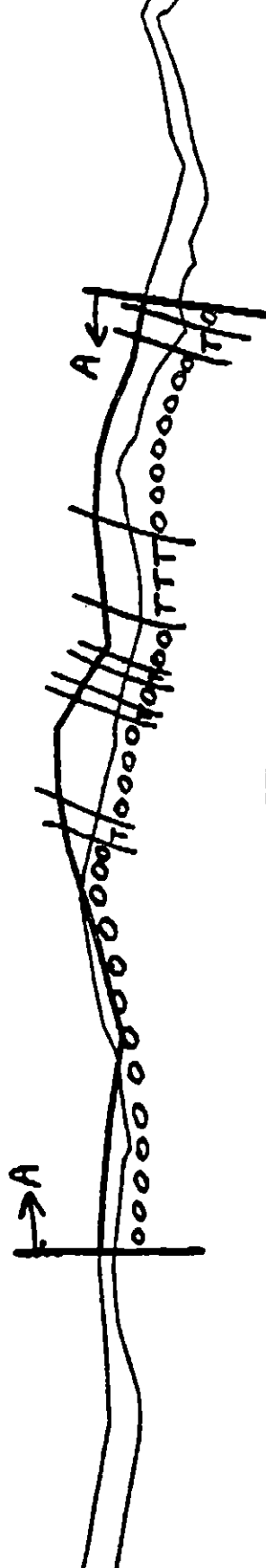
Resource sensitivities previously listed for this segment include Special Use Destination (code 6Y) and subsistence deer harvesting (code 7II). There are no particular ecological concerns for this segment.

5146

General Comments (cont.):

wherever adult Fucus + Mytilus occur. Same for limpets +
littorina. Beneath boulders are Ondidella, a few nemertean, limpets,
amphipods, rare littorina egg masses. Gastropoda, Enteromorpha,
and rare/discontinuous mussels in Fucus in the MTD. Areas of
giant boulders (N. end segment) are extremely diverse (especially L.T.D.)
- small Metridium, Evastoria, Katharina, diverse algae.

CH-1



CH-5

4/46

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

CH-5

ADEC Segment Length: 837m



Map Key: PWS-53
Name: Chapel
Date: 4/22/90
Data Entered:

SHORELINE EVALUATION

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

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

7II Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: *Charles E. H. H. H.* DATE: 5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 302 m: No Oil 211 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

X No Treatment Recommended
 Treatment Recommended
 Manual Pickup
 Bioremediation
 Tarmat Removal

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 5/3/90
ADEC ART WELSH
EXXON ANDY TGA
NOAA GARY PETERSON
USCG KENNETH KENNY

FOSC: *WJL* DATE: 5-9-90

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CH6 SUBDIVISION: A ^{ENTIRE} ~~SEGMENT~~ DATE 4/23/9

USCG
NAME JERRY SCHULTZ SIGNATURE Jerry Schultz

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC
NAME MIKE EBEL SIGNATURE Michael J Ebel

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

CH-6-A: Very little oil along this segment. The splashes of coat and stain were found along the cliff walls and occupying the undersides and sheltered boulder faces. Because of the small total "oil" (tar) present no further impact is recommended. Natural washing is eliminating the contamination.

LAND MANAGER
NAME PAT SELAN OFF (CK) SIGNATURE Pat Selan

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

There was signs of oiling here, stain-coat dist. I don't think just leaving it, is justified. I would think hot water wash would be best for this segment. AT LEAST TRY one segment to see what the results would be. Litter from north processes.

FORM NO. 827

15/46

OG: Randy Siegel USCG: Jerry Schultz SEGMENT ST/ CH-6
 BIO: Lewis I. Starnes LAND REP: Pat Selanoff (cwc) SUBDIVISION: A (1 OF 1)
 EXXON: Leonard Herbst ADEC: Mike Chel TIME: 16:20 10/16:50
 TEAM NO.: 12 TIDE LEVEL: +2.3 to +2.0 DATE: 4/22/90
 EST. SUBDIVISION LENGTH: 582 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 25 % B 50 % C 20 % P 5 % G 0 % S 0 % M 0 % V 0
 SLOPE: Long 0 % Hang 85 % Vert 15 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 310 m NO 272

SURFACE OIL

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

PAVEMENT ☒ F S ☒ sq. m by ☒

PATTIES / TARBALLS ☒ BA

NEAR SHORE SHEEN? ☒ NO BR RW SL T

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO

TYPE Pom-pom

#BAGS 1

Photographs: None

Roll No. None

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)	T	SURFAC SUBSURF. SEDIMENT
		OP	OR	OL	OP	NO		UO	UC	2	3	4	5	6	SU	U	M	U				
1	30					X	0.0	X							X					—	—	G
2	31					X	0.0	X								X				—	—	G
							.															
							.															
							.															
							.															

COMMENTS

Short stretch of shoreline with hi-angle/vertical rock cliffs,
 and boulder-cobble beach. Very light oiling across segment.
 Stain-coat in splashy distribution on sections of rock cliff
 and on rocks on beach.

REVIEWED W

DATE 4-25-90

9/4

ON Randy Siegel

SE NT ST/ CH-6

SUBDIVISION A

DATE 4 / 22 90

CHECKLIST

- ☐ M Area
- ☐ Approx. Scale
- ☐ Background
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWA/LWR
- ☐ SSI
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PI Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ

PI - No Subsurface Oil

2 Δ

PI - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Oil Vegetation

1 00

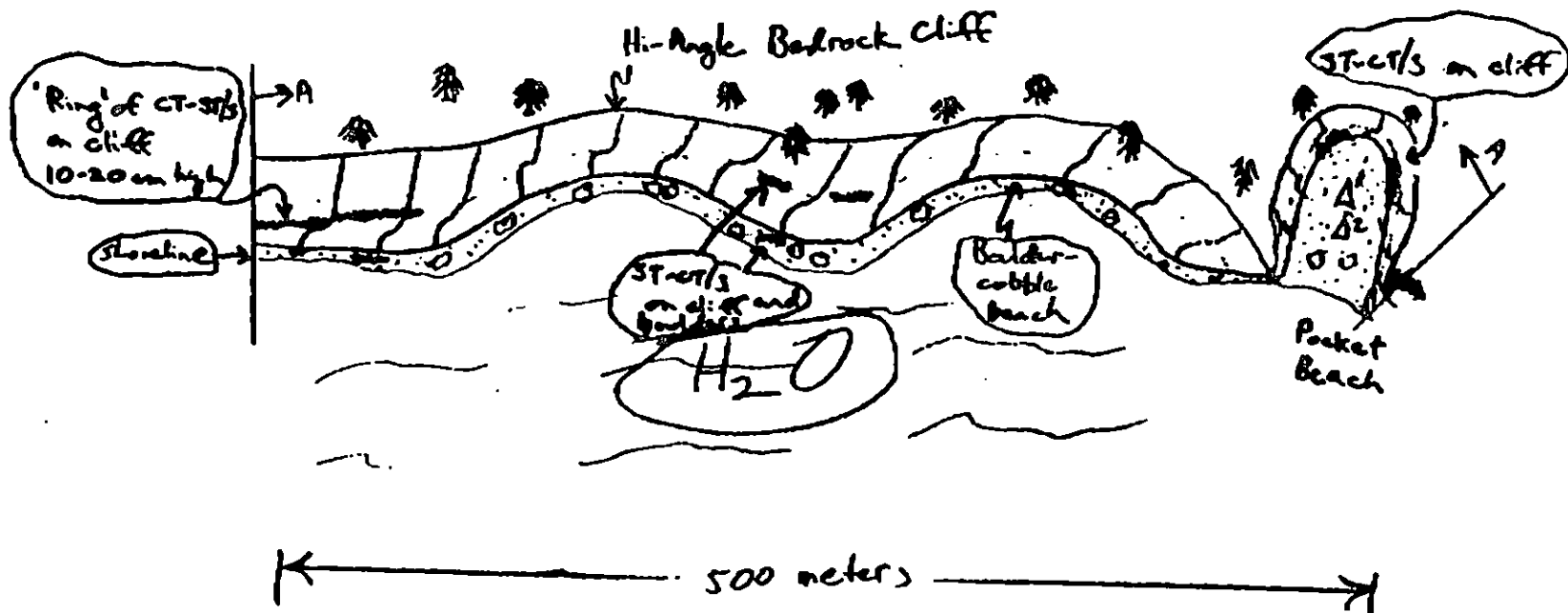
Photo location, direction, and number

10/465

SKETCH MAP

→ N

Approximate Scale
300 meters



Oil Character Length (m): AP 0 PO 0 CV 0 CT 310 ST 310 MS 0 PT 0 TB 0 FL 0 NO 272

Segment ST / CH-6 Subdivision A Date (mo / day / yr) 4/22/90Time (24 hr) 1620-1850 Biologist SHARMAN(A) Substrate type and % of segments: SUBDIV
(1) Bedrock 25 (2) Boulder 50 (3) Cobble 20 (4) Pebble 5 (5) Sand (6) Silt (B) Overall % cover of biota (% of segment): Dense Moderate X Low
SUBDIV.

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

Photographs: Roll No. Frames

BARNACLES

Dense			Moderate			Sparse			Rare			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 (ALCEGA, LITTORINA, LIMAE)

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: Rain other / pink sand in supratidal (crustaceans, fish bones). This segment somewhat similar to CH-5 but the intertidal is a bit trickier due to generally larger patches (bigger, more stable, boulders). Also there are a few bedrock platforms & pools that are quite diverse (especially LTR) - include things like Hydrobia, Ruditapes, and corallines along with Fucus, Monostroma, Enteromorpha, (cont.)

Ecological Considerations:

Resource sensitivities previously listed for this segment include recreational bird action (code 6 U) and subsistence fish harvesting (code 7 II). Tidal areas are apparently not good areas for bioremediation - a few occur within this segment.

12/UG

CH-6

Shoreline Ecological Summary (cont.)
(Page 2 of 2)

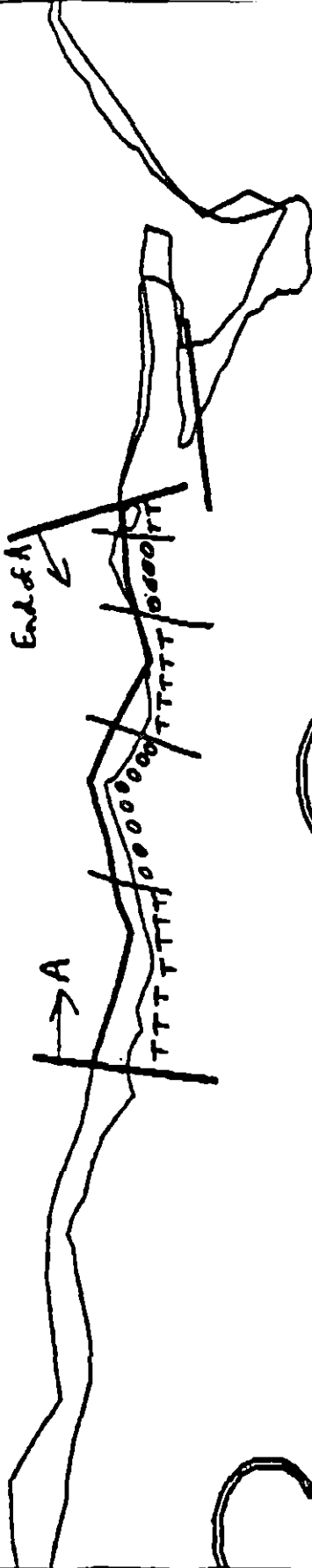
Shawen
4/22/90

General Comments (cont.) :

algae, Gyrodinium, lots of Xucella handlmani, mussels. Good spat set and good recruitment of Fucus, mussels, limpets. A generally productive and healthy intertidal community.

13/4/0

CH-7



CH-6

CH-5

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

CH-6

ADEC Segment Length: 513m



METERS

Map Key: PWS-54

Name: Edy Siegel

Date: 4/23/90

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ CH-07 SUBDIVISION A (1 OF 1) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
Potential adjacent segment eagle nests (CH-08)

6Y Recreation: Special use destination

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

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

7II Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE [Signature] DATE: 5/2/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 146 m: V.Light 175 m: No Oil 53 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 5/2/90
ADEC ART WEAVER
EXXON AMV TSE
NOAA GARY PETERSON
USCG KENNETH KEANE

FOSC: [Signature] DATE: 6-19-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

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

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

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

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

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

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

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

1E Main Bay Hatchery release (4/20 to 6/10)

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

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

1H Remote release site

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ADF&G Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Rothy 267-2206

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

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

Recreation:

Tent sites (6/1 to 9/15)

Anchorage (6/1 to 9/15)

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

Lodge (6/1 to 9/15)

Special use destination

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

Finfish harvesting

Deer harvesting (8/15 to 2/28)

Invertebrate harvesting

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 / CH 7 SUBDIVISION: A (ENTIRE SEGMENT) DATE 4/23/90

USCG
NAME JERRY SCHULTZ SIGNATURE Jerry Schultz

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC
NAME MIKE EBEL SIGNATURE Michael Ebel

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

CH-7-A: This small protected cove, was surrounded by bedrock cliffs having coasts and stems in a band ranging from 18' to 15'. At the head of the cove the grass (no subsurface oil) but had up in situ. Starting at the beach, small "traps" existed on (east side) or narrowed and a series of "pools" (west side) (c).

LAND MANAGER
NAME PAT SEANOFF

☐ NO TREATMENT RECON
COMMENTS

South Westerly winds possible

Pat Seanoff
TMENT SUGGESTED

bioremediation 17 4/23/90

23/46

NRK-24-1990 10:30 FROM: MURKIN TO: E. W. G. SON F. 23
(cont.) CH-7-A Mike Ebel ADEC 4/23/90

for a distance along about 10m in L grading into a 2-3m band of /B stain with /P coats for $\approx$ 40m in L. Splashes of stain and coat were found on and under rocks of the small sed beach face — virtually all splashes for the entire segment were found distinctively in the UTZ.

→ Because of the fragile biotic functions for this protected inlet and the small amount of actual oil here, I recommend no further impact. End

Michael J. Ebel ADE

24/46

SHORELINE OILING SUMMARY

REVISION NO. 06-13-1

OG Randy Siegel USCG Jerry Schultz SEGMENT ST/ CH-7
 BIO Lewis J. Shuman LAND REP Pat Schmitt (con) SUBDIVISION A (1 OF 1)
 EXXON Ward Harbat ADEC Mike Ebel TIME 16:40:18:00
 TEAM NO. 12 TIDE LEVEL +2.0 to 0.7 DATE 4/22/90
 EST. SUBDIVISION LENGTH: 396 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 20 % B 35 % C 25 % P 20 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 40 % Hang 60 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 266 m VL 80 m NO 50 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	G	B	P	S	1	2	3	4	5	SV	U	M	U
ASPHALT PAVEMENT													
POOLED				X	X					X			
COVER													
COAT		X	V	0	X					X			
STAIN		X	V	0	X					X			
MOUSSE													
PATTIES													
TARBALLS				X			X			X			
FILM													
NO OIL										X		X	X

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE Pon Pon/Plas#BAGS 1Photographs: NoneRoll No. NoneFrames —

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	SV	U	M	U				
1	20					X	0.0		X						X					—	—	G, R
2	22					X	0.0		X						X					—	—	C, P
3	25					X	0.0		X						X					—	—	P
4	25					X	0.0		X						X					—	—	P
5	37					X	0.0		X						X					—	—	P
6	40					X	0.0		X						X					—	—	P

COMMENTS

This segment consisted of a short (396 meters) length of shoreline surrounding a small protected bay. The east and west sides of the bay were had hi-angle bedrock cliffs - the north end had a low-angle slope of pebbles/cobbles. Variable oiling along the section. Stain - coat on cliffs, particularly eastern cliff. A few isolated tarballs were observed on the pebble beach to the north, which were broken up in the field. (16/46)

REVIEWED AW DATE 4-24-90

REVISION 04-13-88

SUBSURFACE OIL (CONTINUED)

[illegible]

COMMENTS

REVIEWED

DATE 4-24-90

SEGMENT CH-7



ETCH MAP

SUBDIVISION A

DATE 4/22/90

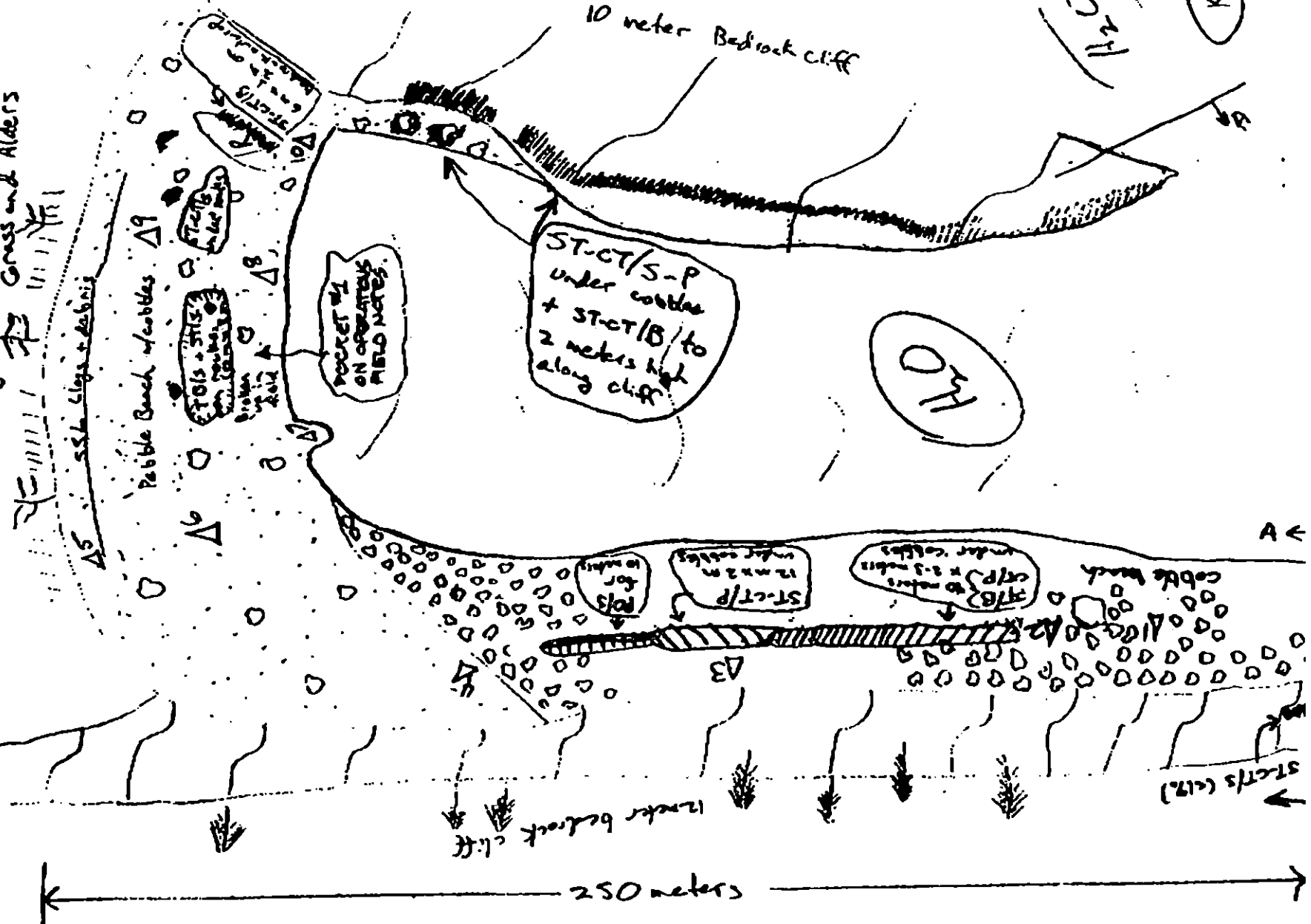
CHECKLIST

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

LEGEND

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

Low angle slope



Oil Character Length (m): AP 5 CV 40 ST 72 MS 10 PT 10 FL NO

REVISIONS

SHORELINE ECOLOGICAL SUMMARY (Page 1 of 2)

REVISION: 000000

Segment ST / CH-7 Subdivision A Date (mo / day / yr) 4/22/90Time (24 hr) 1700-1800 Biologist SHARMAN(A) Substrate type and % of segments: SHARON
(1) Bedrock 20 (2) Boulder 35 (3) Cobble 25 (4) Pebble 20 (5) Sand (6) Silt (B) Overall % cover of biota (% of segment): Dense Moderate X Low
SHARON

(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 (ALCEGA, LITTORINA, LIMAEAE)

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	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: Fox scavens foraging in intertidal, deer angels, deer tracks in UTE & angustidial, newly emerged black reynolds plants have been grazed by deer. Rocky points and ridges are probably important primaries habitats. Protected inlet at N. end is likely important shorebird / shorebird foraging / resting habitat as well as important foraging habitat for terrestrial mammals. Intertidal (cont.)

Ecological Considerations:

Resource sensitivities previously listed for this segment include recreational test sites (code 6U), anchorages (code 6V), Special Use Destination (code 6Y), and subsistence deer harvesting (code 7II). As in CH-6, caution should be used when considering bioherdiation near tidagool areas in this segment - potential eutrophication / toxicity problems. In addition, the protected nature / relatively poor flushing of N. inlet should be considered. Please note in above General Comments section the habitat value of rocky points / ridges and the protected N. inlet.

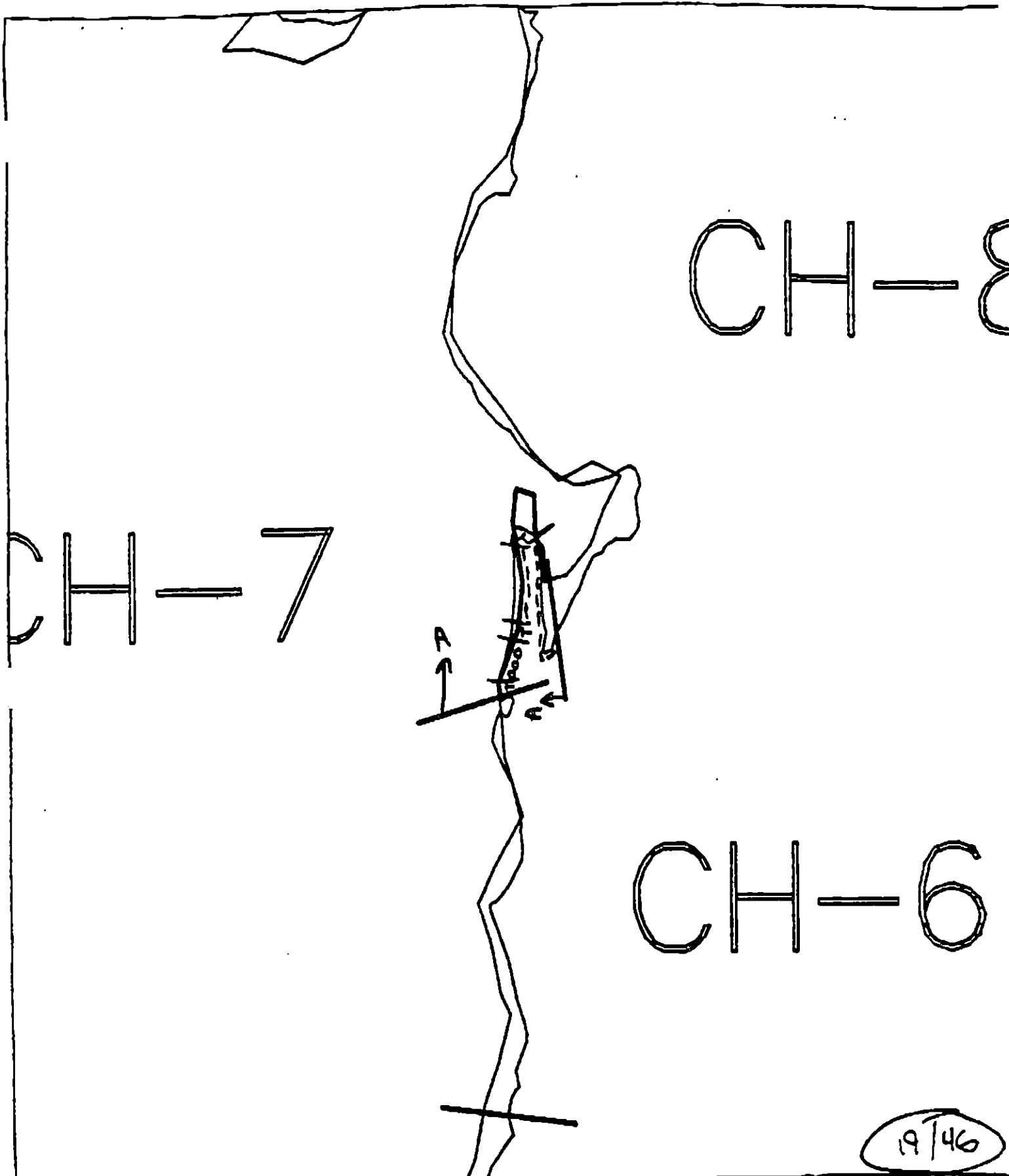
CH-7

Shoreline Ecological Summary (cont.)
(Page 2 of 2)

Shorman
4/22/90

General Comments (cont.) :

Communities in this segment are generally very healthy, except within the weathered oil band on high-angle bedrock / large boulder surfaces where barnacle mortality is $\approx 40\%$ (vs. 20% on adjacent uncoiled surfaces). Oiling appears to be most extensive on the E. side of the protected inlet - there is some significant mussel mortality beneath shingle boulder pebbles at the base of the bedrock wall here (but due to oiling, or due to hot water pressure washing that this beach received last summer?) - also greater than average mussel mortality among mussels on bedrock wall. S. of the protected inlet, as well as on the open-water side of the inlet (the exposed E. rocky shore of the peninsula that creates the inlet) are very diverse and productive bedrock platforms with tidal pools (MTZ & especially LTZ) - articulated coralline algae, tidepool sculpins, Pyrosoma, Katharina, etc. Enteromorpha is very common in the MTZ of this segment. As elsewhere there is good barnacle spat settlement, and mussel/gastropod/Fucus recruitment appears to be occurring where adults are present.



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

OOOO No Oil

CH-7

ADEC Segment Length: 374m



Map Key: PWS-55

Name: Ruby AngelDate: 4/22/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ CH-08 SUBDIVISION A (1 OF 1) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6U Recreation: Tent sites (6/1 to 9/15)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 863 m: No Oil 94 m
Subsurface Oil Observed: Yes X No Maximum Depth 43 cm

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation in area of subsurface oil shown
on sketch map. Work should be conducted after 6/1 with USFWS approval
based on eagle nest constraints.

TAG COMMENTS: MANUAL RAKE PITS 6 + 8 PRIOR TO BIO. MANUAL
PICKUP OF TARBAGS + PATTIES

TAG APPROVAL DATE: 5/3/90
ADEC ART WEINER Art Weiner
EXXON ANDY TEAL Andy Teal
NOAA Garry Pattee Garry Pattee
USCG KENNETH KATHE Kenneth Kathe

FOSC: W/L DATE: 5-9-90
a CVC rep will be present during cleanup

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CH8 SUBDIVISION: A (ENTIRE SEGMENT) DATE 4/23/90

USCG
NAME JERRY SCHULTZ SIGNATURE Jerry Schultz

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

BIOREMEDIATION IS RECOMMENDED FOR A SMALL AREA OF THIS SEGMENT. HOWEVER THE CLOSE PROXIMITY TO THE TIDAL POOL SHOULD BE NOTED. FURTHER RECOMMEND MANUAL PICKUP OF ANY REMAINING TAR BALLS

ADEC
NAME MIKE EBEL SIGNATURE _____

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

CH-8-A: 6 patches of cover were observed, very occasional; along ^{were} ~~the~~ coasts and stars widening out in areas and achieving up to 1/8 distribution. On these areas no treatment could equal the impact of the earth ~~in~~ ^(see sketch) using up resources to accomplish such an endeavor. The SW corner of beach had 2 1/2 bags of scattered tarballs and patties that could be manually removed. The SE end of segment (refer to sketch map) has an ~~oil~~ oil lens from 5-12 cm thick, from 10 to 33 cm below the surface (apparently forming a small pool).

LAND MANAGER

NAME PAT SELANOFF (CVC) SIGNATURE Pat Selanoff

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Manual pick-up & bio remediation. IF bio remediation is improbable, I would suggest a Hot water wash down method. It is possible to get a rig at low tide.

This area should be bioenhanced with granular fertilizer only. From the present literature provided, * my tentative conclusion is that Inipol is two steps removed from proof of claims, and that Customblend or garden variety fertilizer is still one step removed from proof. Therefore, I am for trying the fertilizing principle one step at a time — starting with granules. In this segment, maintain distance from intertidal pools during application. End

Michael J. Ebel ADEC

Segment ST / CH-8 Subdivision A Date (mo / day / yr) 4/22/90

Time (24 hr) 1300-2400 Biologist SHARMAN

(A) Substrate type and % of segment: SUBDIV.
 (1) Bedrock 20 (2) Boulder 15 (3) Cobble 25 (4) Pebble 20 (5) gravel 20 (6) Silt _____

(B) Overall % cover of biota (% of segment): Dense _____ Moderate X Low _____
SUBDIV.

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

Photographs: _____
 Roll No. _____

Frames _____

BARNACLES

Dense			Moderate			Sparse			Rare			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 (ALGELLA, LITTORINA, LYMAETA)

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: Dead seal + tracks in supratidal fringe, 1st other
Caracaras (see abetal map) - adult, bones + hide, no oil, cause of death unknown. 2
eagle nests (see abetal map), both apparently inactive, both not noted on previous
maps/tables. All along shore of S. 200m of abetal, intertidal (especially U/L) is extremely
rich and productive. In particular, the bivalve tidal pool system along the E. side of the N-facing
(cont.)

Ecological Considerations:

Resources previously identified for this segment include
recreational tent sites (code 6U), anchorage (code 6V), Special Use
Designation (code 6Y), and subsistence deer harvesting (code 7II). Note
2 presently inactive eagle nests on abetal map, not noted on previous maps/
tables - may become active in future. Exposed rocky point(s) are
probably principal haulout sites. As in CH6 + CH-7, tidal areas are
potentially sensitive to negative effects of bioaccumulation. In particular,
extensive area of bedrock platform pools along E. side of N-facing (cont.)

General Comments (cont.):

Covelet is among the richest and most diverse areas I have observed in all of the portion of PWS impacted by the spill.

Sampling of species includes Anthopleura xanthogramma, A. artemesia, Retridium, Katharina, Tunicella, Margarita, Oligactis, Strongylocentrotus droebachiensis, Anthopleura elegantissima, Podocarpus, Tittellamium, erect articulated coralline spp., Pagurus, Deroceras, Pisaster, Modiolus, a great diversity of algae, etc. etc. Very good HTS populations of mussels. Very good recruitment apparent among all major groups - barnacles, mussels, gastropods, Fucus.

Ecological Considerations (cont.):

Covelet is extremely diverse - as I mentioned above, among the richest & most diverse I have observed in all of the portion of PWS impacted by the spill. Caution is urged in the consideration of bioaccumulation of the non portion of adjacent pocket band (see sketch map).

OG Randy Siegel USCG Jerry Schultz SEGMENT ST/ CH-8
 BIO David Sherman LAND REP Pat Selhoff (cyc) SUBDIVISION A 1 OF 1
 EXXON Leonard Harbat ADEC Mike Gbel TIME 19:00 to 2000
 TEAM NO. 12 TIDE LEVEL +0.8 to +2.7 DATE 4/22/90
 EST. SUBDIVISION LENGTH: 11.54 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 20 % B 15 % C 25 % P 20 % G 20 % S 0 % M 0 % V 0
 SLOPE: Long 35 % Hang 65 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 1039 m NO 120

SURFACE OIL

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

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE Plastic det#BAGS 1

Photographs:

Roll No. NoneFrames —

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE SUBSURFACE SEDIMENT
		OP	OR	OL	OF	NO		US	UC	1	2	3	4	BU	U	M	U				
1	30					X	0-0	X						X					—	—	P
2	25					X	0-0	X						X					Y	18	P
3	17	X					10-17	X			X			X					—	—	P, R
4	15	X					10-15	X			X			X					—	—	P, R
5	17					X	0-0	X						X					—	—	P
6	50	X					33-43	X			X			X					—	—	P

COMMENTS

This segment consists predominantly of cobble-pobble beaches, sometimes under high angle cliffs, sometimes under low angle grassy slopes. A lot of staining-coating observed along cliff faces, in various distributions. Along largest beach, a buried layer was observed in a number of pits. Areal extent not well delineated but appears to be largely confined to southeast corner. A few tarballs and patties were present in southwest corner of beach.

REVIEWED TW DATE 4-24-90

(25/46)

SEGMENT ST/ CH-8 SUBDIVISION A (2 OF 3)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR						PIT ZONE				A	N	A	SHEEN (Y/N)	!	SURFACE SUBSURFACE SEDIMENT
		OP	OR	OL	OF	NO		SO	SC	1	2	3	4	5	6	SU	SL	SB	LU						
7	35					X	0-0		X							X							-	-	P
* 8	47		X				28-40		X				X			X							-	-	P
9	22					X	0-0		X									X					-	-	P
10	50				X		18-38		X				X			X							-	-	P
11	54					X	0-0		X								X						-	-	P
12	45					X	0-0		X								X						-	-	P
13	31					X	0-0		X							X									P
14	30					X	0-0		X									X							P
15	45					X	0-0		X								X								P
16	37					X	0-0		X								X								P
17	45					X	0-0		X				7/31						X				Y	40	P
18	23					X	0-0		X								X						-	-	P, G
19	30					X	0-0		X								X						-	-	P, G
20	20					X	0-0		X								X						-	-	G

COMMENTS

* OF in Pit 8 from 15-28 cm, above OR layer.

26/46

REVIEWED

JW

DATE 4-24-96

SEGMENT ST/ CH-8 SUBDIVISION A (3 OF 3)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SCREEN (mm)	!	SURFACE SUBSURFACE SEDIMENT
		OP	OR	OL	OF	NO		UO	UC	10/100	10/1000	10/10000	10/100000	10/1000000	10/10000000	BU	U	M	L				
21	25					X	0-0		X								X				-	-	P
22	23					X	0-0		X								X				-	-	P.G
23	30					X	0-0		X								X				-	-	P.G
							.																
							.																
							.																
							.																
							.																
							.																
							.																
							.																
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							.																
							.																
							.																
							.																

COMMENTS

~~Relined~~

27/46

REVIEWED

JW

DATE 4-24-90

OC: Randy Siegel
 SEG 1ST/CH-8
 SUBDIVISION A
 DATE 4/22/80

CHECKLIST

☐ N Arrow
☐ Approx. Scale
☐ Sept/Sub Study
☐ OB Dist.
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. HWA/LWA
☐ SSI
☐ Profile Location(s)
☐ Profile(s)
☐ Pit Location(s)
☐ Photo Location(s)

LEGEND

1 Δ
 Pit - No Subsurface OB

2 Δ
 Pit - Subsurface OB

CT/C
 Continuous Distribution

CT/B
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

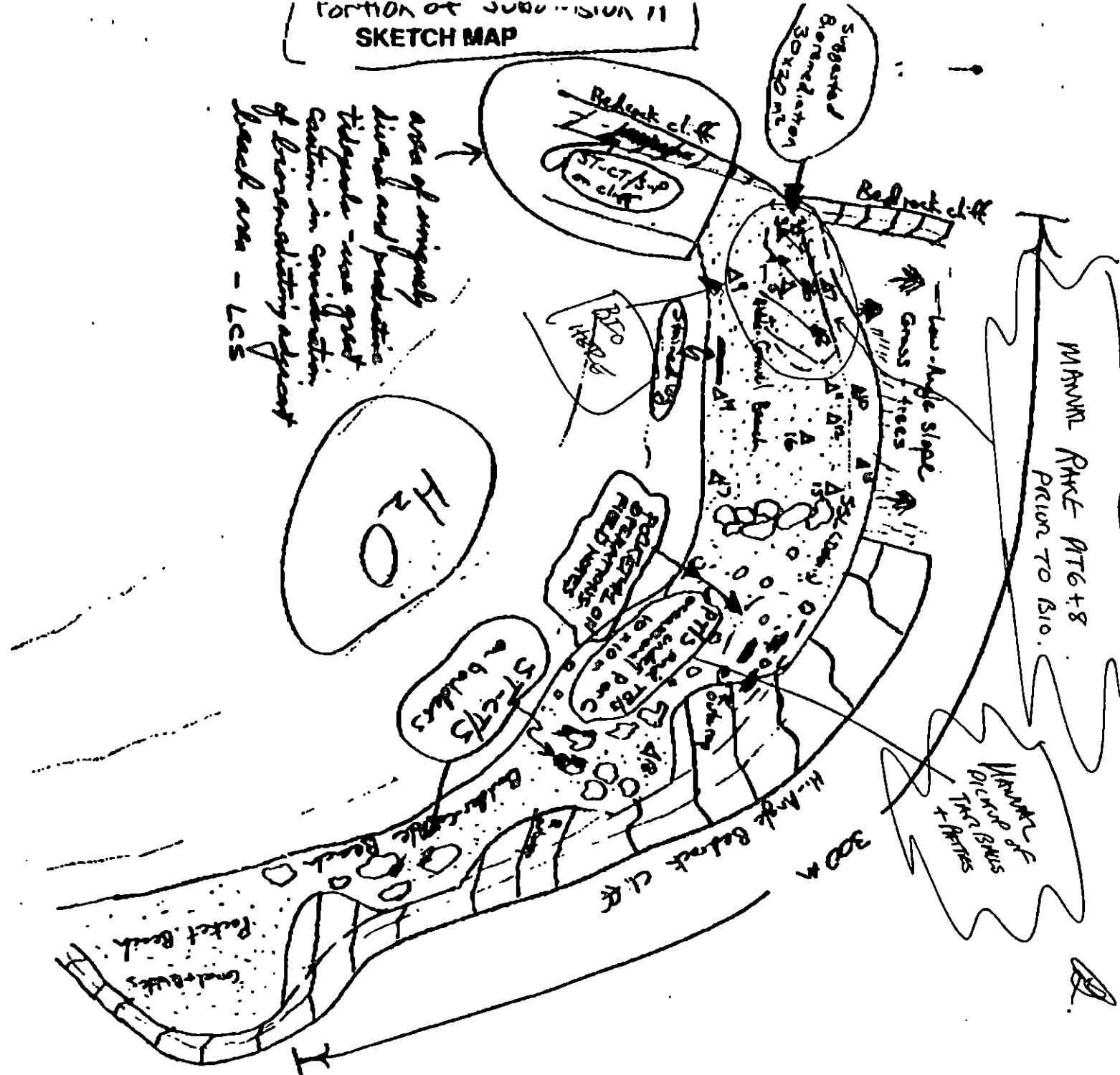
lll
 Old Vegetation

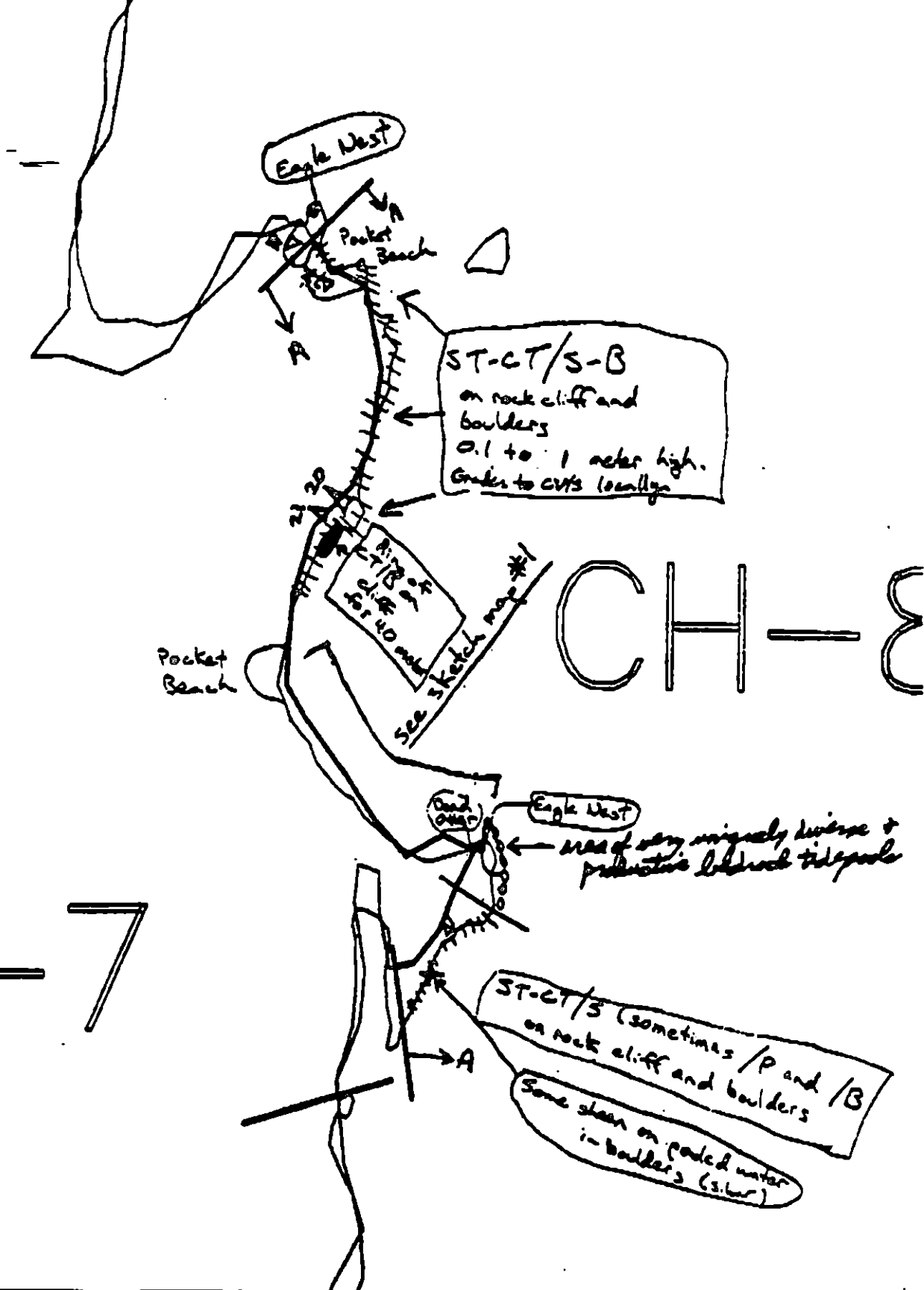
1
 Photo location, direction,
 and number

29/46

OB Character Length (m): AP 0 PO 0 CV 150 CT 1034 ST 1034 MS 0 PT 10 TB 10 FL 0 NO 120

SKETCH MAP





XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

CH-8

ADEC Segment Length: 957m



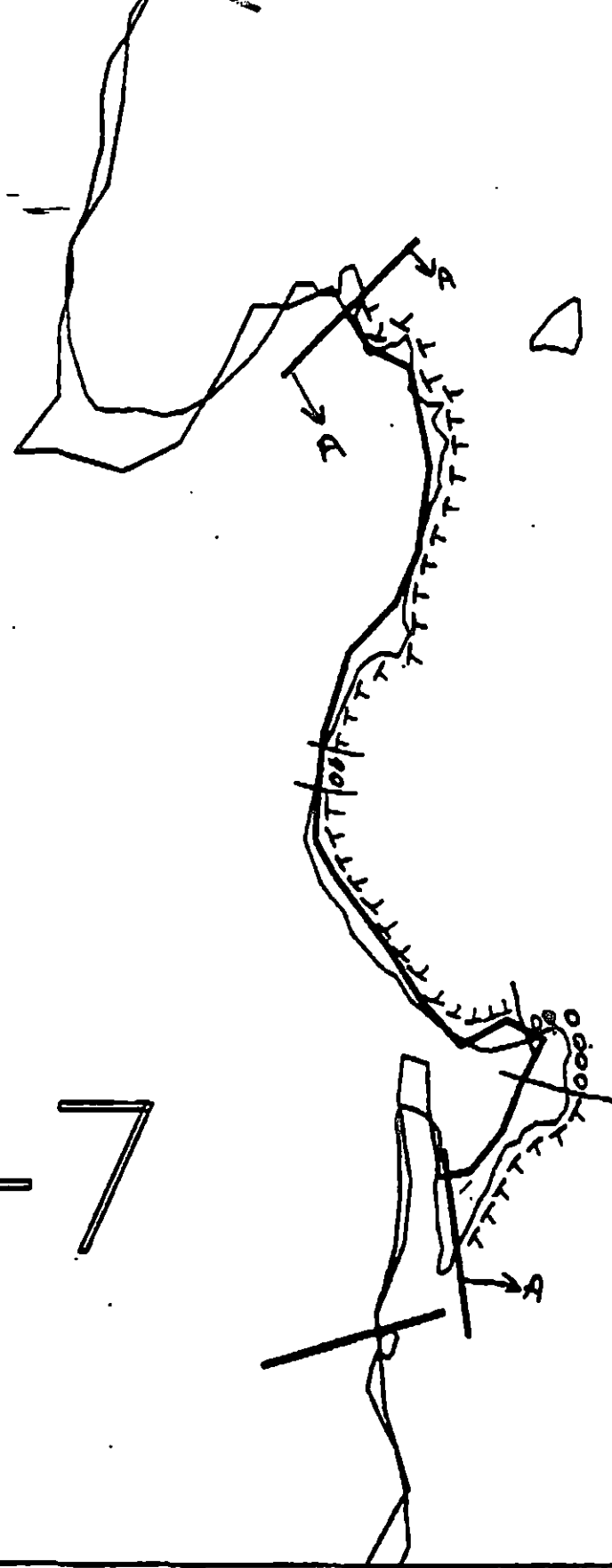
Map Key: PWS-56

Name: Ruby Siegel

Date: 4/23/90

Date Entered:

(28/46)



CH-8

CH-7

30/46

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

CH-8

ADEC Segment Length: 957m



Map Key: PWS-56

Name: Barry King

Date: 4/22/90

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CH-8 SUBDIVISION A (1 of 1)

WORK WINDOW

Bioremediation
Manual Raking

WORK PRIOR TO 7/20

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1K	Purse Seine Hook-off	Closed to bioremediation and manual raking after 7/20.
5T	Bald Eagle Nest	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.
7II	Subsistence: Deer Harvesting	Closed to bioremediation and manual raking after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic to essential minimum after 7/20. Restrict boat and air traffic and beach disturbance to essential minimum after 8/15. Avoid any unnecessary disturbance or damage to unloiled biota and substrate.

FOSC

DATE 6-10-90

Prepared By: W. Kelly

Date 6/9/90

SHORELINE EVALUATION

SEGMENT ST/ CH-009 SUBDIVISION A (1 OF 2) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND ~~TIME~~ CONSTRAINTS:

Salmon stream mouth (no.16180) Salmon fall outmigration (1A) - 3/1 to 5/15 and spawning (1B) - 7/10 to 8/31; Harbor seal and sea lion pupping (3N, 3P) - 5/15 to 7/1 and molting (3O, 3Q) - 8/15 to 9/15; Bald eagle nest (5T) - 3/1 to 6/1; Deer harvest (7II) - 8/15 to 2/28. Contact ADF&G Habitat Division prior to treatment re: salmon stream, seals, sea lions. Contact USFWS re: eagle nests. Complete treatment prior to 5/15 or between 7/1 and 8/15 unless authorized by ADF&G.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict boat and air traffic to minimum essential. Air approach and takeoff from and to seaward only. Avoid unnecessary disturbance of uncoiled substrate and biota. Do not disturb stream bed and banks unless authorized by ADF&G.

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 58 m: T. Light 158 m: No Oil 100 m
Subsurface Oil Observed: Yes X No Maximum Depth 6 cm

RECOMMENDATIONS:

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

COMMENTS: Manual pickup of pooled oil (near patties) and tarmat re-
moval as shown on sketch map. Work 7/11 to 8/15 based on con-
straints.

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/15/90
 ADEC JOHN BAUER John Bauer
 EXXON ANDY TAY Andy Tay FOSC: M L DATE: 5-4-90
 NOAA By: Warratt Buckner
 USCG G.A. FETAL C=VC Rep to be present -

FIELD SHORELINE COMMENT SHEET

4

SEGMENT ST / CH-009 SUBDIVISION: A DATE 4/4/90

USCG NAME Kerwin L. Dncher SIGNATURE CWO2 K. L. Dncher

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Needs small amount of manual pick up of small amount of asphalt and spotty pooled oil.

ADEC NAME Patrick J. Endres SIGNATURE Patrick J. Endres

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Minimal oiling present. small amounts of asphaltting should be removed by trowel or shovel.

LAND MANAGER NAME CHENEGA SIGNATURE _____

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Previous LAND MANAGER's Rep being replaced

fw

SHORELINE OILING SUMMARY

REVISION NO. 03/22/88

2

OG D. LITTLE USCG K. DREHER SEGMENT ST/ CH-009
 BIO K. COATES LAND REP — SUBDIVISION A (1 of 2)
 EXXON G. STILES ADEC P. ENDRES TIME 15:30 to 16:25
 M NO.: 14 TIDE LEVEL: 4.0 FT to 6 FT DATE 1 / 1 / 90
 SUBDIVISION LENGTH: 382 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☒ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 45 % B 15 % C 10 % P 20 % G 10 % S — % M — % V — %
 SLOPE: Long 55 % Hang 40 % Vert 5 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 60 m VL 263 m NO 65 m

SURFACE OIL

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

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

PATTIES / TARBALLS 1 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE —

#BAGS —

Photographs:

Roll No. ST-14-1

Frames 21

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UC	UC	1	2	3	4	5	SU	U	M	U		
1	45					X	.											X		p/g
2	40					X	.											X		p/g
3	40					X	.										X			p/g/p
4	45					X	.										X			p/g
5	40					X	.									X				p/g
6	40				X		5-6	X				X			X					p/g

COMMENTS

This subdivision was a small pocket beach — northeast facing and exposed to moderate. A small mid-tide berm developed on pebbles was recent. No debris could be seen and only one small patch of surface oil which was soft. Rocks to Northwest were banded and one small patch of brown/black, pooling was detected among boulder/cobble slat at 11:15-1

SHORELINE ECOLOGICAL SUMMARY *page 1 of 2*

REVISION: 001210

Segment ST / CH009 - Subdivision - A Date (mo / day / yr) 9. 01. 90 5me (24 hr) 1530-1615 Biologist KACoates(A) Substrate type and % of segments:
(1) Bedrock 45 (2) Boulder 25 (3) Cobble 10 (4) Pebble 30 (5) Sand (6) SM (B) Overall % cover of biota (% of segment): Dense 30 Moderate 30 Low 40

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

Photographs: St-14-1
Roll No. Frames 21

BARNACLES

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

*not seen**L*
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 seen**L*
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 seen**L*
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 seen**L*
NOT PRESENT

Wildlife Observations/ General Comments:

sensitivities: eagle nest, seals, sea lions, anadromous stream - not in Ecological Considerations: *this subdivision.*

High energy bedrock areas diverse into highest midtidal. Dense settlement mussels and barnacles. Pebble-cobble beach relatively depauperate, and not as sensitive

Ecol. Summary Page 2 of 2

ment: ST-CH009 Subdivision: A Date: 4.01.90

Time: 1530-1615 Biologist: KALoakes

Notes:

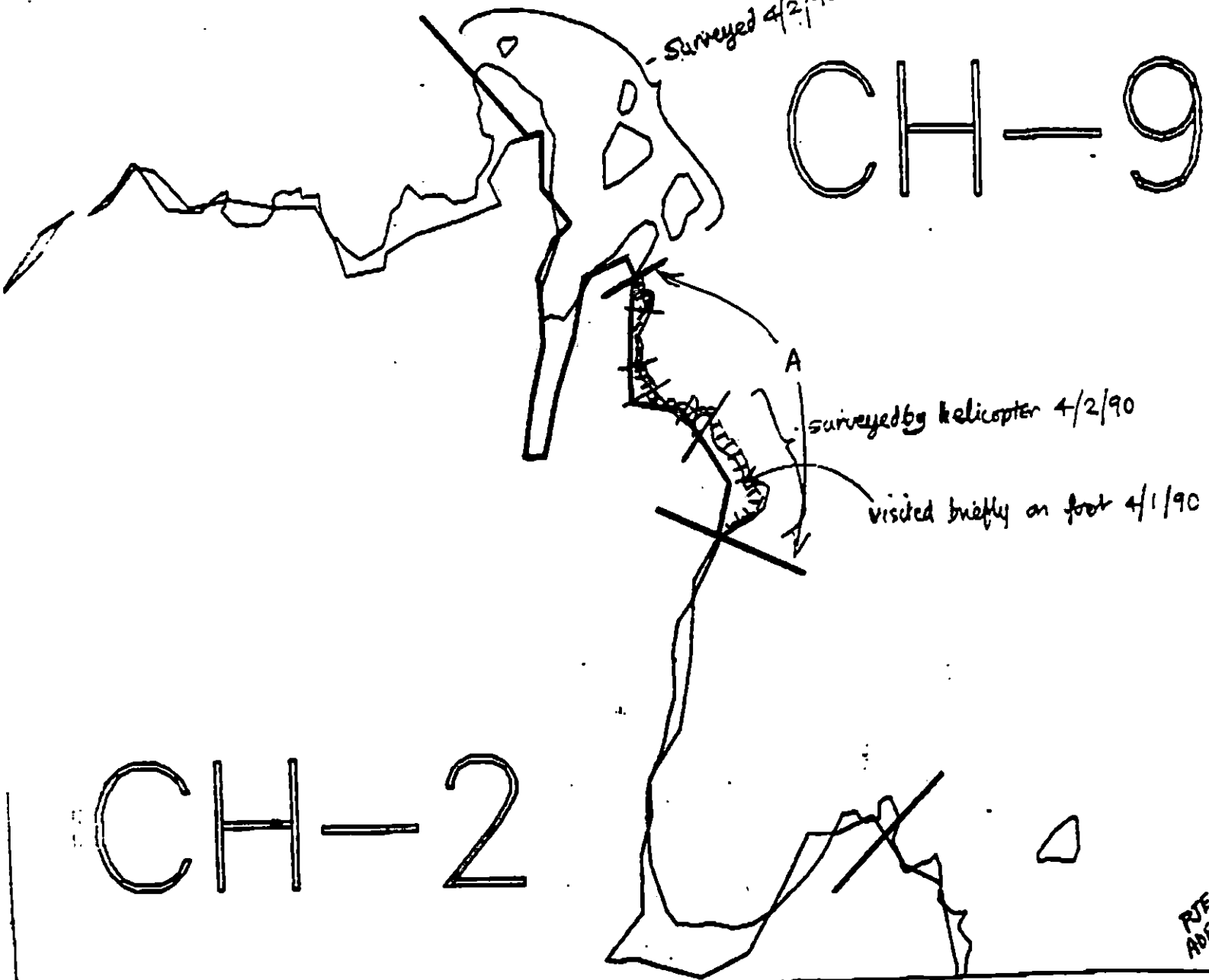
1. Exposed bedrock areas with large specimens Balanus crenatus, Lithothamnion cover in crevices and cracks into upper mid-intertidal. B. (?Serribalanus) glandulosus new settlement dense into splash/spray zone
2. Filamentous greens & browns & spaghetti brown in mid to upper intertidal. Codium and ?Endocladia abundant in upper int. surge crevices.
3. New settlement of Littorina sitkana area limpets abundant in upper intertidal on bedrock
4. Oil residues on upper intertidal barracles but not on rock surfaces
5. Other animals noted at mid-tide - under water: Katharina tunicata, anemones (? Tessie / Epractis) - also in pools.



CH-10

- Surveyed 4/2/90 - CH009-B

CH-9



CH-2

RTE
A06

X:XXX Wide
| / / / Medium

CH-9-A

Map Key: PWS-57
D LITTLE

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CH-9 SUBDIVISION A (1 of 2)

WORK WINDOW	
Manual Pickup Tarmat Removal	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B	Salmon Stream	No constraint to manual pickup and tarmat removal. ADF&G catalogued stream 226-20-16180 is in adjacent Segment CH-2, and 226-20-16182 is located in adjacent Subdivision B; both are more than 100m from recommended treatment area.
1K	Purse Seine Hook-off	No constraint to manual pickup and tarmat removal.
3N,O,P,Q	Harbor Seal & Sea Lion Pupping and Molting	NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.
5T	Bald Eagle Nests	Closed to manual pickup and tarmat removal. USFWS bald eagle impact assessment completed on 5/12/90 by Mike Lockhart indicates an active nest within 400m of the work area.
7II	Subsistence: Deer Harvesting	No constraint to manual pickup and tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG APPROVAL DATE 6/04/90
ADEC Ray Morris R. Morris
EXXON ANDY TEAL Andy Teal FOSC [Signature] Date 6/4/90
NOAA Joseph Talbot J. Talbot
USCG G.A. Deiter G.A. Deiter

Prepared by [Signature] Date 6/3/90

A hand-drawn map of a coastal area. A large circle is drawn over the map, with the label 'CH-12' written above it. Inside the circle, the words 'Active Nest' are written. A triangle marker is placed on the right side of the circle, with the number '16' next to it. To the left of the circle, the number '13' is written. To the right of the circle, the number '14' is written. The map shows a coastline with several inlets and points. There are some diagonal lines drawn across the map, possibly indicating boundaries or specific features.

CH-10

CH-9

ANADROMOUS
STREAM —
226-20-16182

CH-2
Anadromous
Stream
226-20-16130

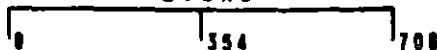
CH-8

CH-7



77

ECOLOGY MAP
SEGMENT CH-9
SUBDIVISION A (1 of 2)
METERS



- ★ Seabird Colony
▲ Eagle Nest

1 inch = 1162 feet

SHORELINE EVALUATION

SEGMENT ST/ CH-009 SUBDIVISION B (2 OF 2) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Salmon stream mouth (no.16180) Salmon fry outmigration (1A) - 3/1 to 5/15 and spawning (1B) - 7/10 to 8/31; Harbor seal and sea lion pupping (3N, 3P) - 5/15 to 7/1 and molting (3O, 3Q) - 8/15 to 9/15; Bald eagle nest (5T) - 3/1 to 6/1; Deer harvest (7II) - 8/15 to 2/28. Contact ADF&G Habitat Division prior to treatment re: salmon stream, seals, sea lions. Contact USFWS re: eagle nests. Complete treatment prior to 5/15 or between 7/1 and 8/15 unless authorized by ADF&G.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict boat and air traffic to minimum essential. Air approach and takeoff from and to seaward only. Avoid unnecessary disturbance of unoiled substrate and biota. Do not disturb stream bed and banks unless authorized by ADF&G.

