



EVOS
GC
1552
.P75
S42
1991
v.24

[Shoreline evaluations, 1991].

Prince William Sound CH-01 to CH-10

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1991 MAYSAP EVALUATION

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

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

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

MAYSAP FIELD SHORELINE COMMENT SHEET

187

TEAM NO. 4 SEGMENT CH001 SUBDIVISION A DATE 9 / MAY / 91

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson☒ NTR ☐

very little oiling observed.

Entire segment was not surveyed due to previous surveys showing no oiling.

EXXON

NAME LARRY D. CLISON SIGNATURE Larry D. Clison☒ NTR

I agree with representatives recommendations.

LANDMANAGER

NAME LARRY EVANOFF OF CRC SIGNATURE LE☒ NTR ☐ TREATMENT RECOMMENDED

A SMALL TAR MAT WAS FOUND ON THE NORTHERN PART OF SEGMENT. STAIN/FILM REMAIN. NO BIOREMEDIATION RECOMMENDED.

USCG/NOAA

NAME JERRY SCHULTZ SIGNATURE Jerry Schultz☒ NTR

I CONCUR WITH THE ABOVE REPRESENTATIVES RECOMMENDATIONS

reviewed 5/1/91 J/C
Reviews 5/5/91 me

Sketch Map

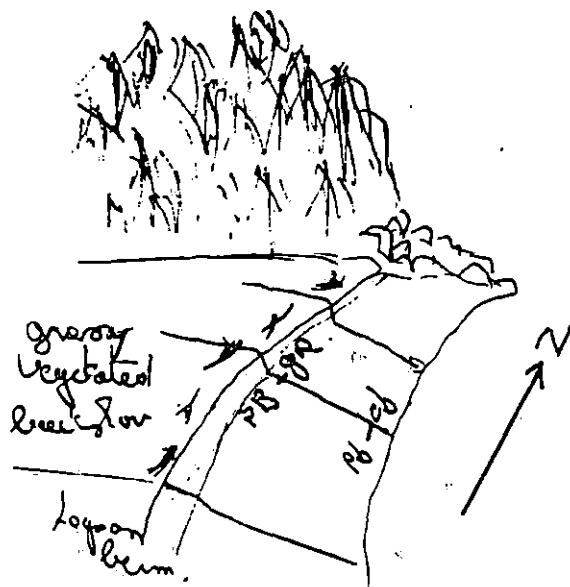
CH001A

IN SEMPELS

MAY 91

0704-0744

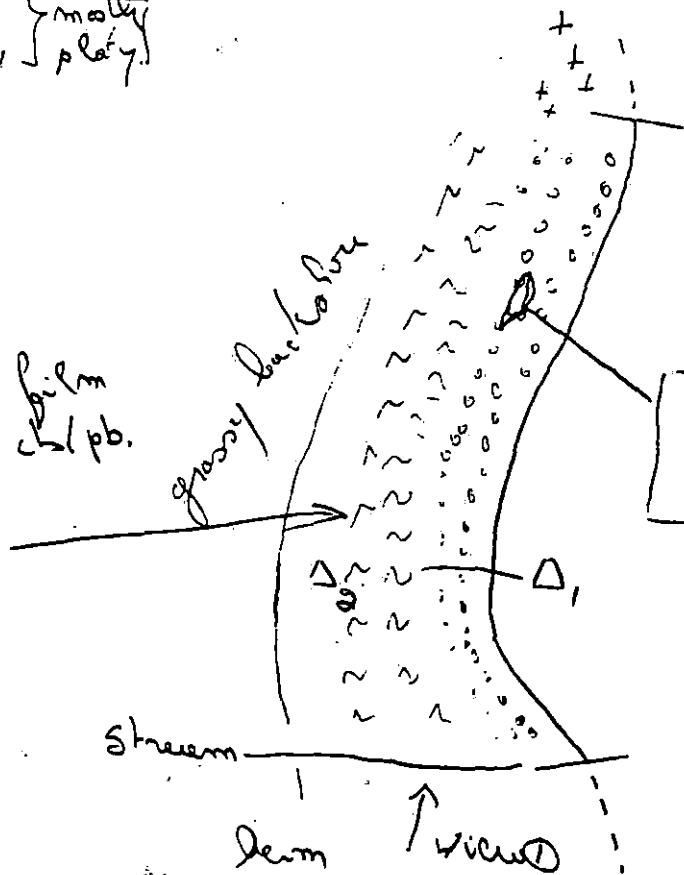
View 1



Legend

- [+/-] Red rock / talus
- [O] pb/cb } motley
- [W] pb/gv } platy

Probably a film
some ch/pb.

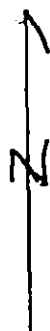


Few ct on underside
of cb in northern 2/3
of subdivision.

A1
L SOR 5%
9x3 2cm thick - Worked on

Remnants of old pavement
now around and especially
on the landward side of cb.
at the junction of the
upper and middle intertidal
zone.

Meters
0 100 200



MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 4 DATE/TIME May 2, 1991 0708 - 0746
SEGMENT # CH001 TIDAL HEIGHT (Range) +5.5 => +3.0
SUBDIVISION A BIOLOGIST JIM BARRY
SEA STATE Calm WIND SPEED/DIRECTION Variable, 5-kt., cloudy/rain

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

This site, located near the upper berm along the drift line, potentially has a film of oil on some pebbles and cobble. Little biota exist at this area. Below the site, biota are sparse on the cobble beach, down to the mean tide level (middle zone), or lower, where green algae, sparse Fucus, moderate barnacles and limpets, and sparse mussels occur. Occasional bedrock outcrops have fairly dense cover of Fucus, and similarly higher densities of the other key species.

The oiled site (LSOR) is located near the border of the middle and upper intertidal (ca +8 - +9 ft.). Filamentous green algae (Urospora?) has moderate cover at this site, with scattered barnacles, a few littorines, and limpets. About 2 feet lower in the intertidal, Fucus cover is moderate on the beach cobble, and littorines are abundant. A small nudibranch, Lamellidoris fusca, also is present in the middle zone. Mussels are scattered in small patches amongst the beach cobble.

MANUAL CLEANUP PERFORMED DURING SURVEY. Additional cleanup should have little impact on the biota of this beach. The site has an anadromous stream, but its location is approximately 200m from the oiled location.

SUMMARY OF CH001-A

This is a long, wide beach with cobble near the lower zones and pebbles at the upper berm of the beach. In addition, there is a stream entering from the upland at the southern end of the subdivision. Little biota exists on the middle and upper zones of the intertidal beach, which is exposed to moderate waves. Lower in the intertidal, the intertidal fauna

(continued)

WILDLIFE OBSERVATIONS - Completed on all subdivisions

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	
Seabirds			
Waterfowl	2	3	
Gulls/Kittiwakes	1	5	
Shorebirds			
Corvids	1	3	
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

CH001-A Biological Report, (continued)

and flora increase in density or cover, with the key species (Fucus, mussels, littorines, barnacles), contributing the majority of the biomass. Nevertheless, the biota on the beach are considerably less abundant than on nearby bedrock headlands, where key species cover is nearer to 100%.

List of Species from CH001-A

A. Marine Plants

1. Diatoms, Blue Greens
2. Green Algae - Chlorophyta
Enteromorpha sp., Ulva sp., Urospora sp.
3. Brown Algae - Phaeophyta
Agarum fimbriatum, Ectocarpus sp., Fucus distichus, Ralfsia sp., Syctosiphon lomentaria
4. Red Algae - Rhodophyta
Membranoptera dimorpha, Odonthalia floccosa
5. Higher Plants - Leymus mollis (beach rye grass)

II. Marine Animals

2. Anemones - Anthopleura artemesia
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms - Emplectonema gracile
8. Polychaetes
Nepthyidae
Nereidae - Nereis spp.
Serpulidae
Serpula sp., Crucigera sp., Eudistylia polymorpha
Spirorbidae - Spirorbis sp.
10. Crustaceans
 - a. Amphipods - Orchestia sp.?
 - b. Barnacles - Balanus glandula
 - c. Crabs - Paguridae
11. Mollusca
 - a. Chitons - Mopalia mucosa,
 - b. Snails - Gastropods
Littorina scutulata, L. sitkana, Natica clausa, Nucella lamellosa
 - d. Nudibranches - Lamellidoris fusca
 - e. Mussels and Clams
Mytilus edulis, Prototheca staminea
12. Echinoderms
 - a. Sea stars
Dermasterias imbricata, Evasterias leviuscula, Leptasterias hexactis,
Pycnopoda helianthoides
 - c. Sea Cucumbers - Holothurians
Eupentacta sp., Leptosynapta sp.
 - d. Urchins - Strongylocentrotus droebachiensis
13. Bryozoans - Membranipora sp., Schizoporella sp.
15. Fishes
Cottidae
Stichaeidae
Xiphister atropurpureus, X. mucosus

BIO. SKETCH MAP

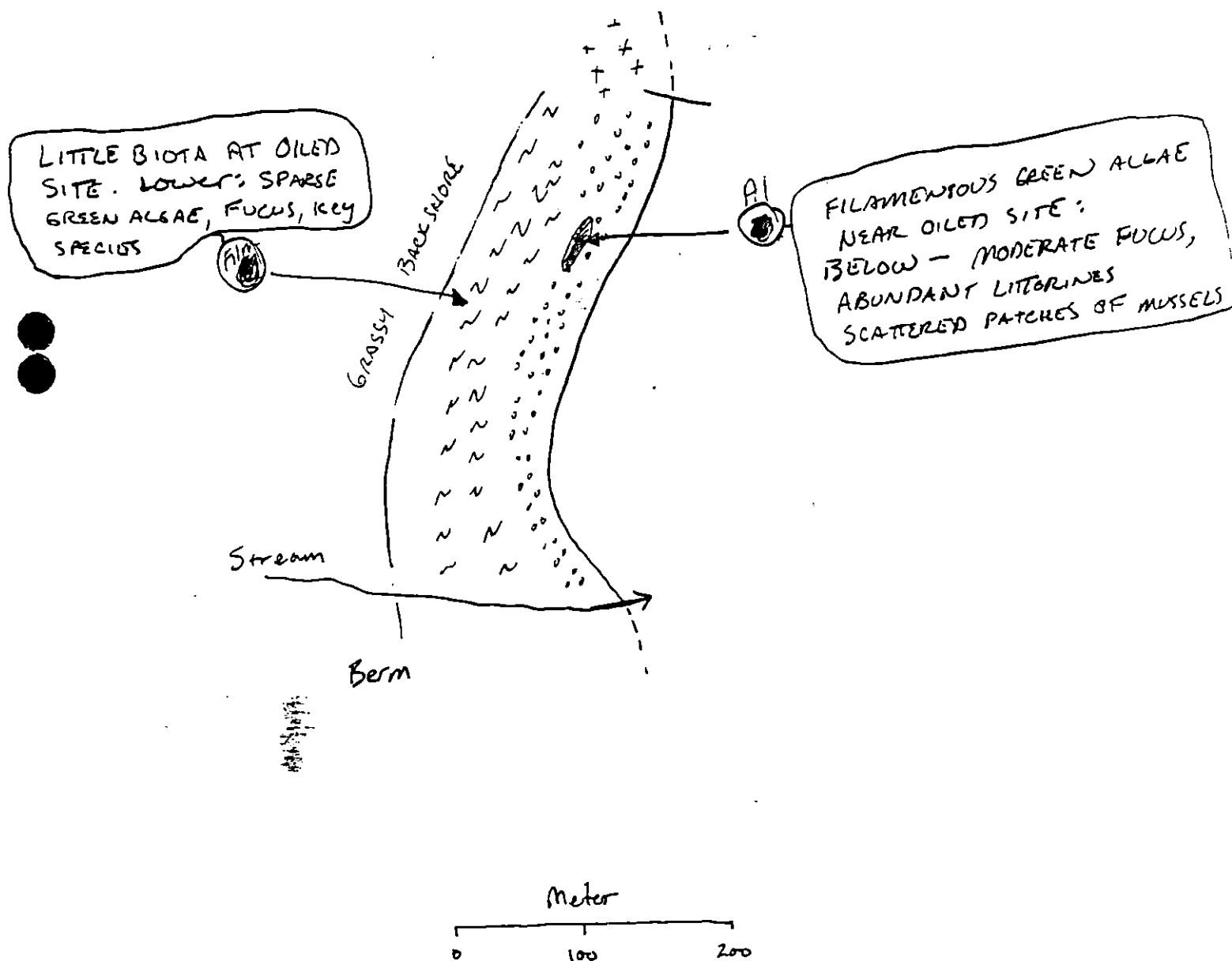
CHOOI - A

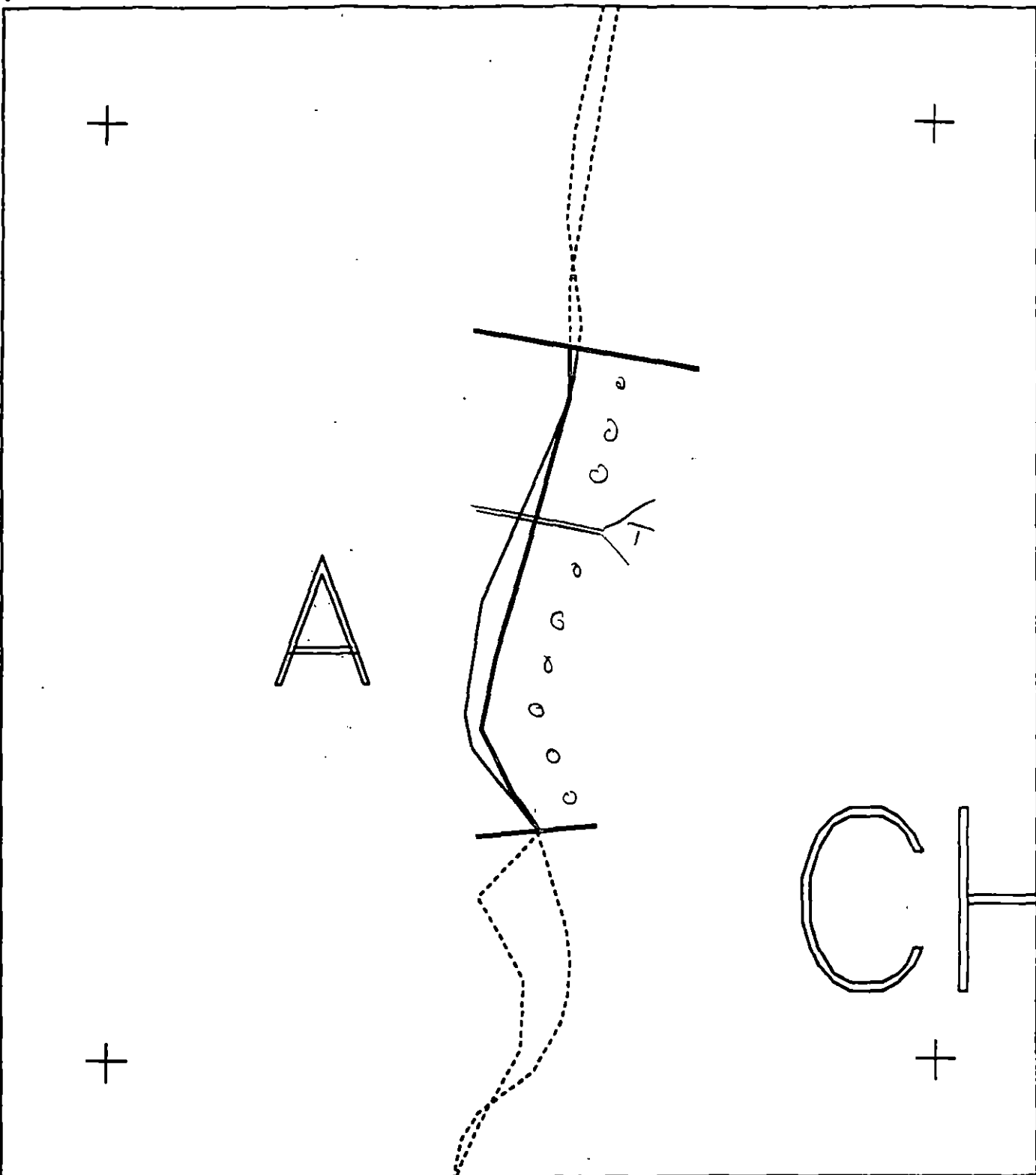
J.P. BARRY

2 MAY 91

Legend

-  Bedrock / talus
-  Pebbles / Cobble
-  Pebbles / Gravel





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

CH001 A

ADEC Subsegment Length: 363m

METERS

0 100 200

AK State Plane Zone 4
 pc001a



Subdivision Field Map

Map Key: PWSCH001A

Name: J. N. Seng

Date: MAY 2 91

Date Entered:

reviewed 5/14/91 MC
 REVIEWED 5/5/91 MC

1991 MAYSAP EVALUATION

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

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Charles E. H. H. H.

Date: 5/10/91

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

2

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 10 1991

FOSC APPROVAL DATE: 5/15/91

ADEC

FOSC

EXXON

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

USCG

NOAA

ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

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MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 41 SEGMENT CH001 SUBDIVISION A DATE 9 / May / 91

ADEC

NAME Dianne MunsonSIGNATURE Dianne Munson☒ NTR ☐

Very little oiling observed.

Entire segment was not surveyed due to previous surveys showing no oiling.

EXXON

NAME LARRY D. CLSONSIGNATURE Larry D. Clson☒ NTR

I agree with Representatives' recommendations.

LANDMANAGER

NAME LARRY EVANOFF OF CVCSIGNATURE Larry Evanoff☒ NTR ☐ TREATMENT RECOMMENDED

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USCG/NOAA

NAME JERRY SCHULTZSIGNATURE Jerry Schultz☒ NTR

I CONCUR WITH THE ABOVE REPRESENTATIVES RECOMMENDATIONS

Sketch Map

CH001A

17 SEMPELS

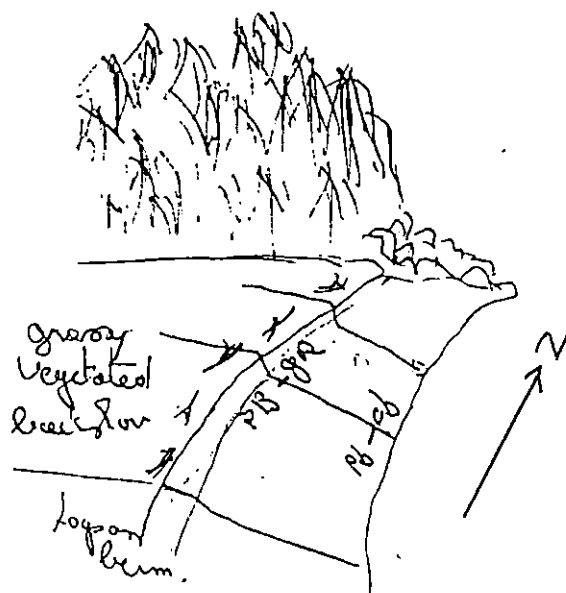
2 MAY 91

0704-0744

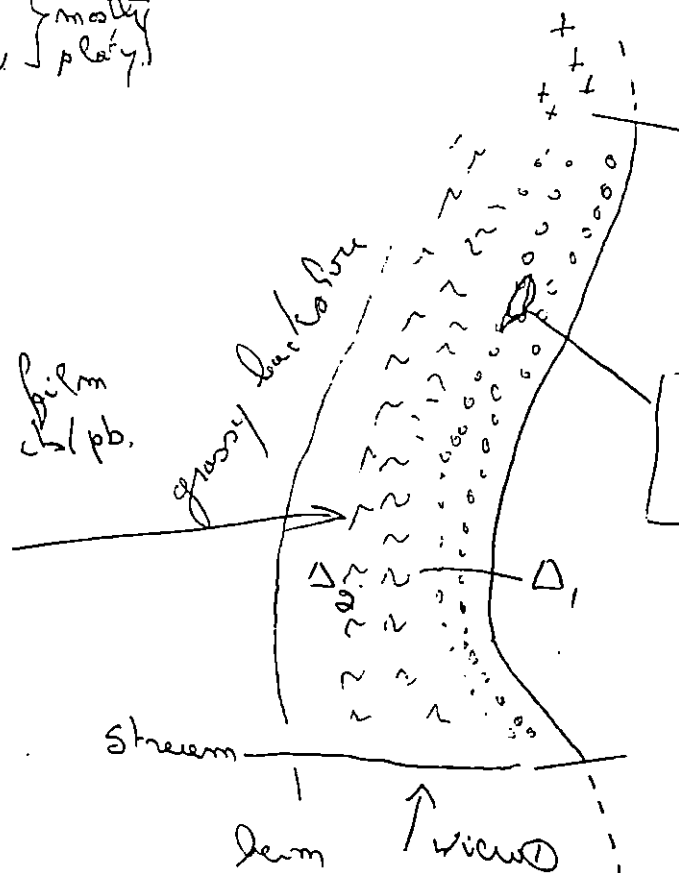
Legend

- [+/-] Bedrock / talus
- [O] pb / cb } mostly
- [O] pb / gv } platy

View 1



Probably a film
on some cb / pb.



Few ct on underside
of cb in northern 2/3
of subdivision.

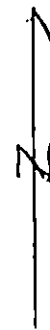
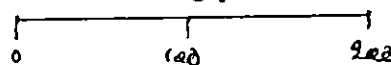
A1

LSOR 5%
9x3 2cm thick

Worked on

Remnants of old pavement
now around and especially
on the landward side of cb.
at the junction of the
upper and middle intertidal
zone.

Meters



reviewed 5/4/91 KG
REVIEWED 5/5/91 MC

HAYSAP BIOLOGICAL SUMMARY FORM

TEAM #	4	DATE/TIME	May 2, 1991	0708 - 0746
SEGMENT #	CH001	TIDAL HEIGHT (Range)	+5.5 => +3.0	
SUBDIVISION	A	BIOLOGIST	JIM BARRY	
SEA STATE	Calm	WIND SPEED/DIRECTION	Variable, 5 kt., cloudy/rain	

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

A/Film This site, located near the upper berm along the drift line, potentially has a film of oil on some pebbles and cobble. Little biota exist at this area. Below the site, biota are sparse on the cobble beach, down to the mean tide level (middle zone), or lower, where green algae, sparse Fucus, moderate barnacles and limpets, and sparse mussels occur. Occasional bedrock outcrops have fairly dense cover of Fucus, and similarly higher densities of the other key species.

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Coreline subdivision map showing important biological features attached.

CH001-A Biological Report, (continued)

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13. Bryozoans - Membranipora sp., Schizoporella sp.
15. Fishes
Cottidae
Stichaeidae
Xiphiaster atropurpureus, X. mucosus

BIO. SKETCH MAP

4/7

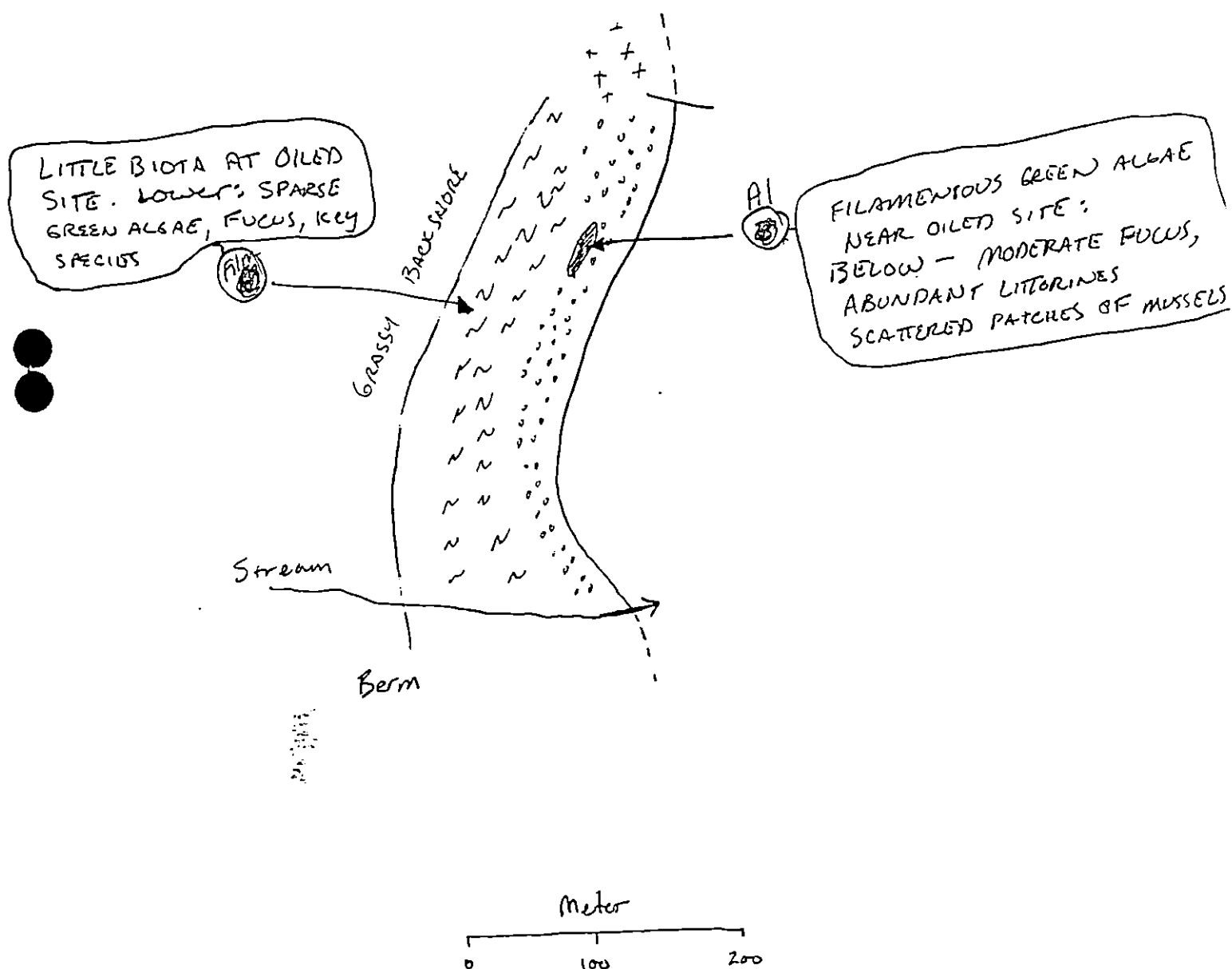
CHOOI - A

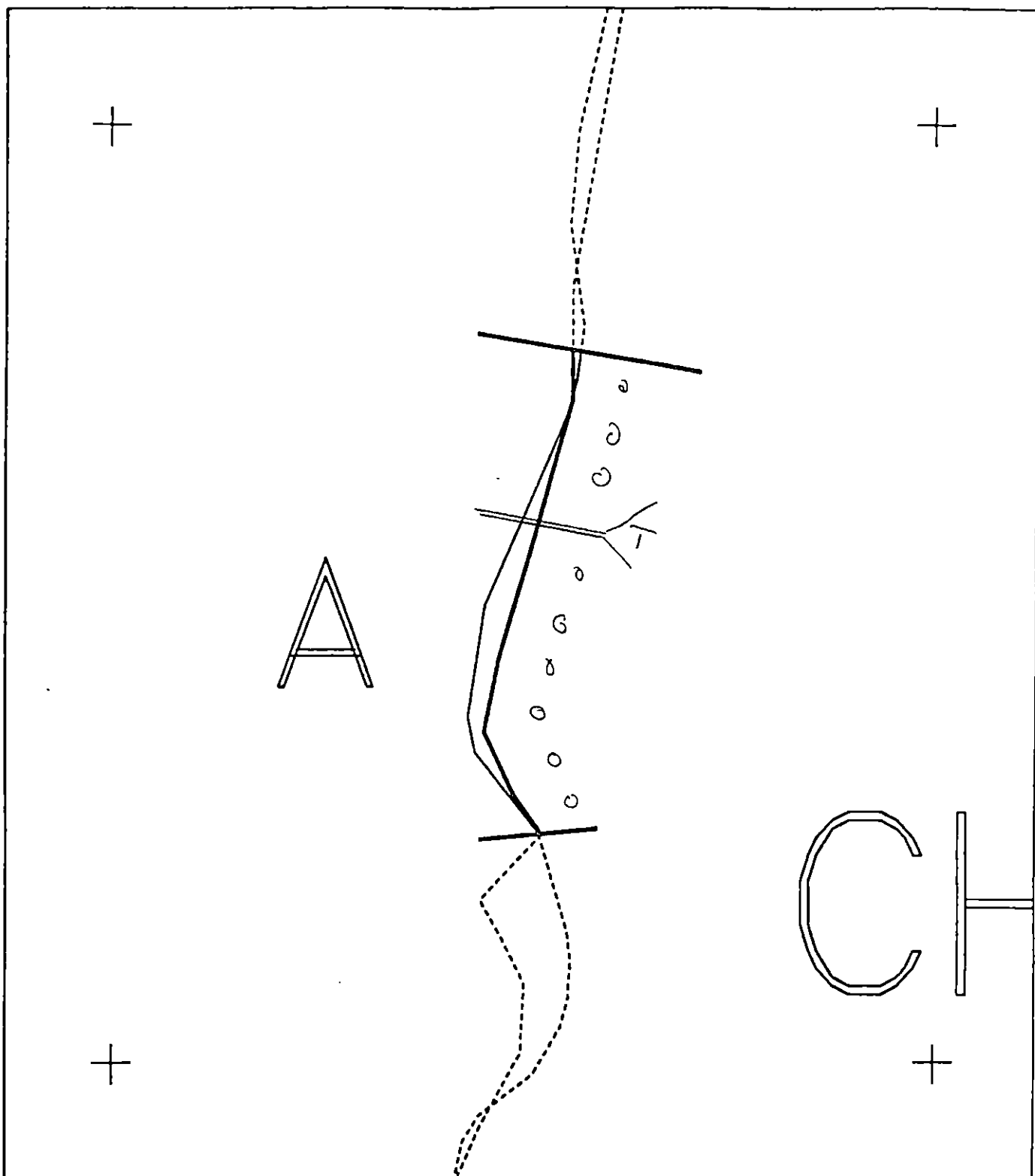
J.P. BARRY

2 MAY 91

Legend

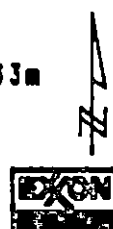
- + Bedrock / talus
- o Pebbles / Cobble
- ~ Pebbles / Gravel





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

CH001 A
 ADEC Subsegment Length: 363m
 METERS
 0 100 200
 AK State Plane Zone 4
 pch001a



Subdivision Field Map
 Map Key: PWSCH001A
 Name: J. J. Semples
 Date: May 2, 91
 Date Entered:

reviewed 5/14/91 KLG
 REVIEWED 5/5/91 MC

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 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 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 WEINER
EXXON ANDY TETZ
NOAA BURROUGHS
USCG G.A. REITER

FOSC [Signature]

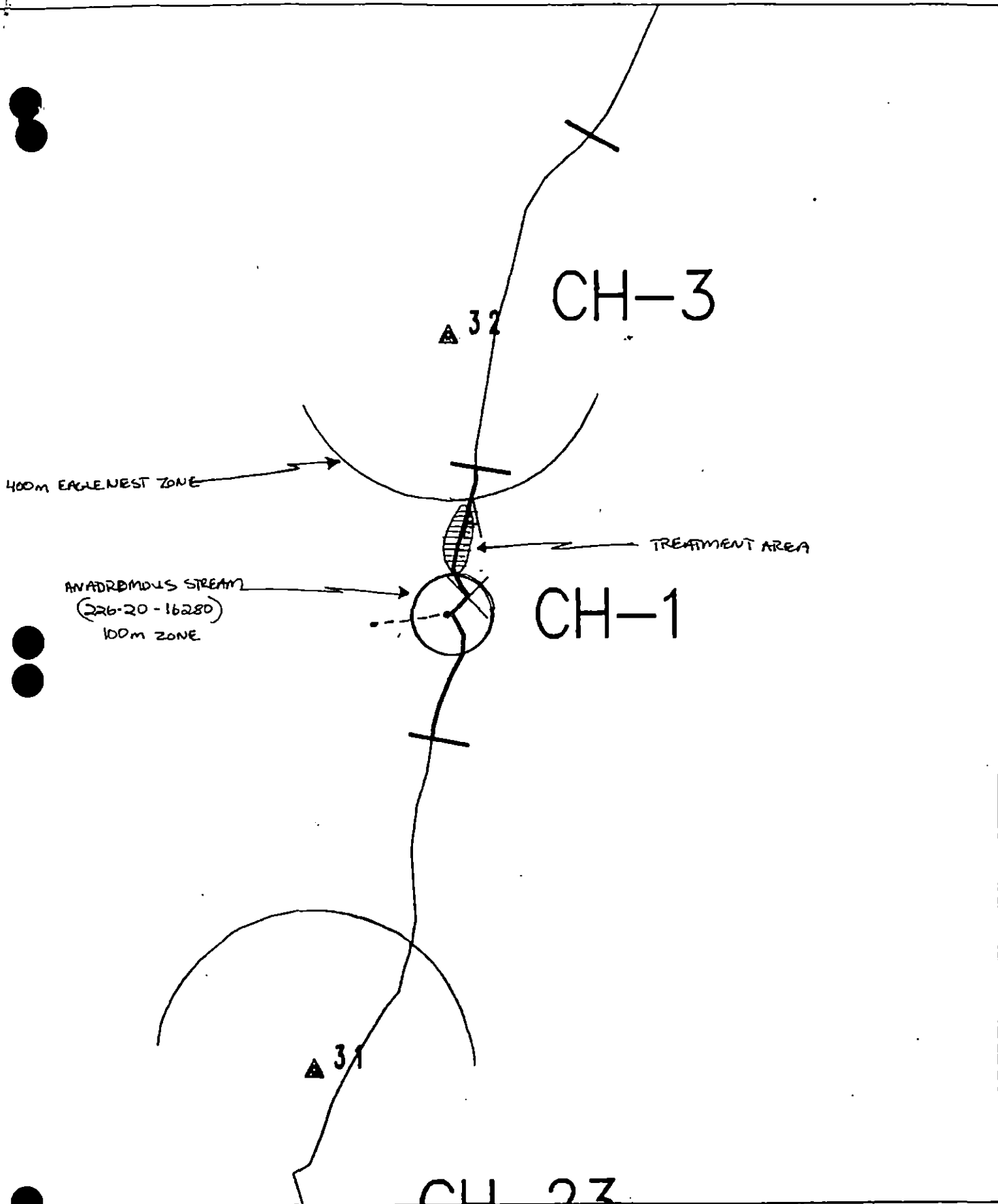
Date

MAY 29 1990

Prepared by [Signature]

Date

5/29/90



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.

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

SHPO SIGNATURE: Charles E. Holmes DATE: April 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.

REVISED, SEE ADDENDUM 5/28/90 WTK

TAG COMMENTS:

TAG APPROVAL DATE: 4/11/90

ADEC JOHN BAUER

EXXON ANNY TEAL

NOAA BUGL WESCOTT

USCG G.A. REITER

FOSC: W L DATE: 5-18-90

NOTIFY CWC 24 HRS IN ADVANCE
OF WORK

SHORELINE EVALUATION

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

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RAKE IN THE DIRT WHERE POSSIBLE PRIOR TO BIOREMEDIATION.

TAG COMMENTS:

TAG APPROVAL DATE: 4/11/90

ADEC JOHN BAUER

EXXON ANNY TEAL

NOAA Burl Wescott

USCG G.A. REITER

FOSC: W L DATE: 5-18-90

NOTIFY CWC 24 HRS IN ADVANCE
OF WORK

Norma Big

SKETCH

MENT ST/ CHOOI

BDIVISION A

TE 3 / 31 90

CHECKLIST

- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Bndry
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HPA/LA/LA
- ☒ BSL
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ Pit Location(s)
- ☒ Photo Location(s)

LEGEND

- 1 Δ
- 11 - No Subsurface Oil
- 2 Δ
- 11 - 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

WATER
SCALE 200M

end of
subdivision

SALMON
STREAM

SNOW
LINE

covering
SU + SSL

HWL

Cobble
Pebble

RECOMMEND

BIOREMEDIATION TO
WITHIN 100M OF
STREAM.

APR 4/90

ADEC
Patrick Emery

Oil Character Length (m): AP 0 PO 0 CV 0 CT 40 ST 45 MS 0 PT 0 TB 0 FL 0 NO 115

Autonomous

REVISION 002/00

A

TTTTTTT

OOOOO

OOOOO

CH-

not surveyed

420 m

XXXX Wide

//// Medium

---- Narrow

TTTT

CH-1

ADEC Segment Length: 785m

Map Key: PWS-35

Name: Norma BiggerDate: 3/31/90

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-20-16280

SEGMENT CH-1 SUBDIVISION A

WORK WINDOW

Tarmat Removal

OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-20-16280) is present in Segment CH-1. No constraint to tarmat removal.

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

SEE SUBDIVISION CONSTRAINT ADDENDUM CH-1A
FOR ADDITIONAL CONSTRAINT INFORMATION.

TAG APPROVAL DATE

ADEC ART WEINER Art Weiner

EXXON ANDY TEAL Andy Teal

NOAA B. Wascott B. Wascott

USCG G.A. REITER G.A. Reiter

FOSC [Signature]

DATE

MAY 29 1990

Prepared By:

Anders Meyer WMK

Date

5/28/90



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

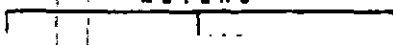


ECOLOGY MAP

SEGMENT CH-1

SUBDIVISION A (1 of 1)

METERS



- ★ Seabird Colony
- ▲ Eagle Nest

1:25,000 - 1:100,000

400m EAGLE NEST ZONE

AN ADDRESSABLE STREAM
(226-20-16280)
100m ZONE

TREATMENT AREA

CH-3

CH-1

CH 22

▲ 32

▲ 31

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.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: *J. Paul McManus* 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.

→ REVISED, SEE CONSTRAINT APPENDUM DATED 5/28/90 WIK

TAG COMMENTS:

TAG APPROVAL DATE: 5/10/90

ADEC Art Weiser

EXXON Amy Ritz

NOAA Buck Westcott

USCG D.D. Rome

FOSC: W L DATE: 5-18-90

NOTIFY OUR 24 HRS IN ADVANCE OF WORK.

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.

ARCHAEOLOGICAL CONSTRAINTS:

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

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

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 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 Weiler

EXXON Amy Katz

NOAA Burt Wescott

USCG D.D. Rome

FOSC: W L DATE: 5-18-90

NOTIFY ONE 24 HRS IN ADVANCE OF WORK.

APR-25-1990 19:37 FROM EXXON CMD CUKUUAH IU SCHT LEHM P.13

1364 OG WILLIAM REID
SEGMENT ST/ CH001

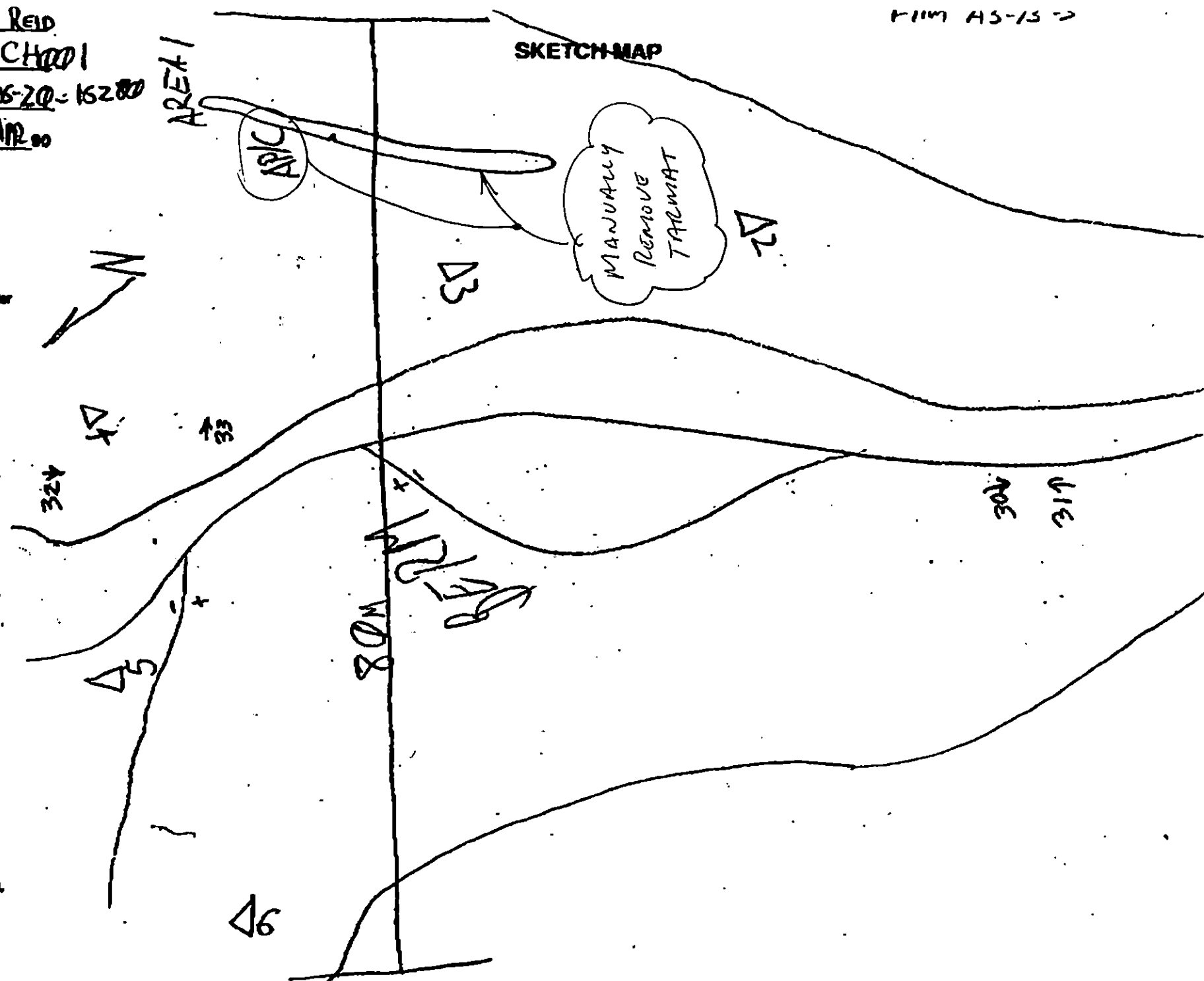
F11M A5-13-2

STREAM 226-20-15280
DATE 25, APR 80

- CHECKLIST
- ☐ H Angle
 - ☐ Approx. Scale
 - ☐ Seg/Ch Study
 - ☐ Ch Dist.
 - ☐ Width
 - ☐ Length
 - ☐ % Cover
 - ☐ Substrate Character
 - ☐ Est. HML/LVL
 - ☐ SCL
 - ☐ Profile Location(s)
 - ☐ Photo(s)
 - ☐ Photo Location(s)

- LEGEND
- 1 Δ₁
PH - No Subsurface Oil
 - 2 Δ₂
PH - Subsurface Oil
 - CT/C
Continuous Distribution
 - CT/B
Broken Distribution
 - CT/P
Patchy Distribution
 - CT/S
Splashed Distribution
 - eee
Oiled Vegetation
 - →
Photo location, direction, and number

SKETCH MAP



Of Character L AP PO CV CT ST MS TB FL NO

REVISION 000000

16/54

48 PHOTOLOG

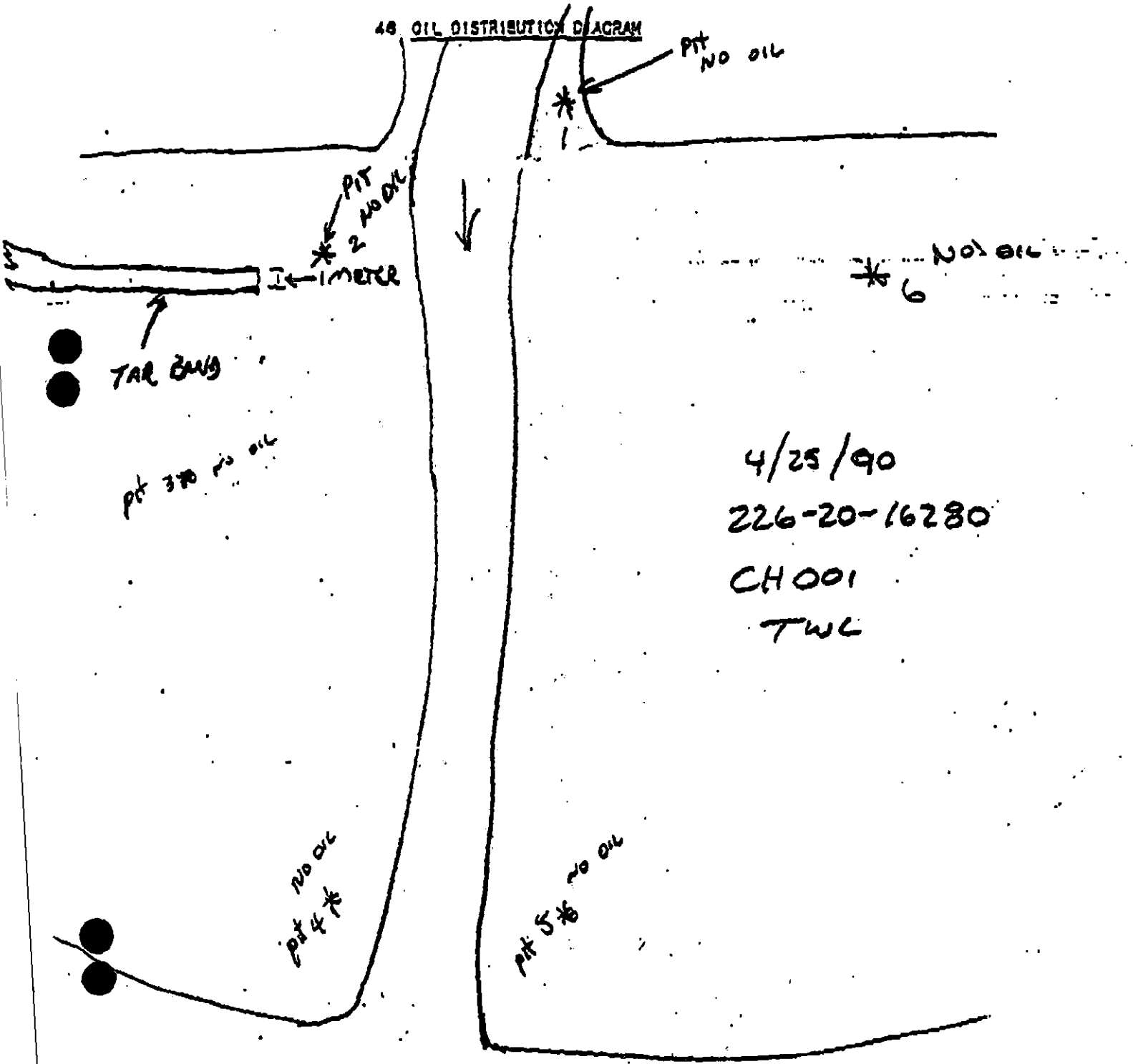
AVE(S)

DESCRIPTION

RECOMMEND: MANUAL REMOVAL OF TAR SAND

I agree with recommendation. M. H. [Signature]

48 OIL DISTRIBUTION DIAGRAM



4/25/90

226-20-16280

CH 001

TWL

ECOLOGICAL MAP

1A, 1B

SUBDIVISION A
(1-f-2)

SALMON STREAM
226-20-16280
(P, 2/90)

LOCATED WITHIN
SUBDIVISION 2 of 2
CH-01-U

not surveyed - U SUBDIVISION
(2-f-2)

CH-

420 m

XXXX Wide

//// Medium

--- Narrow

CH-1

ADEC Segment Length: 785m

Map Key: PWS-35

Name: Norma Bigger

Date: 3/31/90

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 unoiled 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.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

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: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: CH-01

STREAM NO: 226-20-16280

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

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

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

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

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

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

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

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

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

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

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

1H Remote release site

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ADF&G Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Roth 267-2206

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

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

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

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

6Y Special use destination

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

Finfish harvesting

Deer harvesting (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

14/2

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 CH 001 SUBDIVISION: 16 2 80 DATE 4/25/90

USCG

NAME CWO MC NATION SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

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

ADF-16

ADEO

NAME 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 VILING SUMMARY (ANAD.)

REVISION NO.

OG William Reid USCG McMAHON SEGMENT ST/ CH001 17
 BIO MICHAEL FAYCETT LAND REP STRAB 22-16230 OF
 EXXON Gus Garcia ADPG Mike Widders TIME 10:30
 TEAM NO. 15 TIDE LEVEL 17 FT DATE 25 / APR / 90
 EST. SUBDIVISION LENGTH: 20 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 90 % Hang 10 % Vert 5 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 5 m M 5 m N 5 m VL 5 m NO 39

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	N	NE	E	SE	SW	W	WS	W	SW	SE	NE	N
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 5PATTIES / TARBALLS 8NEAR 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 SUBSURFACE SEDIMENT		
		OP	OR	OL	OF	NO		NO	NC	SW	W	WS	W	SW	SE	NE	N	SW	SE	NE					N	
1	30					X	.										X						N			P/C/L
2	20					X	.										X						X			P/C/L
3	30					X	.											X					N			P/C/L
4	35					X	.												X				N			P/C/L
5	40					X	.												X				N			P/G/L
6	35					X	.											X					N			P/G/L

COMMENTS

REVIEWED JWDATE 4-27-9

13506 WILLIAM REID

SEGMENT ST/ CH001

STRAH 226-20-16200

DATE 25 / APR 80

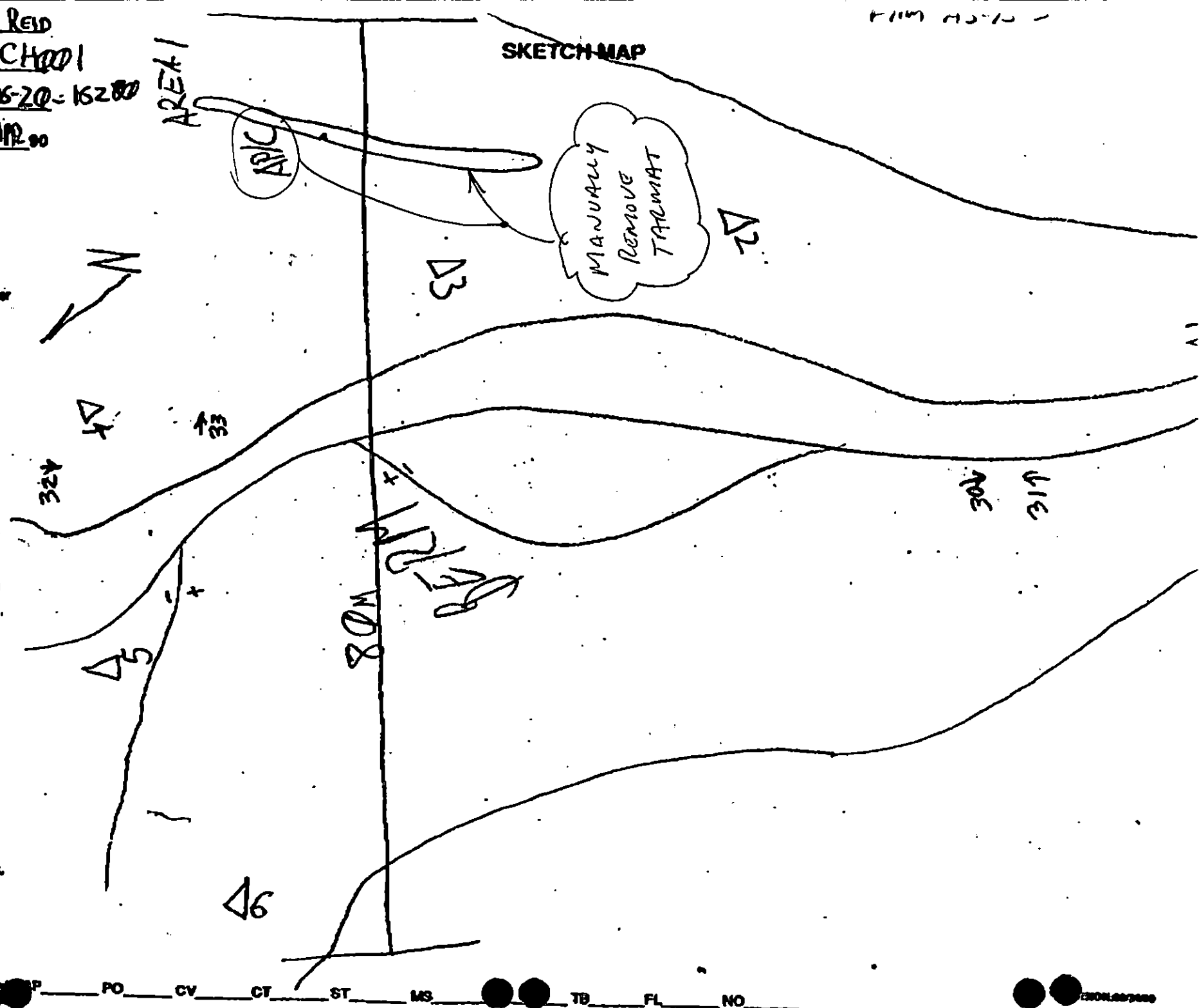
CHECKLIST

- ☐ N Angle
- ☐ Approx. Scale
- ☐ Sup/Sub Body
- ☐ Oil Dist.
- ☐ Visc.
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HML/WL
- ☐ SSZ
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PH Location(s)
- ☐ Photo Location(s)

LEGEND

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

SKETCH MAP



Oil Character Length for MAP

PO

CV

CT

ST

MS

TB

FL

NO

12001.00/000

15/5

ADP&Q MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: SS 33 CS TS AVS SCA MOSE PTA2 REGION: PYS KP, GI K, APMETHOD: Aerial Ground Boat3 DATE: 4/25/9015 HIGH TIDE TIMES: 150021 TEAM RECORDED: TOM CROWE4 START TIME: 102516 HIGH TIDE HTS: +11 FT22 OBSERVERS: MIKE WILSON5 STOP TIME: 111317 LOW TIDE TIMES: 083023 AGENCY: ADF+G (ANASCAT)6 SEGMENT #: CH00118 LOW TIDE HTS: -424 PHOTOS TAKEN: Y (N)

7 STATION #: _____

19 TIDE HT AT SURVEY: +1

Roll #: _____ Frames: _____

8 K-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) MUSC12 SOURCE: Map Loran

Oil: _____

13 LOCATION: EAST COAST OF CHENEGA

Sediment: _____

14 DESCRIPTION: _____

Biological: _____

Water: _____

EXTENT OF OIL

27 SURFACE COVERAGE

SHORELINE				STREAM			
L	W	N	S	L	W	N	S
30	1						

35 CATALOGED ANAD. FISH SKELET Y N

28 SURFACE THICKNESS

4cm							
30cm							

37 CATALOG # 226-20-16280

29 PENETRATION

38 STREAM NAME: _____

30 OVERALL OIL IMPACT: N (VL) L N N39 OIL IN STREAM BED: Y (N)31 OIL TYPE: Pooled Mousse Tar Aliphatic Sticky Stain40 OIL ON STREAM BANKS: (N) N32 OILED DISTRICT: Y (N)41 OIL ON BEACH ADJACENT TO MOUTH: Y (N)
(within 50 meters)33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cove
Lagoon Marsh42 OIL WITHIN 1 MILE OF STREAM: Y N34 WAVE EXPOSURE: High Moderate Low

Where: _____

35 SUBSTRATE TYPE: Bedrock Boulder Cobble X
Gravel X Sand Mud/silt43 ANADROMOUS FISH PRESENT: Y N

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS: SMALL AREA OF TAR MATS ONLY SIGNTHAT THIS BEACH HAS BEEN OILED

15/54

6/54

ADFG MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS LS CS TS AVS SCVA KWS PTA2 REGION: PWS KP, CI K, APMETHOD: Aerial Ground Boat3 DATE: 4/25/9015 HIGH TIDE TIMES: 150021 TEAM RECORDED: TOM CROWL4 START TIME: 102516 HIGH TIDE HTS: +1/422 OBSERVERS: MIKE WILSON5 STOP TIME: 111317 LOW TIDE TIMES: 083023 AGENCY: ADFG (ANASCAT)6 SEGMENT #: CH00118 LOW TIDE HTS: -424 PHOTOS TAKEN: Y (N)

7 STATION #:

19 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 Loran

Oil

13 LOCATION: EAST COAST OF CHENESEA

Sediment

14 DESCRIPTION:

Biological

EXTENT OF OIL

Water

	SHORELINE				STREAM			
	L	Y	N	S	L	Y	N	S
27 SURFACE COVERAGE	30	1						

36 CATALOGED ANAD. FISH SKELET Y N

	SHORELINE				STREAM			
	L	Y	N	S	L	Y	N	S
28 SURFACE THICKNESS	4cm							
29 PENETRATION	5cm							

37 CATALOG # 226-20-16280

38 STREAM NAME:

30 OVERALL OIL IMPACT: N (VL) L N N39 OIL IN STREAM BED: Y (N)31 OIL TYPE: Pooled Mousse Tar Asphaltic Sticky Stain40 OIL ON STREAM BANKS: (N) N32 OILED DEBRIS: Y (N)41 OIL ON BEACH ADJACENT TO MOUTH: Y (N)
(within 50 meters)

42 OIL WITHIN 1 MILE OF STREAM: Y N

33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cove

43 ANADROMOUS FISH PRESENT: Y N

34 WAVE EXPOSURE: High Moderate Low44 ANADROMOUS FISH OBSERVATION
Species Aerial Ground35 SUBSTRATE TYPE: Bedrock Boulder Cobble XGravel X Sand Mud/silt

Species	Aerial	Ground

REMARKS: SMALL AREA OF TAR MAT IS ONLY SIGN
THAT THIS BEACH HAS BEEN OILED

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 biote.

M H Fawcett

16/54

48 PHOTOLOG

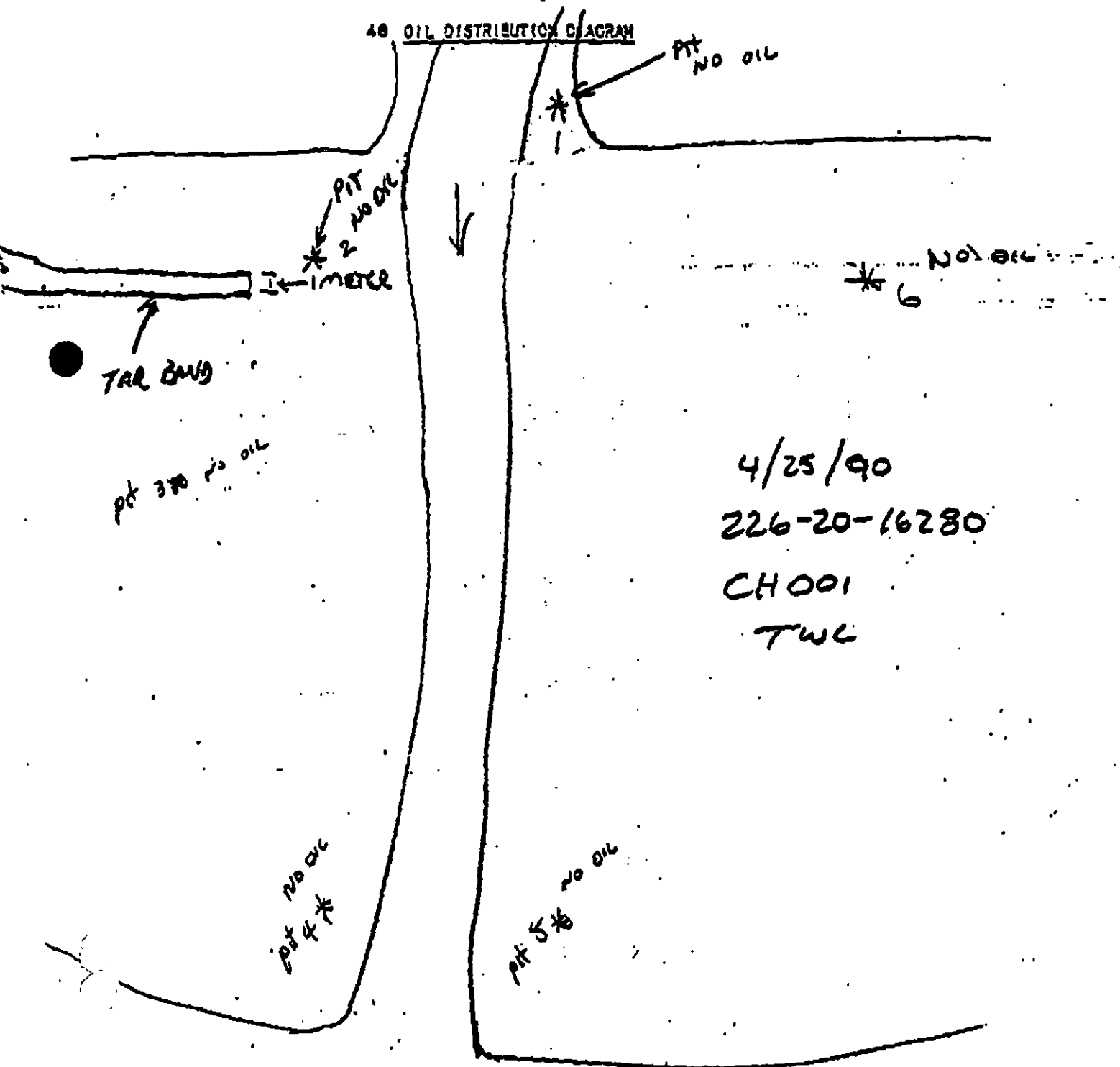
ME(5)

DESCRIPTION

RECOMMEND: MANUAL REMOVAL OF TAR SAND

I agree with recommendation. M H. [Signature]

48 OIL DISTRIBUTION DIAGRAM



4/25/90

226-20-16280

CH001

TWC

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 biota.

M. H. Fawcett

ECOLOGICAL MAP

1A, 1B

SUBDIVISION A
(1 of 2)

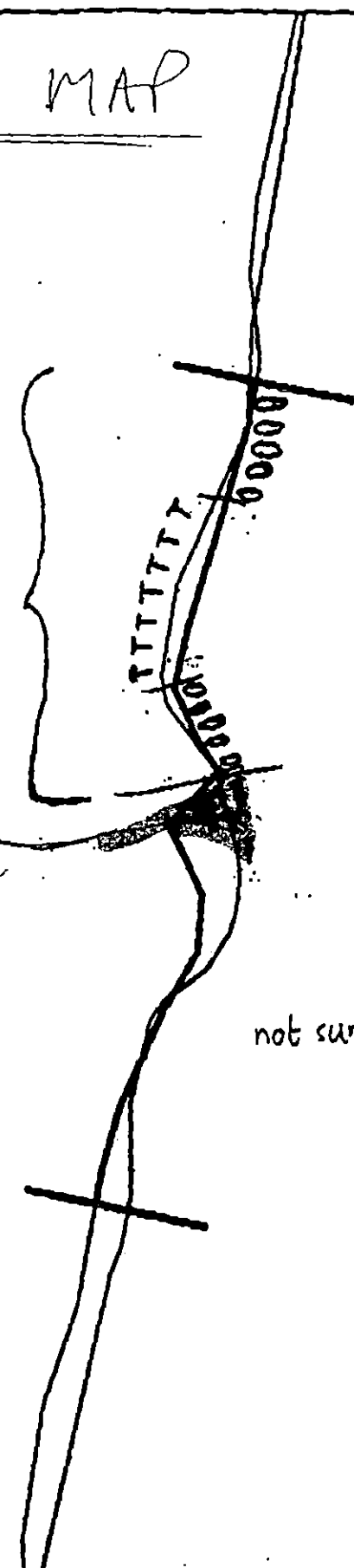
SALMON STREAM
226-20-16280
(P, 2140)

LOCATED WITHIN
SUBDIVISION 2 of 2
CH-01-U

CH-

not surveyed = U SUBDIVISION
(2 of 2)

420 m



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

CH-1

ADEC Segment Length: 785m

Map Key: PWS-35
Name: Norma Bigger
Date: 3/21/90

1991 MAYSAP EVALUATION

SEGMENT: CH 002 SUB: B REGION: PWS SURVEY DATE: 5/5/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) OPEN 5/1 - 7/10, RESTRICTED 7/10 - 9/15

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Lechl Dan Dae Date: 5/21/91

RECOMMENDATIONS:

INITIAL**TAG**

FOSC.

TREATMENT REQUIRED (Y or N)

N

N

YES

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC: DUE TO PROXIMITY OF ANAEROBIC STRATA
MANUALLY PICK UP + LHSOR IN AREA "E"

AND MANUALLY fill D DEPTH OF OIL IN AREA OF
PITS 6+12 ltr

TAG APPROVAL DATE: MAY 21 1991

FOSC APPROVAL DATE: 8/31/91

ADEC

FOSC

EX-100 CDB USCG

EXXON

CHIEF OF STAFF, FOSC

USCG

NOAA

The state will evaluate the need for further treatment.

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 6 SEGMENT CH-002 SUBDIVISION B DATE 5/5/91

ADEC

NAME _____ SIGNATURE _____

☐ NTR

EXXON

NAME Scott A. Nauman SIGNATURE Scott A. Nauman

☒ NTR

No treatment recommended. The surface oil found was very limited in extent and was either picked up (where possible) or broken up by the survey team. Only 2 of 12 pits showed subsurface oil and these were LOR/MOR in isolated patches. Rich intertidal growth.

LANDMANAGER ADEC

NAME TOM CROWE OF ADFG SIGNATURE P. Crowe

☒ TREATMENT RECOMMENDED

ANADROMOUS STREAM, SUBSISTANCE USE

☐ NTR THIS STREAM HAS CLEANED UP CONSIDERABLY SINCE LAST SUMMER. THE FACT STILL REMAINS THAT THERE IS STILL OIL CONTAMINATION PERSISTING ON THE BANKS AND BEACH AREA. THIS AREA (E) (PITS #6, 12) COULD STILL USE A THOROUGH TREATMENT OF MANUAL TILTING AND REMOVAL.

USCG/NOAA

NAME CWO SPURR / R. HOFF SIGNATURE R. Spurr / Rebecca Hoff

☒ NTR Small patches of asphalt were picked up or broken apart. Remaining oil is in the upper intertidal zone + ^{should} ~~not~~ not represent a source to biological resources

FIELD SHORELINE COMMENT SHEET

SEGMENT AS CH 2 SUBDIVISION: _____ SITE: _____ DATE 5-5-91

USCG

NAME _____ SIGNATURE _____

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

ADEC

NAME _____ SIGNATURE _____

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

LAND MANAGER

NAME CHARLES SELADOFF SIGNATURE Charles Selanoff

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

Due to the fact that heavy oiling was observed along the side of the stream, this area should be tilled with a lot of manual raking and pick-up.

EXXON

NAME _____ SIGNATURE _____

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

PAGE 1 OF 2

Revised 25 5/11

PAGE 2 OF 2

DATE 05/05/91

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

OG COMMENTS:

reviewed 5/10/91 KG
Reviewed 5/11



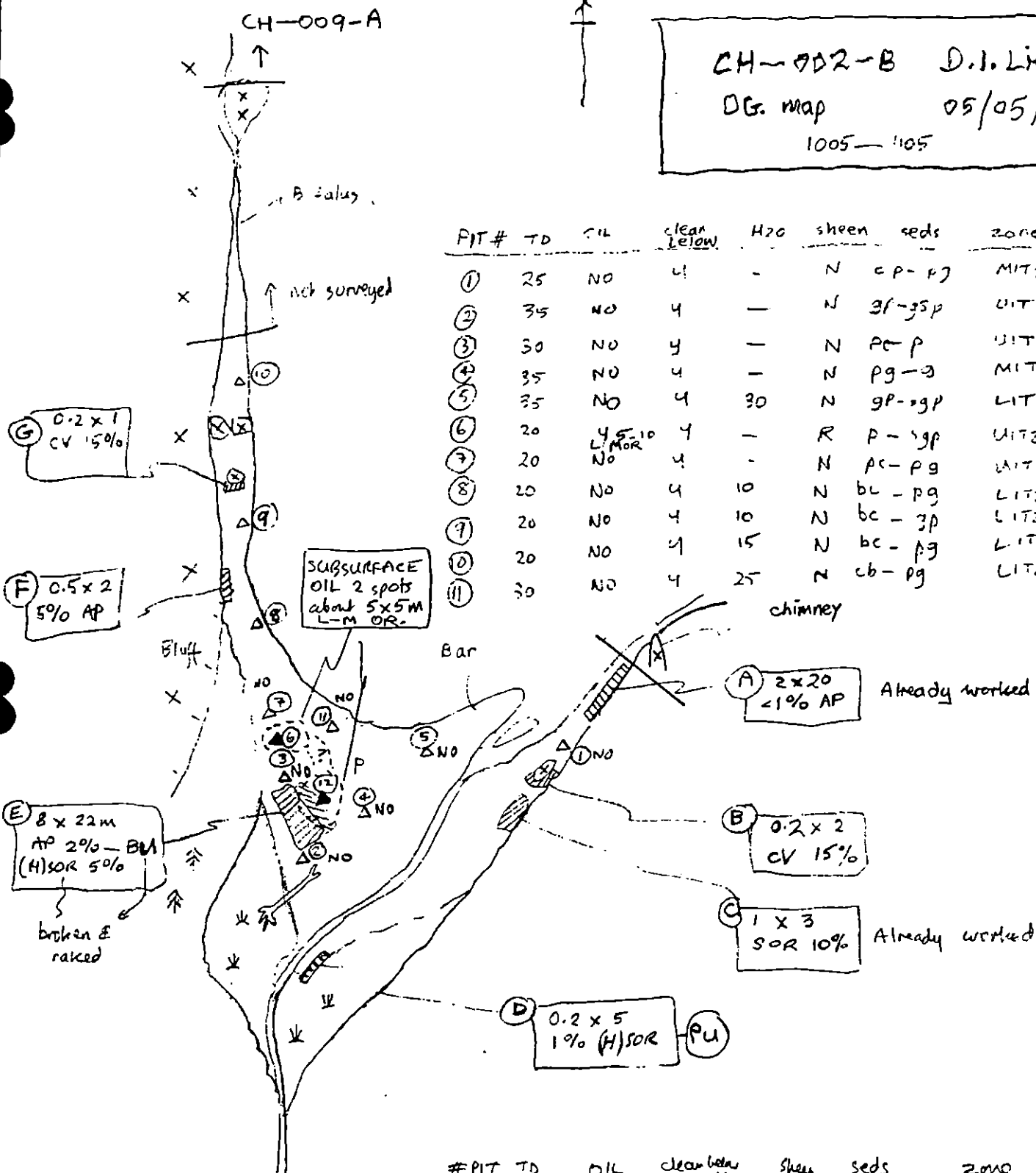
CH-002-B D.I. Little

DG. map

05/05/91

1005-1105

PIT #	TD	OIL	clear below	H2O	sheen	seeds	zone
①	25	NO	4	-	N	cp-pg	MITZ
②	35	NO	4	-	N	gf-gsp	UITZ
③	30	NO	4	-	N	pc-p	UITZ
④	35	NO	4	-	N	pg-g	MITZ
⑤	35	NO	4	30	N	gp-gp	LITZ
⑥	20	4.5-10 L/MOR	4	-	R	p-gp	UITZ
⑦	20	NO	4	-	N	pc-pg	UITZ
⑧	20	NO	4	10	N	bl-pg	LITZ
⑨	20	NO	4	10	N	bc-gp	LITZ
⑩	20	NO	4	15	N	bc-pg	LITZ
⑪	30	NO	4	25	N	cb-pg	LITZ



#PIT	TD	OIL	clear below	H2O	sheen	seeds	zone
⑫	20	4.5-10 L/MOR	4	-	S	pg-gsp	MITZ

Note: location A
is in CH-002-A

reviewed 5/10/91 KG

Revised 5/11/91

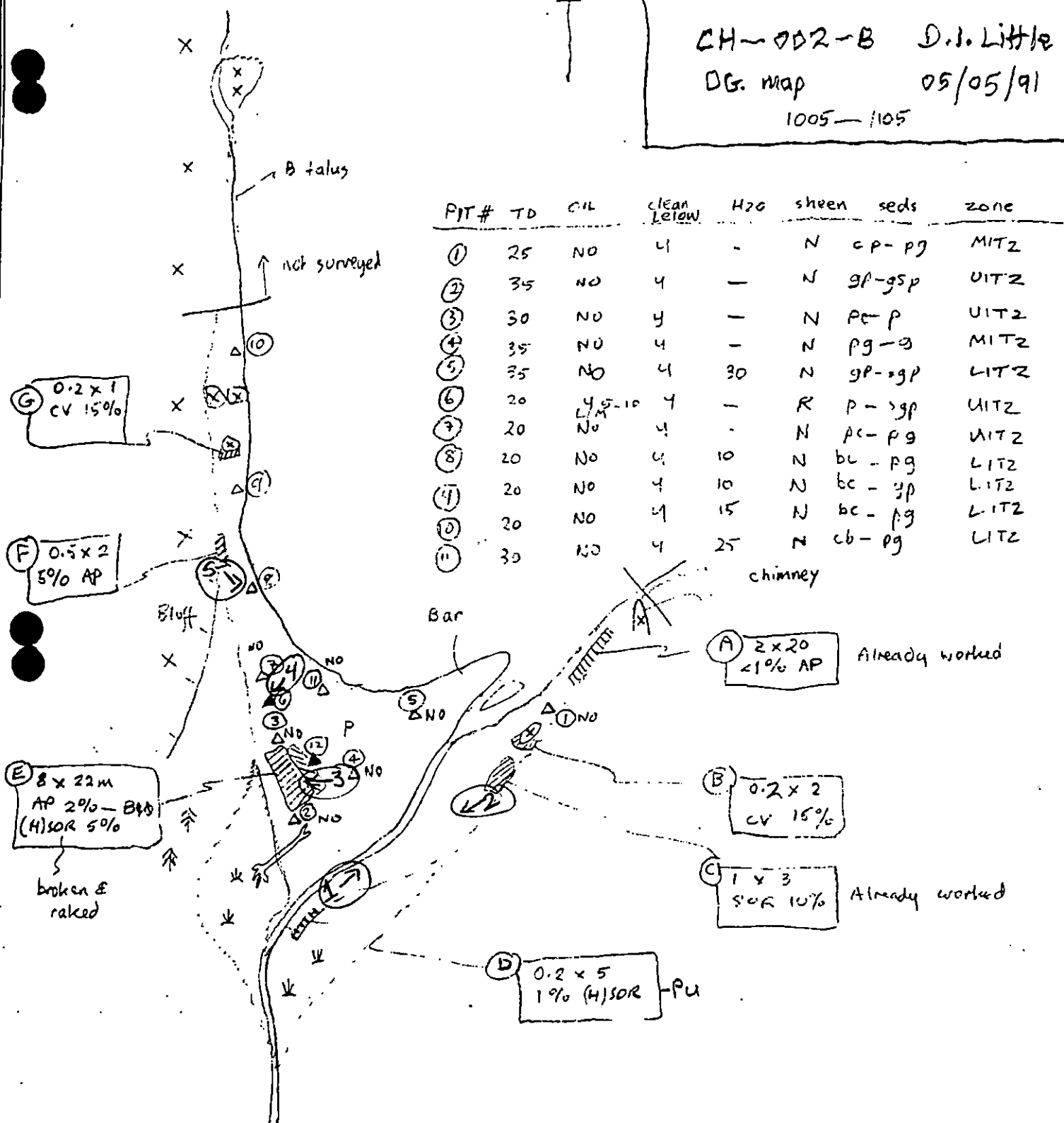
Photo locations

Mapap 6-07

#1-5



CH-002-B D.J. Little
DG. map 05/05/91
1005-1105



⑫ 20 4.5-10 4 - N pg-gsp MITZ
4 MOR

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6 DATE 5/5/91
 SEGMENT # CH-002- TIDAL HEIGHT (Range) + 4 1/4 to + 2 3/4 ft
 SUBDIVISION B BIOLOGIST T.A. Schroeder
 SEA STATE light chop WIND SPEED/DIRECTION variable 5 mph
 PHOTOGRAPHS: ROLL # FRAME #

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

Entire beach area is very low in plant and animal life production. Beach is light shale and sand and is unstable. Primary biological communities are to the east and west of the main meandering stream beach area, where larger rocks are present and provide a more stable substrate for organisms to grow.

If any work is to be conducted in this area, the beach areas to the east and west should be protected. Access should minimize impact on scarce mussel beds on flats as these are the only organisms present in the LITZ which may repopulate and stabilize the beach area.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

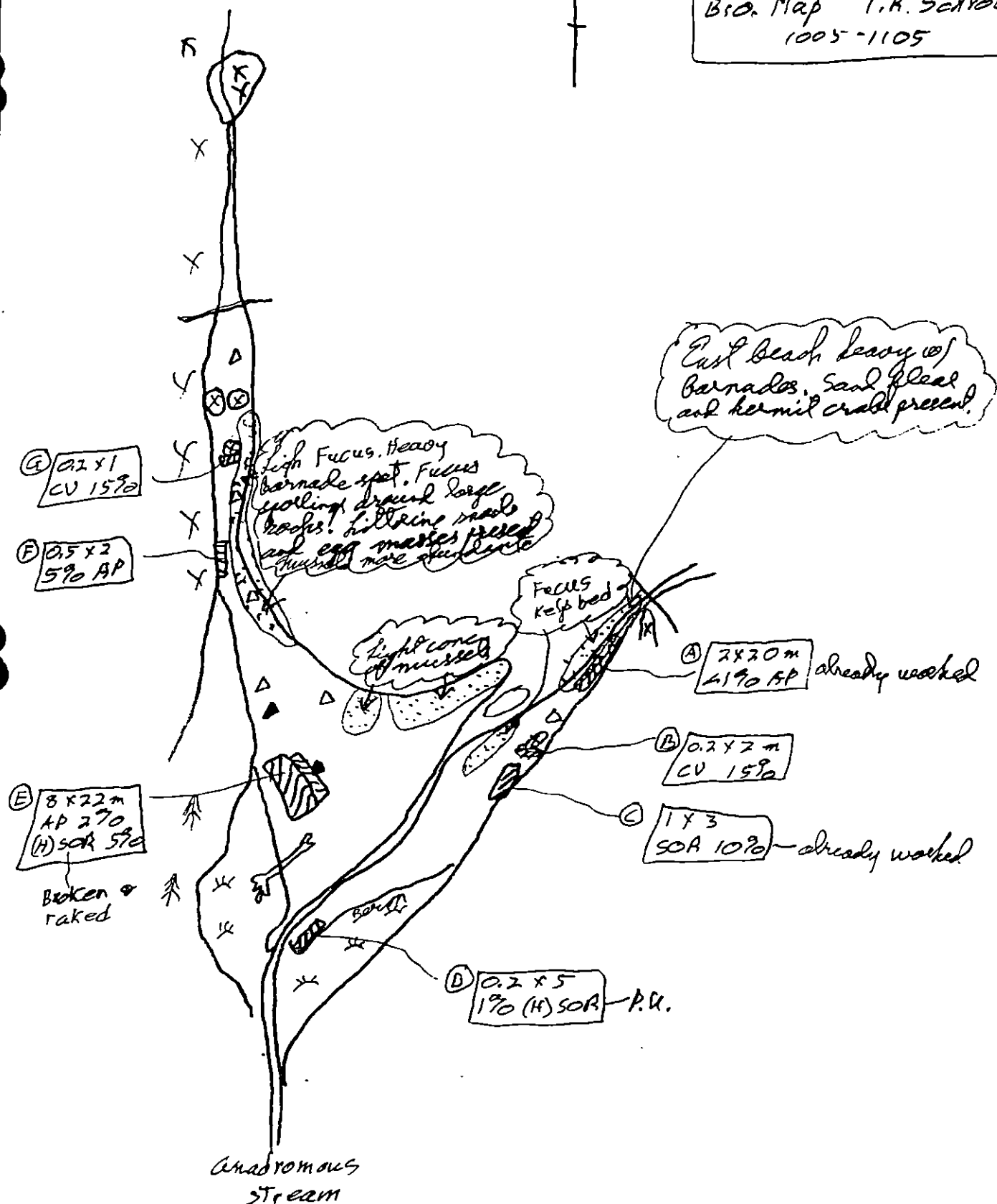
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/Kittiwakes	1 gulls	2	
Shorebirds			
Corvids	1 (Raven)	1	
Other Birds	1	8 (finches)	

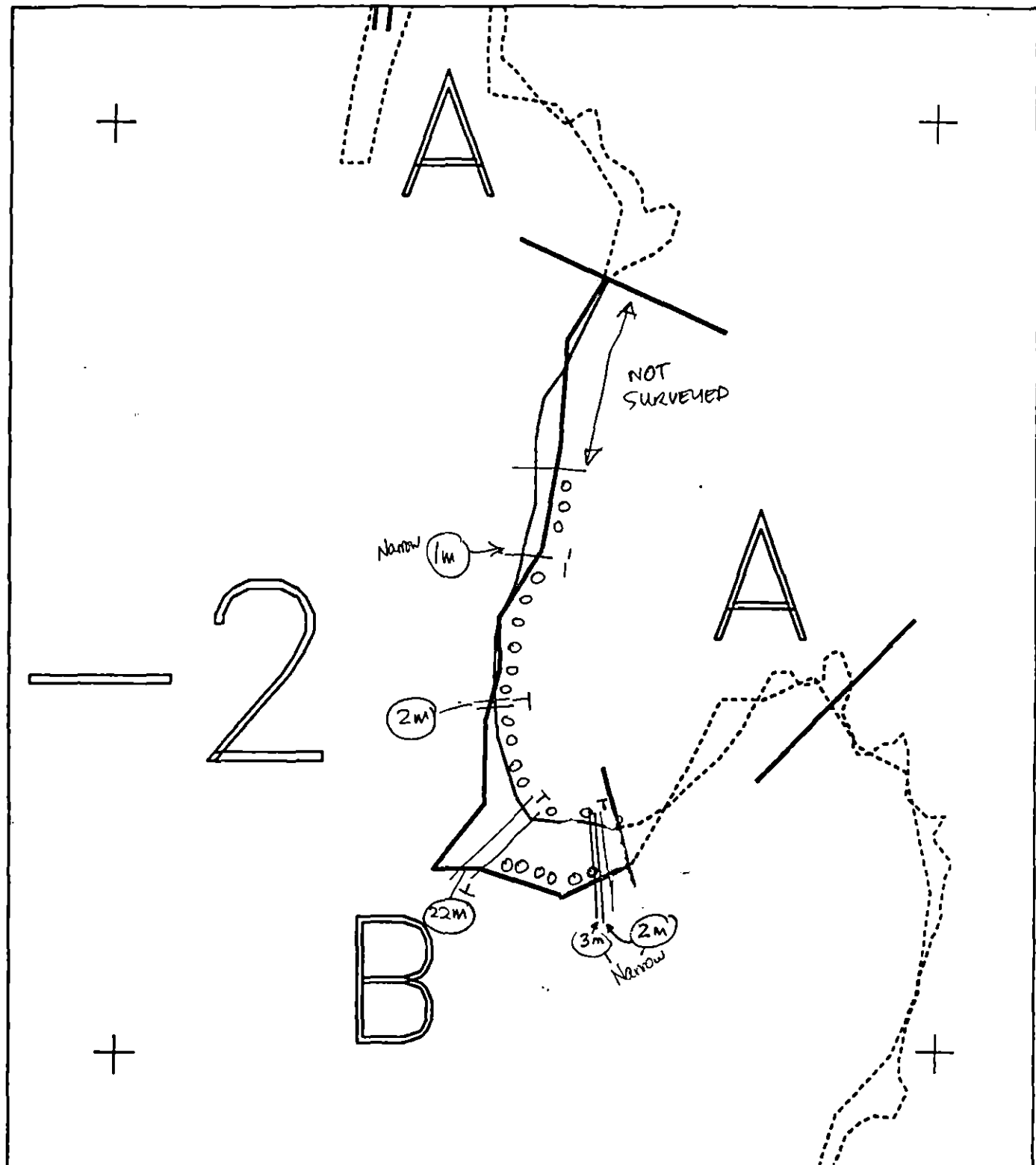
LAND MAMMALS

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

Shoreline subdivision map showing important biological features attached.