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

OILING CATEGORIZATION:

Wide 154 m: Medium 59 m: Narrow 0 m: V.Light 190 m: No Oil 147 m
Subsurface Oil Observed: Yes X No Maximum Depth 35+ cm

RECOMMENDATIONS:

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

COMMENTS: Manual pickup of pooled mousse and pom-pom. Breakup and removal of tarmats and bioremediations of areas shown on map. Work 7/1 to 8/15.

RACE/SPOT WASH/POM-POM AREAS OF SUBSURFACE OIL
AS INDICATED ON MAP/SKETCH

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/13/90

ADEC JOHN BAUER [Signature]

EXXON ANDY TEAL [Signature]

NOAA Rud Weiscott [Signature]

USCG G.A. BEITER [Signature]

FOSC: [Signature] DATE: 5-18-90

NOTIFY CVC 24 HRS PRIOR TO WORK.

FIELD SHORELINE COMMENT SHEET

8

SEGMENT ST / CH009- SUBDIVISION: B DATE 4-2-90 8

USCG

NAME Kerwin L. DraherSIGNATURE CWO2 K. L. Draher☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Much of the asphalted areas can be manually removed with shovels or scoops. Pooled oil is much the consistency of mousse and can be adequately removed w/ trowel. The two areas behind the breakwater rock formations should be considered for mechanical removal. As the air temperature warms up and direct sun light access these two areas I think the oil will remobilize and move out to sea as a sheen or film. At present the ecosystem seems very viable and active but, what will happen in July, August when temps. warm.

ADEC

NAME

PATRICK J. ENDRES

SIGNATURE

Patrick J. Endres☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

I feel the team did a very comprehensive survey of this segment subdivision. Oiling varied in degree from stain to asphalt pavement on surface and heavy subsurface saturation. I recommend both manual + mechanical treatment. Areas located by pits # 1, 4, 5 on sketch map by Dave Little are problem areas. Type of cleanup is questionable. The team has asked for further review on this specific portion.

LAND MANAGER

CHENEGA

NAME

SIGNATURE

☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

PREVIOUS LAND MANAGER'S REP.
BEING REPLACED

fw

SHORELINE OILING SUMMARY

REVISION NO. 02/25/90

DG D. LITTLE USCG K. DREXER SEGMENT ST/ CH-009
 BIO K. COATES LAND REP — SUBDIVISION B (2 OF 2)
 EXXON G. STILG ADEC P. ENDRES TIME 09:45 to 13:15
 TEAM NO.: 19 TIDE LEVEL: 7.6 to 1.0' DATE 4/2/90
 EST. SUBDIVISION LENGTH: 950 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☒ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 30 % B 20 % C 20 % P 20 % G 5 % S 2 % M 1 % V 2 %
 SLOPE: Long 70 % Hang 25 % Vert 5 % WAVE EXPOSURE: ☒ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 120 m M 135 m N — m VL 285 m NO 160 m

SURFACE OIL

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

PAVEMENT: H/ F (S) 57.5 sq. m by 5 cm

PATTIES / TARBALLS 1 BAGS

NEAR SHORE SHEEN? NO BR (RW) SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash	X		
Debris			

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE POM-PM

#BAGS 1

Photographs:

Roll No. ST-14-1 + ST-14-2

Frames 23-36 1-3

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR								PIT ZONE	A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	W	Y	OR	GR	BL	TR	BR	BU	U		
1	35	X					5-35	X		X							X			c p g / water table 30
2	35					X	.										X			p
3	40					X	.										X			p g m
4	35	X					0-35	X		X								X		p g
5	35		X				0-35	X		X							X			p g
6	35	X					0-35	X		X							X			p g c

COMMENTS

The complex topography and diversity of habitat in this subdivision make the occurrence of oiling types and quantities extremely patchy. The most extensive area of Asphalt pavement is on the western side of the inlet, starting in the marsh grass and extending north to the region of the T/L camera. Perhaps the most unstable, large reservoir of free oil is behind (and ? beneath) the gravel berm in the first and second small pocket beach/gulleys in the east of the subdivision.

PTE ADEL

SHORELINE OILING SUMMARY (PAGE 2 of 2)

REVISION 03/23/90

SEGMENT ST/ CH-009 SUBDIVISION B

3

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	BR	OR	GR	ST	BL	SL	LT	LU	SU	U	ES	U		
7	25					X	-											X					p
8	20					X	-														X		c b m
9	25					X	-													X			c p m
10	25					X	-														X		p c
11	20					X	-													X			p c
12	20					X	-												X				c p
13	35					X	-											X					m p c
14	25					X	-												X				p
15	30				X		5 - 10		X		X							X					p
16	20		X				5 - 8		X	X										X			c b s
17	25					X	-													X			c s m
18	30					X	-												X				p c
19	35					X	-														X		p c shell granule
20	10	X					5 - 8	X	X											X			c p g

21 30 X
COMMENTS

5 - 20 X X X

p g

DJE
ADEC

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/23/90

Segment ST / CH009 Subdivision B Date (mo / day / yr) 4.02.90 6Time (24 hr) 1010-1340 Biologist K A Coates(A) Substrate type and % of segments:
(1) Bedrock 30 (2) Boulder 20 (3) Cobble 20 (4) Pebble 25 (5) Sand 2 (6) Silt 1(B) Overall % cover of biota (% of segment): Dense 30 Moderate 30 Low 40

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

Photographs:

Roll No. St-14-1Frames 23-36+ St-14-21-3

BARNACLES

NOT PRESENT

on 4
2
1

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

NOT PRESENT
in sand + silt
around pebbles

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

NOT PRESENT
in sand:
silt

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

NOT PRESENT

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
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 just offshore; pigeon guillemots, oyster catchers on rocks (5); golden eye pair; harlequin duck pair; eagle nest off west end of subdivision; loons offshore; eelgrass in bay marsh
 Known sensitivities: nesting eagles, anadromous stream; seal & sea lion
 Ecological Considerations: pupping; molting; deer harvesting - tracks at stream head marsh observed 2 April

Dense mussel and clam beds in northwest inside barrier

7

Segment: STCH009 Subdivision: B Date: 4.02.90
 Time: 1010-1340 Biologist: KACoates

Notes:

1. Littorines abundant on boulders on east side of stream, feeding in Endocladia
2. Bivalve shells abundant near bay head, at stream fan, Protothaca, Saxidomus, one Modiolus. Mussel and clam beds to west of mouth of bay — shells of Mya arenaria, Protothaca staminea and Saxidomus giganteus — live P. staminea dug up. * there are rich mussel beds.
3. Limpets moderate under cobble on both east and west sides of stream. Eel grass in basin (? scoured by stream) in mouth of bay.
4. Small barrier islands off northwest part of segment with dense growth on bedrock of Balanus, Fucus, Mytilus and Littorines — up to intertidal. Red, green and brown algae high up into mid-intertidal: Lithothamnium, ? Aeriosiphonia, Ulva, Halosaccion, Laminaria, Corallina. Verrucaria, Coloploca and white circular lichen abundant in spray zone. Pycnopodia, Leptasterias hexactis (numerous), larger gastropods (Nucella +), Tonicella lineata all found in this area.
5. Other abundant animals of sheltered clam-mussel beds (as 2 above): pagurids, Hemigrapsus, limpets — N. scutum & N. persona. — most 0.5-1cm. Littorines. Few cases of main snails also.

ENT STACH-004

VISION 0

4/2/90

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-M/L/L/VL

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id sketch

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surface Oil

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surface Oil

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RACE/SPOT WASH
PRIOR TO BIO

BIO

10x5m
CT/B

SKETCH

Black Oyster
catcher

BIO

BIO

not
surveyed

N

20m

Remove
Pavement

oiled pump pan

oil CT in
B/c talus
occasional oil to
25 cm.Pickup
Pooled OILT/L
CAMPA

15x1m

N/P

SECTION

AP/B

2-10cm thick
17x2m

AP/B

1x0.5m
2cm
thick

SNOW

possibly
covering
more
oiled
veg.

Marsh

SNOW

Bedrock

stream

Dry stream
course
plg/mLow Tide
Lagoon +
seagrasswater from
subsurface

LWL

CT/B

BIO

BIO

Pickup
Pooled OIL1.5m broad
CT/B 10m long

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CT/B 10m long

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CT/B 10m long

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REF-05-1850 10:28 FROM CORCORAN

TO

SENT TIME: 8:20

500.0

CH009-B

1 - RI F21 1AM

RI F-23 1040 hr 2 APRIL '90

- RI F-24
- " F-25
- " F-26
- " F-27
- " F-28
- " F-29

photo locations

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

5

AMC Sept/Oct 1990 Survey

CH-10

end of subdivision
CH-009-B

CH-10

not surveyed

start of subdivision CH-009-B

SNOW

CH-2

XXXX Wide

//// Medium

CH-9-B

Map Key: PWS-57

NOTE
RD

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CH-9 SUBDIVISION B (2 of 2)

WORK WINDOW	
Manual Pickup Tarmat Removal	CLOSED
Bioremediation Spot Washing Other Approved Treatment Manual Raking	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

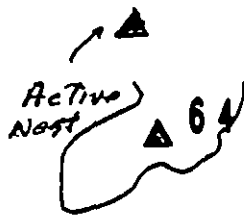
1K	Purse Seine Hook-off	Closed to bioremediation, spot washing, other approved treatment, and manual raking after 7/20. No constraint to manual pickup and tarmat removal.
1A,1B	Salmon Stream	ADF&G catalogued anadromous stream (226-10-16180) is in this subdivision. No constraint to manual pickup and tarmat removal. This subdivision is closed to bioremediation, spot washing, other approved treatment, and manual raking less than 100m from stream 7/1 to 8/31. Before 7/1, bioremediation, spot washing, other approved treatment and manual raking is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation, spot washing, other approved treatment, and manual raking more than 100m from stream.
5T	Bald Eagle Nest	Closed to manual pickup, tarmat removal, bioremediation, spot washing, other approved treatment, and manual raking. USFWS bald eagle impact assessment completed on 5/12/90 by Mike Lockhart indicates an active nest within 400m of the work area.
3N,P 3O,Q	Harbor Seal and Sea Lion Pupping and Molting	NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.
7II	Subsistence: Deer Harvesting	Closed to bioremediation, spot washing, other approved treatment, and manual raking after 8/15. No constraint to manual pickup and tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

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

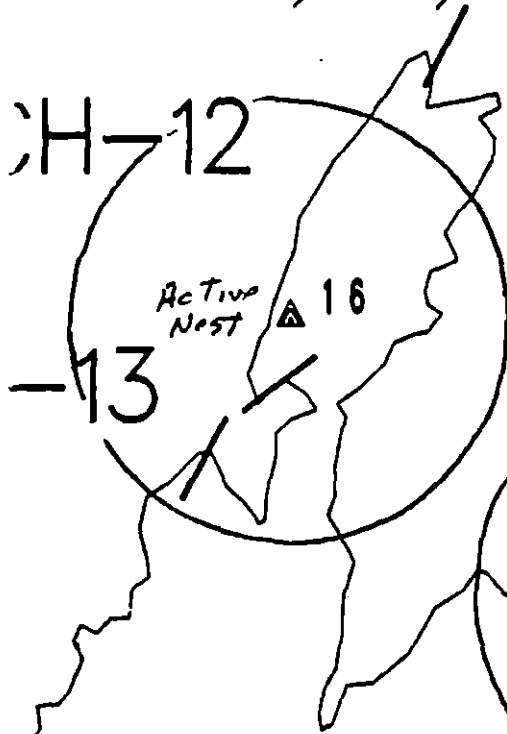
SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16180)
FOR ADDITIONAL CONSTRAINT INFORMATION

FOSC WJL Date 6-10-90

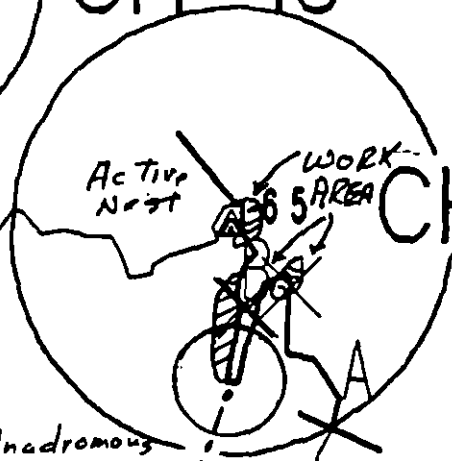


CH-11

incorporates information from
USFWS Bald Eagle survey 5/12/90



CH-10



CH-9

Anadromous
stream
226-20-16180

CH-2

CH-8

CH-7

5/28 JD



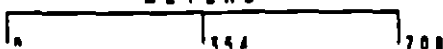
Exxon Company, USA
Map Key: PWS-049

ECOLOGY MAP 5/28

SEGMENT CH-9

SUBDIVISION B (2 of 2)

METERS



- ★ Seabird Colony
- △ Eagle Nest

1 inch = 1162 feet

ASAP TAG REVIEW SHEET

Segment: Ch 9

Subd: B Site: 1

Date
PRE-Review 11 Aug

Priority For Addressing In 1990

☒ HIGH ☐ MEDIUM ☐ LOW ☐ NTR

Treatment

Recommended:

manual pick-up + BIO

~~ARMATS~~ (Tarmats - pick-up)

WAS BIO This year

SOR - BIO

Priority Site For Reassessment In 1991

YES ☒ NO ☐
CG
DATA

YES ☒ NO ☐
ADPS

YES ☒ NO ☐
EXXON

YES ☒ NO ☐
LAND MGR

TAG 13 AUG

Manual Removal Tarmats -
Lake & BIO

* ANAD STREAM CONSTRAINT

ASAP TAG REVIEW SHEET

Segment: CH9

Subd: B

Site: 2

Date

PRE-Review 11 AUG

Priority For Addressing In 1990

☒ HIGH

☐ MEDIUM

☐ LOW

☐ NTR

Treatment
Recommended:

~~MANUAL~~
~~REMOVE~~ ~~RAILROAD~~ ~~BIO SOR~~

MANUAL REMOVE TAR MAT

TAR MAT ON BOTH SITE 1 & 2

Priority Site For Reassessment In 1991

YES

NO

☒ CG ☐

YES

NO

☒ ADEC ☐

YES

NO

☒ EXXON ☐

YES

NO

☒ LAND MGR ☐

TAG 13 AUG

Manual Removal Tar Mats -
Lake & BIO

* ANAD STREAM CONSTRAINT

ASAP FOLLOWUP RECOMMENDATIONS

Project: AS/ CH-9 Subd.: B Site: 1 Date: 8/4/90 1990

Conditions Observed: SURFACE OIL IN CATEGORIES THAT COULD BE
MANUALLY RECOVERABLE STILL EXIST. IT WAS EVIDENT THAT MORE
MANUAL REMOVAL COULD OCCUR ON THIS SUBDIVISION. ASAP MANUAC
(VSC) CREW REMOVED ONE SUPERSACK AND TILLED ABOUT 150' OF BEACH

Followup Recommendations: THIS BEACH COULD USE SOME MANUAL PICK UP
OF RESIDUAL TARMATS OR HEAVY SOR AND SOME MOUSSE PATCHES.
SOME TIME SHOULD BE MANUALLY TILLED IN AREAS OF HIGH % OF SURFACE
SEDIMENTS. THIS SHOULD BE FOLLOWED WITH BIOREMEDIATION AND
SHEEN MONITORING.

Completed by Pickup Crew: ☐ YES ☒ NO

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

DBC

Bob McLeary
 (name)

Robert G. McLeary
 (signature)

Comments: Work would be facilitated by mechanical aid.
A small tracked vehicle would be ideal near shore seg-
ment. North of this however would require manual work.

Exxon

RANDALL K. BOYER
 (name)

Randall K. Boyer
 (signature)

Comments: I CONCUR WITH THE ABOVE OBSERVATIONS AND FOLLOW UP
RECOMMENDATION.

NOAA
 USCG

Daniel E. O'Neil
 (name)

Daniel E. O'Neil
 (signature)

Comments: I agree with the above observations & followup recommendation.

Land Rep.

Steve W. AD CVC
 (name)

Steve W. AD CVC
 (signature)

Comments: I Agree With Recommendations.

SEGMENT AS/ CH-9 SUBDIVISION: B SITE: 1 DATE 8-4-90

ICG/NOAA

NAME David S. Noe, NOAA SIGNATURE David S. Noe

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Large areas of oiling have been treated, but removal or remediation efforts have not been fully effective. Would recommend additional treatment in 1990 and a reassessment in 1991

ADEC

NAME _____ SIGNATURE _____

☐ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

LAND MANAGER

NAME Steve Ward CVC SIGNATURE Steve Ward

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Heavy oil still on site - more manual in 90 with Bio in 90
Reassessment in 91 with concentration on Sub-Surface oil.

EXXON

NAME Randall K. Byrnes SIGNATURE Randall K. Byrnes

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

MANUAL TREATMENT IN 1990 WAS NOT AS EFFECTIVE ON THIS SUBDIVISION AS IT WAS ON OTHERS WITH COMPARITIVE OILING. BIOREMEDIATION WAS RELIED ON HEAVILY TO TREAT THIS SUBDIVISION. A WORK FOLLOW UP FOR 1990 HAS BEEN SUBMITTED CHECK THIS ONE IN 1991 FOR BIO EFFECTIVENESS.

SEGMENT AS1 CH-9 SUBDIVISION: 226-20-14152 SITE: 2 DATE 8/4/90

BCG

NAME David C. Noe, NOAA
Don O'Neil (USGS)

SIGNATURE David C. Noe

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Wide area of oiling in vicinity of stream warrants both 1990 treatment and 1991 reassessment.

ADEC

NAME Bob McCleary

SIGNATURE Robert G. McCleary

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

North end of segment received very little preparatory work by bio crew prior to bio application. Substantial AP and subsurface OP and OR oil remains and requires further treatment. South portion of segment adjacent to stream is a little lighter in oiling. Mechanical removal of stream surface cobbles and boulders is recommended to expose AP and subsurface OP and OR oil. Further work in '90 is recommended.

LAND MANAGER

NAME At the end

SIGNATURE At the end

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Lots of oil - Requires lots more manual or mechanical.
Lots of sub-surface Highest priority in 90 and 91

EXXON

NAME RANDALL K. BOYER

SIGNATURE Randall K. Boyer

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

SURFACE OILING IN THE SOR CATEGORY SHOULD BE CONSIDERED WHEN ASSEMBLING THE PRIORITY 1991 ASSESSMENT LIST. THE ANADROMOUS FISH STREAM SEGMENT HAS SOME OILING THAT WAS BIODEGRADED. THE EFFECTS OF BIO SHOULD BE ASSESSED. THE DON BOLLINGER SQUAD IS SET UP FOR

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ CH-09 STREAM NO: 226-20-16182 DATE 4/25/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
3N,3p Harbor seal and sea lion pupping (5/15 to 7/1)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Subject stream is located within Subdivision B (2 of 2)

SHPO SIGNATURE: J. David McMillan DATE: 5/10/90

Subsurface Oil Observed: Yes X No Maximum Depth 30+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pickup and removal of tar patties and tarmats in areas indicated on sketch map, and 2) bioremediation of areas "A" and "C" indicated on sketch map. Work should be conducted between 7/1 and 8/1 based on pinniped constraints with approval of ADF&G due to salmon stream constraint and USFWS re-regarding eagle nest.

TAG COMMENTS: MONITORS TO PAY PARTICULAR ATTENTION TO PROTECTION OF RICH LTZ AND TIDE POOL - NO Bioremediation IN THESE AREAS.

TAG APPROVAL DATE: 5/9/90

ADEC ART WILSON
FXXON Andy Tetz

FOSC: ML

DATE: 5-15-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1** Salmon stream mouth - fry outmigration (3/1 to 5/15)
1 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
- A** 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 unloiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3N, 3P** Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
 ADF&G Don Calkins 267-2403
- 5R** Seabird colony (5/1 to 9/1)
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S** Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
 ADF&G Tom Roth 267-2206
- 5T** All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U** Recreation: Tent sites (8/1 to 9/15)
6V Anchorages (8/1 to 9/15)
6W Forest Service cabins (8/1 to 9/15)
X Lodge (8/1 to 9/15)
Y Special use destination
- 7Z** Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH Finfish harvesting
7H Deer harvesting (8/15 to 2/28)
7JJ Invertebrate harvesting
 Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization.

425

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 24009 SUBDIVISION: 16182 DATE 4/25/90

USCG

NAME CNO N. MAHONSIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

1. MANUAL CLEAN-UP: REMOVE TAR MATS right side (looking on shore)
2. [CAUTION: AREA WAS BIOREMEDIATED '89' & DES FLUSHED Agent OUT TO STREAM], SUGGEST treatment again.

ADF 16

ADES

NAME Tom CroweSIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

1. MANUAL REMOVAL OF TAR MATS #1 #2 #3
2. LIGHT TILLING OF AREA (A) AND/OR RECOMMEND (SEE MAPS, BIOREMEDIATION OF SAME AREA. (NO INIPOL TREATMENT))
3. RECOMMENDED BIOREMEDIATION OF AREA C (SEE MAPS) OR A/D TREATMENT.

LAND MANAGER

NAME _____

SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

Alaska Department of Fish and Game

ANADSCAT Observations and Recommendations
Team 15 - Michael Wiedmer and Tom Crowe

25 April 1990

ASC # 226-20-16182

Segment CH-009

Observations The intertidal zone surrounding this channel is confined to a low energy, elongated cove bordered by bedrock walls. The substrate is composed predominantly of shale cobble and gravel. A very rich biota occurs throughout the lower intertidal zones below the oiled areas.

A wide range of oiling types and degrees exist at this site (see ADF&G Multi-Assessment Form for specific descriptions). While this site still contains significant amounts of subsurface oil, treatment of this site will be difficult. Moderate concentrations of oil have penetrated deeply into a poorly sorted shale boulder, cobble, gravel, sand matrix along the upper-intertidal zone west of the channel.

Other than complete removal of the substrate, elimination of oil will be difficult. Additionally, the very rich intertidal flora and fauna adjacent to the oiled zone will be at risk during and after extensive treatment operations.

Treatment Recommendations All surface tar mats and patties should be manually removed. See the ADF&G Multi-Assessment Data Form for additional treatment suggestions.

ASC # 226-20-16200

Segment CH-900

Observations Large shale cobbles and boulders compose the substrate of this low-exposure cove. A band of sporadic tar patties rings the high tide line on either side of the channel. No significant subsurface oil was identified.

Treatment Recommendations Manually remove tar patties. Trowels may be required to remove oil from interstitial spaces.

SHORELINE OILING SUMMARY (ANAD.)

REVISION NO. 00

OG WILLIAM LEID USCG McMAHON SEGMENT ST/ CH009 48/54
 BIO MICHAEL FAWCETT LAND REP 5 STREAM 26-20-16/84 OF
 EXXON GUS GARCIA ADFG MIKE WIDNER TIME 07:45
 TEAM NO. 15 TIDE LEVEL 3 FT DATE 25 / APR / 90
 EST. SUBDIVISION LENGTH: 60 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 2 % B 2 % C 45 % P 53 % G 0 % S 0 % M 0 % V
 SLOPE: Long 70 % Hang 30 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ Hig
 OIL CATEGORY LENGTH: W 0 m M 4 m N 15 m VL 0 m NO 4

SURFACE OIL

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

PAVEMENT H (F) S 20 sq. m by 7PATTIES / TARBALLS 1 BNEAR SHORE SHEEN? (NO) BR RW SL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

Did You Col
 DEBRIS
☐ YES ☒ NO

TYPE
 #BAGS

Photographs:

Roll No. _____

Frames _____

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW	OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (Y/N)	↓	SURF/ SUBSURF SEDIM
		OP	OR	OL	OF	NO			1	2	3	4	5	BU	W	SE	U				
* 1	20		X				0-15		X			X		X					N		P/G
* 2	35		X				0-6		X			X		X					N		P/G
* 3	30		X				0-10		X			X		X					N		P/G
4	40					X	.							X	X				N		P/G
* 5	20				X		0-3		X			X		X					N		P/C
6	25					X	.							X					N		P/C

COMMENTS * OILED INTERVAL < 5cm IN PITS 1, 2, 3, 5 AND 7 DOES NOT CONSTITUTE SUBSURFACE OIL

OG WILLIAM REID
SEGMENT STY

CH009
STREAM 226-2016RZ

DATE 25 / APR 90

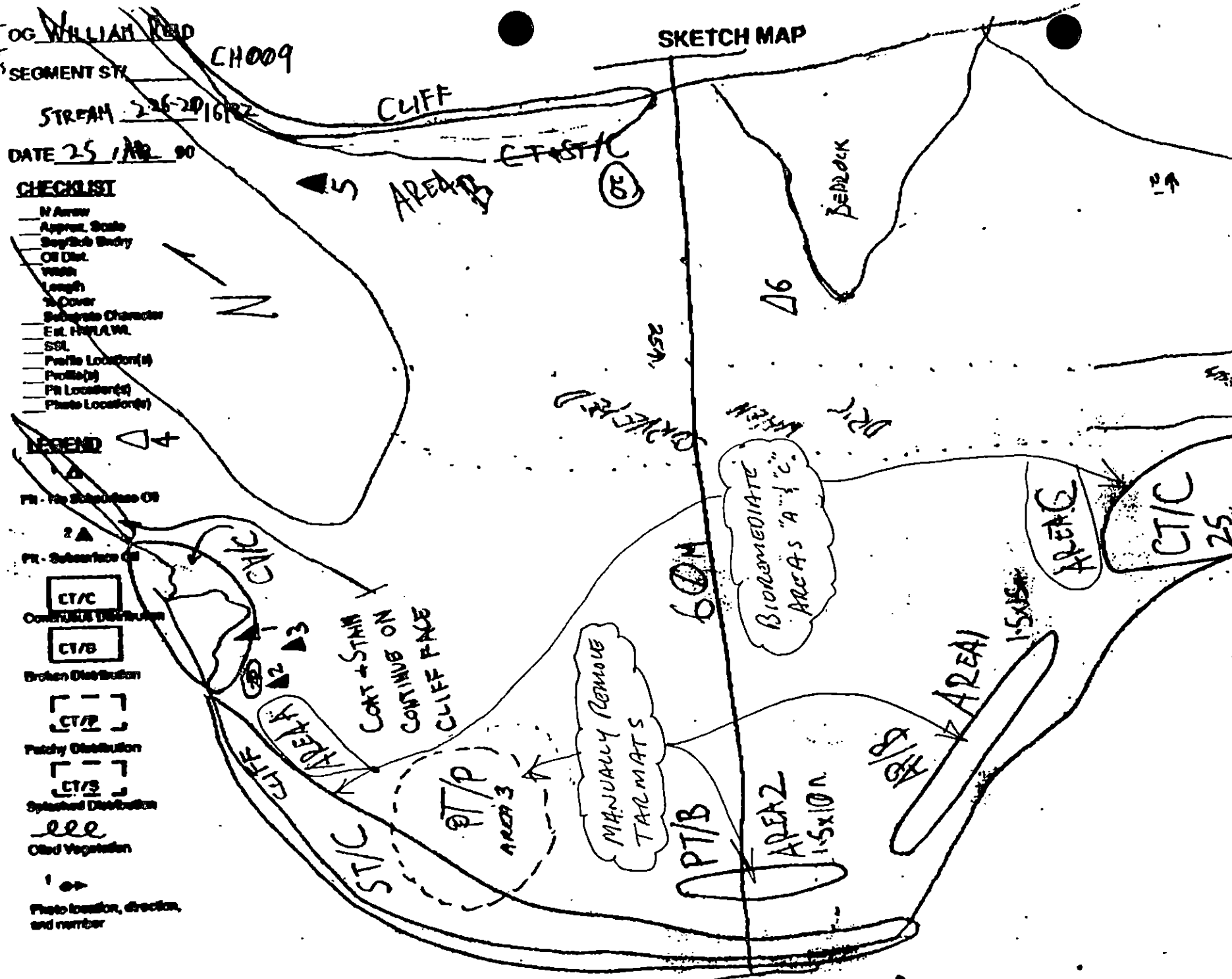
CHECKLIST

- ☐ N Area
- ☐ Approx. Scale
- ☐ Seafloor Study
- ☐ Off Dist
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HAPLAW
- ☐ SOL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pin Location(s)
- ☐ Photo Location(s)

LEGEND

- Pin - For Substrate Or
- Pin - Substrate Or
- Continuous Distribution
- Broken Distribution
- Patchy Distribution
- Splashed Distribution
- Old Vegetation
- Photo location, direction, and number

SKETCH MAP



APR-25-1990 19:50 FROM EAXON AND CORDOVA

TO

SCAT TEAM

P.16

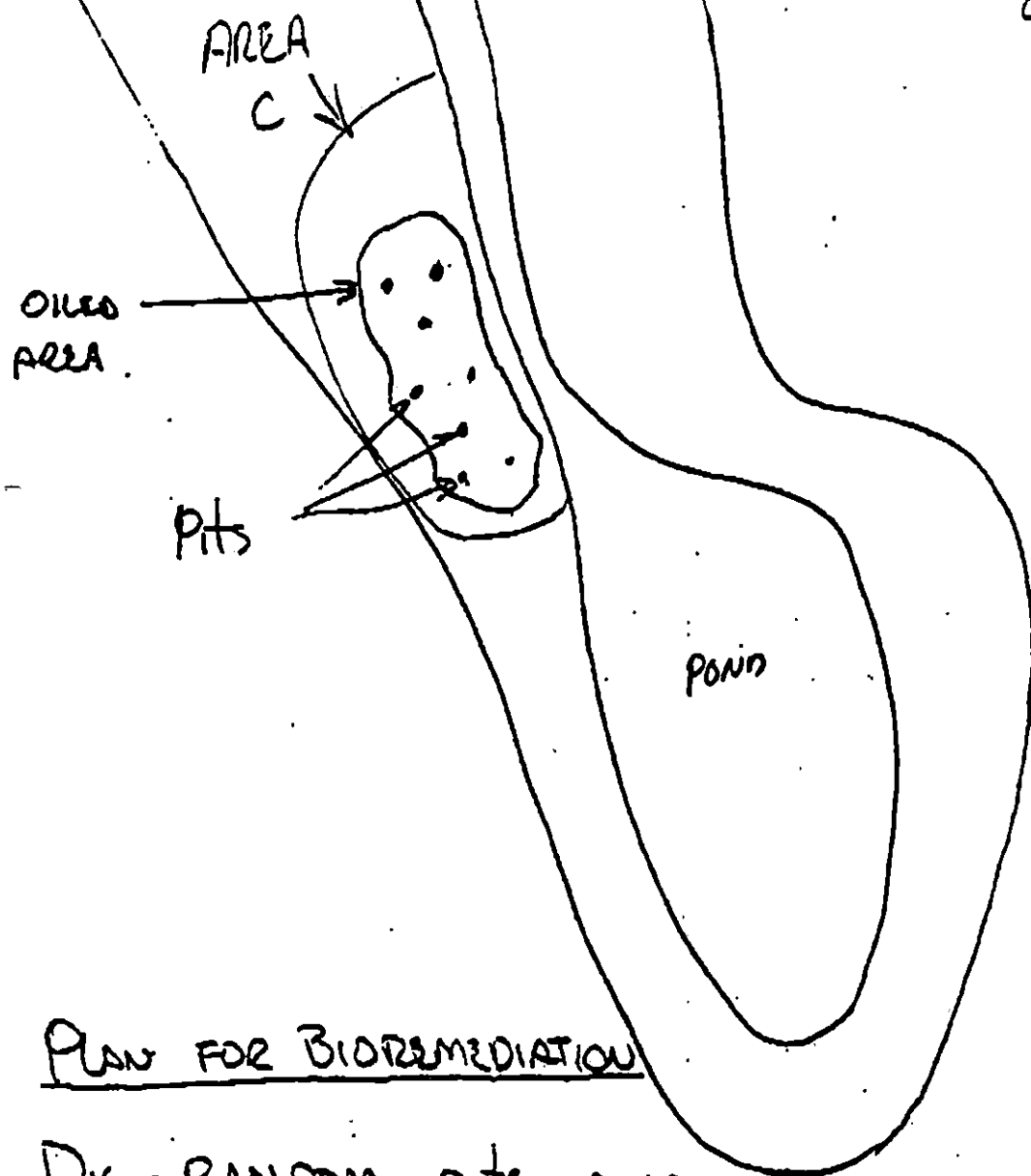
4/25/90

CH-009

226-20-16132

4/25/90

TWC



PLAN FOR BIOREMEDIATION

DIG RANDOM PITS AND
BURY SMALL AMOUNTS OF
SOLID FERTILIZER PELLETS FOR
SLOW RELEASE INTO OILED AREA.

APR-25-1990 19:52 FROM EXXON CMD CORDOVA

TO

SCAT TEAM

P.01

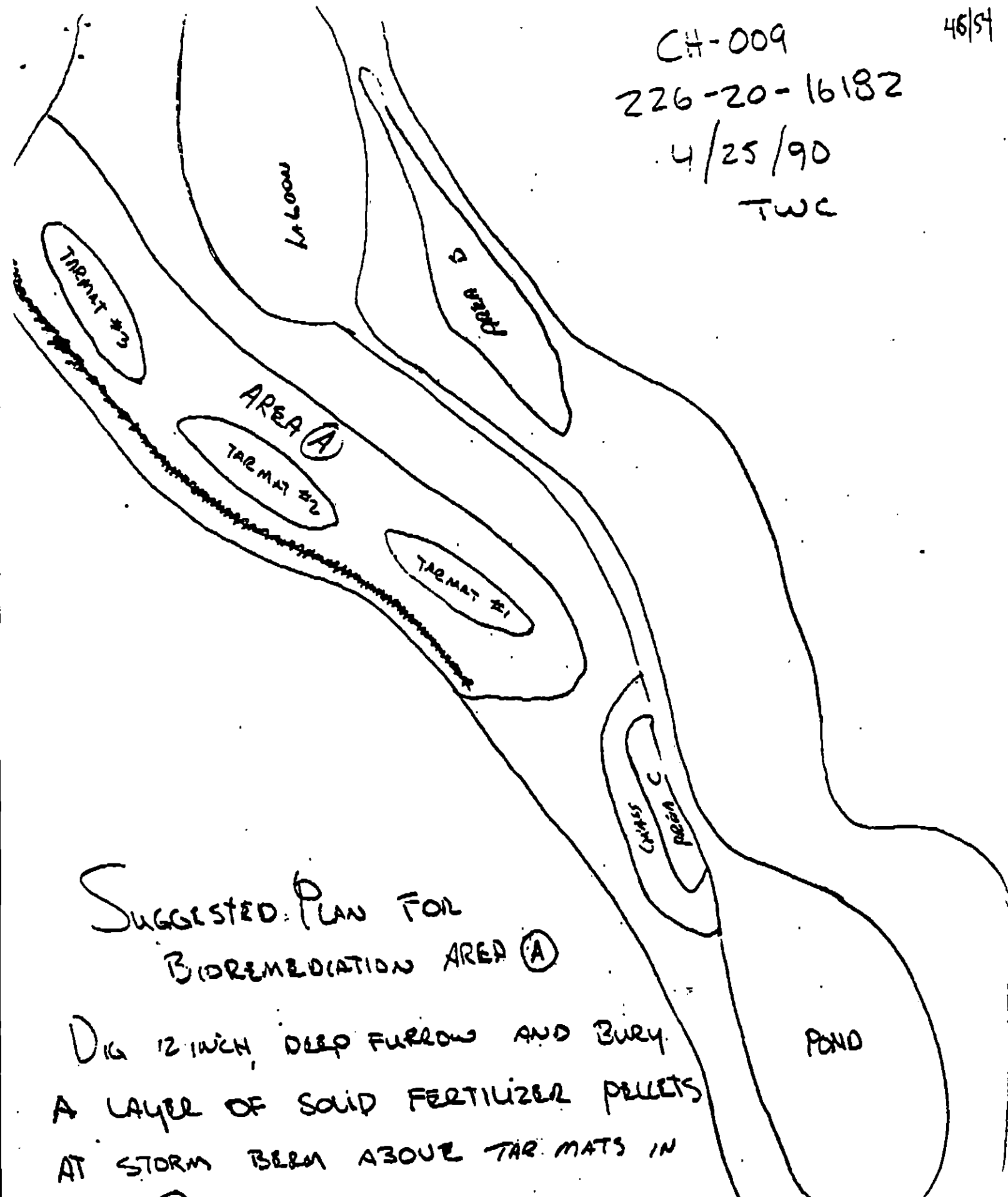
46/54

CH-009

226-20-16182

4/25/90

TWC



SUGGESTED PLAN FOR
BIOREMEDIATION AREA (A)

DIG 12 INCH DEEP FURROW AND BURY
A LAYER OF SOLID FERTILIZER PELLETS
AT STORM BERM ABOVE TAR MATS IN

APR-25-1990 19:50 FROM EXXON CMD CORDOVA

TO

SCAT TEAM P.17

4/54

ADPAC MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: ES CS TS AVS SCM HEIS PTA2 REGION: PYS KP,CI -K,APMETHOD: Aerial Ground Boat3 DATE: 4/25/9015 HIGH TIDE TIMES: 150021 TEAM RECORDER: TOM CROWE4 START TIME: 074616 HIGH TIDE HTS: +11 FT22 OBSERVERS: MIKE WISNER5 STOP TIME: 092617 LOW TIDE TIMES: 083023 AGENCY: ADPAC (ANADSCAT)6 SEGMENT #: CH00918 LOW TIDE HTS: -4 FT24 PHOTOS TAKEN: 1 0

7 STATION #: _____

19 TIDE HT AT SURVEY: -2 FT

Roll #: _____ Frame: _____

8 K-UNIT: _____

ebb Slack Flood Slack

25 VIDEO TAKEN: Y 0 TAPES: _____

9 STAT AREA: _____

20 USCG QUAD: SEW B-3

Starts: _____ Ends: _____

10 LAT: _____

11 LONG: _____

26 SAMPLES TAKEN: Y 0 Number12 SOURCE: Map Loran011 NONE13 LOCATION: NORTH TIP CHENEGA ISLAND

Sediment: _____

14 DESCRIPTION: _____

Biological: _____

Water: _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	M	H	S	L	M	H	S
27 SURFACE COVERAGE	150	50		80	50	1		0

28 SURFACE THICKNESS	6-16cm	3cm	30cm				

29 PENETRATION	6-16cm	3cm	30cm				

30 OVERALL OIL IMPACT: N VL L 0 N36 CATALOGED ANAD. FISH BREAK? 0 N37 CATALOG #: 226-20-16182

38 STREAM NAME: _____

31 OIL TYPE: Pooled House Tar Asphalt Sticky Stain39 OIL IN STREAM BED? Y 032 OILED DEBRIS? Y 040 OIL ON STREAM BANKS? 0 N33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cove41 OIL ON BEACH ADJACENT TO MOUTH? Y N
(within 50 meters)42 OIL WITHIN 1 MILE OF STREAM? Y N

Where: _____

34 WAVE EXPOSURE: High Moderate Low VERY LOW43 ANADROMOUS FISH PRESENT? Y N35 SUBSTRATE TYPE: Bedrock Boulder Cobble X44 ANADROMOUS FISH OBSERVATION
Species Aerial GroundGravel X Sand _____ Mud/silt _____

REMARKS: AREA C IS AN AREA ADJACENT TO STREAM BANK WHERE OIL IS DEEPLY BURIED. THIS AREA IS AT THE +12 FT TIDE LINE. BIOREMEDIATION

AS PHOTOLOG

226-20-16182

4/25/90

40/54

NAME(S)

DESCRIPTION

TWC

RECOMMENDATION: REMOVE TAR MATS IN AREA 1, 2, 3
UPPER INTERIOR AREA A. NO INJECTION TO BE USED
IN THIS AREA. TREATMENT OF AREA A SHOULD INCLUDE
LIGHT TILLING OF SURFACES OF THE RALSTON COARSE
ALSO BIORREMEDIATION IN THE FORM OF SOLID PELLETS BURIED
IN LAGOON AT SUPERSTATION SHOULD BE CONSIDERED FOR
AREA A.

I agree with recommendations. ~~AT FURTHER~~

AS OIL DISTRIBUTION DIAGRAM

30cm DEEP
#7 OIL FOUN

ASPHALT
TAR MAT

#6 25cm
NO OIL

3cm AT #8
LIGHT OIL
SURFACE

ASC

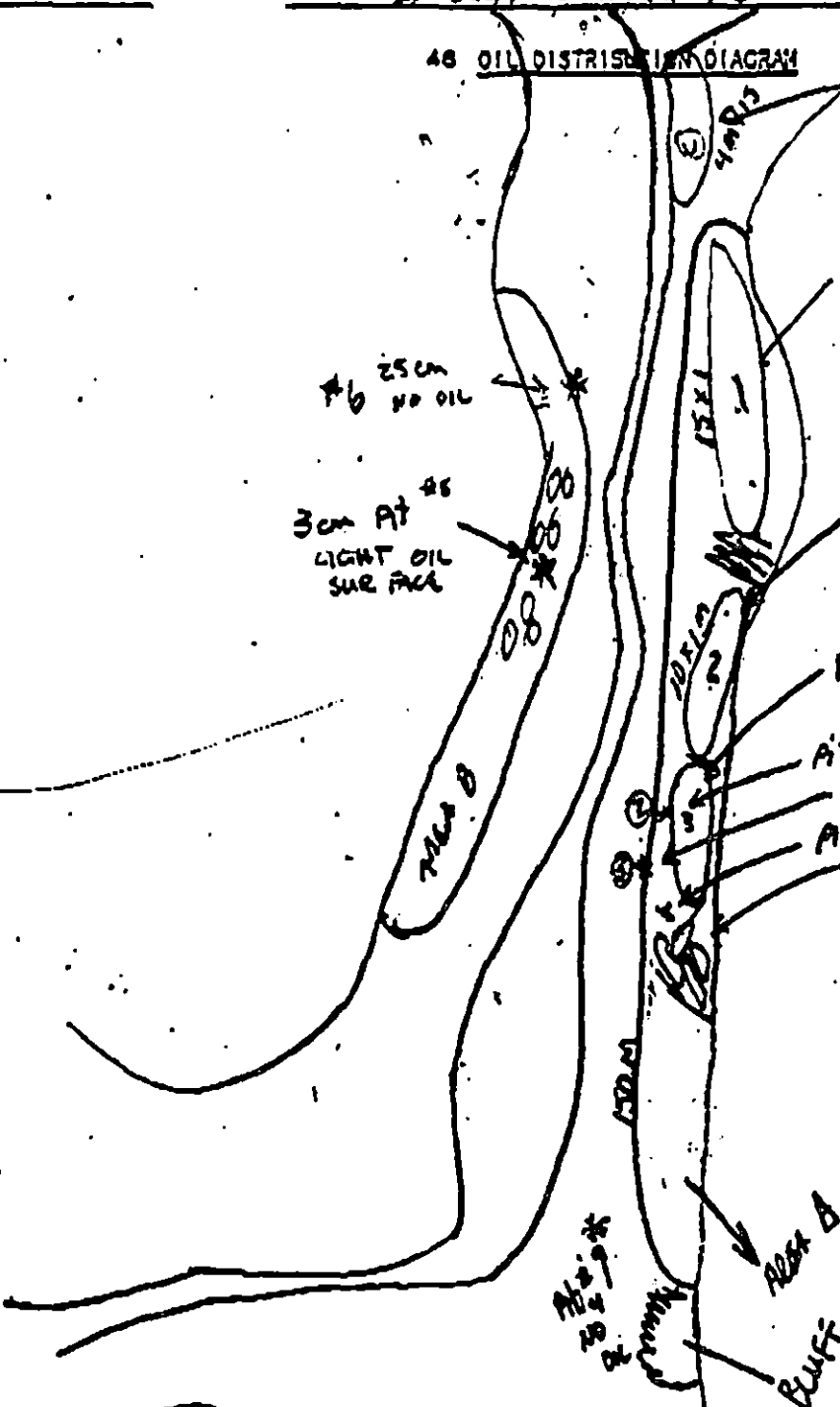
266-20-16182

CH-009

AT 6cm (LIGHT COAT)
AT 10cm (COATING)
AT 10cm OIL (LIGHT COAT)
ROCK
OUTCROP

NOTE:

ACTIVE EAGLE NEST AT
ENTRANCE TO THIS
LAGOON



P. 1 of 2

Segment CH 009

4/25/90

Stream 22620-16/82

Michael Fawcett

Ecological Summary

This stream has a long intertidal portion, first passing through some grassy flats, then entering a sizeable lagoon which remains filled at low tide, draining slowly over a cobble/boulder sill at the seaward end. Large bedrock outcrops provide protection from waves. Beach sediments are stabilized shale boulders, cobbles, pebbles, and gravel. The MTZ and LTZ seaward of the lagoon has a very rich biota, including several species of starfish, intertidal fishes (gunnels, sculpins), limpets, littorines, chitons, urchins, whelks, hermit crabs, shore crabs (*Hemigrapsus oregonensis*), and a variety of algae. Infaunal clams, echinoids, moon snails, etc. are abundant. Egg cases deposited by moon snails were scattered throughout the LTZ. One area southwest and seaward of the lagoon has a mussel bed of 100% mussel cover approximately 50 x 25m in size.

The lagoon contains eelgrass, several species of red algae, the kelp *Costaria costata*, and a lot of diatom scum. One mature bald eagle and a

p. 2 of 2^{59/59}

segment CH009

4/25/90

Stream 226-20-16182

Michael Fawcett

Ecological Summary

surface tar in VTZ. Manual removal is suggested, and possibly bio-remediation using pellets rather than the liquid compound, so as to avoid concentration of the fertilizer in the lagoon during falling tides. Cleanup crews and equipment should be kept away from the lower intertidal area, including the big mussel bed and all of the area below the lagoon mouth.

M F Fawcett

CH-10

ECOLOGICAL
MAP

1A, 1B
3NP, 3Q
7II
ST-1

CH-9

Surveyed 4/2/90 - CH002-B

BALD
EAGLE
NEST

ANADROMOUS
SILVERM
226-20-16182
(Ps, CH₅, 2/90)

surveyed by helicopter 4/2/90

visited briefly on foot 4/1/90

CH-2

LOCATED IN
CH-09-B (2 of 2)

XXXX Wide
//// Medium

CH-9

Map Key: PWS-57
Name: D. LITTLE

ADEC Segment Length: 945m

RTE
ADE

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-20-16182

SEGMENT CH-9 SUBDIVISION A

WORK WINDOW	
Manual Pickup Tarnat Removal	CLOSED
Bioremediation	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B	Salmon Stream	ADF&G catalogued stream (226-20-16182) is in Subdivision B. Bioremediation less than 100m from stream after 7/10. Prior to 7/10 bioremediation, is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup and tarnat removal.
1K	Purse Seine Hook-off	No constraint to manual pickup and tarnat removal. Closed to bioremediation after 7/20.
3N,P 3O,Q	Harbor Seal & Sea Lion Pupping and Molting	NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.
5T	Bald Eagle Nest	Closed to manual pickup, tarnat removal and bioremediation. USFWS 6/1/90 map indicates an active nest less than 400m from treatment area.
7II	Subsistence: Deer Harvesting	No constraint to manual pickup and tarnat removal. Closed to bioremediation after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

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

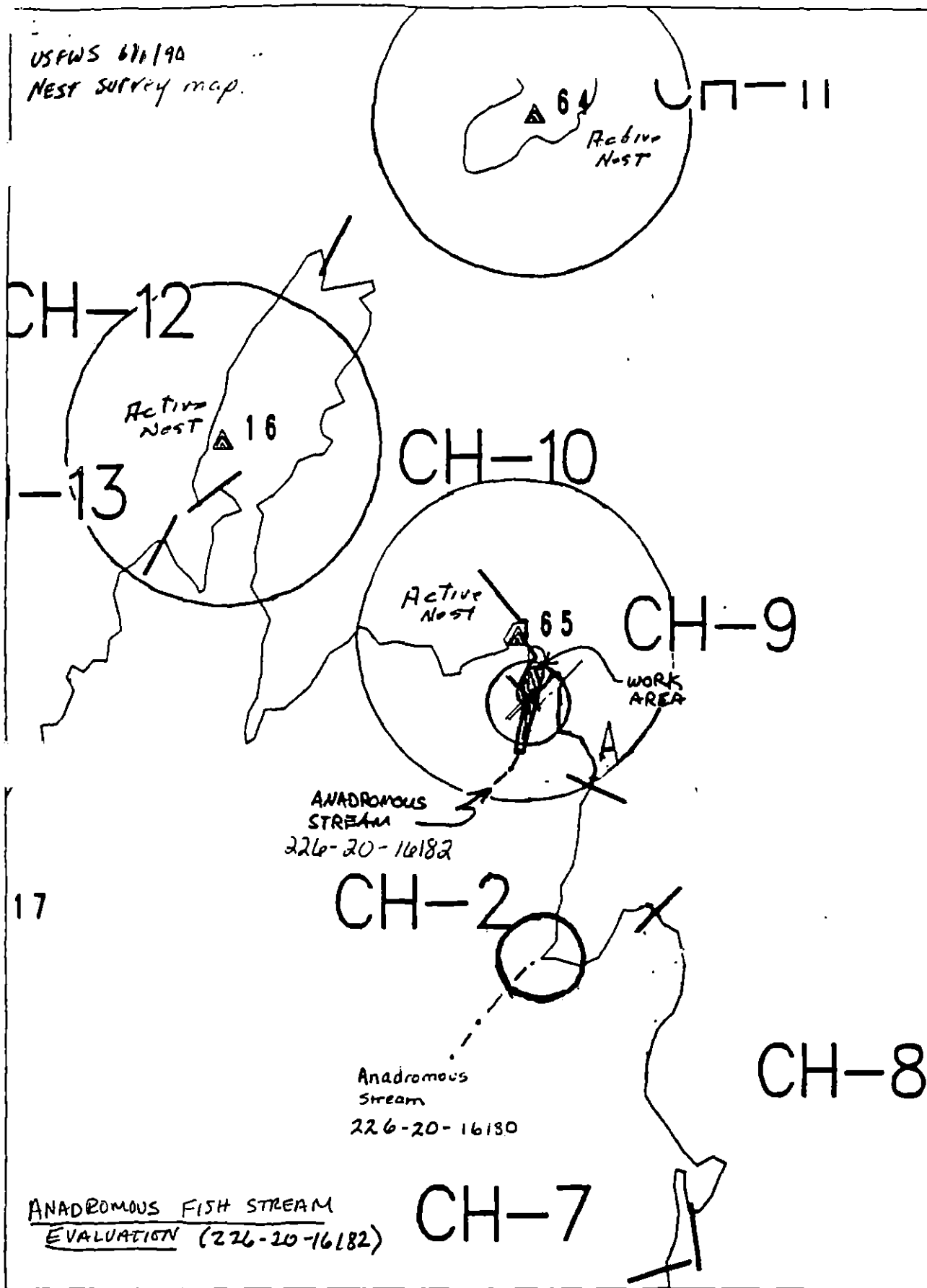
SEE SUBDIVISION CONSTRAINT ADDENDUM CU-9A
FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC

Date

6-10-90

USFWS 6/1/90
NEST SURVEY map.



Exxon Company, USA
Map Key: PLS-CH-9

ECOLOGY MAP
SEGMENT CH-9
SUBDIVISION A (1 of 2)
METERS

★ Seabird Colony
▲ Eagle Nest

1 inch = 1182 feet

SHORELINE EVALUATION

SEGMENT ST/ CH-10 SUBDIVISION A (1 OF 3) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6U Recreation: Tent sites (6/1 to 9/15)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest in Subdivision A. Do not trample or otherwise disturb mussel beds.

SHPO SIGNATURE [Signature]

DATE: 4/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 99 m: No Oil 459 m
Subsurface Oil Observed: Yes X No Maximum Depth 8 cm

RECOMMENDATIONS:

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

COMMENTS: Recommend removal of pooled oil by using pom poms and bio-
remediation of area shown on attached sketch map. Work should be
conducted between 7/1 and 8/15 based on pinned constraints, and after
approval of USFWS regarding eagle nest.

TAG COMMENTS: RAKE PRIOR TO BIO IN AREA OF PIT 9

TAG APPROVAL DATE: 4/25/90

ADEC ART WEAVER Art Weaver

EXXON ANDY TANK Andy Tank

NOAA JOHN TELLER John Teller

USCG KEVIN KEVIN Kevin Kevin

FOSC: ML

DATE: 5-9-90

CVC Rep to be present -

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

21

7

SEGMENT ST / CH-010 SUBDIVISION: A DATE 02 APR 90

USCG

NAME Kevin L. Dreher SIGNATURE Kevin L. Dreher

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Trowelling of small amount of pooled oil at base of protective boulders.

ADEC

NAME Patrick Endres SIGNATURE Patrick J. Endres

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Very satisfactory survey of segment subdivision. minimal oiling found. I recommend small team of manual removal - (trowel or shovel)

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Land manager
unfit for duty.

SHORELINE OILING SUMMARY

REVISION NO. 08/27/88

OG D. LITTLE USCG K. BREMER SEGMENT ST/ CH-010 2
 BIO K. CORTEZ LAND REP — SUBDIVISION A 1043
 EXXON G. STILES ADEC P. ENDRES TIME 13:30 to 15:45
 TEAM NO.: 14 TIDE LEVEL: 1.0' to 3.0' DATE 4/2/90
 EST. SUBDIVISION LENGTH: 650 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☒ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 40 % B 15 % C 20 % P 20 % G 3 % S 2 % M — % V — %
 SLOPE: Long 35 % Hang 35 % Vert 10 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W — m M — m N — m VL 100 m NO 550 m

SURFACE OIL

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

NOTE
 creosote on telegraph poles
 DEBRIS COLLECTED
☐ YES ☒ NO

TYPE —

#BAGS —

Photographs:

Roll No. ST-14-2

Frames 4

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	SU	U	M	U		
1	25					X	.									X				p/c
2	30					X	.										M			p organics
3	30					X	.									X				p c
4	20	X			✓		5-8	X	X	✓						X				p c g shell hash
5	35					X	.									X				p
6	30					X	.										X			p c

COMMENTS

This subdivision consists of bedrock ^{with} angular to subangular cobble/pebble pocket beaches. Oiling is limited to the UI and was usually found in corners of the embayments, protected by boulders and cobbles. Only 5 cm oil penetration occurred, again usually in the UI, although pit (2) was in the MI. Oiling was generally slightly heavier to the west, and one significant bedrock ridge was oiled along its central spine in the last embayment.

SHORELINE OILING SUMMARY (PAGE 2 of 2)

SCOT TEAM F.13

REVISION 05/23/98

SEGMENT ST/ CH-010 SUBDIVISION A

3

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-DM)	BELOW		OIL / FILM COLOR	PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UD	UC		SU	UR	NR	U		
7	20					X	.								X	C P g
8	25					X	.					X				P
9	15	X					5-6	X	X			X				C P g / peak layer
10	25					X	.						X			C P g
11	25					X	.							X		C P g
12	10		X				5-6	X	X				X			P g S
13	20					X	.							X		C P
14	20		X				5-6	X	X			X				P g S C
15	25					X	.					X				P g / organics
16							.									
17							.									
18							.									
19							.									
20							.									

COMMENTS

RT

SHORELINE ECOLOGICAL SUMMARY page 1 of 2

REVISION: 08/2010

Segment ST / CH010 Subdivision A Date (mo / day / yr) 09 / 02 / 90 5

Time (24 hr) 15:55 Biologist KA Coates

- (A) Substrate type and % of segments:
 (1) Bedrock 90 (2) Boulder 15 (3) Cobble 20 (4) Pebble 23 (5) Sand 2 (6) SR —
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 40 Low 50
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:
 Roll No. ST-14-2

Frames 4

BARNACLES

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

NOT PRESENT
 on pebble
 & sand.

MYTILUS

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

NOT PRESENT
 may extend
 into sand.
 Around pebbles
 & cobble.

GASTROPODS

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

NOT PRESENT
 on cobble
 over sand.

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments: harlequin ducks; deer droppings;
sea otters in bay; displaying ravens; small area eel grass
in mid-tide; gastropod and asteroid reproduction common
in lower mid-tidal. Known sensitivities for full segment:
 Ecological Considerations: deer harvest; recreation including special;
skating & anchorage; seal; sea lion puppe
and molting.

Dense populations mussels on cobble beaches in
finer sediments below. Possible subsistence harvesting
or other intermittent harvesting. Scot (? bird-large or
in area include swimming scallop, mussel

and crab fragments, may be abundant in the bay.
(D.L. missed out by FAX).

20

6

ECO SUMMARY page 2 of 2

Segment: STCH010 Subdivision: A Date: 04.02.90
Time: 1345-1550 Biologist: LEA Coates

Notes:

1. Amphipods abundant throughout lower mid-tidal, under cobble & ~~Polysiphonia~~ ^{Polysiphonia} ~~Polysiphonia~~ dense into this habitat. Limpets abundant at lower mid-intertidal under small cobble.
2. Snail egg masses, small yellow eggs of small, low-spired snail (diam ~ 3-4 mm). Small masses of Littorines - transparent with white to translucent eggs. Leptasterias hexactis also spawning on lower surface medium cobble. Small Hiatella also under rocks.
3. Anthopleura artemisia in pools at upper intertidal.
4. Cobble beach with dense populations Mytilus edulis (about 4-5 cm) in mid-intertidal. Balanus glandula patchy in same area, uniform size of 3-4 mm. Sparse Notoacmea scutum, some > 1 cm. Moderate numbers. Littorina scutulata. Same cobble areas with little or no Fucus (higher energy).
5. Pocket beaches with most algae in small protected zones adjacent to bedrock dykes that separate beaches.
6. Nucella lamellosa, Littorina scutulata and Balanus crenatus numerous in small area of exposed bedrock. Balanus glandulosus and Fucus dense to upper intertidal on these surfaces.