CH-002-B 5/5/91
Bio. Map T.A. Schroeder
1005-1105





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

CH002 B

ADEC Subsegment Length: 800m
 METERS

0 100 200

AK State Plane Zone 4
 ps8002b



Subdivision Field Map

Map Key: PWSCH002B

Name: DAVID LITTLE

Date: 05/05/91

Data Entered:

revised 5/10/91 KG

1991 MAYSAP EVALUATION

SEGMENT: CH 002 **SUB:** A **REGION:** PWS **SURVEY DATE:** 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ **Date:** _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

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

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 4 SEGMENT CH009 - A SUBDIVISION A DATE 1/17/91

ADEC

NAME Dianne Munsen SIGNATURE _____

☒ NTR ☐ Treatment Recommended

Coats and stains on undersides of cobbles, small boulders.
Tarballs were found and removed

EXXON

NAME LARRY D. CLSON SIGNATURE Larry D. Clson

☒ NTR

Survey team located very little oil. Vess crew removed
1 small bag of tar balls. No further work to do on this
area.

LANDMANAGER

NAME LARRY EVANOFF OF CVC SIGNATURE LM SN

☒ NTR ☐ TREATMENT RECOMMENDED

PORTION OF SEGMENT NOT SURVEYED BECAUSE PREVIOUS
SURVEY SHOWED NO OIL. AREA SURVEYED WE FOUND
TAR BALLS/PATTIES — ALL WERE PICKED UP. STAINS
UNDER ROCKS REMAIN.

USCG/NOAA

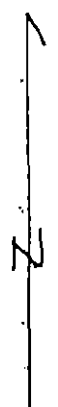
NAME JERRY SCHULTZ SIGNATURE Jerry Schultz

☒ NTR

REMOVED WHAT WAS RECOVERABLE, NO FURTHER ACTION NEEDED

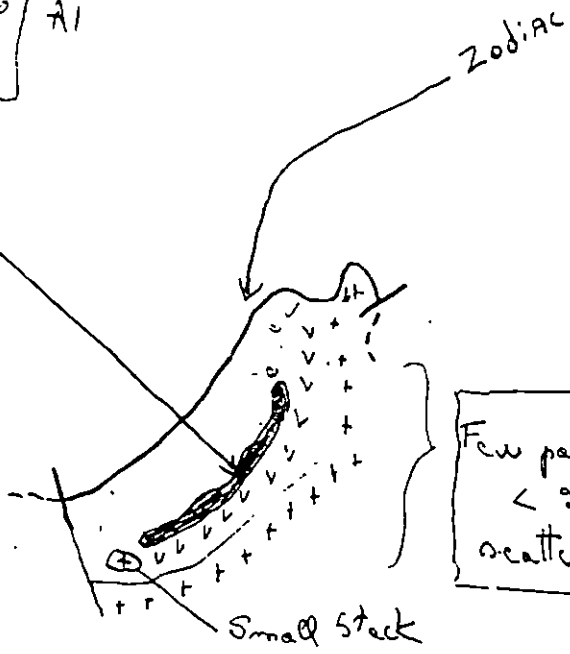
Reviewed 5.4 + 7
REVIEWED: F.U 5.5/14

Og Sketch Map	Legend
CH002-A	[+] Bedrock
2M Samples	[V] Angular Boulder/Cobble Talus
1 MAY 91	[O] Bd/cb over fines
0627-0650	



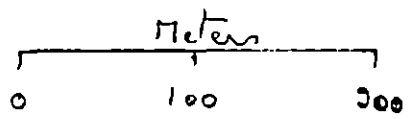
Few staimon the underside of
cb / bd w. thin sand.

$\angle$ SOR $< 10^\circ$ AI
1 x 100



Few patches H SOR
< 20 cm diam
scattered throughout subdivision

P. L.



HAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 4 DATE/TIME May 1, 1991 0630 => 0655
 SEGMENT # CH002 TIDAL HEIGHT (Range) +5.5 => +4.5
 SUBDIVISION A BIOLOGIST JIM BARRY
 STATE Cal Wind SPEED/DIRECTION Variable, 5 kt., Cloudy

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

A1 Oiled Site (LSOR) located on the high zone of a high angle beach with angular cobble and boulders. This is a medium exposure site. The oiled area is slightly (ca 1 ft) above the upper extent of the Fucus zone. Black lichen, mosses, and filamentous green algae (Urospora?) are present at the oiled site, as well as barnacles (sparse). Littorines also are present in moderate densities. Below the oiled area, Fucus is denser, as are other key species. The lowest zone has fairly high cover of Fucus and other algae, including several species of red and green algae. Recruitment below the oiled area is evident for Fucus, barnacles, littorines, limpets, and red and green algae.

MANUAL PICK-UP PERFORMED DURING SURVEY. Additional cleanup, if recommended, will not adversely impact the intertidal biota in the vicinity of the oiled area.

Summary of Biological Characteristics of CH002-A

This site is located at one side of a small bay with a stream entering from the upland. The substratum grades from exposed headlands with rich attached biota to a cobble beach near the stream outlet. The headlands have high cover of Fucus, barnacles, limpets, mussels, and associated species in the middle and upper zones. The lower zones have high cover of red, green and brown algae, as well as sea stars, urchins, crabs, etc. Towards the inshore end of the subdivision, the diversity and abundance of species decrease, as the site become less exposed and more influenced by the disturbance of cobble scour.

WILDLIFE OBSERVATIONS - Completed on all subdivisions

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	Eagle Nest on Map Observed During Survey (0 eagles)		
Seabirds			
Waterfowl	1	3	
Gulls/Kittiwakes	1	2	
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

CH002-A Biological Report, continued

List of Species from CH002-A

Marine Plants

1. Diatoms, Blue Greens
2. Green Algae - Chlorophyta
Enteromorpha sp., Ulva sp., Urospora sp.
3. Brown Algae - Phaeophyta
Agarum fimbriatum, Fucus distichus, Hildenbrandia sp., Ralfsia sp.,
Syctosiphon lomentaria
4. Red Algae - Rhodophyta
Calliarthron sp., Corallina sp., Cumagloia andersonii, Halosaccion
glandiforme, Lithothamnion sp., Mastocarpus sp., Membranoptera dimorpha,
Odonthalia floccosa, Palmaria palmata, Rhodomela larix,

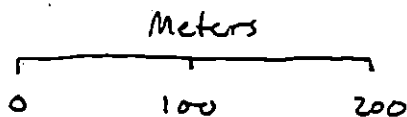
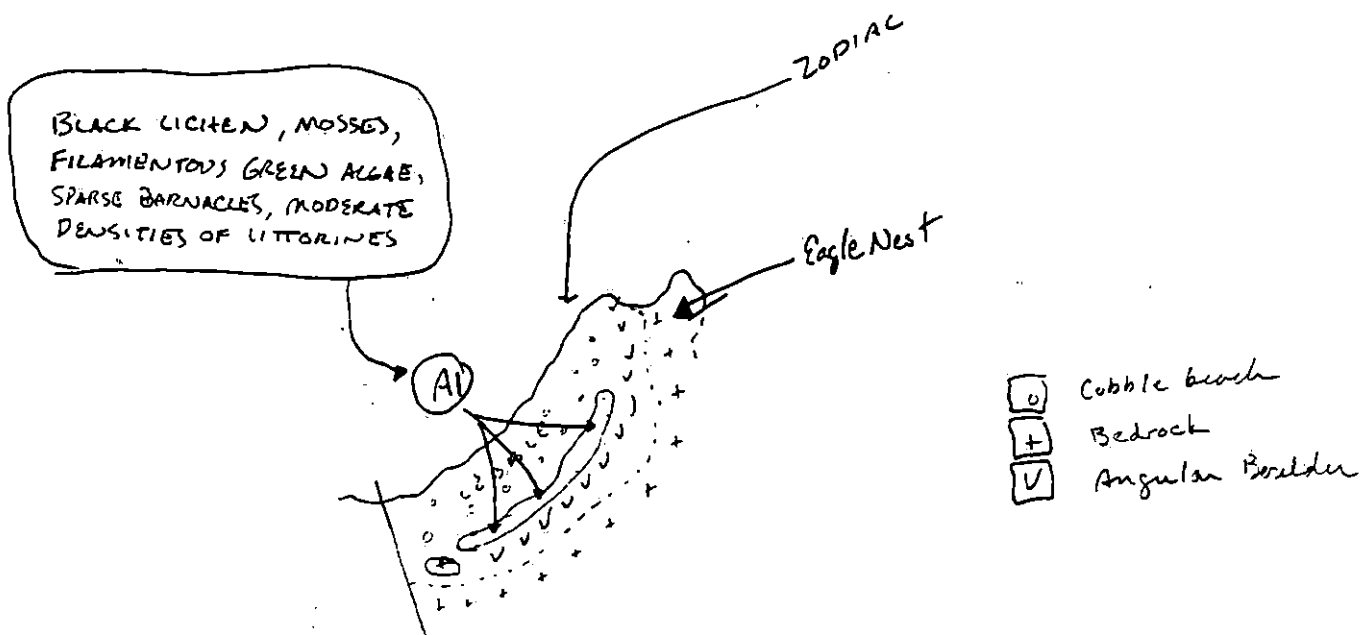
II. Marine Animals

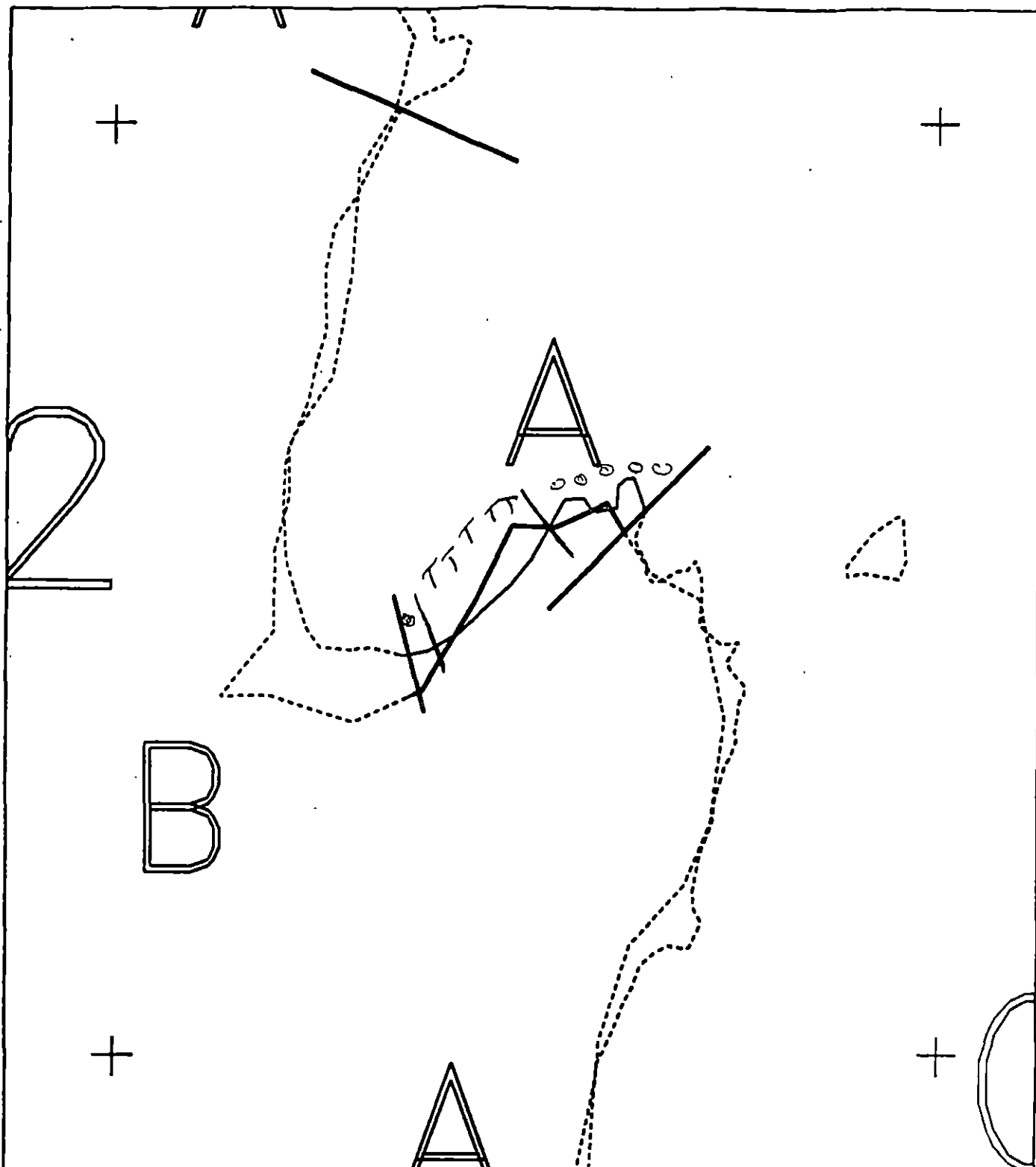
1. Sponges - Porifera
Halichondria sp.
2. Anemones
Anthopleura artemesia, Epiactis ritteri, Metridium senile, Urticina
crassicornis,
3. Hydroids - Sertularidae - Sertularella?
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms - Emplectonema gracile
8. Polychaete Worms
Nereidae - Nereis spp.
Serpulidae
Serpula sp., Crucigera sp.,
Spirorbidae - Spirorbis sp.
9. Peanut worms - Sipunculids - Phascolosoma agassizii
10. Crustaceans
 - a. Amphipods - Orchestia sp.?
 - b. Barnacles
Balanus glandula, Chthamalus dalli, Semibalanus cariosus
 - c. Crabs
Hemigrapsus oregonensis, Paguridae (hermit crabs), Oregonia gracilis.
11. Mollusca
 - a. Chitons - Mopalia mucosa, Tonicella lineata,
 - b. Snails - Gastropods
Littorina scutulata, L. sitkana, Nucella lamellosa, N. lima
 - c. Limpets
Lottia digitalis, L. persona
 - e. Mussels and Clams - Mytilus edulis
12. Echinoderms
 - a. Brittle Stars - Ophiolus sp., ?
 - b. Sea stars
Dermasterias imbricata, Evasterias truscheli, Leptasterias hexactis,
Pycnopoda helianthoides
 - d. Urchins - Strongylocentrotus droebachiensis
13. Bryozoans - Membranipora sp., Schizoporella sp.
15. Fishes
Cottidae - unknown species
Liparidae - Liparis calliodon
Stichaeidae - Xiphister atropurpureus, X. mucosus

BIO SKETCH MAP

CH002-A

5-1-91





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

CH002 A
ADEC Subsegment Length: 230m
METERS
AK State Plane Zone 4
pch002a



Subdivision Field Map
Map Key: PWSCH002A
Name: CH002 A
Date: MAY 1 / 1990
Data Entered:

Reviewed 5.4 74
Reviewed: F.W. 5/5/90

1991 MAYSAP EVALUATION

SEGMENT: CH 002 SUB: A REGION: PWS SURVEY DATE: 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Charles E. Jones

Date: 5/10/91

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: 5/10/91

FOSC APPROVAL DATE: 5/15/91

ADEC

FOSC

EXXON

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

USCG

NOAA

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

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

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

MAYSAP FIELD SHORELINE COMMENT SHEET

CH002-A

1/7

TEAM NO. 4 SEGMENT CH002 - A SUBDIVISION A DATE 1/17/91

ADEC

NAME Dianne Munson SIGNATURE _____

☒ NTR ☐ Treatment Recommended

Coats and stains on undersides of cobbles, small boulders.

Tarballs were found and removed

EXXON

NAME LARRY D. OLSON SIGNATURE Larry D. Olson

☒ NTR Survey team located very little oil. VECO crew removed 1 small bag of tar balls. No further work to do on this area.

LANDMANAGER

NAME LARRY EVANOFF OF CVC SIGNATURE LM SN

☒ NTR ☐ TREATMENT RECOMMENDED

PORTION OF SEGMENT NOT SURVEYED BECAUSE PREVIOUS SURVEY SHOWED NO OIL. AREA SURVEYED WE FOUND TAR BALLS/PATTIES — ALL WERE PICKED UP. STAINS UNDER ROCKS REMAIN.

USCG/NOAA

NAME JERRY SCHULTZ SIGNATURE Jerry Schultz

☒ NTR

REMOVED WHAT WAS RECOVERABLE, NO FURTHER ACTION NEEDED

PAGE 2 OF 7

Reviewed 5.4 Gy
REVIEWED: F.W 5/1/6.

00 Sketch Map

Legend

CH002-A

2M Samples

1 MAY 91

0627-0650

[+/-] Bedrock

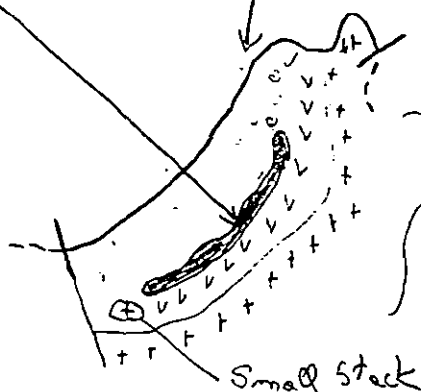
[V] Angular
Boulder/Cobble
Talus

[O] Bd/cb over
fines

Few stains on the underside of
cb / bd within band.

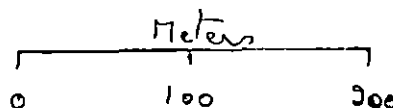
< SOR < 1% AI
1 x 100

Zodiac



Few patches H SOR
< 20 cm diam
scattered throughout subdivision

P. L.



MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 4 DATE/TIME May 1, 1991 0630 => 0655
SEGMENT # CH002 TIDAL HEIGHT (Range) +5.5 => +4.5
DIVISION A BIOLOGIST JIM BARRY
STATE Cala WIND SPEED/DIRECTION Variable, 5 kt., Cloudy

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

A1 Oiled Site (LSOR) located on the high zone of a high angle beach with angular cobble and boulders. This is a medium exposure site. The oiled area is slightly (ca 1 ft) above the upper extent of the Fucus zone. Black lichen, mosses, and filamentous green algae (Urospora?) are present at the oiled site, as well as barnacles (sparse). Littorines also are present in moderate densities. Below the oiled area, Fucus is denser, as are other key species. The lowest zone has fairly high cover of Fucus and other algae, including several species of red and green algae. Recruitment below the oiled area is evident for Fucus, barnacles, littorines, limpets, and red and green algae.

MANUAL PICK-UP PERFORMED DURING SURVEY. Additional cleanup, if recommended, will not adversely impact the intertidal biota in the vicinity of the oiled area.

Summary of Biological Characteristics of CH002-A

This site is located at one side of a small bay with a stream entering from the upland. The substratum grades from exposed headlands with rich attached biota to a cobble beach near the stream outlet. The headlands have high cover of Fucus, barnacles, limpets, mussels, and associated species in the middle and upper zones. The lower zones have high cover of red, green and brown algae, as well as sea stars, urchins, crabs, etc. Towards the inshore end of the subdivision, the diversity and abundance of species decrease, as the site become less exposed and more influenced by the disturbance of cobble scour.

WILDLIFE OBSERVATIONS - Completed on all subdivisions

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	Eagle Nest on Map Observed During Survey (0 eagles)		
Seabirds			
Waterfowl	1	3	
Gulls/Kittiwakes	1	2	
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

CH002-A Biological Report, continued

List of Species from CH002-A

Marine Plants

1. Diatoms, Blue Greens
2. Green Algae - Chlorophyta
Enteromorpha sp., Ulva sp., Urospora sp.
3. Brown Algae - Phaeophyta
Agarum fimbriatum, Fucus distichus, Hildenbrandia sp., Ralfsia sp.,
Syctosiphon lomentaria
4. Red Algae - Rhodophyta
Calliarthron sp., Corallina sp., Cumagloia andersonii, Halosaccion
glandiforme, Lithothamnion sp., Mastocarpus sp., Membranoptera dimorpha,
Odonthalia floccosa, Palmaria palmata, Rhodomela larix,

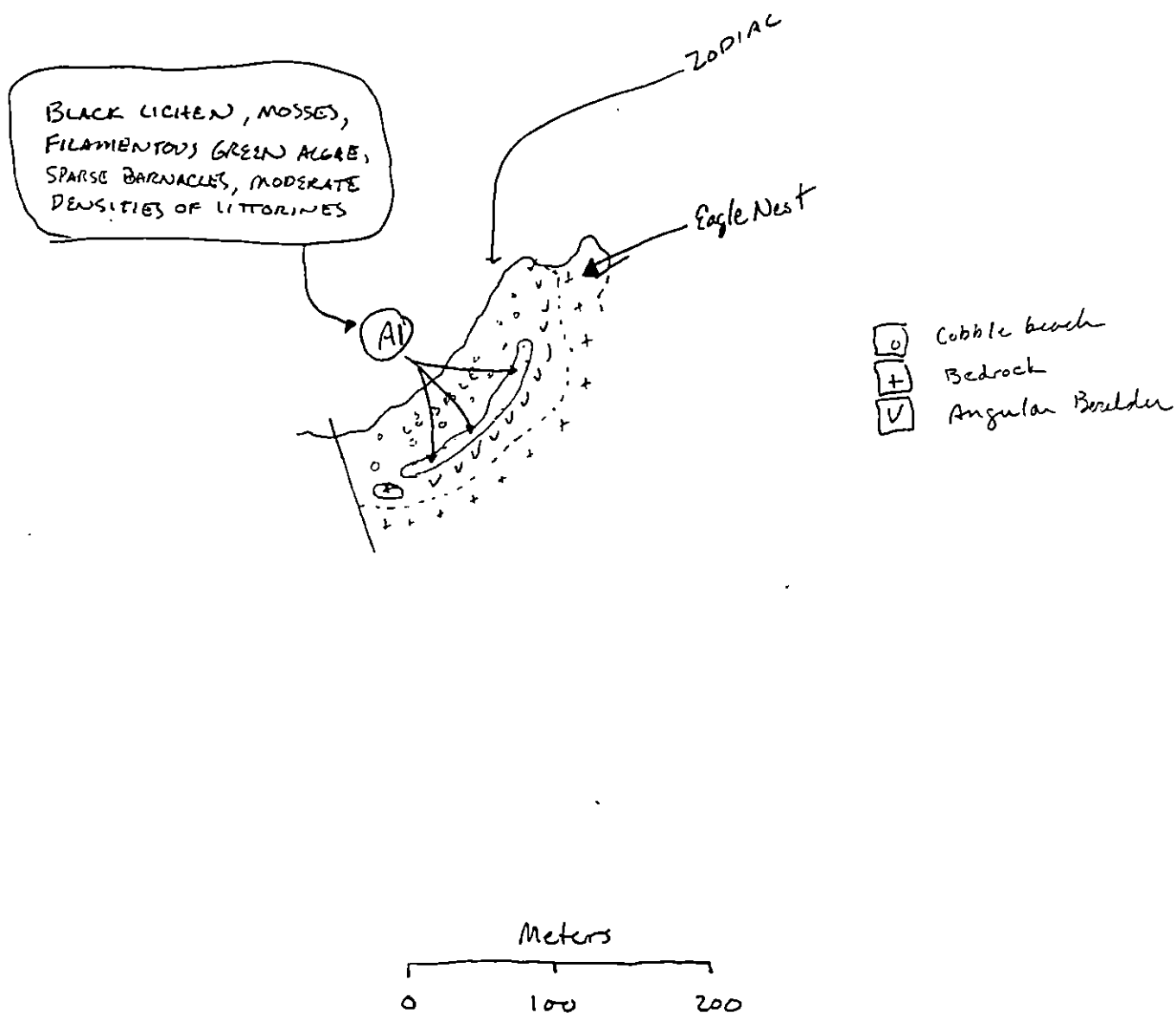
II. Marine Animals

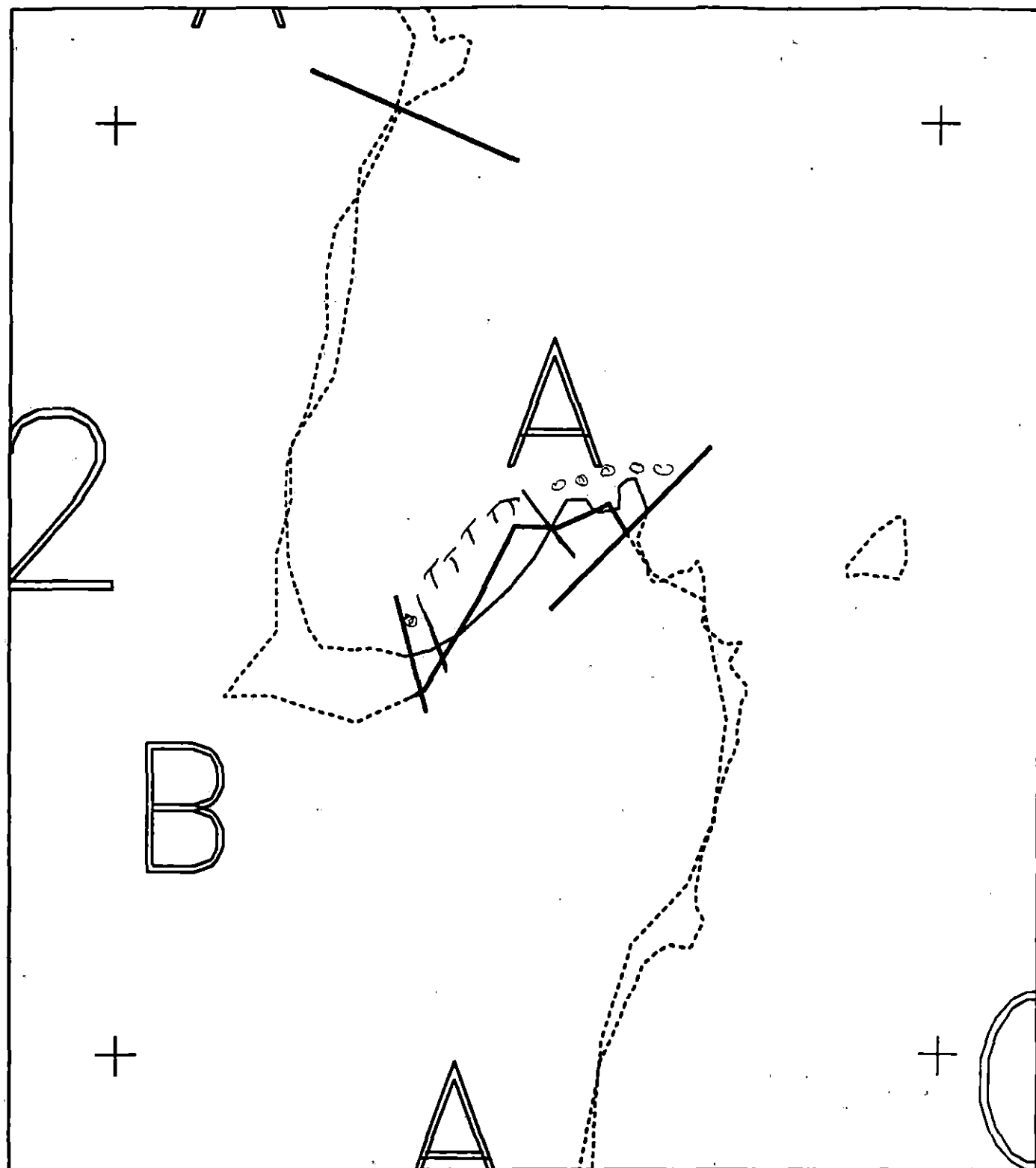
1. Sponges - Porifera
Halichondria sp.
2. Anemones
Anthopleura artemesia, Epiactis ritteri, Metridium senile, Urticina
crassicornis,
3. Hydroids - Sertularidae - Sertularella?
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms - Emplectonema gracile
8. Polychaete Worms
Nereidae - Nereis spp.
Serpulidae
Serpula sp., Crucigera sp.,
Spirorbidae - Spirorbis sp.
9. Peanut worms - Sipunculids - Phascolosoma agassizii
10. Crustaceans
 - a. Amphipods - Orchestia sp.?
 - b. Barnacles
Balanus glandula, Chthamalus dalli, Semibalanus cariosus
 - c. Crabs
Hemigrapsus oregonensis, Paguridae (hermit crabs), Oregonia gracilis,
11. Mollusca
 - a. Chitons - Mopalia mucosa, Tonicella lineata,
 - b. Snails - Gastropods
Littorina scutulata, L. sitkana, Nucella lamellosa, N. lima
 - c. Limpets
Lottia digitalis, L. persona
 - e. Mussels and Clams - Mytilus edulis
12. Echinoderms
 - a. Brittle Stars - Ophiolus sp., ?
 - b. Sea stars
Dermasterias imbricata, Evasterias truscheli, Leptasterias hexactis,
Pycnopoda helianthoides
 - d. Urchins - Strongylocentrotus droebachiensis
13. Bryozoans - Membranipora sp., Schizoporella sp.
15. Fishes
Cottidae - unknown species
Liparidae - Liparis calliodon
Stichaeidae - Xiphister atropurpureus, X. mucosus

BIO SKETCH MAP

CH002-A

5-1-91



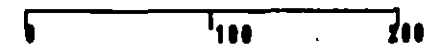


XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

CH002 A

ADEC Subsegment Length: 238m

METERS



AK State Plane Zone 4
psb002a



Subdivision Field Map

Map Key: PWSCH002A

Name: CH002 A

Date: MAY 1 / 1991

Date Entered:

reviewed 5.4 98

REVIEWED: F.W. 5/5/91

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 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 unloiled biota and substrate.

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

TAG APPROVAL DATE

ADEC Art Weiner

EXXON Andy Blair

NOAA B. B. B. B.

USCG G.A. REITER

FOSC

Date

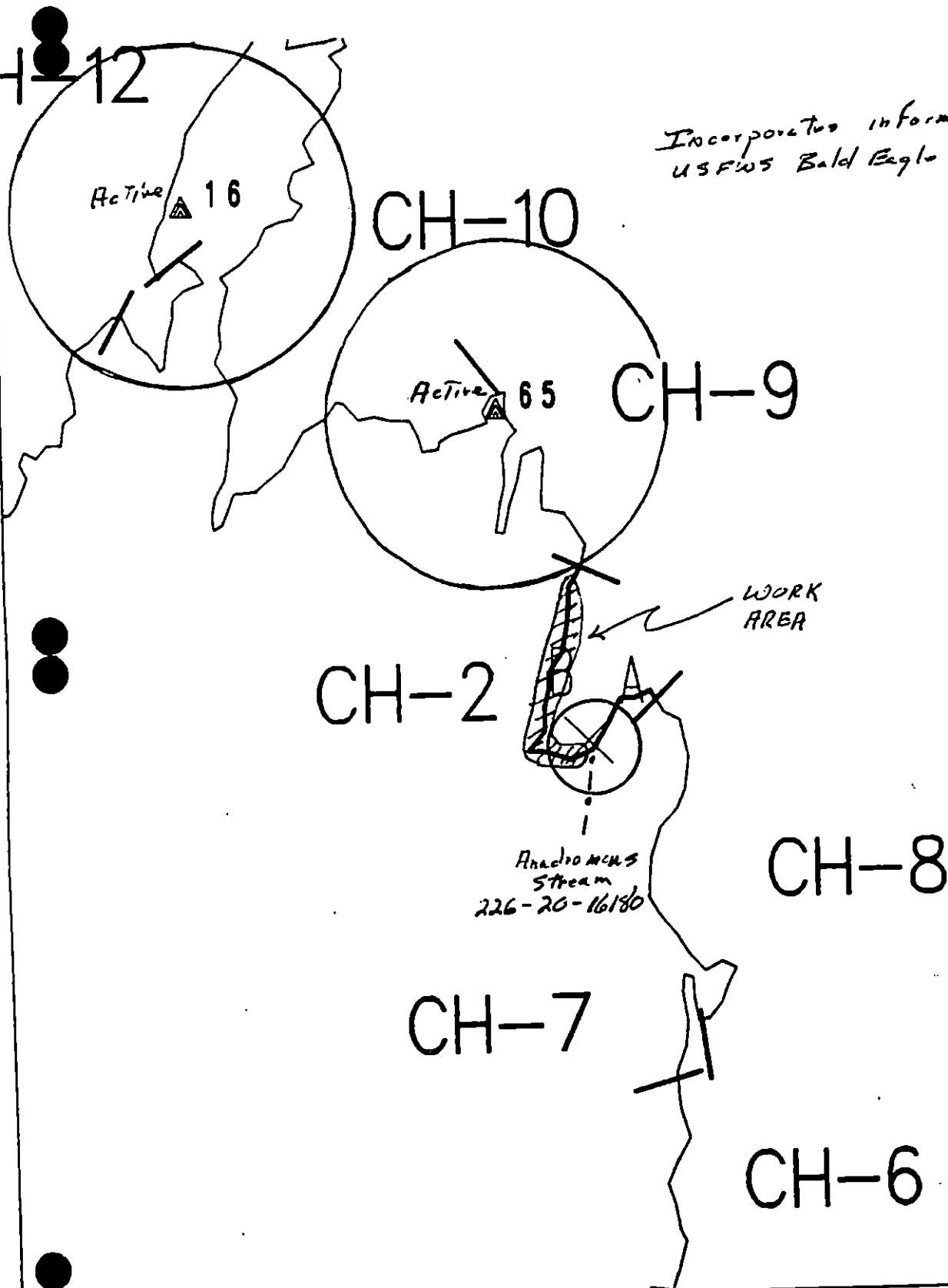
MAY 29 1990

Prepared by

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 |

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 uncoiled biota and substrate.

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

SHPO SIGNATURE: Charles E. Homan 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:

<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: 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.

Revised, See Constraints Addendum 5/28/90 with

TAG COMMENTS:

TAG APPROVAL DATE: 4/14/90

ADEC John Bauer EXXON Andy Tenn FOSC: DATE: 5-18-90

NOAA Barl Wesscott USCg M. J. Hall

NOTIFY EVE 24 hrs IN ADVANCE OF WORK

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 uncoiled biota and substrate.

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

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

COMMENTS: 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: 4/12/90

ADEC John Bauer

EXXON Andy Tenn

NOAA Burl Wescott

USCG M. J. Hall

FOSC:

DATE: 5-18-90

NOTIFY CVC 24 hrs in advance of work

(19)

RTE
INDEX

REVISION: 000000

SKETCH MAP

OG DLITTL
SEGMENT ST/ ●●
SUBDIVISION B
DATE 1 / 4 90

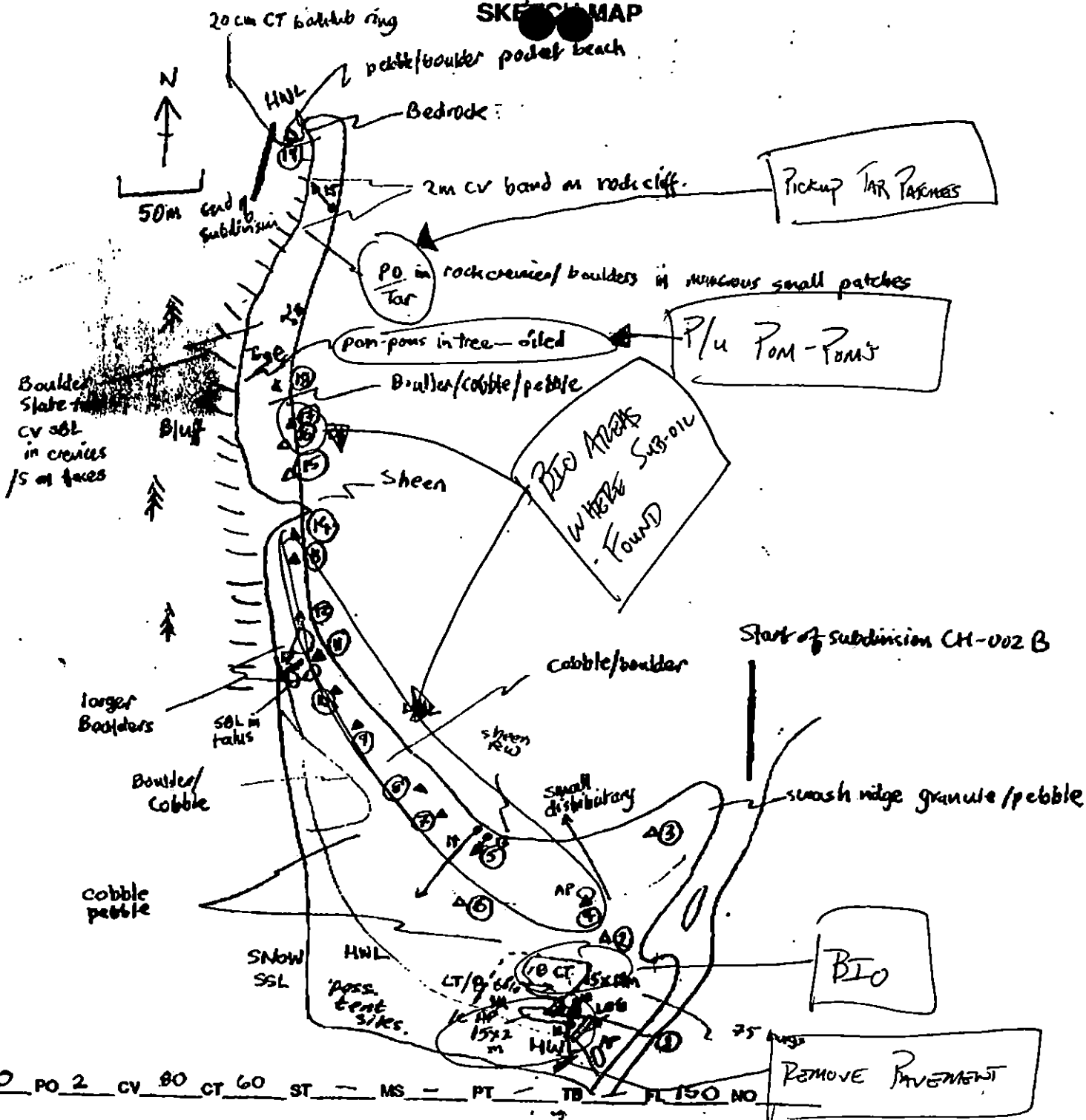
CHECKLIST

- / M Arrow
- / Approx. Scale
- / Seg/Sub Bdry
- / Oil Dial
- / Width
- / Length
- / % Cover
- / Substrate Character
- / Est. HWA/LWA
- / SSL
- / Profile Location(s)
- / Profile(s)
- / Pit Location(s)
- / Photo Location(s)

LEGEND

- 1 ▲
- 2 ▲
- 1/2 - No Subsurface Oil
- 2/2 - Subsurface Oil
- CT/C
- Continuous Distribution
- CT/B
- Broken Distribution
- CT/P
- Vegety Distribution
- CT/S
- plashed Distribution
- 2/2
- Red Vegetation
- 1 ●→
- into location, direction, and number

Character Length (m): AP 20 PO 2 CV 80 CT 60 ST — MS — PT — TB — FL 150 NO —



CH-9

(1)

end of subdivision CH-002-B

start of subdivision
CH-002-B

CH

XXXX Wide

//// Medium

--- Narrow

TTTT Very light

CH-2

ADEC Segment Length: 836m

Map Key: PWS-48

Name: A. LITTLE

Date: 4/1/90

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 unoiled biota and substrate.

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

SHPO SIGNATURE: Charles J. Hoffman 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:

<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: 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 ANDY TOL
NOAA Burt Wescott
USCG M.J. HALL

FOSC:

DATE: 5-9-90

a cva Rep is to be present for cleanup.

CHECKLIST

- ✓ N Arrow
- ✓ Apparent. Size
- ✓ Septal. Windy
- ✓ CR Dim.
- ✓ Width
- ✓ Length
- ✓ % Cover
- ✓ Substrate Character
- ✓ Est. HML/LWL
- ✓ SGL
- Profile Location(s)
- Profile(s)
- FR Location(s)
- Photo Location(s)

LEGEND

① Δ

Pt - No Subsurface CH



Fig. - Subsurface CR

CT/C

Conclusions and Discussion

СТ/В

Section 1

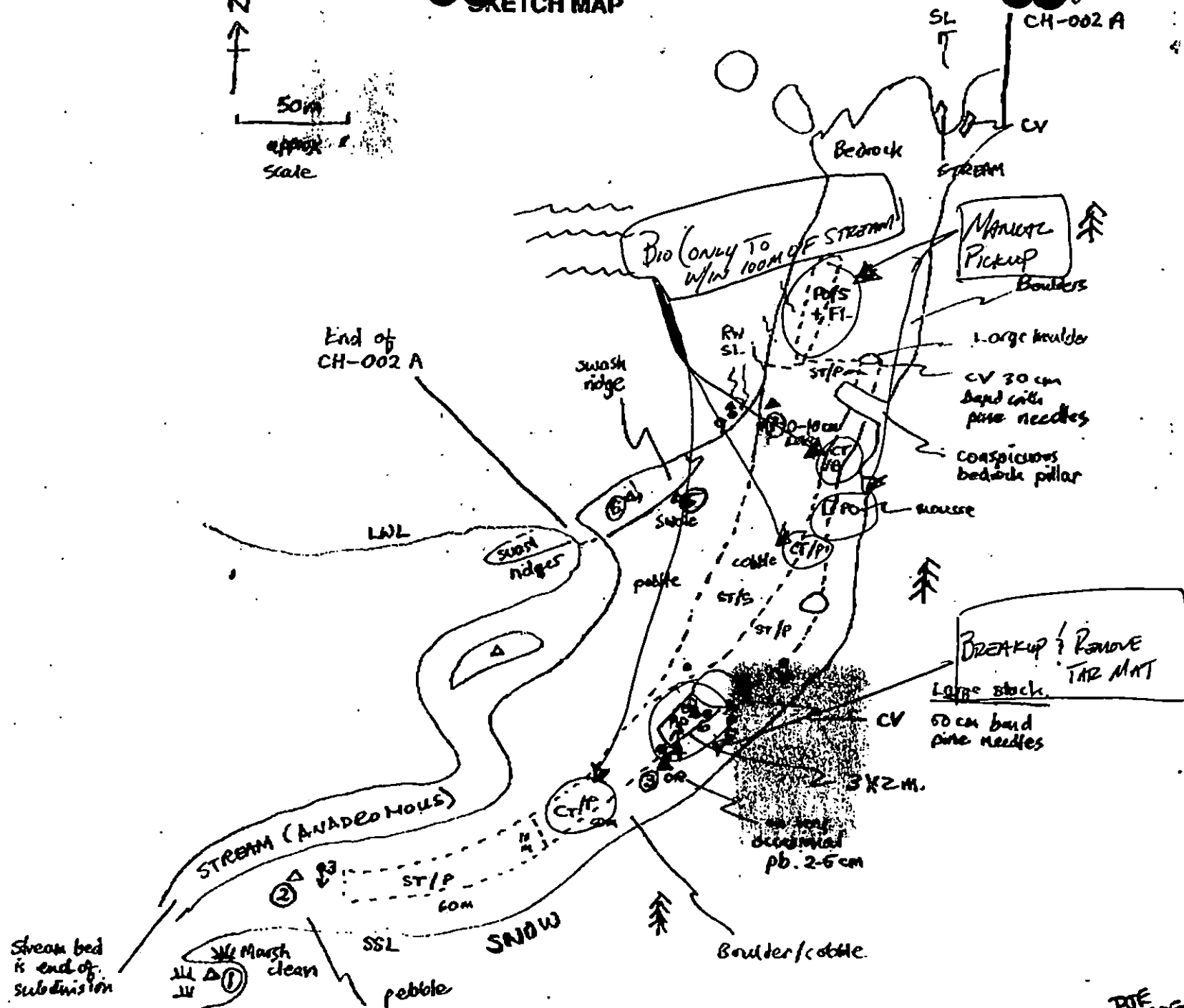
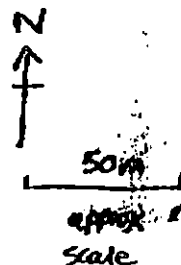
Abstract

Abstract

Q *What are the most common causes of a urinary tract infection?*

First name, direction,
and date

SKETCH MAP



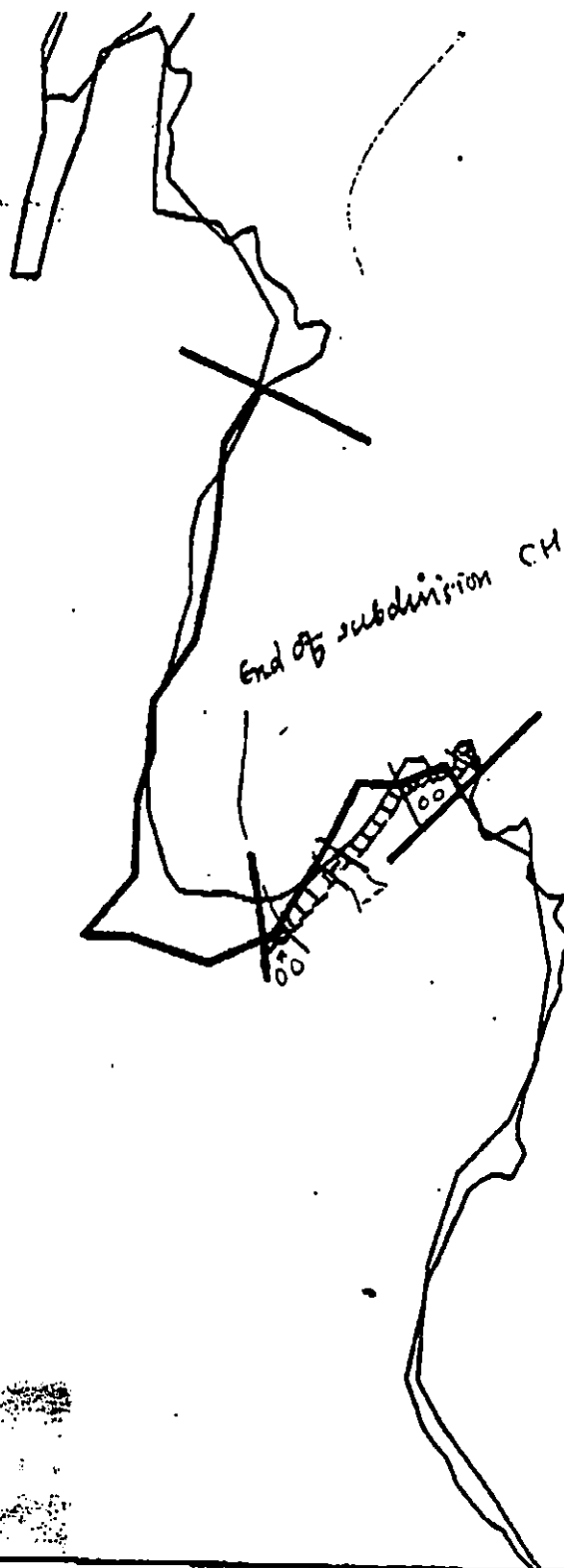
Oil Character Length (m): AP 2 PO 5 CV 15 CT 80 ST 80 MS - PT - TB - FL 30 NO 80

POE ADEL

153004-94-9

2

CH-2



CH

XXXX Wide

//// Medium

--- Narrow

TTT Very Light

OO No Oil

CH-2

ADEC Segment Length: 836m.



Map Key: PWS-48

Name: D. LITTLE

Date: 4/1/90

Data Entered:

1991 MAYSAP EVALUATION

SEGMENT: CH 002 SUB: B REGION: PWS SURVEY DATE: 5/5/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) OPEN 5/1 - 7/10, RESTRICTED 7/10 - 9/15

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 6 SEGMENT CH-002 SUBDIVISION B DATE 5/5/91

ADEC

NAME _____ SIGNATURE _____

☐ NTR

EXXON

NAME Scott A. NaumanSIGNATURE Scott A. Nauman☒ NTR

No treatment recommended. The surface oil found was very limited in extent and was either picked up (where possible) or broken up by the survey team. Only 2 of 12 pits showed subsurface oil and these were LOR/MOR in isolated patches. Rich intertidal growth.

LANDMANAGER ADEC

NAME TOM CROWE OF ADFGSIGNATURE P. Crowe☒ TREATMENT RECOMMENDED

ANADROMOUS STREAM, SUBSISTANCE USE

☐ NTR THIS STREAM HAS CLEANED UP CONSIDERABLY SINCE LAST SUMMER. THE FACT STILL REMAINS THAT THERE IS STILL OIL CONTAMINATION PERSISTING ON THE BANKS AND BEACH AREA. THIS AREA (E) (PITS #6, 12) COULD STILL USE A THOROUGH TREATMENT OF MANUAL TILTING AND REMOVAL.

USCG/NOAA

NAME CWO SPURR / R. HOFFSIGNATURE R. Hoff

☒ NTR Small patches of asphalt were picked up or broken apart & moving oil is in the upper intertidal zone + ~~not~~ ^{should} not represent a source of biological resources

FIELD SHORELINE COMMENT SHEET

SEGMENT AS / CH 2 SUBDIVISION: _____ SITE: _____ DATE 5-5-91

USCG

NAME _____ SIGNATURE _____

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

ADEC

NAME _____ SIGNATURE _____

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

LAND MANAGER

NAME CHARLES SELADOFF SIGNATURE Charles Selanoff

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

Due to the fact that heavy oiling was observed along the side of the stream, this area should be tilled with a lot of manual raking and pick-up.

EXXON

NAME _____ SIGNATURE _____

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

Revised 25 5/11

DATE 05/05 /91

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

Reviewed 5/11

CH-009-A

N

CH-002-B D.I. Little

DG. map

05/05/91

1005-1105

PIT #	TD	OIL	clean below	H ₂ O	shewn	seeds	zone
①	25	NO	4	-	N	CP-PJ	MITZ
②	35	NO	4	-	N	31-35P	MITZ
③	30	NO	4	-	N	AP-P	MITZ
④	35	NO	4	-	N	pg-3	MITZ
⑤	35	NO	4	30	N	gp-gp	LITZ
⑥	20	4.5-10 L MOR	4	-	R	P-gp	LITZ
⑦	20	NO	4	-	N	AP-Pg	MITZ
⑧	20	NO	4	10	N	bc-pg	LITZ
⑨	20	NO	4	10	N	bc-3p	LITZ
⑩	20	NO	4	15	N	bc-pg	LITZ
⑪	30	NO	4	25	N	cb-pg	LITZ

G 0.2 x 1
CV 15%F 0.5 x 2
5% APE 8 x 22 m
AP 2% - BM
(H) SOR 5%broken &
raisedSUBSURFACE
OIL 2 spots
about 5x5m
L-M OR.

Bar

chimney

A 2 x 20
1% AP

Already worked

B 0.2 x 2
CV 15%C 1 x 3
SOR 10%

Already worked

D 0.2 x 5
1% (H) SOR

PU

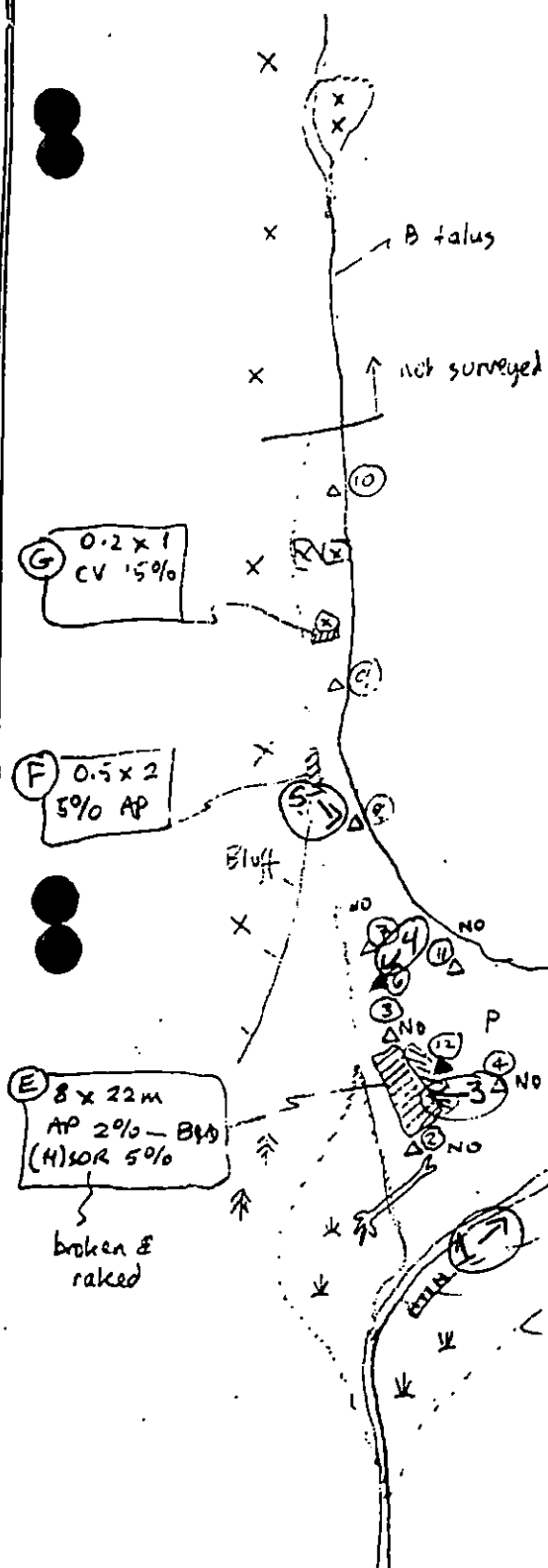
#PIT	TD	OIL	clean below	H ₂ O	shewn	seeds	zone
⑫	20	4.5-10 L MOR	4	-	S	pg-gp	MITZ

Note: location A
is in CH-002-Areviewed 5/11/91
Revised 5/11/91

Maypap 6-07
#1-5

N

CH-002-B D.J. Little
DG. map 05/05/91
1005-1105



PIT #	TD	CIL	clean below	H2O	shoen	seeds	zone
①	25	NO	4	-	N	cp - pg	MIT2
②	35	NO	4	-	N	gp - gsp	UIT2
③	30	NO	4	-	N	pc - p	UIT2
④	35	NO	4	-	N	pg - g	MIT2
⑤	35	NO	4	30	N	gp - gsp	LIT2
⑥	20	4.5-10	4	-	R	p - gsp	UIT2
⑦	20	NO	4	-	N	pc - pg	UIT2
⑧	20	NO	4	10	N	bc - pg	LIT2
⑨	20	NO	4	10	N	bc - gp	LIT2
⑩	20	NO	4	15	N	bc - pg	LIT2
⑪	30	NO	4	25	N	cb - pg	LIT2

⑫ 20 4.5-10 4 - N pg-gsp MIT2
L/MOR

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6 DATE 5/5/91
 SEGMENT # CH-002- TIDAL HEIGHT (Range) + 1/4 to + 2 3/4 ft
 SUBDIVISION B BIOLOGIST T.R. Schroeder
 SEA STATE light chop WIND SPEED/DIRECTION variable 5 mph
 PHOTOGRAPHS: ROLL # FRAME #

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

Entire beach area is very low in plant and animal life production. Beach is light shale and sand and is unstable. Primary biological communities are to the east and west of the main anabranching stream beach area, where larger rocks are present and provide a more stable substrate for organisms to grow.

If any work is to be conducted in this area, the beach areas to the east and west should be protected. Access should minimize impact on sparse mussel beds on flats as these are the only organisms present in the LITZ which may repopulate and stabilize the beach area.

WILDLIFE OBSERVATIONS

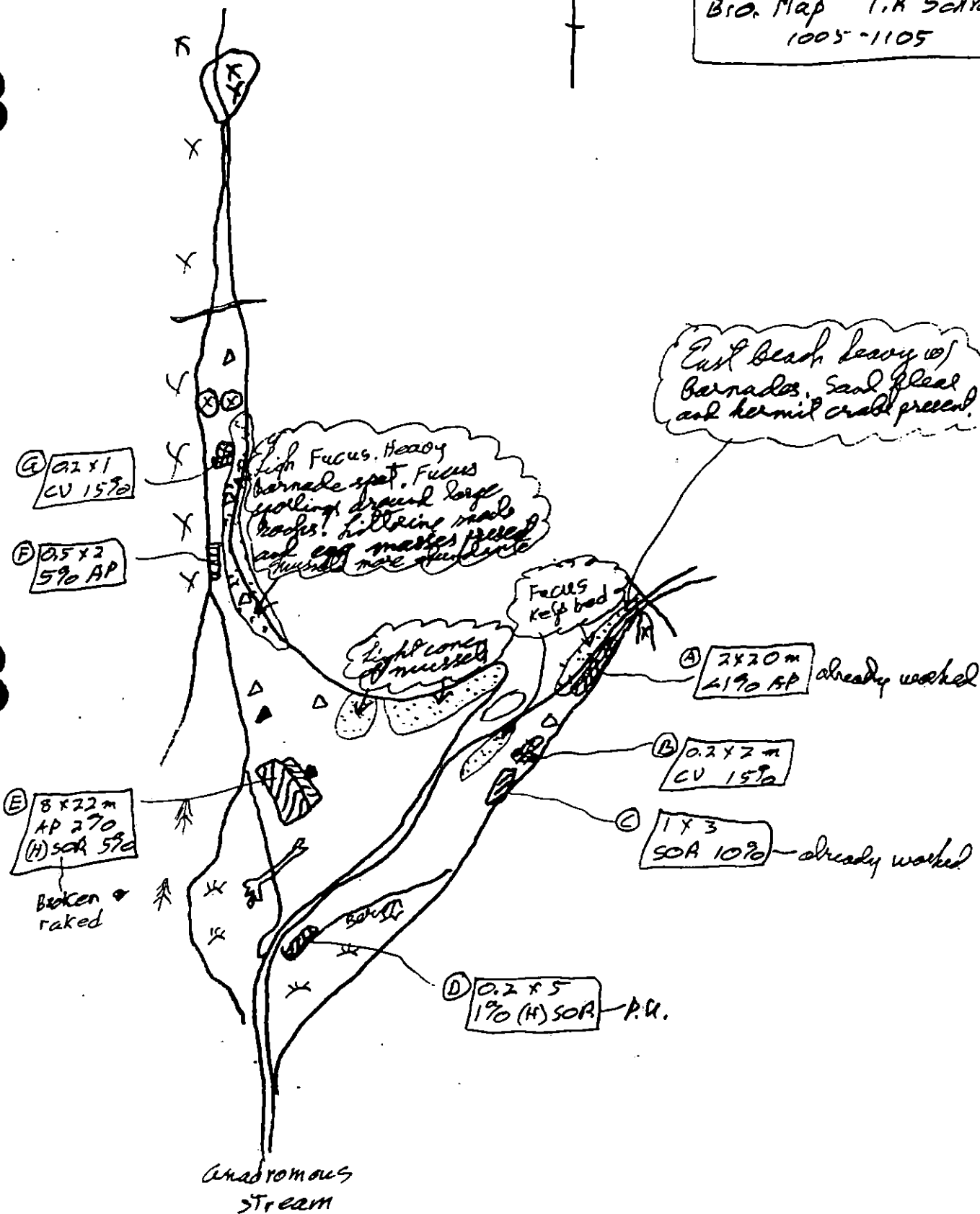
TO BE COMPLETED IN ALL SUBDIVISIONS

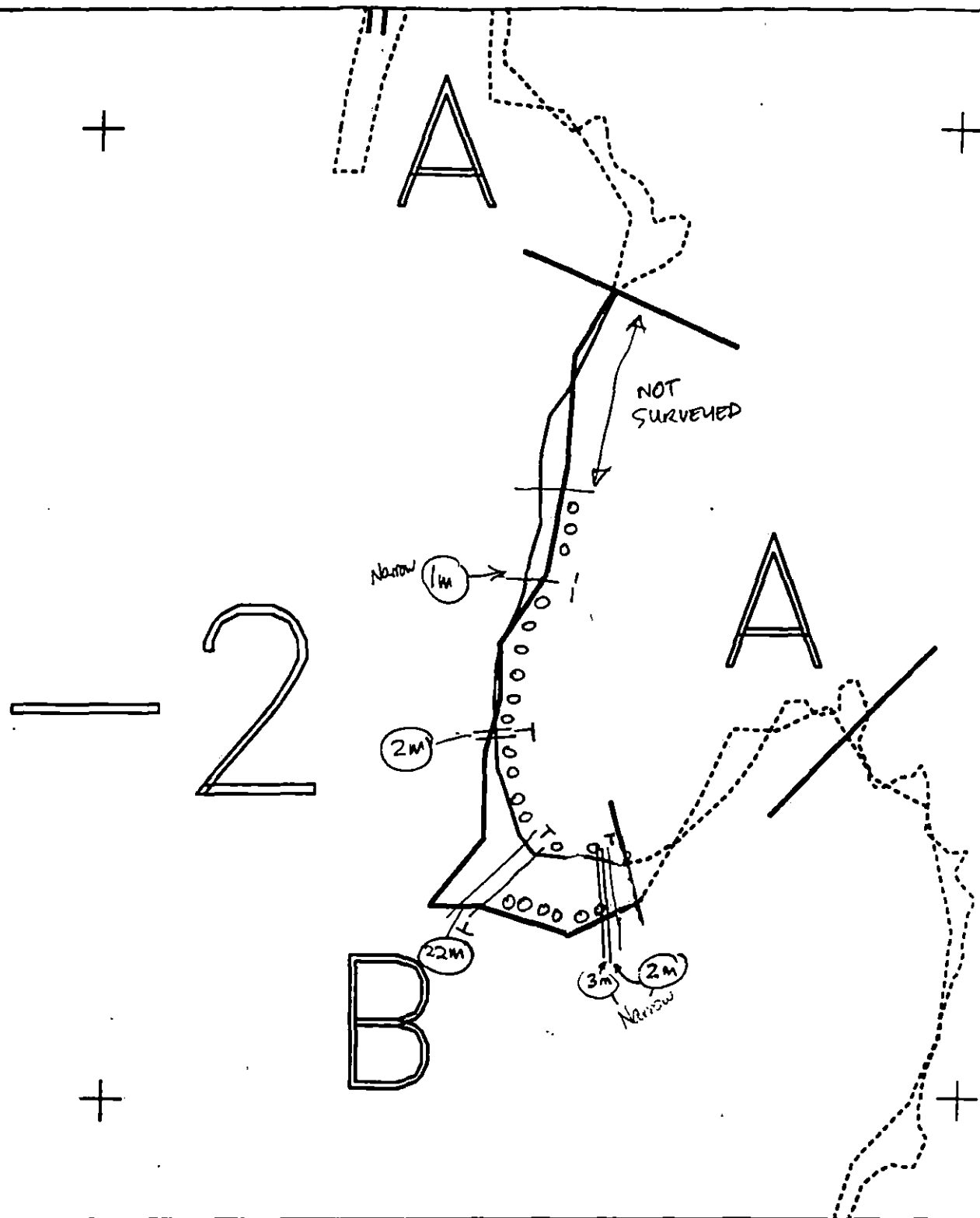
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/Kittiwakes	1 gulls	2	
Shorebirds			
Corvids	1 (Raven)	1	
Other Birds	1	8 (Pintail)	

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

CH-002-B 5/5/91
Bio. Map T.A. Schroeder
1005-1105





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

CH002 B
 ADEC Subsegment Length: 600m
 METERS
 0 100 200
 AK State Plane Zone 4
 pch002b

Subdivision Field Map
 Map Key: PWSCH002B
 Name: DAVID LITTLE
 Date: 05/05/91
 Date Entered:

revised 5/10/91

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. |

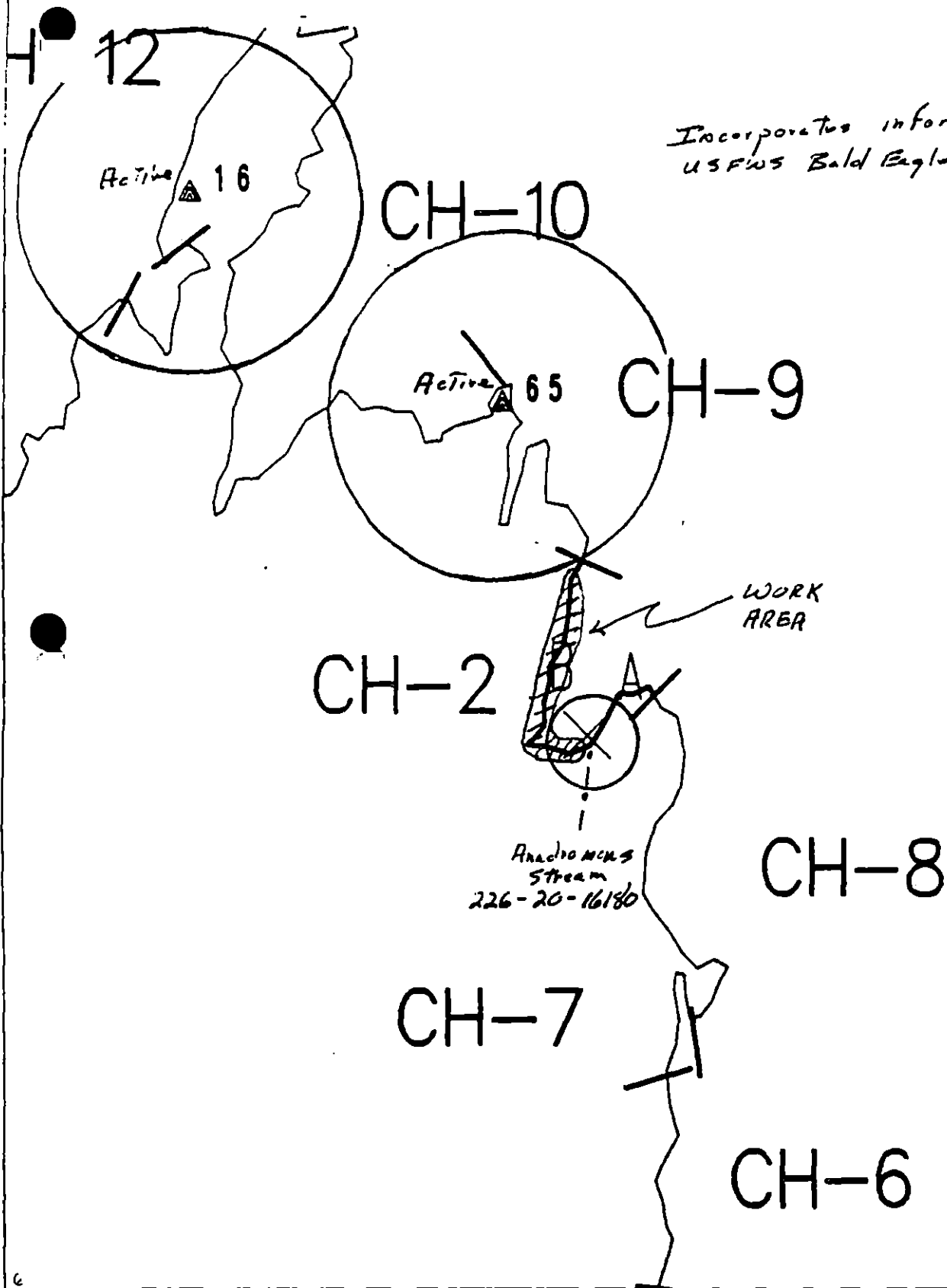
OTHER ECOLOGICAL CONSIDERATIONS

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 unrolled 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 Morales
 EXXON Ann Teal
 NOAA Joseph Talbot
 USCG G.A. Heiter
 FOSC R. Zampelli Date 6/7/90

Prepared by Andra Meyer Date 6/4/90



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



Exxon Company, USA
Map Key: PMS-04-2



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



Seabird Colony



Eagle Nest

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 uncoiled biota and substrate.

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

SHPO SIGNATURE: Charles E. Homan 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
☒ Treatment Recommended	☐ Oil Snares (pom poms)
☒ Manual Pickup	☐ Absorbents (pads, rolls, etc)
☒ Bioremediation	☐ Spot Washing: <u> </u> Wands
☒ Tarmat: ☒ Breakup	☐ Beach Cleaner
☐ <u>X</u> 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.

Revised, See Constraint Addendum 5/28/90 with

See Revision 1, Addendum dated 6/4/90/PP

TAG COMMENTS:

TAG APPROVAL DATE: 4/14/90

ADEC John Baker
EXXON Andy Tarkenton
NOAA Burt Wiercetti
USCG M. J. Hall

FOSC:

DATE: 5-15-90

NOTIFY CWC 24 hrs IN ADVANCE OF WORK

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 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 unloiled 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 Weimer

EXXON Andy Tag

NOAA Balescott

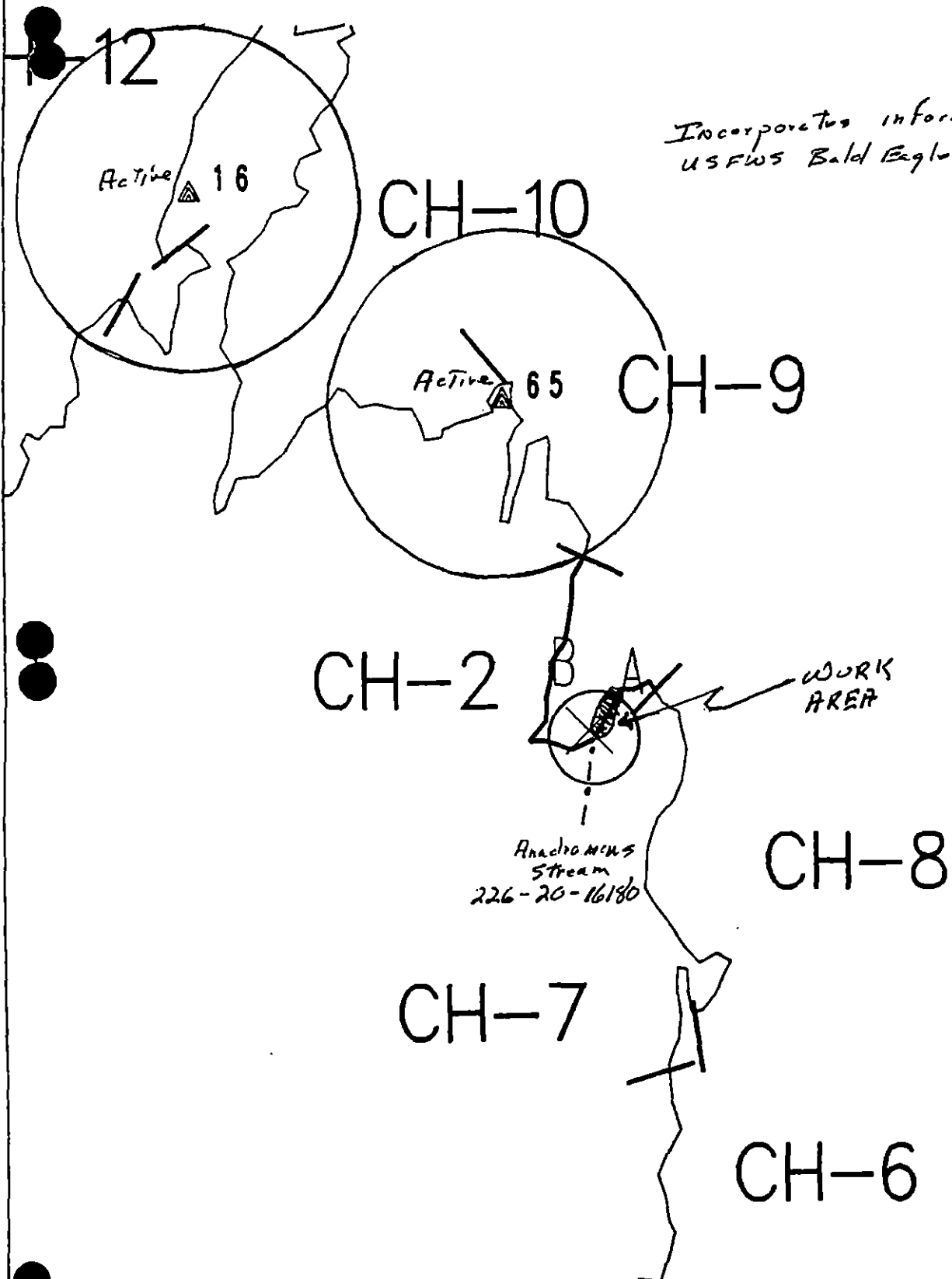
USCG G.A. Kreiter

FOSC [Signature]

DATE MAY 29 1990

Prepared by: Andrew Meyer

Date: 5/29/90



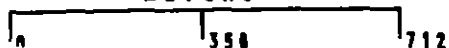
Incorporates information from
USFWS Bald Eagle survey 5/12/90

ECOLOGY MAP 5/28

SEGMENT CH-2

SUBDIVISION A (1 of 2)

METERS



- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1167 feet



Exxon Company, USA

Map Keys PMS-CH-2

U.S. 11 100m

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 unloiled biota and substrate.

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

SHPO SIGNATURE: Charles J. Hoffman 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:

<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: Breakup and removal tarmat, manual pickup of pooled mousse, and bioremediation of coated areas to within 100m of anadromous stream only. Work between 6/15 - 7/10 based on salmon spawning constraints.

Revised, See Constraint Addendum 5/28/90 WRK

TAG COMMENTS:

TAG APPROVAL DATE: 4/12/90

DEC John Bauer
EXXON David Tate
NOAA Burt Warratt
USCG M. J. Hall

FOSC:

DATE: 5-9-90

a c/vl Rep is to be present for cleanup.

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: CH-002

SUBDIVISION: A

STREAM NO: 226-20-1618

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.

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact Exxon's Cultural Resource Program immediately (564-3276 (Anchorage) or 229-1508 (24 hrs.)).

SHPO SIGNATURE: _____ DATE: _____

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: _____ 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: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inpol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
 AGENCY CONTACT PERSON: ADF&G John Morison 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 Inpol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)
 1E Main Bay Hatchery release (4/20 to 6/15)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inpol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
 AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (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 Inpol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inpol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 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 Inpol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
 ADF&G Don Calkins 267-2403
- 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
- 7 Subistence area: Salmon harvesting (5/1 to 9/30)
 7H Furfish 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 Inpol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
 AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

24/42

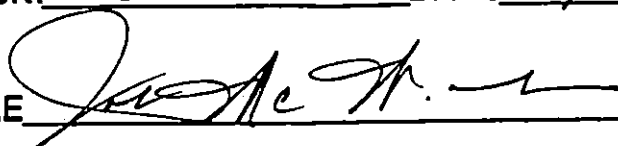
FIELD SHORELINE COMMENT SHEET

SEGMENT ST CH 002 SUBDIVISION: 16180 DATE 4/26/90

USCG

NAME CWO MR MATHON

SIGNATURE



☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

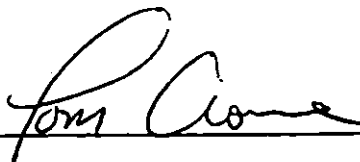
1. MANUAL CLEAN-UP: REMOVE TAR MATS
2. BIOREMEDIATION RIGHT SIDE (LOOKING ON SHORE)

ADFG

ADEC

NAME TOM CROWE

SIGNATURE



☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Bury solid pellets of FERTILIZER IN STORM BERM 12" DEEP (SEE map). NO INJECTION 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 13 - 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.

BULKLINE OILING SUMMARY (ANAD.)

REVISION 100-001

OG WILLIAM LEID USCG McMAHON SEGMENT ST/ CH002 28/92
 BIO MICHAEL FAWCETT LAND REP T. McGEY 5 STRAIN 226-20-1000 OF
 EXXON Gus GARCIA ADPO MIKE VIEDNER TIME 8:10:30
 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: -20 Feet ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 15 % B 55 % C 30 % G 0 % S 0 % M 0 % V
 SLOPE: Long 0 % Hang 0 % Ven 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 2.3 m M 0 m N 0 m VL 0 m NO 5.0

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	R	B	P	N	1	2	3	4	5	SW	SH	BL	U
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 1 BAC

NEAR SHORE SHEEN? NO BR RW SL TI

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

Did You Collect
 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	Y	SURFACE SUBSURFA SEDIMENT
		CP	OR	OL	CP	NO		BO	BB	1	2	3	4	5	SW	SH	BL	U					
1	3.5					X									X								P/G/C
* 2	2.0		X				0.8	X		X					X								P/G/C
3	4.0					X										X							P/G/C
4	1.0					X										X							P/C/G
* 5	2.5		X				0.5	X		X	X				X								P/C/G
* 6	2.0		X				0.3	X		X					X								P/G/C

COMMENTS

REVIEWED JWDATE 5-1-90

25/42

ADFG MULTI-ASSESSMENT DATA FORM

SURVEY TYPE: BS SS DS TS AVS SCHM MMS PTA 2 REGION: PNS KP,CI K,AP

METHOD: Aerial Ground Boat

3 DATE: 4/24/90 15 HIGH TIDE TIMES: 1.526 21 TEAM RECORDER: MIKE W. KAMER

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 (ANASCAT)

6 SEGMENT #: CH002 18 LOW TIDE HTS: -3.6 24 PHOTOS TAKEN: Y N

7 STATION #: 1 19 TIDE HT AT SURVEY: -3.6 Roll #: _____ Frame: _____

8 K-UNIT: _____ Ebb Slack Flood Stack 25 VIDEO TAKEN: Y N TAPES: _____

9 STAT AREA: _____ 26 USCG QUAD: SEW A2 Start: _____ End: _____

10 LAT: _____ 11 LONG: _____ 28 SAMPLES TAKEN? Y N Number

12 SOURCE: Map Loren Oil _____

13 LOCATION: CHEWGA NORTH Sediment _____

14 DESCRIPTION: NORTHERN TIP OF CHEWGA ISLAND Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	W	H ²	%	L	W	H ²	%
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION								

30 OVERALL OIL IMPACT: N VL L N H

31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain

32 OILED DEBRIS? Y N

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

34 WAVE EXPOSURE: High Moderate Low

35 SUBSTRATE TYPE: Bedrock _____ Boulder _____ Cobble X
Gravel X Sand _____ Mud/silt _____

36 CATALOGED ANAD. FISH SKEWT 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: _____

43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS: _____

28/40

ME(S)

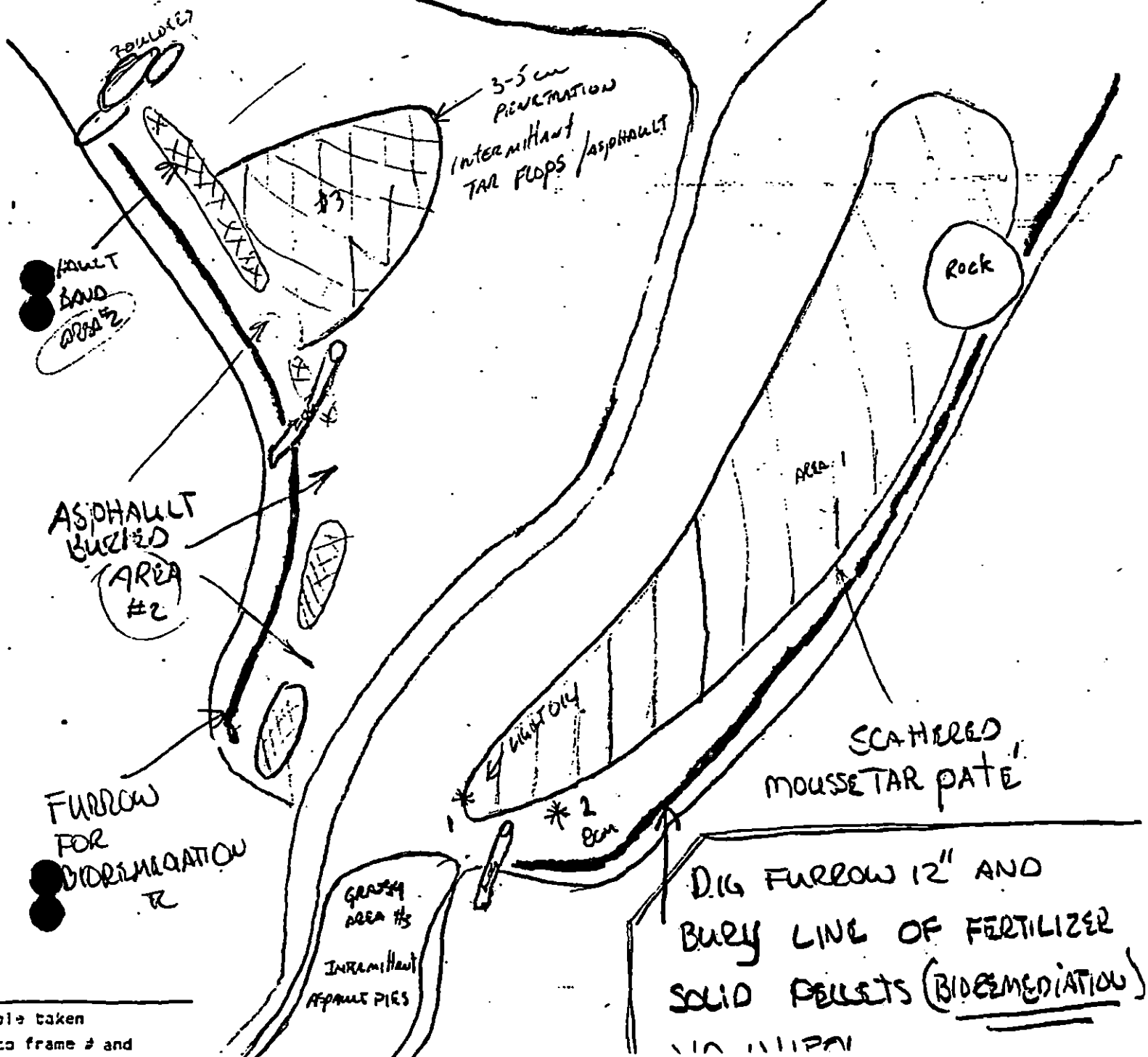
DESCRIPTION

RECOMMENDATION: (FEBRUARY)

BURY SOLID PELLETS IN STORM DRAIN 12" AT SPOTS INDICATED ON MAP. NO TNEPOL RECOMMENDED. MANUALLY REMOVE TAR MATS. EXCAVATE TAR MAT WHERE BURIED (SEE MAP) AND REMOVE. TILL AREA #2 WITH SHOVELS.