OG D-LITTLE

SEGMENT ST/ CH-010

SUBDIVISION A

DATE 4/2/90

CHECKLIST

- ☒ H Arrow
- ☒ Apprx. Scale
- ☒ Seg/Sub Entry
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HWL/LWL
- ☒ SSI
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ Pit Location(s)
- ☒ Photo Location(s)

LEGEND

① Δ

Pt - No Subsurface Oil

③ Δ

Pt - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

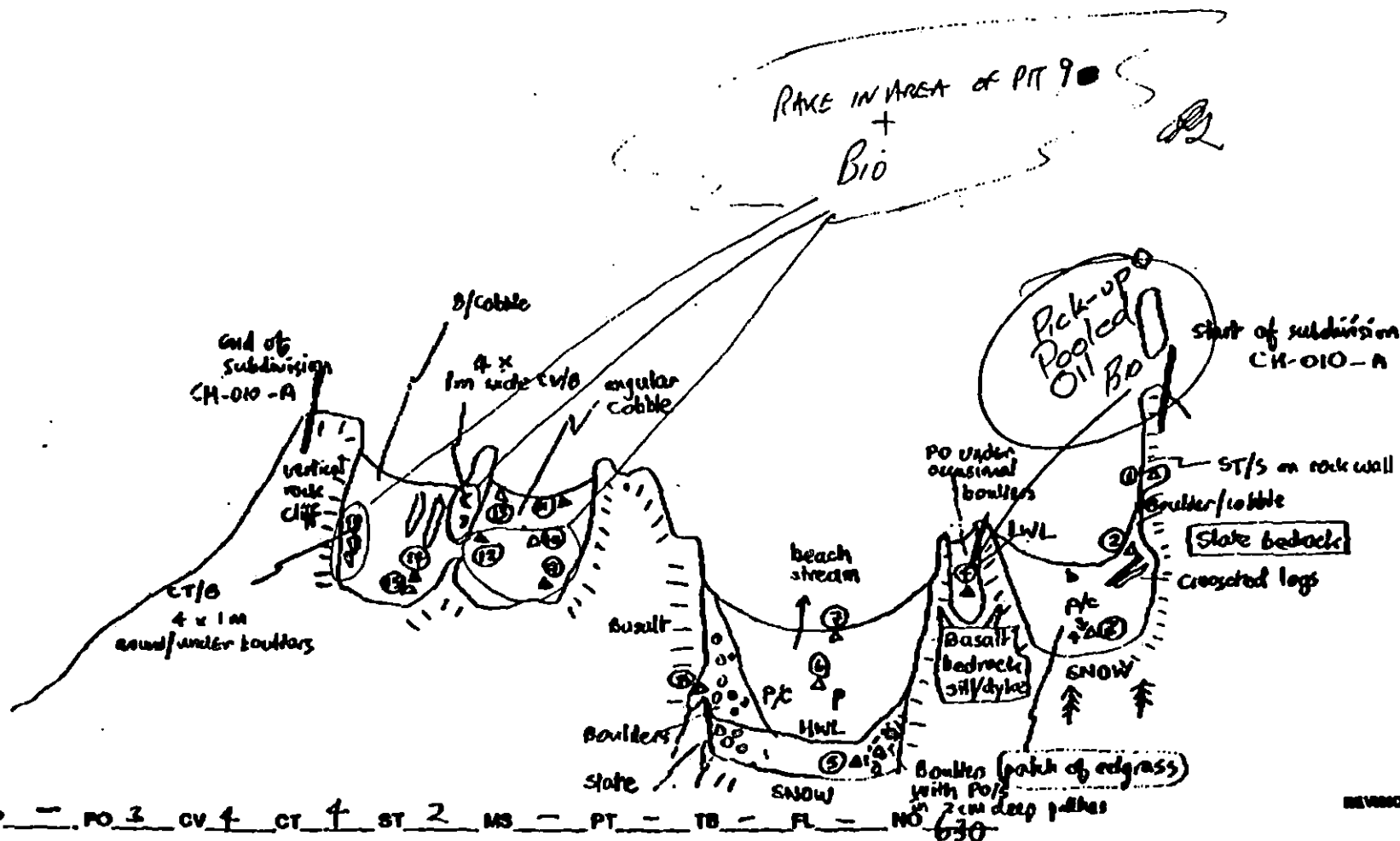
Splashed Distribution

Oil on Vegetation

① Δ

Photo location, direction, and number
only one photo taken.

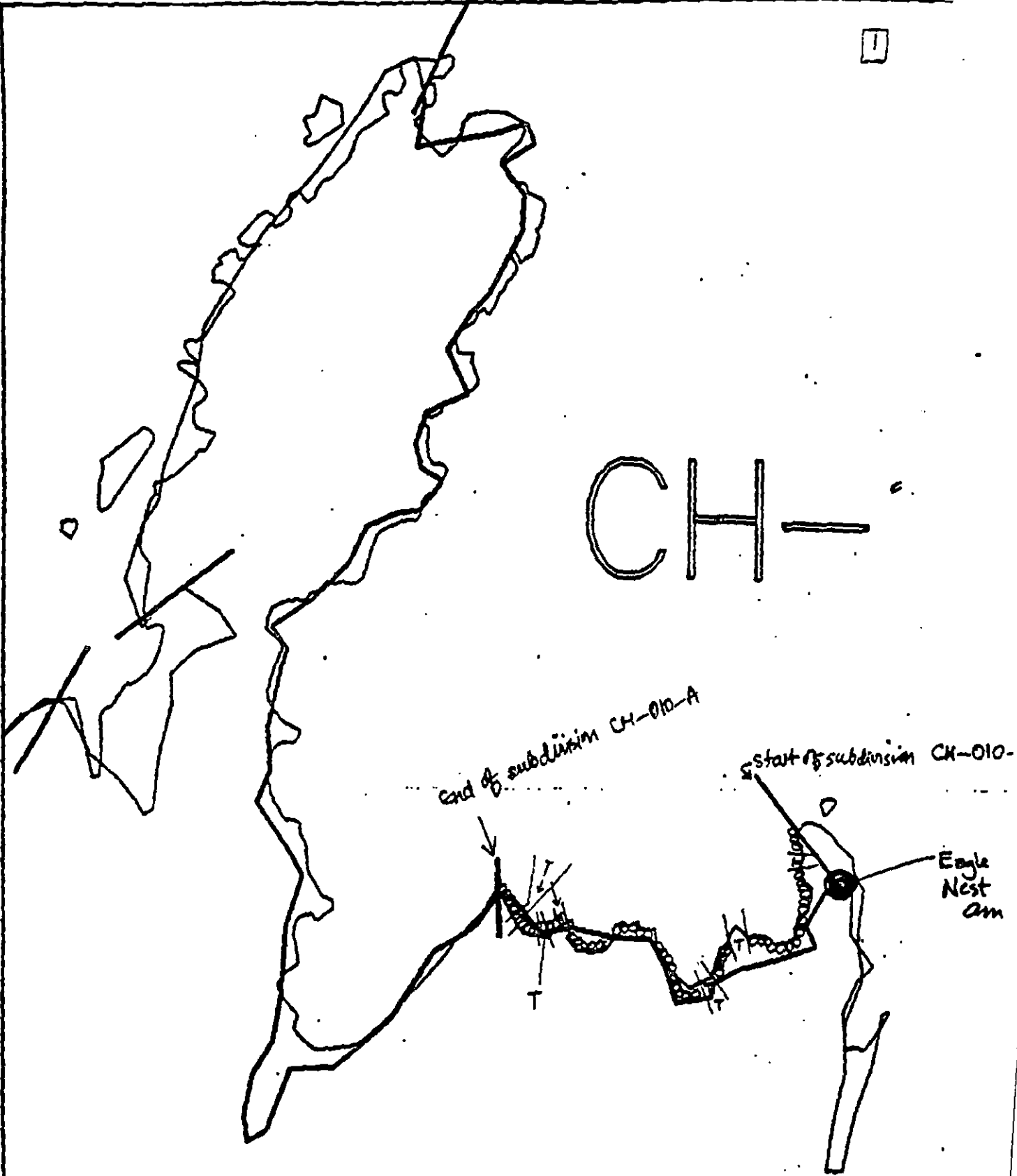
SKETCH MAP



Character Length (m): AP — PO 3 CV 4 CT 4 ST 2 MS — PT — TB — FL — NO 630

REVISIONS

12



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

oooo No Oil

CH-10-A

ADEC Segment Length: 2545m



Map Key: PWS-36c
Name: D. LITTLE
Date: 4/2/90
Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CH-10 SUBDIVISION A (1 of 3)

WORK WINDOW	
Manual Pickup	CLOSED
Bioremediation Manual Raking Other Approved Treatment	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1K	Purse Seine Hook-off	No constraint to manual pickup. Closed to bioremediation, manual raking, and other approved treatment after 7/20.
3N,O,P,Q	Harbor Seal & Sea Lion Pupping and Molting	NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.
5T	Bald Eagle Nest	Closed to manual pickup, bioremediation, manual raking, and other approved treatment. USFWS bald eagle impact assessment completed on 5/12/90 by Mike Lockhart indicates an active nest within 400m of the work area.
7II	Subsistence: Deer Harvesting	No constraint to manual pickup. Closed to bioremediation after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG APPROVAL DATE 6/04/90.
ADEC Ray Morris
EXXON Andy Teal
NOAA Jason Telbault
USCG G.A. Heller

FOSC

Date

9/4/90

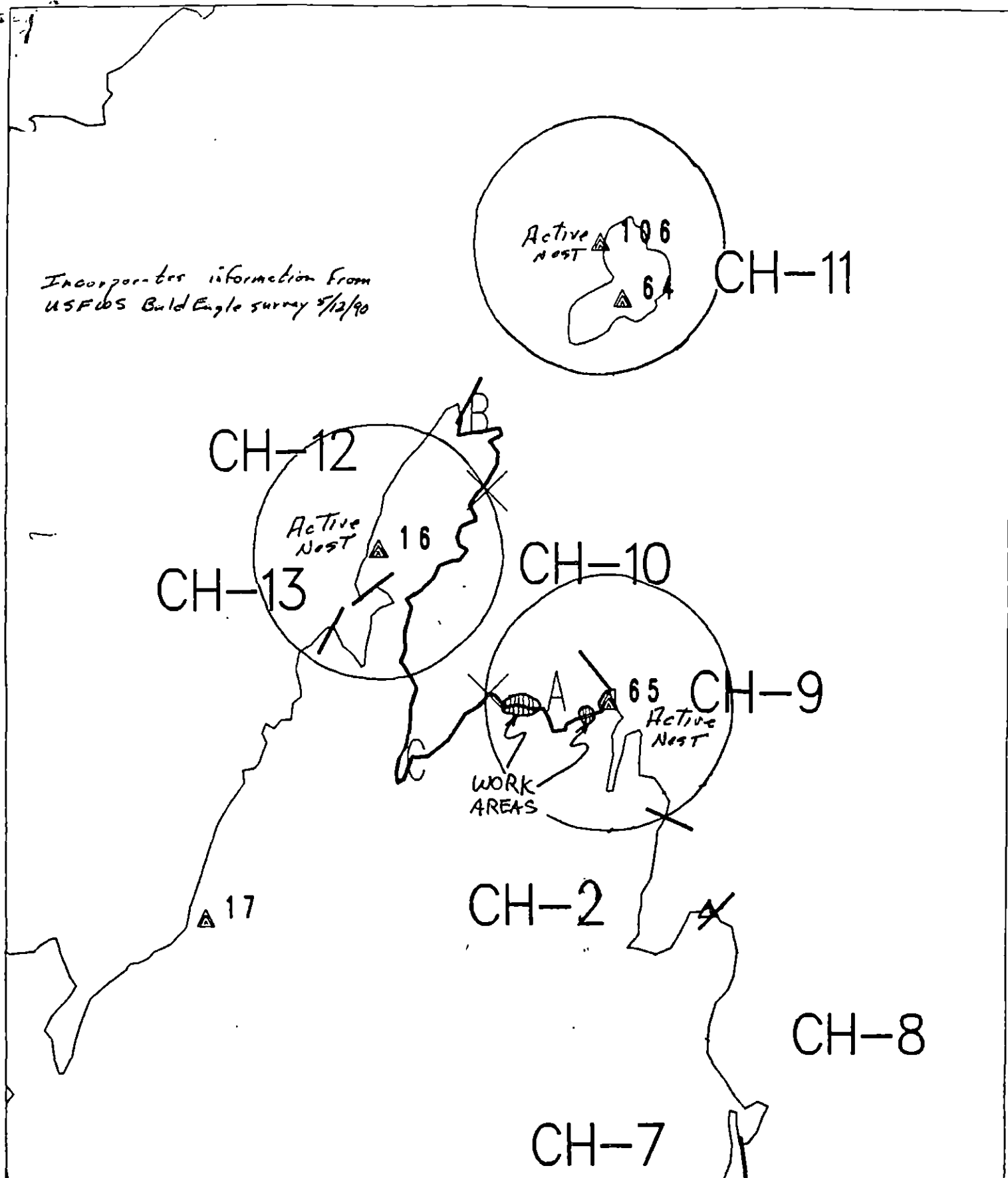
Prepared by

Andrew Meyer

Date

6/3/90

Incorporates information from
USFWS Bald Eagle survey 5/12/90



Exxon Company, USA
Map Key: PMS-QT-10
May 11, 1990



ECOLOGY MAP 5/28
SEGMENT CH-10
SUBDIVISION A (1 of 3)
METERS
0 415 830

★ Seabird Colony
▲ Eagle Nest

1 inch = 1362 feet

SHORELINE EVALUATION

SEGMENT ST/ CH-10 SUBDIVISION B (2 OF 3) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6U Recreation: Tent sites (6/1 to 9/15)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. Eagle nest in Subdivision A.

SHPO SIGNATURE: Mark E. Johns DATE: 4/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 48 m: Narrow 0 m: V.Light 172 m: No Oil 185 m
Subsurface Oil Observed: Yes X No Maximum Depth 35 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pick up of oiled debris, 2) Bioremediation of areas indicated on attached sketch map.
Work should be conducted between 7/2 and 8/14 based on pinned constraints, after approval of USFWS regarding eagle nest.

TAG COMMENTS: MANUAL PICKUP OF POURED OIL + PATTIES, OILED DEBRIS + TRASH
AND ASPHALT PRIOR TO BIO AS INDICATED ON SKETCH

TAG APPROVAL DATE: 4/25/90

ADEC ART WEINER Art Weiner

EXXON ANDY TEAL Andy Teal

NOAA Joseph Tallant Joseph Tallant

USCG Kenneth Kene Kenneth Kene

FOSC: ML DATE: 5-9-90

CVE Rep to be present-

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CH-010 SUBDIVISION: B DATE 4/5/90

USCG

NAME K. DREHER SIGNATURE CWO2 H. R. Dreher

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Most of what I observed was spotty and light. I recommend tilling where possible and bioremediation in lower areas of tidal zone. Medium oil pooling (light) in upper tidal can be tilled and let natural remediation progress. X

ADEC

NAME P. ENDRES SIGNATURE Patrick J. Endres

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

CH010-B, like many other segments had varying degrees of oiling. The Hitz had bands of coats + cover as well as pooled oil in the angular slate talus. Remediation of this would be difficult, except perhaps bioremediation. One particular area referred to by pit #10 had significant subsurface oiling, retrieval of this section would be difficult because of its depth. On the same beach in the high tide berm was some oiled vegetation that is mixed within the pebble matrix. I think raking the oiled vegetation as well as flattening the high tide berm would be helpful. Manual removal of sporadic areas of surface oil where possible is recommended. Manual tilling would speed up natural remediation.

LAND MANAGER

NAME L. EVANOFF SIGNATURE LE

☒ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

THE PEOPLE OF CHENEGA BAY, AS WELL AS MYSELF, HAVE TOO MANY UNANSWERED QUESTIONS ABOUT BIOREMEDIATION. UNTIL THESE QUESTIONS ARE ANSWERED I CANNOT RECOMMEND TREATMENT ACTIONS, I BELIEVE SOME TILLING W/ WASHING IN THIS AREA SHOULD BE USED.

SHORELINE OILING SUMMARY

REVISION NO. 000000

OG D. LITTLE USCG K. DREHER SEGMENT ST/ CH-010
 BIO K. COATE LAND REP L. EVANOFF SUBDIVISION B
 EXXON G. STUBS ADEC P. ANDRES TIME 12:45 to 15:00
 TEAM NO.: 14 TIDE LEVEL: 8-2' to 14' DATE 04/05/90
 EST. SUBDIVISION LENGTH: 530 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☒ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 55 % B 5 % C 10 % P 20 % G 5 % S — % M 3 % V 2 %
 SLOPE: Long 55 % Hang 10 % Vert 5 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 4 m M 80 m N 4 m VL 200 m NO 300 m

SURFACE OIL

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

SOME

PAVEMENT: H F (S) 2 sq. m by 2 cmPATTIES / TARBALLS 1 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

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

DEBRIS COLLECTED

☐ YES ☒ NOTYPE —#BAGS —

Photographs:

Roll No. ST-14-2Frames 5-8

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm-oz)	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		DO	UO	1	2	3	4	SU	U	M	U		
1	20					X	.								X				Pg
2	25					X	.								X				pc
3	35					X	.								X				p
4	35					X	.								X				p
5	25					X	.									X			pcg
6	30		X		✓		3-15		X	X					X				pbcg

COMMENTS

Most of the subdivision was only lightly oiled, with much of the oil found being detected in the extreme UI to SU in the very angular slate talus surrounded by bedrock outcrops which are subjected to very little wave action. This oil was sometimes pooled and more frequently accreted as a thick brown cover between surface slate talus particles, such that upper particle surfaces were usually clean. A bathtub ring was common but very intermittent on bedrock.

Next page for subsurface oil.

REVIEWED _____ DATE _____

SEGMENT ST/ CH-010 SUBDIVISION B

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER						OILED INTERVAL (CM)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	RO	VO		VO	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	SV	U	M	U				
7	25	X					0 - 10		X	X						X					BC	
8	30					X	-											X			PC	
9	30					X	-									X					g peat	
10	40	X					25 - 35		X	X						X					p oil in peat layer	
11	30	X					10 - 20		X	X						X			X		PC s peat/anoxic	
12	25					X	-												X		PC	
13	25					X	-												X		PC	
14	30					X	-									X					PC	
15	30					X	-											X			PC	
							-															
							-															
							-															
							-															
							-															
							-															

COMMENTS

Only pits 6, 7, 10 and 11 had subsurface oil; this was most visible in the first bay to the east of the high, bare rock promontory after the first pocket beach. The only other subsurface oil detected was in the sandy peat near the surfgrass lagoon. An anoxic lagoon substrate was found nearby, although healthy fauna were in evidence.

ADEC
RTEREVIEWED BVL DATE 4/8/90

SHORELINE ECOLOGICAL SUMMARY

Page 1 of 2
REVISION: 08/20/90

Segment ST CHO10 Subdivision B Date (mo / day / yr) 09.05.90

Time (24 hr) 1230-1500 Biologist KACoates

(A) Substrate type and % of segments:

(1) Bedrock 55 (2) Boulder 5 (3) Cobble 10 (4) Pebble 25 (5) Sand (6) Silt 5

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

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

Photographs: Roll No. ST-14-2

Frames 5-8

BARNACLES

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

NOT PRESENT

L - not seen

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

L - not seen

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

L - not seen

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

L - not seen

Wildlife Observations/ General Comments: Beach survey terminated at 4' (~1.3m) tide. % lower intertidal not covered. beyond superficial - through water observations. Sea otters just west; harlequin ducks - 2 males, 1 female; eagle in flight + vocalizing in trees behind segment; Ecological Considerations: deer droppings in supralittoral

Known sensitivities: deer harvest, recreation, seal: sealion pupping and molting. Heavy, healthy growths of mussels on bedrock vertical faces and dense populations in between cobble and pebble could be used for subsistence or recreational/personal use harvesting. Clams also found in smaller numbers in finer sediments; cobble

Segment: ST-CH010 Subdivision: B Date: 04.05.90
 Time: 1230-1500 Biologist: KA Coates

Notes:

1. Complex subdivision including 5 primary pocket beaches separated by bedrock dykes. The most northerly pocket in segment sheltered by offshore outcrops of bedrock - united to shore by mussel-pebble deposits at lower tides.
2. Fucus and mussel populations at upper and mid-tide levels ^{on bedrock} dense but patchy. Barnacles generally sparse at higher levels - starting below Fucus. B. cariosus moderate in lower mid-intertidal. Small littorines (new settlement, dense in upper + upper-mid intertidal.
3. Littorines dense in few upper intertidal pools with *Spongomorpha-type algae (*note redness of this algae) and in upper mid-tide pools with ?Endocladia / ?Rhodomella.
4. Mytilus moderate to dense from upper mid intertidal around cobbles and among pebbles on all cobble-pebble beaches of subdivision. New recruitment in these habitats dense.

20E
2022

Segment: ST-CH010 Subdivision: B Date: 04.05.90
 Time: 1230-1500 Biologist: KACOSTAS

Notes (cont'd)

5. Third pocket (working from northwest end of segment to east and south) beach with shallow pool and small ^{upper intertidal} surfgrass bed. Mucky bottom, ^(+ wood debris) anoxic just below surface; numerous clam shells in pool area however no live ^{clams} ~~larvae~~ were found — only a minor search was made. ^{Littorines abundant in pool} Small *Protothaca* found on adjacent pocket beach — #4. Beaches 3 and 4 separated by gravel berm covered by beach grasses. Shells found on beaches 3 & 4 included *Protothaca*, *Saxidomus* and native oyster.

6. Fifth pocket beach primarily large cobbles. Large limpets, > 1.5 cm, present in moderate numbers on this beach.

7. Moderate amounts wash algae, primarily *Fucus* but including *Nereocystis*, *Laminarians* & reds, in upper intertidal and supralittoral on these beaches. From upper intertidal to lower mid, *oligochaetes* abundant. Same worms also found in dried up mousse with hemlock needles. These worms are abundant here.

DATE 04/05/00

CHECKLIST

- ☒ H Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Body
- ☒ On Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HMM/LVL
- ☒ SBL
- ☒ Photo Location(s) (idealized!)
- ☒ Profile(s)
- ☒ P/L Location(s)
- ☒ Photo Location(s)
- ☒ Sample(s) sketch

LEGEND

Fig. 4. The Subsurface Oil

Fig. - Subsurface CH

CT/C

Confidentiality Declaration

CT/D

Further Discussion

CT/P

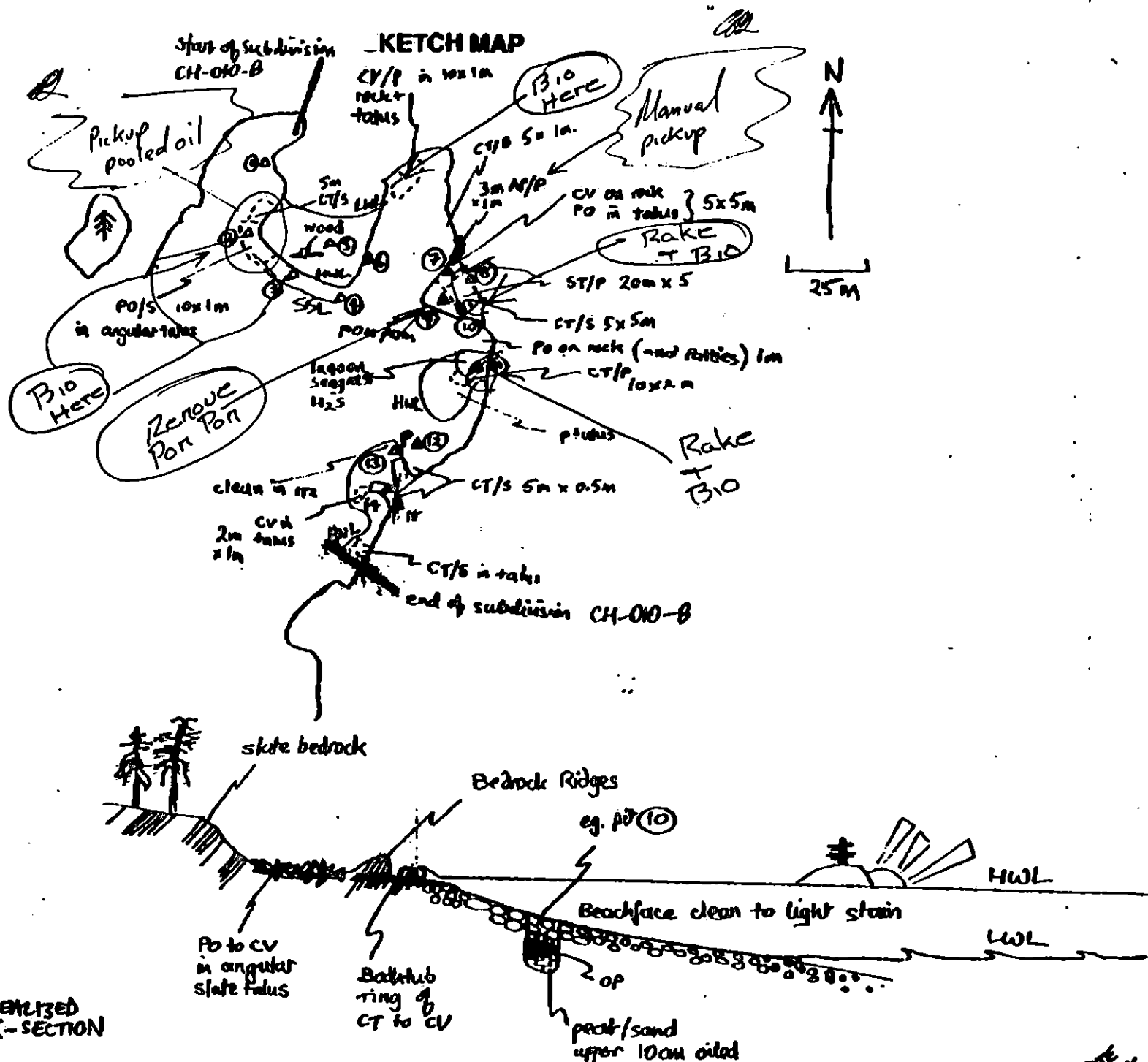
Policy Distribution

CT/S

Submerged Other Property

Old Vegetation

Photo location, director,
and number



Oil Character Length (in): AP 3 PO 12.5 CV 4.5 CT 40 ST 20 MS - PT 1m TB - FL - NO 100

Keywords: child sexual abuse; disclosure; social support

DATE 04 / 05 / 90

CHECKLIST

- ☒ N Area
☒ Approx. Scale
☒ Substrate Identity
☒ Oil Dist.
☒ Width
☒ Length
☒ % Cover
☒ Substrate Character
☒ Est. HPLA/VL
☒ GCL
☒ Source Location(s)
☒ Filler(s)
☒ PH Location(s)
☒ Photo Location(s)
☒ Central sketch

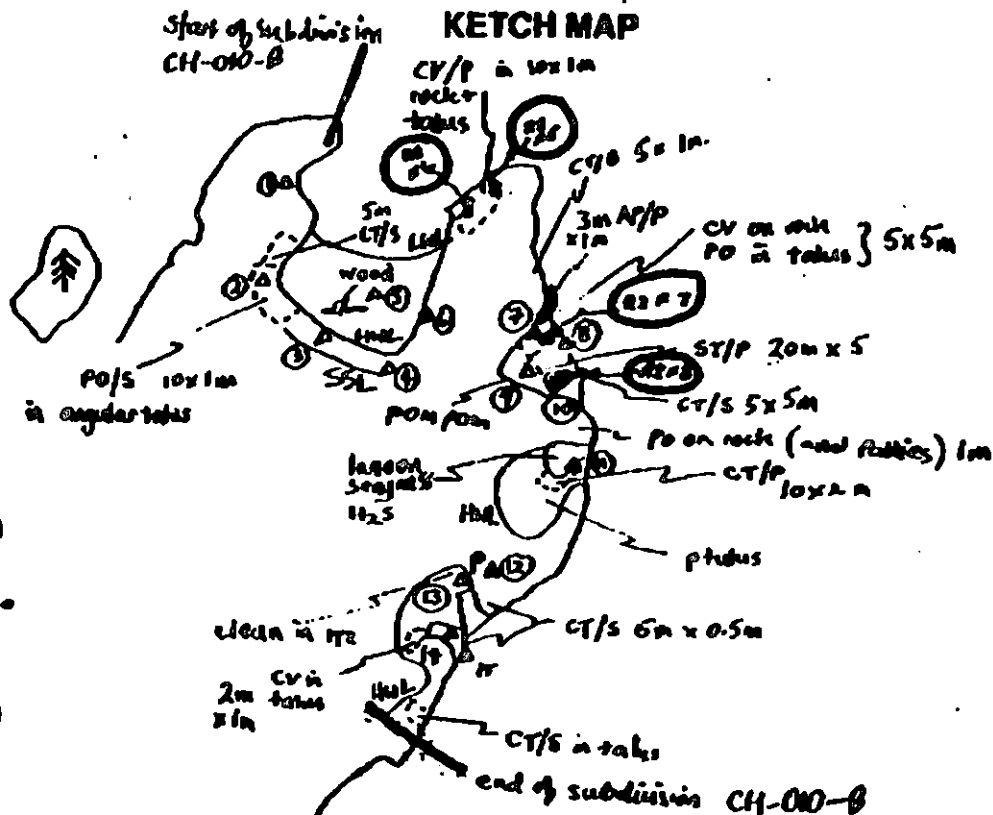
LEGEND

- ① ▲
 Fir - No Subsurface Oil
 ② ▲
 Fir - Subsurface Oil
 CT/C
 Concentric Distribution
 CT/D
 Broken Distribution
 CT/P
 Patchy Distribution
 CT/S
 Splashed Distribution
 Old Vegetation
 1 ➡
 Photo location, direction and number

photograph :

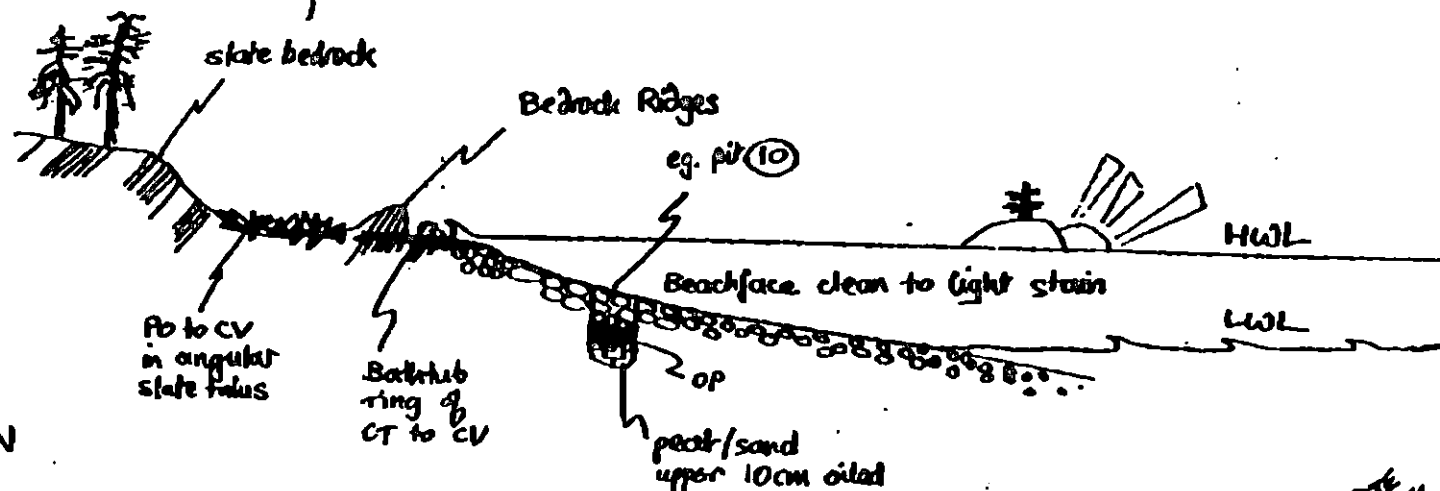
With
PHOTO
LOCATIONS

KETCH MAP



A

25 M

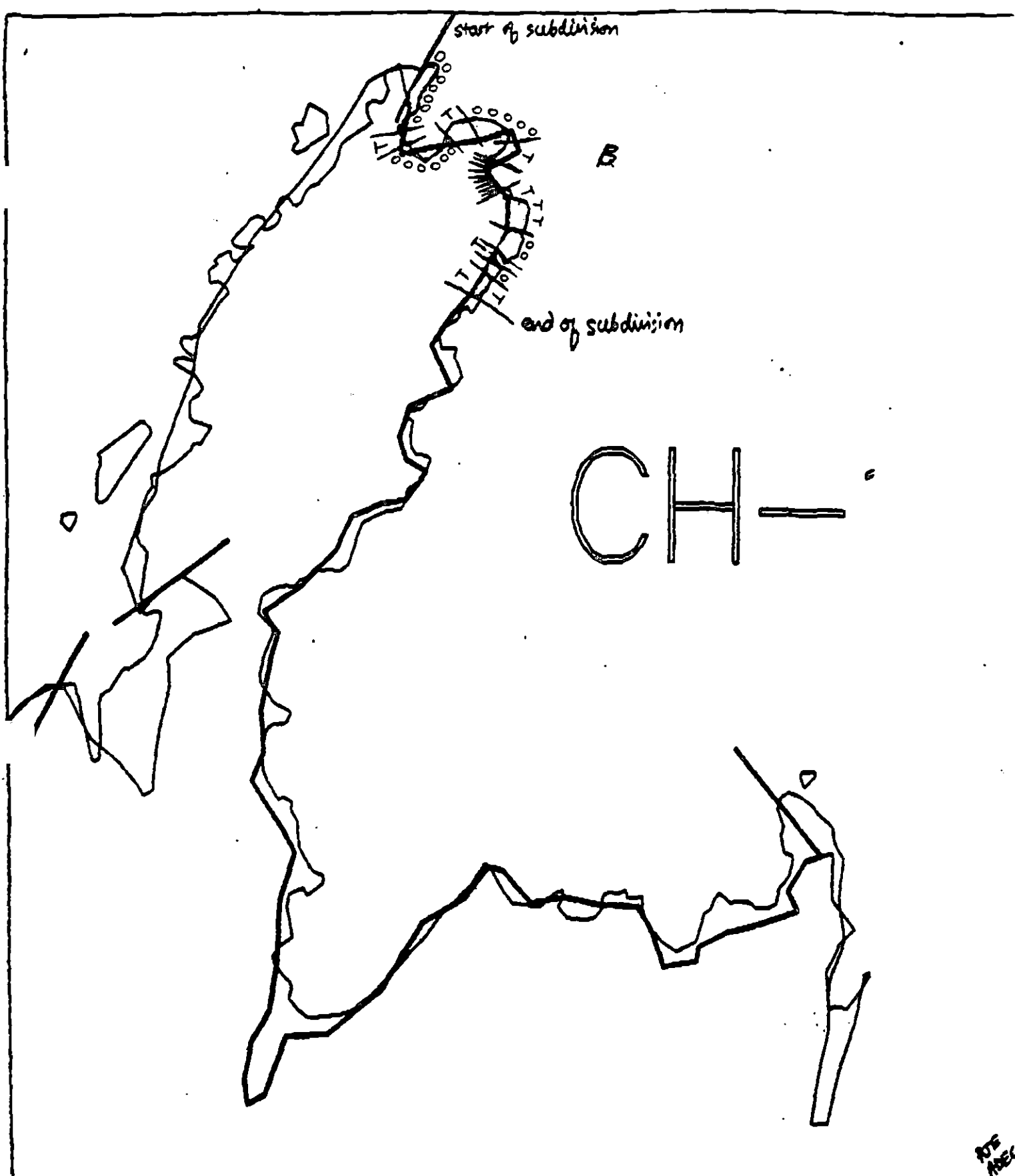


IDENTIFIED
X-SECTION

Oil Character Length (in): AP 3 PO 12.5 CV 4.5 CT 40 ST 20 MS - PT 1m TB - PL - No. 100

FILE
AOL

59



XXXX Wide

//// Medium

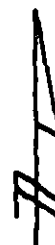
--- Narrow

TTTT Very Light

0000 No Oil

CH-10

ADEC Segment Length: 2545m



Map Key: PWS-36a

Name: D. LITTLE

Date: 4/5/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ CH-10 SUBDIVISION C (3 OF 3) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6U Recreation: Tent sites (6/1 to 9/15)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest in Subdivision A. Do not trample or otherwise damage mussel beds.

SHPO SIGNATURE: Charles H. Hines DATE: 4/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 8 m: V.Light 766 m: No Oil 804 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes manual removal of tarmats, pooled oil, oiled debris and vegetation. Work should be conducted between 7/2 and 8/14 based on pinned constraints, and after approval of ADF&G and USFWS regarding eagle nest.

TAG COMMENTS: MANUAL REMOVAL RECOMMENDED DUE TO RICH INTERSTITIAL BIOTA AND COMMENT OF THE FIELD PERSONNEL NO BIOREMEDIATION.

TAG APPROVAL DATE: 4/25/90

ADEC ART WILSON
EXXON MURRY TAYLOR
NOAA Joseph T. Smith
USCG KENNETH KANE

FOSC: M L DATE: 5-9-90
A Cve Rep to be present

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CH-010 SUBDIVISION: G DATE 4-7-90

ISCG

NAME Kerwin L. Dreher SIGNATURE K.L. Dreher

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Manual pick up of oiled sediments. Trowel splatter from larger boulder faces.
Do not recommend bioremediation.

ADEC

NAME Patrick J. Endres SIGNATURE Patrick J. Endres

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED Pending Biological Cons

COMMENTS Surface oiling observed ranged from tar coats and covers to asphaltting patches. In some areas the first inch or two of fine sediments under the cobbles and pebbles retained a black shiny oil. Subsurface oil noted in one area referred by pit #10 on map. Penetration to 15 cm. (I question any treatment on this area.) The asphaltting areas were sporadic and mostly behind bedrock outcrops in the Htz. Manual removal of the asphalt would be possible. Some of the sediment types are tillable (manually) if this appropriate relative to the wave exposure and any other considerations. If treatment occurred it is possible to avoid much of the mid and low intertidal zones.

LAND MANAGER

NAME Larry M. EVANOFF SIGNATURE LME

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

RECOMMEND MANUAL PICK-UP, TILING AND WASHING IN SELECTED AREAS.
TROWEL / SLAP AS MUCH OIL FROM ROCK FACES AND CRACKS. Pom Pom
NEEDS TO BE PICKED UP. NO BIOREMEDIATION.

SHORELINE OILING SUMMARY

REVISION NO. 03/25/90

OG N. Biggs USCG K. Dreher SEGMENT ST/ CH-010
 BIO K. J. Cooper LAND REP L. Evenoff -CVC SUBDIVISION C
 EXXON G. Stiles ADEC P. Endres TIME 15:30 to 18:05
 TEAM NO.: 14 TIDE LEVEL: 5.0 to 0.5 DATE 4/7/90 #10: 7-7:30P
 EST. SUBDIVISION LENGTH: 1645 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 20 % B 45 % C 30 % P 5 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 40 % Hang 50 % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 10 m VL 710 m NO 925 m

SURFACE OIL

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

PAVEMENT: H F (S) 56 sq. m by 5-6 cmPATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

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

DEBRIS COLLECTED
☐ YES ☒ NOTYPE /
#BAGS /Photographs: 90m pms Exon current buoyRoll No. 2Frames 16, 17

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		SO	UC	W	Y	OR	GR	BL	PK	LT	DR	SU	U	M	L		
1	10					X	-		X											X			C, P
2	15					X	-		X										X				C, G
3	18					X	-		X											X			P, G
4	18					X	-		X											X			P, C
5	18					X	-		X										X				P
6	7	X					0-2	X	X									X					C, b

COMMENTS Oiling along this segment consist predominantly of a drip band on rock faces; there are a few asphalt patches, and in a beach behind a Nk pt. of med. segment and at the S end of the segment. In vicinity of pit (20) there was a sheen on the beach surface at low tide. Sheen extends across the beach to a south about 10m. Only a thin (1 to 2 cm) of oiled veneer was detected in the substrate. Pebble beach on S end of segment is very protected. Remainder of segment receives low to moderate wave action. Extreme eastern end of segment is a boulder / tidal beach and was

SEGMENT ST/ CH-010 SUBDIVISION C

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	SU	U	M	L		
7	10					X	.	X									X				C, P, g
8	15					X	.	X									X				C, P, g
9	8	X					0-5	X				X				X					C, P
10	35		X				5-15	X	X									X			C, P, g
11	20	X					0-6	X	X								X				C, P
12	20					X	.	X									X				P, g
~~13~~	~~20~~					X	.	X													~~P, g~~
14	15					X	.	X									X				C, P, g
15	20					X	.	X									X				P, g
16	10		X				0-2	X				X						X			C, P
17	15					X	.	X										X			C, P
18	15	X					0-2	X				X					X				C, P over peak
19	20					X	.	X										X			P, g
20	20				X		-*	X			X								X		C, P, g
13	10		X		X		0-2	X		X	X								X		C, P, g, over peak

COMMENTS

surveyed by helicopter only. * Sheen on H₂O in pit

REVIEWED

7W

DATE

4/13/90

MOEC
PTE

SHORELINE ECOLOGICAL SUMMARY

1 of 3

REVISION: 02/22/90

Segment ST / CH010 Subdivision C Date (mo / day / yr) 04.06.90

Time (24 hr) 1855-1913 Biologist LA Coates
(74) 1537 1805

04.07.90

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

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

(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: Cobble + boulder beaches and headlands combined. Dense, new settlement barnacles noted throughout subdivision on both 6 & 7 April. Water clarity dropped in segment - greenish, possible early plankton bloom. Known sensitivities: deer harvesting; recreation - anchorage, fishing, special use; seal; sea lion pupping and molting. Two deer carcasses in supralittoral. Ecological Considerations: rocks; wolverine den; seal carcass; juvenile (c. 2 yr) eagles; abundant deer droppings.

Diverse habitat, productive, relatively low energy. Embayed area apparently provides a good invertebrate spawning area. Within northern Chenega Island area and around Point Nowell, the barnacle spat seen is the densest and most recent. Spat coat all available rock surfaces from lower intertidal to inner intertidal. Possibly an important marine mammal;

Segment: STCHO10 Subdivision: C Date: 04.06.90 Time: 1855-1913
 Biologist: KA Coates 04.07.90 1537-1605

Notes:

1. Surveyed from northwest to southeast - beginning at boundary of STCHO10 Subdiv. B. Includes 8 cobble beaches and headlands or sills/dykes between.
2. Beaches consisting of smaller mobile cobble, B. nearer mouth of bay and second last in subdivision, without attached Fucus, Littorines, mussels or barnacles. Fucus wash with Agarum cribosum & Laminarians abundant just above last high-tide line. Oligochaetes & nemertans moderately abundant under cobbles from mid to upper intertidal.
3. More sheltered beaches and/or beaches with larger cobble and with bedrock intrusions, with moderate to dense mussels on underside of boulders and in crevices to higher mid-tide; Littorines abundant in crevices in bedrock at supralittoral and upper intertidal also very abundant in patches of Enterocladia at mid to upper intertidal. Macoma balthica and Saxidomus shells & live Saxidomus moderately abundant in lower intertidal between cobbles. Mytilus dense at ends of beaches near bedrock outcrops from mid to lower intertidal; Fucus moderately abundant in the same areas. Limpets, Nucella, amphipods, relatively abundant under cobble at low water line (-+3'); moderately abundant serpulids (tubes) on undersides of cobbles.
5. Innermost, longest cobble beach at southeast end of subdiv. C. with Littorines and limpets moderate to dense on and under cobbles up to upper intertidal. Nucella, large green amphipods, spawning Leptasterias and blennies moderately abundant at low water under cobble. Barnacle spot dense on large cobble from low to lower upper intertidal. Snail egg masses moderate

RTE
MOCK

Segment: STCH010 Subdivision: C Date: 04.06.90 1855-1913
04.07.90 1537-1805

Biologist: KA Coates

Notes (cont'd)

5. (cont'd) under cobble throughout same area. Fucus, spaghetti brown, sparse at low water; Palmeria, Polydiponia and filamentous greens abundant.
6. Bedrock headlands with moderate covering Endocladia + filamentous greens at upper mid-intertidal. Littorines dense on Endocladia patches and in upper intertidal pools. Mussels, including newly settled, dense in crevices & cracks on bedrock through midtidal. Nucella lamellosa moderately abundant from lower mid-intertidal to lower. Live littorines, barnacles and mussels sparse in oil-hemlock needle coating at upper intertidal.

AKEL
PTE

OG N. gas
 SEGMENT ST/ CH-010
 SUBDIVISION C
 DATE 4.7.90

ETCH MAP

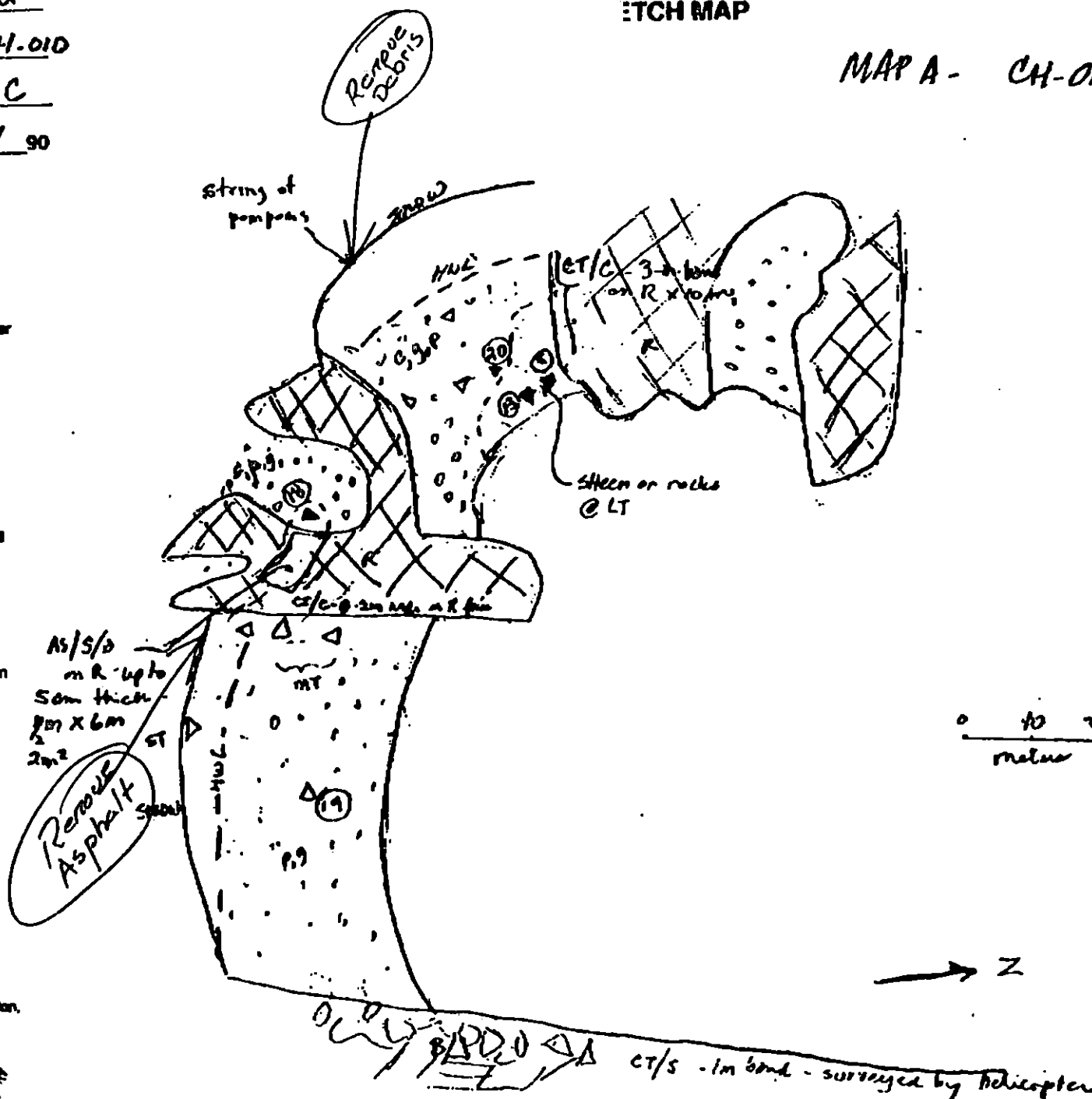
MAP A - CH-010-C

CHECKLIST

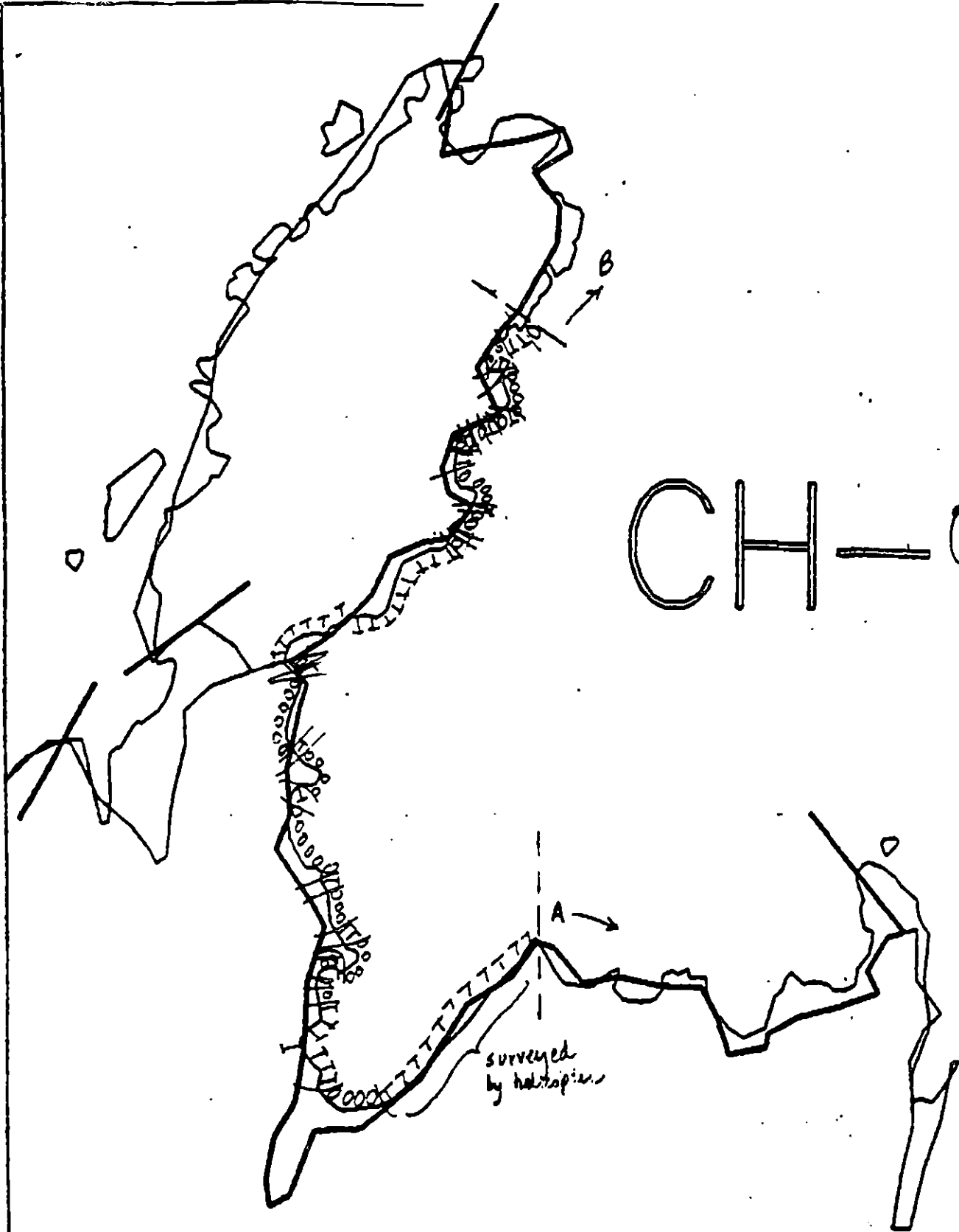
- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HWT/LWT
- ☒ SSL
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ Pli Location(s)
- ☒ Photo Location(s)

LEGEND

- 1-△
Pl - No Subsurface Oil
- 2-△
Pl - 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



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



CH-010-C

ADEC
RF

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

CH-10

ADEC Segment Length: 2545m



Map Key: PWS-36a

Name: H. Biggs

Date: 4/8/92

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CH-10 SUBDIVISION C (3 of 3)

WORK WINDOW

Manual Pickup
Tarmat Removal

CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1K	Purse Seine Area	No constraint to manual pickup and tarmat removal.
3N,O 3P,Q	Harbor Seal and Sea Lion Pupping and Molting	NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.
5T	Bald Eagle Nest	Closed to manual pickup and tarmat removal. USFWS 6/1/90 map indicates 2 active nests within 400m of the subdivision. Access denied by Mike Lockhart/ USFWS on 5/12/90 survey (see map).
7II	Subsistence: Deer Harvesting	No constraint to manual pickup and tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

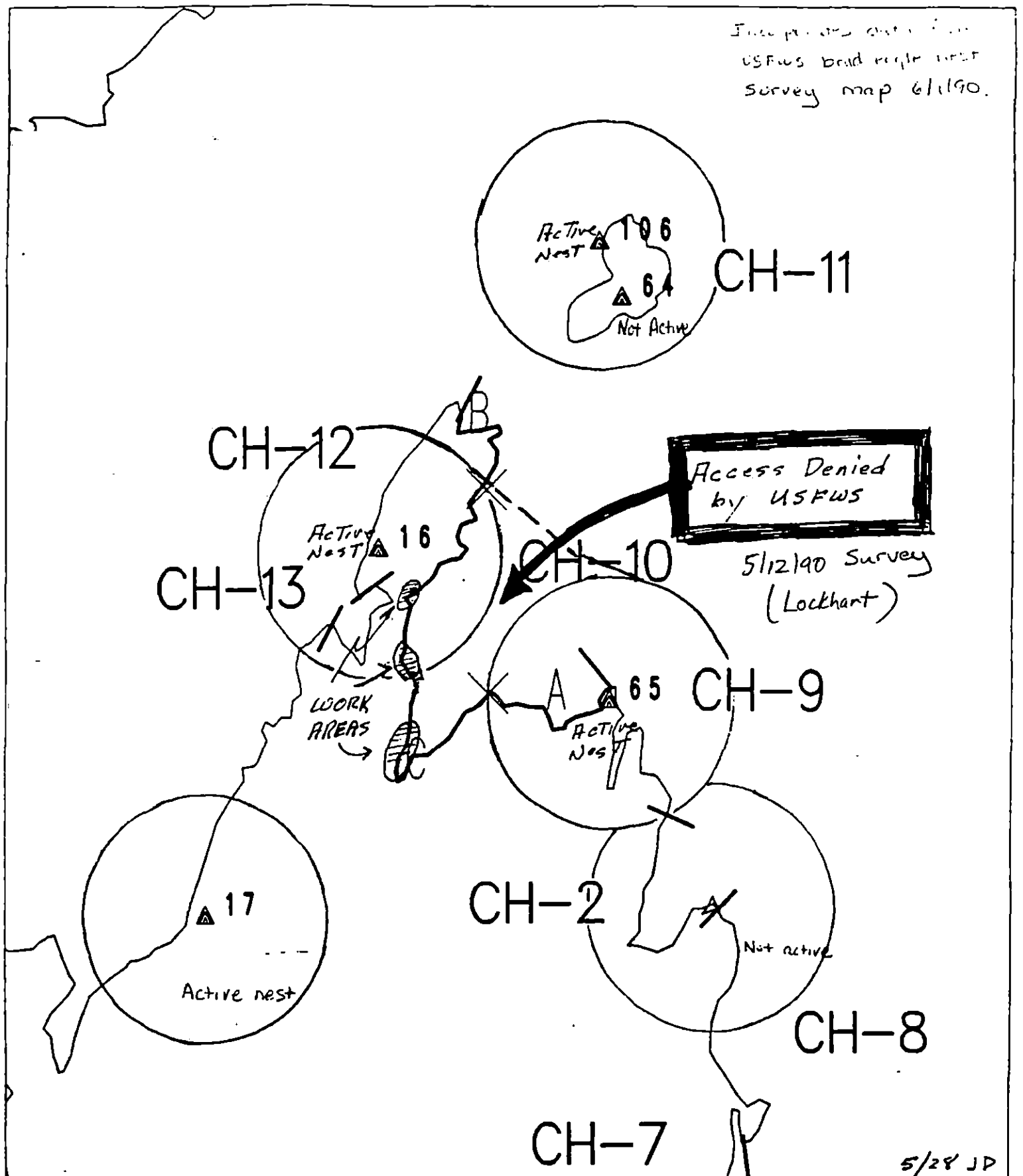
Date

Prepared by

Date

[Signature] *6/16/90*
[Signature] *6/14/90*

Field photos taken from
USFWS band night nest
survey map 6/1/90.

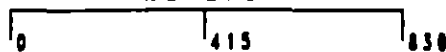


Exxon Company, USA
Map Key: PMS-CH-10
May 11, 1990 ✓

ECOLOGY MAP 5/28 SEGMENT CH-10

SUBDIVISION C (3 of 3)

METERS



Seabird Colony



Eagle Nest

1 inch = 1362 feet

7057

ASAP FOLLOWUP RECOMMENDATIONS - TEAM 3

Segment: AS/ CH-10 Subd.: C Site: 1 Date: B-4-90 1990

Conditions Observed: DEEP COVE AT THE SOUTH END OF THE SEGMENT
HAD A BROKEN BAND OF OILING WHICH IS CHARACTERIZED AS PATCHES
OF OIL AND SOME SUBSURFACE OIL TO A 5 CM DEPTH.

Followup Recommendations: THE ORIGINAL WORK RECOMMENDATIONS DID NOT
INCLUDE BIOREMEDIATION AND ASAP TEAM 3 IS RECOMMENDING AN ASSESSMENT
FOR BIO REMEDIATION POSSIBILITIES.

Completed by Pickup Crew: ☐ YES ☒ NO

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

ADEC

BOB MCCREARY
 (name)

Robert G. McCreary
 (signature)

Comments: Prior to bioremediation, manual tilling is recommended

Exxon

RANDALL K. BOYER
 (name)

Randall K. Boyer
 (signature)

Comments: MANUAL TILLING AS REQUIRED PRIOR TO BIOREMEDIATION.

USCG

Don Denis, USCG
 (name)

[Signature]
 (signature)

Comments: Recommend manual break up of oil slicks prior to application
of any bioremediation.