I agree with recommendations. 11/24 Fournier

46 OIL DISTRIBUTION DIAGRAM



32/42

segment CH002
Stream 226-20-0180
Ecological summary

4/26/90
Michael Fawcett

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 Nemaion), Costaria, Fucus, and others. Pyrenopelia 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 eagle 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

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.

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact Exxon's Cultural Resource Program immediately (564-3276 (Anchorage) or 229-1508 (24 hrs.)).

SHPO SIGNATURE: Rachel Jean Oain 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
BURIED 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. KETTER G.A. Ketter

FOSC: W L DATE: 6-8-90

Notefy cvc 24 hrs print cleanup

2/28 RUBBON FIELD
SEGMENT ST/ CH002

STREAM 225-20-6180

DATE 26 APR 60

CHICAGIST

51 Answer
 Apparent South
 Apparent South
 Of line
 South
 Length
 % Cover
 Substrate Character
 E.L. 100% A.M.
 S.S.
 Protein (Luminescence)
 Protein
 PA (Luminescence)
 Phosphate (Luminescence)

LEGEND

▶

FR - 100 Subsurface Clay

24

R. Anderson

CTC

Conclusions and Outlook

CTO

Business Development

3

5. 2

Party Disunity

73

10

0000

22

1

1

FROM MEMBER, MEMBER,

1

Of Character Length (in): As

20

2

3

9

2

1

1

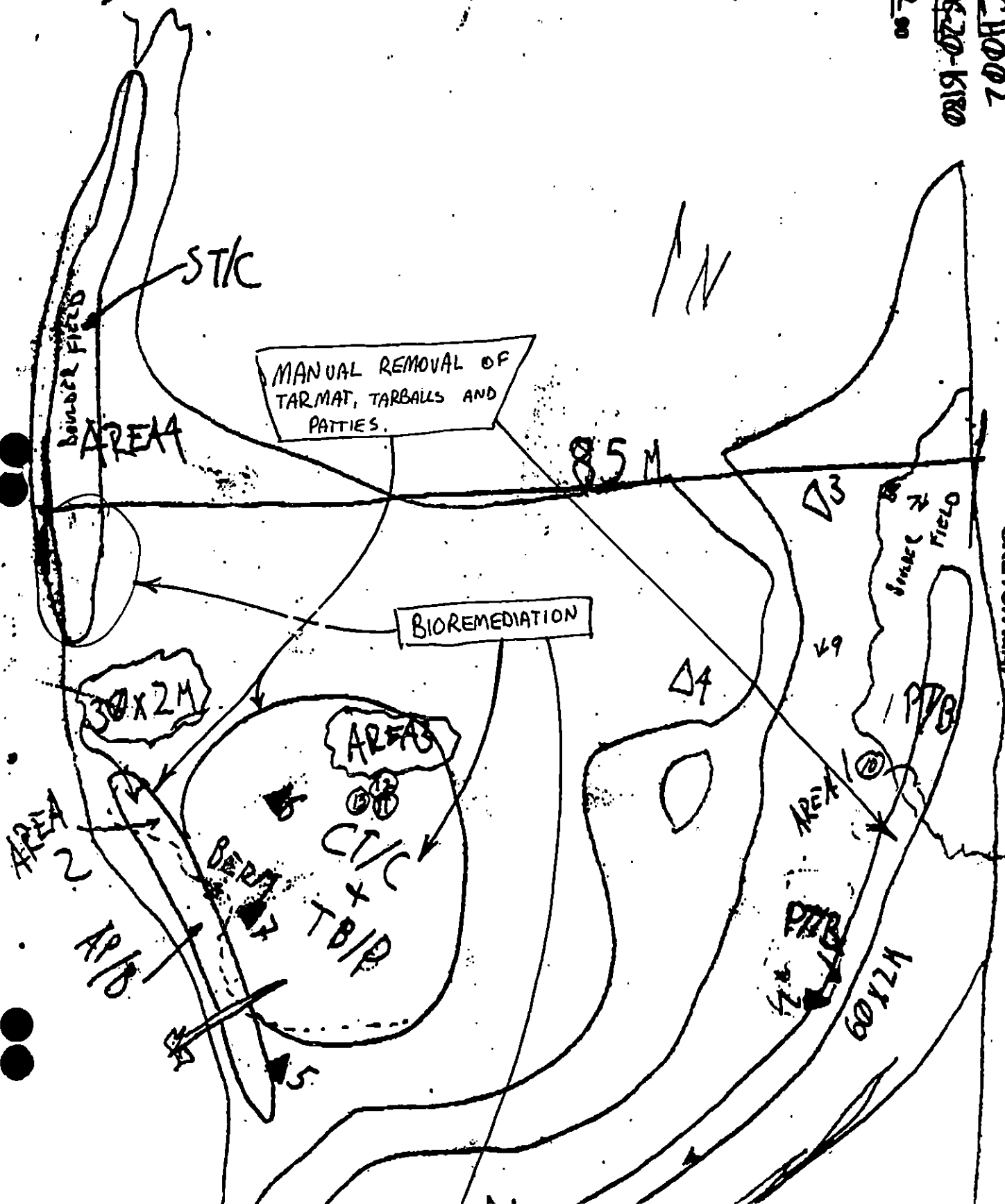
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1

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SKETCH MAP



28/4

45 PHOTOLCG

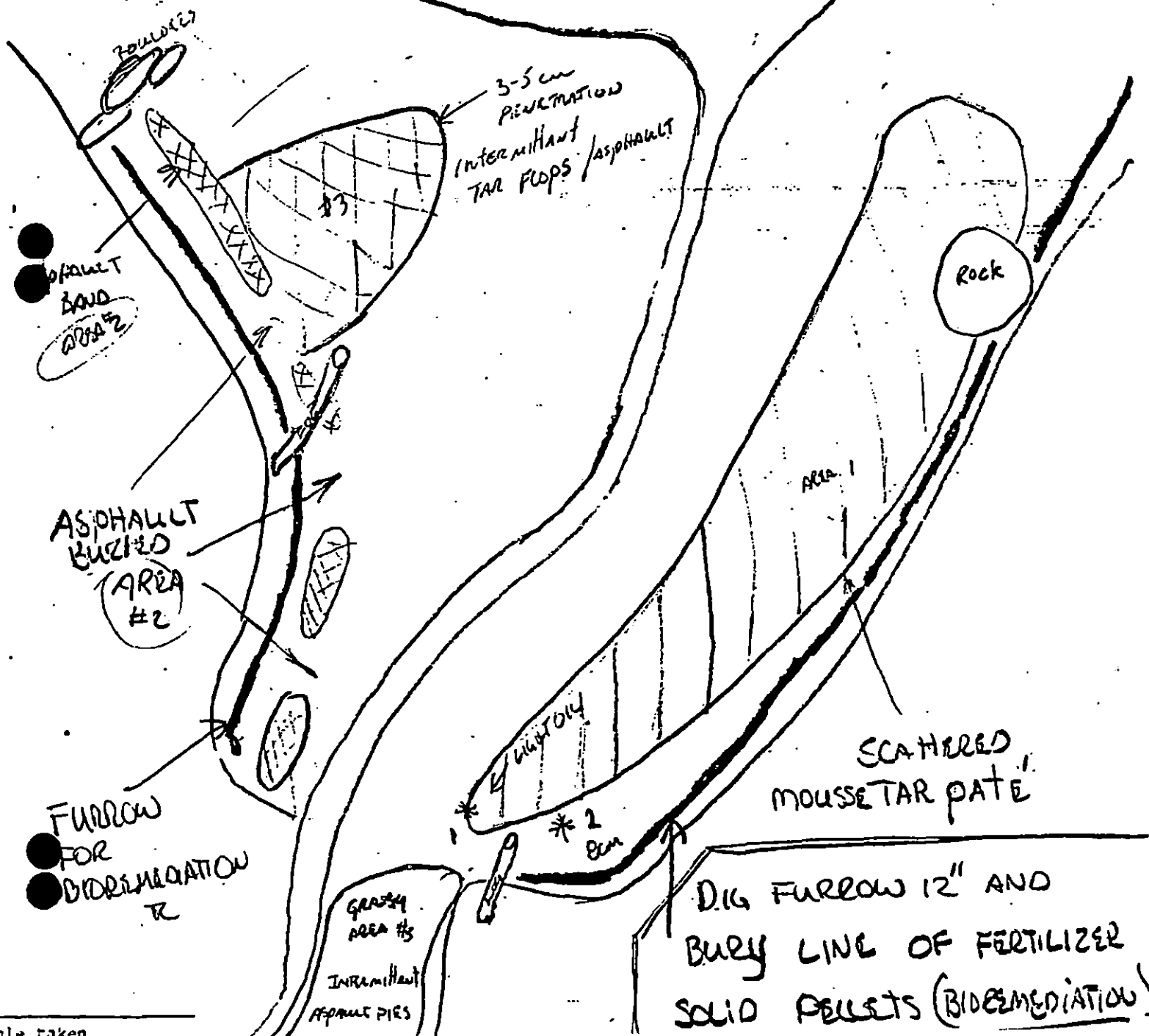
DESCRIPTION

RECOMMENDATION: (FERTILIZER)

BURY SOLID PELLETS IN STORM DRAIN 12" AT SPOTS INDICATED ON MAP. NO INEED RECOMMENDED. MANUALLY REMOVE TAR MATS. EXCAVATE TAR MAT WHERE BURIED (SEE MAP) AND REMOVE. TILL AREA #2 WITH SHOVELS.

I agree with recommendations. 11/24 Fournier

46 OIL DISTRIBUTION DIAGRAM



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 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 uncolled biota and substrate.

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

TAG APPROVAL DATE 5/29/90.
ADEC ART WENNER Art Wenner
EXXON ANDY EARL Andy Earl
NOAA B. Wascott B. Wascott
USCG G.A. REITER G.A. Reiter

FOSC

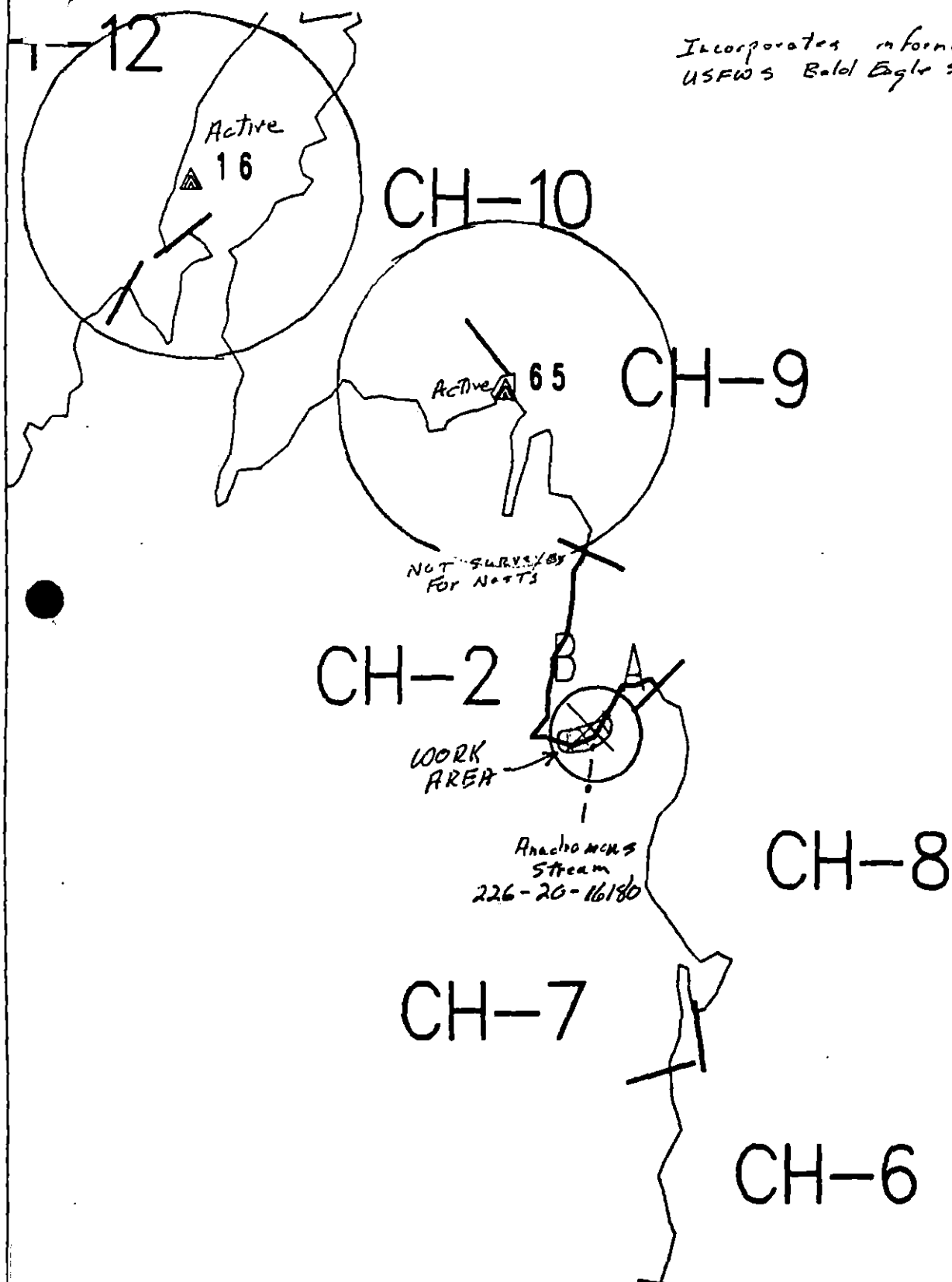
DATE MAY 29 1990

Prepared By De Lee Minn - WMC

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



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.

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact Exxon's Cultural Resource Program immediately (564-3276 (Anchorage) or 229-1508 (24 hrs.)).

SHPO SIGNATURE: _____ DATE: _____

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: _____ 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.

SEE CONSTRAINT ADDENDUM 5/28/90 WTK

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/CH-03

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

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.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 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	☐ Snare/Absorbent Booms
☒ Treatment Recommended	☐ Oil Snares (pom poms)
☐ Manual Pickup	☐ Absorbents (pads, rolls, etc)
☒ Bioremediation	☐ Spot Washing: _____ Wands
☐ Tarmat Removal	☐ Beach Cleaner
	☐ Other (see comments)

COMMENTS: Recommended treatment 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: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

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

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

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

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

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

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

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

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

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

3N, 30 Harbor seal and sea lion pupping (5/15 to 7/1)

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

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

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

ADF&G Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Roth 267-2206

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

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

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

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

✓ 6Y Special use destination

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

7HH Finfish harvesting

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

7 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, under the cobble armour, beach face was very lightly oiled with occasional splashes of mostly stain 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, DBH, sticky film coating their surfaces with $\approx 35\%$ of the reds coated in a layer 3-5 cm. (cont.)

LAND MANAGER

NAME Patrick Seawater

SIGNATURE

Patrick Seawater

☐ 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 went until we got approx. Half way down to segment ~~we did finally~~ check for oil in the VI. Bioremediation for this beach is recommended since it is 100 meter from KREEK.

Dis regard checking the beginning of CH003
We Did check it and we found no Oil.

REVISED 02/90

14/36

CH-3-A (cont.)

Mike Ebel ADEC 4/21/92

deep. Thus, the UT₂ band (broken) had a separation area of clean seds ~~from the~~ ST₂ 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 UT₂ - ST₂, 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 subsurface biotic communities occupying the first $\approx$ 25 cm of substrate I would opt for the Bio enhancement method of granular fertilizer 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 times is needed to get the granules below the surface this should be tried on comparable segment 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.

15/36 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. 04/13/90

OG Randy Siegel USCG Terry Schultz SEGMENT ST/ CH-3
 BIO Lewis Sherman LAND REP Pat Selanoff (cyc) SUBDIVISION A (1 OF 1)
 EXXON Licensed Herbst ADEC Mike Ebel TIME 15:30 17:00
 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 60 % G 10 % S 0 % M 0 % V 0 %
 SLOPE: Lang 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	L
ASPHALT PAVEMENT												
POOLED												
COVER				X	X					X		
COAT		✓	X	0	1/2				0	1/2		
STAIN		✓	X	0	1/2				0	1/2		
MOUSSE												
PATTIES												
TARBALLS												
FILM												
NO OIL											X	X

PAVEMENT H F S 0 sq. m by 0 cr

PATTIES / TARBALLS 0 BAGS

NEAR 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 1

Photographs: ☒ PICKED-UP ALL TRASH

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	SEEN (Y/N)	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		US	UG	1	2	3	4	SU	U	M	L			
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 ~~about~~ 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 2/36 shiny black oiling (in one case OBR OR) at depth. No water in pits

REVIEWED W

DATE 4-23-90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 06.12.90

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

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SCREEN (Y/N)	↓	SURFACE SUBSURFACE SEDIMENT
		OP	OR	OL	OF	NO		UO	UC	BR	DR	OT	LC	LT	LB	SU	U	M	L				
* 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	X						-	-	B, P, G
* 10	15				X		3.5	X	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 oiling 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

REVISION 04.13.90

SUBSURFACE OIL (CONTINUED)

[illegible]

COMMENTS

4/36

REVIEWED JW DATE 4-23-90

SEGMENT ST/ CH-3

SUBDIVISION

DATE 4/2/90

CHECKLIST

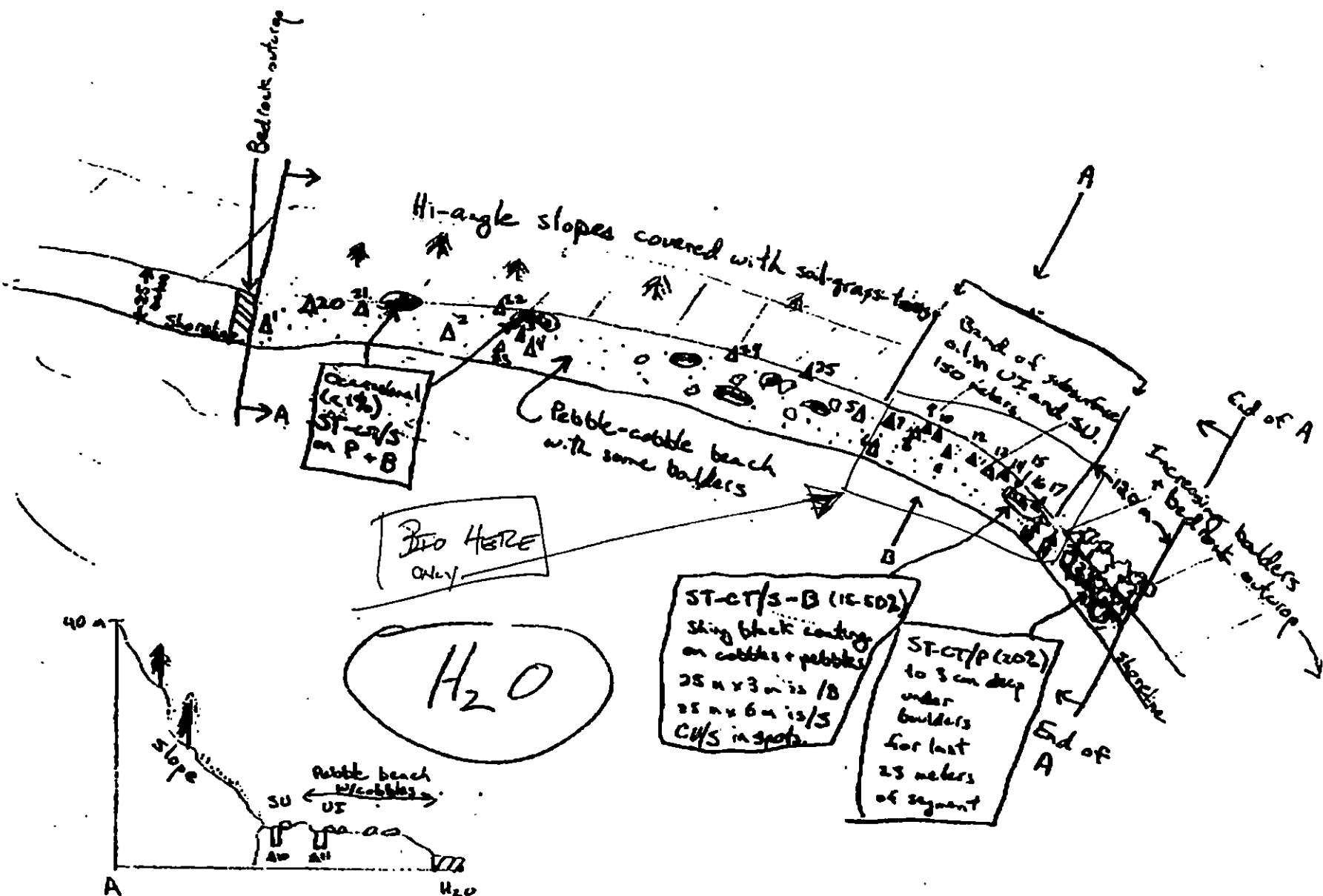
N Area
 Approx. Scale
 Seg/Sub Body
 Ch Dist.
 Width
 Length
 % Cover
 Substrate Character
 Est. HMLAVE
 SSI
 Profile Location(s)
 Profile(s)
 Photo Location(s)
 Photo Location(s)

LEGEND

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

SKETCH MAP

Approximate Scale
300 meters



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

REVISED 000000

SHORELINE ECOLOGICAL SUMMARY (Page 1 of 2)

Segment ST/ CH-3 Subdivision A Date (mo/day/yr) 4/21/90

Time (24 hr) 1530-1730 Biologist SHARMAN

(A) Substrate type and % of segments: SUBDIV.
(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 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 (O)

Photographs: Roll No. ---
Frames ---

BARNACLES

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

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	O	O	NOT PRESENT
3	3	3	3	3	3	3	3	3	X	O	O	
4	4	4	4	4	4	4	4	4	X	O	O	
5	5	5	5	5	5	5	5	5	X	O	O	
6	6	6	6	6	6	6	6	6	X	O	O	
6	6	6	6	6	6	6	6	6	X	O	O	

GASTROPODS (NACELLA, 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	O	O	NOT PRESENT
3	3	3	3	3	3	3	3	3	X	O	O	
4	4	4	4	4	4	4	4	4	X	O	O	
5	5	5	5	5	5	5	5	5	X	O	O	
6	6	6	6	6	6	6	6	6	X	O	O	
6	6	6	6	6	6	6	6	6	X	O	O	

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	O	O	NOT PRESENT
3	3	3	3	3	3	3	3	3	X	O	O	
4	4	4	4	4	4	4	4	4	X	O	O	
5	5	5	5	5	5	5	5	5	X	O	O	
6	6	6	6	6	6	6	6	6	X	O	O	
6	6	6	6	6	6	6	6	6	X	O	O	

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 impurities, starvation/malnutrition winterkill. Intertidally, this border/cobble/pebble single beach. (cont.)

Ecological Considerations:

Resource sensitivities previously listed for this segment include use as a Special Use Destination (code 6Y) 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 resilient 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

CH-3

Shoreline Ecological Summary (cont.) Sherman
(Page 2 of 2) 4/21/90

General Comments (cont.):

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

ECOLOGICAL 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

0 100 200 300
METERS

Map Key: PWS-51

Name: Poly Diesel

Date: 4/21/90

Data Entered:

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: Andy Siegel

Date: 4/21/90

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CH-3 SUBDIVISION A (1 of 1)

WORK WINDOW	
Bioremediation	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 after 7/20.
- 5T Bald Eagle Nest No constraint to bioremediation. Bald eagle nest present in subdivision is not within 400m of recommended treatment area.

OTHER ECOLOGICAL CONSIDERATIONS

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

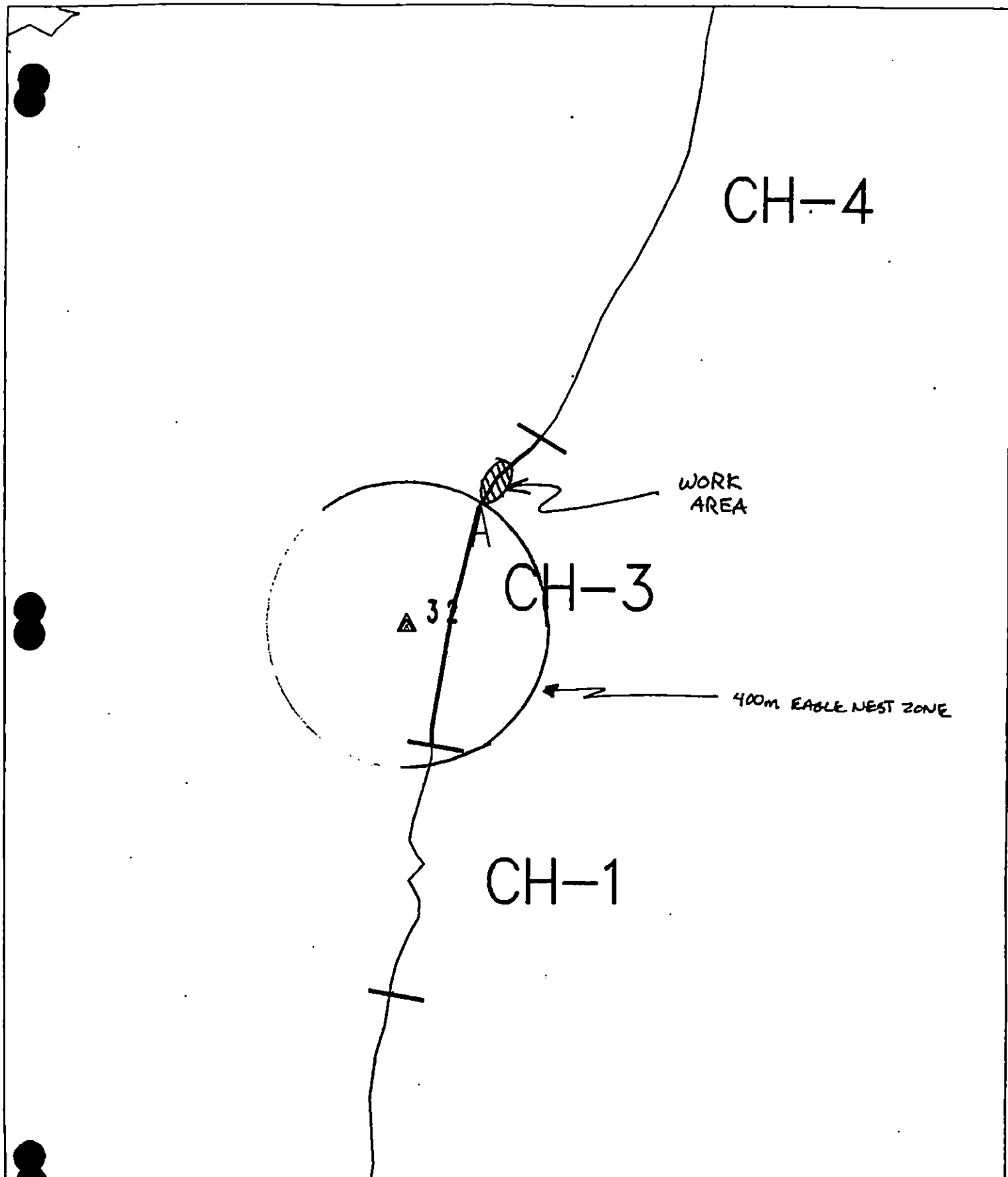
TAG ADDENDUM DATE 5/18/90
ADEC Art Wornon
EXXON Andy Gar
NOAA Gary Petros
USCG G.A. Reuter

FOSC WJL

DATE 5-18-90

Prepared by: Andru Meyer WPE

Date: 5/17/90



Exxon Company, USA
Man Kevt PMS-CH-3



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



Seabird Colony



Eagle Nest

SHORELINE EVALUATION

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

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-1 All bird 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.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: *J. Hunt M. Mahan* 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.

See Addendum 5/17/90 for revised dates. wmk

TAG COMMENTS:

TAG APPROVAL DATE: 5/1/90

ADEC ART WENDOL Art Wendol

EXXON ANDY EN Andy En

NOAA GARY PETRUS Gary Petrus

USCG KENNETH KIRBY Kenneth Kirby

FOSC: YL DATE: 5-9-90

a cva rep will be present for cleanup.

SHORELINE EVALUATION

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.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: *J. Quinn McMahon* 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:

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

COMMENTS: Recommended treatment 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 WENDEL
EXXON ANDY EARL
NOAA GARY PETRONE
USCG KENNETH KEANE

FOSC: YL DATE: 5-9-90

a cvc rep will be present for cleanup.

DATE 4 / 21 90

CHECKLIST

- ___ N Area
 ___ Approx. Scale
 ___ Seg/Sub Study
 ___ CD Dist.
 ___ Width
 ___ Length
 ___ % Cover
 ___ Substrate Character
 ___ Est. HML/AWL
 ___ SSI
 ___ Profile Location(s)
 ___ Profile(s)
 ___ PR Location(s)
 ___ Photo Location(s)

LEGEND

- 1 Δ**
Fig - No Subsurface Oil

- 2A**
Fig. Substrate ON

CT/C

Continuing Education

Section 3: Questions

CT/P

Final Distribution

CT/3

Systematic Literature Review

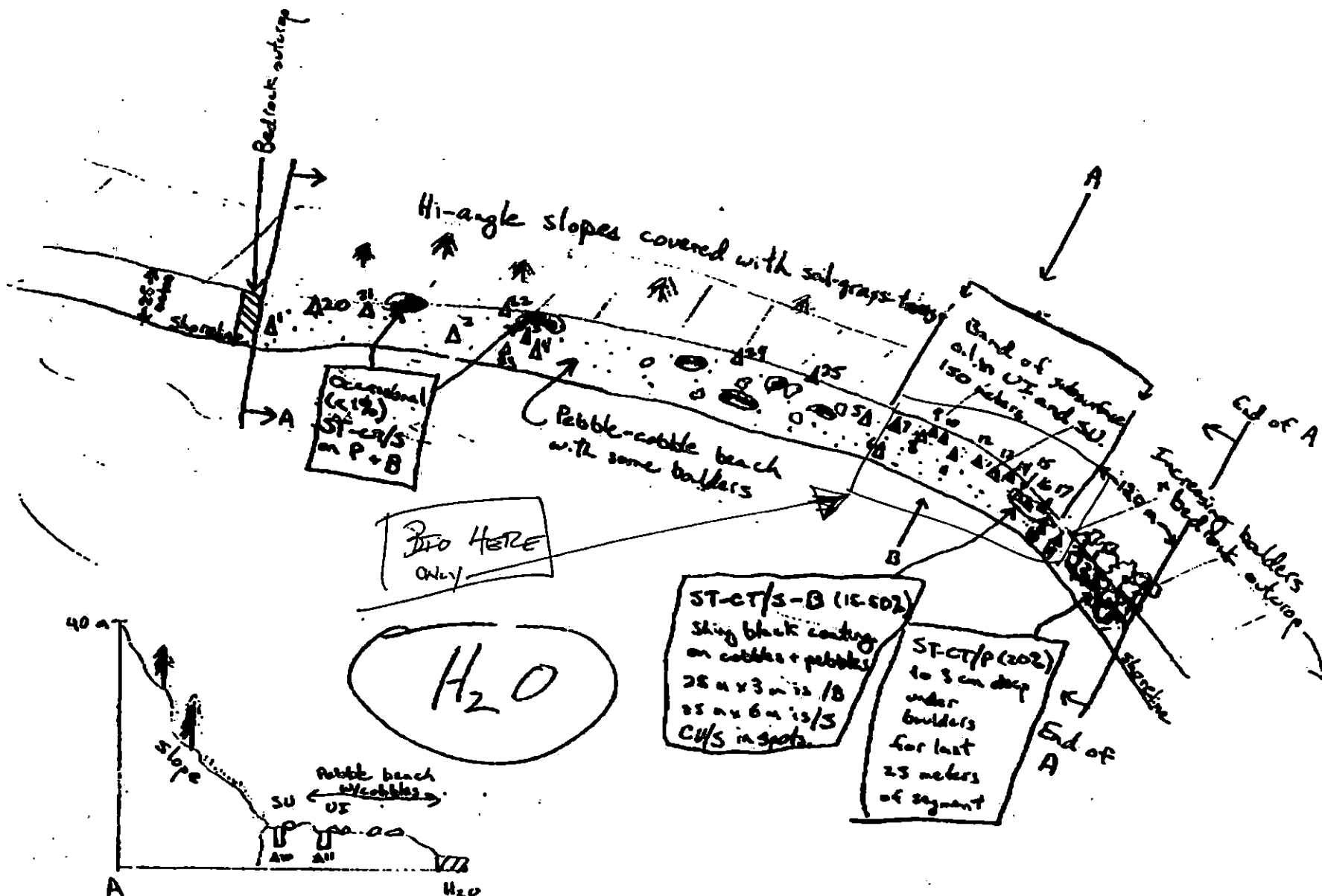
Climat Vegetation

From location, direction,
and number

SKETCH MAP

Approximate Scale

300 netting



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

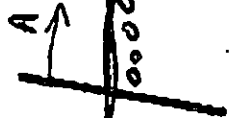
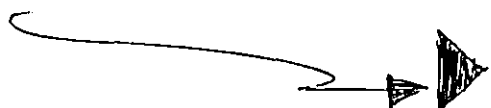
Keywords: child sexual abuse; disclosure; social support

ECOLOGICAL MAP

End of A

CH-3

BAUD EAGLE NEST



6/30

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

CH-3

ADEC Segment Length: 974m

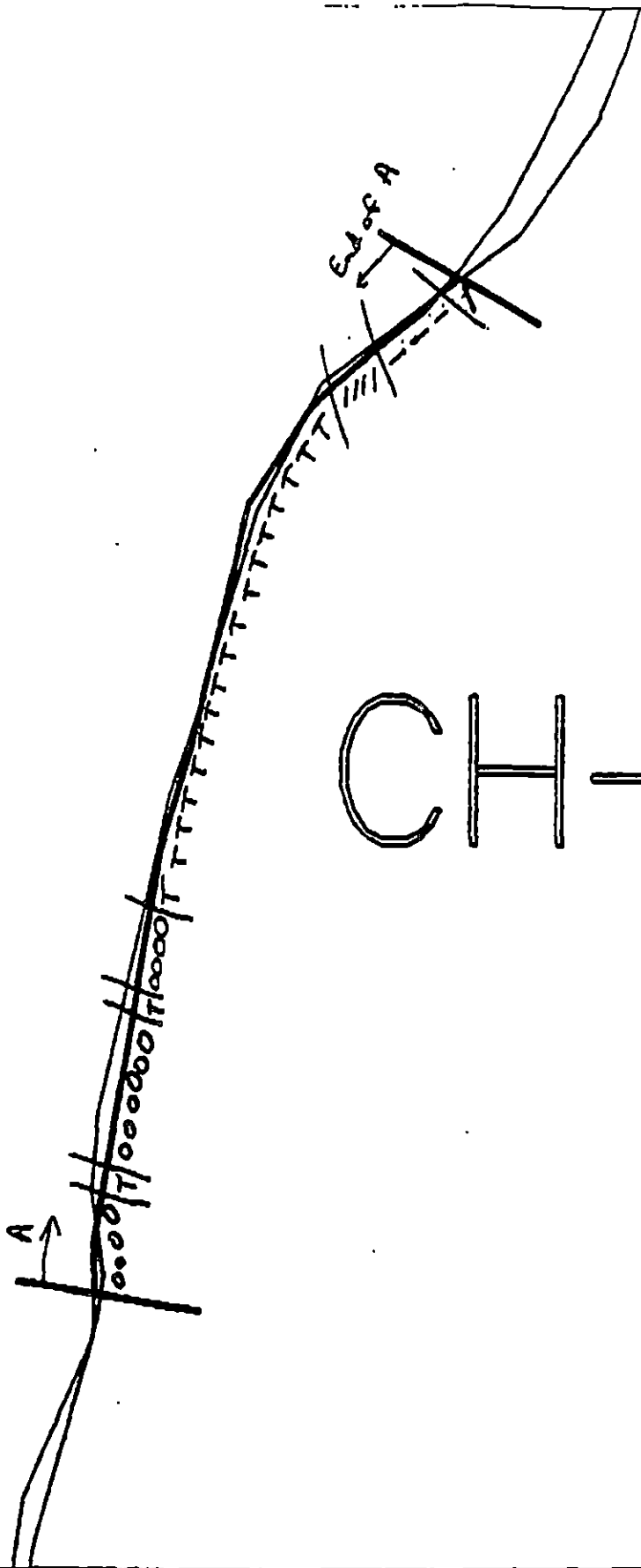


Map Key: PWS-51

Name: Poly Siegel

Date: 4/21/90

Data Entered:



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: Edy Siegel
Date: 4/21/90
Data Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/CH-04

SUBDIVISIONS: A (1 OF 1)

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.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

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

RECOMMENDATIONS:

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

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CH4 SUBDIVISION: A (ENTIRE SEGMENT) DATE 4/22/90

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-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. 04-17

OG Randy Siegel USCG Jerry Schultz SEGMENT ST/ CH-4
 BIO Lewis Sharnan LAND REP Rt0 Selano (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 125' 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 165 m VL 1200 m NO 271

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	B	P	S	1	2	3	4	5	SU	U	M	L
ASPHALT PAVEMENT													
POOLED													
COVER				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!#BAGS 2

* ALL COLLECT

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		SO	UC	1	2	3	4	5	SU	U	M	L				
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 kinkale 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 stains along cliff faces, 2 cm to 1 meter high, or as a band
 of cover beneath boulders, 1-2 meters wide.