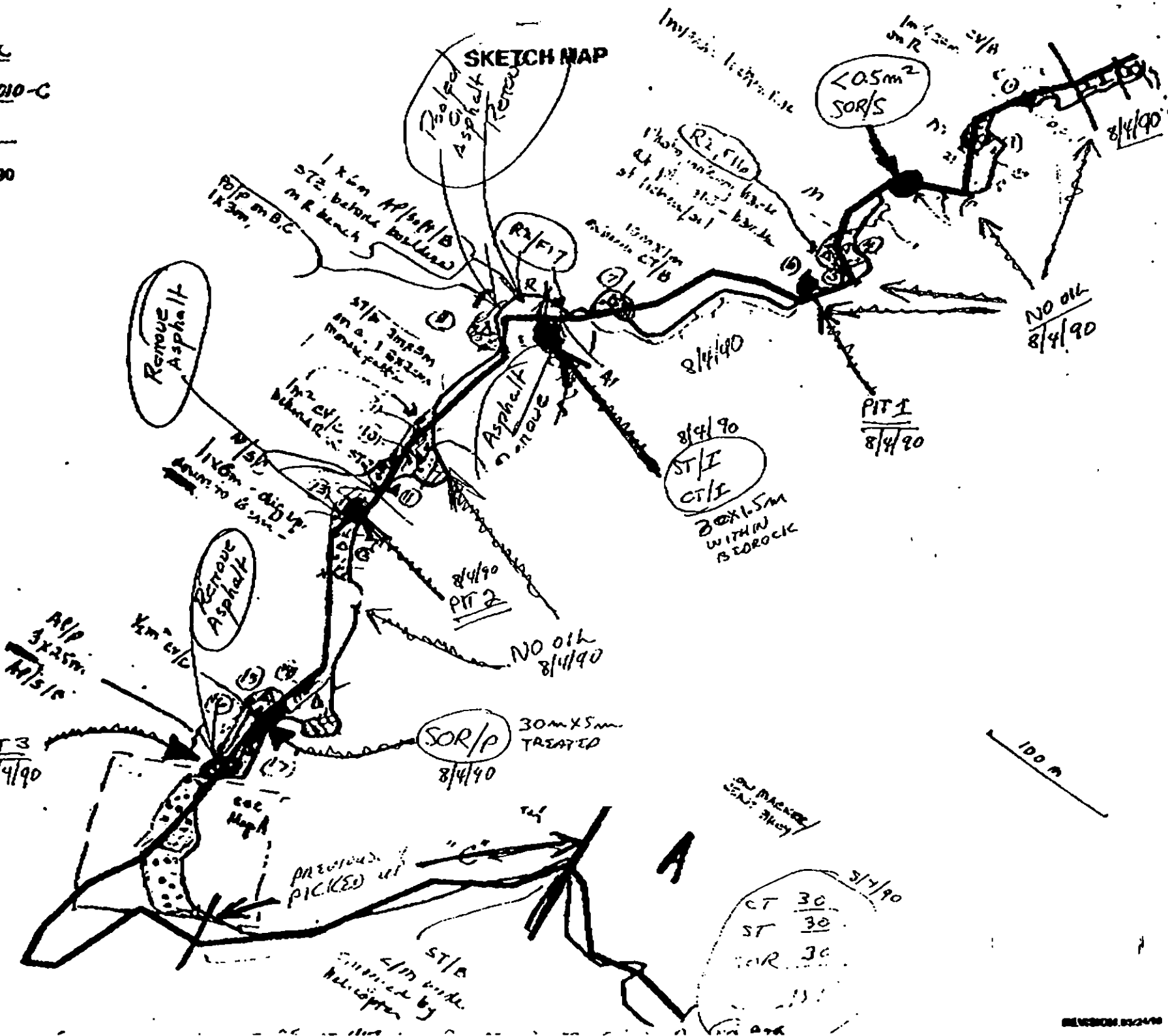
Land Rep.

Steve L. Hoo CUC
 (name)

[Signature]
 (signature)

Comments: Above Comments will describe

REC



REVISED 12/24/94

ASAP

SEGMENT AS1 CH-10 SUBDIVISION: C SITE: 1 DATE 8-4-90SCGAME David C. Noe NOAA
Don Davis (USEC)SIGNATURE David C. Noe☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Area of oiling is relatively small. Would give low priority to 1990 bioremediation (as per Randy Boyer) & to 1991 reassessment.

Can
go

ADECNAME Bob McCreadySIGNATURE Robert G. McCready☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: A Work Order Mod. Rec. was submitted calling for bioremed. of this section following tilling. An area of OR (heavy) which surfaces periodically along a bank approx 30-35m. Substrate OR oil is of patchy distribution. Above area is in cone at South end of CH-10. This is a priority reassessment site for '91 but no further work is required in '90.

AND MANAGERNAME Joe WARD CVCSIGNATURE Joe Ward☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Shells have more material and b.b.d. Small oiling that should be dealt with.

EXXONNAME RANDALL K. BOYERSIGNATURE Randall K. Boyer☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

THE SUBDIVISION HAS NOT BEEN RECOMMENDED ~~FOR~~ FOR BIOREMEDIATION AND A WORK ORDER MODIFICATION HAS BEEN SUBMITTED FOR WORK IN 1990. THIS AREA ~~SHOULD~~ SHOULD BE REASSESSED IN 1991 FOR BIO EFFECTIVENESS.

00 N. BIGGER

SEGMENT ST/ CH-20-C

SUBDIV M C

DATE 7/8/90

CHECKLIST

- ☒ H Area
- ☒ Approx. Scale
- ☒ Spot/Sub Body
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. MIN/LAM.
- ☒ SCL
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ Photo Location(s)
- ☒ Photo Location(s)

LEGEND

1 Δ
P1 - No Substrate Oil

2
P1 - Substrate Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

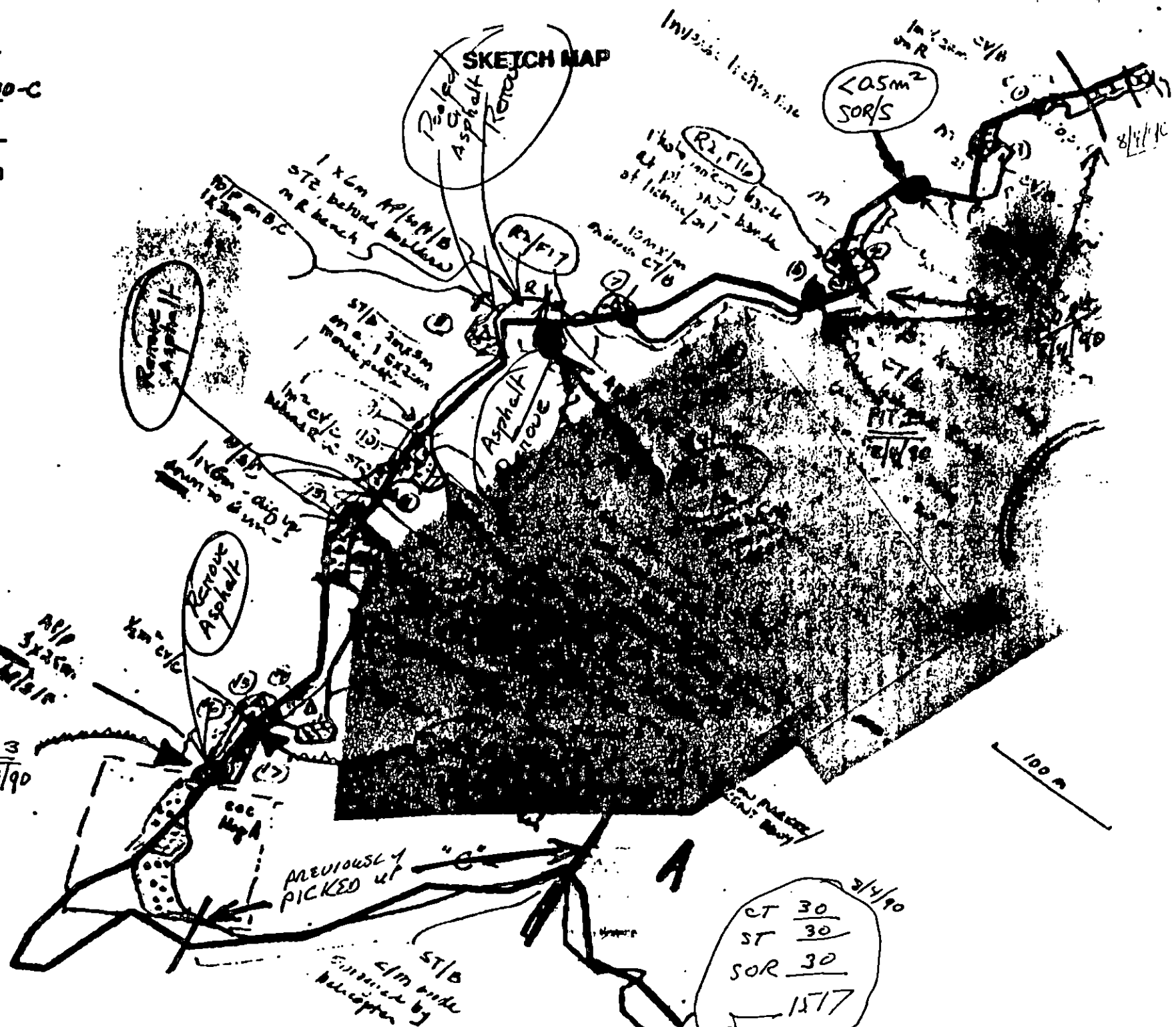
CT/P
Patchy Distribution

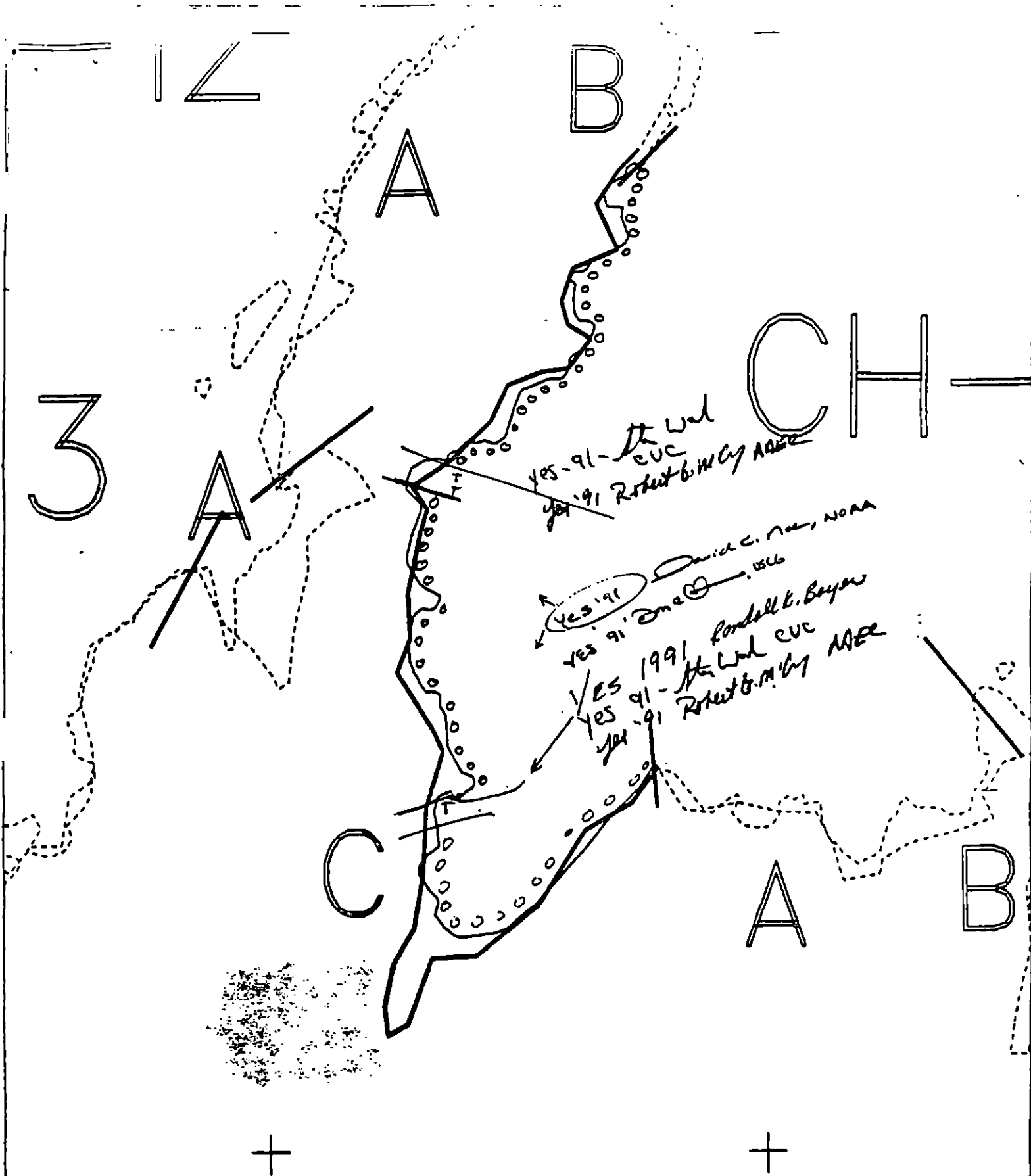
CT/S
Spotted Distribution

Cloud Vegetation

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

REC
RUE





--XX Wide
 . . . / Medium
 -- Narrow
 . . TT Very Light
 0000 No Oil

CH-10 C

ADEC Subsegment Length: 1577m

METERS

0 130 277

AK State Plane Zone 4
pcb-10c

1:5450



Subdivision Field Map

Map Key: PWSCH-10C

Name: NAKASHIMA

Date: 8/4/90

Date Entered:

GENERAL DATA

SEG ID: CH-10 SBOV: C SITE: 1 TEAM: 3 DATE: 8-4-90
SITE LGTH 1577 OIL CATEGORIES: W - M - N - VL 60 NO 1519 U -
1991 REASSESSMENT: USCG: Y ADEC: Y LONGR: Y EXXON: Y

SURFACE DATA

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

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

CHAR #: 3 OIL CHAR: CT OIL DIST: CONT - BRKN - PTCH I SPLH -
TIDAL ZONE: SU - UI X MI - LI -

CHAR #: 4 OIL CHAR: ST OIL DIST: CONT - BRKN - PTCH I SPLH -
TIDAL ZONE: SU - UI X MI - LI -

CHAR #: 5 OIL CHAR: NO OIL DIST: CONT - BRKN - PTCH - SPLH -
TIDAL ZONE: SU X UI - MI X LI X

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

CHAR #: 7 OIL CHAR: NO OIL DIST: CONT - BRKN - PTCH - SPLH -
TIDAL ZONE: SU - UI - MI - LI -

CHAR #: 8 OIL CHAR: NO OIL DIST: CONT - BRKN - PTCH - SPLH -
TIDAL ZONE: SU - UI - MI - LI -

CHAR #: 9 OIL CHAR: NO OIL DIST: CONT - BRKN - PTCH - SPLH -
TIDAL ZONE: SU - UI - MI - LI -

CHAR #: 10 OIL CHAR: NO OIL DIST: CONT - BRKN - PTCH - SPLH -
TIDAL ZONE: SU - UI - MI - LI -

ASAP DATA ENTRY FORM

SUBSURFACE DATA

PAGE 2 OF 2SEGMENT ID: CH-10 SUBDIV: C SITE: 1PIT # 1 PIT DEPTH 30 OIL CHARACTER NO OIL INTVAL: FROM - TO -
CLEAN BELOW: - PIT ZONE: SU - UI X MI - LI -SUBSURF SEDIMENT: BRK - BLD - COB - PEB X GRN X SAN - MUD - VEG -PIT # 2 PIT DEPTH 20 OIL CHARACTER NO OIL INTVAL: FROM - TO -CLEAN BELOW: - PIT ZONE: SU - UI X MI - LI -SUBSURF SEDIMENT: BRK - BLD - COB - PEB X GRN X SAN - MUD - VEG -PIT # 3 PIT DEPTH 18 OIL CHARACTER NO OIL INTVAL: FROM - TO -CLEAN BELOW: - PIT ZONE: SU - UI X MI - LI -SUBSURF SEDIMENT: BRK - BLD - COB X PEB X GRN X SAN - MUD - VEG -PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG

SHORELINE EVALUATION

SEGMENT ST/ CH-11 SUBDIVISION A (1 OF 1) DATE 4/23/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
6V Recreation: Anchorages (6/1 to 9/15)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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

OILING CATEGORIZATION:

Wide 0 m: Medium 122 m: Narrow 0 m: V.Light 1038 m: No Oil 75 m
Subsurface Oil Observed: Yes X No Maximum Depth 22 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pickup of tarballs in area indicated on sketch map, 2) manual removal of tarmat in area indicated on sketch map, and 3) bioremediation of area indicated on sketch map. Work should be conducted between 7/1 and 8/15 due to pinniped constraints and with approval of USFWS regarding eagle nest. Inipol application should be conducted between 7/2 and 7/31 to protect pinnipeds.

TAG COMMENTS: Manually till areas near pits 3, 5, 6 and 20. Spot wash as necessary

TAG APPROVAL DATE: May 5 1990

ADEC ART WEINER Art Weiner

EXXON Mark N. Silber Mark N. Silber FOSC:

NOAA Gary Petrac Gary Petrac

USCG G.A. REITER G.A. Reiter

DATE: 6-17-90

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
 AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)
 1E Main Bay Hatchery release (4/20 to 6/15)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
 AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (6/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (6/11 to 7/25)
 Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3P 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
- 8T 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
 7JJ 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/ CH11 SUBDIVISION: A (ENTIRE SEGMENT) DATE 4/23/90

USCG

NAME JERRY SCHULTZ

SIGNATURE Jerry Schultz

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

RECOMMEND BIOREMEDIATION IF DONE WITHIN CERTAIN TIME CONSTRAINTS BENEFITTING WILDLIFE CONCERNS. WOULD ALSO RECOMMEND MANUAL PICKUP FOR ANY REMAINING ASPHALT. THIS TREATMENT SHOULD BE LIMITED TO AREA INDICATED ON SEGMENT MAP.

ADEC

NAME MIKE EBEL

SIGNATURE Michael Ebel

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

CH-11-A: This small island was composed mostly of steep bedrock cliffs interwoven with small gravel/cobble pockets. Most bedrock had a band of stain and coat ranging from 1C through 1S at the UTZ. The average value for this band would probably be a 1B coat, $\frac{1}{2}$ m in height. On the west side of island a 1B cover was found under the boulders ≈ 2 m². south of this spot occasional splashes of pool tar (very small) were found in bedrock interstices. On the east - NE side of island a wide band was found on the lowering angled part of beach in the UTZ. (cont.)

LAND MANAGER

NAME DAT SELANOFF (CK)

SIGNATURE Dat Selanoff

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

TREATMENT: Manual pick up + ~~ASBESTOS~~ WASH DOWN would be my suggested option. If necessary bioremediation. It is ass. to get a rig in this area.

43/46

1.)
(cont.)

CH-11-A

Mike Ebel ADEC

4/23/90

This cobble/pebble matrix was overlain with an asphalt pavement that was nearly continuous in a band ~~about~~ $\approx 20 \text{ m} \times 1 - 2 \text{ m W.}$ Under the asphalt (which continued to grade down in distribution, into splashes) a layer of ~~DBL~~ pool OP was found underlain by a more weathered DBR OR down to the peat layer that was widespread in this beach section (formerly a part of the uplands that had slumped — likely from tectonic activity, perhaps from the 1964 earthquake). Thus, asphalt pavement averaged $\approx 8 \text{ cm}$ thick grading into an OP layer that extended down another couple of cm, finally grading into a weathered OR that gave a surface to depth layer of $\approx 14 \text{ cm}$ ~~thick~~. Most sediments were pebbles; and again an emphasis is made on the spongy peat layer that underlayed the area in focus. Two things are important to remember here: 1.) sediment removal or disruption (as in most beaches but particularly those underlain by decayed vegetation like peat and/or detrital debris) are potential sources of generating high levels of turbidity into the LITZ and near shore zone and 2.) the oil for the most part is bounded by such "organic lenses" from subsiding into any further depth — with enough agitation oil could be driven into a disturbed peat lens where it would probably require a surfactant to release it (if that would then become the goal). My point is simply to be very careful with this sensitive spot, for it is surrounded by ~~several~~ ⁰⁴ pinned haul-~~ing~~ shore-bird nesting sites, and an off-shore eel-grass bed which of itself is an incubation zone for numerous 44

2.)
(cont.)

CH-11-A

Mike Ebel ADEC

4/23/90

be sure to schedule in accordance with all ecological constraints and windows.

* My recommendation would be to manually remove the aforementioned AP band to a depth of about half way down into the OR sedo the remainder of the oil, and of this zone of contamination (in total $\approx$ 70 m L X 10 m W as it grades into patchy and splashed distribution could be agitated carefully with garden rakes (especially if some custom made rakes were made, having perhaps seven tines — each being $\approx$ six inches long — with a good solid handle) and then seeded with

* granular fertilizer. An LCM could access the area if careful — and specially adapted 2 wheel garden carts (having wide flotation tires, pneumatic) could take the place of wheel barrows and could be made to be moved by an out-of-the-way handle for hand use, and also equipped with a hitch to pull around by four-wheelers viz. into the LCM.

Note: The overall dimension of the E-NE shoreline is given in approximate, angular areal dimension. In reality all of the distributions and textures taper in all 3 dimensions. The oiling was treated as such for estimations of treatment operations. End

Michael J. Ebel ADEC

SHORELINE OILING SUMMARY

REVISION NO. 06-13-90

OG Randy Siegel USCG Jerry Schultz SEGMENT ST/ CH-11
 BIO Lewis Sherman LAND REP Port Salanoff Cove SUBDIVISION A (1 OF 1)
 EXXON Leonard Kerbst ADEC Mike Abel TIME 08:00:00
 TEAM NO. 12 TIDE LEVEL +0.3 to +3.2 DATE 4/23/90
 EST. SUBDIVISION LENGTH: 1947 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: SE to NW to SE ()
 SURFACE SEDIMENTS: R 40 % B 20 % C 15 % P 15 % G 10 % S 0 % M 0 % V 0 %
 SLOPE: Lang 60 % Hang 40 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 150 m N 0 m VL 1677 m NO 120 m

SURFACE OIL

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

PAVEMENT (H) F S 75 sq. m by 2 cmPATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

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

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE Plastic debris#BAGS 1

Photographs:

Roll No. ST-12-7Frames 10-13

SUBSURFACE OIL Δ-OILED INTERVAL < 5cm IN PITS 3, 5 AND 6 DOES NOT CONSTITUTE SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	SURFACE-SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	SW	U	M	N			
1	40					X	0.0	X						X					-	G
2	20					X	0.0	X						X					-	S
Δ* 3	22	X					0.15	X			X			X					-	P, R
4	20					X	0.0	X						X					-	P
Δ* 5	25	X					0.15	X			X			X					-	P
Δ* 6	22	X					0.13	X			X			X					-	P

COMMENTS *worst oiling type found. Some OR (LBU) was present immediately OP in each interval.

This segment consists of an island. Uplands are variable - often bedrock outcrops with gravel-puddle beaches or gravelly areas. A lot of coating-staining of bedrock cliffs or boulders around perimeter of island. The northern end of the island had a ^{continuous} band of asphalt several meters in width with variable distribution. ^{away from the bank} The asphalt was underlain by light brown, soft ^{pooled} oil, which penetrated as deep as 22 cm locally.

REVIEWED SW DATE 4-25-90

Manual pickup + bioremediation in this area were discussed by Exxon, ADEC + local. A lot of seal in this area appears to have converted

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 06-13-90

SEGMENT ST/ CH-11 SUBDIVISION A (2 OF 2)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SHEEN (Y/N)	F	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	6	BU	U	M	U				
7	33					X	0-0		X								X				Y	23	P
8	30					X	0-0		X								X				-	-	P
9	25					X	0-0		X								X				-	-	P
10	15					X	0-0		X								X				N	14	P
11	18					X	0-0		X								X				-	-	P
12	20					X	0-0		X								X				Y	16	P
13	20					X	0-0		X								X				-	-	P
14	20					X	0-0		X								X				N	12	P
15	30					X	0-0		X								X				Y	20	P
16	22					X	0-0		X								X				-	-	P
17	25					X	0-0		X								X				-	-	G
18	17					X	0-0		X								X				-	-	G
19	30					X	0-0		X								X				-	-	G
* 20	33	X					5-22		X					X		X					-	-	P

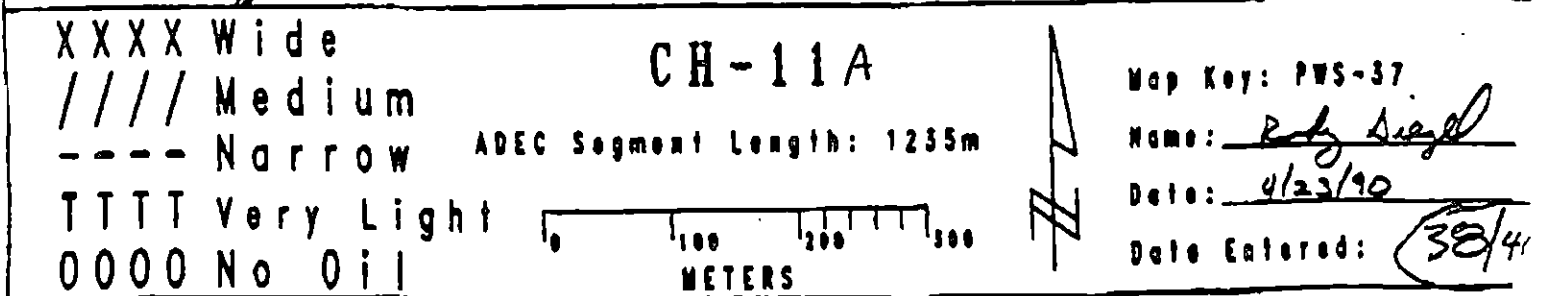
COMMENTS

37/46

REVIEWED

JW

DATE 4-25-90



Segment ST / CH-11 Subdivision A Date (mo / day / yr) 4/22/90Time (24 hr) 0805-0900 Biologist SHARMAN(A) Substrate type and % of segment: SUBDIV.
(1) Bedrock 40 (2) Boulder 20 (3) Cobble 15 (4) Pebble 15 (5) Sand 10 (6) Silt granular(B) Overall % cover of biota (% of segment): Dense SUBDIV. Moderate X 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-12-7Frames 10, 11, 12, 13

BARNACLES

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

MYTILUS

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

GASTROPODS (ANCELA, LITTORINA, LIMPAETS)

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: 10 pairs unidentified gulls (probably glaucous-winged), 20 pairs herring gulls, 5 pairs oystercatchers, 4 pairs (?) cormorants, ~ 8 crows, 1 magpie, 1 adult eagle, 1 Canada goose. Almost all these birds associated w/ islets off N. end of island. For the first time this spring, the birds appear to be getting serious about nesting. Saw seagulls. 2 other cormorants (see sketch above) - lower + side, (cont.)

Ecological Considerations:

Resource sensitivities previously identified for this segment include use as a pinniped haulout (harbor seal/sea lion pupping/nesting - codes 3N, O, P, Q), 2 bald eagle nests (code 5T), anchorage (code 6V), Special Use Destination (code 6Y), and subsistence deer harvesting (code 7II). (cont.)

40/46

Sherman
4/23/90General Comments (cont.):

unraveled, both older adults, cause of death unknown. The E. & N. ends of the island (at least) appear to have been downlifted 3-4m by the 1964 earthquake - in situ large tree stumps in the MTE & UTE, exposed sedge peat platforms in intertidal zone, forest soil (?) organic horizons in UTE overlain by several cm of black material. (These organic layers appear to be a very effective barrier to depth penetration by oil). Locally there are large volumes of drift in wrack lines - all are oil free. Intertidal communities normal & healthy, locally very productive, especially LTE. Edgroom in some rock tidepools, & much of island is surrounded by shallow subtidal eelgrass communities. Locally there are vertical bands of weathered oil coat on high-angle bedrock/large boulder surfaces - barnacle mortality is to 60% within this band, 5% outside the band. We missed the previously-mapped eagle nest on the E. shore, but did see the other one (see map) - it appeared inactive. A diverse rocky LTE sloping out to fine-grained bivalve/sperm/diverse algae/edgroom shallow subtidal community. Fine-grained pocket beaches have Sepidomus/Mya/Macoma shells.

Ecological Considerations (cont.):

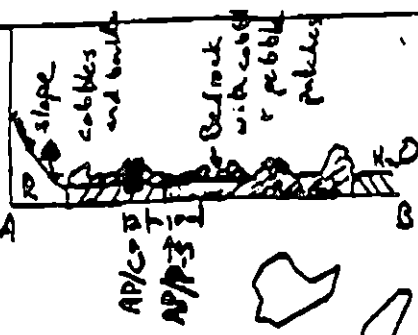
The rocky points & especially the offshore islets N. side are clearly critical pinpoint habitat as well as important seabird/shorebird nesting habitat. Timing constraints should be carefully considered since these animals can be severely impacted during highly sensitive time periods by human activity. Note the possibility that the presently inactive eagle nests may yet become active. The shallow offshore eelgrass system is extremely productive spawning/rearing habitat for a variety of marine species of commercial/subsistence importance & such systems are known to be fairly sensitive to physical disturbance. In general, this island can be considered to be ^{moderately} sensitive to human intrusion & accompanying physical disturbance at a level of 8 on a scale of 1-10 (5 = normal, average sensitivity; 10 = extreme sensitivity).

4A/46

SKETCH MAP

MAP

10 m



Area about 20 meters from shoreline had been oiled. Asphalt patches underlain locally by pebbles extending into subsoil. From E to W across this area: 30 m x 12 m and 70 m x 5 m, splash-d ST-CV/B (70%) on rocks.

Area of suggested on pickup and biotene AREA #1 ON FIELD

CH

ST(2)
3NF 300
6Y, 6V
7II



Oil character length (m):

AP 100 PO 100 CV 10 CT 100 ST 100 MS 10 PT 10 TB 10 FL 10

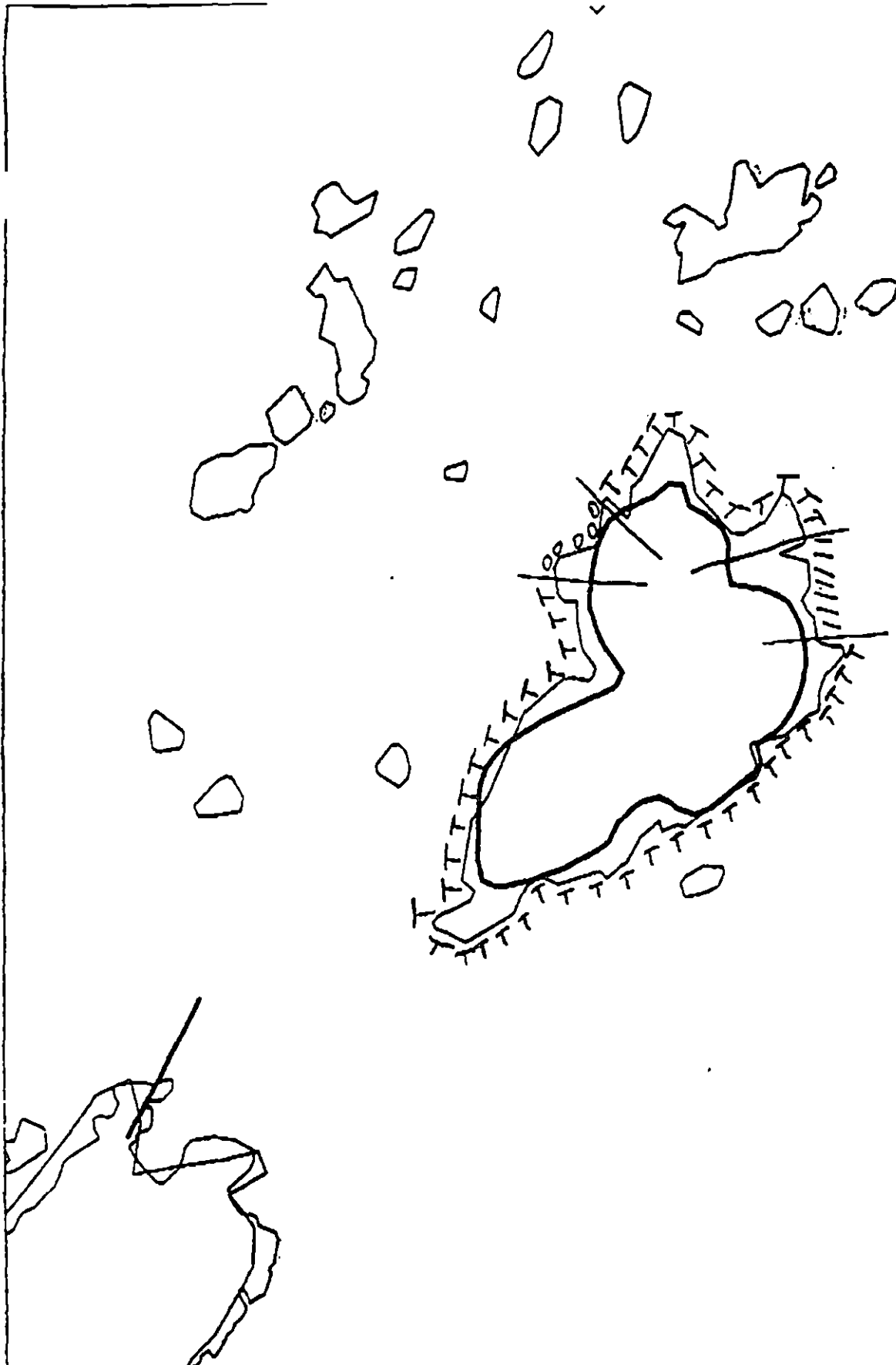
XXXX Wide
//// Medium
--- Narrow
TTTT Very Light
0000 No Oil

CH-11A

ADEC Segment Length: 1235m



Map Key: PWS-37
Name: Barry Arnesen
Date: 4/23/90
Date Entered: 3E



CH

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

CH-11A

ADEC Segment Length: 1235m



Map Key: PWS-37

Name: Randy Siegel

Date: 4/23/90

Date Entered:

39/46

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CH-11 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup Tarmat Removal	CLOSED
Bioremediation Spot Washing Manual Tilling Other Approved Treatment	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q	Harbor Seal & Sea Lion Pupping and Molting	NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.
5T	Bald Eagle Nest	USFWS bald eagle impact assessment conducted on 5/12/90 by Mike Lockhart indicates an active nest in the Subdivision. Subdivision closed to manual pickup, tarmat removal, bioremediation, spot washing, manual tilling and other approved treatment within the buffer zone established by USFWS.
7II	Subsistence: Deer Harvesting	Closed to bioremediation, spot washing, manual tilling, and other approved treatment after 8/15. No constraint to manual pickup and tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

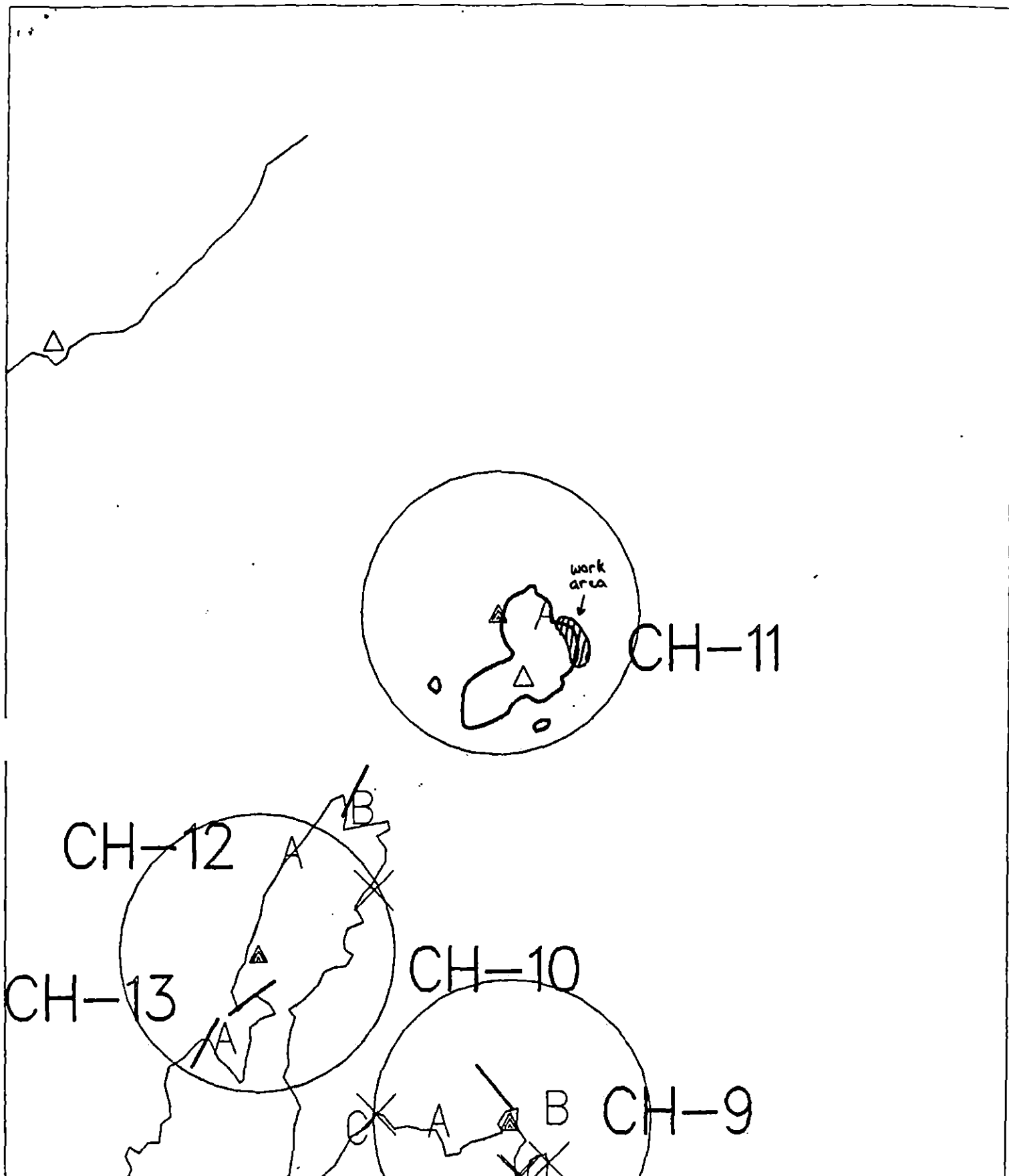
Date

7-12-90

Prepared by

Date

7/12/90



xon Company, USA
Map Key: PWS-CH-11
June 08, 1990



ECOLOGY MAP
SEGMENT CH-11
SUBDIVISION A (1 of 1)
METERS
0 378 756

★	Seabird Colony
▲	Active Eagle Nest
△	Inactive Eagle Nest

1 inch = 1240 feet

SHORELINE EVALUATION

SEGMENT ST/ CH-012 SUBDIVISION A (1 OF 1) DATE 4/6/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
30,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6V Recreation: Anchorages (6/1 to 9/15)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: [Signature] DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 85 m: V.Light 226 m: No Oil 451 m
Subsurface Oil Observed: Yes X No Maximum Depth 5 cm

RECOMMENDATIONS:

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

COMMENTS: Recommend a) removal of oiled debris, b) removal of pooled oil, c) removal of tarmats and d) bioremediate areas indicated on sketch map. Work should be conducted between 7/2 and 8/14 due to above listed constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/20/90

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

FOSC: [Signature]

DATE: 5-9-90

cvc Rep to be present

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 CH-012 SUBDIVISION: _____ DATE 06 APR 90**SCG**NAME Kerwin L. Dreher SIGNATURE K.L. Dreher☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Light to medium oiling with patchy asphalt areas. Recommend manual removal of asphalt areas; tilling and bioremediation in lower tidal areas. Pockets of pooled oil; if not removed may re-mobilize when temperatures rise this summer. Isolated spots behind rocks away from wave action have formed hard tar coatings with embedded pine needles and will be very difficult to remove; I suggest leaving these layers or stains alone, I don't see that they could cause a problem later.

ADECNAME Patrick Endres SIGNATURE Patrick J. Endres☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS The oiling seemed to occur around the 7-10 ft tide height in a bar of 1-3 m depending on the slope of the shoreline. Oil characteristics varied from surface coat/cover/asphalt with penetration in areas to 5+ cm. The Northern most portion of segment had only sporadic patches of mousse. Oiling increased to asphalt and surface saturation as we moved SW towards E11-13. Much of the oil is trapped in the vertical slate talus that is difficult to move or agitate. I recommend manual removal wherever possible on the entire segment with a few priority spots highlighted on the OG map. Manual tilling/agitation of surface sediments may accelerate natural remediation, where possible (low wave action) I think some passive snare boom placement may contain any bleed off. I reviewed the Exo. OPS sheet and concur for the most part, the till + bioremediation recommendation should only follow manual removal.

LAND MANAGERNAME Larry M. Ekanoff SIGNATURE L.M. Ekanoff☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

I CONCUR WITH ADEC, EXCEPT WITH BIOREMEDIATION.

SHORELINE OILING SUMMARY

REVISION NO. 02/88/88

OG N. Biggar USCG K. Dreher SEGMENT ST/ CH-012
 BIO E. Coates LAND REP L. Evanoff CVC SUBDIVISION A 1051
 EXXON G. Stiles ADEC P. Endres TIME 12:55 to 15:35; 17:5
 TEAM NO.: 14 TIDE LEVEL: +10 to +1 DATE 4/6 190 18:4
 EST. SUBDIVISION LENGTH: 1042 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 50 % B 2 % C 40 % P 18 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 50 % Hang 20 % Ven 30 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 104 m VL 208 m NO 730 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	N	E	S	1	2	3	4	5	SW	U	M	U
ASPHALT PAVEMENT		X				X					X		
POOLED	X						X				X		
COVER	X				+		X				X		
COAT	X	0		+			X	+			X		
STAIN				X			X				X		
MOUSSE				X				X			X		
PATTIES													
TARBALLS													
FILM													
NO OIL										S		X	X

Snow

PAVEMENT: H F (S) 7 sq. m by 5 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

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

DEBRIS COLLECTED

☐ YES ☒ NOTYPE 0#BAGS 0Photographs: 2 pom pomRoll No. 2Frames 10, 11, 12

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	SW	U	M	U		
1	15					X	.		X							X				P
* 2	10		X				0-2		X			X				X				S.P.G., V (peat)
* 3	7		X				0-2		X			X				X				S.P.G., V (peat)
4	15					X	.		X							X				P.G., C
5	15					X	.		X							X				P.G., C
6	10	X					0-2		X			X				X				C, P.G.

COMMENTS * oiled interval < 5cm in pits & 2, 3, & 17 does not constitute subsurface oil.

The more extensive oiling was concentrated in the S 1/2 of the segment.

It consistently appeared as either a band on the vertical rock face, or a band at the comparable elevation on the beach sediments. Where most concentrated, it forms a soft asphalt mat, some of the areas labeled as TO are close to being a soft asphalt.

ADEC
DTE

SEGMENT ST/ CH. 012 SUBDIVISION A

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UO	~~Y~~	~~G~~	~~B~~	~~BR~~	~~BL~~	~~BU~~	SU	U	BU	U		
7	15					X	.		X								X				C, P, G
8	15					X	.		X								X				C, P, G
9	10	X					0.5		X				X				X				C, P, G
10	10	X					0.5		X				X				X				b, c, P, G
11	10	X					2.5		X				X				X				C, P, G
12	10	X					0.5		X				X				X				C, P, G
13	10	X					0.5		X	X							X				C, P, G
14	10		X				0.5		X	X							X				C, P, G
15	15					X	.		X							X					C, P, G
16	10	X					0.5		X	X	X						X				b, c, P, G
* 17	10	X					0.5		X				X				X				P, c, m, R
							.														
							.														
							.														

COMMENTS * oiled interval < 5cm in pits #2, 3, & 17 does not constitute subsurface oil

ABC
RTEREVIEWED 7W DATE 4/7/90

Time (24 hr) 155-1535 Biologist KA GATES
1753-1840(A) Substrate type and % of segments:
(1) Bedrock (2) Boulder (3) Cobble (4) Pebble (5) Sand (6) SR(B) Overall % cover of biota (% of segment): Dense 50% Moderate 25% Low 25%

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (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: Deer droppings on most headlands in supralittoral kingfisher; eagle nest (see map) - not occupied on 6 April; red breasted merganser male. Known sensitivities: eagle nesting; deer harvesting; recreational; seal and sea lion pupping; molting. Grebes also seen offshore. Mussel harvesting possible.

Ecological Considerations: Complex and productive subdivision, including 11 pocket beaches, barrier islands and islets and more exposed bedrock walls and dykes between beaches. Mussel beds are dense on beaches, especially those sheltered by islands, from lower upper intertidal to lower mid and sometimes slightly below. Algal populations in lower intertidal were dense (>100% cover) and diverse. Very dense, patchy populations of gastropods with new settlement were present in ...

MEL
RTE

Segment STCH012 Subdivision-A Date: 04.06.90
 Time: 1255-1535 Biologist: KA Coates
 1753-1840

tes:

1. Segment with +/- 11 pocket beaches. One or two with large amounts supralittoral algal wash primarily Fucus with a little surfgrass (? Phyllospadix). New wash with large numbers spirorbids. No anadromous streams in segment, at most with subsurface freshwater under beach.
2. In areas of bedrock, upper intertidal pools with Endocladia and Spongomorpha-type green with very dense Littorines (primarily sittana) including new settlement (1-2 mm). Small mussels (< 1 cm). Also dense in pools and adjoining sheltered crevices.
3. Small limpets moderately abundant on underside of cobbles overlying pebbles and silt of beaches throughout mid intertidal.
4. Other fauna on beaches under cobbles: mid to lower int. amphipods - moderate; nemertean - sparse; Nucella ? canaliculata with egg cases - moderate.
5. Some animals seen just subtidal - Dermasterias imbricata - moderate; Pycnopodia helianthoides - moderate. Lower intertidal algae including Hotosaccion, Palmeria, Ulva etc. dense cover.

→ Serpulids dense on underside cobbles at low water; small topshells moderate under cobble
6. Generally, mussel beds denser on more sheltered cobble beaches from mid-intertidal to lower intertidal.

Segment STCHO12 Subdivision ~~A~~ Date: 04.06.90
Time: 1255-1535 Biologist: KA Coates
1753-1846

Notes (cont'd)

6 (cont'd). Densest mussel populations in northernmost area of segment inside islands, contiguous with CHO10. — mussel tombolo — berm of mussels and sand. Mussel harvesting possible throughout segment.

ADK
RTE

CH-12

"A"

CH

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

CH-12

ADEC Segment Length: 762m



Map Key: PWS-38

Name: N. Bigger

Date: 4/6/90

Date Entered:

PJE
ADEC

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CH-12 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup and Tarmat Removal
Less Than 400m From Nest

CLOSED

Manual Pickup and Tarmat Removal
More Than 400m From Nest

OPEN

Bioremediation and Other Approved Treatment
Less Than 400m From Nest

CLOSED

Bioremediation and Other Approved Treatment
More Than 400m From Nest

WORK BEFORE 8/15

ARCHEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

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

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

5T Bald Eagle Nest

USFWS bald eagle impact assessment completed on 5/12/90 by Mike Lockhart indicates an active nest within 400m of the work area. Closed to manual pickup, tarmat removal, bioremediation and other approved treatment less than 400m from active nest. No constraint to manual pickup, tarmat removal, bioremediation, and other approved treatment more than 400m from active nest.

7II Subsistence: Deer
Harvesting

No constraint to manual pickup and tarmat removal. Closed to bioremediation and other approved treatment after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

W L

Date

6-10-90

Incorporated information from
USFWS Bald Eagle Survey 5/12/90

Boat/Aircraft
Access

WORK
AREA

Active
Nest

106

64

CH-11

CH-12

Active
Nest

16

CH-13

NO ACCESS

CH-10

Access

CH-9

Active
Nest

65

CH-2

NOT
Surveyed

17

NOT
Surveyed



Exxon Company, USA
Map Key: PWS-CH-12



ECOLOGY MAP 5/28
SEGMENT CH-12
SUBDIVISION A (1-1011)
METERS



Seabird Colony



Eagle Nest

SEGMENT ST/ CH-013 SUBDIVISION A (1 OF 1) DATE 4/6/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

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

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

7II Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: [Signature] DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 197 m: V.Light 192 m: No Oil 178 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

 No Treatment RecommendedX Treatment RecommendedX Manual PickupX BioremediationX Tarmat: BreakupX Removal Snare/Absorbent Booms Oil Snares (pom poms) Absorbents (pads, rolls, etc) Spot Washing: Wands Beach Cleaner Other (see comments)

+ Pom Pom

COMMENTS: Recommend manual removal of tarmats and asphalt; raking
followed by bioremediation in areas indicated on sketch map. Work
should be conducted from 7/2 to 8/14 due to above listed constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90ADEC ART WENGEREXXON ANDY TATENOAA BILL WESCOTTUSCG KENNETH KETNERFOSC: W/L DATE: 5-9-90

CVC Rep to be present

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
 1D Esther Hatchery release (4/15 to 6/1)
 1E Main Bay Hatchery release (4/20 to 5/10)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 1I Gill net area (6/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (8/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6J Recreation: Tent sites (6/1 to 9/15)
 6V Storage (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 CH-013 SUBDIVISION: A DATE 4/6/90

USCG

NAME Kerwin L. Dreher SIGNATURE CWO2 K.L. Dreher

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Light oiling with patchy asphalt pads in talus rock areas in low energy tidal areas. Recommend manual removal where possible, the tilling or raking, and bioremediation. Observed several small adsorbent poms poms and one stained log in tidal pool that should be removed.

ADEC

NAME Patrick Endres SIGNATURE Patrick J. Endres

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS Oiling consisted of eat/cover/soft asphalt and surface saturation within a 1-3 meter band varying according to slope of shoreline. The segment is a low energy area and not much natural remediation happening due to wave action. Asphalt patches in and around vertical talus slate protruding from bedrock (difficult to remove but should be removed wherever possible by shovel or trowel) A lot of the surface saturated areas (up to 5cm contain black shiny oil that is mobile and will bleed off in sheen form. I recommend manual agitation and raking prior to bioremediation (if that is an option) after all surface asphalt is removed. I have reviewed Exxon's OP map and concur except with the suspended question on Bioremediation. Due to the sporadic patches of oiling ADEC monitoring is priority in cleanup operations. Note: pom pom

LAND MANAGER

NAME LARRY M. EVANOFF SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

I RECOMMEND MANUAL REMOVAL OF ALL SOFT ASPHALT AND MUCKS THEN ~~BE~~ FLUSHED. ONE IS GOING TO HAVE TO BE CAREFUL BECAUSE THE VEGETATION (PEAT) IS VERY CLOSE TO THE SURFACE. ~~BE~~ SOME AREAS WILL NEED TILING/RAKING THEN FLUSHED. POM POMS AND OILED FUCHS NEED TO BE PICKED UP.

SHORELINE OILING SUMMARY

REVISION NO. 06/23/91

OG Norma B. Bickel USCG Boat SEGMENT ST/ CH-013
 BIO Betty Coates LAND REP Larry Evans SUBDIVISION A 1041
 EXXON George Stiles ADEC Patrick Endres TIME 5:35 to 18:00
 TEAM NO.: 14 TIDE LEVEL: +4' to +1' DATE 4/16/90
 EST. SUBDIVISION LENGTH: 349 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 30 % B 15 % C 50 % P 5 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 80 % Hang 15 % Vert 9 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 105 m VL 122 m NO 122 m

SURFACE OIL

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

PAVEMENT: H F (S) 14 sq m by 5 cmPATTIES / TARBALLS no 0 BAGSNEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris	X		

DEBRIS COLLECTED
☐ YES ☒ NOTYPE T#BAGS 1Photographs: 1 p.m.p.m.Roll No. 2Frames 13, 14, 15

SUBSURFACE OIL * Oiled interval < 5cm in pit #6 does not constitute subsurface oil.

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	SW	U	M	V		
1	10		X				0.5		X	X					X					C, P, g
2	10					X			X						X					C, P, g
3	10		X				0.5		X	X					X					C, P, g
4	10					X			X						X					C, P, g
5	5	X					0.2		X	X					X					C, P
6	5	X					0.5		X	X					X					P, OR

7 10 X 0.5 X X X C, P, m part

COMMENTS

The oil was concentrated in upper tidal zone, either on a soft asphalt pavement on the cobble beach or on the water-cut rock surfaces. In other areas the surface cobble were relatively clean and the oil was observed in the upper 2 to 5 cm of the subsurface. The segment is quite protected, with little wave action. On vertical rock face there is a discontinuous band.

Defect (rounded, flat cobbles, guillemots?) seen on N. end of beach (all map) - lt. green

DATE 4/6/90

SKETCH MAP

CHECKLIST

- ☒ N Arrow
 Approx. Scale
☒ Bag/Seal Entry
 CB Data
 Width
 Length
 % Cover
 Debris/Debris Character
☒ Est. HML/LWL:
☒ SSL
☒ Profile Location(s)
 Profile(s)
☒ Pit Location(s)
 Photo Location(s)

LEGEND

- FD-302 (Rev. 5-22-64)

- 2A
FM - Subsurface ON

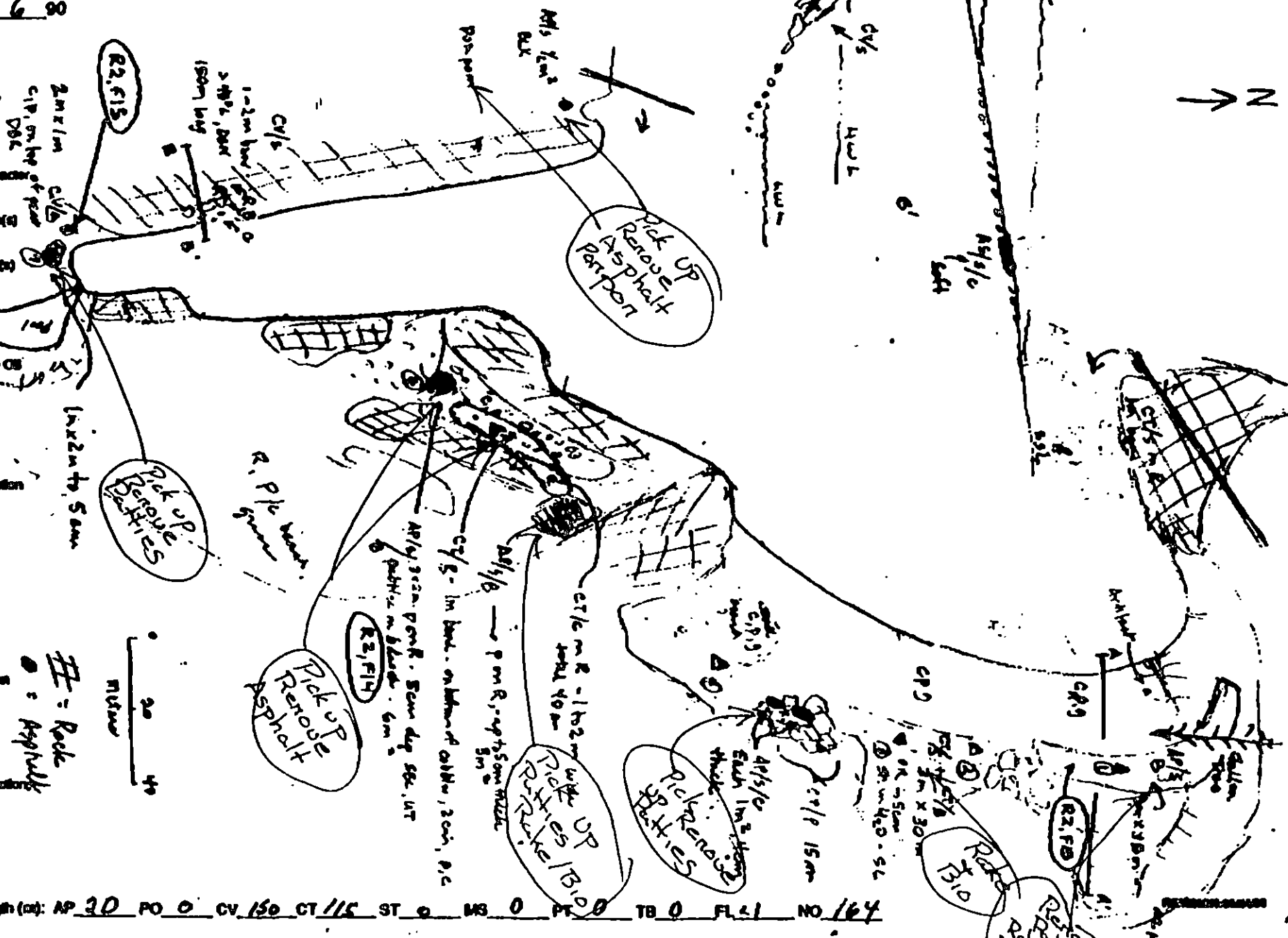
CT/C
Confidential Distribution

Broken Distribution

Patchy Distribution

Estimated Distribution

Cloud Vegetation

**Photo location, direction,
and number**

On Character Length (in): AP 30 PO 0 CV 150 CT 115 ST 0 MS 0 PT 0 TB 0 FL 1 NO 164

Time (24 hr) 1535-1750 Biologist KACotes

- (A) Substrate type and % of segments: underlying/mi
 (1) Bedrock 30 (2) Boulder 15 (3) Cobble 50 (4) Pebble 5 (5) Sand + (6) SR +
- (B) Overall % cover of biota (% of segment): Dense 80% 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 (O)

Photographs: ST-14-2
Roll No.Frames 13-15

BARNACLES

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

Wildlife Observations/ General Comments: Eagles vocalizing - pair; seag just offshore in small inlet; unidentified ducks - ? inc. mallards. Known sensitivities: deer harvest; recreation; seal and sea lion pupping and molting. Very heavy and recent (first or second day) spat fall of barnacles extending from U to L.

Ecological Considerations: Upper intertidal and low supralittoral pools with surfgrass, with dense populations of mussels, moderate amounts of Fucus, Lithothamnion, Endocladia and other brown algae. Elevation of large pool with stream about 3-4 metres. Fucus extends into marsh / beach grasses in supralittoral. Dense mussel populations in cobble, pebble, silt substrates from mid to lower intertidal. Generally, highly productive, relatively low energy habitats.

Segment: STCH013 Subdivision: A Date: 04.06.90
 Time: 1535-1750 Biologist: KA Coates

Notes:

1. On 06 April, very dense, very recent barnacle settlement seen throughout area. On rock surfaces from bedrock to pebbles, throughout intertidal area. About 80% of new settlement was in 1st attached form - i.e. plates not formed. Littorines about 1-2 mm also abundant in this segment, especially noticed on large *Balanus* in upper and upper mid-intertidal.
2. Silty areas in upper intertidal behind bedrock outcrops with permanent (?) overlying salt water, underlying turf. *Fucus* and some surfgrass, littorines abundant in these pools.

Upper intertidal "lagoon" with some bedrock substrate. At head of small inlet with 2-3 m. abrupt drop to small stream flowing through inlet. Not a recorded anadromous stream — ? upstream too shallow, steep etc. — not observed. Lagoon community diverse with dense barnacle spat, mussels in crevices and on cobble, clam shells, *Erdocladia*, *Phyllospadix*, *Littorina*.

2. Clam shells abundant in soft mid to lower intertidal substrates along stream bed — including *Protothaca*, *Saxidomus*, large *Macoma* sp., *Macoma balthica*. Live *Histiella arctica* also found.

NOEL
JTE

Segment STCH013 Subdivision - A Date: 04.06.90
 Time: 1535-1750 Biologist: KA Coates

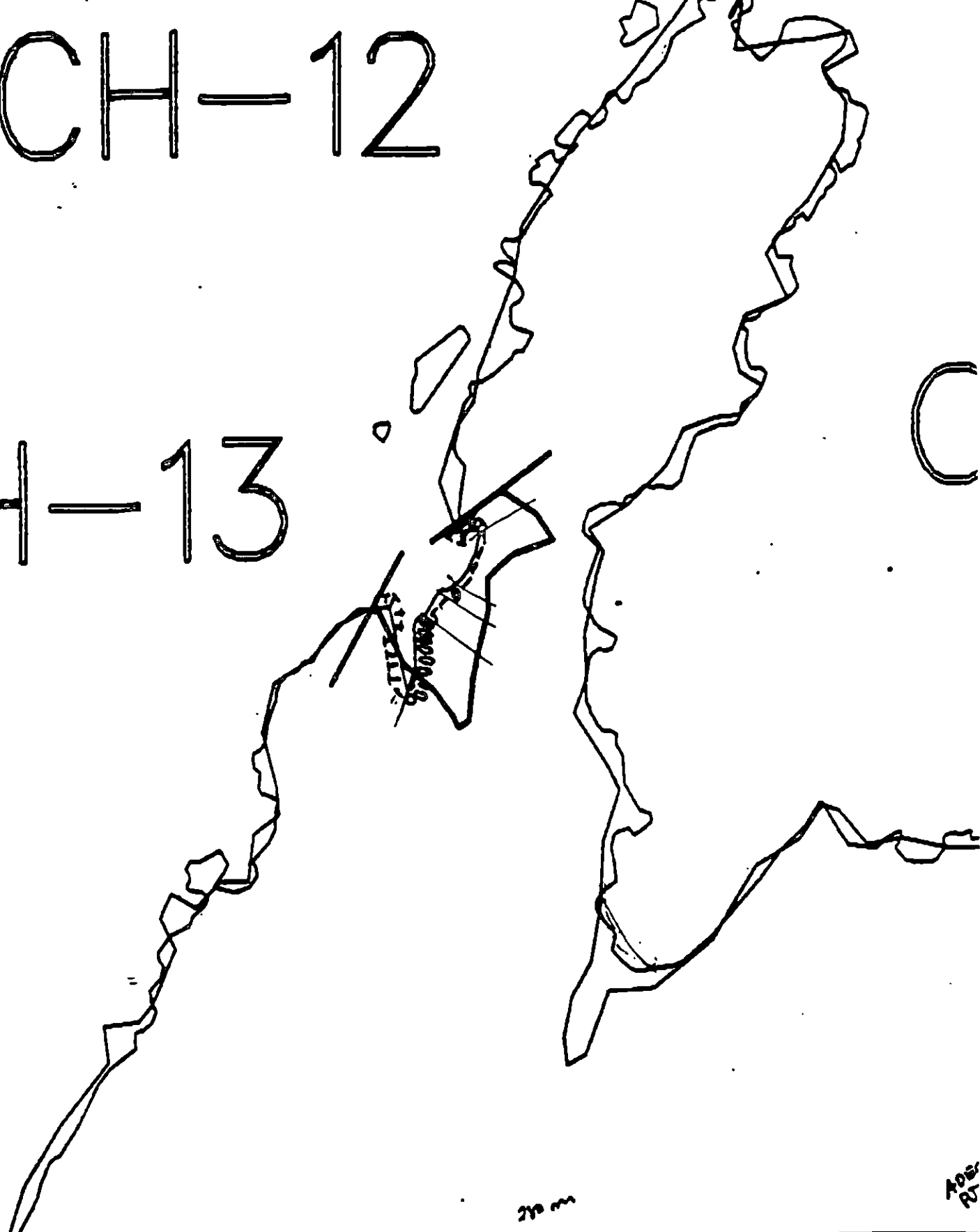
Notes (contd)

5. Other invertebrates seen in segment: hermit crabs under cobble in upper mid intertidal; Nucella under cobble at lower mid — with eggs; Leptasterias ^(spawning) under cobble over silt at low intertidal; amphipods under cobbles and pebbles at water line from mid intertidal and lower; Dermasterias below water, shallow subtidal; Pycnopodia shallow subtidal; Strongylocentrotus sp (white/pale short spines — overall pink → purple) shallow subtidal; serpulids very abundant at low water, under cobble.
6. Lower intertidal algae including Palmeria, Ulva, Enteromorpha (also to upper mid tide in fw seepages), dense cover "slimy" filamentous brown, Halosaccion
7. Re: seal — (CVC landowner noted that he hadn't seen or heard of seals in the area (near shore) for "some time" — ? since the spill.

ADK
PJC

CH-12

CH-13



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

CH-13

ADEC Segment Length: 587m



Map Key: PWS-38

Name: N. Biggen

Date: 4/6/90

Data Entered:

ADP
PT

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CH-13 SUBDIVISION A (1 of 1)

WORK WINDOW	
Tarmat Removal Manual Pickup	CLOSED
Bioremediation Manual Raking Other Approved Treatment	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

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

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

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to tarmat removal, manual pickup, bioremediation, manual raking and other approved treatment within 400m of active nest.

7II Subsistence: Deer Harvesting

No constraint to manual pickup and tarmat removal. Closed to bioremediation and manual raking and other approved treatment after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG APPROVAL DATE 6/04/90
ADEC RAY MORRIS R. J. Morris
EXXON AMY TGM
NOAA Joseph Talbot
USCG G.A. DEITER G.A. Deiter

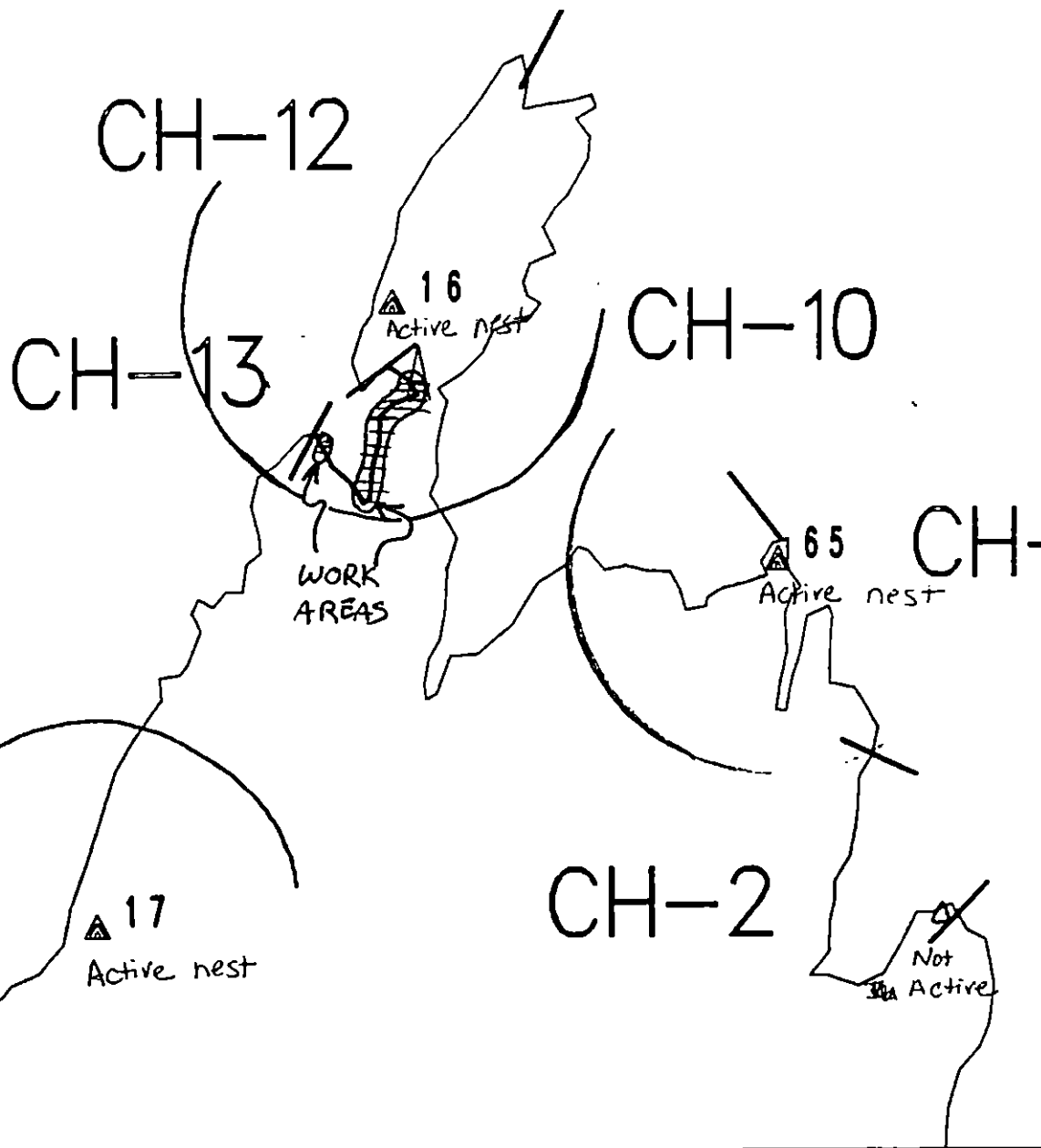
FOSC [Signature] Date 6/4/90

Prepared by [Signature] Date 6/3/90

From USFWS 01140 map
of eagle nests.



CH



Exxon Company, USA
Map Key: PWS-QT-13
May 11, 1990



ECOLOGY MAP
SEGMENT CH-13
SUBDIVISION A (1 of 1)
METERS
0 340 680

- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1115 feet

20F7

ASAP FOLLOWUP RECOMMENDATIONS - TEAM 3

Segment: ASI CH-13 Subd.: A Site: 1 Date: B-4 1990

Conditions Observed: SEVERAL AREAS IDENTIFIED BY THE SPRING
ASSESSMENT SKETCH WERE TREATED WITH MANUAL PICKUP AND BIO REMEDIATION
MOSTLY TARMAT REMOVAL WAS IDENTIFIED. CURRENTLY SURFACE DILLING
IN THE BORDERLINE AP-SOR CATEGORY STILL EXIST. SEE ATTACHED SKETCH MAP.

Followup Recommendations: SURFACE DILLING IN THE CATEGORIES OF
BORDERLINE AP, SOR RANGE WERE BROKEN UP BY VECO ASAP CREW. A
REASSESSMENT OF MORE MANUAL TILLING AND BIOREMEDIATION
IS RECOMMENDED. (DON BOLLINGER BIO SQUAD WILL BE IN THE AREA ON
8-7-90.

Completed by Pickup Crew: ☐ YES ☒ NO

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

ADEC

Bob McCreary
 (name)

Robert M. G.
 (signature)

Comments:

Exxon

RANDALL K. BOYER
 (name)

Randall K. Boyer
 (signature)

Comments:

AREAS WHERE ALPHAKIT MATS HAVE BEEN REMOVED SHOULD BE
REASSESSED BY A BIOREMEDIATION CREW. ADDITIONAL INIPOL APPLICATION
COULD BE BENEFICIAL. VECO ASAP ACCOMPLISH MOST OF THE MANUAL TILLING.

USCG

Don Davis
 (name)

Don Davis
 (signature)

Comments: Concur.

Land Rep.

Steve Ward CVC
 (name)

Steve Ward
 (signature)

Comments:

Exxon Comments Good.

SEGMENT AS1 CH-13 SUBDIVISION: A SITE: 1 DATE 8-4-90**USCG**NAME David Nee NOAA SIGNATURE David C. Nee / Dore
Don Davis (USCG)☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Although some patches in area have been treated, there is one area at the head of the slough that hasn't been worked. Would give moderate priority to further 1990 treatment & to 1991 assessment.

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

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Throughout Northern 3/4's of segment, several areas where tar-mat removal and bioremediation occurred. In areas of manual treatment some residual OR oil remains. A Work Order Mod. Rec. has been submitted recommending manual tilling of the above areas followed by bioremediation (both snipal and custom-blend).

LAND MANAGERNAME Steve Ward CVC SIGNATURE Steve Ward☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: This area needs more manual work. There are several areas that were missed must be looked at again in 91, and would be a likely candidate for 90 manual and D.O. work.

EXXONNAME RANDALL E. BOYER SIGNATURE Randall E. Boyer☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

THIS SITE WAS INIPILED & CUSTOMBLENDED IN 1990 AFTER SURFACE OIL WAS REMOVED. SOME AREAS WERE DESCRIBED AS SOR AND THOSE WERE BROKENUP BY ASAP VECO. A WORK MODIFICATION HAS BEEN INITIATED FOR INIPILOT RETREATMENT. ASSESSMENT OF THE EFFECTIVENESS OF BIOREMEDIATION SHOULD BE CONDUCTED IN 1991.

EXPRESS MAP

1. PD

[illegible]

GENERAL DATA

SEG ID: CH-13 SBOV: A SITE: 1 TEAM: 3 DATE: 8-4-90
SITE LGTH 567 OIL CATEGORIES: W - M - N 35 VL 45 NO 407 U -
1991 REASSESSMENT: USCG: Y ADEC: Y LDMGR: Y EXXON: Y

SURFACE DATA

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

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

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

CHAR #: 4 OIL CHAR: ST OIL DIST: CONT - BRKN - PTCH - SPLH X
TIDAL ZONE: SU - UI X MI - LI -

CHAR #: 5 OIL CHAR: PT OIL DIST: CONT - BRKN - PTCH - SPLH X
TIDAL ZONE: SU - UI X MI - LI -

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

CHAR #: 7 OIL CHAR: NO OIL DIST: CONT - BRKN - PTCH - SPLH -
TIDAL ZONE: SU - UI - MI - LI -

CHAR #: 8 OIL CHAR: NO OIL DIST: CONT - BRKN - PTCH - SPLH -
TIDAL ZONE: SU - UI - MI - LI -

CHAR #: 9 OIL CHAR: NO OIL DIST: CONT - BRKN - PTCH - SPLH -
TIDAL ZONE: SU - UI - MI - LI -

CHAR #: 10 OIL CHAR: NO OIL DIST: CONT - BRKN - PTCH - SPLH -
TIDAL ZONE: SU - UI - MI - LI -

ASAP DATA ENTRY FORM

SUBSURFACE DATA

PAGE 2 OF 2

SEGMENT ID: C14-13 SUBDIV: A SITE: 1

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

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

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

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

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

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

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

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

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

SHORELINE EVALUATION

SEGMENT ST/ CH-14 SUBDIVISION A (1 OF 1) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-20-16255

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

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

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

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

6Y Recreation: Special use destination

7HH Subsistence area: Finfish harvesting

7JJ Subsistence area: Invertebrate harvesting

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 23 m: V.Light 867 m: No Oil 166 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: MONITORS TO ASSESS SIGNIFICANCE OF AMT.
REMAINING ASPHALT + TARBALLS TO DETERMINE NEED FOR
RETRIEVAL

TAG APPROVAL DATE: 4/30/90

ADEC ART WELER

EXXON ANDY TAYLOR

NOAA GARY PETROE

USCG KENNETH KEANE

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

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CH 14 SUBDIVISION: A (ENTIRE SEGMENT) DATE 4/19/90

USCG
NAME PS3 SCHULTZ SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

ADEC
NAME MIKE EBEL SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

CH-14-A: a very light band, widespread along length of segment was consisted mostly of scattered coats, stains, and covers within the UTZ. Small patties of loose asphalt grading in size down to tar balls were found and broken up; collectively there was perhaps 1 bag by volume. The area had appeared to be well washed through the winter, judging from remnant stains and degrading coats. No further treatment recommended.

LAND MANAGER - CVC
NAME PAT SELANOFF SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Oil is oil. If ~~one~~ one had splashy stains & coats in his front yard you wouldn't just break it up and let nature take its course, ~~one~~ ^{one} would take time to pick it up manually. Manual pick up of asphalt pavement and Bioremediation would be my recommendation.

SHORELINE OILING SUMMARY

REVISION NO. 24/12/88

OG Randy Siegel USCG Jerry Schultze SEGMENT ST/ CH-14
 BIO Louis Sharnen LAND REP Pat Sehnoff (CSC) SUBDIVISION A (1 OF 1)
 EXXON Leonard Herbst ADEC Mike Ebel TIME 13:50 10:15:00
 TEAM NO. 12 TIDE LEVEL 3' to 2.15' DATE 4/19/90
 EST. SUBDIVISION LENGTH: 1019 m ☐ Sun ☐ Clouds ☒ Fog ☒ Rain ☐ Snow 57°
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 25 % B 25 % C 20 % P 15 % G 15 % S 10 % M 0 % V 0 %
 SLOPE: Long 20 % Hang 80 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 12 m VL 932 m NO 75 m

SURFACE OIL

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

 PAVEMENT H F (S) 12 sq. m by 1 cm

 PATTIES / TARBALLS 1 BAGS

 NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

 YES ☐ NO ☒

TYPE

#BAGS

 Photographs: NONE

 Roll No. 57-12-7

 Frames 5

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		SW	UC	1	2	3	4	SW	U	M	U				
1	25					X	0-0	X						X					-	-	G, R
2	15					X	0-0	X						X					-	-	S
3	20					X	0-0	X						X					-	-	G
4	25					X	0-0	X						X					-	-	G
5	30					X	0-0	X						X					-	-	G
6	50					X	0-0	X						X					N	20	G

COMMENTS

The segment's western portion of the segment is high angle bedrock with occasional pocket beaches - the eastern end portion of the segment is a gravel beach with low-angle slopes. Very light oiling across much of the segment. Stain-coat on boulders. Towards the eastern end, along the gravel beach a band of small tarballs or tarballs with 1/5 distribution was observed. Occurred as isolated tarballs on gravel. They were broken up by shovels, where found.

REVIEWED

DATE 4-20-90

1992-1993

SHORELINE ECOLOGICAL SUMMARY (Page 1 of 2)

REVISION: 00

Segment ST / CH-14 Subdivision A Date (mo / day / yr) 4/19/90Time (24 hr) 1350-1455 Biologist SHARMAN(A) Substrate type and % of segments: SUBDIV
(1) Bedrock 25 (2) Boulder 25 (3) Cobble 20 (4) Pebble 15 (5) Sand 15 (6) Silt 0 ^{+ gravel}(B) Overall % cover of biota (% of segment): Dense 0 Moderate X Low 0
SUBDIV

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

Photographs:

Roll No. ST-12-7Frames 5

BARNACLES

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

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments: Do not observe LIT. Deer tracks common in the supratidal. The first green of the year (terrestrial) has emerged during the past week, and the deer are grazing the early young shoots of the beach vegetation (Elymus mollis along the supratidal fringe). The segment similar ecologically to CH-14 (see that Ecological Summary). Similar very abundant barnacle recruitment, reasonable (cont.)

Ecological Considerations:

There are 7 resource sensitivities listed for this segment from catalogued data:

Salmon fry outmigration (Code 1A); Salmon Spawning (Code 1B) - both for anadromous stream # 226-20-16255; Special Use Destination (Code 6Y); Port site (Code 6U); Anchorage (Code 6V); Subistence finfish harvesting (Code 7HH); and Subistence Invertebrate Harvesting (Code 7JJ). The mapped

Catalogued anadromous stream appears to be a small stream coming out at the old village site. This stream does not look to be anadromous to the sea and is a

51

CH-14

Shoreline Ecological Summary (cont.)
(Page 2 of 2)

Slarman
4/19/90

General Comments (cont.):

Mussel recruitment among relatively sparse mussel patches, good Fucus recruitment (again primarily within and at margin of Fucus patches). Littorina appear to be recruiting very well in the MTE (egg masses beneath boulders in this zone) - the sub-boulder habitat generally is relatively depauperate (spot, a few limpets, a few amphipods). Stethalia is fairly important in the MTE (some recruitment as well) - as is Nucella. Natural barnacle mortality is 10-20% in this segment, but ranges 40-60% within the oil coat band across bedrock/boulder faces in the UTE. Outside the oil band, however, a generally healthy and normal intertidal community.

Ecological Considerations (cont.):

that it is not a salmon stream. If it is in fact anadromous it and the immediately adjacent shore/banks should be recognized as particularly sensitive to human disturbance (primarily trampling and other forms of physical sediment disturbance). Apparently, incubating eggs as well as spawning and outmigrating fry are sensitive to minute quantities of oil. I'm unsure the extent to which they are threatened by the current presence nearby of weathered, "very light" oiling. The Code 7 subsistence resources are likely quite sensitive to (or in the case of invertebrates possibly made unusable by) any considerable human disturbance, especially if it involves re-mobilizing any oil.

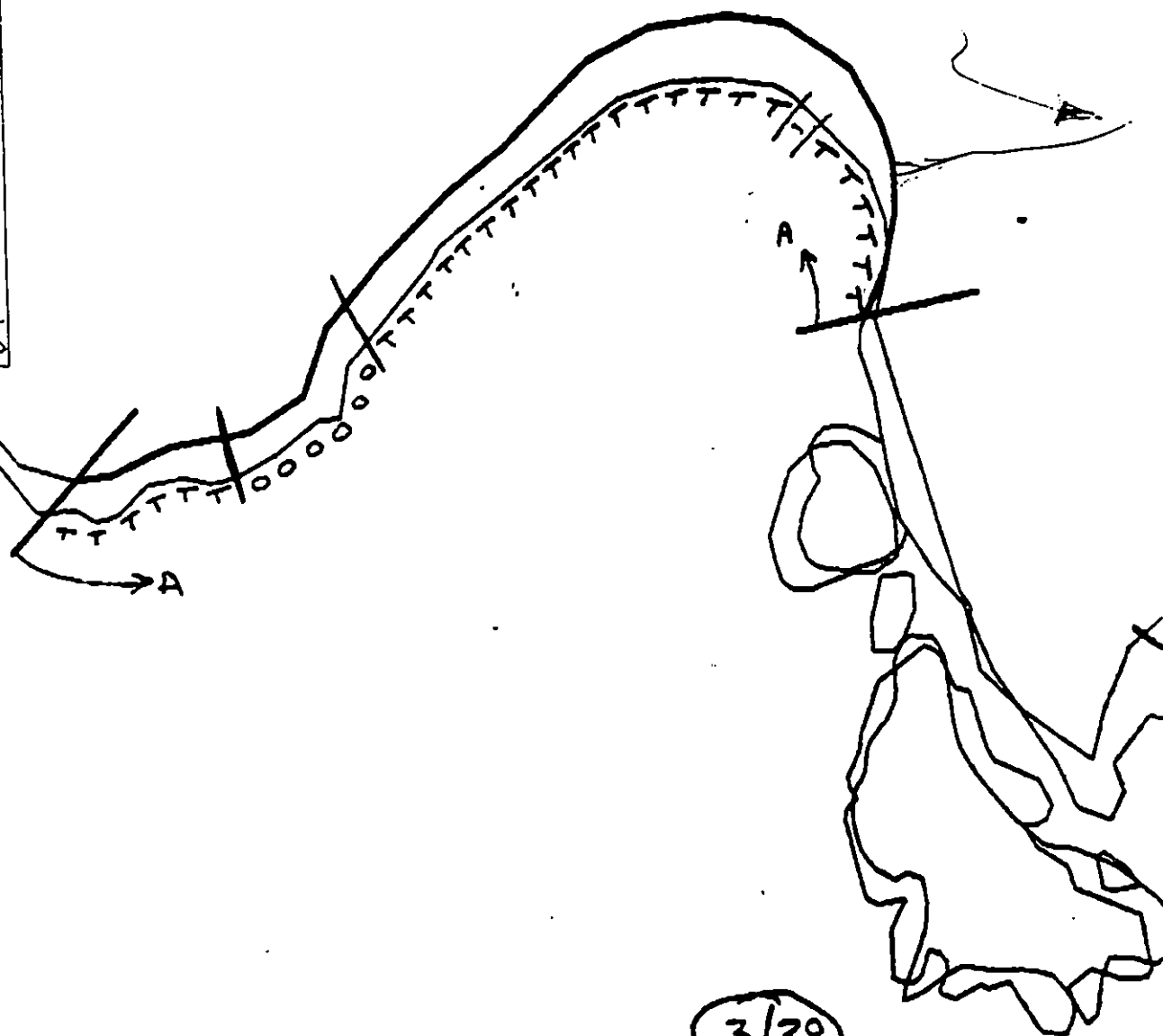
ECOLOGY MAP

CH-14

ANADROMOUS
SILVER M.

226-20-16255

1A1B
6LL
6V
6Y
7HH
7JJ



XXXX Wide

//// Medium

---- Narrow

TTTT Very light

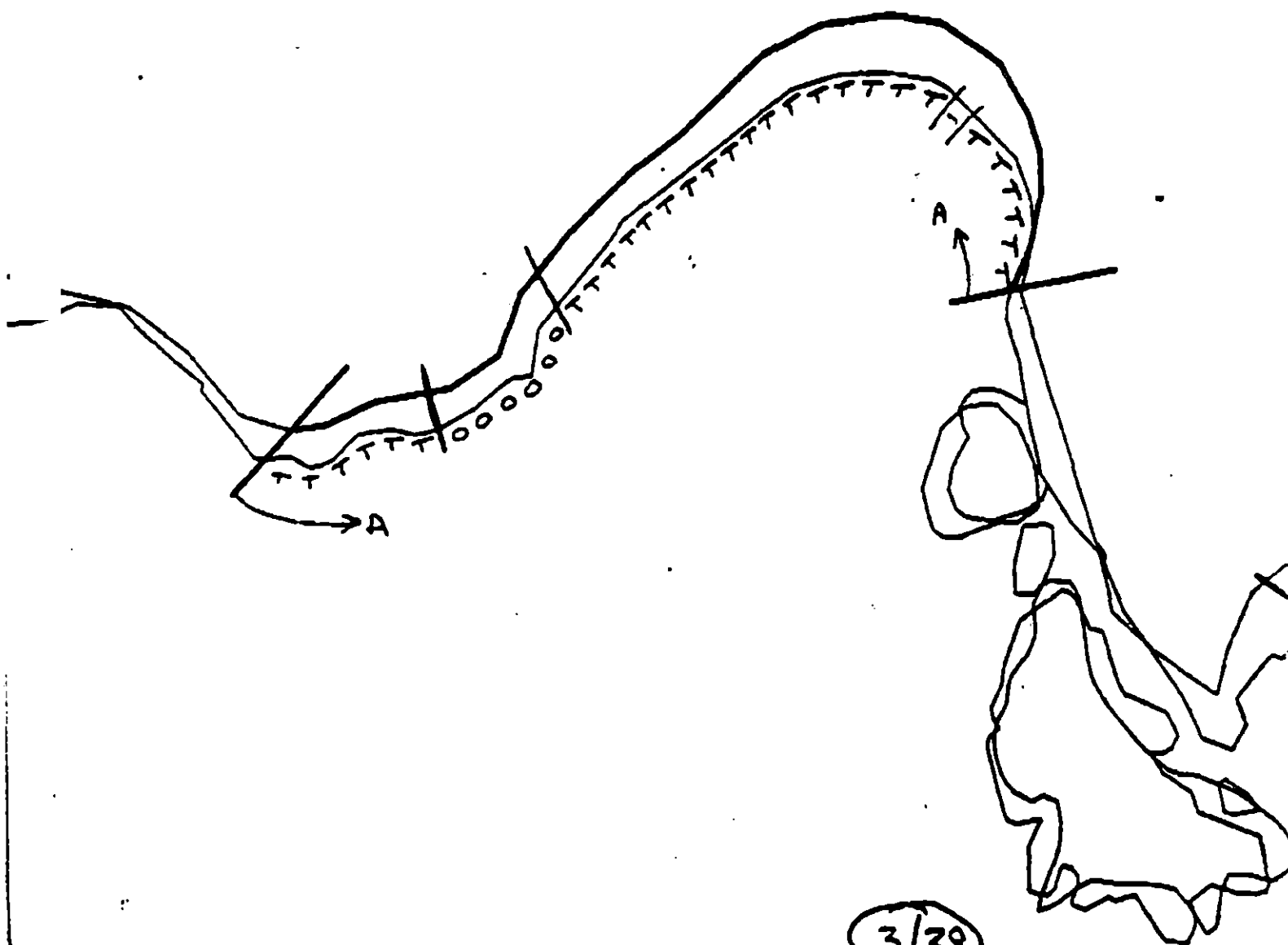
CH-14

ADEC Segment Length: 1056m

Map Key: FW-40

Name: Baby SiegelDate: 4/19/90

CH-14



XXXX Wide

//// Medium

--- Narrow

CH-14

ADEC Segment Length: 1056m

Map Key: PWS-40

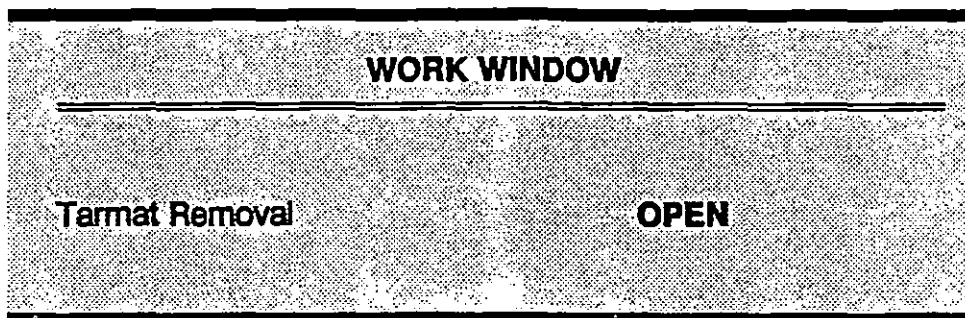
Name: Paul Siegel

Date: 4/19/90

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-20-16255

SEGMENT CH-14 SUBDIVISION A



ARCHAEOLOGICAL MONITOR REQUIRED ON SITE.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-20-16255) is in Subdivision A. No constraint to tarmat removal.

7HH Subsistence: Finfish Harvesting

No constraint to tarmat removal.

7JJ Subsistence: Invertebrate Harvesting

No constraint to tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. Restrict boat and air traffic and beach disturbance to essential minimum after 7/1.

SEE SUBDIVISION CONSTRAINT ADDENDUM CH-14A
FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC

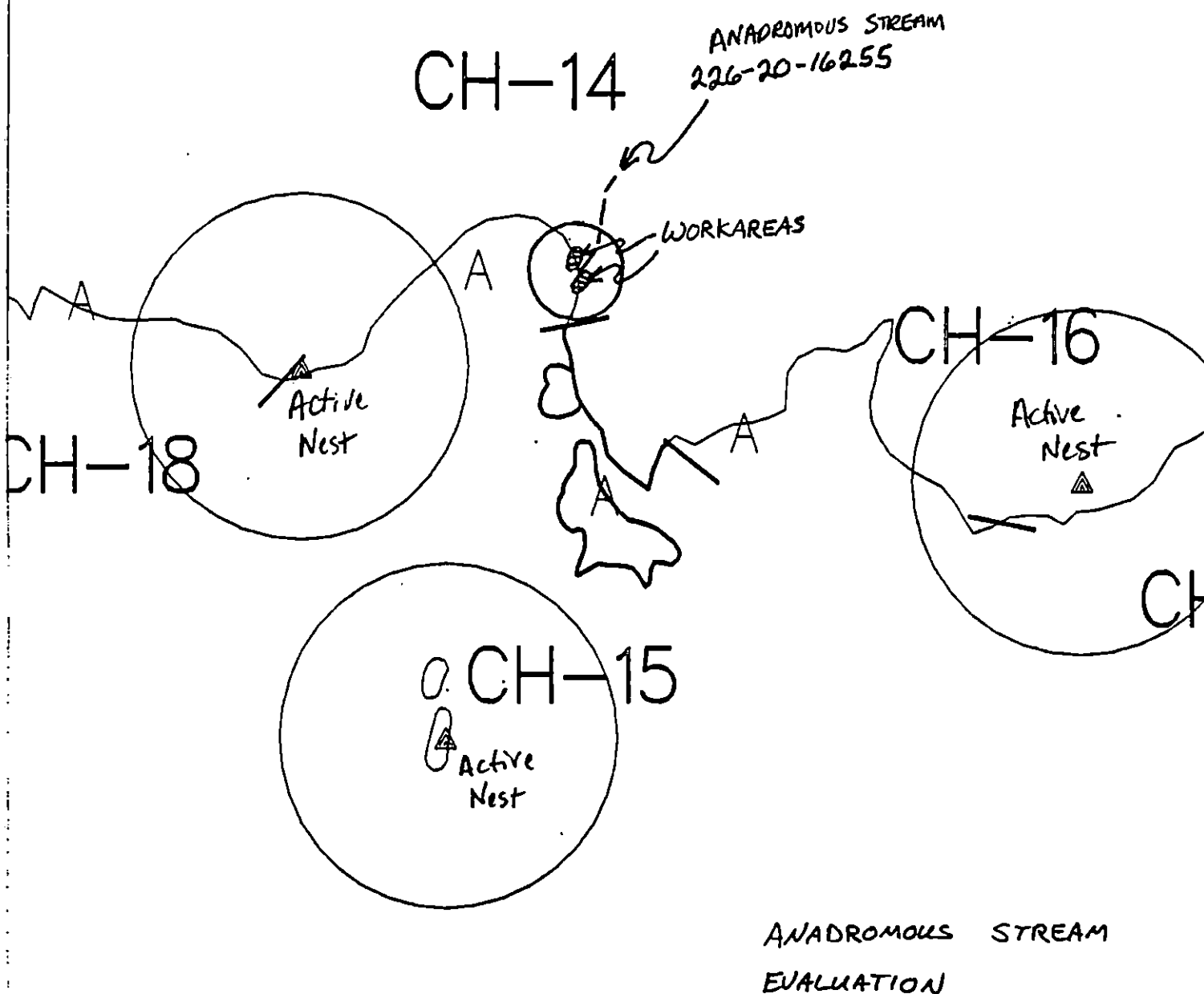
Date

6-10-90

Prepared by

Date

6/10/90

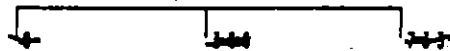


Exxon Company, USA

Map Key: PWS-CH-15

June 04, 1990

ECOLOGY MAP
SEGMENT CH-15
SUBDIVISION A (___ of ___)
METERS



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

~~226-20-16255~~

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ CH-14 STREAM NO: 226-20-16255 DATE 4/25/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6Y Recreation: Special use destination
6U Recreation: Tent sites (6/1 to 9/15)
6V Recreation: Anchorages (6/1 to 9/15)
7HH Subsistence area: Finfish harvesting
7JJ Subsistence area: Invertebrate harvesting
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unloiled biota and substrate. Subject stream is located within Subdivision A (1 of 1).

SHPO SIGNATURE: [Signature] DATE: 5/9/90

Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes manual removal of tarmats in areas indicated on sketch maps. Work should be conducted between 5/15 and 7/10.

TAG COMMENTS:

TAG APPROVAL DATE: 5/19/90

ADEC ART WEINER
EXXON AMY TEH
NOAA Burl Wesscott
USCG D. D. Rome

FOSC: [Signature] DATE: 5-18-90

NOTIFY CVC 24 HRS IN ADVANCE OF WORK

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1014 SUBDIVISION: 16 255 DATE 4/25/96

USCG

NAME CWO MR MALON SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

1. MANUAL CLEAN-UP; REMOVE TAR MATS
LEFT & RIGHT.

ADFG
DEC

NAME TOM CROWE SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

MANUALLY REMOVE TARMAT/ASPHALT ON LEFT &
RIGHT SIDE OF CREEK AT UPPER INTERTIDAL AREA. CARE
SHOULD BE TAKEN TO RECOGNISE THAT THIS ASPHALT
IS COVERED IN PLACES WITH 1/2" TO 1/2" OF FRESH GRAVEL
AND IS HARD TO SPOT.

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

ASC # 226-42-16280

Segment CH-001

Observations A tar band covering a gravel substrate extends along the high tide line south of the channel. This band has not appreciably weathered since ADF&G staff visited the site in early December. No other oil, either surface or subsurface, was observed at the site.

Treatment Recommendations Manually remove the tar band.

ASC # 226-20-16258

Segment CH-016

Observations One tar patty was found along the boulder rubble east of the channel. A very light and sporadic stain coated a region of the lower and mid intertidal zone west of the channel. No significant amounts of subsurface oil were observed.

Treatment Recommendations The insignificant quantities observed at the site do not warrant further treatment.

ASC # 226-20-16255

Segment CH-014

Observations Sporadic tar mats and patties coat cobbles along high tide line of this moderately exposed site. Some of the patties lie just beneath the surface (see ADF&G Multi-Assessment Data Form diagram).

Treatment Recommendations Manual removal of tar mats and patties. Care must be taken to ensure that buried tar patties are removed.

SHORELINE OILING SUMMARY (ANAD.)

REVISION NO.

OG WILLIAM LEID USCG McMAHON SEGMENT ST/ CHQ14 365
BIO MICHAEL FAUCETT LAND REP STRAM 226-20-16201 OF
EXXON GUS GARCIA ADFG MIKE WISNER TIME 12:00
TEAM NO. 15 TIDE LEVEL + 1 M DATE 25 / APR / 90
EST. SUBDIVISION LENGTH: 60 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock
SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
SURFACE SEDIMENTS: R % B % C 25 % P 65 % G % S % M % V
SLOPE: Long % Hang % Vert % WAVE EXPOSURE: ☐ Low ☒ Med ☐ Hg
OIL CATEGORY LENGTH: W m M m N m VL 30 m NO 30

SURFACE OIL

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

PAVEMENT H F S sq. m by

PATTIES / TARBALLS E

NEAR SHORE SHEEN? ☒ NO BR RW SL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

Did You Col
DEBRIS
☐ YES ☒ N
TYPE
#BAGS

Photographs:

Roll No.

Frames

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFA SUBSUR SEDIME
		OP	OR	OL	OF	NO		NO	NO	1	2	3	4	SU	W	E	U				
1	40					X	.							X					N		P/G
2	35					X	.							X					N		P/G/L
							.														
							.														
							.														
							.														
							.														

COMMENTS

segment CH 014

4/25/90

Stream 226-20-16255

Michael Fawcett

Ecological Summary

The intertidal portion of this small stream is very short (about 30m), crossing a shale cobble/pebble/gravel beach littered with rusting iron junk. The sediments are unstable, and macrobiota is sparse, mainly patchy Fucus and barnacles around the stream mouth. Some small tar wots were found in UTZ north of the stream. Manual removal suggested. No ecological constraints.

M Fawcett

34/54

ADFG MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS SS DS TS AVS SCM HWS PTA 2 REGION: PWS XP,CI K,AP

METHOD: Aerial Ground Boat

3 DATE: 4/25/90 18 HIGH TIDE TIMES: 1500 21 TEAM RECORDER: Tom Crowe

4 START TIME: 1155 19 HIGH TIDE HTS: +110 22 OBSERVERS: Mike Wilomar

5 STOP TIME: 1230 17 LOW TIDE TIMES: 0815 23 AGENCY: ADFG (ANADSCOT)

6 SEGMENT #: CH-14 18 LOW TIDE HTS: -4.0 24 PHOTOS TAKEN: Y ☒ N

7 STATION #: _____ 19 TIDE HT AT SURVEY: +6 FT Roll #: _____ Frame: _____

8 X-UNIT: _____ Ebb Slack Flood Slack 25 VIDEO TAKEN: Y ☒ N TAPES: _____

9 STAT AREA: _____ 20 USCG QUAD: SEW B-3 Starts: _____ Ends: _____

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

12 SOURCE: Map Loran Oil _____

13 LOCATION: CHENEGA VILLAGE Sediment _____

14 DESCRIPTION: _____ Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	Y	N		L	Y	N	
27 SURFACE COVERAGE	25	1			15	2		
28 SURFACE THICKNESS	4cm							
29 PENETRATION	SAME							

30 OVERALL OIL IMPACT: N YL ☒ L N N

31 OIL TYPE: Pooled House Tar Asphalt Sticky Stain

32 OILED ORLIST Y ☒ N

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

34 WAVE EXPOSURE: High Moderate Low

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

36 CATALOGED ANAD. FISH STREAM? Y N

37 CATALOG #1: 226-20-16255

38 STREAM NAME: _____

39 OIL IN STREAM BED? Y ☒ N

40 OIL ON STREAM BANKS? Y ☒ N

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

42 OIL WITHIN 1 MILE OF STREAM? Y N

Where: _____

43 ANADROMOUS FISH PRESENT? Y ☒ N

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS: SPORADIC TAR MAT/ASPHALT BAND 1 TO 2 METERS
WIDE IN UPPER INTERTIDAL AREA IN PLACES THIS BAND
HAS BEEN COVERED BY 1/2" OF DRY GRAVEL

43 PHOTOLOG

35/51

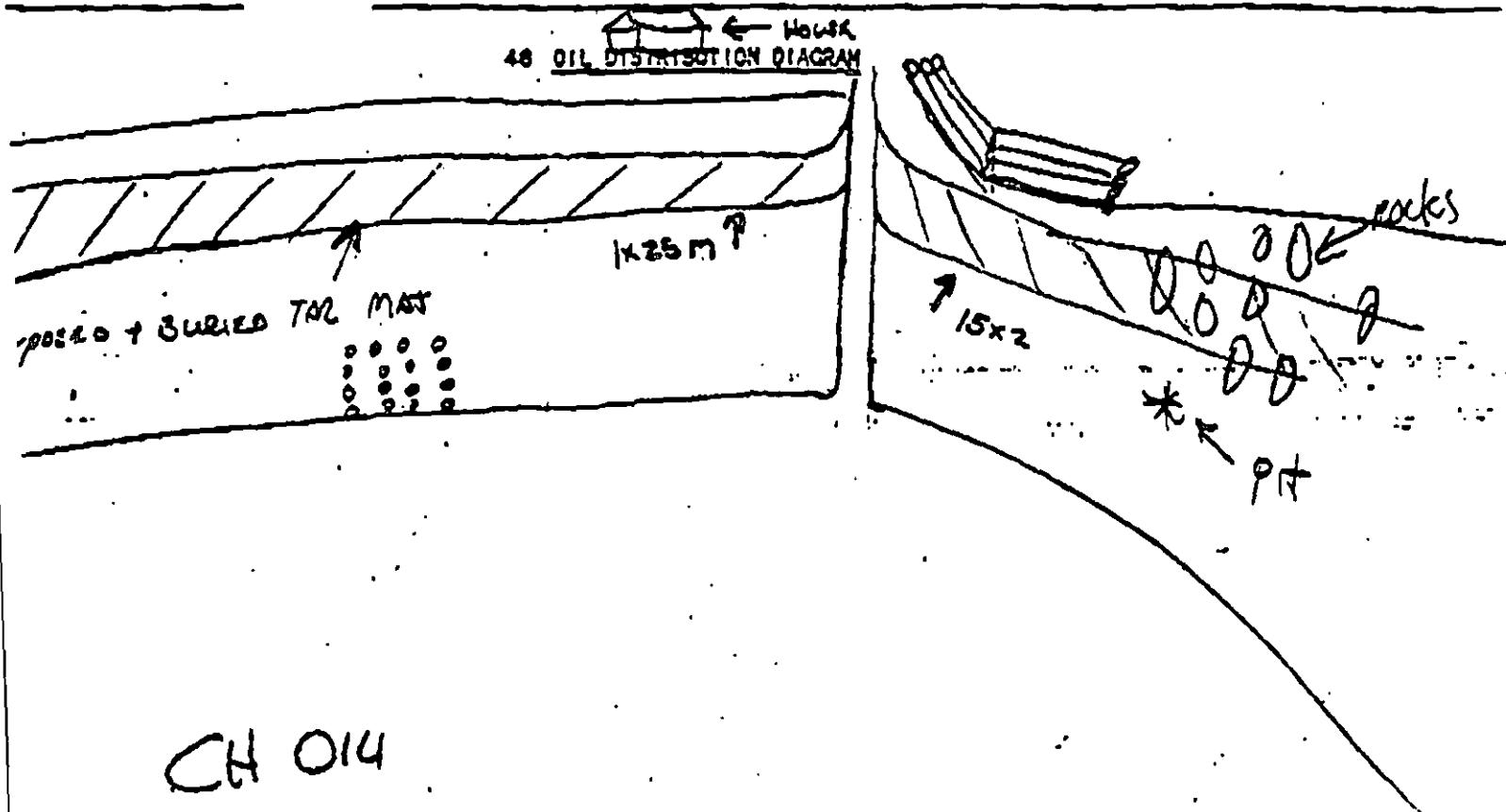
NAME(S)

DESCRIPTION

RECOMMEND: MANUAL REMOVAL OF TAR MAT

I agree with recommendation. *in H. [illegible]*

48 OIL DISTRIBUTION DIAGRAM



CH 014

226-20-16255

4/25/90

TWC

JAN REID

STI CN-014

M 226-20 16255

SKETCH

1 90

31

cale
body

Character
LVL

status

type
status

time of

00

location

00

00

00

00

00

length (m): AP PO CV CT ST MS PT TB FL NO

REVISIONS

32154

60M

N

MANUALLY REMOVE
SPARROW TARNATS
IN AREA 1
15M X 2M

MANUALLY REMOVE
SPARROW TARNATS
IN AREA 2
25M X 1M

FENCE

MANUALLY REMOVE
TARNATS

REVISIONS 10-10-10 FROM: EMANUEL W. WILSON

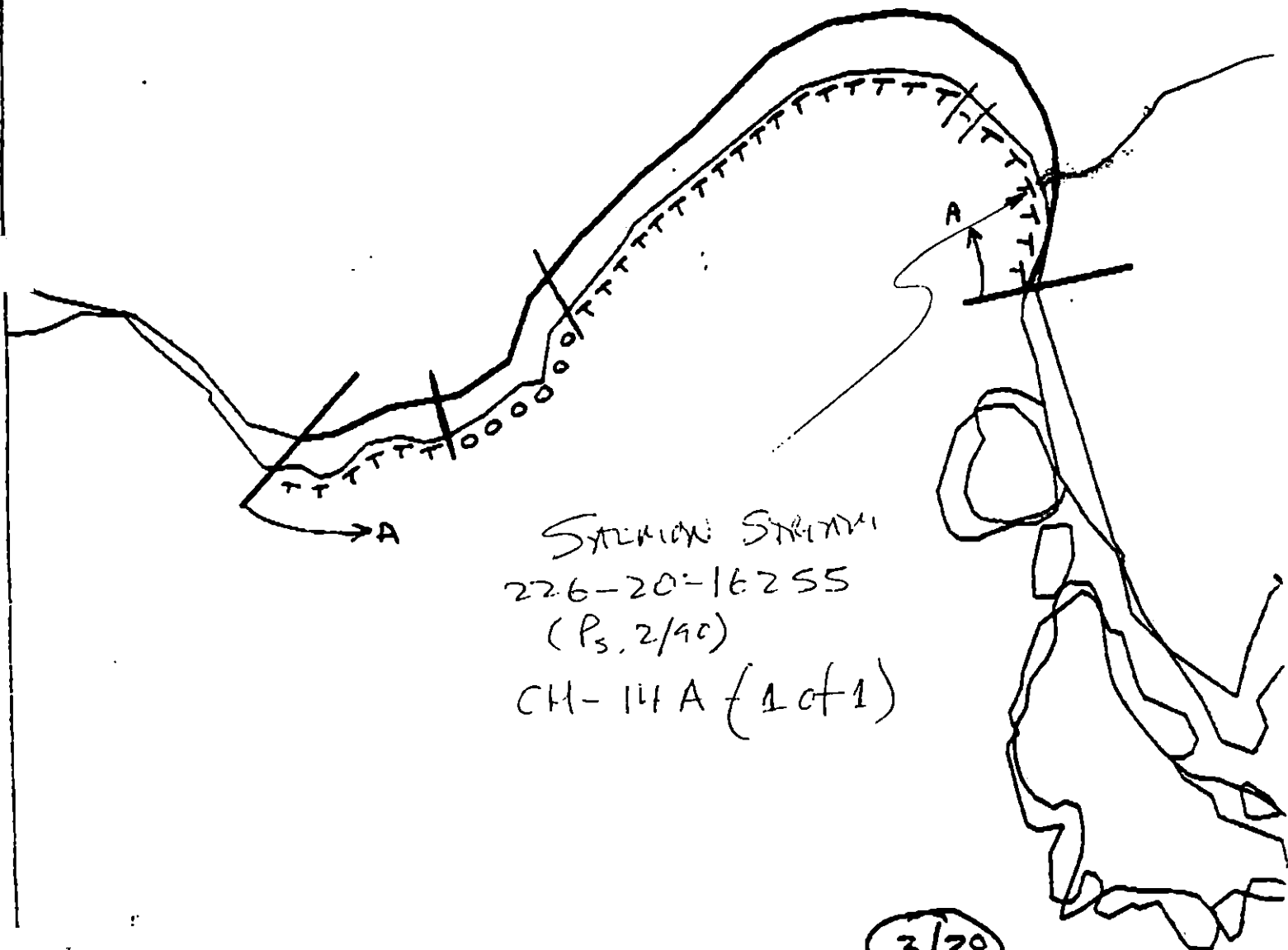
ECOLOGICAL MAP

CH-14

1A, 1B

6Y, 6U, 6V

7HH, 7JS



3/39

XXXX Wide

//// Medium

--- Narrow

CH-14

ADEC Segment Length: 1056m

Map Key: PWS-40

Name: Randy Siegel

SHORELINE EVALUATION

SEGMENT ST/ CH-15 SUBDIVISION A (1 OF 1) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
7HH Subsistence area: Finfish harvesting
7JJ Subsistence area: Invertebrate harvesting

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Rachelban Owe DATE: 5/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 166 m: V.Light 708 m: No Oil 1025 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: Monitors to assess the significance of the
remaining tarmats prior to applying a cleanup
cost to this site. If remaining "tarmats" are
insignificant NTR appropriate.

TAG APPROVAL DATE: 4/28/90
ADEC Art Wosner Art Wosner
EXXON Amy Katz Amy Katz
NOAA Gary Petrac Gary Petrac
USCG Kenneth Kelle Kenneth Kelle

FOSC: ML DATE: 5-12-90
Pick up Broken asphalt mate. cvc
Rep to be on scene.

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CH 15 SUBDIVISION: A (ENTIRE SEGMENT) DATE 4/19/90

USCG NAME PS3 SCHULTZ SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC NAME MIKE EBEL SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

CH-15-A: In general a discontinuous, narrow band of surface splashes or patches were found along the UTZ. The tarballs were weathering down to a condition where small sediments were barely clinging to them in most cases. The asphalt was very loose and crumbly. The Exxon rep broke up the asphalt patches and tar balls/small tar mats as per his directive. The coats and covers were of no biological threat. No further treatment recommended.

LAND MANAGER - CVC

NAME PAT SELANOFF SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 0012

OG Randy Siegel USCG Terry Schulte SEGMENT ST/ CH-15
 BIO Lewis Shorman LAND REP Pat Seligoff (Cov) SUBDIVISION A (LOF)
 EXXON Leonard Herbst ADEC Mike Ebel TIME 15 10 10 15 50
 TEAM NO. 12 TIDE LEVEL 2.0' @ 2.05' DATE 4/17/90
 EST. SUBDIVISION LENGTH: 2453 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 20 % B 20 % C 20 % P 20 % G 20 % S 0 % M 0 % V 0
 SLOPE: Long 50 % Hang 50 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 180 m VL 822 m NO 1393

SURFACE OIL

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

PAVEMENT H F 50 sq. m by 2PATTIES / TARBALLS 1 BAGNEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒TYPE —#BAGS —Photographs: NoneRoll No. 57-12-7Frames None

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE SUBSURFACE SEDIMENT
		OP	OR	OL	OF	NO		U0	U5	1	2	3	4	5	SU	U	M	L				
1	22					X	0.0	X							X					—	—	G
2	25					X	0.0	X							X					—	—	G
3	20					X	0.0	X							X					—	—	G
							.															
							.															
							.															

COMMENTS

This ~~sed~~ segment consists of a boulder covered beach and a small island. Staining and coating of bedrock cliffs was observed on the island. Some coating/staining of bedrock cliff faces and boulder faces was observed along the beach/mainland beach. Occasional tar balls or soft asphalt tar mat occurred in a narrow band along the UI Z, with splashy to patchy distribution.

REVIEWED JWDATE 4-20-90

SHORELINE ECOLOGICAL SUMMARY (Page 1 of 2)

REVISION: 001

Segment ST / CH-15 Subdivision A Date (mo / day / yr) 4/19/90

Time (24 hr) 1500-1830 Biologist SHARMAN

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

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

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

Photographs: Roll No.

Frames

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	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	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	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 (ANACULA, LITTORINA, LYMNAE)

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

FUCUS

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

NOT PRESE

Wildlife Observations/ General Comments: Observed barley down into the LTZ (+2'3').
 1 raven, 2 pairs Barnard's goldeneyes, 1 snipe, Canada goose seen in 4TZ, seen less
 lone and juvenile. Blackie are biologically fairly similar to CH-19 (see that Ecological
 Summary). Note again the profusion of new barnacle spat (cyprids etc), extending
 down into the LTZ. Sub-boulder LTZ habitats include littorine eggs, pricklyback, Lythys,
 Ecological Considerations:

There are 3 resource sensitivities listed for this segment from catalogued data:
 Special Use Designation (Code 6Y); Subistence Finfish Harvesting (Code 7HH);
 and Subistence Invertebrate Harvesting (Code 7JJ). The protected zones among
 the island(s) are particularly productive regions for subistence invertebrate
 harvesting. This resource, along with the subistence finfish resource, may be
 sensitive to considerable human disturbance, especially if it involves re-

3 Randy
 ELEMENT ST/ CH-15
 DIVISION A
 DATE 4 / 19 90

HECKLIST

H Area
 Approx. Scale
 Sap/Sub Entry
 Oil Dist.
 Width
 Length
 % Cover
 Substrate Character
 Est. HWA/LWL
 SSL
 Profile Location(s)
 Profile(s)
 Pit Location(s)
 Photo Location(s)

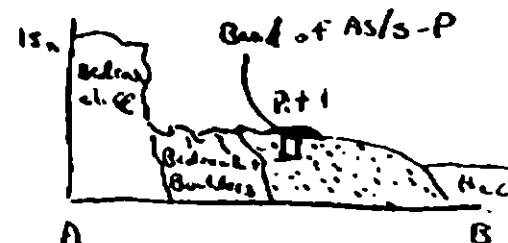
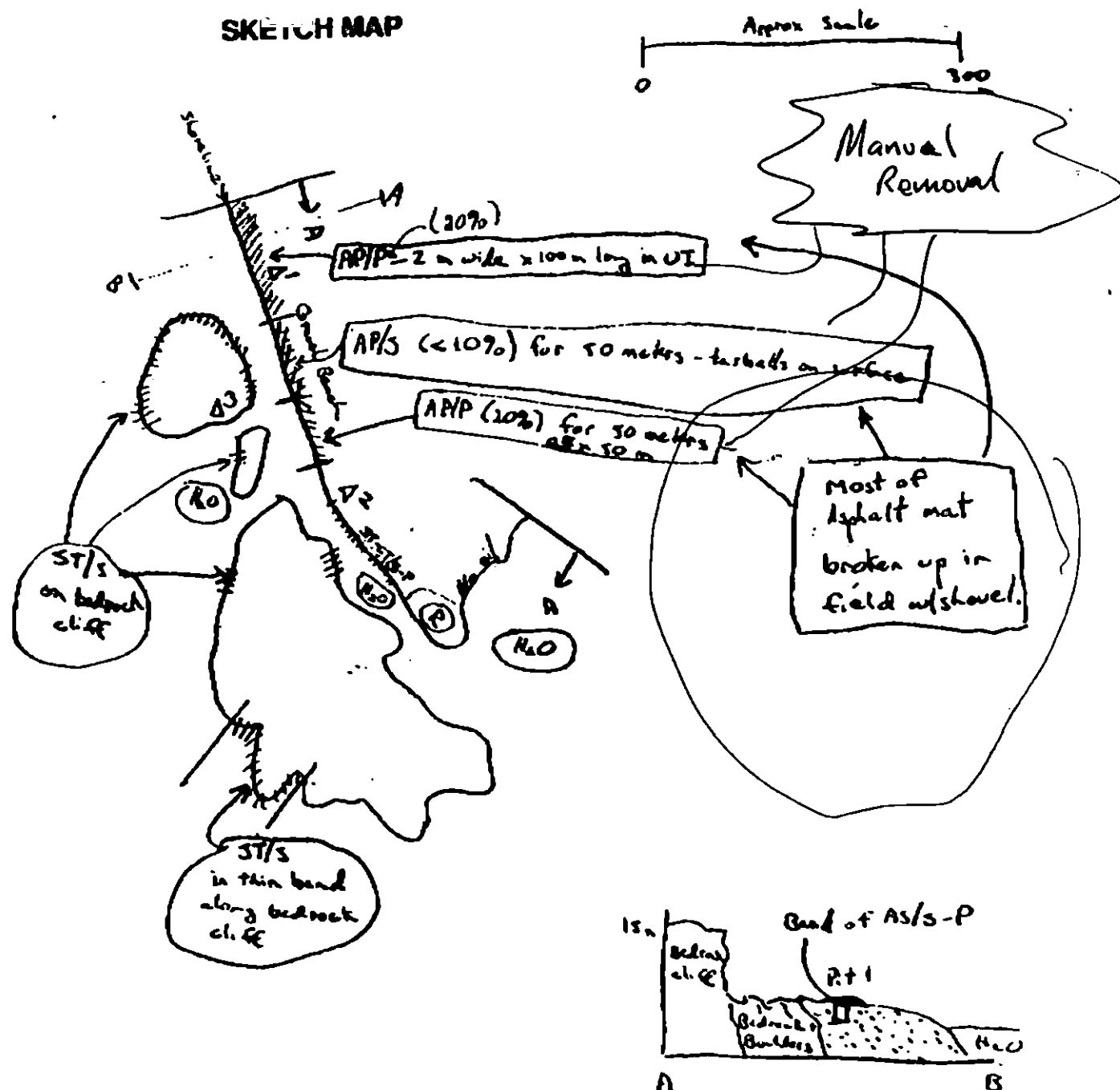
EGEND

- 1 Δ
 1- No Subsurface Oil
 2 Δ
 1- Subsurface Oil
 CT/C
 CT/B
 CT/P
 CT/S
 lll
 Bed Vegetation

Photo location, direction,
 id number

11/39

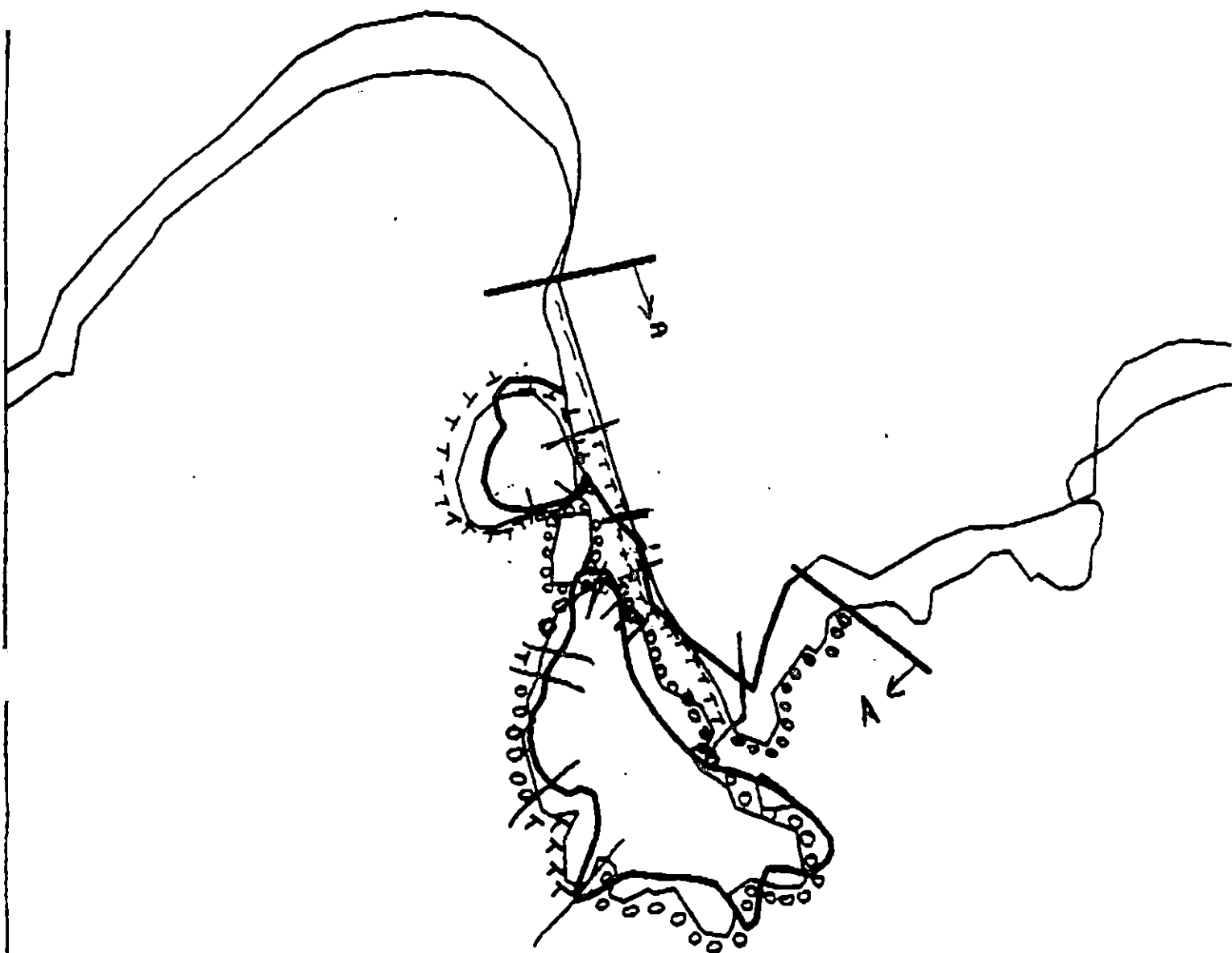
SKETCH MAP



CH-15

Shoreline Ecological Summary (cont.)
(Page 2 of 2)Sharmen
4/19/90General Comments (cont.):

and hermit crabs (Pagurus). The channel between the islands and mainland is reasonably rich and productive, with Mussels on rocky MTE-LTE, and Adiantella and green filamentous forms (Acrocyphonia?) joining Fucus in the MTE. The LTE firm-sediment channel habitat includes Pyropodia and the clams Saxidomus, Macoma, Mya, and some Chionea. The massive bedrock islands appear quite healthy albeit naturally depauperate, dominated by barnacles and Fucus - mussels are relatively rare. In fact, mussel beds generally are surprisingly rare along the S. slope of Chenega Island. Where they occur, however, mussels appear to be reproducing satisfactorily. General impression for intertidal community: normal and healthy.