16/36

REVIEWED

JW

DATE 4-23-90

OG Randy Siegel
SEGMENT ST CH4

SUBDIVISION A

DATE 4/21/90

CHECKLIST

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

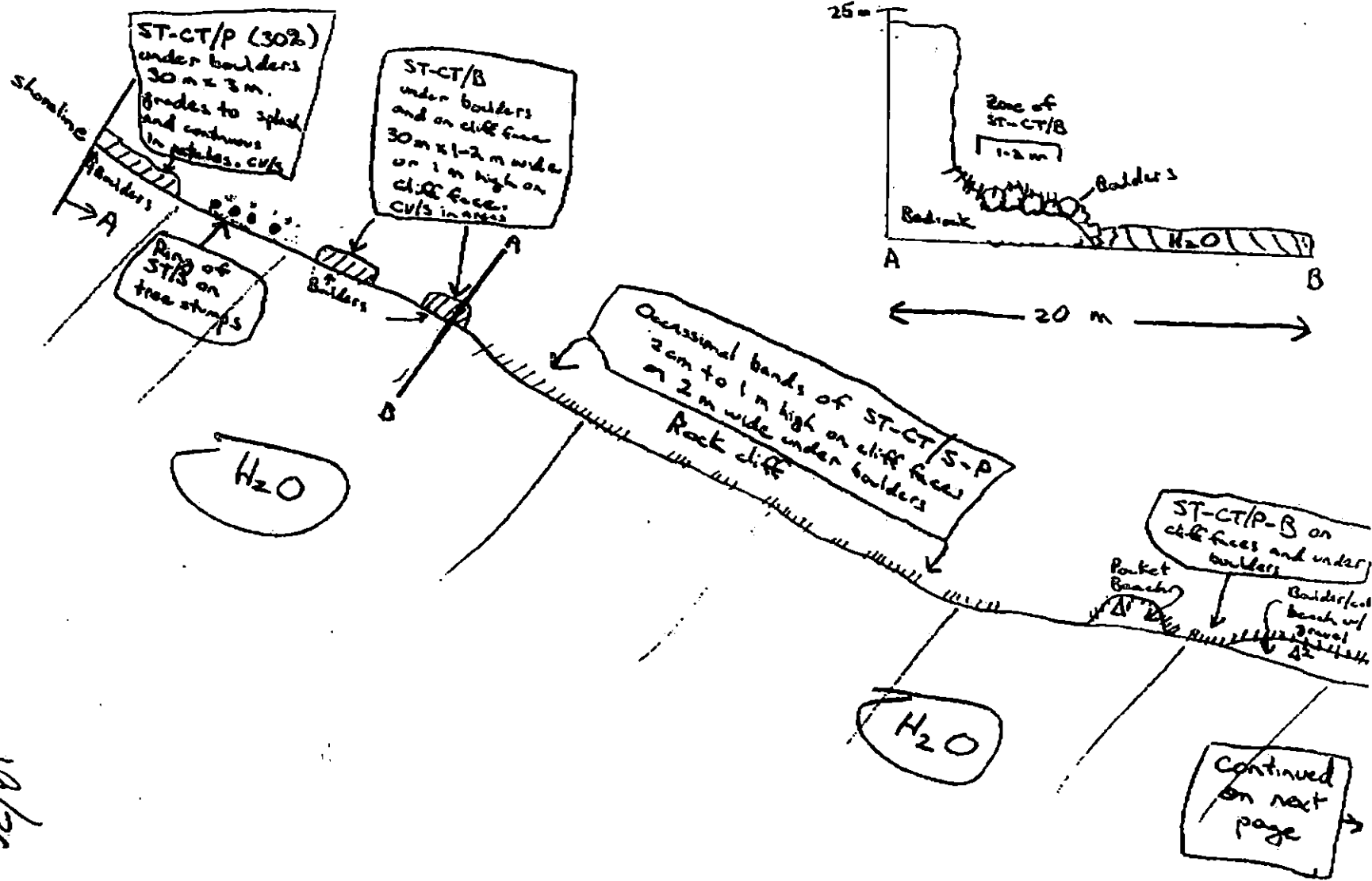
LEGEND

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

Approx. Scale
300 meters

SEARCH MAP
#1

$\rightarrow$ N



Continued
on next
page

OG Randy Siegel

SEGMENT ST 1

SUBDIVISION A

DATE 4 / 21 / 90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Boundary
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. H₂O/L₂W/L
- ☐ 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/D

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

eee

Oiled Vegetation

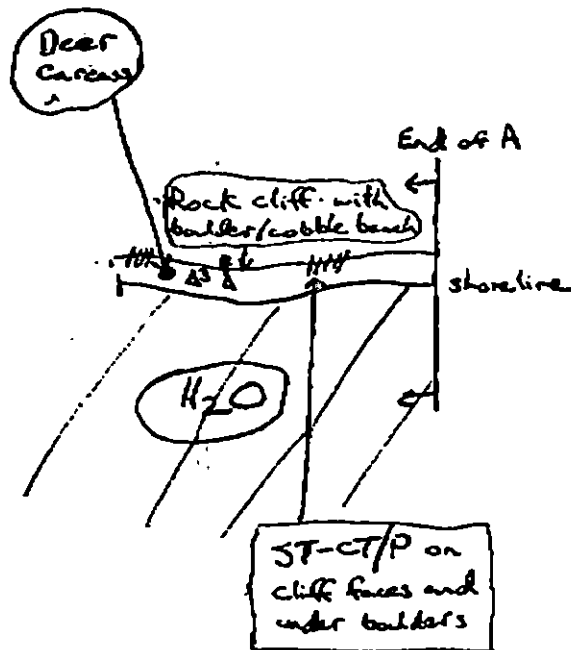
1 ➡

Photo location, direction,
and number

Approximate Scale
300 meters

SKETCH 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

REVISION: 03/24/90

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
- 3N, 3O Harbor seal and sea lion pupping (5/15 to 7/1)
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
 ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
 ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (6/1 to 9/15)
 6V Anchorages (6/1 to 9/15)
 6W Forest Service cabins (6/1 to 9/15)
 6X Lodge (6/1 to 9/15)
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 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

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 ^{+ granules}

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

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

MYTILUS

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

GASTROPODS (ANCELA, LITTORINA, LIMAETS)

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

FUCUS

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

Wildlife Observations/ General Comments: 1 pigeon guillemot, 2 harbor seals, 1 *Ctenophore* in water (1st I've seen this species), 1 mink in intertidal zone, 1 seal carcass in UTE (adult, few bones, some like - young & scavenged, no oil, poor long bone marrow implications starvation/malnutrition (winterkill)). Generally a very rich + productive bedrock/boulder intertidal habitat showing 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!

23/36

CH-4

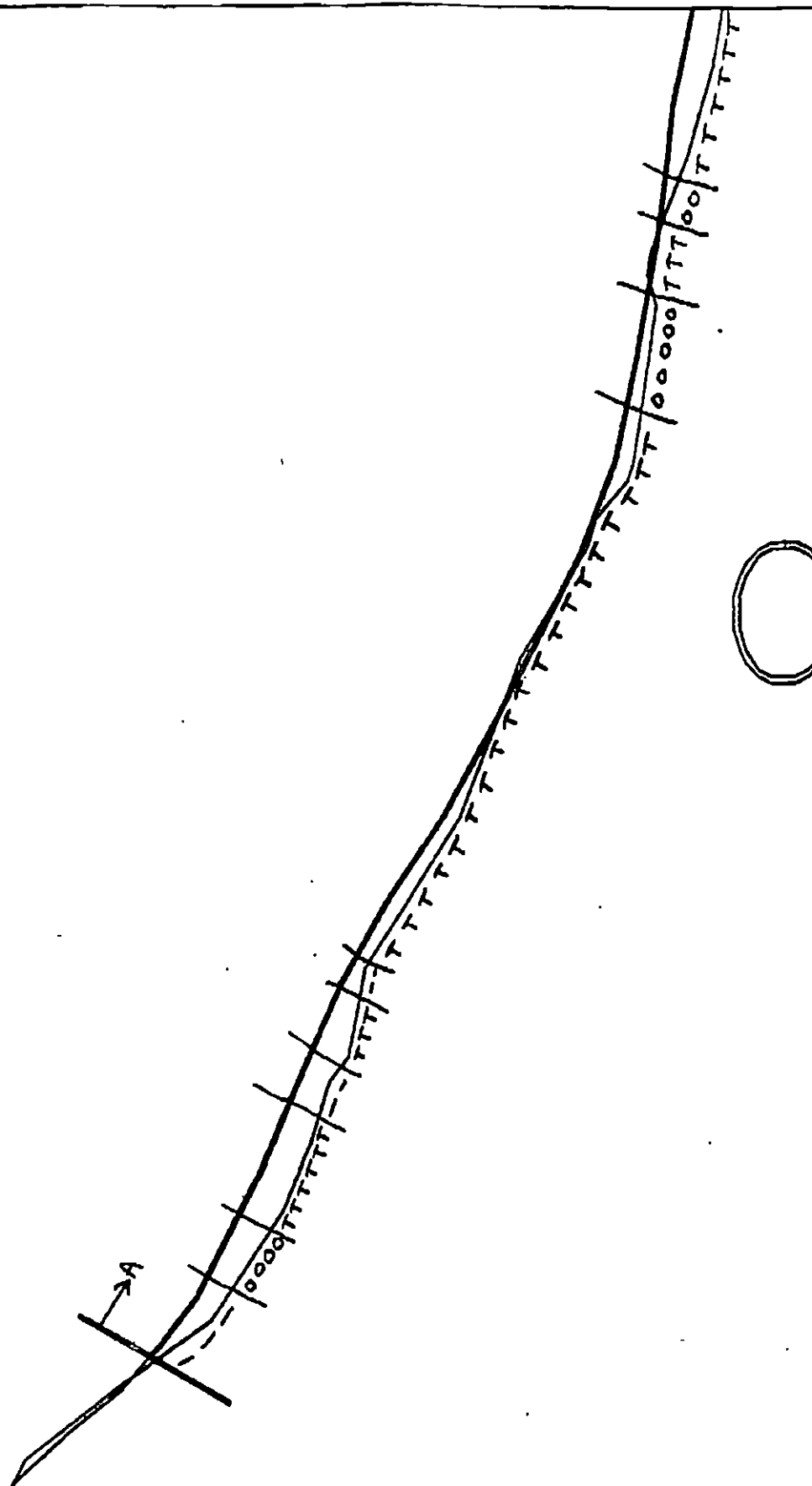
Shoreline Ecological Summary (cont.)

(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 ~~lamellosa~~ paysoni upon barnacles in the MTZ. The boulder/cliff LTZ is exceedingly rich: Fucus, Odonthallia, Geytoniopsis, ulvae, Enteromorpha, green filamentous (Acrosiphonia?), foliose red algae, finely dissected reds (Polysiphonia / Ptilosiphonia?), Pseudobalanus cariosus, abundant spat, Nucella, Spirorbis, Pyrosomella, Dermasterias, Leptasterias, Anthopleura spp., Pagurus, pricklybacks, amphipods, Littorhanium, etc. etc. Perfectly normal & healthy.

↑ PWS
52B

17/36

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

CH-4

ADEC Segment Length: 1605m

0 100 200 300
METERS

Map Key: PWS-52a

Name: Ruby LiegelDate: 4/21/90

Data Entered:

End of A
↓↓ PWS
52A

18/36

XXXX Wide

//// Medium

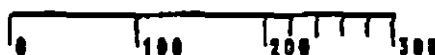
--- Narrow

TTTT Very Light

0000 No Oil

CH-4

ADEC Segment Length: 1805m


METERS

Map Key: PWS-52b

Name: Betty SiegelDate: 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 uncoiled biota and substrate.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: *J. Daniel McMahon* 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:

☒ 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 WEINER	Dix Wilson
EXXON	ANDY ESTE	Real
NOAA	Gary Petrac	Gary Petrac
USCG	KENNETH KEANE	Kenneth Keane

FOSC: DATE: 6-19-80

OG Rand
 SEGMENT ST/CT/4
 SUBDIVISION A
 DATE 4/21/90

Approx. Scale
 300 meters

SURCH MAP
 #1

→ N

CHECKLIST

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

LEGEND

1 Δ
 PK - No Subsurface Oil

2 Δ
 PK - Subsurface Oil

CT/C
 Continuous Distribution

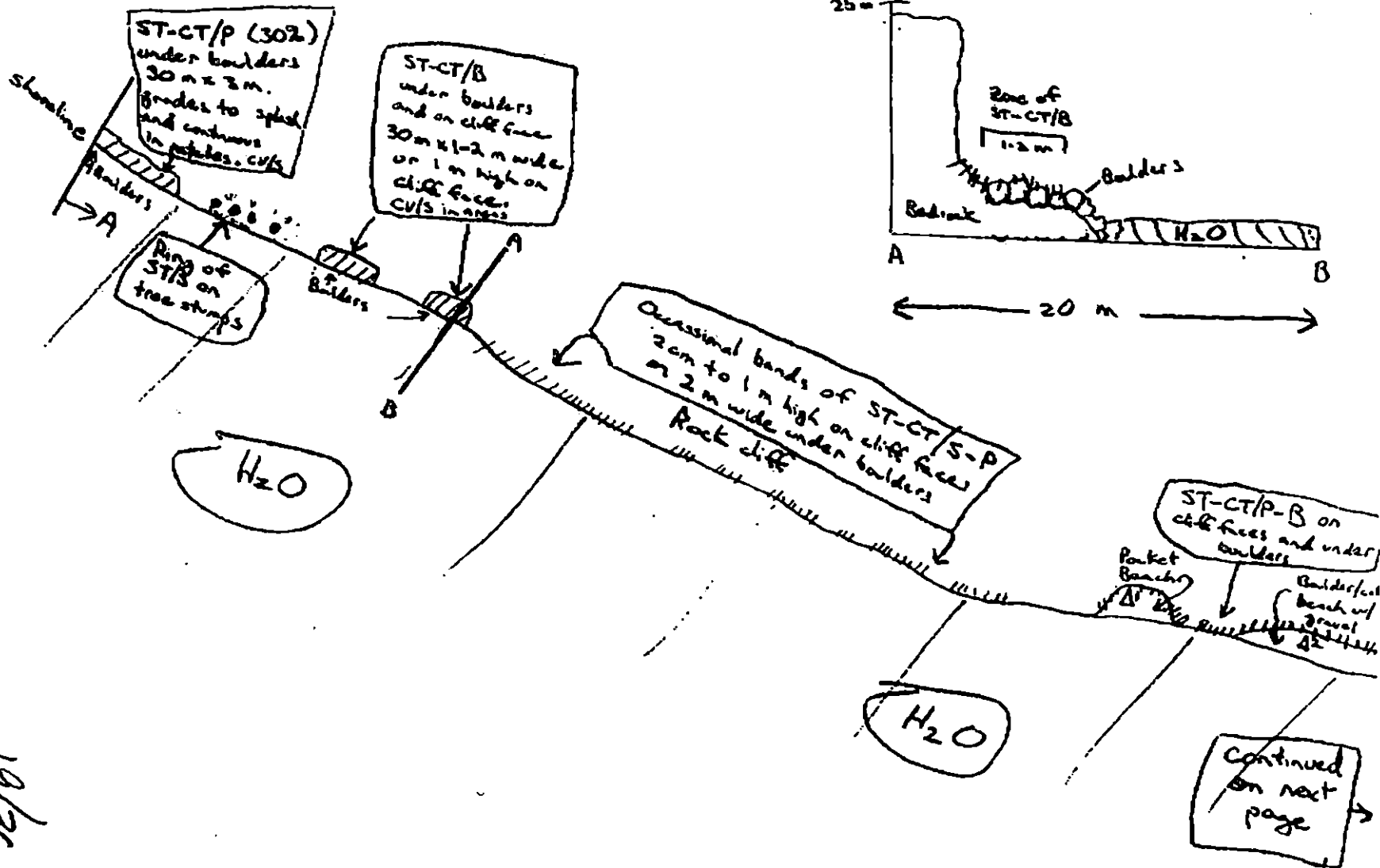
CT/B
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

eee
 Oil Vegetation

1 →
 Photo location, direction, and number



OG Randy Siegel

SEGMENT ST/ 4

SUBDIVISION A

DATE 4 / 21 90

Approximate Scale
300 meters

SMITH MAP
#2

→ N

CHECKLIST

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

LEGEND

1 Δ

Pli - No Subsurface Oil

2 Δ

Pli - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

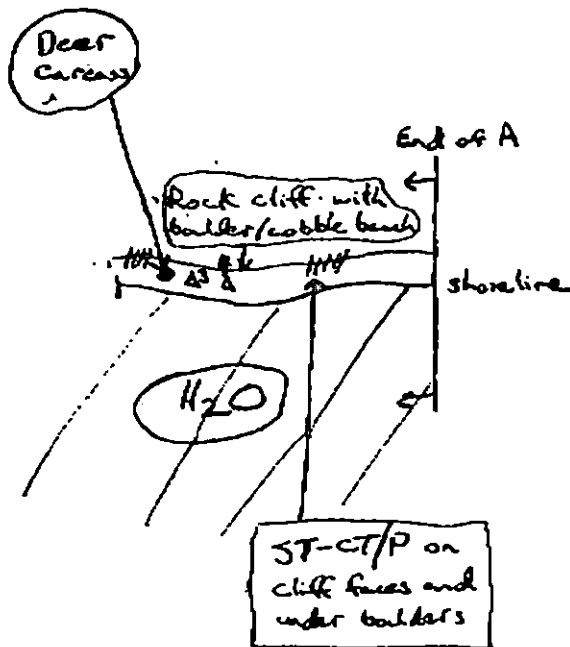
CT/S

Spotted Distribution

Oil Vegetation

1 →

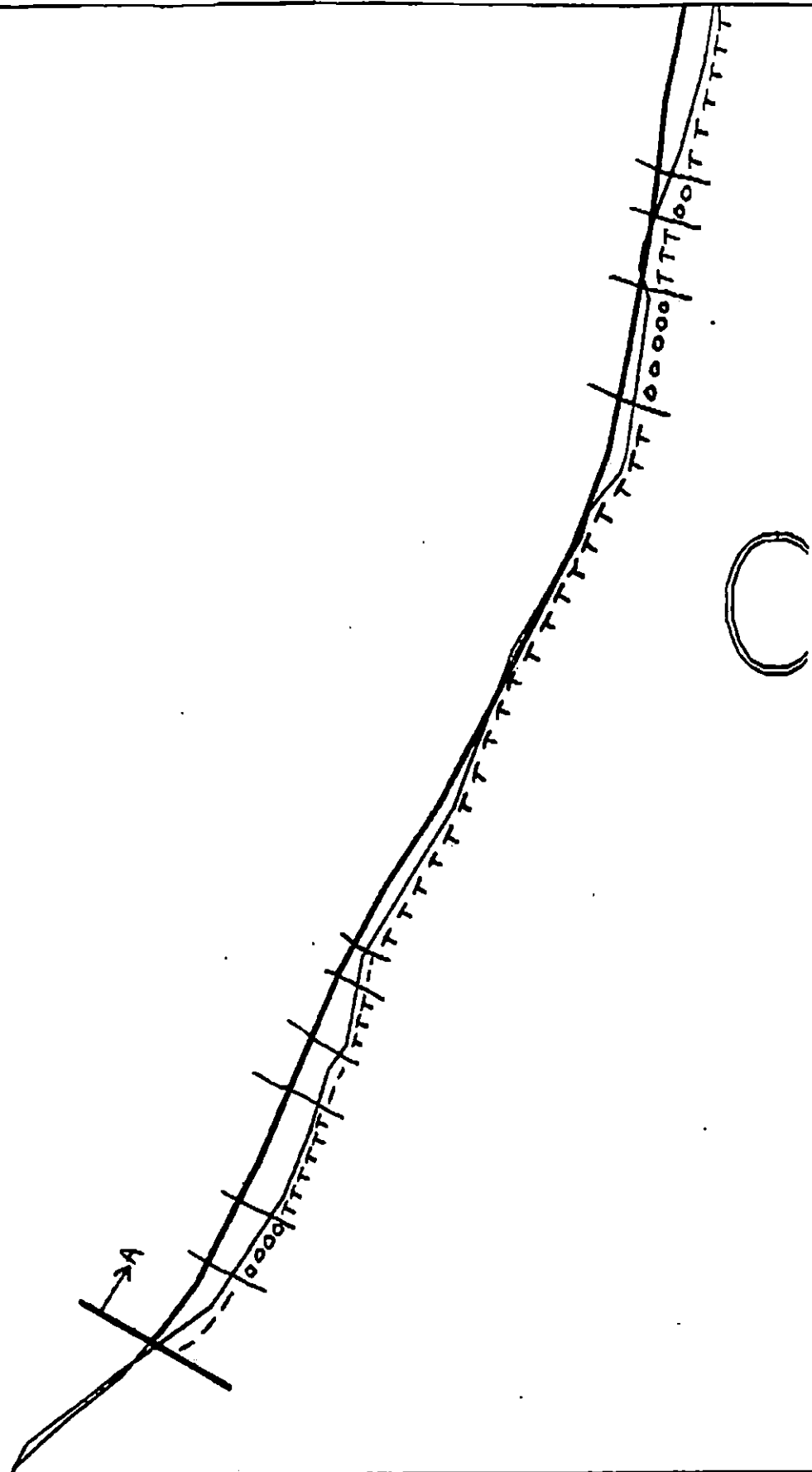
Photo location, direction,
and number



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

↑ PWS
52B



17/36

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

CH-4

ADEC Segment Length: 1605m



Map Key: PWS-52a
Name: R. J. Liegel
Date: 4/21/90
Data Entered:

End of A

↓ PWS
52A

18/30

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

CH-4

ADEC Segment Length: 1605m



METERS

Map Key: PWS-52b

Name: Billy AngelDate: 4/21/90

Data Entered: _____

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/CH-05

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

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 unoiled biota and substrate.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

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

RECOMMENDATIONS:

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

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
 AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)
 1E Main Bay Hatchery release (4/20 to 6/15)
 1F 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
- 3M, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
 ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
 ADF&G Tom Rothy 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation:
 Tent sites (6/1 to 9/15)
 Anchorages (6/1 to 9/15)
 Forest Service cabins (6/1 to 9/15)
 Lodge (6/1 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/ 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 ~~ineffective~~ 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

SHORELINE OILING SUMMARY

REVISION NO. 04.12.1

OG Randy Siegel USCG Terry Schultz SEGMENT ST/ CH-5
 BIO Lewis Sharnan LAND REP Pat Selanoff (Cyc) SUBDIVISION A (1 OF 1)
 EXXON Leonard Herbst 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 m

SURFACE OIL

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

PAVEMENT H F S 0 sq. m by 0 cPATTIES / 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 Rope, plast.#BAGS 1

Photographs:

Roll No. NoneFrames —

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SHEEN (Y/N)	T	SURFACE SUBSURFACE SEDIMENT
		OP	OR	OL	OF	NO		US	UC	1	2	3	4	5	6	7	8	SU	U	M	U				
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 in splashy distribution on sections of rock cliff and on rocks on beach. Deer carcass not observed.

2/46

REVIEWED fwDATE 4-25-90

SEGMENT ST 115

SUBDIVISION A

DATE 4/22/90

CHECKLIST

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

LEGEND

1 Δ
PR - No Subsurface Oil

2 Δ
PR - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patched Distribution

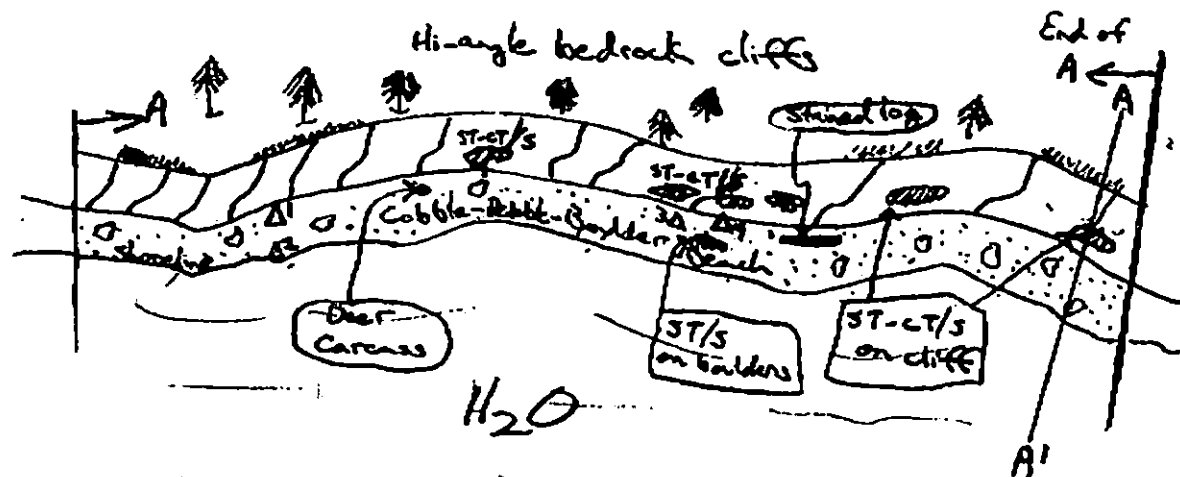
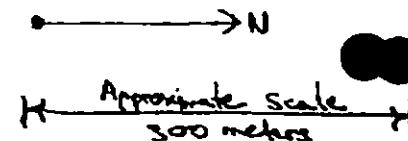
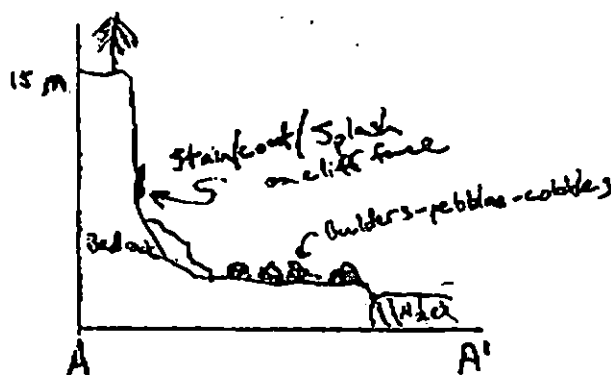
CT/S
Splashed Distribution

eee
Oiled Vegetation

1 ●
Photo location, direction,
and number



SKETCH MAP



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

SHORELINE ECOLOGICAL SUMMARY (Page 1 of 2)

Segment ST/ CH-5 Subdivision A Date (mo / day / yr) 4/22/90

Time (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) SM

(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 (ANCELA, LITTORINA, LIMAETE)

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	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, deer tracks in supratidal, dead deer in supratidal fringe (no skull, few bones, hair, unskinned, lower jaw indicates yearling, cause of death unknown, but poor long bone marrow indicates starvation/malnutrition witherhill). Intertidal zone appears to be naturally sparsely vegetated for large boulders. There is, however, a good spot act, and reestablishment 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

CH-5

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

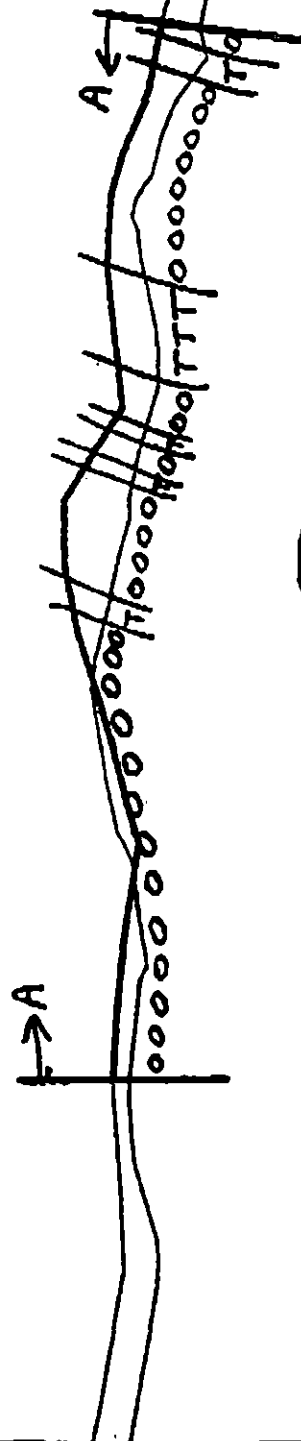
Shorman
4/22/90

General Comments (cont.):

wherever adult Fucus + Mytilus occur. Same for limpets +
littorines. Beneath boulders are Onchidella, a few nemertean, limpets,
amphipods, rare littorine egg masses. Gastropoda, Ectonemoura,
and rare/discontinuous mussels join Fucus in the MTE. Areas of
giant boulders (N. end segment) are extremely diverse (especially LTE)
- small Metridium, Ectocarpus, Ketlarina, diverse algae.

6/46

CH-5



CH-5

4/46

CH-5

ADEC Segment Length: 837m



Map Key: PWS-53

Name: Andy Siegel

Date: 4/22/90

Date Entered:

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

SHORELINE EVALUATION

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.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Adams DATE: 5/3/80

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	☐ 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: 3/3/00.
ADEC ART WENGER
EXXON RUDY TATE
NOAA GARY PETERSON
USCG KENNETH KEENE

FOSC: DATE: 5-7-80

SEGMENT S W-5

SUBDIVISION A

DATE 4/22/90

CHECKLIST

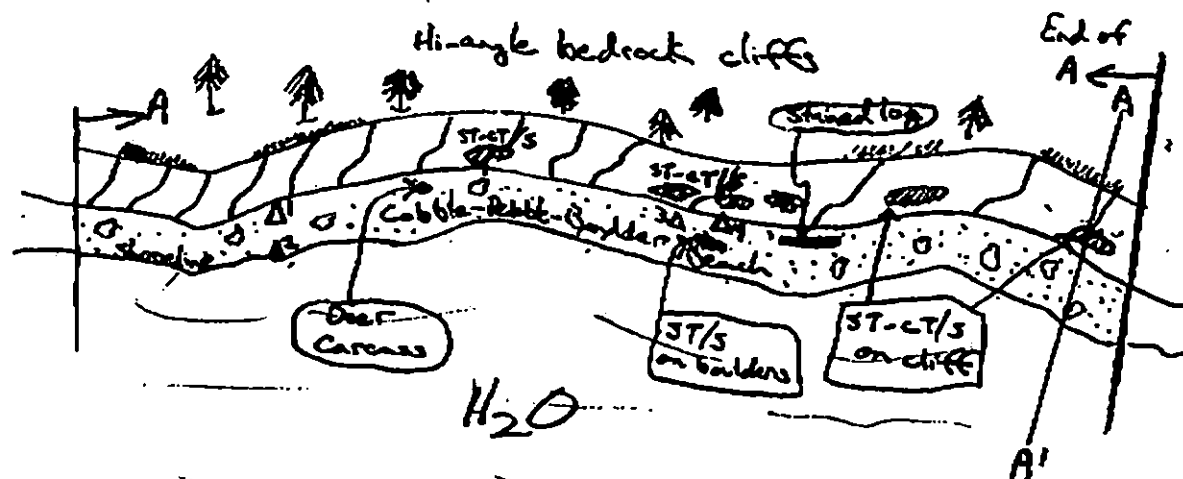
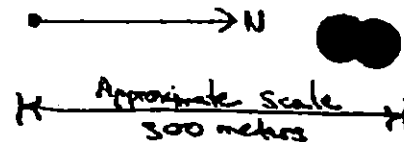
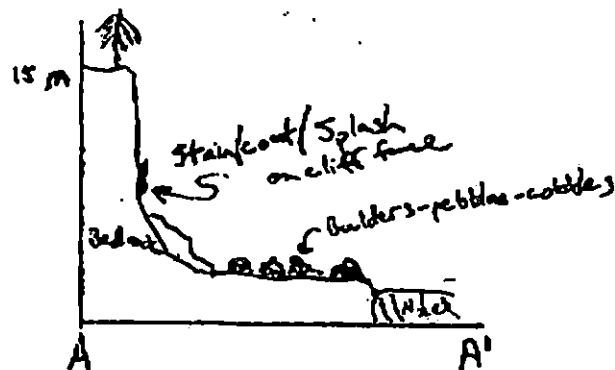
- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Body
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/L/LWL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PH Location(s)
- ☐ Photo Location(s)

LEGEND

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

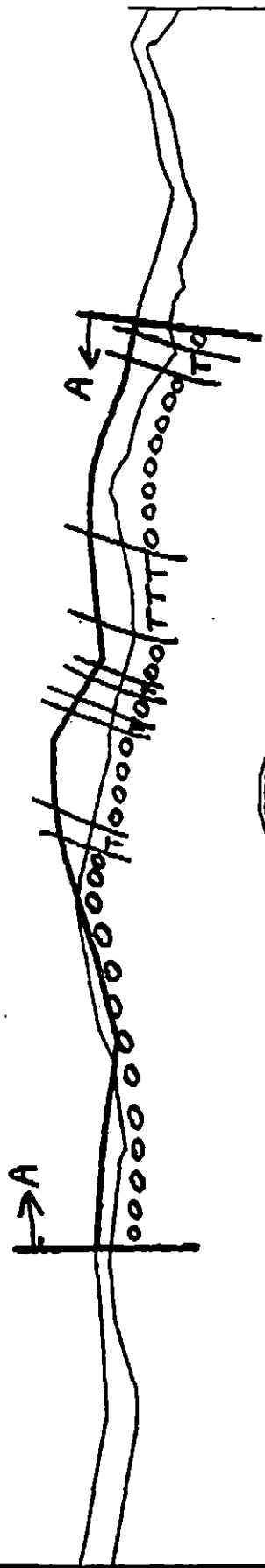
3/46

SKETCH MAP



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

CH-5



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: Andy Siegel
Date: 4/23/90
Data Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/CH-06

SUBDIVISIONS: A (1 OF 1)

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 unoiled biota and substrate.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

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

RECOMMENDATIONS:

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

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F 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)
3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Rothy 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- ✓ 6U Recreation: Tent sites (6/1 to 9/15)
6V Anchorages (6/1 to 9/15)
6W Forest Service cabins (6/1 to 9/15)
6X Lodge (6/1 to 9/15)
6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH Finfish harvesting
7I Deer harvesting (8/15 to 2/28)
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 / CH6 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 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 (CXC) 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 rocks processes.

RECEIVED 02-21
15/46

SHORELINE OILING SUMMARY

REVISION NO. 04.12

OG: Randy Siegel USCG Jerry Schulte SEGMENT ST/ CH-6
 BIO: Lewis I. Shorman LAND REP Pat Salanoff (CWC) SUBDIVISION A (1 OF 1)
 EXXON Leonard Herbst ADEC Mike Chel TIME 16:20 10/16/90
 TEAM NO. 12 TIDE LEVEL +2.3 +0 +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			
	C	B	P	S	1	2	3	4	5	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 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 Pomgom#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 SUBSURFA SEDIMENT
		OP	OR	OL	OF	NO		UO	UG	1	2	3	4	5	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 JWDATE 4-25-90

9/46

OG Randy Siegel

SEGMENT H-6

SUBDIVISION A

DATE 4 / 22 90

CHECKLIST

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

LEGEND

1 Δ

PH - 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

Oiled Vegetation

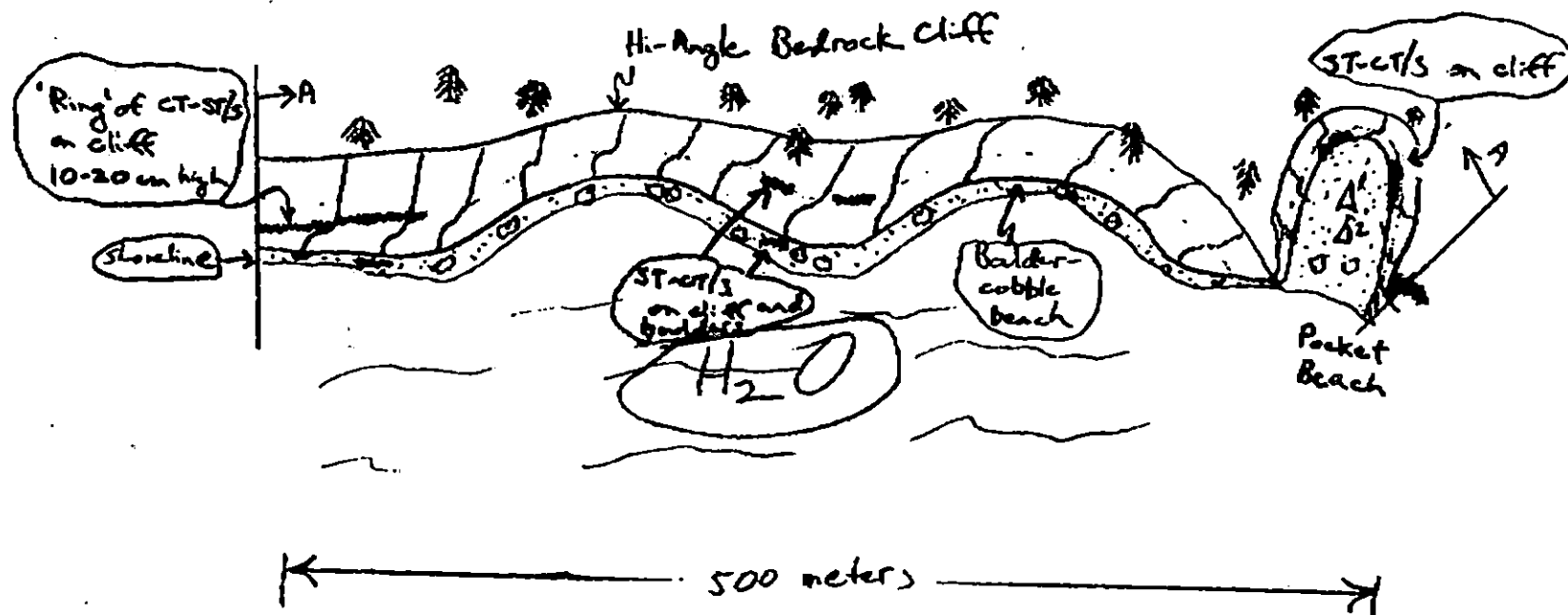
1 ●→

Photo location, direction, and number

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

REVISION: 00/0000

Segment ST / CH-6 Subdivision A Date (mo / day / yr) 4/22/90

 Time (24 hr) 1620-1150 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		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	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, 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: River otter / muskrat seen in supratidal (crustaceans, fish bones). This segment somewhat similar to CH-5 but the intertidal is a bit richer due to generally larger particles (bigger, more visible boulders). Also there are a few bedrock platforms & patches that are quite diverse (especially LTD) - include things like Hydrobia, Katharina, and corallines along with Fucus, Ulva, Enteromorpha, (cont.)

Ecological Considerations:

Resource sensitivities previously listed for this segment include recreational bird sites (code 6U) and subsistence fish harvesting (code 7II). Tidalpool 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)

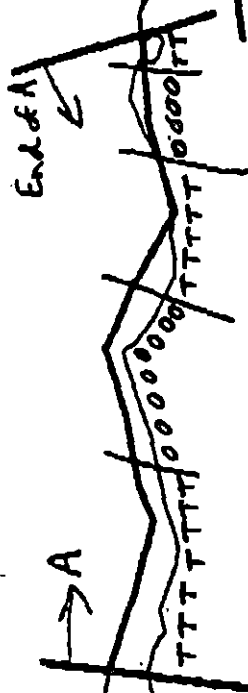
Sharman
4/22/90

General Comments (cont.) :

ulvae, Syntrophon, lots of Lucella landlone, mussels. Good spot set
and good recruitment of Fucus, mussels, limpets. A generally productive
and healthy intertidal community.

13/4/6

CH-7



CH-6

CH-5

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

CH-6

ADEC Segment Length: 513m



Map Key: PWS-54

Name: Edy Singh

Date: 4/23/90

Date 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 unoiled biota and substrate.

ARCHAEOLOGICAL CONSTRAINTS:

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

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

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 5/3/90
ADEC Art Weimer [Signature]
EXXON Andy TGA [Signature]
NOAA Gay P. [Signature]
USCG Kenneth Keene [Signature]

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

OG Randy Siegel

SEGMENT H-6

SUBDIVISION A

DATE 4 / 22 / 90

CHECKLIST

☐ N Arrow
☐ Approx. Scale
☐ Seg/Sub Endry
☐ Oil Dist.
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. FW/LA/VL
☐ SSL
☐ Profile Location(s)
☐ Profile(s)
☐ PH Location(s)
☐ Photo Location(s)

LEGEND

1 Δ

PH - No Subsurface Oil

2 Δ

PH - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Oil Vegetation

1 $\Rightarrow$

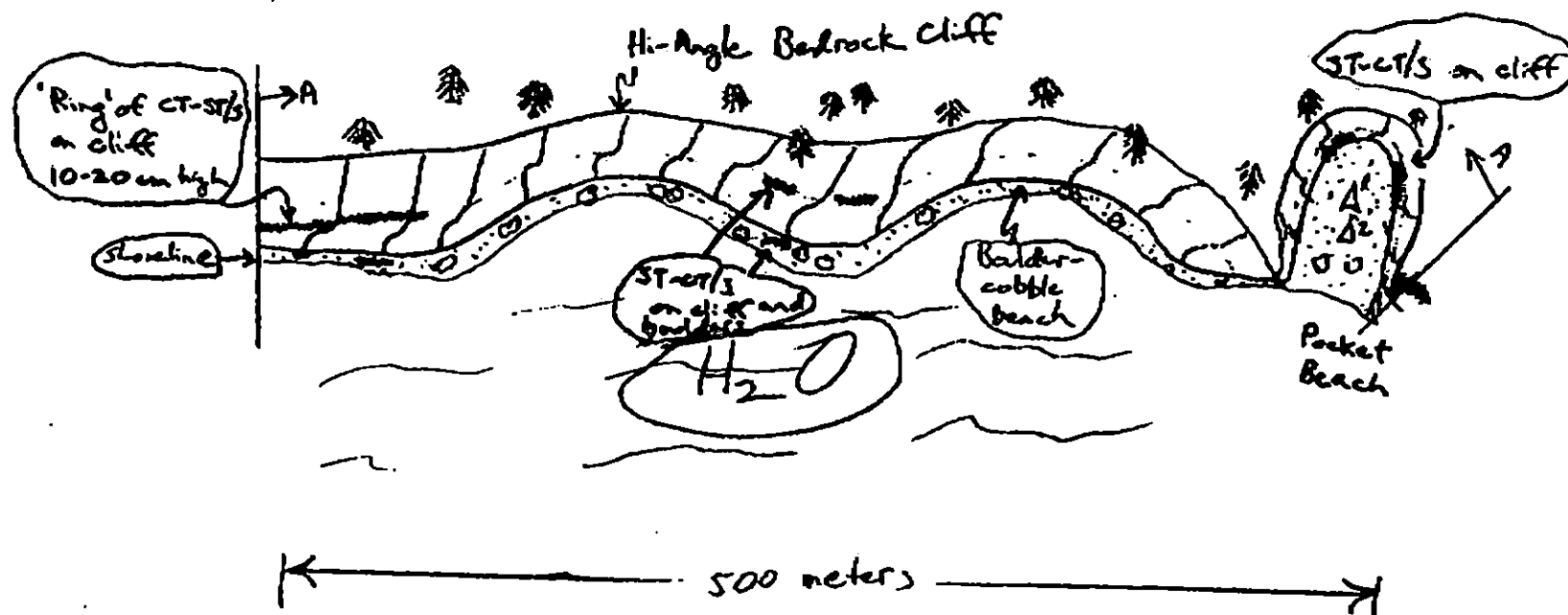
Photo location, direction, and number

10/46

SKETCH MAP

→ N

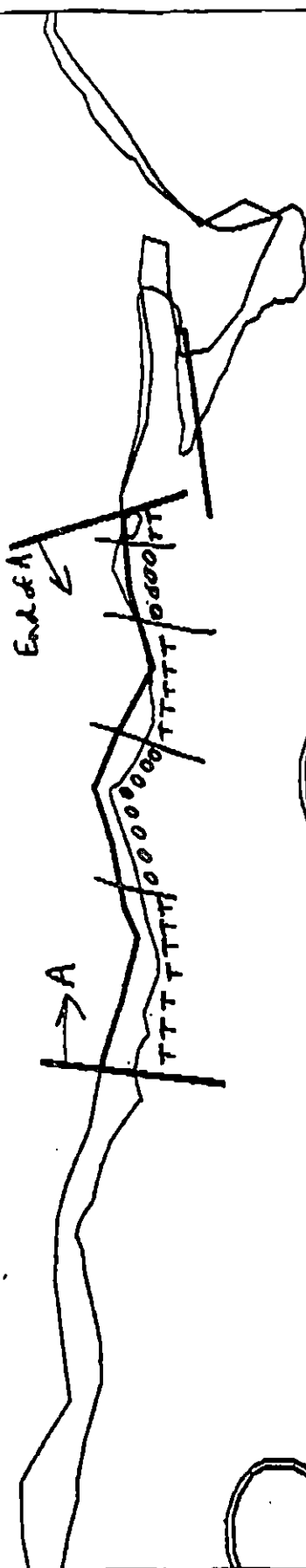
Approximate Scale
300 meters



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

REVISION: 00/2/90

CH-7



CH-6

CH-5

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

CH-6

ADEC Segment Length: 513m

0 100 200 300

METERS

Map Key: PWS-54

Name: Edy Siegel

Date: 4/23/90

Date Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/CH-07

SUBDIVISIONS: A (1 OF 1)

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.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

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

RECOMMENDATIONS:

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

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esthler 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
- 30, 3Q Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Rothy 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (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)
71H Finfish harvesting
72H Deer harvesting (8/15 to 2/28)
73H 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 / CH7 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 gravel/cobble beach was found to be mostly clean (no subsurface oil) but had a small number of tarballs that were broken up in situ. Starting at the inflections on either side of the small sed beach, small "traps" existed where surface oil either widened and weathered (east side) or narrowed and "pooled" in a splashy series of "pools" (west side) (co

LAND MANAGER

NAME PAT SLANOFF SIGNATURE Pat Slanoff

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

South Westerly winds would make bioremediation of this segment possible.

23/46

APR-24-1990 10:36 FROM AORTUM TO ENVIRONMENTAL P.25
(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 1/B stain with 1/P coats for $\approx$ 40m in L. Splashes of stain and coat were found on and under rocks of the small sea 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 Ebel ADEC

SHORELINE OILING SUMMARY

REVISION NO. 04-13-90

OG Randy Siegel USCG Jerry Schultz SEGMENT ST/ CH-7
 BIO Lewis Shafman LAND REP Pat Selmon (um) SUBDIVISION A (1 OF 1)
 EXXON Ward Harbat ADEC Mike Ebel TIME 16:40 to 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			
	C	B	P	S	1	2	3	4	5	SU	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 crPATTIES / 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 Pem Pom/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		UG	UC	1	2	3	4	5	SU	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 high angle bedrock cliffs - the north end had a low angle slope of pebbles/cobbles. Variable oiling along the section. Stain on coast 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 W DATE 4-24-90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 06-13-89

SEGMENT ST/ CH-7 SUBDIVISION A (2 OF 2)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SCREEN (Y/N)	!	SURFACE SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		US	UC	1/2	3/4	1/2	3/4	1/2	3/4	SU	U	M	U				
7	20					X	0-0		X								X				N	O	G, S
8	20					X	0-0		X									X			N	O	G, S
9	20					X	0-2		X	X						X					-	-	C, P
10	30					X	0-0		X							X					-	-	C
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COMMENTS

REVIEWED

JW

DATE

4-24-90

17/46

00 - random stage

SEGMENT CH-7

SUBDIVISION A

DATE 4/22/90

CHECKLIST

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

LEGEND

1 Δ
PI - No Subsurface Oil

2 Δ
PI - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

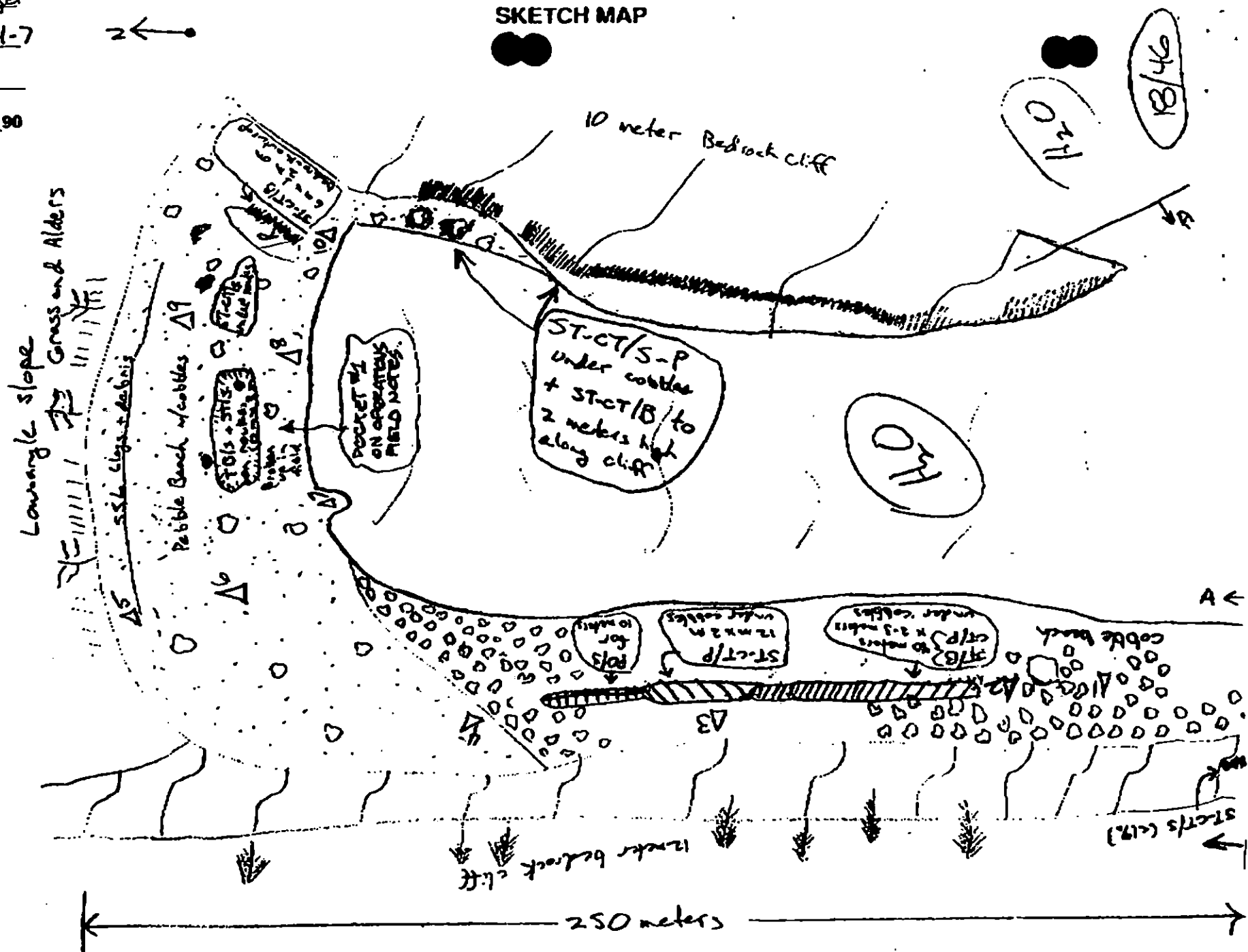
CT/P
Patchy Distribution

CT/S
Splashed Distribution

eee
Oiled Vegetation

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

SKETCH MAP



Oil Character Length (m): AP 5 CV 40 ST 72 MS 10 PT 10 FL NO

0000000000

SHORELINE ECOLOGICAL SUMMARY (Page 1 of 2)

Segment ST / CH-7 Subdivision A Date (mo / day / yr) 4/22/90

Time (24 hr) 1700-1800 Biologist SHARMAN

(A) Substrate type and % of segments: SUBDIV.
(1) Bedrock 20 (2) Boulder 35 (3) Cobble 25 (4) Pebble 20 (5) Sand (6) SM

(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, 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: For green foraging in intertidal, deer, ungulates, deer tracks in UTA & supratidal, newly emerged beach vegetation shoots have been grazed by deer. Rocky points and islets are probably important 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 hot 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 biohermation near tidepool 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 values of rocky points/islets and the protected N. inlet.

CH-7

Shoreline Ecological Summary (cont.)
(Page 2 of 2)Sherman
4/22/90General 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 boulders/cobbles 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 (MTE & especially LTE) - articulated coralline algae, tidepool sculpins, Bycropodis, Katharina, etc. Enteromorpha is very common in the MTEs of this segment. As elsewhere there is good barnacle spat settlement, and mussel/gastropod/Fucus recruitment appears to be occurring where adults are present.

CH-3

CH-7



CH-6

19/46

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No

CH-7

ADEC Segment Length: 374m



Map Key: PWS-55

Name: Ruby Langel

Date: 4/22/90

Data 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 uncoiled biota and substrate.

ARCHAEOLOGICAL CONSTRAINTS:

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

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:

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: 5/2/90

ADEC ART WEINER
EXXON AMY TGA
NOAA GARY RETORE
USCG KENNETH KEANE

FOSC: *[Signature]*

DATE: 6-19-90

SEGMENT STV CH-7

SUBDIVISION A

DATE 4/22/90

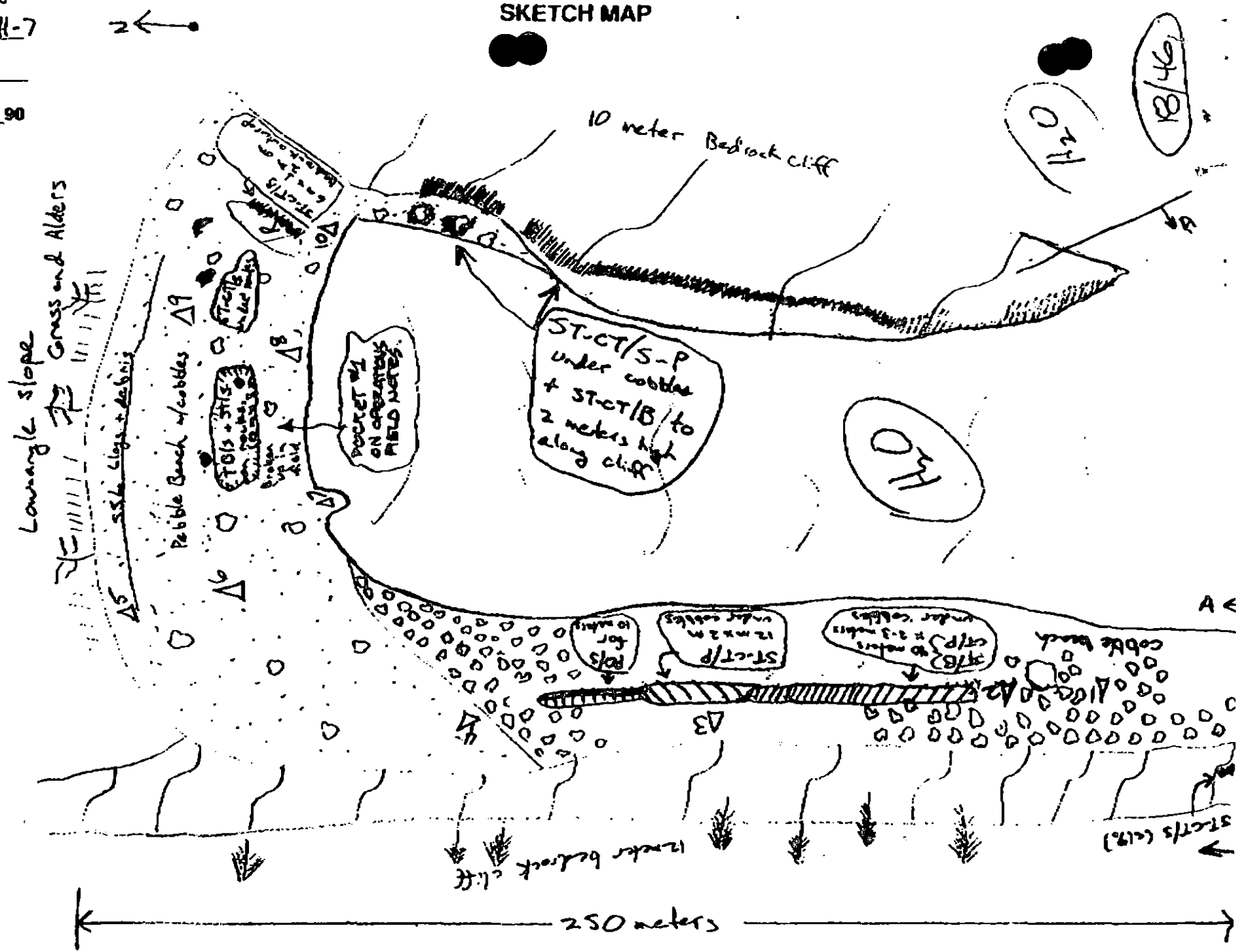
SKETCH MAP

CHECKLIST

- N Arrow
- Approx. Scale
- Seg/Sub Boundary
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HMLAWL
- SSL
- Profile Location(s)
- Profile(s)
- PII Location(s)
- Photo Location(s)

LEGEND

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



Oil Character Length (m): AP 5 CV 40 ST 72 MS PT TB 10 FL NO

REVISIONS

CH-3

CH-7



CH-6

19/46

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

CH-7

ADEC Segment Length: 374m



Map Key: PWS-55

Name: Rudy Langel

Date: 4/22/90

Data Entered:

1991 MAYSAP EVALUATION

SEGMENT: CH 008 SUB: A REGION: PWS SURVEY DATE: 5/2/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) OPEN 5/1 - 8/15; RESTRICTED 8/15 - 9/15

Ecological/Constraints (see page two for details) Fish harvest area, Subsistence - Deer harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC

FOSC

EXXON

USCG

NOAA

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson

☒ NTR ☐ Treatment Recommended

Sporadic coats and stains and tar splats (or splashy SCR) on bedrock outcroppings and under cobbles. Entire segment was not surveyed due to previous surveys showing no oil.

EXXON

NAME LARRY D. OLSON SIGNATURE Larry D. Olson

☒ NTR

I agree with Representatives recommendations.

LANDMANAGER

NAME LARRY EVANOFF OF CVC SIGNATURE LM EV

☒ NTR ☐ TREATMENT RECOMMENDED

APPROX 1/2 OF SEGMENT NOT SURVEYED BECAUSE PREVIOUS SURVEYS SHOWED NO OIL. SCATTERED STAINS/COATS ON ROCK FACE AND UNDERNATH CB ~~IN~~ IN THE U.I.

USCG/NOAA

NAME JERRY SCHULTZ SIGNATURE Jerry Schultz

☒ NTR

FURTHER REMOVAL OPERATIONS WOULD CAUSE MORE ENVIRONMENTAL HARM THAN THE OIL TO BE REMOVED

PAGE 2 OF 7

W 0 m M 0 m N 6 m VL 54 m NO 190 m US 707 m

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

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

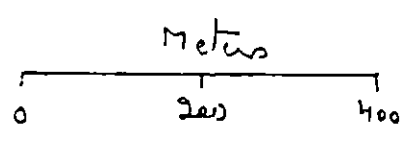
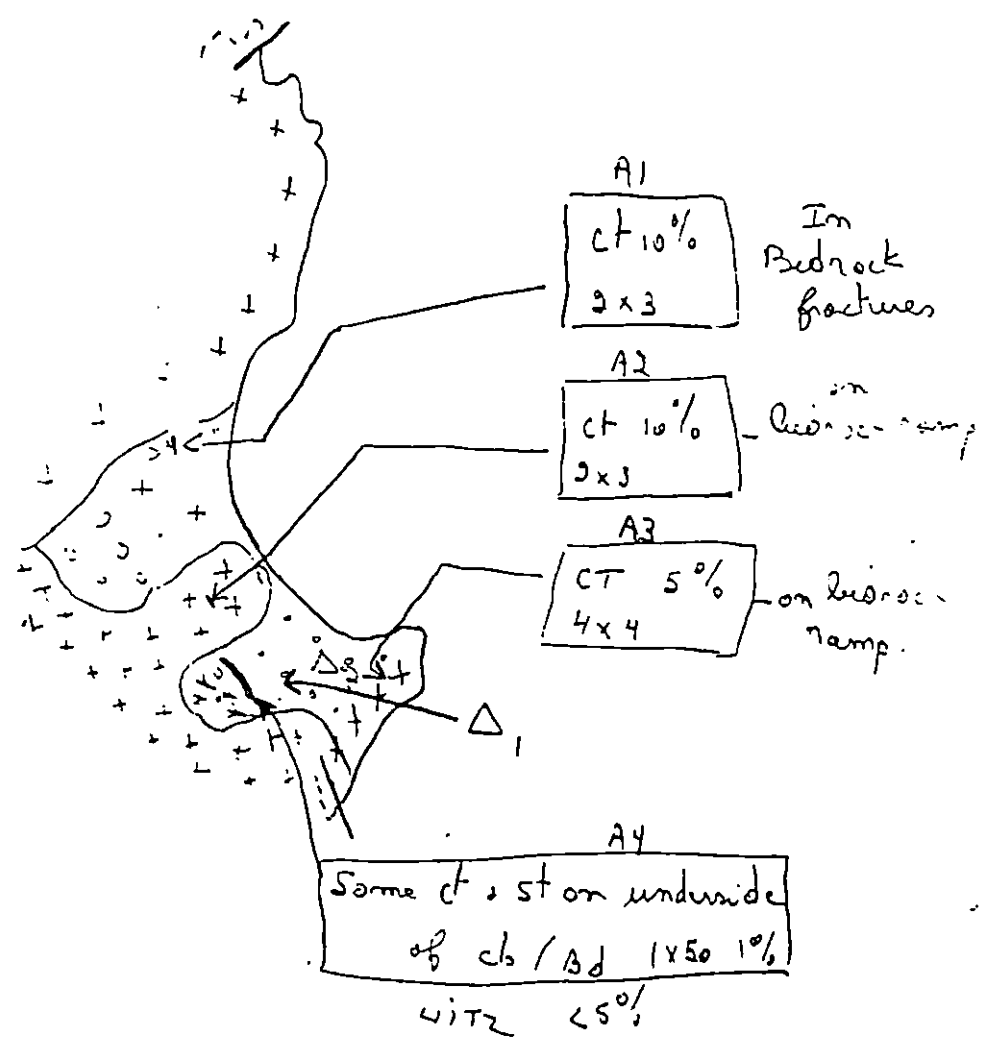
OG COMMENTS: Small cove with platy ls/pb beach in front of a vegetated old storm berm. Bedrock outcrops at the two ends and in middle of bay. Oiling occurs as coats on bedrock walls on intertidal ramp, and on the underside of ls in the litz.

REVIEWED: MC 5/10/91
reviewed 5.4 74

ogsketch Map
 CH008A
 1m Sample
 May 3, 1991
 0620-0659

Legend

[+] Bedrock
 [x] Feat. pb/cb
 [x] logs. along



MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #	4	DATE/TIME	May 2, 1991 0632 - 0651
SEGMENT #	CH008	TIDAL HEIGHT (Range)	+6.5 => +5.5
SUBDIVISION	A	BIOLOGIST	JIM BARRY
STATE	Calif	WIND SPEED/DIRECTION	N 5 kt., light rain

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

A= The oiled site (CT) is located in the upper zone of a medium exposure beach of cobble and pebbles. Oiled area is on the bedrock outcrops near the drift line. Sparse filamentous green algae, and little else is present immediately around the oiled site. About 1-3 feet below this drift line, intertidal biota are more common. Relatively little biota exists on the middle zone beach cobble, but bedrock substrata have dense cover of Fucus, with sparse to moderate numbers of littorines, barnacles and limpets. Towards the lowest zones, the biota grade into a denser Fucus cover, patchy mussel abundance, with higher barnacle, littorine, and limpet densities. Reproductive and adult life stages are present for most species. No evidence of recent adverse impacts from the remaining oil were observed.

Cleanup activities, if required, will not adversely affect the biota on this beach.

B= Oil (CT) was found on bedrock outcrop areas along the upper/supratidal boundary. Biota at site are black lichen and mosses. Slightly below the oiled area, the intertidal biota are richer, and similar to the biota described in A (above). The pebble beach had little biota within or attached to the sediment, at least those visible near the +6 ft tidal level. Bordering headland habitats are much richer, with dense Fucus abundance, moderate, but patchy mussels, and abundant barnacles, limpets, and littorine snails in the middle intertidal zone. Lower zones appear to have higher cover of red and particularly green algae.

Summary of Biological Features of CH008-A. This subdivision has several habitat types, but the survey team concentrated exclusively on the southern portion along a pebble and cobble beach with a few outcrops. The pebble/cobble beach has sparse biota (see A above) and the bedrock outcrops has much higher cover of Fucus, barnacles, mussels, and associated species.

WILDLIFE OBSERVATIONS - Completed on all subdivisions

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/Kittiwakes	1	1	
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

Don't forget to

CH008-A Biological Report, (continued)

List of Common Species from CH008-A

A. Marine Plants

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

II. Marine Animals

1. Sponges - Porifera - Halichondria sp.
2. Anemones - Anthopleura artemesia, A. elegantissima
3. Hydroids - Sertularidae - Sertularella?
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms - Emplectonema gracile
8. Polychaetes
Nepthyidae
Nereidae - Nereis spp.
Serpulidae
Serpula sp., Crucigera sp., Eudistylia polymorpha
Spirorbidae - Spirorbis sp.
9. Peanut worms - Sipunculids - Phascolosoma agassizii
10. Crustaceans
 - a. Amphipods - Orchestia sp.?
 - b. Barnacles
Balanus glandula, Chthamalus dalli, Semibalanus cariosus
 - c. Crabs
Haplogaster sp., Hemigrapsus oregonensis, Paguridae (hermit crabs),
11. Mollusca
 - a. Chitons
Mopalia mucosa, Katharina tunicata, Tonicella lineata,
 - b. Snails - Gastropods
Littorina scutulata, L. sitkana, Natica clausa, Nucella lamellosa, N.
lima, N. emarginata,
 - c. Limpets Lottia digitalis, L. persona
 - d. Nudibranches - Lamellidoris fusca
 - e. Mussels and Clams
Mytilus edulis, Prototheca staminea, Saxidomus giganteus,
12. Echinoderms
 - a. Brittle Stars - Ophiolus sp., ?
 - b. Sea stars
Dermasterias imbricata, Evasterias truscheli, Leptasterias hexactis,
Pycnopoda helianthoides,
 - d. Urchins - Strongylocentrotus droebachiensis
13. Bryozoans - Membranipora sp., Schizoporella sp.
15. Fishes -
 - Cottidae - unknown species
 - Liparidae - Liparis callyodon
 - Stichaeidae - Xiphister atropurpureus, X. mucosus

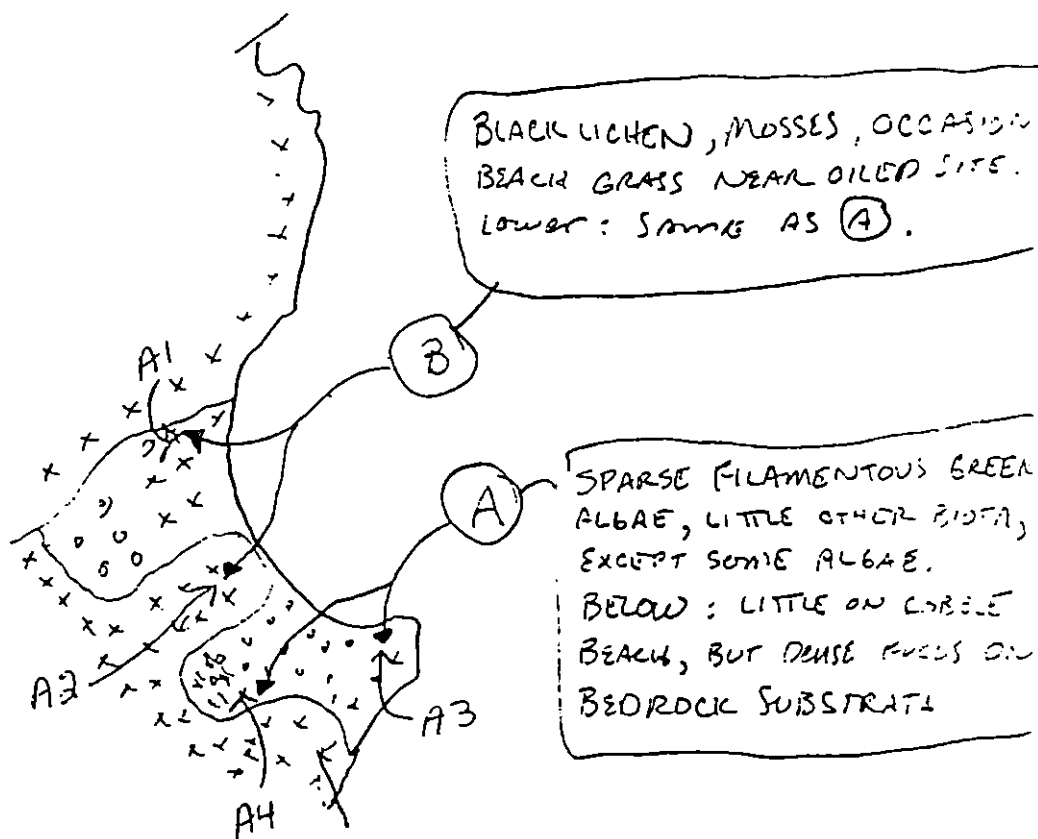
BIO SKETCH MAP

CH008A

JIM BARRY

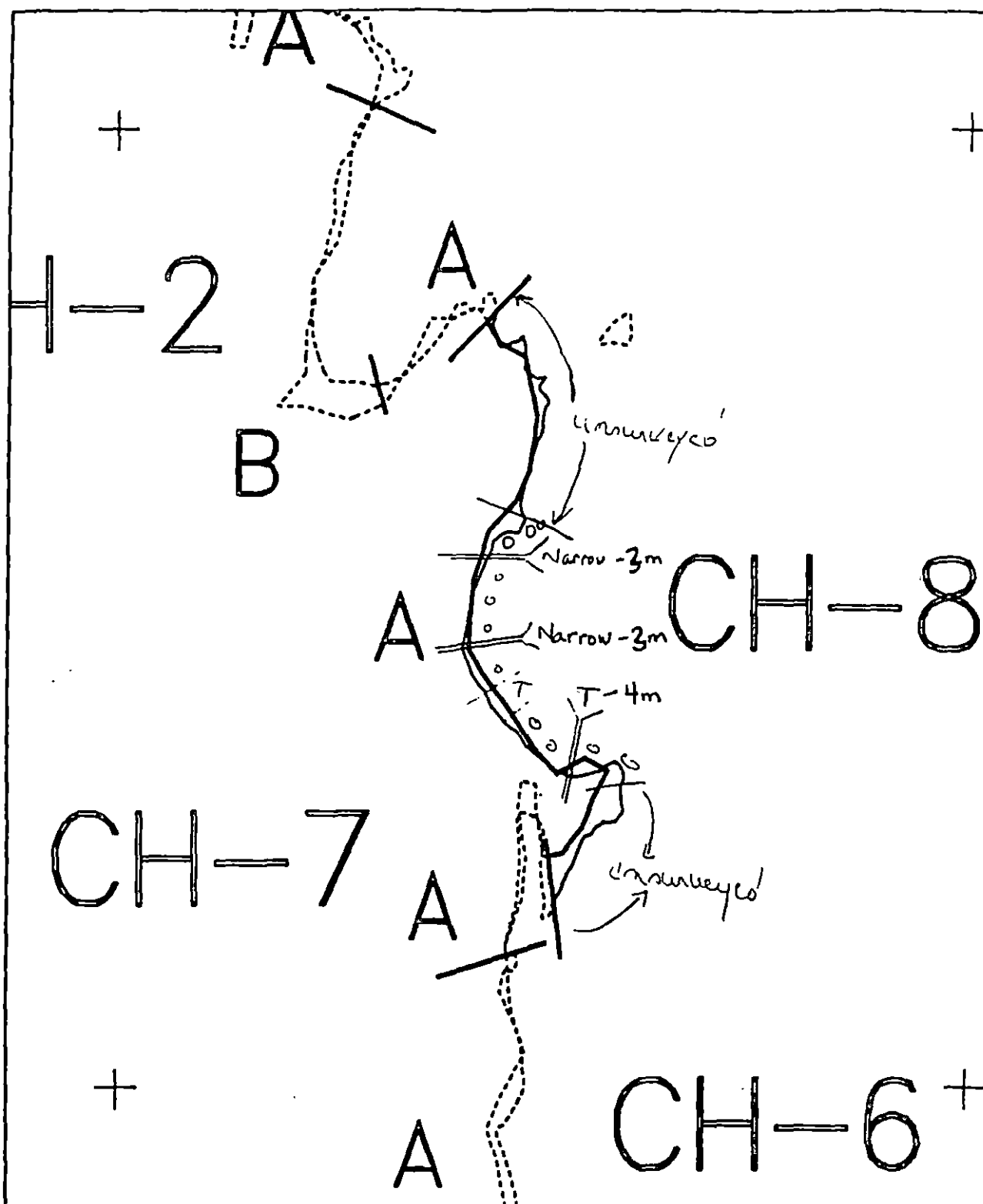
2 MAY, 1991

-  Bedrock
-  FLAT Pebbly, cobble
-  logs, drift algae



METERS

0 200 400



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

CH008 A
 ADEC Subsegment Length: 957m
 METERS
 0 200 400
 AK State Plane Zone 4
 960000



Subdivision Field Map
 Map Key: PWSCH008A
 Name: JM. Sengco
 Date: MAY 2 21
 Data Entered:

Reviewed: MC 5/10/91
 revised JY 5.4

1991 MAYSAP EVALUATION

SEGMENT: CH 008 SUB: A REGION: PWS SURVEY DATE: 5/2/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) OPEN 5/1 - 8/15; RESTRICTED 8/15 - 9/15

Ecological/Constraints (see page two for details). Fish harvest
area, Subsistence - Deer harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Rebekah Dade Date: 5/17/21

<u>RECOMMENDATIONS:</u>	INITIAL	TAG	FOSC
-------------------------	---------	-----	------

TREATMENT REQUIRED (Y or N)	<u>N</u>	<u>2</u>	<u>2</u>
1			
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85			
86			
87			
88			
89			
90			
91			
92			
93			
94			
95			
96			
97			
98			
99			
100			

Manual Pickup (Check as Req.) _____

Spot Washing _____

Bio-Customblen Only			
---------------------	--	--	--

Bio-Inipol/Customblen

Other _____

Other _____

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: MAY 17 1991 FOSC APPROVAL DATE: 25 MAY 1991

ADEC

EXXON

USCG

NOAA

FOSC APPROVAL DATE: _____

FOSC

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

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 4 SEGMENT CH008 SUBDIVISION A DATE 5/2/91

ADEC

NAME Dianne Munson

SIGNATURE Dianne Munson

☒ NTR ☐ Treatment Recommended

Sporadic coats and stains and tar splats (or splash/soR) on bedrock outcroppings and under cobbles. Entire segment was not surveyed due to previous surveys showing no oil.

EXXON

NAME LARRY D. OLSON

SIGNATURE Larry D. Olson

☒ NTR

I agree with Representatives recommendations.

LANDMANAGER

NAME LARRY EVANOFF OF CVC

SIGNATURE [Signature]

☒ NTR ☐ TREATMENT RECOMMENDED

APPROX 1/2 OF SEGMENT NOT SURVEYED BECAUSE PREVIOUS SURVEYS SHOWED NO OIL. SCATTERED STAINS/COATS ON ROCK FACE AND UNDERNEATH CB ~~IN~~ IN THE U.I.

USCG/NOAA

NAME JERRY SCHULTZ

SIGNATURE Jerry Schultz

☒ NTR

FURTHER REMOVAL OPERATIONS WOULD CAUSE MORE ENVIRONMENTAL HARM THAN THE OIL TO BE REMOVED

PAGE 2 OF 7

SEGMENT CH008

SUBDIVISION A

DATE 2 / MAY / 91

ENERGY LEVEL: ☒ H ☒ M ☐ L

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

TOTAL LENGTH SHORELINE SURVEYED: 250 m NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W 0 m M 0 m N 6 m VL 54 m NO 190 m US 707 m

[illegible]

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

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

[illegible]

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

OG COMMENTS:

OG COMMENTS: Small cove with platy ls/pls beach in front of a vegetated old storm berm. Bedrock outcrops at the two ends and in middle of bay. Oiling occurs as coats on bedrock walls on intertidal ramp, and on the underside of ls in the litz.

REVIEWED: MC 5/10/91
reviewed 5.4 94

ogsketch Map

CH008A

Jm Sempels

May 3, 1991

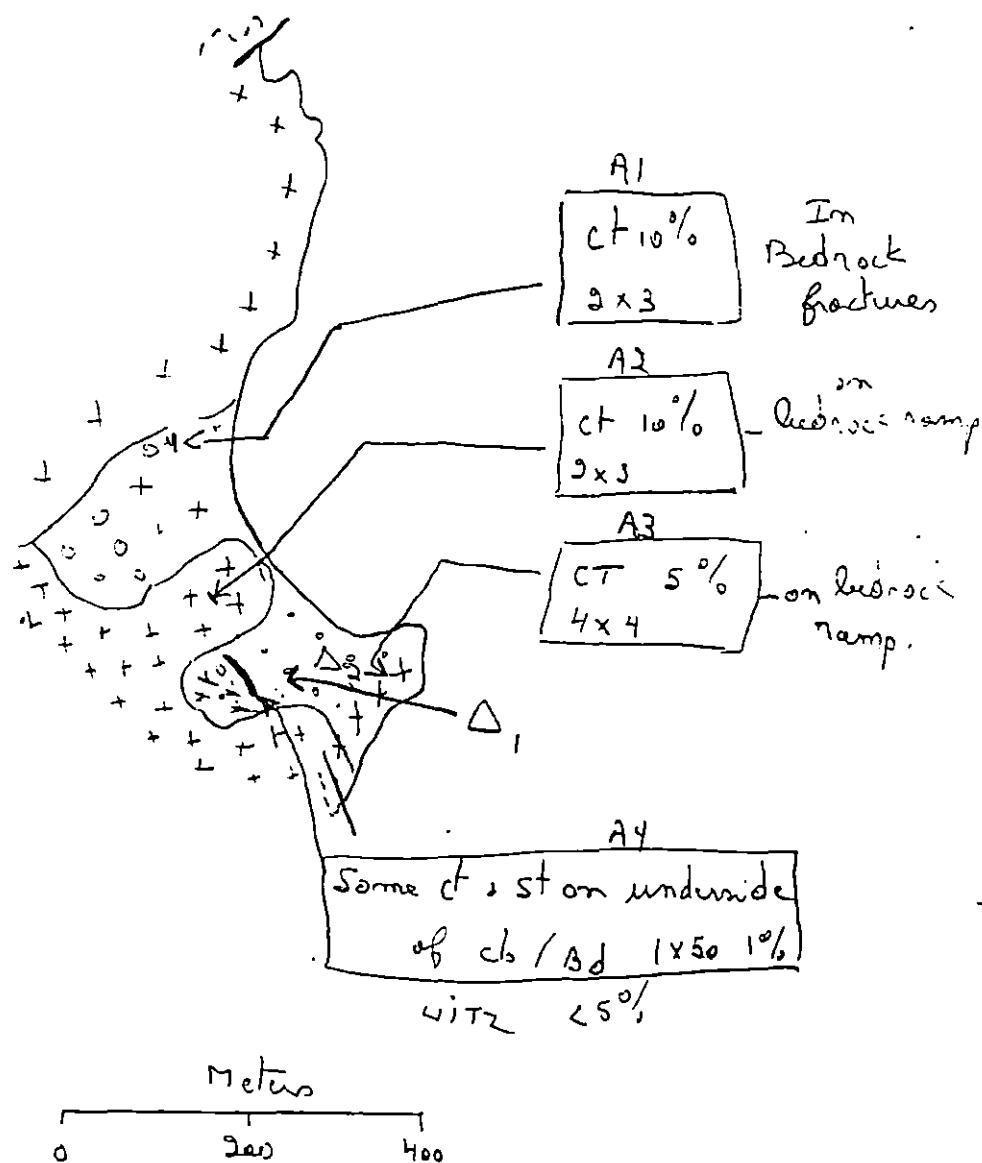
0620-0659

Legend

[+] Bedrock

[o] platy pb/cb

[x] logs. algae



MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 4 DATE/TIME May 2, 1991 0632 - 0651
 SEGMENT # CH008 TIDAL HEIGHT (Range) +6.5 => +5.5
 SUBDIVISION A BIOLOGIST JIM BARRY
 LA STATE Cal. WIND SPEED/DIRECTION N 5 kt., light rain

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

A= The oiled site (CT) is located in the upper zone of a medium exposure beach of
 A3, A4 cobble and pebbles. Oiled area is on the bedrock outcrops near the drift line.
 Sparse filamentous green algae, and little else is present immediately around the
 oiled site. About 1-3 feet below this drift line, intertidal biota are more common.
 Relatively little biota exists on the middle zone beach cobble, but bedrock
 substrata have dense cover of Fucus, with sparse to moderate numbers of littorines,
 barnacles and limpets. Towards the lowest zones, the biota grade into a denser
 Fucus cover, patchy mussel abundance, with higher barnacle, littorine, and limpet
 densities. Reproductive and adult life stages are present for most species. No
 evidence of recent adverse impacts from the remaining oil were observed.

Cleanup activities, if required, will not adversely affect the biota on this beach.

B= Oil (CT) was found on bedrock outcrop areas along the upper/supratidal boundary.
 A1, A2 Biota at site are black lichen and mosses. Slightly below the oiled area, the
 intertidal biota are richer, and similar to the biota described in A (above). The
 pebble beach had little biota within or attached to the sediment, at least those
 visible near the +6 ft tidal level. Bordering headland habitats are much richer,
 with dense Fucus abundance, moderate, but patchy mussels, and abundant barnacles,
 limpets, and littorine snails in the middle intertidal zone. Lower zones appear to
 have higher cover of red and particularly green algae.

Summary of Biological Features of CH008-A. This subdivision has several habitat types,
 but the survey team concentrated exclusively on the southern portion along a pebble and
 cobble beach with a few outcrops. The pebble/cobble beach has sparse biota (see A above)
 and the bedrock outcrops has much higher cover of Fucus, barnacles, mussels, and associated
 species.