CH-15

10/39

XXXX Wide

//// Medium

--- Narrow

TTTT Very light

CH-15

ADEC Segment Length: 1747m

Map Key: PWS-41

Name: Randy Dreyer

Date: 4/19/90



ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CH-15 SUBDIVISION A (1 of 1)

WORK WINDOW	
Tarmat Removal	OPEN

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T	Bald Eagle Nests	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A. work site.
1A,1B	Salmon Stream	ADF&G catalogued anadromous streams (226-20-16255 and 226-20-16258) are present in Segments CH-14 and CH-16. No constraint to tarmat removal.
7HH	Subsistence: Finfish Harvesting	No constraint to tarmat removal.
7II	Subsistence: Invertebrate Harvesting	NO CONSTRAINT.

OTHER ECOLOGICAL CONSIDERATIONS

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

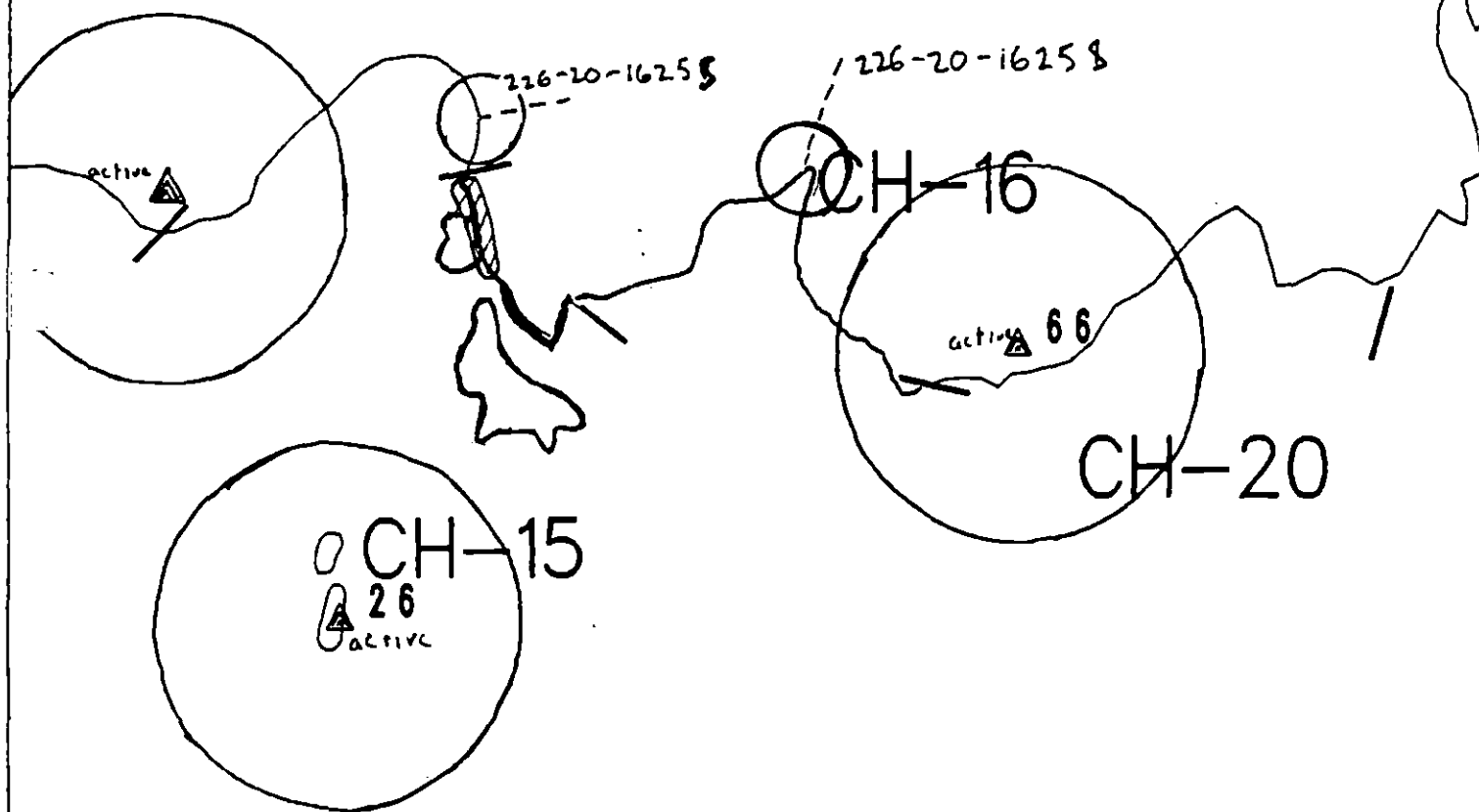
FOSC

DATE 6-10-90

This incorporates information from
the USFW 6/1/90 Active Bald Eagle Nest Map

CH-14

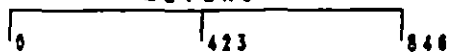
CH-1



Exxon Company, USA
Map Key: PWS-QH-16
May 11, 1990



ECOLOGY MAP
SEGMENT CH-15
SUBDIVISION A (1 of 1)
METERS



- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1387 feet

SHORELINE EVALUATION

SEGMENT ST/ CH-16 SUBDIVISION A (1 OF 1) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-20-16258

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
- 1B Salmon stream mouth - spawning (7/10 to 8/31)
- 1K Purse seine hook-off (7/20 to 9/30)
- 5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
- 6Y Recreation: Special use destination
- 9BB Privately developed lands

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 363 m: V.Light 507 m: No Oil 505 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of surface cover/coat areas as shown on attached sketch map. Work should be conducted between 6/1 and 7/10 based on salmon and eagle nest constraints and/or approval by ADF&G and USFWS respectively.

TAG COMMENTS: MANUAL PICK UP OF ARMAT/POURED OIL PRIOR TO BIO.

TAG APPROVAL DATE: 4/28/90

ADEC ART WENNER
EXXON ANDY TEAL
NOAA GARY PETERSON
USCG KENNETH KEANE

FOSC:

DATE: 5-9-90

CVC Rep to be present -

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A	Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B	Salmon stream mouth - spawning (7/10 to 8/31) No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
1C	Salmon fry nursery area (4/31 to 7/31)
1D	Esther Hatchery release (4/15 to 6/1)
1E	Main Bay Hatchery release (4/20 to 5/10)
1F	Sawmill Bay Hatchery release (4/15 to 6/1)
1G	Cannery Creek Hatchery release (4/21 to 6/1)
1H	Remote release site
1I	Gill net area (8/7 to 8/31)
1J	Purse seine area (7/20 to 9/30)
1K	Purse seine hook-off (7/20 to 9/30)
1L	Set net sites (8/11 to 7/25) For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
2M	Herring spawning (4/1 to 6/15) Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
3N, 3P 3O, 3Q	Harbor seal and sea lion pupping (5/15 to 7/1) Harbor seal and sea lion molting (8/15 to 9/15) Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
5R	Seabird colony (5/1 to 9/1) Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
5S	Shorebird/waterfowl concentration (4/1 to 5/15) Restrict all activity to essential minimum, especially air traffic.
5T	All Bald Eagle nests (3/1 to 6/1) Active Bald Eagle nests (3/1 to 9/1) Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
6U	Recreation: Tent sites (8/1 to 9/15)
6V	Anchorage (8/1 to 9/15)
6W	Forest Service cabins (8/1 to 9/15)
6X	Lodge (8/1 to 9/15)
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 / CH 16 SUBDIVISION: A (^{ENTIRE}_{SEGMENT}) DATE 4/19/92

USCG

NAME PS3 SCHULTZSIGNATURE *Jerry Schultz*☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

ADEC

NAME MIKE EBELSIGNATURE *Michael Ebel*☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

Note: sketch map indicates lone AP patch found by anadromous stream.

CH-16-A: This segment was primarily composed of bedrock cliffs weathering into boulder/cobble debris slopes ~~with~~ incised with several pocket beach. Tar-like oiling was found under the boulders widespread across length of seg. but confined to the UTZ. Interstitial tar had collected detritus forming small "pools" or patches — much of which we called AP, but were more on the order of tar sps & patches or a very loose AP. All sites indicated no subsurface oiling. Due to the texture of oil remaining (low grade) and the difficulty working under a large brown cover, I would recommend no treatment.

LAND MANAGER - CVC

NAME PAT SELANOFFSIGNATURE *Pat Selanoff*☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

I would suggest using granules (bioremediation) in this segment.

24/39

SHORELINE OILING SUMMARY

REVISION NO 04.13.92

CG Randy Siegel USCG Jerry Schultz SEGMENT ST/ CH-16
 BIO Lewis Sharnan LAND REP Pat Salasoff (CVC) SUBDIVISION A (1 OF 1)
 EXXON Leonard Herbst ADEC Mike Ebel TIME 12:30 10 19 00
 TEAM NO. 12 TIDE LEVEL 3.15' to 5.15' DATE 4 / 19 / 90
 EST. SUBDIVISION LENGTH: 1270 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow 57°F
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 25 % B 25 % C 25 % P 10 % G 5 % S 0 % M 0 % V 0 %
 SLOPE: Long 70 % Hang 30 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 300 m VL 440 m NO 530 m

SURFACE OIL

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

PAVEMENT H F 5 20 sq. m by 2 c-PATTIES / TARBALLS 10 BAGSNEAR SHORE SHEENT NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE sortest pad#BAGS 1Photographs: NoneRoll No 57-12-7Frames 6

SUBSURFACE OIL

PIT NO	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR						PIT ZONE				A	N	A	SHEEN (Y/N)	T	SURFACE - SUBSURFACE SEDIMENTS
		OP	OS	OL	OF	NO		US	UC	1	2	3	4	5	6	BU	U	M	L						
1	38					X	0.0	X								X							-	-	P
2	30					X	0.0	X								X						-	-	-	P, G
3	30					X	0.0	X				X				X						Y	20		G
4	30					X	0.0	X								X						-	-		G
5	25					X	0.0	X								X						-	-		P, R
6	30					X	0.0	X								X						-	-		B, P

COMMENTS

This segment consists of a cobble-boulder beach flanked by
 bedrock cliff faces to each side. Low angle slope above beach.
 A band of oiling occurred across much of the eastern portion of the beach,
 in the U.I. Sometimes a ST-CT on/under boulders, sometimes as a tarant
 with splash, patchy, or broken distribution. Large boulders + cobbles on
 the beach made observation difficult.

REVIEWED _____ DATE _____

10/39

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04.13.92

 SEGMENT ST/ CH-16 SUBDIVISION A (1 OF 1)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SHEEN (Y/N)	▼	SURFACE SUBSURFACE SEDIMENT
		OP	OR	OL	OF	NO		UD	UC	BR	BL	GR	GY	OR	TR	LR		SU	U	M	L				
7	30					X	0.0		X									X					-	-	G
8	20					X	0.0		X									X					-	-	G, R
9	25					X	0.0		X			X						X					Y	12	G
10	50					X	0.0		X									X					-	-	G
11	25					X	0.0		X									X					N	12	G, R
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		

COMMENTS

17/39

REVIEWED _____ DATE _____

UKS Kandy Segel

SEGMENT 104-16

SUBDIVISION A

DATE 4 / 19 90

CHECKLIST

- ___ N Arrow
- ___ Approx. Scale
- ___ Sag/Sub Body
- ___ Oil Dist.
- ___ Width
- ___ Length
- ___ % Cover
- ___ Substrate Character
- ___ Est. INFLUENCE
- ___ SSL
- ___ Profile Location(s)
- ___ Profile(s)
- ___ Pit Location(s)
- ___ Photo Location(s)

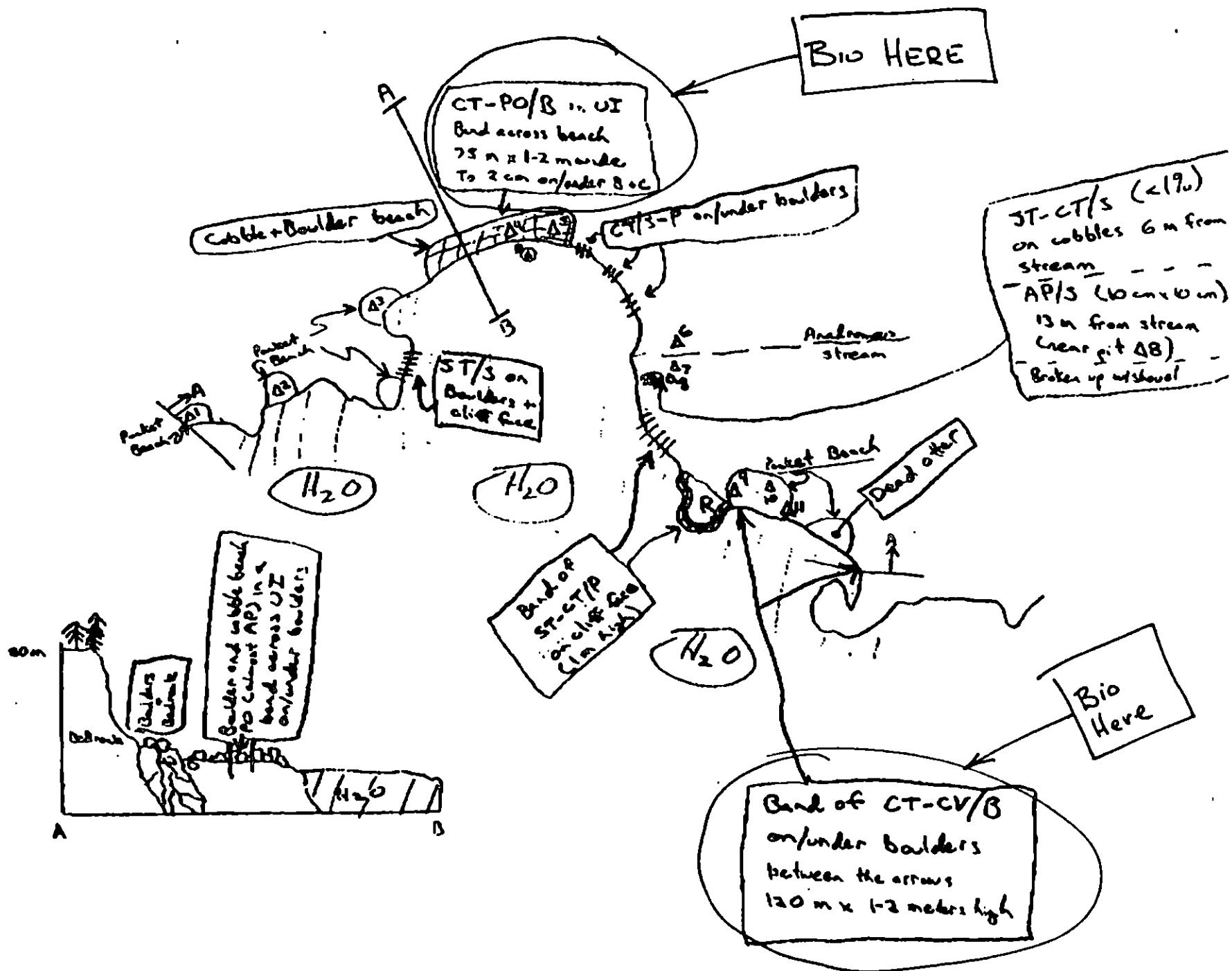
LEGEND

- 1 Δ
- PT - No Subsurface Oil
- 2 Δ
- PT - Subsurface Oil
- CT/C
- Continuous Distribution
- CT/B
- Broken Distribution
- CT/P
- Patchy Distribution
- CT/S
- Spashed Distribution
- Oil Vegetation

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

KETCH MAP

Approx. Scale
300 meters



Oil Character Length (m): AP 2 PO 100 CV 150 CT 700 ST 700 MS 0 PT 0 TB 0 FL 0 NO 530

REVISION: 00/04/00

SHORELINE ECOLOGICAL SUMMARY (Page 1 of 2)

REVISED 1972

Segment ST / CH-16 Subdivision A Date (mo / day / yr) 4/19/90Time (24 hr) 1725-1900 Biologist SHARMAN(A) Substrate type and % of segment: SUBDIV.
(1) Bedrock 25 (2) Boulder 35 (3) Cobble 25 (4) Pebble 10 (5) Sand 5 (6) Silt 0 ^{+ granules}(B) Overall % cover of biota (% of segment): Dense 0 Moderate X Low 0
SUBDIV.

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

Photographs:
Roll No. ST-12-7Frames 6

BARNACLES

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

NOT PRESENT

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 (ANCELA, LITTORINA, LYMAETA)

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	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: Did not observe LIT. 3 pairs Barrow's goldeneyes at mouth of stream, also geese nest on bank. Deer nest in supratidal, 2 other pelvia type. 1 dead adult sea otter in UTR, bones + some hide, no oil, cause of death unknown. See sketch map for location. Ecologically, this segment is somewhat similar to CH-19 (see Ecological Summary for that segment). Note very good barnacle.

Ecological Considerations:

There are 6 resource sensitivities listed for this segment from catalogue data: Salmon Fry Astigmatism (Code 1A); Salmon Spawning (Code 1B) - for anadromous stream # 226-20-16298; Eagle Nest (Code 5T) - actually 40m E. of E. boundary & within segment CH-20; Purple Gull Nest (Code 1K); Special Use Designation (Code 6T); and Privately Developed Lands (Code 9B). We did not observe the eagle nest, but check CH-20, it might be there. The anadromous stream is probably the most important resource consideration - see sketch map for exact location. (cont.)

CH-16

Shoreline Ecological Summary (cont.)
(Page 2 of 2)

Sloman
4/19/90

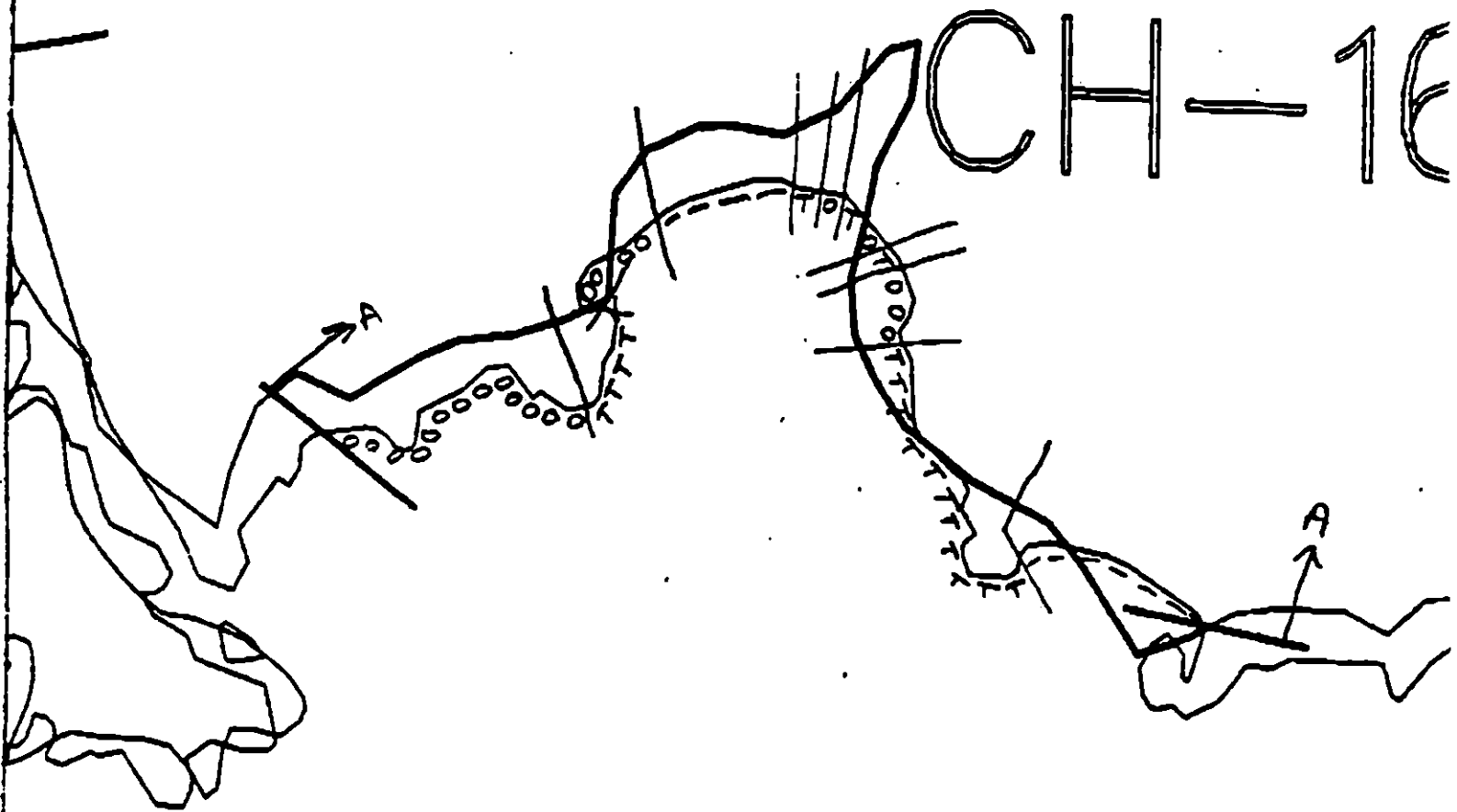
General Comments (cont.):

mostly E. portion
of segment

spot settlement, good Fucus recruitment. In the UTZ there is a broad (1-2m vertical) oil coat band on vertical bedrock/boulder faces; within this band I observed post spill spot settlement and Fucus recruitment only on spots bare of oil - none directly on weathered oil. Good recruitment of both species on either side (above and below) of the band. Adult barnacle mortality 50-70% within the band, 5-20% outside the band. In the MTZ, mussel beds are rare but are normally recruiting within established populations. Pebble/granule pocket beaches are generally depauperate except on scattered bedrock outcrop + boulder surfaces. Littorina are laying eggs beneath boulders. Fucus is joined, on bedrock surfaces, by Gelidium, Odonthallia, and green filamentous forms. MTZ tidepools on bedrock platforms include Filothamnium, erect articulated Corallina, Spiralix, Anthopleura artemesia, Margarita, etc. General impression: normal + healthy intertidal community, recruiting successfully. Exception is mortality + lack of recruitment within oiled UTZ band.

Ecological Considerations (cont.):

While the channel and banks appear unoiled, there is very light to narrow oiling on adjacent beaches - within 50m on the N. side, within 5-10m on the S. side (see OG form). Ecological Summary for CH-14 notes potential concerns for anadromous streams.



19/39

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

CH-16

ADEC Segment Length: 1376m



Map Key: PWS-42

Name: Randy Siegel

Date: 4/19/90

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CH-16 SUBDIVISION A (1 of 1)

WORK WINDOW

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

OPEN

Manual Pickup and Tarmat Removal
Less Than 100m From Active Nest

CLOSED

Bioremediation More Than 100m From Stream and
More Than 400m From Active Nest

Work Prior To 7/20
~~8/20~~ WPK

Bioremediation Less Than 400m From Active Nest

CLOSED

Bioremediation Less Than 100m From Stream
(Only If Eagle Constraint Is Removed)

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

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

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.

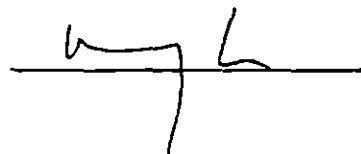
5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup, tarmat removal and bioremediation less than 400m from active eagle nest. No constraint to manual pickup, tarmat removal and bioremediation more than 400m from active eagle nest.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC



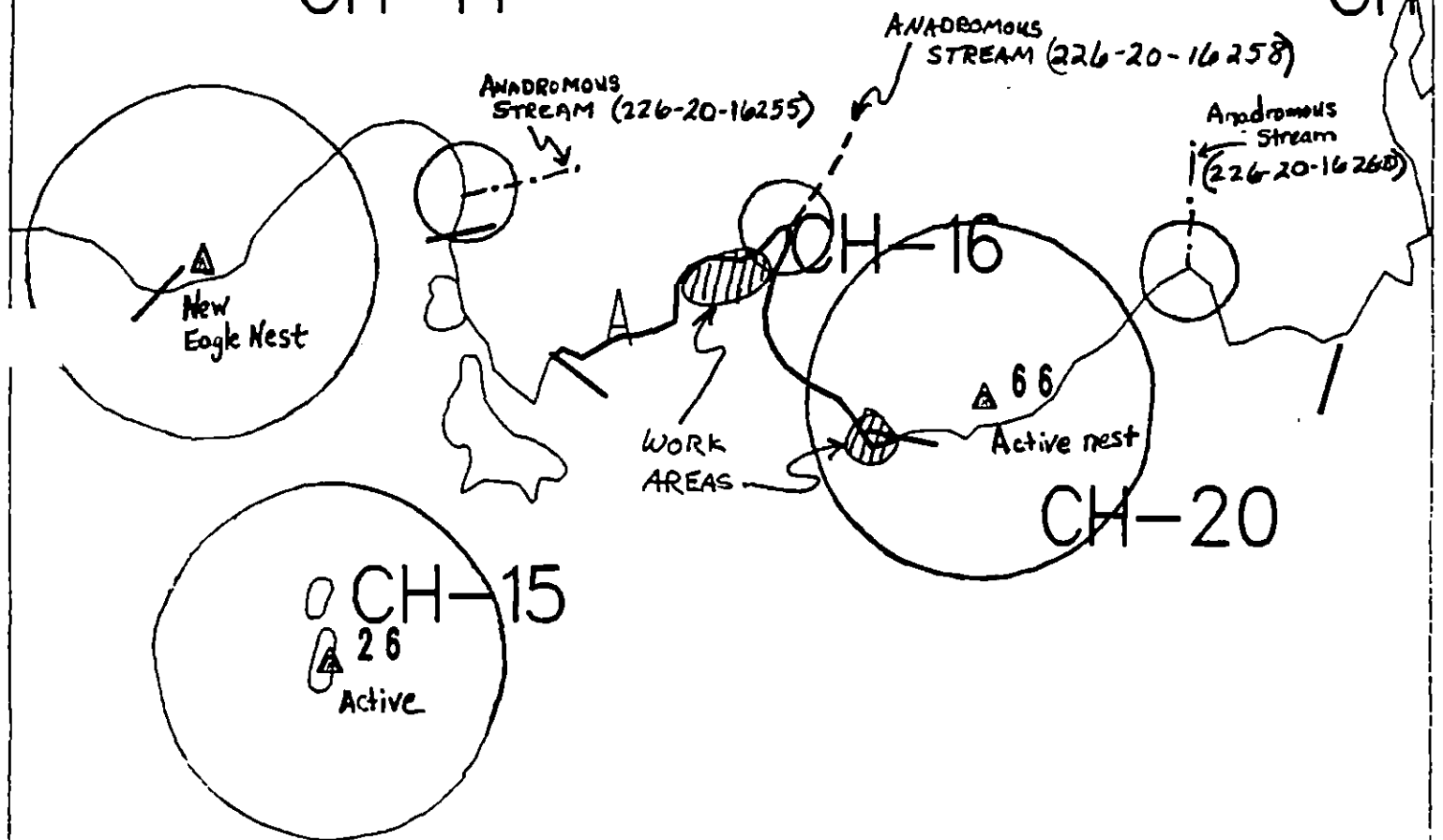
DATE

6-10-90

Incorporates data
from USFWS survey
of bald eagle nests
(6/1/90 map).

CH-14

CH-17



Exxon Company, USA
Map Key: PMS-QT-16



ECOLOGY MAP
SEGMENT CH-16
SUBDIVISION A (1 of 1)
METERS

- ★ Seabird Colony
- ▲ Eagle Nest

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ CH-16 STREAM NO: 226-20-16258 DATE 4/25/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

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

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

6Y Recreation: Special use destination

9BB Privately Developed Lands

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Subject stream is located within Subdivision A (1 of 1).

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

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: 5/7/90

ADEC ART WILSON Dist. Director

EXXON ANDY TATE

NOAA Gary Petrac

USCG G.A. REITER

FOSC: my h DATE: 5-15-90

KODIAK ECOLOGICAL CONSTRAINTS

- ✓ 1A Salmon stream mouth - fry outmigration (4/15 to 7/31)
- ✓ 1B Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G prior to treatment for consultation and/or permit application.
AGENCY CONTACT PERSON: ADF&G Ken Middleton 267-2299
- 1C Salmon fry nursery area (4/31 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Kotol Bay Hatchery release
Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.
- 1H Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G for confirmation and authorization.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1I Gill net area
- 1J Purse seine area
Mainland, West side Kodiak, Shuyak & Moser/Olga Bay (6/9 to 10/1)
East side Kodiak, East side Afognak (7/4 to 10/1)
- ✓ 1K Purse seine hook-off
- 1L Set net sites
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Larry Nicholson 424-4791
- 2M Herring spawning (4/15 to 6/30)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncultivated intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Larry Nicholson 486-4791
- 3P Harbor seal and sea lion pupping (5/10 to 7/1)
- 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31).
Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (8/1 to 9/15)
- 6V Anchorage (8/1 to 9/15)
- 6W Forest Service cabins (8/1 to 9/15)
- 6X Lodge (8/1 to 9/15)
- ✓ 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (8/1 to 9/30)
- HH Finfish harvesting
- 7H Deer harvesting (8/1 to 1/7)
- 7J Invertebrate harvesting
- 7KK Bear harvesting (4/1 to 5/15 and 10/25 to 11/30)
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

25/54

FIELD SHORELINE COMMENT SHEET

SEGMENT ST CH 016 SUBDIVISION: 16258 DATE 4/25/90

USCG

NAME CWO AL MATHON SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADF-46

ADEC

NAME Tom Crowe SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

VERY LIGHT STAIN ONLY.

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ASC # 226-42-16280

Segment CH-001

Observations A tar band covering a gravel substrate extends along the high tide line south of the channel. This band has not appreciably weathered since ADF&G staff visited the site in early December. No other oil, either surface or subsurface, was observed at the site.

Treatment Recommendations Manually remove the tar band.

ASC # 226-20-16258

Segment CH-016

Observations One tar patty was found along the boulder rubble east of the channel. A very light and sporadic stain coated a region of the lower and mid intertidal zone west of the channel. No significant amounts of subsurface oil were observed.

Treatment Recommendations The insignificant quantities observed at the site do not warrant further treatment.

ASC # 226-20-16255

Segment CH-014

Observations Sporadic tar mats and patties coat cobbles along high tide line of this moderately exposed site. Some of the patties lie just beneath the surface (see ADF&G Multi-Assessment Data Form diagram).

Treatment Recommendations Manual removal of tar mats and patties. Care must be taken to ensure that buried tar patties are removed.

SHORELINE OILING SUMMARY (ANAD.)

REVISION NO. 0

OG WILLIAM REID USCG McMAHON SEGMENT ST/ CH016 20/54
 BIO MICHAEL FAWCETT LAND REP 5 STREAM 23-20-K291 OF
 EXXON GUS GARCIA ADFG MIKE WIEDNER TIME 11:25
 TEAM NO. 15 TIDE LEVEL 3.5 FT DATE 25 / APR / 90
 EST. SUBDIVISION LENGTH: 33 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 0 % B 0 % C 60 % P 30 % G 0 % S 0 % M 0 % V 0
 SLOPE: Long 90 % Hang 10 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ Hig
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 35 m NO 20

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	N	S	E	W	1	2	3	4	5	U	M	N	U
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT				X		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

PATTIES / TARBALLS 0

NEAR SHORE SHEEN? ☒ NO BR RW SL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

Did you Col
DEBRIS
☐ YES ☒ NO
TYPE 0
#BAGS 0

Photographs:

Roll No. 0

Frames 0

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW	OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (Y/N)	SURF. SUBSURF SEDIM
		OF	OR	OL	OF	NO			1	2	3	4	5	U	M	N	U			
1	35					X	.								X				N	P/C
2	30					X	.								X				N	P/C
							.													
							.													
							.													
							.													

COMMENTS

REVIEWED TW DATE 4-27

27154
15112
OG
SEGMENT ST/ CH016
STREAM 226-20-16258
DATE 25 APR 90
CHECKLIST
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
eee
Oiled Vegetation
1 ●→
Photo location, direction,
and number

OG LLIAM REID
SEGMENT ST/ CH016

STREAM 226-20-16258

DATE 25 APR 90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Background Photo
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/LW
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PR Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
PR - No Subsurface Oil

2 Δ
PR - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

eee
Oiled Vegetation

1 ●→
Photo location, direction,
and number

SKETCH MAP

Bedrock + Fm

Film AS-15-6



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

REVIEW

23/91

ACFAG MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: ES CS TS AVS SCVA HPHS PTA

2 REGION: PMS KP,CI K,AP

METHOD: Aerial Ground Boat

3 DATE: 4/25/90 16 HIGH TIDE TIMES: 1500

21 TEAM RECORDER: Tom Crowe

4 START TIME: 1125 18 HIGH TIDE HTS: +11 FT

22 OBSERVERS: Mike Wicome

5 STOP TIME: 1148 17 LOW TIDE TIMES: 0830

23 AGENCY: ADFG

6 SEGMENT #: CH-016 19 LOW TIDE HTS: -4 FT

24 PHOTOS TAKEN: Y 10

7 STATION #: _____ 19 TIDE HT AT SURVEY: +3 FT

Roll #: _____ Frames: _____

8 K-UNIT: _____ Ebb Slack Flood Slack

25 VIDEO TAKEN: Y N TAPES: _____

9 STAT AREA: _____ 20 USCG QUAD: SEW 8-3

Start: _____ End: _____

10 LAT: _____ 11 LONG: _____

26 SAMPLES TAKEN Y N Number

12 SOURCE: Map Loran

Oil _____

LOCATION: SOUTH CAROLINA ISLAND

Sediment _____

14 DESCRIPTION: _____

Biological _____

EXTENT OF OIL

Water _____

	SHORELINE				STREAM			
	L	Y	N	S	L	Y	N	S
27 SURFACE COVERAGE	100	50						
28 SURFACE THICKNESS	5mm							
29 PENETRATION	-0							

36 CATALOGED ANAD. FISH BREAST Y N

37 CATALOG #: 226-20-16258

38 STREAM NAME: _____

39 OIL IN STREAM BED? Y N

40 OIL ON STREAM BANK? Y N

30 OVERALL OIL IMPACT: N Y L N N

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

31 OIL TYPE: Pooled Molasse Tar Asphalt Sticky Stain

42 OIL WITHIN 1 MILE OF STREAM Y N

32 OILED DISTRICT Y 1

Where: _____

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

43 ANAEROBIC FISH PRESENT? Y N

34 WAVE EXPOSURE: High Moderate Low

44 ANAEROBIC FISH OBSERVATION
Species Aerial Ground

35 SUBSTRATE TYPE: Bedrock _____ Boulder X Cobble X
Gravel _____ Sand _____ Mud/silt _____

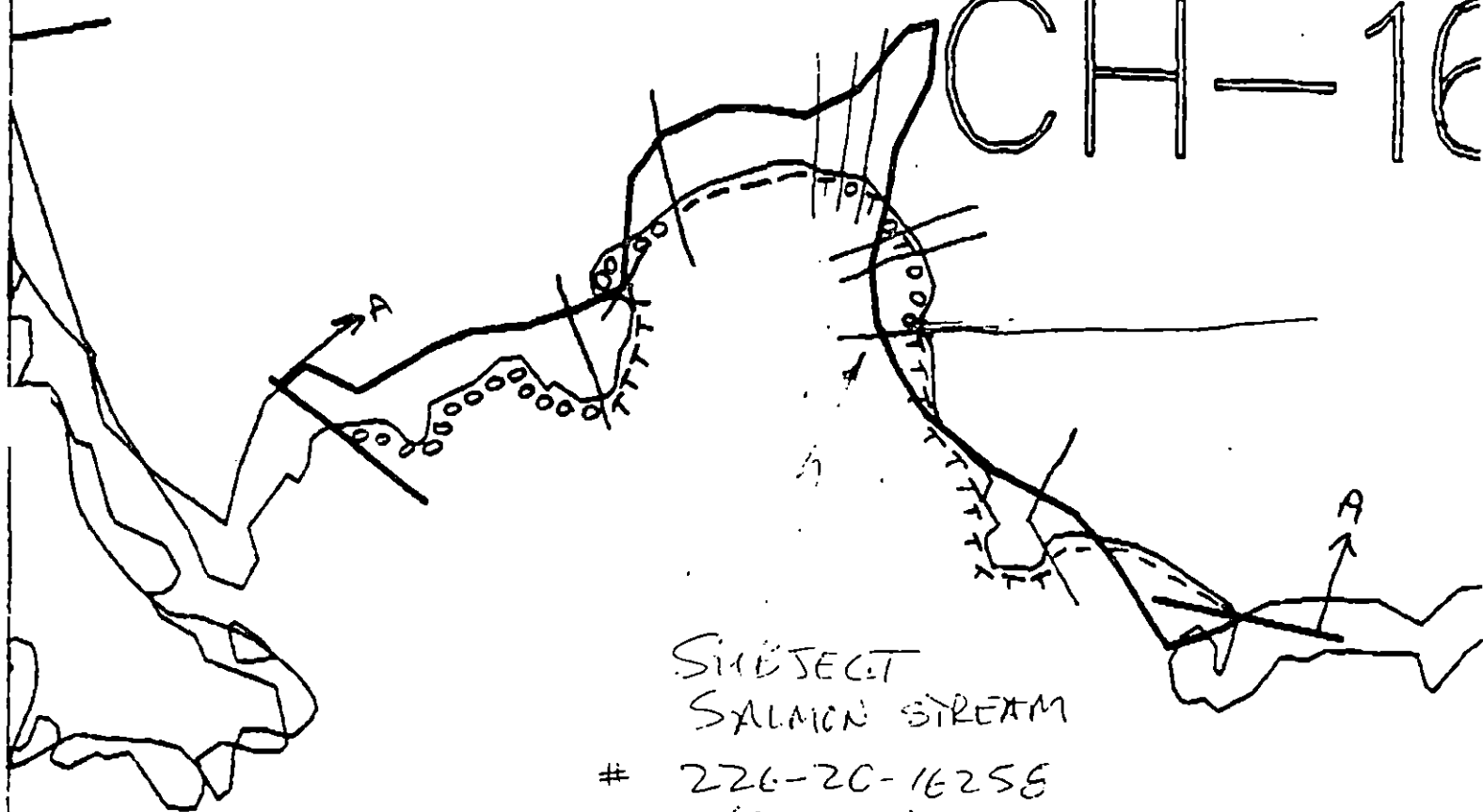
Species	Aerial	Ground

COMMENTS: NO TREATMENT

ECOLOGICAL MAP

1A, 1B
1K
6Y
6EE

CH-1E



SUBJECT
SALMON STREAM

226-20-16258
(P3, 2/90)

CH-1E-A (1 of 1)

19/39

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

CH-16

ADEC Segment Length: 1376m

Map Key: PWS-42

Name: Randy Siegel

Date: 4/19/90

SHORELINE EVALUATION

SEGMENT ST/ CH-17 SUBDIVISION A (1 OF 1) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-20-16270 and additional uncatalogued anadromous stream.

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

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

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

6Y Recreation: Special use destination

9BB Privately developed lands

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 286 m: No Oil 2551 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 5/4/90

ADEC ART WEINER Art Weiner

EXXON ANDY GAL Andy Gal

NOAA GARY PETRO Gary Petro

USCG GARY REITER G.A. Reiter

FOSC: DATE: 6-17-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

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

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

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

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

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

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

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

1H Remote release site

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

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

✓ 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)

✓ 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.

PRIVATELY DEVELOPED LANDS

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CH-17 SUBDIVISION: A (ENTIRE SEGMENT) DATE 4/20/90

USCG

NAME

JERRY SCHULTZ

SIGNATURE

[Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC

NAME

MIKE EBEL

SIGNATURE

[Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

Recommend Future Monitoring Site for Salmon
CH-17-A: Very occasional, very light splashes of stain and coat were found mostly on the bedrock. Two tarball patches were found within 30m of the anadromous stream (east fork). No other oiling found on surface or subsurface. Because of the very little oil found in this segment NO treatment is recommended. However, the streams should be monitored for contaminated salmon to determine if any nearby oiling from other segments will effect the estuary used by such and any antecedent frye in the surrounding area *ie. future salmon + this years*

LAND MANAGER

NAME

PAT SELANOFF (CVC)

SIGNATURE

[Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

STARTING From CH 17 to the End of segment II appeared to be free of oil. However since there are small pockets & pools that run sporadically seem to be coming out of small amounts of sheen through out ~~the~~ this part of the Island, not particularly in this segment, but before and after this segment. I would suggest ~~some~~ testing the salmon for once per year how left to the salmon stream, for hydrocarbons.

SHORELINE OILING SUMMARY

REVISION NO. 24.13

OG Randy Siegel USCG Jerry Schultz SEGMENT ST/ CH-17
 BIO Lewis Sherman LAND REP Pat Salanoff (CVC) SUBDIVISION A (1 OF 1)
 EXXON Leonard Herbert ADEC Mike Ebel TIME 16:00 10/17/25
 TEAM NO. 12 TIDE LEVEL 1.8' 2.18' DATE 4/20/90
 EST. SUBDIVISION LENGTH: 2074 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow 45'
 UPLANDS DESCRIPTION: ☒ Grass ☐ Forest ☒ Rock
 SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 25 % B 25 % C 20 % P 20 % G 5 % S 5 % M 0 % V 0
 SLOPE: Long 25 % Hang 25 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 175 m NO 1899

SURFACE OIL

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

PAVEMENT H F S 0 sq. m by 0PATTIES / TARBALLS 0 BAGNEAR 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#BAGS 1

Photographs:

Roll No. NoneFrames —

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	V	SURFACE SUBSURFA SEDIMENT
		OP	OR	OL	OF	NO		SO	UC	1	2	3	4	SW	U	M	U				
1	30					X	0-0	X						X					—	—	P.G
2	35					X	0-0	X						X					—	—	P.G
3	40					X	0-0	X						X					—	—	G
4	25					X	0-0	X						X					—	—	G
5	30					X	0-0	X						X					—	—	G
6	20					X	0-0	X						X				N	8		G

COMMENTS

This segment consists of an extended gravel-pebble beach with 2 forks of an ~~anadromous~~ anadromous stream flowing through. The beach is flanked to the east and west by high angle bed rock cliffs. Very light oiling in segment. Two tarballs were found 30 m from one fork of the anadromous stream. All pits were clean.

REVIEWED 7WDATE 4/22/90

2/47

REVISION 04-13-94

SUBSURFACE OIL (CONTINUED)

[illegible]

COMMENTS

REVIEWED

DATE 4/22/90

DATE 4 120 90

CHECKLIST

- ___ N Arrow
- ___ Approx. Scale
- ___ Sep/Sub Entry
- ___ Oil Dist.
- ___ Wash
- ___ Length
- ___ % Cover
- ___ Substrate Character
- ___ Est. FENLA Vol.
- ___ SSL
- ___ Profile Location(s)
- ___ Profile(s)
- ___ Pl Location(s)
- ___ Photo Location(s)

LEGEND

- 1 Δ
PM - No Subsurface Cr

- 2 ▲**
PH - Subsurface Oil

CT/C
Continuous Distribution

CT/D

Broken Distribution

[CT/P]

Policy Distribution

CT/S

Splashed Distribution

Dead Vegetation

Photo location, direction,
and number

4/47

TCH MAP

Low-angle slope
Gravel & pebble bench
with some bedrock outcrops
and boulders

TRB (Broken up in field)

The two anadromous streams were probably forks from a common stream mouth.

or: $\text{Ag}^+ + \text{Br}^- \rightarrow \text{AgBr}$

Hi-angle clastic w/forams

ST-1
Garage

Shoreline

classmate $\rightarrow A$

Character Length (in): AP 0 PO 0 CV 0 CT 175 ST 175 MS 0 PT 0 TB 1 FL 0 NO 1899

FILE VERSION: 09-24-2009

SHORELINE ECOLOGICAL SUMMARY (Page 1 of 2)

REVISION: 00

Segment ST / CH-17 Subdivision A Date (mo / day / yr) 4/20/90

Time (24 hr) 1400-1720 Biologist SHARMAN

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

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

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

Photographs: Roll No. —

Frames —

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	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	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	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 (ANACULA, LITTORINA, LIMAEUS)

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

FUCUS

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

NOT PRESE

Wildlife Observations/ General Comments: 8 pelagic cormorants, 2 Canada geese (probably a pair), 1 horned grebe, 2 pairs *Barnov's* gallinules, 2 pairs buffleheads, 1 pair mallards, 5 glaucous-winged gulls, 3 crows, 1 fox sparrow in intertidal zone, 1 adult eagle. Deer tracks, tracks & signs of other mammals around stream mouth. Generally important as for terrestrial mammals, shorebirds, seabirds. 2 streams are possibly of some system (C).

Ecological Considerations:

Resource sensitivities from catalogued data for this segment include a purple sea looff (Code 1K), a nearly single nest in adjacent segment CH-21 (code 5T), special use destination (Code 6Y), subsistence salmon harvesting (Code 7Z), an salmon fry outmigration (Code 1A) and salmon spawning (Code 1B) associated with anadromous stream # 226-20-16270 (see sketch map for locations). This is an extremely rich and productive area (see above Wildlife obs./Gen. Comments), both terrestrially and marine-wise. According to team member Pat Schenoff (C.K.) this is the most productive salmon stream on Clatsop Island.

CH-17

Shoreline Ecological Summary (cont.)
(Page 2 of 2)Shannon
4/29/90General Comments (cont.):

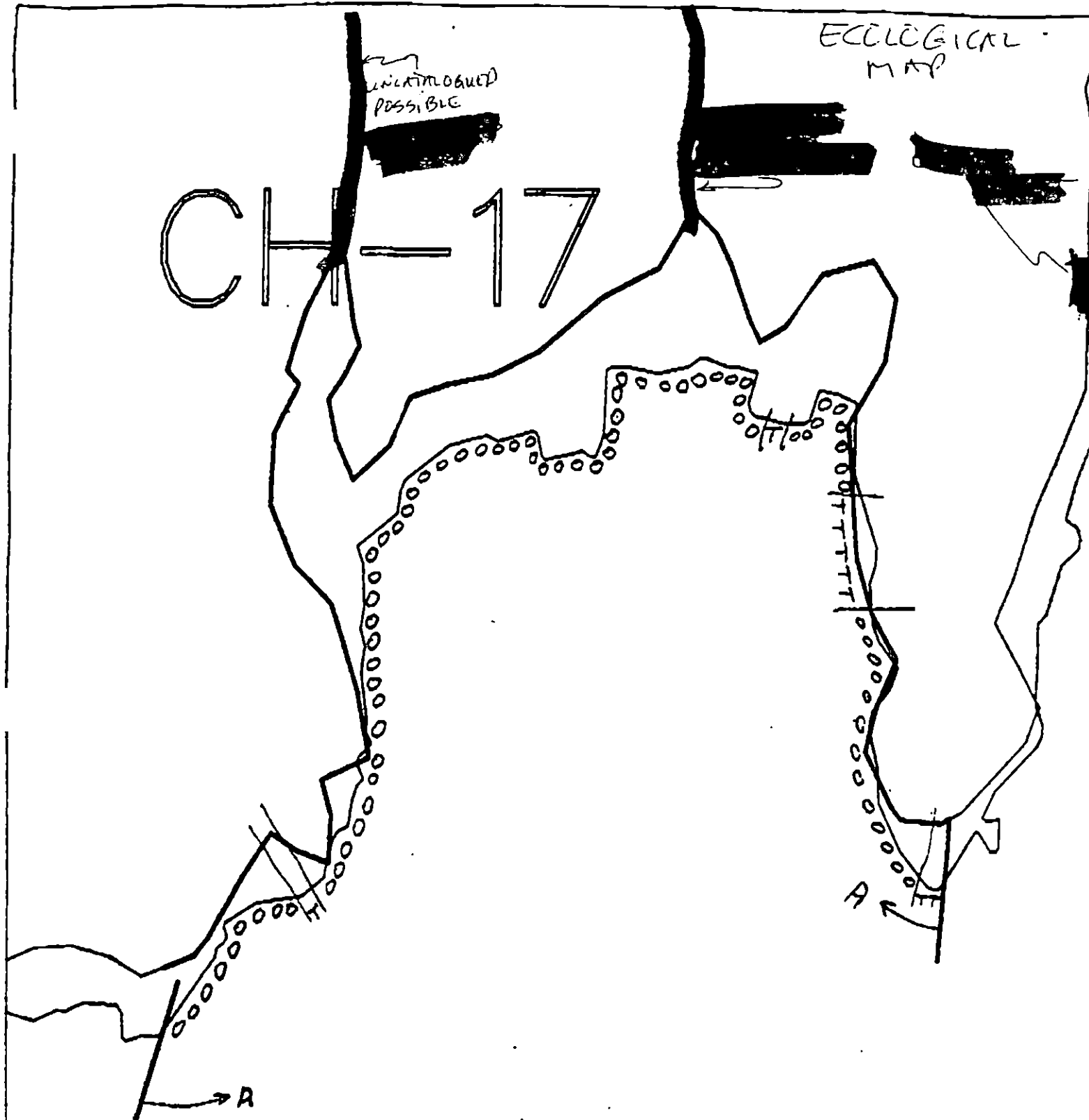
E. stream is largest and drains lake (but apparently, pinkie + some chum, no sockeye run). Very rich + productive nearshore marine system, great diversity of intertidal habitats (bedrock cliffs, sand flats, boulders, etc.). Gently sloping sandy LTZ harbors moderate bivalve populations. Inner portions of embayment slope down to eelgrass subtidal, and rocky LTZ includes wide algal diversity. Segment is mostly oil-free except rock/boulder cliffs on E. side - stream mouths are unoiled (exception - one small tar patch 50m E. of E. stream mouth). Abundant mussel snail egg cases in sandy LTZ around E. stream mouth (Polydora or Natica?). Defectly normal intertidal communities.

Ecological Considerations (cont.):

The area is clearly of substantial importance to birds, and almost certainly to terrestrial mammals. The protected shallow-water eelgrass habitat is of considerable value to marine fish and invertebrate spawning + particularly rearing. The general area is likely quite sensitive to disturbance directly from human presence, and the beaches and uplands potentially very easily disturbed physically by human trampling and other activities. This area is probably the most diverse, productive, and sensitive of all of S. Chaga.

ECOLOGICAL
MAPUNIDENTIFIED
POSSIBLE

CH-17



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

CH-17

ADEC Segment Length: 2837m



METERS



Map Key: PWS-43

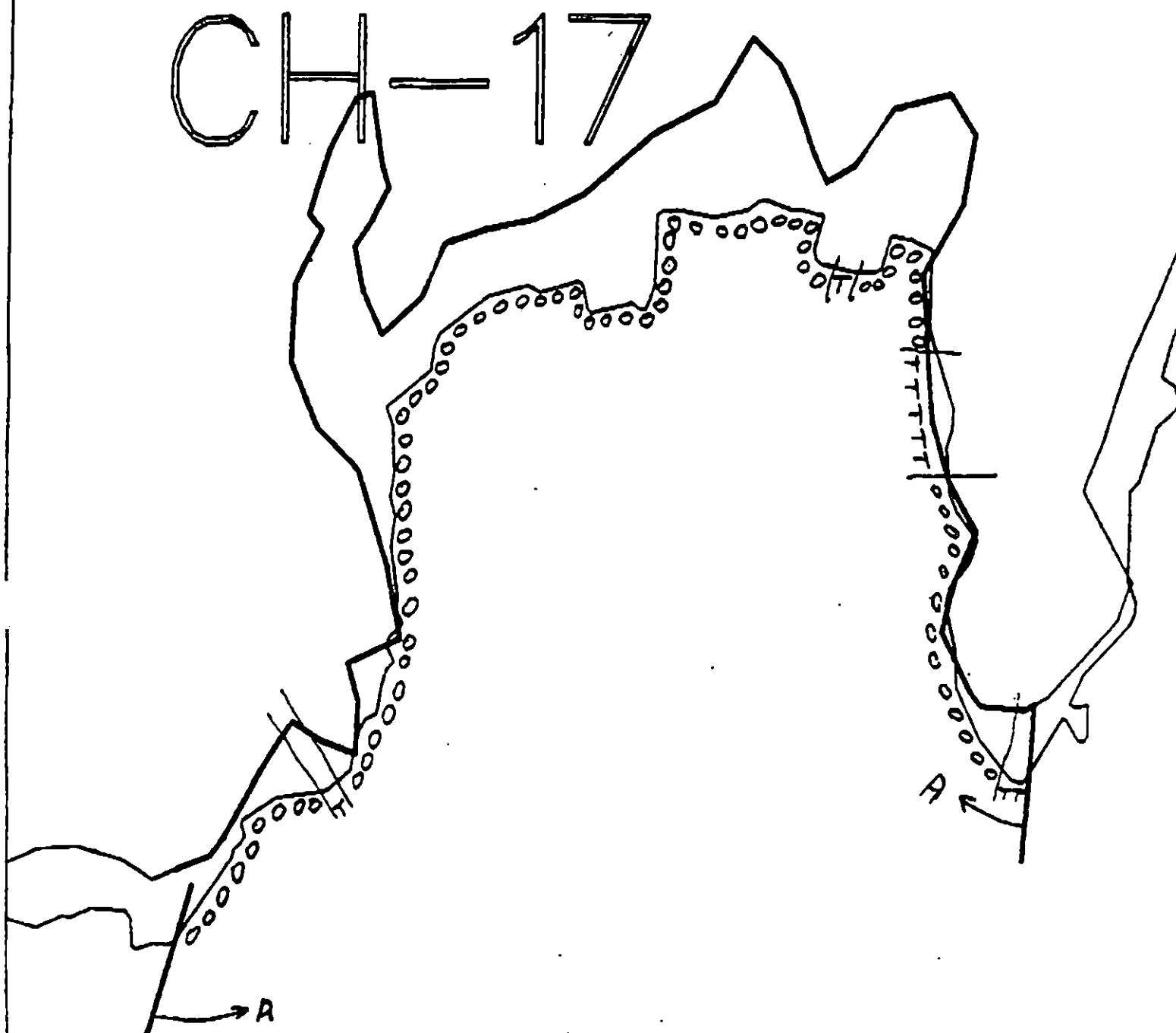
Name: Ruby TrailDate: 4/20/90

Data Entered:

5/47

S. Blue Sky

CH-17



5/47

XXXX Wide

/// Medium

----- Narrow

TTTT Very Light

0000 No Oil

CH-17

ADEC Segment Length: 2837m



Map Key: PWS-43

Name: Randy Layle

Date: 4/20/90

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ CH-18 SUBDIVISION A (1 OF 1) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1K Purse seine hook-off (7/20 to 9/30)
6Y Recreation: Special use destination
7HH Subsistence area: Finfish harvesting
7JJ Subsistence area: Invertebrate harvesting
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: J. David McManis

DATE: 5/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 426 m: No Oil 629 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
EXXON Andy Eck
NOAA Gary Peters
USCG Kenneth Keane

FOSC:

DATE: 5-9-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
- 1D Esther Hatchery release (4/15 to 6/1)
- 1E Main Bay Hatchery release (4/20 to 5/10)
- 1F Sawmill Bay Hatchery release (4/15 to 6/1)
- 1G Cannery Creek Hatchery release (4/21 to 6/1)
- 1H Remote release site
- 1I Gill net area (5/7 to 8/31)
- 1J Purse seine area (7/20 to 9/30)
- 1K Purse seine hook-off (7/20 to 9/30)
- 1L Set net sites (5/11 to 7/25)
 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.
- 6J Recreation: Tent sites (5/1 to 9/15)
- 6V Anchorages (5/1 to 9/15)
- 6W Forest Service cabins (5/1 to 9/15)
- 6X Lodge (5/1 to 9/15)
- 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
- 7HH Fish harvesting
- 7I Deer harvesting (5/15 to 2/28)
- 7JJ Invertebrate harvesting
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CH 18 SUBDIVISION: A (ENTIRE SEGMENT) DATE 4/19/90

USCG NAME PS3 SCHULTZ SIGNATURE Jerry Schultz

☒ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

ADEC NAME MIKE EBEL SIGNATURE Michael G. Ebel

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

1-18-A: Occasional splashes of stain and coat were found mostly on cliff faces, with some under boulders within the debris slopes. all areas were very light and scattered collectively making up a very small volume of total oil present. No treatment recommended.

LAND MANAGER - CVC NAME PAT SELANOFF SIGNATURE Pat Selanoff

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

31/39

SHORELINE OILING SUMMARY

REVISION NO. 04/12/90

OG Randy Siegel USCG Jerry Shultz SEGMENT ST/ CH-18
 BIO Louis Shorman LAND REP Pat Selanoff (CVC) SUBDIVISION A (1 OF 1)
 EXXON Leonard Herbst ADEC Mike Abel TIME 13:00 10:13 45
 TEAM NO. 12 TIDE LEVEL 4.15' to 2.35' DATE 4/19/90
 EST. SUBDIVISION LENGTH: 1198 m ☐ Sun ☒ Clouds ☒ Fog ☒ Rain ☐ Snow 57°F
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 85 % B 5 % C 5 % P 3 % G 2 % S 0 % M 0 % V 0 %
 SLOPE: Long 10 % Hang 25 % Vert 15 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH W 0 m M 0 m N 0 m VL 420 m NC 778 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	C	S	P	E	~~SW~~	~~W~~	~~W~~	~~W~~	~~W~~	~~W~~	SU	U	M	U
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT				X						X		X		
STAIN				X						X		X		
MOUSSE														
PATTIES														
TARBALLS														
FILM														
NO OIL											X		X	X

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash	X		
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE Plastic Bottle#BAGS 1

Photographs:

Roll No. ST-12-7Frames None

SUBSURFACE OIL

PIT NO	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (Y/N)	! ?	SURFACE SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SW	W	W	W	W	SU	U	M	U				
1	40					X	0-0		X						X					N	8	P, G
2	50					X	0-0		X						X					N	40	P, G
3	30					X	0-0		X						X					-	-	P, G
4	30					X	0-0		X						X					-	-	P
							.															
							.															

COMMENTS

Hi-angle bedrock shoreline with occasional pebble pocket beaches.
 No oiling at all along most of it. Some staining-coating of boulders
 along a narrow band towards the eastern portion of the segment.

REVIEWED JWDATE 4-20-9025/39

00 Randy Siegel
 SEGM IT/CH-18
 SUBMISSION A
 DATE 4/19/90

CHECKLIST

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

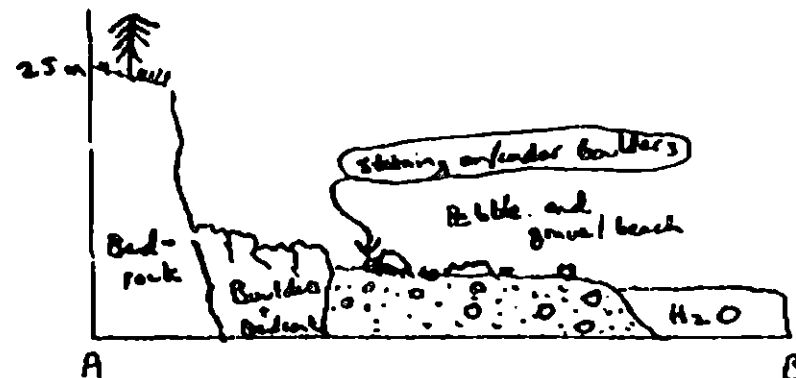
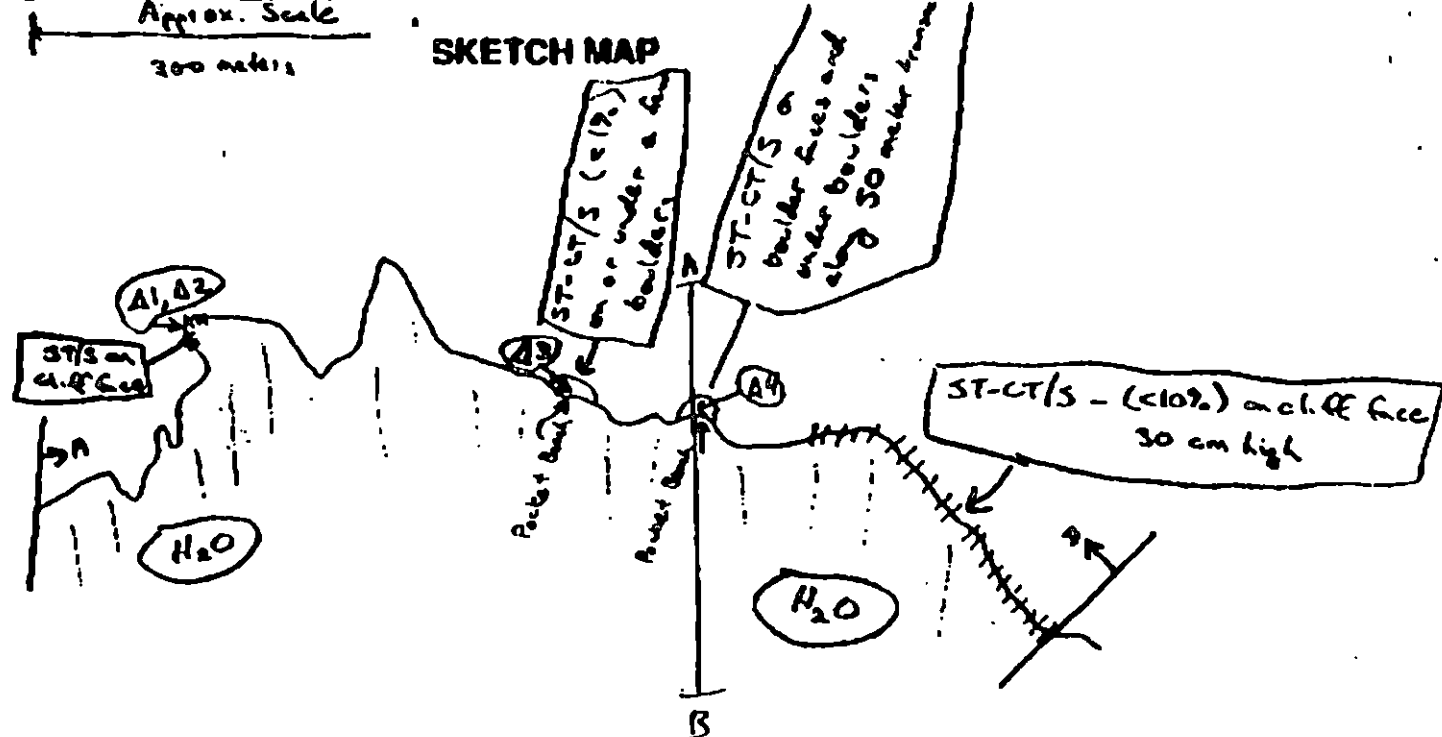
LEGEND

- 1 Δ
 PH - No Subsurface Oil
- 2 Δ
 PH - Subsurface Oil
- $\boxed{CT/C}$
 Concentric Distribution
- $\boxed{CT/B}$
 Broken Distribution
- $\boxed{CT/P}$
 Patchy Distribution
- $\boxed{CT/S}$
 Splashed Distribution
- eee
 Oil on Vegetation
- 1 $\Rightarrow$
 Photo location, direction and number

26/37

Approx. Scale
 300 meters

SKETCH MAP



Oil Character Length (m): AP 0 PD 0 CV 0 CT 420 ST 420 MS 0 PT 0 TB 0 FL 0 NO 778

Segment ST / CH-18 Subdivision A Date (mo / day / yr) 4 / 19 / 90Time (24 hr) 1300-1345 Biologist SHARMAN(A) Substrate type and % of segments: SUBDIV.
(1) Bedrock 3.5 (2) Boulder 5 (3) Cobble 5 (4) Pebble 3 (5) Sand 2 (6) Silt 2 ^{+ granules}(B) Overall % cover of biota (% of segment): Dense Moderate X Low
SUBDIV.

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

Photographs: Roll No. Frames

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS (ANCELA, LITTORINA, LIMAEYS)

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

NOT PRESENT

FUCUS

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

NOT PRESENT

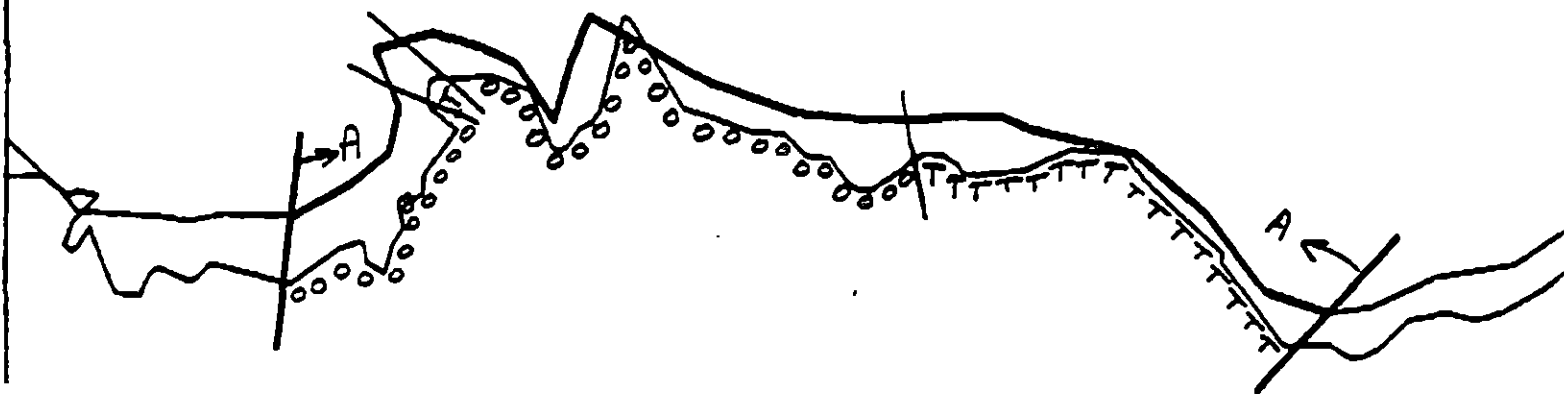
Wildlife Observations/ General Comments: Did not observe LITZ. 2 adult eagles, 4 black-legged Kittiwakes, deer tracks common in supratidal, abundance of unsorted drift material in MTE pocket beach wrack lines. This segment essentially identical to (a continuation of) adjacent segment CH-19. Please see Ecological Summary for (cont.)

Ecological Considerations:

There are 4 resource sensitivities listed for this segment from Catalogue data: Pure seine hookoff (Code 1K); Special Use Disturbance (Code 6Y); Subsistence finfish harvesting (Code 7HH); and Subsistence Invertebrate Harvesting (Code 7JJ). Both subsistence resources are likely quite sensitive to (or in the case of invertebrates possibly made unusable by) any considerable human disturbance, especially if it involves re-mobilizing any oil.

General Comments (cont.):

that segment. Again, note the apparently very successful spring barnacle spat set and the continuing good Fucus recruitment. Tidepools $\approx$ 100m from the W. end of the segment on a bedrock platform appear normally healthy and diverse, supporting Enteromorpha, Chlorella (recently recruiting), ulvae, a few tidepool sculpins (Aligaster?), and a dense profusion of littorins within the Fucus.



CH-18

27/39

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

CH-18

ADEC Segment Length: 1198m



Map Key: PWS-81

Name: Randy Siegel

Date: 4/19/90

Date Entered:

SHORELINE EVALUATION

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

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest observed by biologist, apparently active. Not on sensitivity list.

SHPO SIGNATURE: J. David McMan

DATE: 5/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 16 m: No Oil 1029 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: 4/28/90

ADEC ART WENNER
EXXON ANDY TEAL
NOAA Gary Petros
USCG Kenneth Keane

FOSC:

DATE: 5-9-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CH 19 SUBDIVISION: A (ENTIRE SEGMENT) DATE 4/19/90USCG
NAME DS3 SCHULTZ SIGNATURE Jerry Schultz☒ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTEDADEC
NAME MIKE EBEL SIGNATURE Michael Ebel☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

H-19-A: One pocket beach had splashes of eel and stain within about a 10m stretch of shoreline; very small amount. No treatment recommended.

LAND MANAGER - CVC

NAME PAT SELANOFF SIGNATURE Pat Selanoff☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

(38/39)

SHORELINE OILING SUMMARY

REVISION NO 24-11

OG Randy Siegel USCG Jerry Shultz SEGMENT ST/ CH-19
 BIO Louis Sharnen LAND REP Pato Selanoff (Cox) SUBDIVISION A (LOFT)
 EXXON Leonard Harbist ADEC Mike Ebel TIME 12:00 10/12/50
 TEAM NO 12 TIDE LEVEL 5-85% 4/2' DATE 4/19/90
 EST. SUBDIVISION LENGTH: 1180 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow 57
 UPLANDS DESCRIPTION: ☒ Grass ☐ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS. R 85 % B 5 % C 5 % P 3 % G 2 % S 0 % M 0 % V 0
 SLOPE: Long 10 % Hang 75 % Vert 15 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 10 m NO 1170

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	E	P	S	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 30 m by 0PATTIES / TARBALLS 0 BAGNEAR SHORE SHEENT NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE Styrofoam#BAGS 1Photographs: NoneRoll No. ST-12-7Frames 4

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (Y/N)	!	SURFACE SUBSURFA SEDIMENT
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	SU	U	M	L				
1	30					X	0-0		X						X					-	-	P
2	30					X	0-0		X						X					-	-	P

COMMENTS

Hi-angle bedrock shoreline with occasional pebble pocket beaches. No oiling at all along most of it. One small area on beach where staining (<1%) was observed beneath boulders. Cliffs surveyed from boat/pebble beaches by foot.

REVIEWED JWDATE 10-5

32/39

DATE 4 / 19 90

CHECKLIST

___ N Arrows
 ___ Approx. Scale
 ___ Seg/Sub Endry
 ___ Oil Dist.
 ___ Width
 ___ Length
 ___ % Cover
 ___ Substrate Character
 ___ Est. HPL/LWL
 ___ SST
 ___ Profile Location(s)
 ___ Profile(s)
 ___ P/L Location(s)
 ___ Photo Location(s)

LEGEND

1 Δ.
Fit - No Subsurface Oil

2 ▲
PM - Subsurface Oil

CT/C
Construction Division

CT/O
Broken Distribution

CT/P

Factorial Distribution

CT/S
Splashed Distribution

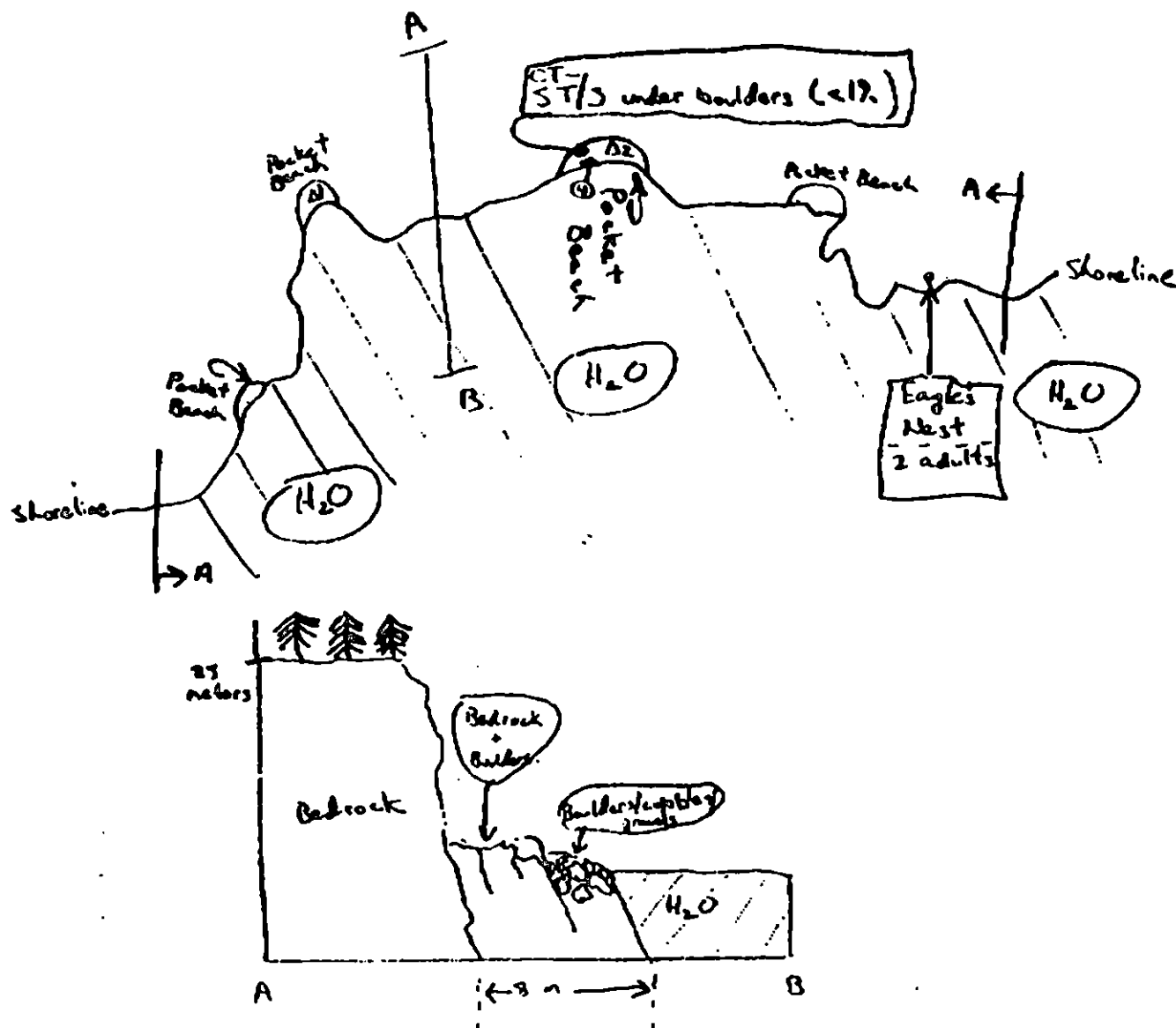
lll
Old Vegetation

Photo location, direction,
and number

④ = photo 4

TCH MAP

Approx scale
300 meters



SHORELINE ECOLOGICAL SUMMARY (Page 1 of 2)

REVISION: 0

Segment ST / CH-19 Subdivision A Date (mo / day / yr) 4/14/90

Time (24 hr) 1200-1250 Biologist SHARMAN

(A) Substrate type and % of segments: SUBDIV
(1) Bedrock 85 (2) Boulder 5 (3) Cobble 5 (4) Pebble 3 (5) Sand 2 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 0 Moderate X Low 0
SUBDIV

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

Photographs: Roll No. ST-12-7
Frames 4

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	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	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	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 (ALICULA, LITTORINA, LIMPACTS)

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

FUCUS

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

NOT PRESEN

Wildlife Observations/ General Comments: Did not observe LITZ. 1 cormorant, 1 pair white-wings/ seagulls, 1 black-legged Kittiwake,燕 tracks and nest common in the intertidal zone, river often out on snow in supratidal zone, 2 adult eagles appear attached to single nest 100m W. of E. segment boundary (see computer map). While healthy and productive, the intertidal community in this segment is generally relatively (cont.)

Ecological Considerations:

Resource Sensitivity (ecological sensitivity) from Catalogue/ data include only the presence of one eagle nest (code 57). There is an additional resource sensitivity for the segment as a Special Use Destination (Code 64). The eagle nest (see previous section) appears active, is low and very near the water on an exposed point, and is probably very sensitive to any human disturbance - more so than most such nests, due to its relative location.

SC 12.2

Sherman
4/19/90General Comments (cont.):

depauperate species-wise. Barnacles and Fucus clearly dominate the extensive bedrock cliffs - this year's recruitment is very good for Fucus and excellent for barnacles. The major spring spat set for 1990 has occurred in this area over the past week or so, and settlement has been quite dense, particularly in the MTZ. Spat have settled primarily in the past few days, and newly settled unmetamorphosed cyprid larvae are common. Adult barnacles and Fucus are locally dense on bedrock substrates, but pebble/small cobble pocket beaches are very unstable (recently high-energy) and relatively devoid of macroscopic biota. Mid-intertidal barnacle/Fucus communities also include Gyrodinium, a brown ("red"?) filamentous form, a green filamentous form (Acrospira?), and Nucella lamellosa. The abundant wrack line on pocket beaches contains no oil. Mussels are relatively rare, but include post-spill juveniles where they occur; fittorins and limpets are widespread in normally sparse densities and include some recruits. This segment strongly dominated by bedrock, so I did not observe any littorine eggs in the normally sub-boulder habitat. Barnacle mortality appears to be in the "normal" range, 5-20%.

CH-19

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

CH-19

ADEC Segment Length: 1045m



Map Key: PWS-45

Name: Barry Lippert

Date: 4/19/90

Date Entered: 3/3/93

SHORELINE EVALUATION

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

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-20-16260, Rev. 2/90

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

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

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

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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

OILING CATEGORIZATION:

Wide 0 m: Medium 229 m: Narrow 43 m: V.Light 648 m: No Oil 380 m
Subsurface Oil Observed: Yes X No Maximum Depth 8 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 pickup of mousse tarballs and bioremediation of areas shown on sketch map. Work should be conducted between 6/1 and 7/10 and/or with approval from ADF&G concerning salmon constraints and USFWS regarding eagle nest. Bioremediation should not be conducted within 100M of stream without ADF&G approval.

TAG COMMENTS:

TAG APPROVAL DATE: 5/1/90

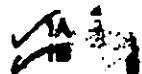
ADEC Art Weiner Art Weiner

EXXON Andy Gabe Andy Gabe

NOAA Gar Petree Gar Petree

FOSC: W L DATE: 5-18-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS



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

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

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

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

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

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

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

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

1H Remote release site

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

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

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

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

For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

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

Restrict boat traffic to essential minimum. Avoid damage to 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.



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)



Anchorage (6/1 to 9/15)

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

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

6Y Special use destination

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

7HH Finfish harvesting

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

7JJ Invertebrate harvesting

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CH 20 SUBDIVISION: A (ENTIRE SEGMENT) DATE 4/20/90

USCG

NAME JERRY SCHULTZ

SIGNATURE

Jerry Schultz

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED.

COMMENTS

I RECOMMEND THAT BECAUSE OF THE RESIDUAL OIL BEING IN CLOSE PROXIMITY TO A ANADROMOUS STREAM THAT MANUAL PICK-UP BE UTILIZED IN THE SENSITIVE AREAS (SEE MAPS) AND THAT BIOREMEDIATION BE EMPLOYED WITHIN THE DISTANCE CONSTRAINTS OF THE STREAM.

ADEC

NAME Mike Ebel

SIGNATURE

Michael J. Ebel

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

CH-20-A: Because of villagers use of the salmon from this anadromous stream I would recommend manual removal of the pooled oil found near it in this segment (refer to sketch maps). Starting from ≈ 40 m east of stream and continuing along a 20 m arced stretch of the UFG shoreline. I don't recommend bioremediation at this part of segment. The second area of manual removal can be seen (on sketch map #1) east of the stream area formerly mentioned. Granular bioremediation could follow on this part of segment and also ~~be~~ be used under the boulder slopes that were found to have pools within the surface rock interstices.

LAND MANAGER

NAME Patrick Schaeff

SIGNATURE

Patrick Schaeff

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

I would strongly suggest that this segment be treated since it is so close to a salmon stream.

24/47

SHORELINE OILING SUMMARY

REVISION NO. 06-12-80

OG Randy Siegel USCG Terry Schultz SEGMENT ST/ CH-20
 BIO Lawrence Shorman LAND REP Pat Selanoff SUBDIVISION A (1 OF 1)
 EXXON Leonard Herbert ADEC Mike Ebel TIME 13:25 to 13:45
 TEAM NO. 12 TIDE LEVEL _____ DATE 4 / 20 / 90
 EST. SUBDIVISION LENGTH: 1650 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 15 % B 25 % C 25 % P 25 % G 10 % S 0 % M 0 % V 0 %
 SLOPE: Long 25 % Hang 75 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 194 m N 84 m VL 886 m NO 486 m

SURFACE OIL

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

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash	X		
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐

Plastic bottles, etc.

TYPE Pan-Pan#BAGS 3

Photographs:

Roll No. ST-12-7Frames 7, 8, 9

SUBSURFACE OIL * Oiled interval < 5 cm in pits # 2, 3, 4, 5, 6, 7, 8, 9 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		US	US	1	2	3	4	SU	U	M	V				
1	20					X	0-0	X						X					N	5	G
2	16					X	0-5	X						X					-	-	P, G
3	30					X	0-0	X						X					-	-	P, G
4	30					X	0-0	X						X					-	-	P, G
5	15		X				0-8	X		X				X					Y	10	P, G
6	25					X	0-0	X		X				X					Y	12	G

COMMENTS

Segment consisted of stretch of ~~stone~~ rocky/bedrock cliff shoreline with a few small pocket beaches and a larger boulder beach with pebbles/gravel between. A lot of staining-coating of boulders and cliffs along segment. From the large beach to the end of the segment, a band of oiling was present discontinuously across the

1 area, on STGT-CV. 4/22/90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04/13/90

SEGMENT ST/ CH-20 SUBDIVISION A (2 OF 2)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SHEEN (Y/N)	V	SURFACE - SUBSURFACE SEDIMENTS
		OF	OR	OL	OF	NO		VO	UO	~~W~~	~~B~~	~~GR~~	~~BR~~	~~BL~~	~~SL~~	SU	U	M	U				
7	15					X	0-0		X			X						X			Y	10	G
8	8					X	0-0		X								X				-	-	G, R
* 9	8		X				0-3		X								X				-	-	P, R
10	30					X	0-0		X								X				-	-	P
11	30					X	0-0		X								X				-	-	P, G
12	35					X	0-0		X			X					X				P	20	G, P
13	35					X	0-0		X								X				N	25	G
14	30					X	0-0		X			X					X				Y	25	G
15	30					X	0-0		X			X					X				Y	23	G.
							.																
							.																
							.																
							.																
							.																

COMMENTS

SHORELINE ECOLOGICAL SUMMARY (Page 1 of 2)

REVISION: 02/22/90

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

Time (24 hr) 1325-1540 Biologist SHARMAN

(A) Substrate type and % of segments: SANDIV
(1) Bedrock 15 (2) Boulder 25 (3) Cobble 25 (4) Pebble 25 (5) Sand 10 (6) Silt granular

(B) Overall % cover of biota (% of segment): Dense SANDIV Moderate X 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-12-7

Frames 7, 8, 9

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS (ANCELA, LITTORINA, LYMAETA)

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	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: Did not observe LTs. 1 adult eagle, 1 raven, 1 crow, 4 glaucous-winged gulls, 4 pairs white-winged scoters, deer tracks in supratidal and grazing of newly emerging beach regrass (*Elymus mollis*) - alote, active eagle nest with adult sitting on nest (see Ecological Considerations), 1 harbor seal at stream mouth, river otter denning area on bedrock point at (cont.) ^{at stream mouth}

Ecological Considerations:

Resource sensitivities from catalogued data for this segment include a bald eagle nest (Code ST), anchorage (Code UV), and salmon fry outmigration (Code 1A) and salmon spawning (Code 1B) associated with anadromous stream # 226-20-16200. See sketch map for nest + stream locations. The combination of characteristics and activities observed (see above Wildl. Obs./Gen.)

(17)

General Comments (cont.):

E. boundary of segment where steel cable hangs off rock cliff - 50+ scats containing crabs (mostly Tidecrabs, some Poloparques), fish, and small scallops. 2 adult black bass on beach fringe foraging along supratidal, dragging down alder branches to eat buds (100m E. of stream). Barnacle mortality within the discontinuous and patchy UTE oil coat band on high angle bedrock/boulder surfaces is 50-70%; adjacent uncoiled populations show $\approx 10\%$ mortality. Barnacle spat set is presently excellent, as elsewhere, and spat are settling right up to the margins of the oil band as well as within the band on uncoiled surfaces (where oil has weathered off). Cyprids are very common as well, and while some have initially settled directly on oiled surfaces, I have yet to observe a spat (or a Fucus sporangium) directly on oil. Fucus is recruiting well outside oiled bands. Sub-t. boulder habitats have occasional amphipods, spat, and littorines with egg masses. Rich MTE tidepools on bedrock platforms (platforms have dense Fucus, abundant Orontolalia with some recruitment, very abundant littorines amongst Fucus) - tidepools harbor Margarita, sculpin, Pagrus, Entomorphus, and some Lithothamnium, Scytosiphon, and green filamentous forms (Acroisiphonia?). Mussels are generally sparse-rare in this segment but appear to be recruiting successfully where they do occur - little mortality. Some Anthopleura artemisia in MTE bedrock tidepools. The intertidal community generally appears normal and healthy (outside of oiled band).

4 / 15 1090

KLST

row
on. Scale
Sub Entry
tel.
h
ph
over
state Character
HOMELAND

to Location(s)
to(s)
Location(s)
to Location(s)

ND

Subsurface Oil

surface ON

7/C
no Distribution

70
Distributions

7P

Distribution

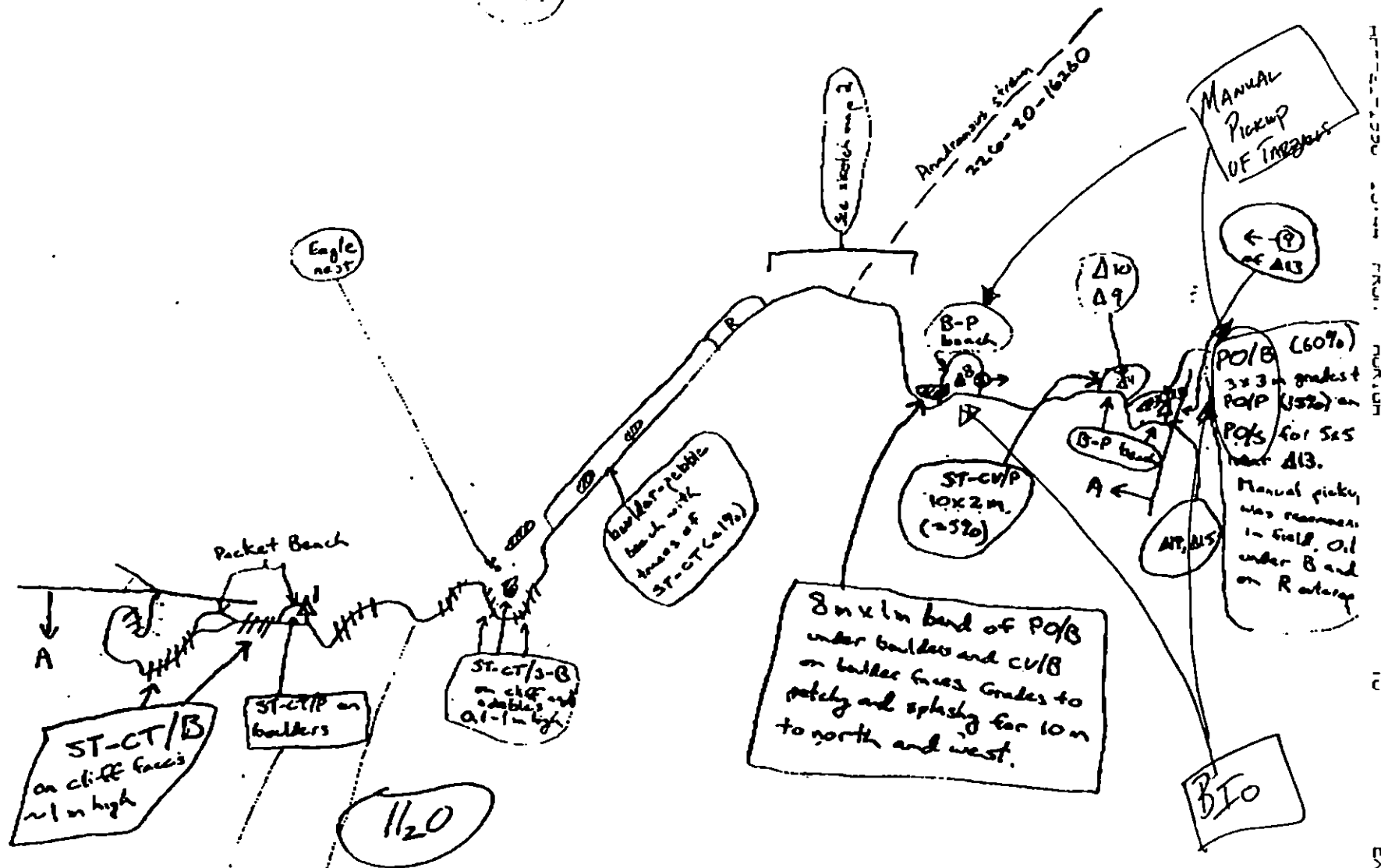
2.
getestet

caption, direction,
for

15/47

actor Length (m): AP 0 PO 60 CV 50 CT 900 ST 900 MS 0 PT 5 TB 0 FL 10 NO 486

REF ID: A63478



RE 4, 20 90

BECKLIST

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

GEND

1 Δ
No Subsurface Oil

2 ▲
Subsurface Oil

CT/C
Secure Distribution

CT/D

CT/P
Distribution

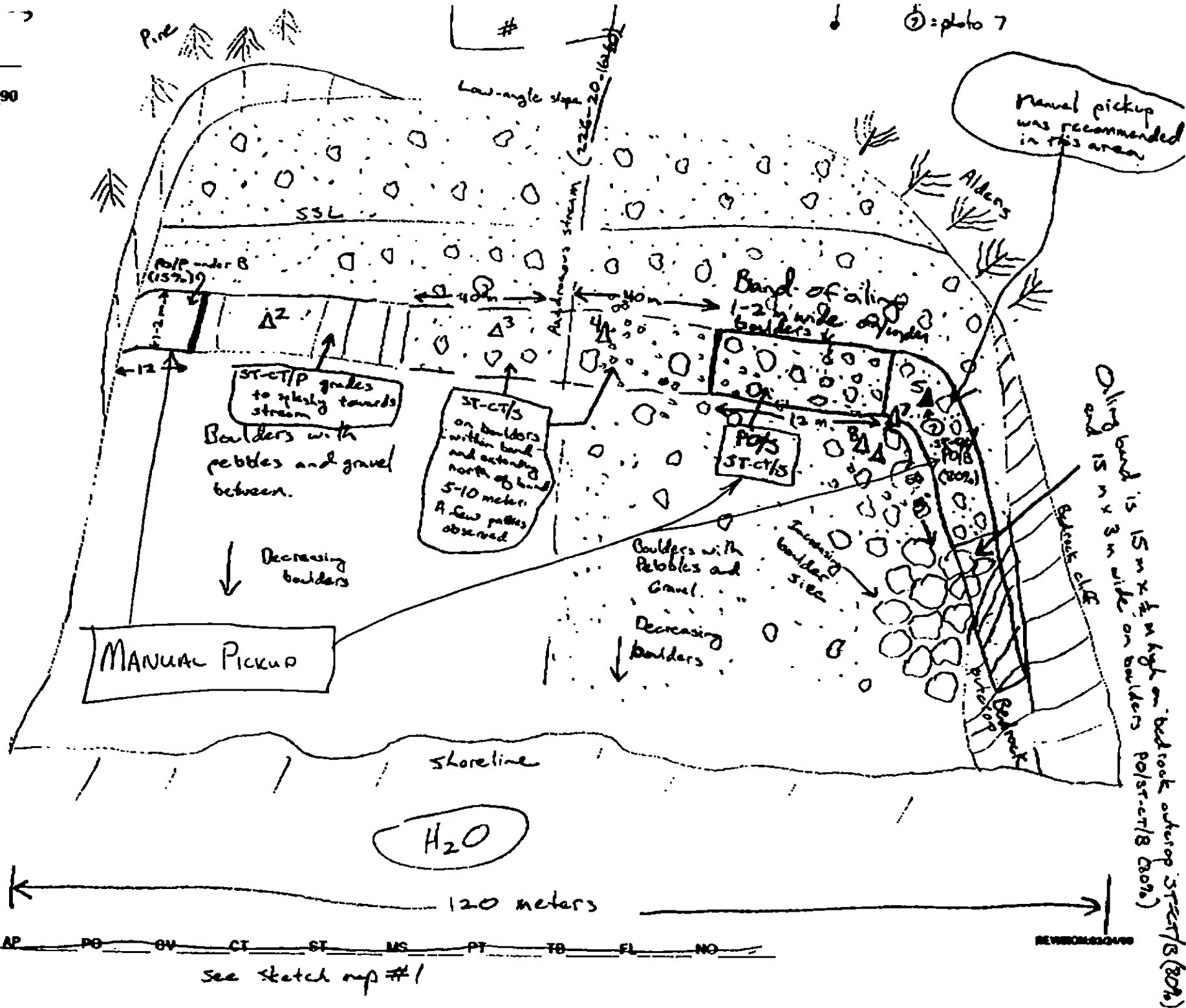
CT/S
and Distribution

22.
Vegetation

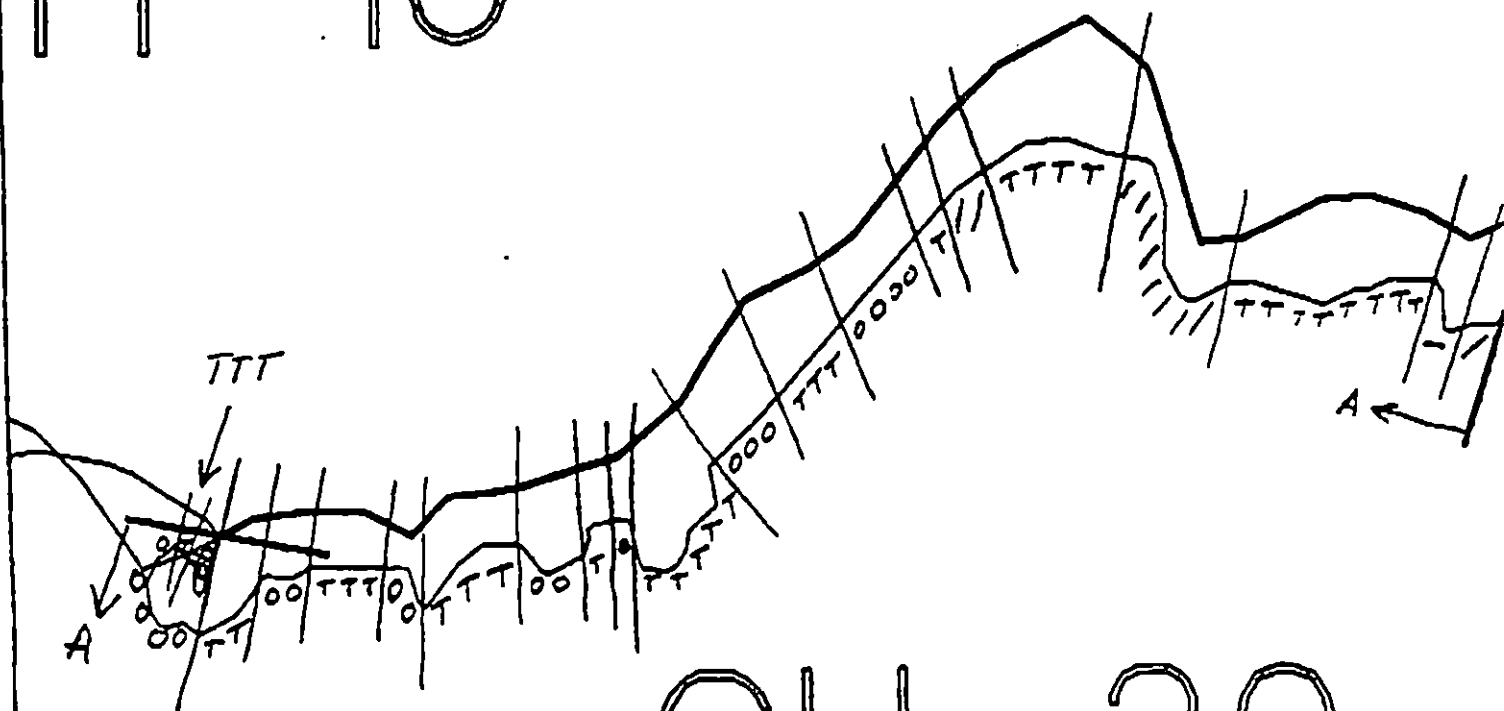
location, direction,
under



see sketch map #1



H-16



CH-20

XXXX Wide

//// Medium

--- Narrow

TTTT Varv light

CH-20

ADEC Segment Length: 1293m

Map Key: PWS-47a

Name: Edy Angel

Date: 4/20/90



ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CH-20 SUBDIVISION A (1 of 1)

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

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-20-16260) is in Subdivision A. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup.

5T Bald Eagle Nest

NO CONSTRAINT. USFWS 6/1/90 map indicates an active nest in Subdivision A that is more than 400m from the work area.

OTHER ECOLOGICAL CONSIDERATIONS

No personnel or boats less than 400m from active nest. Restrict air traffic and all disturbance to essential minimum. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from active nests. No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow Inipol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.

TAG APPROVAL DATE 6/04/90

ADEC Ray Mages R. Mages

EXXON Paul Kan Paul Kan

NOAA Joan J. J. J. Joan J. J. J.

USCG G. A. Deiter G. A. Deiter

FOSC

J. J. J.

Date

6/9/90

Prepared by

Anden Meyer

Date

6/2/90

*Incorporates information from
USFWS 6/1/90 Map of active
eagle nests.*

CH-14

CH-17

27

Active

Anadromous Stream
226-20-16260

WORK
AREAS

CH-16

Active 66

CH-20

CH-15

26

Active



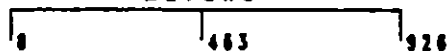
Exxon Company, USA
Map Keys PMS-CH-20
May 11, 1990



ECOLOGY MAP 1/2 SEGMENT CH-20

SUBDIVISION A (1 of 1)

METERS



Seabird Colony



Eagle Nest

1 inch = 1518 feet

SHORELINE EVALUATION

SEGMENT ST/ CH-21 SUBDIVISION A (1 OF 1) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1J Purse seine area (6/20 to 9/30)
1L Set net sites (6/11 to 7/25)
5T-3 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 598 m: No Oil 2156 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: 5/1/90
ADEC Art Wainor Dist Wainor
EXXON ANDY TGA Deal
NOAA Gary Petrac Gary Petrac
USCG W. J. H. H. W. J. H. H.

FOSC: M L DATE: 5-18-90
~~I am not in advance of work~~

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
 1D Esther Hatchery release (4/15 to 6/1)
 1E Main Bay Hatchery release (4/20 to 5/10)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 1I Gill net area (5/7 to 8/31)
 Purse seine area (6/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 Set net sites (6/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 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.
 All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (8/1 to 9/15)
 6V Anchorages (8/1 to 9/15)
 6W Forest Service cabins (8/1 to 9/15)
 6X Lodge (8/1 to 9/15)
 Special use destination
- 7Z Subsistence areas: 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 / CH 21 SUBDIVISION: A (ENTIRE SEGMENT) DATE 4/20/90

USCG NAME JERRY SCHULTZ SIGNATURE Jerry Schultz

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS DUE TO THE TYPE OF AND LIMITED QUANTITY OF REMNANT OIL LEFT, AND THE ROCK SURFACE THAT COULD BE TREATED I WOULD RECOMMEND NO FURTHER HUMAN INTERUSION.

ADEC NAME MIKE EBEL SIGNATURE Michael J. Ebel

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

CH-21-A: One location was found to have pooled oil (refer to sketch #2). It was manually removed as well as shovels permitted. The bulk of this segment had drips and splashes of very light coat and ~~some~~ stern. One area had rainbow sheen observed in intertidal pool from unknown source (pits reveal no subsurface oil). No further treatment recommended.

LAND MANAGER NAME PAT SELANOFF (CVC) SIGNATURE Pat Selanoff

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS However, keep in mind we are getting steel off of this portion of our survey and it will be getting heavier with warm weather. Our return streaks very low, four to five yds. with the storm, it indeed this oil, which is considered very light. ~~that~~ affecting our return.

SHORELINE OILING SUMMARY

REVISION NO. 04

OG Randy Siegel USCG Terra Schulte SEGMENT ST/ CH-21
 BIO Lewis Shuman LAND REP Pat Selenoff SUBDIVISION A (1 OF 1)
 EXXON Leonard Harbst ADEC Mike Ebel TIME 18:00 to 19:30
 TEAM NO. 12 TIDE LEVEL 2.35' to 5.0' DATE 4/20/90
 EST. SUBDIVISION LENGTH: 2931 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow 45
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 80 % B 10 % C 5 % P 3 % G 2 % S 0 % M 0 % V 0
 SLOPE: Long 10 % Hang 90 % Vert 10 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 750 m NO 2.81

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				X	X						X		
COVER		X			X						X		
COAT				X	X						X		
STAIN		X		X	X						X		
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL										X		X	X

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash <u>XX</u>	<u>XX</u>		
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE Rope/Plastic#BAGS 3

Photographs:

Roll No. NoneFrames —

XX ALL KNOWN BEACH TRASH COLLECTED -

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)	D	SURFACE SUBSURFA SEDIMENT
		OF	OR	OL	OF	NO		SO	SC	1	2	3	4	5	SU	U	M	L				
1	25					X	0.0		X						X					N	10	P
2	20					X	0.0		X		X				X					X	8	B, G
3	37					X	0.0		X						X					—	—	G, P, S
							.															
							.															
							.															

COMMENTS

* Rainbow sheen on pooled water in pocket beach.

Segment consists of a long stretch of shoreline with high rock cliffs, occasionally boulder talus or pebble beaches below. Much of the section surveyed by boat. Light oiling - discontinuous staining - mostly on cliff face. As well as some staining on beach.

dy Siegel

IT ST/CH-21

SION A

4 120 90

IST

Scale
to Entry

Character
VLA/VL

Location(s)
s)
sion(s)
Location(s)

Q

Surface Oil

face Oil

Distribution

dition

dition

tribution

ation

on, direction

Length (m)

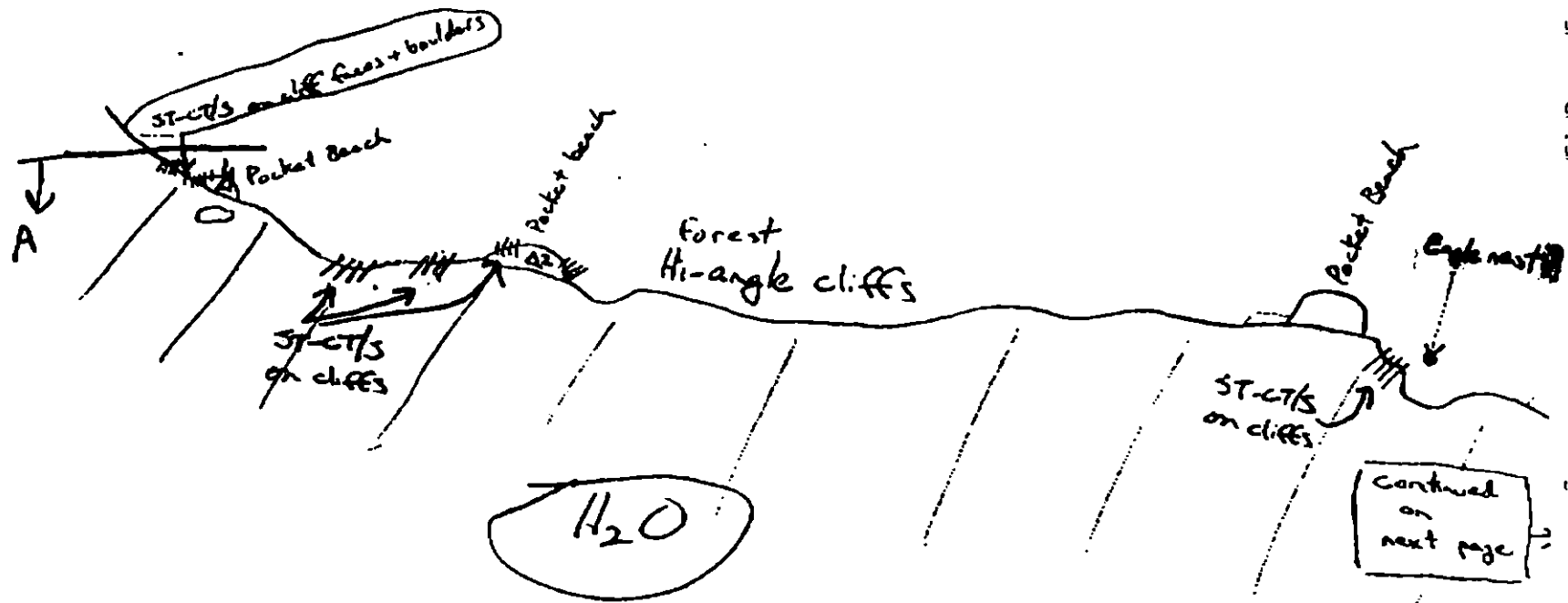
AP PO CV CF ST MS PT TO PL NO

SKETCH I

page 1 of 2
(continued on 2nd page)

→ N

Approx. Scale
300 meters



See page 2 for segment character lengths

REVISION: 03/04/00

Landy Stage
 ENT ST/ CH-21
 VISION A
 4/20/90

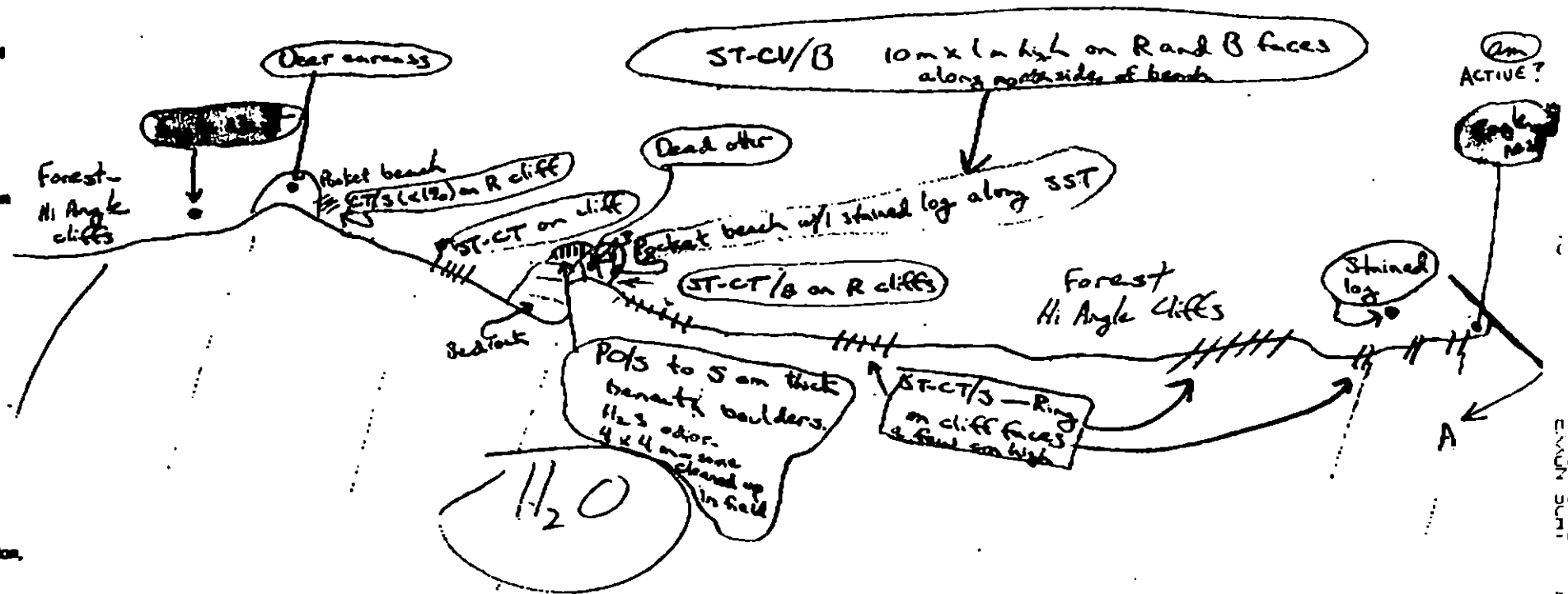
SKETCH MAP
 page 2 of 2

→ N

Approx. Scale
 300 meters

KLISI
 row
 row. Scale
 ySub Entry
 Dist.
 in
 gth
 over
 state Character
 NAME/VAL
 to Location(s)
 to(s)
 Location(s)
 to Location(s)

END
 A
 Subsurface Oil
 A
 Surface Oil
 T/C
 GUS Distribution
 T/B
 Distribution
 T/P
 Distribution
 T/S
 d Distribution
 R.
 vegetation
 location, direction,
 color



20/47
 Actor Length (m): AP 0 PO 5 CV 0 CT 750 ST 750 MS 0 PT 0 TB 0 FL 0 NO 2(8)

REVISION 000000

SHORELINE ECOLOGICAL SUMMARY (Page 1 of 2)

REVISION: 08/23/7

Segment ST / CH-21 Subdivision A Date (mo / day / yr) 4/20/90Time (24 hr) 1800-1930 Biologist SHARMAN(A) Substrate type and % of segments: SUBDU
(1) Bedrock 80 (2) Boulder 10 (3) Cobble 5 (4) Pebble 3 (5) Sand 2 (6) Silt gravel(B) Overall % cover of biota (% of segment): Dense Moderate X Low
SUBDU

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

Photographs:
Roll No. Frames

BARNACLES

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

MYTILUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	NOT PRESEN
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
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 (ALICOLA, LITTORINA, LIMAEYS)

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

FUCUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	NOT PRESEN
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
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: Fox sparrow foraging in intertidal, 1 harbor seal, deer carcass in UTE (bone & some hide, 67 skull, scavenged, unrolled, cause of death unknown but long bones poorly narrowed implicate starvation/malnutrition). Also other carcass (see map for exact location) - bone & some hide, unrolled, teeth worn indicates older animal, cause of death unknown. Eagle nest at N. boundary is active - (Co Ecological Considerations:

Resource sensitivities from catalogued data for this segment include 3 bald eagle nests (Code 5T) - see sketch map for locations; special use destination (Code 6Y), gill net area (Code 1I), and purse seine area (Code 1J). The active eagle nest on the N. segment boundary is at this time probably the most sensitive ecological resource to human activity/disturbance.

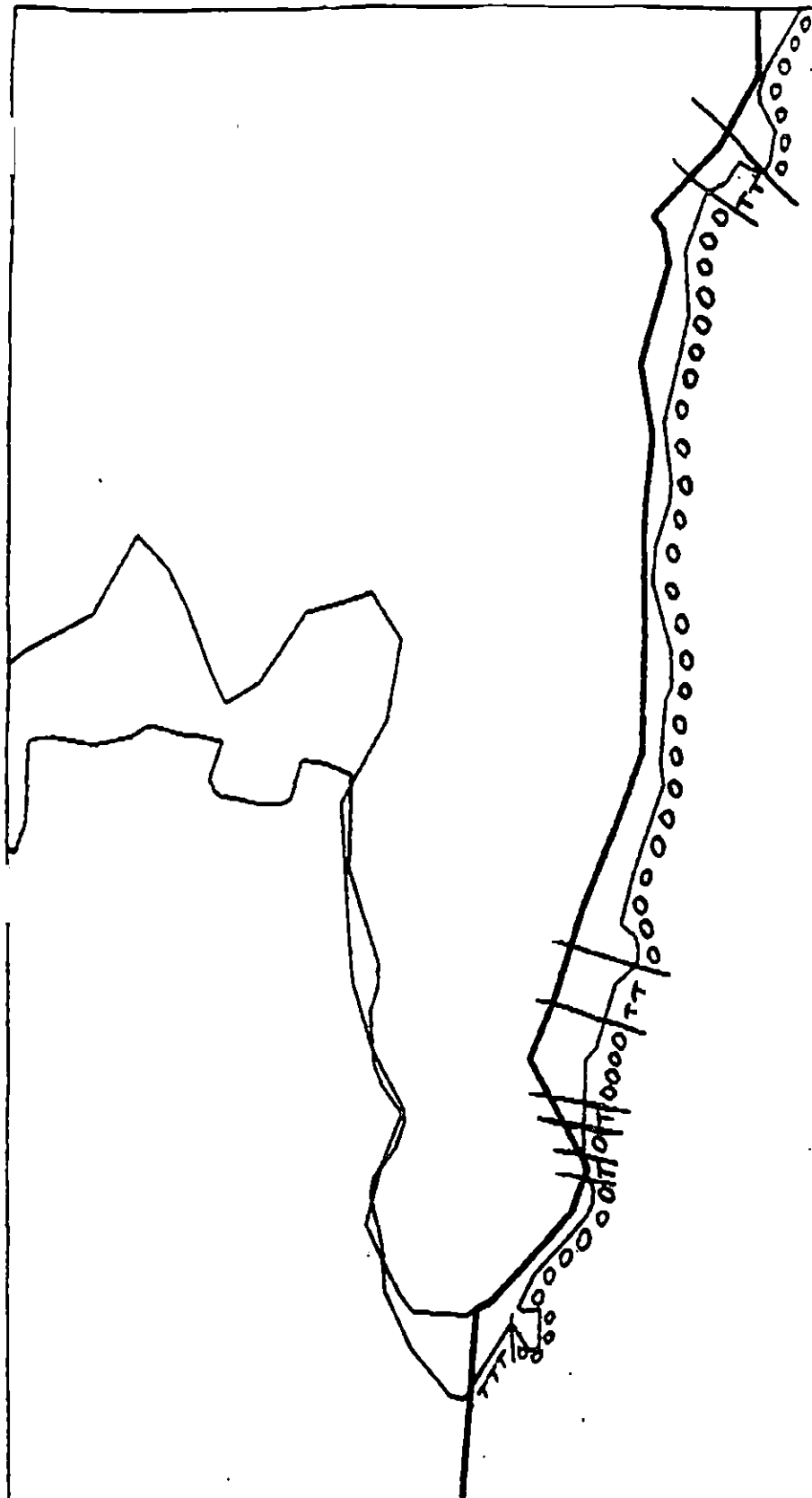
CH-21

Shoreline Ecological Summary (cont.) Slarman
(Page 2 of 2) 4/20/90

General Comments (cont.) :

2 proprietary adults (one on nest). See OG map for locations of 2 additional nests located within 350m of each other in middle portion of segment - both apparently inactive. These 2 nest locations differ from those on data map based on previous work. We feel confident in accuracy of our locations - previous locations could be in error or else we could have missed one or both of the previously-surveyed nests. Very rich + productive bedrock/boulder LTZ: small Pyrenopoda, Anthopleura artemisia, Katharina, Darmastoria, small Pisaster, Bryozoa, Serpulids, sponges (Haliclondria?), Scarlaxia, Henricia, Lithothamnium, ulvalae, Halosaccus, + other algal spp. extending down from the MTZ. MTZ is very productive with locally dense Fucus beds accompanied by Odontoballia (both recruiting well), moderate to dense barnacles with excellent spat set. Intertidal Community is very healthy. 1 harbor seal.

↑
PWS
488



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

CH-21

ADEC Segment Length: 2754m

0 100 200 300

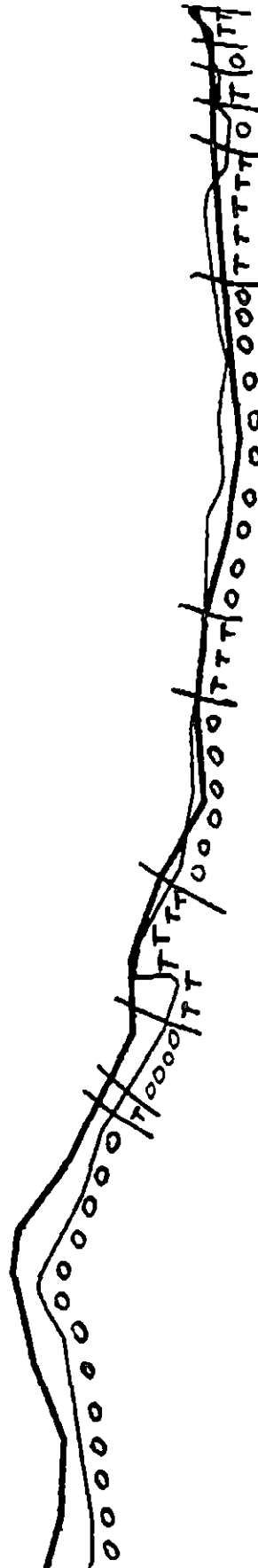
Map Key: PWS-48a

Name: Rob Siegel

Date: 4/20/90

Note: Estimated.

↑ PWS 48C



↓ PWS 48A

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

CH-21

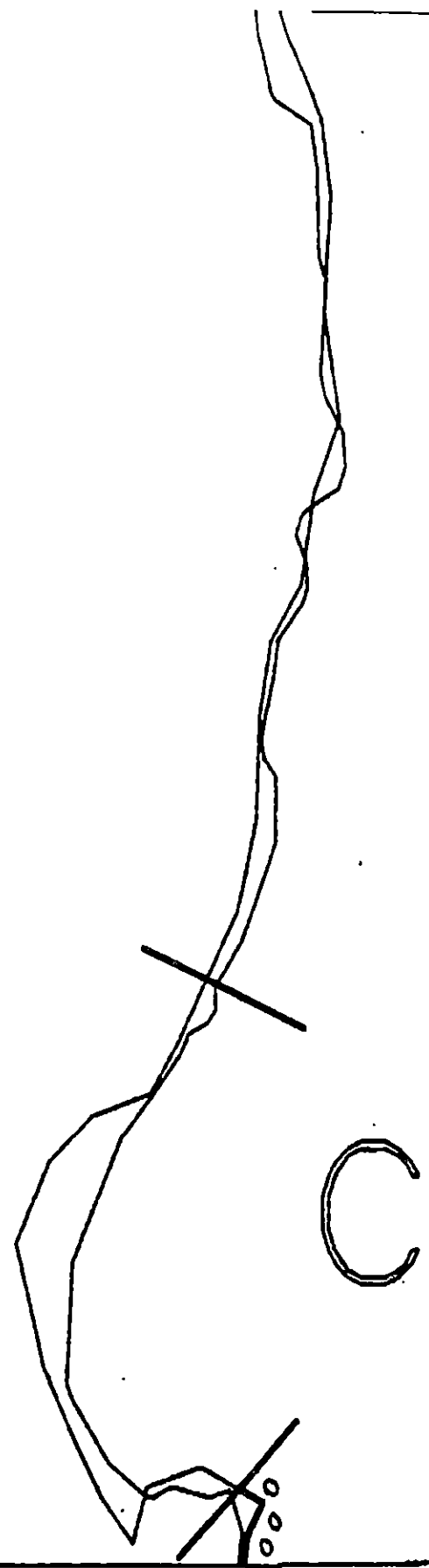
ADEC Segment Length: 2754m

Map Key: PWS-48b

Name: R. L. Siegel

Date: 4/20/90





PWS
488

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

CH-21

ADEC Segment Length: 2754m



Map Key: PWS-48c

Name: Edy Siegel

Date: 4/20/90

SEGMENT ST/ CH-22 SUBDIVISION A (1 OF 1) DATE 4/20/90

1I Gill net area (6/7 to 8/31)
1J Purse seine area (6/20 to 9/30)
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

SHPO SIGNATURE:

DATE:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 317 m: No Oil 409 m
Subsurface Oil Observed: Yes No X Maximum Depth

 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 ART WELNER Art Welner
EXXON ANDY TAY Andy Tay
NOAA GARY PETRONE Gary Petrone
USCG KEVIN TH. KEANE Kevin Th. Keane

FOSC:

DATE:

5-9-70

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
- ✓  Gill net area (6/7 to 6/31)
- 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.
- ✓  All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (6/1 to 9/15)
- 6V Anchorages (6/1 to 9/15)
- 6W Forest Service cabins (6/1 to 9/15)
- 6X Lodge (6/1 to 9/15)
- ✓  Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
- 7HH Finfish harvesting
- 7I Deer harvesting (6/15 to 2/28)
- 7JJ Invertebrate harvesting
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CH 22 SUBDIVISION: A (ENTIRE SEGMENT) DATE 4/20/90

USCG

NAME

JERRY SCHULTZ SIGNATURE *Jerry Schultz*

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC

NAME

MIKE EBEL SIGNATURE *Michael G. Ebel*

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

CH-22-A: Due to the small amount of the splashes of: coat, cover, and stain remaining, no treatment could justify the impact to the area. End

LAND MANAGER

NAME

PAT SELANOFF (CVC) SIGNATURE *Pat Selanoff*

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

46/47

SHORELINE OILING SUMMARY

REVISION NO. 04

OG Randy Siegel USCG Jerry Schulte SEGMENT ST/ CH-22
 BIO Lewis Sherman LAND REP Pat Salasoff (CVC) SUBDIVISION A (1 OF 1)
 EXXON Exxon Mobil ADEC Mike Ebel TIME 19:30 10:20:00
 TEAM NO. 12 TIDE LEVEL 5.0' to 5.85' DATE 4/20/90
 EST. SUBDIVISION LENGTH: 596 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow Y5'
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 10 % B 15 % C 30 % P 25 % G 15 % S 5 % M 0 % V 0
 SLOPE: Long 70 % Hang 30 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 240 m NO 356

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	C	N	E	S	1	2	3	4	SW	U	M	U
ASPHALT PAVEMENT												
POOLED												
COVER				X	X					X		
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 0PATTIES / TARBALLS 0 BAGNEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE Plastic Deb#BAGS 3

Photographs:

Roll No. NoneFrames

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW					PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		US	UC	1	2	3	SW	U	M	U				
1	40					X	0-0	X					X					-	-	P.G

COMMENTS

This segment was very short (only ~600 m), consisting of a small pocket beach and a larger beach, flanked by short sections of bedrock cliffs. A lot of debris (plastic) was brought back from the beaches. ~~Shoreline~~ Oiling was very light - staining, coating, and some cover on the rock cliffs and boulders. Dead otter observed.

REVIEWED YWDATE 4/22/90

38/47

SEGME 1/CH-22

KETCH MAP

SUBDIVISION A

DATE 4/20/90

CHECKLIST

- ☐ N Area
- ☐ Approx. Scale
- ☐ Seg/Sub Body
- ☐ Oil Det.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HYP/AVE
- ☐ SBL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

LEGEND



Pt - No Subsurface Oil



Pt - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

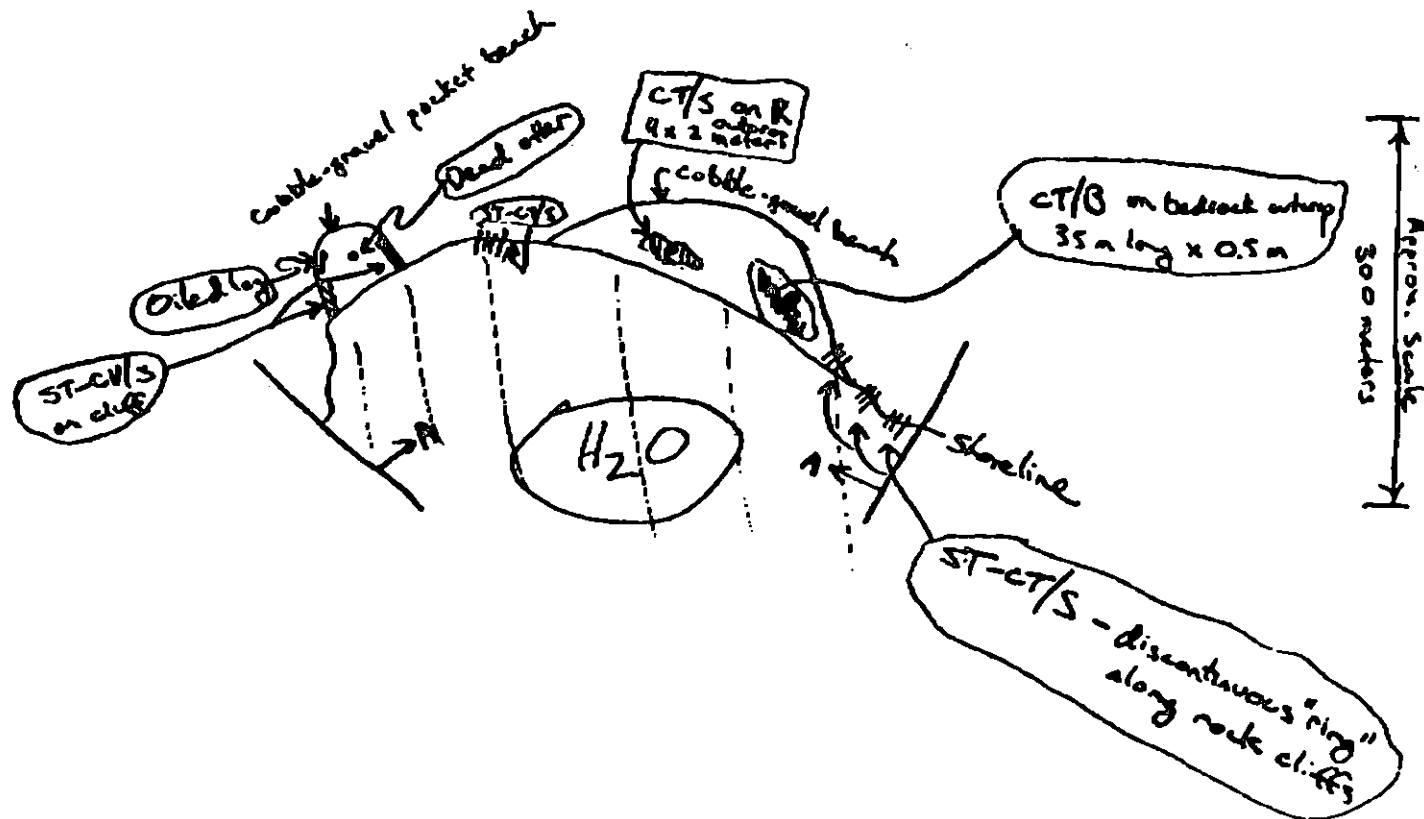
ell
Oil Vegetation



Photo location, direction,
and number



Oil Character Length (m): AP 0 PO 0 CV 15 CT 740 ST 240 MS 0 PT 0 TB 0 FL 0 NO 356



SHORELINE ECOLOGICAL SUMMARY

REVISION: 001

Segment ST / CH-22 Subdivision A Date (mo / day / yr) 4/20/90Time (24 hr) 1930-2005 Biologist SHARMAN(A) Substrate type and % of segment: SAND + granules
(1) Bedrock 10 (2) Boulder 15 (3) Cobble 30 (4) Pebble 25 (5) Sand 20 (6) ST(B) Overall % cover of biota (% of segment): Dense Moderate X Low
SAND

(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 PRESEN

MYTILUS

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

NOT PRESEN

GASTROPODS (ANCELA, LITTORINA, LIMAEYS)

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

NOT PRESEN

FUCUS

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

NOT PRESEN

Wildlife Observations/ General Comments: Did not observe LTZ. Active eagle nest on segment boundary with CH-21 (see this section of CH-21 Ecol. Summary). Observed 1 (subadult) eagle not associated with nest. 1 dead other carcass, LTZ, bones only (no hide), furorial, cause of death unknown, with even immature old animal. See 06 map for exact location. Normal and healthy intertidal community. Littorina eggs beneath boulders; good to excellent barnacle + Fucus recruitment.

Ecological Considerations: Resource sensitivities from catalogued data for this segment include a bald eagle nest on the segment boundary with CH-21 (Code 5T - see sketch map for nest location), fill net area (Code 1I), purple seine area (Code 1J), and special use destination (Code 6Y). The active eagle nest on the segment boundary is at this time probably the most sensitive ecological resource to human activity / disturbance.

SEGMENT 1 CH-22

ETCH MAP

SUBDIVISION A

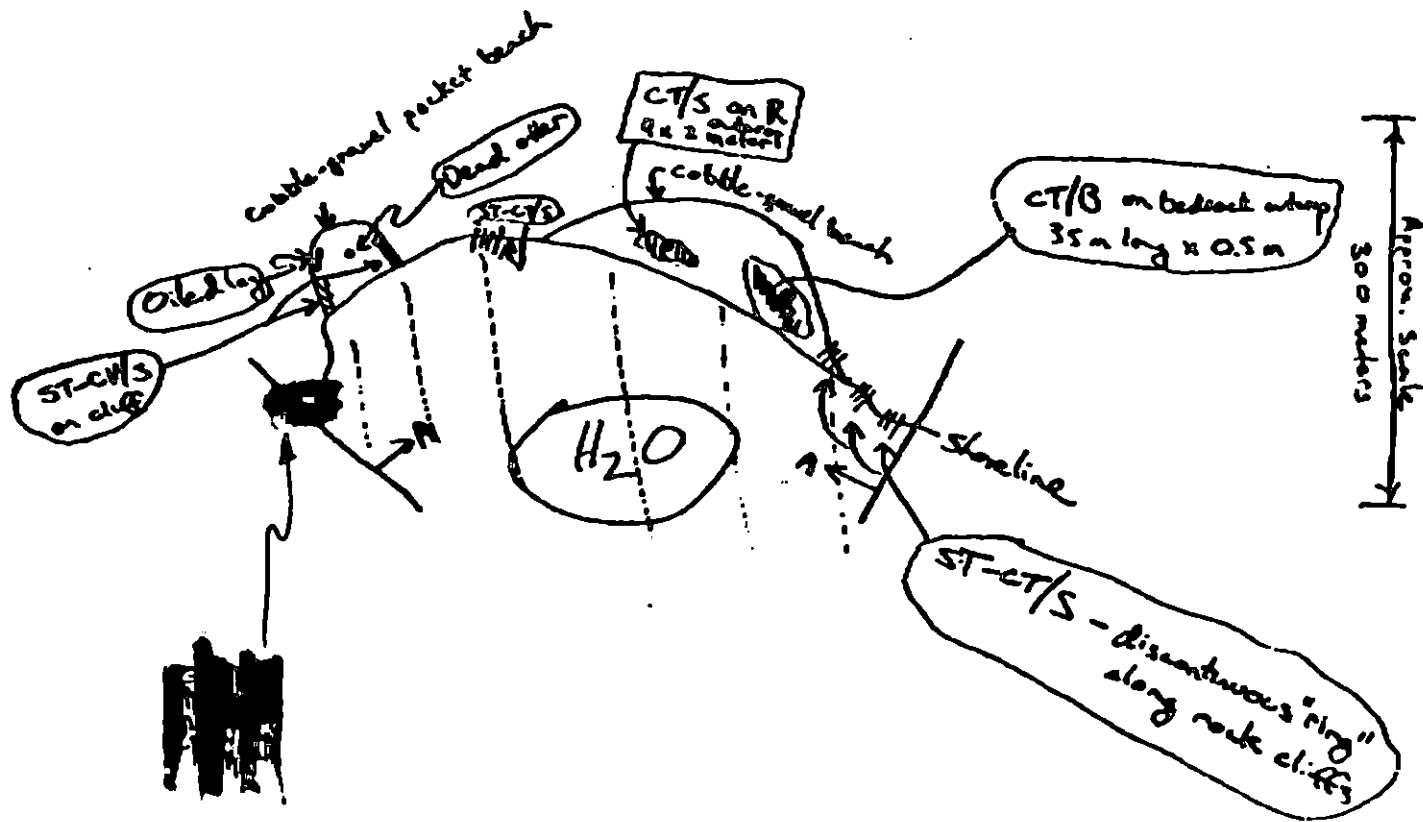
DATE 4/20/90

CHECKLIST

- ☐ N Area
- ☐ Approx. Scale
- ☐ Seg/Sub Body
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HAZ/LAW
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Photo(s)
- ☐ P/L Location(s)
- ☐ Photo Location(s)

LEGEND

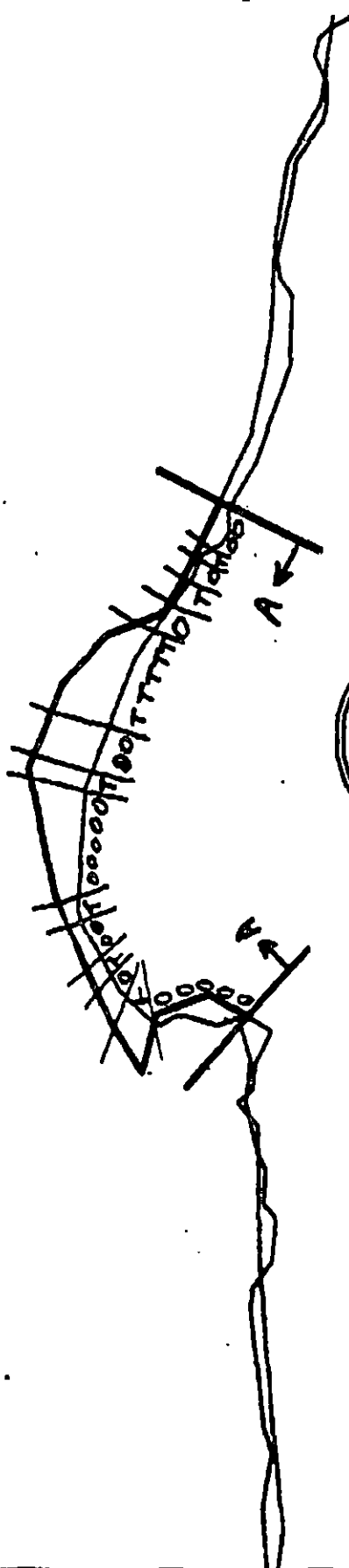
- 1 Δ
PT - No Subsurface Oil
- 2 Δ
PT - Subsurface Oil
- $\square$ CT/C
Continuous Distribution
- $\square$ CT/B
Broken Distribution
- $\square$ CT/P
Patchy Distribution
- $\square$ CT/S
Sporadic Distribution
- $\dots$
Oil Vegetation
- $\Rightarrow$
Photo location, direction, and number



ECOLOGICAL
MAP

Oil Character Length (m): AP 0 PO 0 CV 15 CT 240 ST 240 MS 0 PT 0 TB 0 FL 0 NO 356

REVISIONS



CH-22

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

CH-22

ADEC Segment Length: 725m



Map Key: PWS-49

Name: Randy Siegel

Date: 4/20/90

Date Entered:

3/47

SHORELINE EVALUATION

SEGMENT ST/ CH-23 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1I Gill net area (6/7 to 8/31)
1J Purse seine area (6/20 to 9/30)
5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles H. Hume DATE: 5/2/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 138 m: No Oil 2426 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 5/2/90
ADEC ART WELLS
EXXON ANDY TETZ
NOAA GARY PETROE
USCG KENNETH KEANE

FOSC: DATE: 6-19-90

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

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

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

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

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

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

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

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

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

ADF&G Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Rothy 267-2206

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

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

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 / CH 23 SUBDIVISION: A (^{ENTIRE}~~SEGMENT~~) DATE 4/22/90

USCG
NAME JERRY SCHULTZ SIGNATURE Jerry Schultz

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS AMOUNT OF AND TYPE OF RESIDUE OIL DOES NOT SUGGEST FURTHER TREATMENT.

ADEC
NAME MIKE EBEL SIGNATURE Michael G. Ebel

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

CH-23-A : Very occasional stains and coats with even fewer covers found mostly on the southern end of segment (one location totaling ~~about 1/2~~ < 5% of segment and all splashes = VL).
Because of the small amount of this weathering tar left, NO treatment is recommended.

LAND MANAGER
NAME PAT SELANOFF (CVC) SIGNATURE Pat Selanoff

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

SHORELINE OILING SUMMARY

REVISION NO. 04.13.82

OG Randy Siegel USCG Jerry Schulte SEGMENT ST/ CH-23
 BIO Lewis Sharnan LAND REP Pat Saland (cyc) SUBDIVISION A (1 OF 1)
 EXXON Leonard Herbert ADEC Mike Ebel TIME 14:25:10:15:30
 TEAM NO. 12 TIDE LEVEL 5.35' to 3.6' DATE 4/21/90
 EST. SUBDIVISION LENGTH: 2594 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 70 % B 25 % C 5 % P 0 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 10 % Hang 75 % Vert 15 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 160 m NO 2434 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	C	B	P	S	1	2	3	4	SU	U	M	U
ASPHALT PAVEMENT												
POOLED												
COVER				X	X					X		
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 crPATTIES / TARBALLS 0 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>Plastic Dr</u>
Debris				
				#BAGS <u>1</u>

Photographs: NoneRoll No. NoneFrames —

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM)	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	!	SURFACE SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	SU	U	M	U				
1	40					X	0-0		X					X					—	—	P, G
							.														
							.														
							.														
							.														

COMMENTS Stretch of shoreline with hi-angle forested cliffs above and
boulder beaches or pebble pocket beaches below. Vary light
oiling across segment - a few patches of stain and coat on cliffs
or boulders.

27/36

REVIEWED JWDATE 4-23-90

OG 4 Siegel

SEGMENT ST/ CH-23

SUBDIVISION A

DATE 4 / 21 / 90

CHECKLIST

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

LEGEND

1 Δ

Pit - No Subsurface Oil

2 Δ

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

[CT/P]

Patchy Distribution

[CT/S]

Splashed Distribution

lll

Older Vegetation

1 $\bullet$

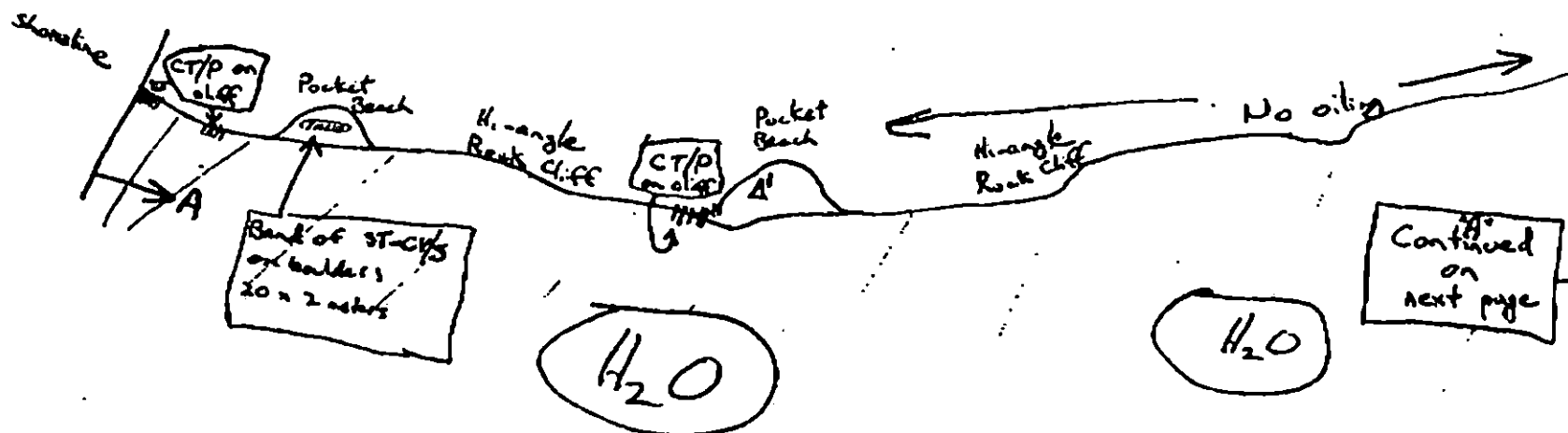
Photo location, direction,
and number

KETCH MAP

#1

Approx. Scale
100 m

→ N



Character Length (m): AP PG GV CT ST MS PT TB PL NO

REVISION 02/24/90

OG... dy Siegal
 SEGMENT ST/ CH-23
 SUBDIVISION A

DATE 4 / 21 / 90

CHECKLIST

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

LEGEND

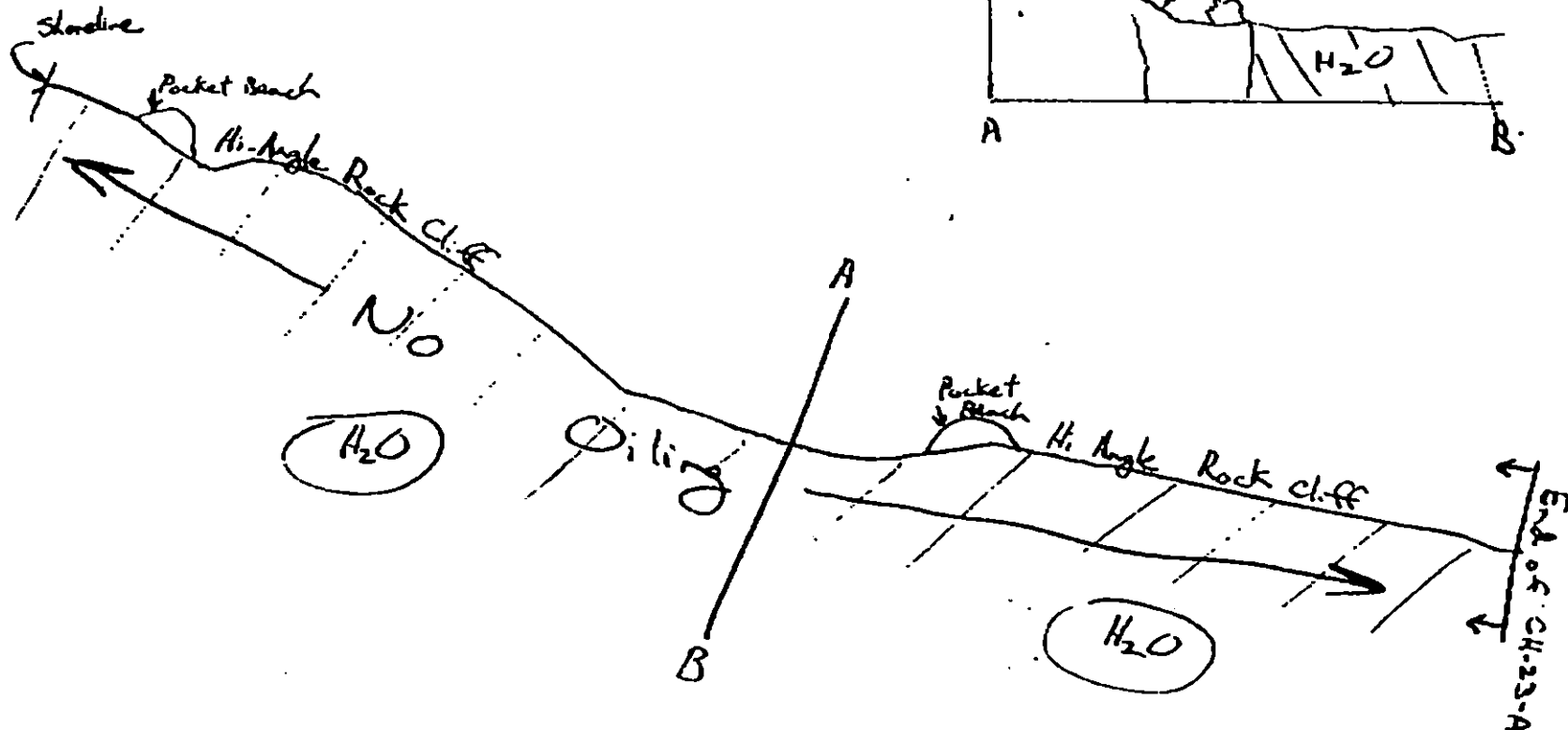
- 1 Δ
PI - No Subsurface Oil
- 2 Δ
PI - Subsurface Oil
- CT/C

Continuous Distribution
- CT/B

Broken Distribution
- CT/P

Patchy Distribution
- CT/S

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



SKETCH MAP
#2

Approx. scale
100 m

Oil Character Length (m): AP 0 PO 0 CV 50 CT 160 ST 160 MS 0 PT 0 TB 0 FL 0 NO 2434

REVISION 06/04/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 1

Segment ST/ CH-23 Subdivision A Date (mo / day / yr) 4/21/90Time (24 hr) 1425-1520 Biologist SHARMAN(A) Substrate type and % of segments: SHADIV.
(1) Bedrock 70 (2) Boulder 20 (3) Cobble 5 (4) Pebble (5) Sand (6) Sim (B) Overall % cover of biota (% of segment): Dense Moderate X Low
SHADIV.

(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 PRES

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 PRES

GASTROPODS (NANCELLA, LITTORINA, LIMAEZE)

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

NOT PRES

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

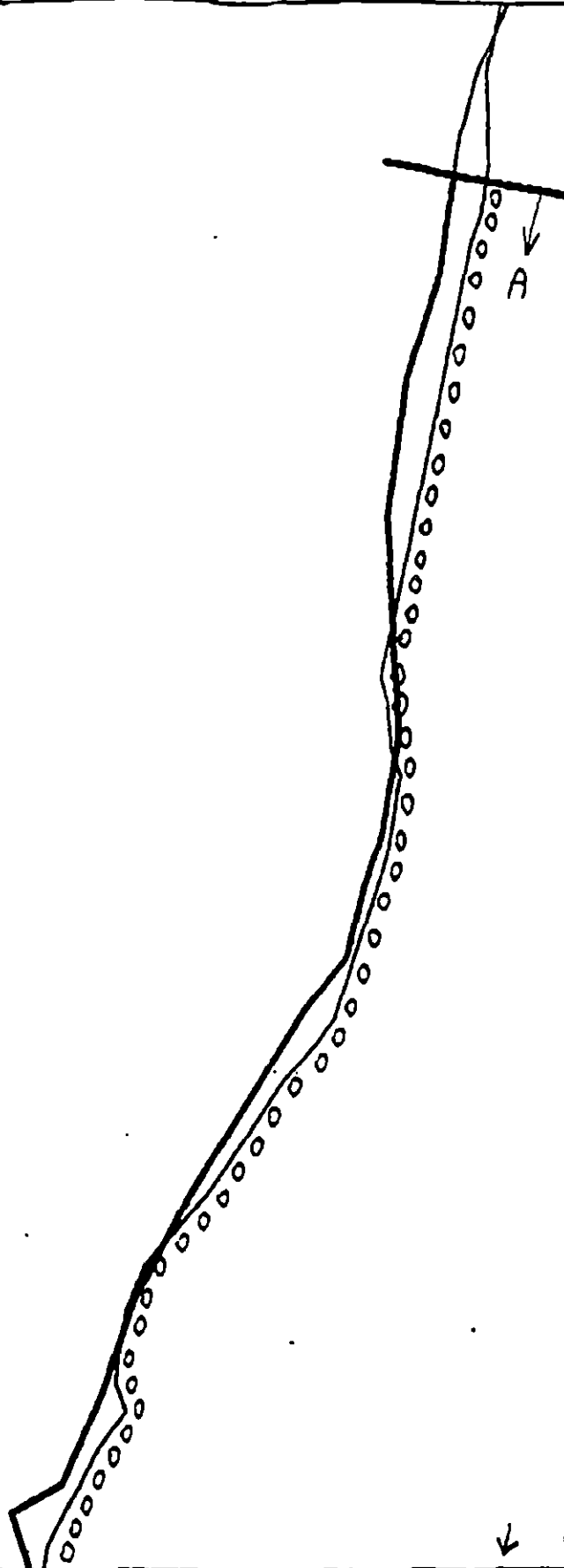
NOT PRES

Wildlife Observations/ General Comments: Did not observe LTZ. 1 subadult eagle, 2 unidentified gulls, 1 gull carcass in supratidal (feathers + some bones, scavenged, no oil). Nanceella lamellosa extremely abundant in barnacle zone. This species ecologically very similar to CH-21 (please see ecol. comments re. intertidal for that segment). Intertidal zone very productive and healthy. Assume LTZ similar to CH-21.

Ecological Considerations:

Resource activities previously listed for this segment include use as a gill net area (code 1I) and as a purple seining area (code 1J). There are, apparently, 2 bald eagle nests (code 5T) in the central portion of the segment, but we were unable to locate either one. There is, however, an active nest 400 m or so S. of the S. segment boundary, in segment CH-22 (actually on the boundary between CH-22 + 21).

34/36



29/36

↓ PWS 50A

XXXX Wide

//// Medium

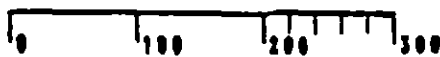
---- Narrow

TTTT Very Light

OOOO No Data

CH-23

ADEC Segment Length: 2563m



Map Key: PWS-50b

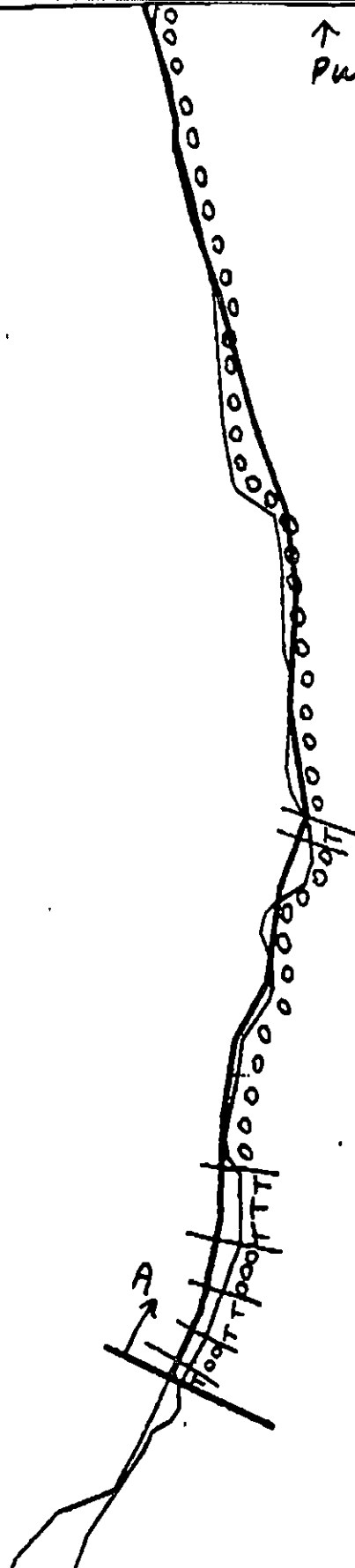
Name: Ruby Siegel

Date: 4/21/90

Data Entered:

↑
PWS50B

CF



28/36

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

CH-23

ADEC Segment Length: 2563m



Map Key: PWS-50a

Name: R. J. Diegel

Date: 4/21/90

Date Entered:

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ CH-900 STREAM NO: 226-20-16200 DATE 4/25/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
5T-3 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. Subject stream is located within an unsurveyed segment (no subdivision other than U).

SHPO SIGNATURE: Rachel Jean Dain DATE: 5/18/90

Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS: MANUAL PICKUP OF TAR PATTIES

TAG APPROVAL DATE: 5/9/90
ADEC Art Wescott Int Wescott
EXXON ANDY ISAL Andy
NOAA Burt Wescott Burt Wescott
USCG D.D. ROME D.D. ROME
FOSC: W L DATE: 6-8-90
Notify c/c 24 hours prior to cleanup

- 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
- Salmon fry nursery area (4/31 to 7/31)
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)
 1E Main Bay Hatchery release (4/20 to 6/15)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
 AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (8/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (8/11 to 7/25)
 Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3 Harbor seal and sea lion pupping (5/15 to 7/1)
 3 Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
 ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
 ADF&G Tom Roth 267-2208
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (8/1 to 9/15)
 6V Anchorages (8/1 to 9/15)
 6W Forest Service cabins (8/1 to 9/15)
 6X Lodge (8/1 to 9/15)
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 7-H Finfish harvesting
 7-I Deer harvesting (8/15 to 2/28)
 7-J Invertebrate harvesting
 Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
 AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2350

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 CH 900 SUBDIVISION: 16 200 DATE 4/25/90

USCG

NAME CWO MC NATION SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

1. MANUAL CLEAN-UP; REMOVE TAR PATCHES
LEFT + RIGHT SIDES

ADFT

ADEC

NAME Tom Crowe SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

MANUAL REMOVAL OF SURFACE OF TAR MATS AND
SPORATIC TAR PIES. USE OF HAND TROWELS MAY
BE NECESSARY TO ACCESS CREVICES IN BOULDERS.

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

NO TREATMENT RECOMMENDED
PER DECISION TREE

SHORELINE OILING SUMMARY (ANAD.)

REVISION

OG WILLIAM LEID USCG McMAHON SEGMENT ST/ CH900 7
 BIO MICHAEL FAWCETT LAND REP STRAM 22570-162001 OF
 EXXON GUS GARCIA ADFG MIKE WIDNER TIME 09:30
 TEAM NO. 15 TIDE LEVEL -1.5 FT DATE 25/4/90
 EST. SUBDIVISION LENGTH: 30 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 5 % B 5 % C 60 % P 35 % G 0 % S 0 % M 0 % V 0
 SLOPE: Long 60 % Hang 40 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ H
 OIL CATEGORY LENGTH: W 0 m M 8 m N 0 m VL 0 m NO 22

SURFACE OIL

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

PAVEMENT H F S 0 sq. m by 0

PATTIES / TARBALLS 0

NEAR SHORE SHEEN? ☒ NO BR RW SL

OILED DEBRIS	AMOUNT			Did you Col DEBRIS ☐ YES ☒ NO
	SM	MD	LG	
Logs				
Vegetation				
Trash				
Debris				

Photographs:

Roll No. 0

Frames 0

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 SUBSURF SEDIMENT
		OP	OR	OL	OF	NO		NO	NO	1	2	3	4	SU	M	E	U				
1	30					X	0-30							X					X		P/C
2	15					X	0-15								X				N		P/G
3	20					X	0-20								X				N		P/G
4	15					X	0-15							X					N		P/G

COMMENTS

REVIEWED JW

DATE 4-27-90

SEGMENT ST/ CH 900

STREAM 226 20-16200

DATE 1 90

CHECKLIST

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

LEGEND

1 Δ
Pit - No Subsurface Oil

2 Δ
Pit - Subsurface Oil

CT/C
Continuous Distribution

CT/D
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

eee
Oiled Vegetation

Photo location, direction,
and number

SKETCH MAP

ESPECIALLY
IN
BOULDER
INTERSTICE

MANUAL
ACKUP

MANUALLY
REMOVED STRONG
TAR PATCHES
AREA 2

Film AS-15.5

29

Δ2

30M

1250XSM

AREA 2

29

CV/P1

Δ1

27

26

Δ3

Δ4

150XSM

AREA 1

MANUAL
ACKUP

MANUALLY
REMOVED STRONG
DIC. TAR
PATCHES
AREA 1

NO
TREATMENT
RECOMMENDED
Due to Vegetation
Free

Oil Character Length (in): AP PO CV CT ST MS

TD FL

30

ENCLOSURE

SEGMENT ST/ CH 900

STREAM 226 20-16200

SKETCH MAP

Film A5-12

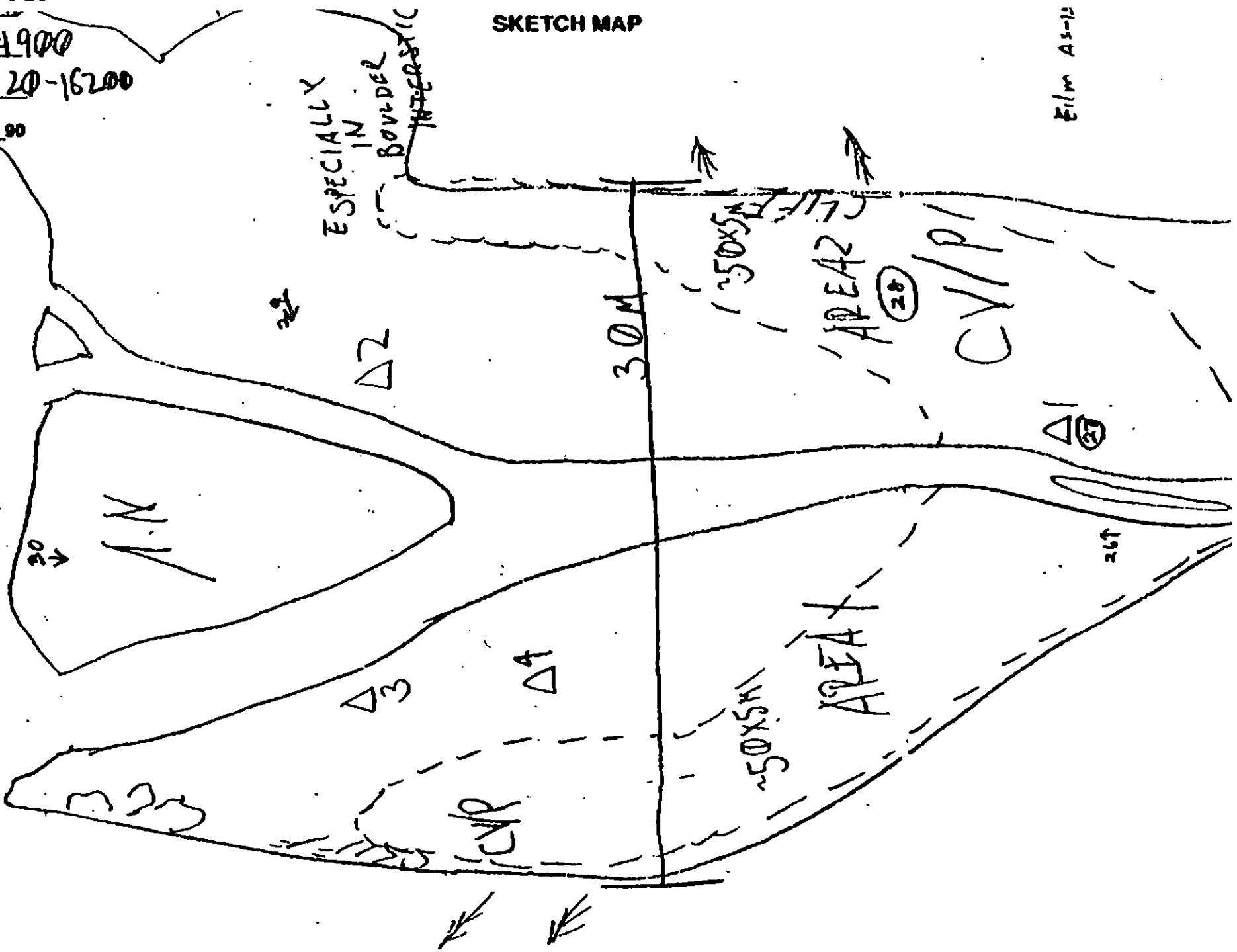
DATE 1 90

CHECKLIST

- ☐ N Area
- ☐ Approx. Scale
- ☐ Seg/Sub Body
- ☐ OB Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HMR/LWR
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PH Location(s)
- ☐ Photo Location(s)

LEGEND

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



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

REVISION 000000

Alaska Department of Fish and Game

ANADSCAT Observations and Recommendations
Team 15 - Michael Wiedmer and Tom Crowe

25 April 1990

ASC # 226-20-16182

Segment CH-009

Observations The intertidal zone surrounding this channel is confined to a low energy, elongated cove bordered by bedrock walls. The substrate is composed predominantly of shale cobble and gravel. A very rich biota occurs throughout the lower intertidal zones below the oiled areas.

A wide range of oiling types and degrees exist at this site (see ADF&G Multi-Assessment Form for specific descriptions). While this site still contains significant amounts of subsurface oil, treatment of this site will be difficult. Moderate concentrations of oil have penetrated deeply into a poorly sorted shale boulder, cobble, gravel, sand matrix along the upper-intertidal zone west of the channel.

Other than complete removal of the substrate, elimination of oil will be difficult. Additionally, the very rich intertidal flora and fauna adjacent to the oiled zone will be at risk during and after extensive treatment operations.

Treatment Recommendations All surface tar mats and patties should be manually removed. See the ADF&G Multi-Assessment Data Form for additional treatment suggestions.

ASC # 226-20-16200

Segment CH-900

Observations Large shale cobbles and boulders compose the substrate of this low-exposure cove. A band of sporadic tar patties rings the high tide line on either side of the channel. No significant subsurface oil was identified.

Treatment Recommendations Manually remove tar patties. Trowels may be required to remove oil from interstitial spaces.

Segment CH 900

Stream 226-20-16200

Ecological Summary

4/25/90

Michael Fauxett

This stream crosses a shale cobble/pobble/gravel beach in a small cove. Sparse Fucus and barnacles occur in the stream bed and along the banks. A mature bed of dense mussels exist in the MTZ near the stream mouth. Barnacle spat are dense throughout LTZ, along with patches of dense adult Balanus glandula. Aside from Fucus, the only other algae at the site are diatoms and a film of green algae. Thousands of tiny marine fish larvae (about 2mm in length) appeared to be emerging from beneath the pebbles in LTZ as the tide rose. A few whelks (Thais emarginata) were seen, along with their egg capsules. Remaining oil consists of a few surface tar mats along the stream bank in UTZ. Manual removal recommended. No ecological constraints re: intertidal biota.

M. H. Fauxett

ACFEG MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS/SS CS TS AVS SCM MPMS PTA 2 REGION: PAS XP,CI X,AP

METHOD: Aerial Ground Boat

3 DATE: 4/25/90 15 HIGH TIDE TIMES: 1500 1 21 TEAM RECORDER: TOM CROWE

4 START TIME: 0937 16 HIGH TIDE HTS: +1 FT 1 22 OBSERVERS: MIKE WIDOMER

5 STOP TIME: 0956 17 LOW TIDE TIMES: 0830 1 23 AGENCY: ADFG ANAOSCAT

6 SEGMENT #: CH 900 18 LOW TIDE HTS: -4 FT 1 24 PHOTOS TAKEN: Y (N)

7 STATION #: _____ 19 TIDE HT AT SURVEY: -3 FT Roll #: _____ Frame: _____

8 K-UNIT: _____ Ebb Slack Flood Slack 25 VIDEO TAKEN: Y (N) TAPES: _____

9 STAT AREA: _____ 20 USCG QUAD: SSW B-3 Starts: _____ Ends: _____

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

12 SOURCE: Map Loran 011 _____

13 LOCATION: WEST SIDE CHANICA ISLAND Sediment _____

14 DESCRIPTION: _____ Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	N	NE	E	L	N	NE	E
27 SURFACE COVERAGE	50	5						
28 SURFACE THICKNESS	9cm							
29 PENETRATION	—							

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

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

32 OILED DEBRIS? Y (N)

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

34 WAVE EXPOSURE: High (Moderate) Low

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

36 CATALOGED ANAD. FISH STREAM? Y N

37 CATALOG # 226-20-16200

38 STREAM NAME: _____

39 OIL IN STREAM BED? (N) N

40 OIL ON STREAM BANKS? (N) N

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

42 OIL WITHIN 1 MILE OF STREAM? (N) N

Where: _____

43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS: SMALL V-SHAPED COUR WITH LARGE CORN
AND FLAGSTONE BOUNCERS. 5 METER BAND OF INTERMITTENT
TAR PITS THAT RUN ALONG UPPER/MID INTERTIDAL ALONG
BANK/SHORELINE AND DEPOSITED ON STREAM BANK ADJACENT
TO STREAM CHANNEL

FRAME(S)

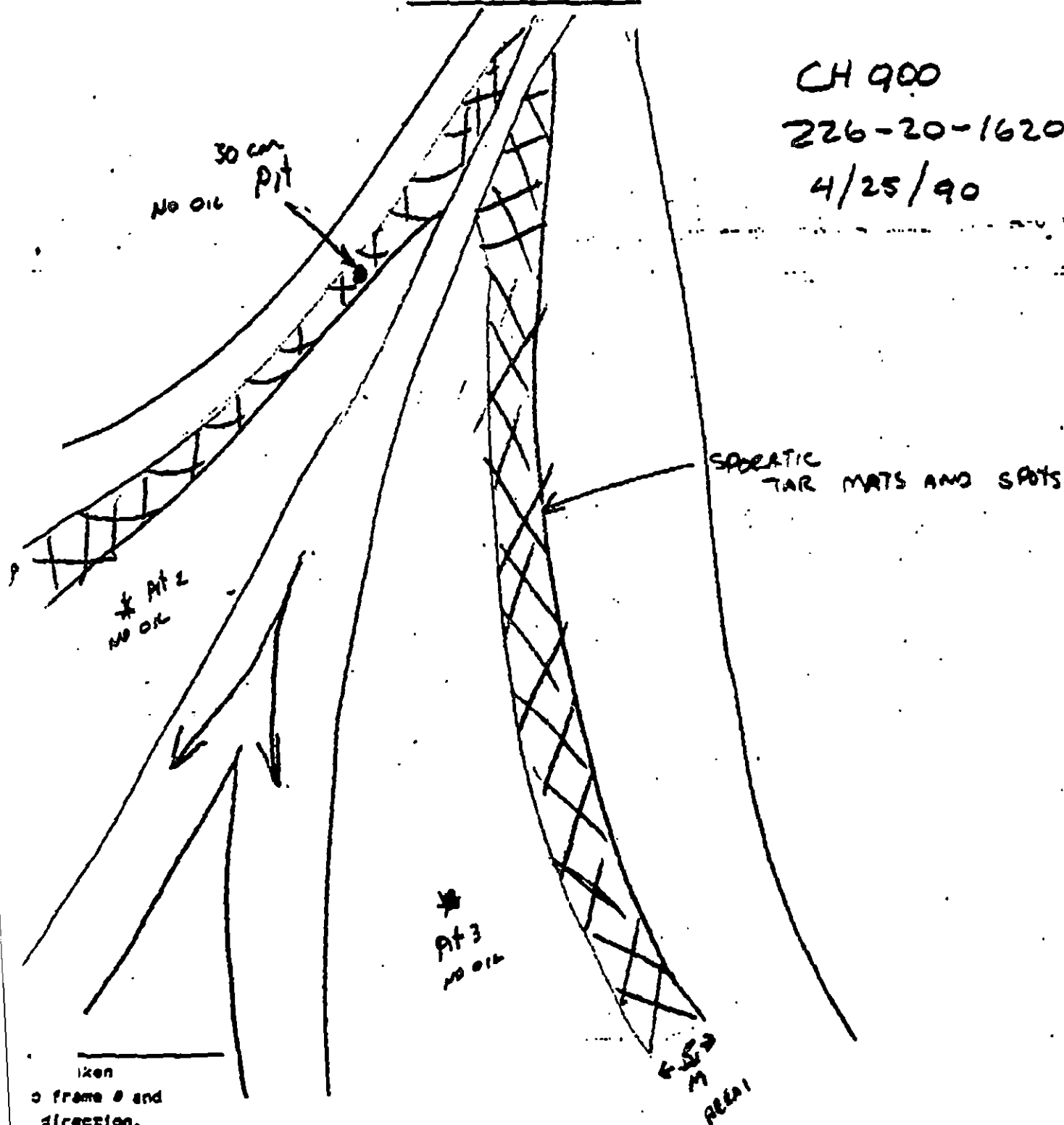
DESCRIPTION

SPORATIC TAR MATS IN BAND AT MID INTERTIDAL AND
UPPER INTERTIDAL

RECOMMENDATION: MANUAL REMOVAL OF SURFACE
TAR. TROWELS MAY BE NECESSARY TO GET AT TAR
IN BOWLINE CREVICES.

I agree with recommendations. M. H. [unclear]

48 OIL DISTRIBUTION DIAGRAM



ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-20-16200

SEGMENT CH-900 SUBDIVISION A

WORK WINDOW	
Manual Pickup	OPEN

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream	ADF&G catalogued anadromous stream (226-20-16200) is in Subdivision A. No constraint to manual pickup.
5T Bald Eagle Nest	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.

OTHER ECOLOGICAL CONSIDERATIONS

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

SEE SUBDIVISION CONSTRAINT ADDENDUM CH-900A
FOR ADDITIONAL CONSTRAINT INFORMATION

FOSC

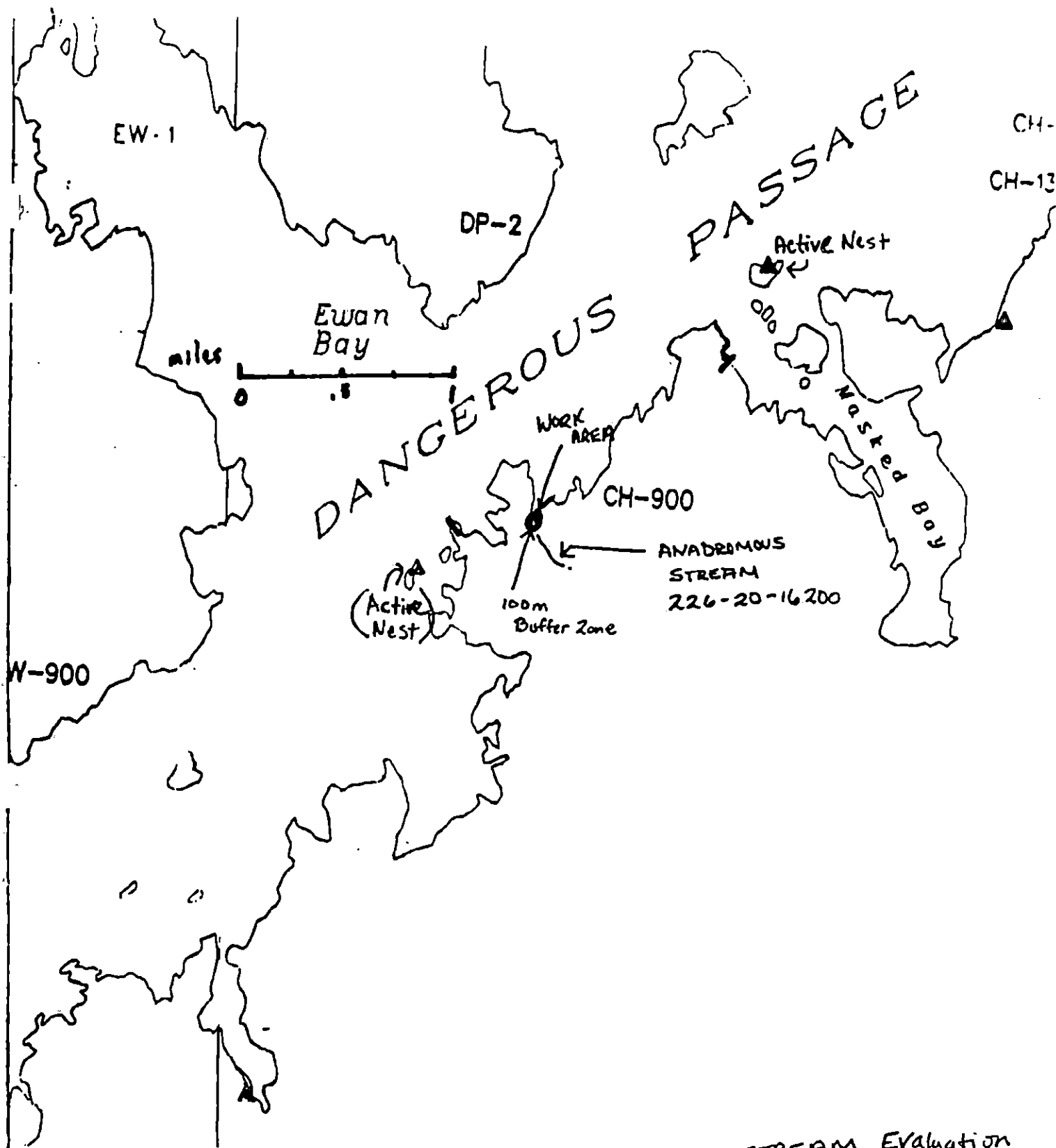
Date

6-20-90

Prepared by

Date

6/18/90



ANADROMOUS STREAM Evaluation

CH-900 A
ANADROMOUS STREAM # 226-20-16200