WILDLIFE OBSERVATIONS - Completed on all subdivisions

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/Kittiwakes	1	1	
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

CH008-A Biological Report, (continued)

List of Common Species from CH008-A

Marine Plants

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

II. Marine Animals

1. Sponges - Porifera - Halichondria sp.
2. Anemones - Anthopleura artemesia, A. elegantissima
3. Hydroids - Sertularidae - Sertularella?
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms - Emplectonema gracile
8. Polychaetes
Nepthyidae
Nereidae - Nereis spp.
Serpulidae
Serpula sp., Crucigera sp., Eudistylia polymorpha
Spirorbidae - Spirorbis sp.
9. Peanut worms - Sipunculids - Phascolosoma agassizii
10. Crustaceans
a. Amphipods - Orchestia sp.?
b. Barnacles
Balanus glandula, Chthamalus dalli, Semibalanus cariosus
c. Crabs
Haplogaster sp., Hemigrapsus oregonensis, Paguridae (hermit crabs),
11. Mollusca
a. Chitons
Mopalia mucosa, Katharina tunicata, Tonicella lineata,
b. Snails - Gastropods
Littorina scutulata, L. sitkana, Natica clausa, Nucella lamellosa, N.
lima, N. emarginata,
c. Limpets Lottia digitalis, L. persona
d. Nudibranches - Lamellidoris fusca
e. Mussels and Clams
Mytilus edulis, Prototheca staminea, Saxidomus giganteus,
12. Echinoderms
a. Brittle Stars - Ophiolus sp., ?
b. Sea stars
Dermasterias imbricata, Evasterias truscheli, Leptasterias hexactis,
Pycnopoda helianthoides,
d. Urchins - Strongylocentrotus droebachiensis
- Bryozoans - Membranipora sp., Schizoporella sp.
- Fishes - Cottidae - unknown species
Liparidae - Liparis callyodon
Stichaeidae - Xiphister atropurpureus, X. mucosus

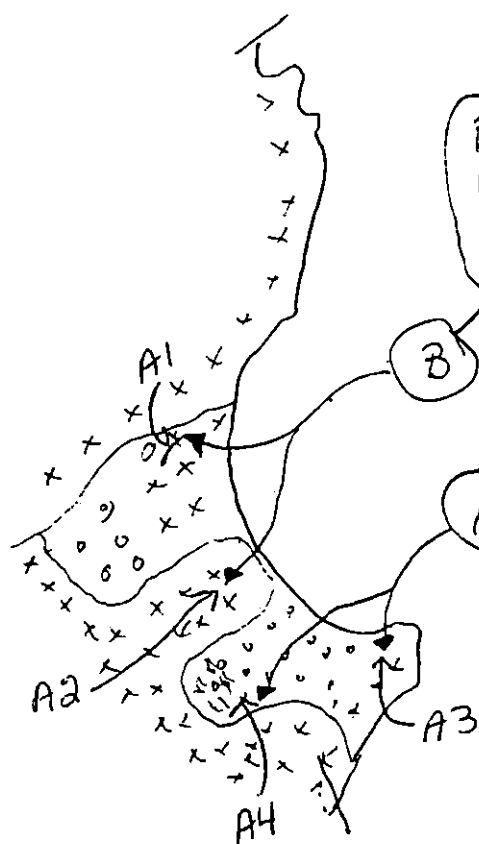
BIO SKETCH MAP

CH008A

JIM BARRY

2 MAY, 1991

- [+] Bedrock
- [x] FLAT pebbles/cobble
- [w] Logs, Drift Algae

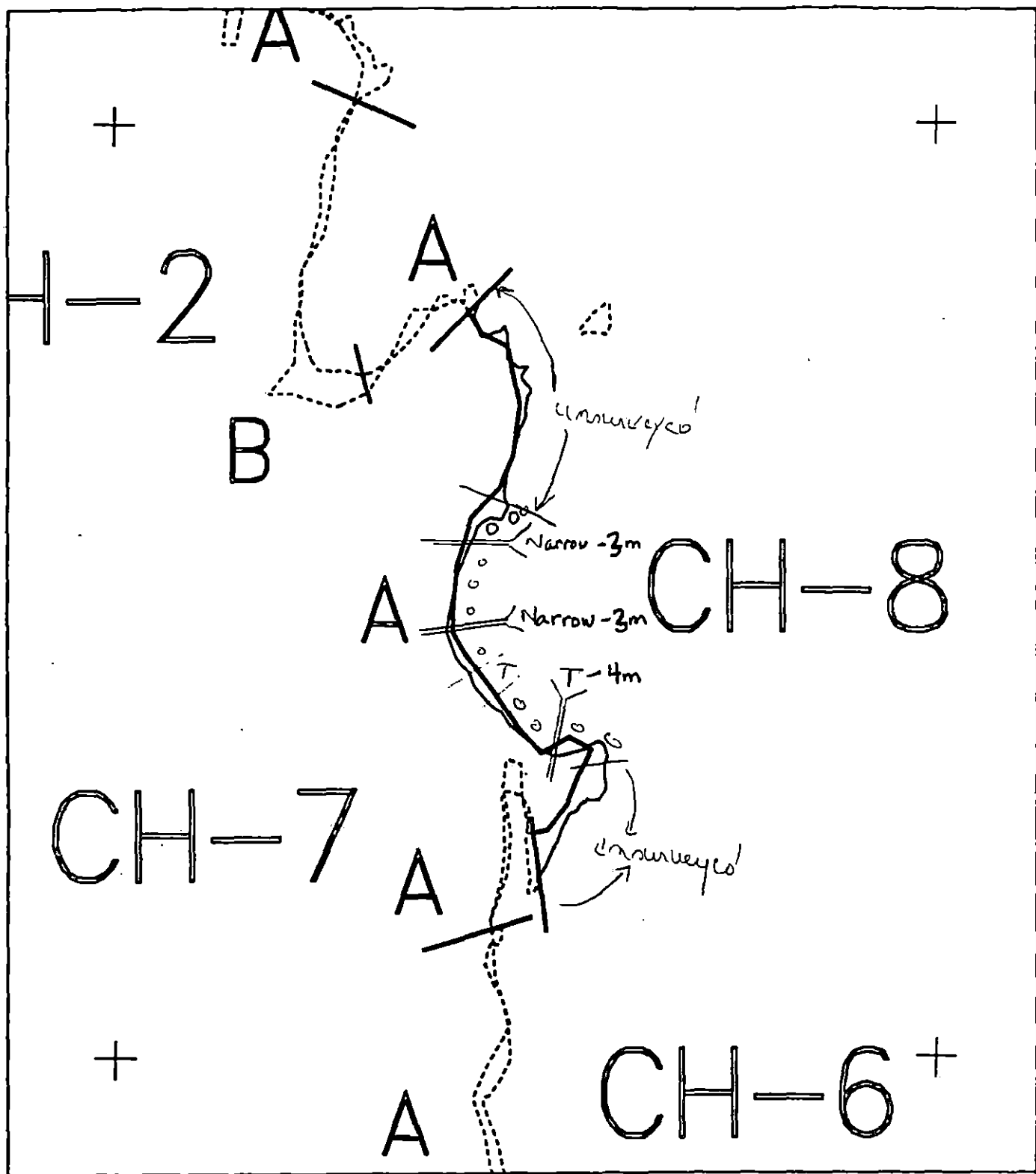


BLACK LICHEN, MOSSES, OCCASIONAL
BEACH GRASS NEAR OILED SITE.
LOWER: SAME AS (A).

SPARSE FILAMENTOUS GREEN
ALGAE, LITTLE OTHER BIOTA,
EXCEPT SOME ALGAE,
BELOW: LITTLE ON COBBLE
BEACH, BUT DENSE FUCUS ON
BEDROCK SUBSTRATA

METERS

0 200 400



XXXX	Wide	CH008 A	Subdivision Field Map
////	Medium	ADEC Subsegment Length: 957m	Map Key: PWSCH008A
----	Narrow	METERS	Name: <u>JM Semple</u>
TTTT	Very Light	0 200 400	Date: <u>MAY 2 91</u>
0000	No Oil	AK State Plane Zone 4 P400000	Date Entered:

EXON

REVIEWED: MC 5/10/91
revised JY 5.4

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/CH-08

SUBDIVISIONS: A (1 OF 1)

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.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 863 m: No Oil 94 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 43 cm

RECOMMENDATIONS:

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

COMMENTS: 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: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
 AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/1)
 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
- 30, 3Q Harbor seal and sea lion pupping (5/15 to 7/1)
 Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
 ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
 ADF&G Tom Roth 267-2206
- ✓ 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- ✓ 6W Recreation: Tent sites (6/1 to 9/15)
 ✓ 6X Anchorages (6/1 to 9/15)
 6W Forest Service cabins (6/1 to 9/15)
 6X Lodge (6/1 to 9/15)
 ✓ 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 7H Finfish harvesting
 7I Deer harvesting (8/15 to 2/28)
 7J Invertebrate harvesting
 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 / 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: Splashes of cover were observed, very occasional; along segment ^{were} coats and stains widening out in areas and achieving up to 1/8 distribution. On these areas no treatment could equal the impact to the earth ~~in~~ ^(see sketch) in using up resources to accomplish such an endeavor. The SW corner of beach had 2 1/2 lbs of scattered tarballs and patches that could be manually removed. The SE end of segment (refer to sketch map) has an ~~area~~ oil lens from 5-12cm thick, from 10 to 33cm below the surface (apparently forming a small pool) @

LAND MANAGER

NAME PAT SELANOFF (CVC) SIGNATURE Pat Selanoff

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Manual pickup for 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.

(cont.) CH-8-A 4/23/90 Mike Ebel ADEC

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 fertilize principle one step at a time — starting with granules. In this segment, maintain distance from intertidal pools during application. End

Michael J. Ebel ADEC

35A/46

OG Randy Siegel USCG Jerry Schultz SEGMENT ST/ CH-8
 BIO David Sherman LAND REP Pat Salasoff (cyc) SUBDIVISION A (1 OF 1)
 EXXON Leonard Herbst ADEC Mike Ebel TIME 18:00 to 2000
 TEAM NO. 12 TIDE LEVEL +0.8 to +3.7 DATE 4/22/90
 EST. SUBDIVISION LENGTH: 1154 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 1634 m NO 120

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	10	15	20	25	30	35	40	45	SU	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 0

PATTIES / TARBALLS 1 BAGS

NEAR 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 1

Photographs:

Roll No. None

Frames —

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR				PIT ZONE				AN A	DEPT (cm)	↓	SURFACE SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	30	35	40	45	SU	U	M	U				
1	30					X	0-0		X					X					—	—	P
2	25					X	0-0		X					X					4	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

95111

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04-13-90

SEGMENT ST/ CH-8 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	A	SHEEN (Y/N)	!	SURFACE SUBSURFACE SEDIMENT
		OP	OR	OL	OF	NO		SO	UC	SP	ST	BR	BL	GR	LD	SU	U	M	U						
7	35					X	0-0		X							X							-	-	P
* 8	47		X		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

4-24-90

REVISION 04.13.19

SUBSURFACE OIL (CONTINUED)

[illegible]

COMMENTS

~~SECRET~~

27/46

REVIEWED

DATE 4-24-90

OC Randy Siegel
 SEGMENT 4-8
 SUBDIVISION A
 DATE 4 / 22 / 90

CHECKLIST

☐ N Arrow
☐ Approx. Scale
☐ Seg/Sub Entry
☐ Oil Dist.
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. HWR/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/D
 Broken Distribution

 CT/P
 Patchy Distribution

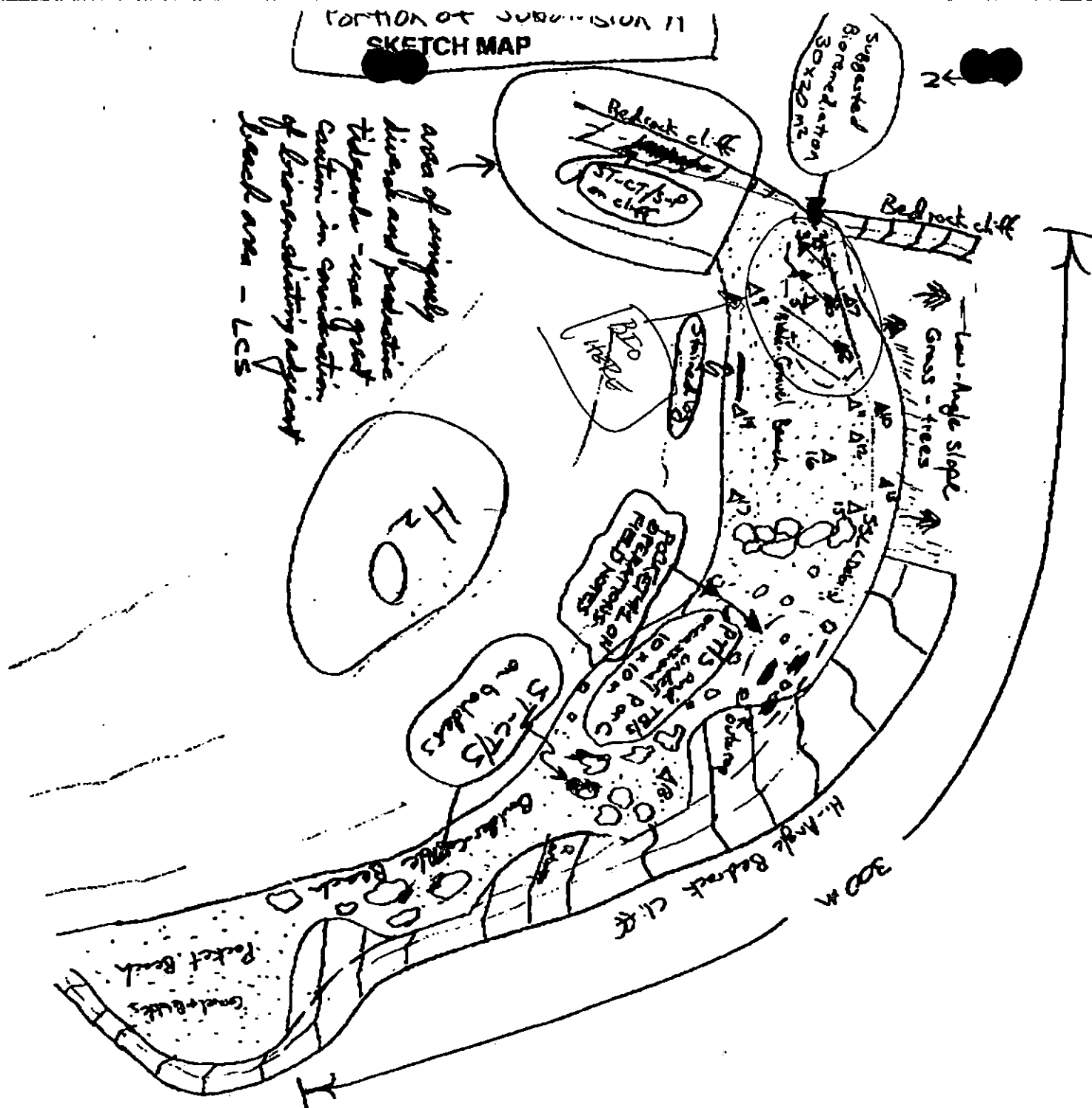
 CT/S
 Splashed Distribution

 lll
 Oil Vegetation

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

29/46

PORTION OF SUBDIVISION 11 SKETCH MAP



OR Character Length (m): AP ϕ PO ϕ CV 150 CT 1034 ST 1034 MS ϕ PT 10 TB 10 FL ϕ NO 120

SHORELINE ECOLOGICAL SUMMARY (Page 1 of 2)

Segment ST / CH-8 Subdivision A Date (mo / day / yr) 4/22/90

Time (24 hr) 1800-2000 Biologist SHARMAN

(A) Substrate type and % of segment: SUBDIV.
 (1) Bedrock 20 (2) Boulder 15 (3) Cobble 25 (4) Pebble 20 (5) Sand 20 (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.

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 (ALCELLA, LITTORINA, LYMAEUS)

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: Deer scat + tracks in supratidal fringe, 1st other
Carcass (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 segment, intertidal (especially 150m) is extremely
rich and productive. In particular, the bivalve tidal pool system along the E. side of the N-facing
(cont.)

Ecological Considerations:

Resources sensitivities previously identified for this segment include
recreational tent sites (code 6U), anchorages (code 6V), Special Use
Designation (code 6Y), and subaerial 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 points are
probably principal haulout sites. As in CH6 + CH7, tidal pool areas are
potentially sensitive to negative effects of bioerosion. In particular,
extensive area of bedrock platform pools along E. side of N-facing (cont.)

31/46

CH-8

Shoreline Ecological Summary (cont.) Shorman
(Page 2 of 2) 4/22/90

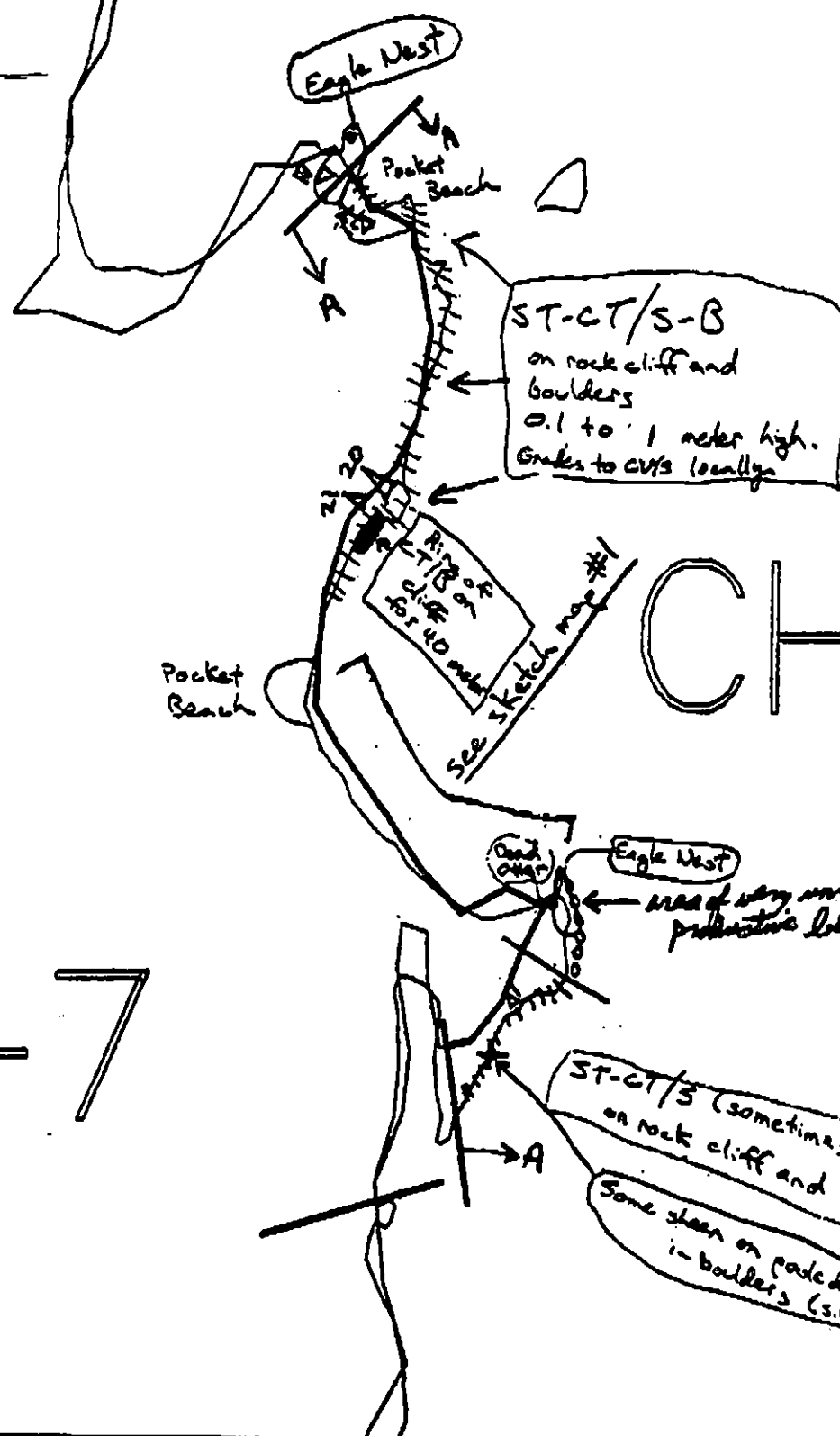
General Comments (cont.):

Covelet is among the richest and most diverse such area I have observed in all of the portion of PWS impacted by the spill.

A sampling of species includes Anthopleura xanthogramma, A. artemesia, Metridium, Katharina, Tunicella, Margarita, Aliger totus, Strongylocentrotus droebachiensis, Anthopleura elegantissima, Pododesmona, Tritothamnium, erect articulated coralline spp., Pagurus, Diastema, Pisaster, Modiola, a great diversity of algae, etc. etc. Very good MTO 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 bioconservation of the near portion of adjacent pocket beach (see sketch maps).



CH-8

CH-7

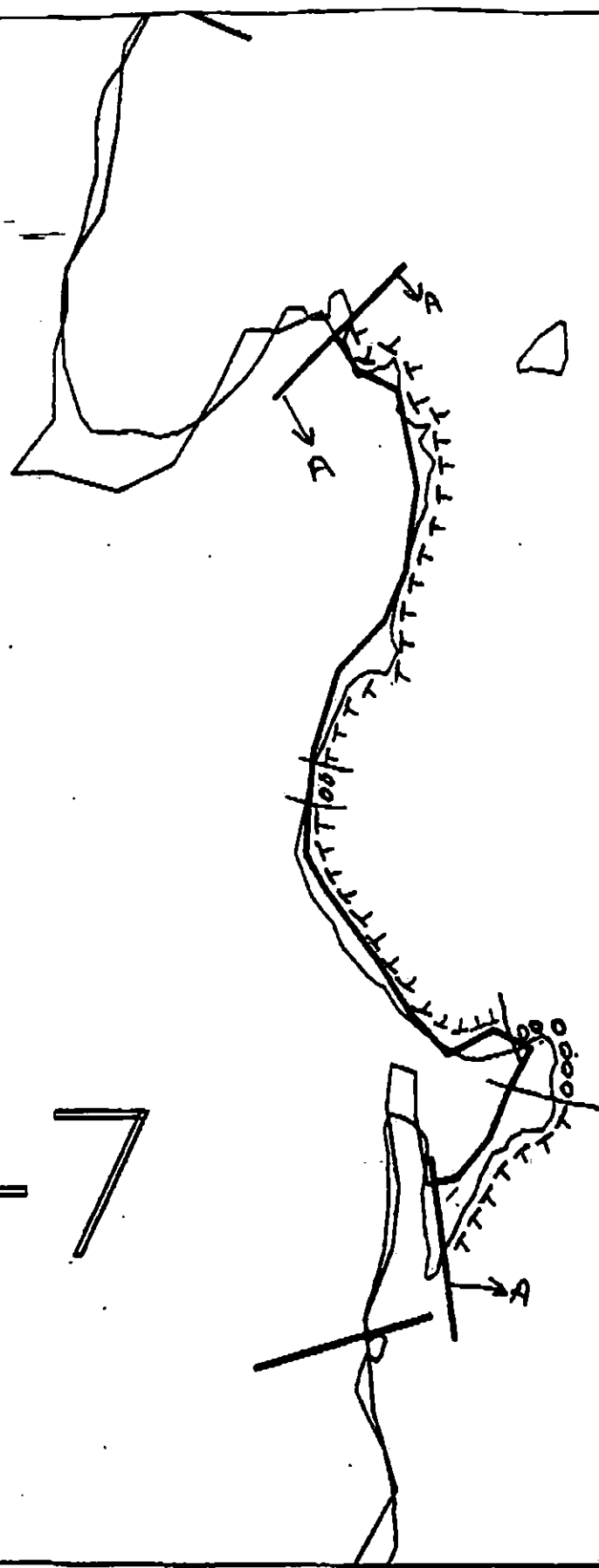
XXXX Wide
 /// Medium
 --- Narrow
 TTTT Very Light
 0000 No Oil

CH-8

ADEC Segment Length: 957m



Map Key: PWS-56
 Name: Ruby Siegel
 Date: 4/23/90
 Data Entered: 28/11/1



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: Randy Siegel

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

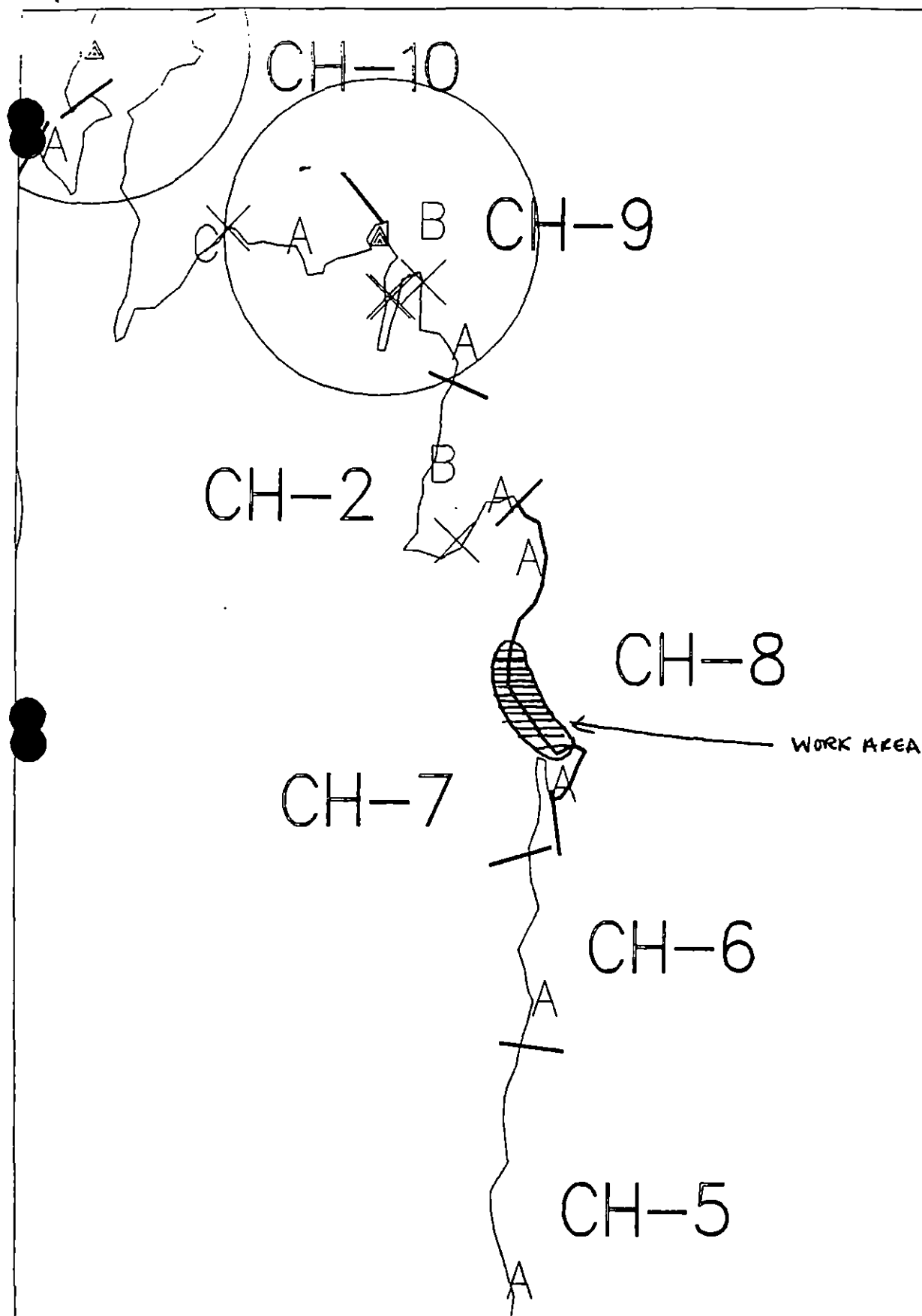
DATE 6-10-90

Prepared By:

W. Kellen

Date

6/9/90



Exxon Company, USA
 Map Key: PWS-Q-8
 June 04, 1990

ECOLOGY MAP
 SEGMENT CH-8
 SUBDIVISION A (1 of 1)
 METERS
 0 351 702

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

1 inch = 1152 feet

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.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Hance 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.

See Addendum Dated 6/9/90

TAG COMMENTS: MANUAL RAKE PITS 6 + 8 ABOVE TO BIO, MANUAL PICKUP OF TARBAG + PARTIES

TAG APPROVAL DATE: 5/3/90

ADEC ART WEINER
EXXON ANDY TEAL
NOAA GARY PATRICK
USCG KENNETH KATINE

FOSC: W/L DATE: 5-9-90
a CVC rep will be present during cleanup

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.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles Z. Bruce 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:

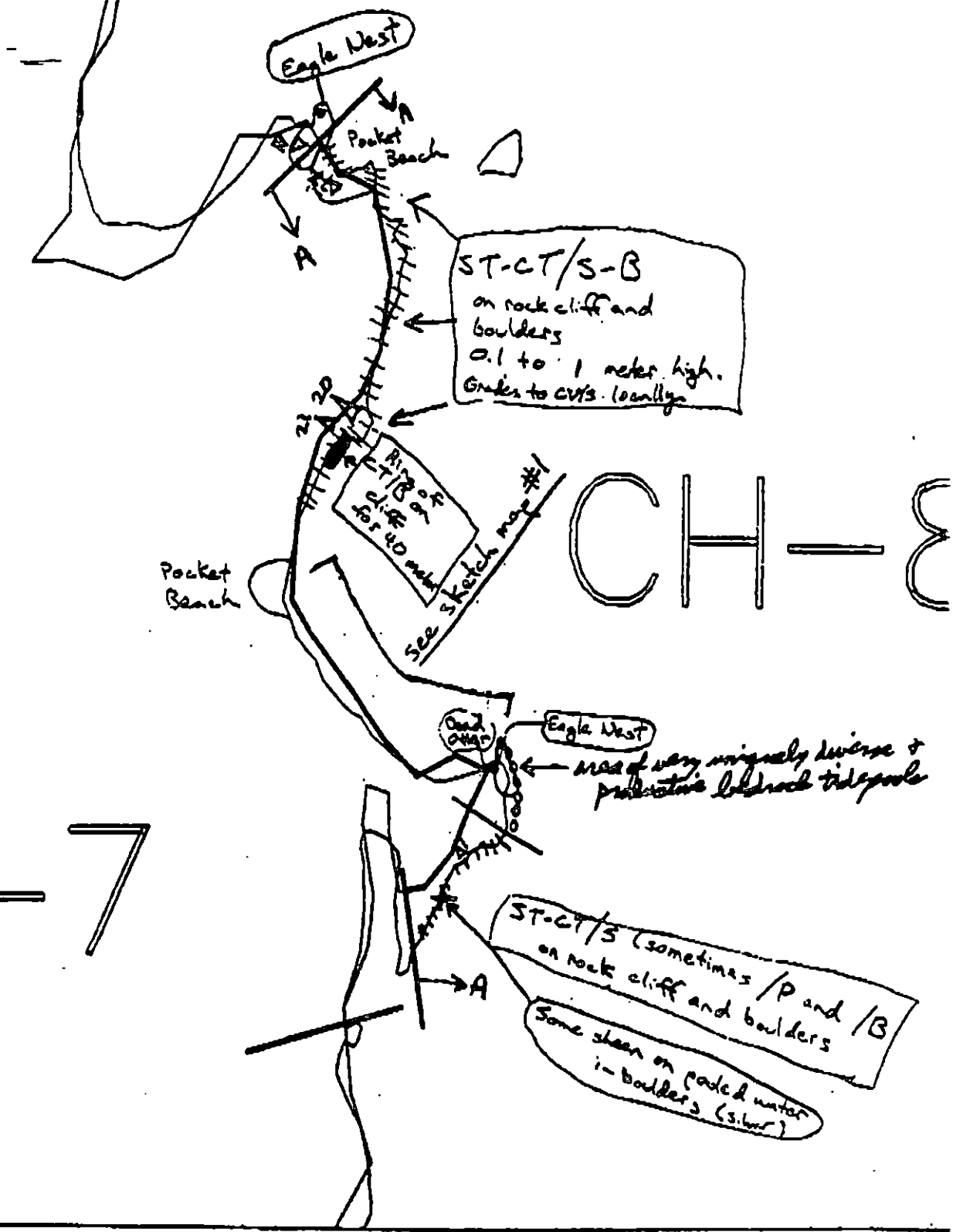
<u> </u> No Treatment Recommended	<u> </u> Snare/Absorbent Booms
<u>X</u> Treatment Recommended	<u> </u> Oil Snares (pom poms)
<u> </u> Manual Pickup	<u> </u> Absorbents (pads, rolls, etc)
<u>X</u> Bioremediation	<u> </u> Spot Washing: <u> </u> Wands
<u> </u> Tarmat Removal	<u> </u> Beach Cleaner
	<u>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

TAG APPROVAL DATE: 5/3/90
ADEC Art Weiner Art Weiner
EXXON ANDY TEAL Andy Teal
NOAA Gary Petro Gary Petro
USCG KENNETH KETINE Kenneth Ketine

FOSC: WJL DATE: 5-9-90
a CVC rep will be present during cleanup



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

CH-8

ADEC Segment Length: 957m

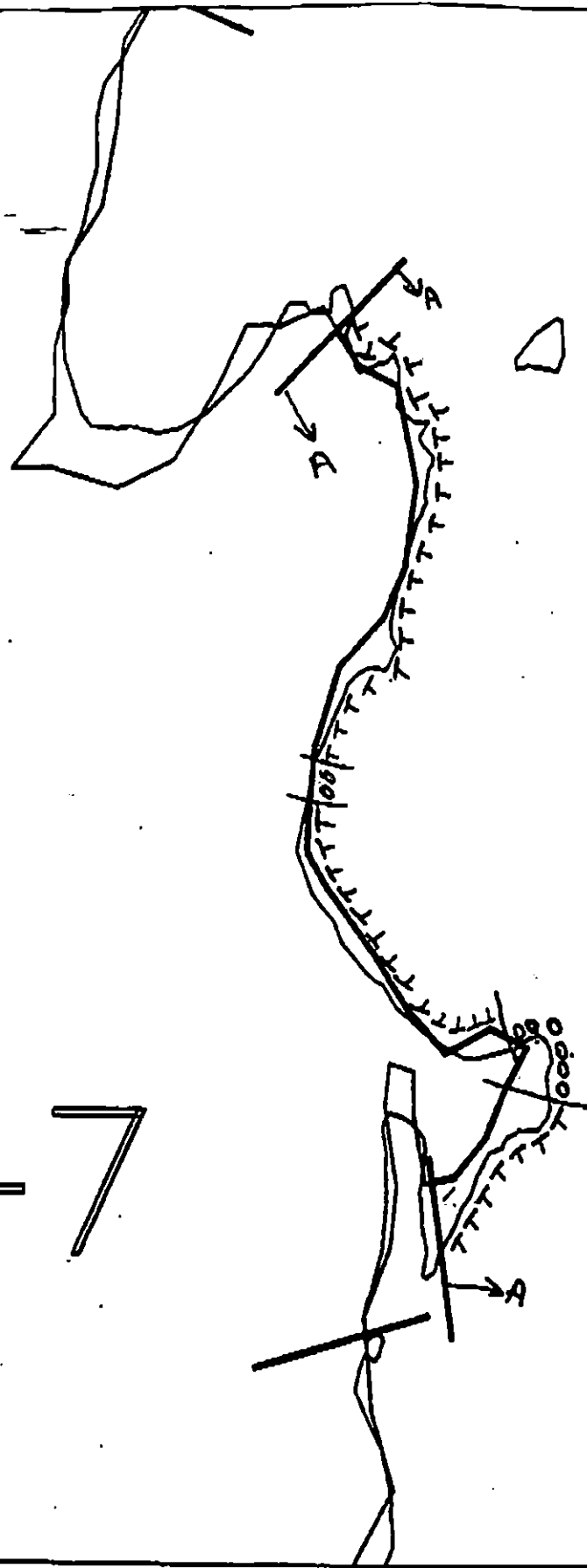
Map Key: PWS-56

Name: Ruby Siegel

Date: 4/23/90

Data Entered:

(28/42)



CH-8

CH-7

30/46

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

CH-8

ADEC Segment Length: 957m



Map Key: PWS-56
 Name: Paddy Langel
 Date: 4/22/90
 Date Entered:

1991 MAYSAP EVALUATION

SEGMENT: CH 009 SUB: B REGION: PWS SURVEY DATE: 5/5/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

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

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

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 6 SEGMENT CH 009 SUBDIVISION B DATE 5/5/91

ADEC / ADFG

NAME Aimee Weseman

SIGNATURE Aimee Weseman

☐ NTR ☒ Treatment Recommended.

ASC# 226-20-16182

To complete treatment to head portion

of subsegment - manually till MSOR sediments in areas 042 on west side of stream.

The small cove area to the east of stream (CH 009-A?) contains quantities of subsurface oil beneath clean gravels which could use treatment. The oiled sediments reside between & among low bedrock ridges & could be difficult to access. Further assessment may determine a suitable treatment.

Resource Uses - Commercial Tourism, Commercial Fishing & Recreation

EXXON

NAME Scott A. Nauman

SIGNATURE Scott A. Nauman

☒ NTR

The majority of the subdivision showed no surface oil. The long patch of SOR was broken up and raked. This should be all the treatment needed for this oiling condition. Other areas of SOR should weather naturally. Subsurface oil is concentrated in pocket beach (CH-9A) and is well buried. Eagles were observed on this subdivision, and the intertidal zone is very healthy. I see no need for further treatment.

LANDMANAGER

NAME _____ OF _____

SIGNATURE _____

☐ NTR

USCG/NOAA

NAME CWO SPURR / R. HOFF

SIGNATURE R. Spurr / Rebecca Hoff

☒ NTR

This segment has a very rich lower intertidal community with extensive mussel beds & other biota. Surface oil residue remaining in the upper intertidal was broken up & raked. One area with remaining subsurface oil was found around the point at the eastern end of the segment. I recommend that this be left to weather naturally since the area is inaccessible and should not pose a threat to benthic communities. The subsurface oil was also far from the avian communities.

FIELD SHORELINE COMMENT SHEET

SEGMENT AS CH 9 SUBDIVISION: _____ SITE: _____ DATE 5-5-91

USCG

NAME _____ SIGNATURE _____

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

ADEC

NAME _____ SIGNATURE _____

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

LAND MANAGER

NAME CHARLES SELANOFF SIGNATURE Charles Selanoff

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

A considerable amount of oil at the mouth of the stream with patches along the storm berm. This area can be manually worked with some ~~mechanical~~ mechanical tilling done. The Chenega team should be considered for this clean-up (manual pick-up). This area is primarily a subsistence use area.

EXXON

NAME _____ SIGNATURE _____

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

MAYSAP SHORELINE OILING SUMMARY

PAGE 1 OF 2

TEAM NO. 6

OG D.I. LITTLE

BIO T. SCHROEDER

SEGMENT CH-009

ADEC A. WESEMAN / T. CROWE

LANDMANAGER C. SELANOFF for CVC

SUBDIVISION B

EXXON SCOTT NAUMANN

USCG/NOAA TWO SPURR / R. HOFF

DATE 05 / 05 / 91

TIME 11 : 15 to 12 : 45

TIDE LEVEL 2³/₄ ft. to 1¹/₂ ft.

ENERGY LEVEL: ☐ H ☒ M ☐ L

SURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELO

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

TOTAL LENGTH SHORELINE SURVEYED: 630 m

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

EST. OIL CATEGORY LENGTH: W m M m N m VL 85 m NO 545 m US m

[illegible]

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

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

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE S UI MI LI				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO										
1	30							X	—	Y	—	N		X			P-gp	in subdiesel
2	25							X	—	Y	—	N				X	g-gm	in subdiesel
3	30			X					20-30	rock	25	RB			X		pgs	CH-009 A =
4	25					X	X		10-20	Y	20	N				X	P-pg	
5	40		X						15-25	N	25	B		X			P-g	
6	25			X					5-20	Y	20	B		X			P-g	
7	25							X	—	Y	25	N		X			P-g	
8	30			X					10-25	Y	30	BR		X			P-gs	
9	45							X	—	Y	—	N	X				P-p	

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

OG COMMENTS:

Surface oil was limited on slate 'talus' debris to the extreme NW of the subclination (HSOR). Inside the lagoon oil was found as a 75 m long (MITZ) band which was previously AP, now HSOR at only 2% cover, though sporadically distributed. ^{500m} Moq near road! Same CV and CT was still apparent in what is likely CH-9-A in the gully at eastern part of map. Subsurface oil was restricted to the same area, although tucked in behind some bedrock ridges, as an area of OF, MOR and a small patch of HOR. (2x3 m).

reviewed 51

MAYSAP SHORELINE OILING SUMMARY (cont.)

PAGE 2 OF 2

TEAM NO. 6

SEGMENT CH-009

SUBDIVISION B

DATE 05 / 05 / 91

[illegible]

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

OG COMMENTS:

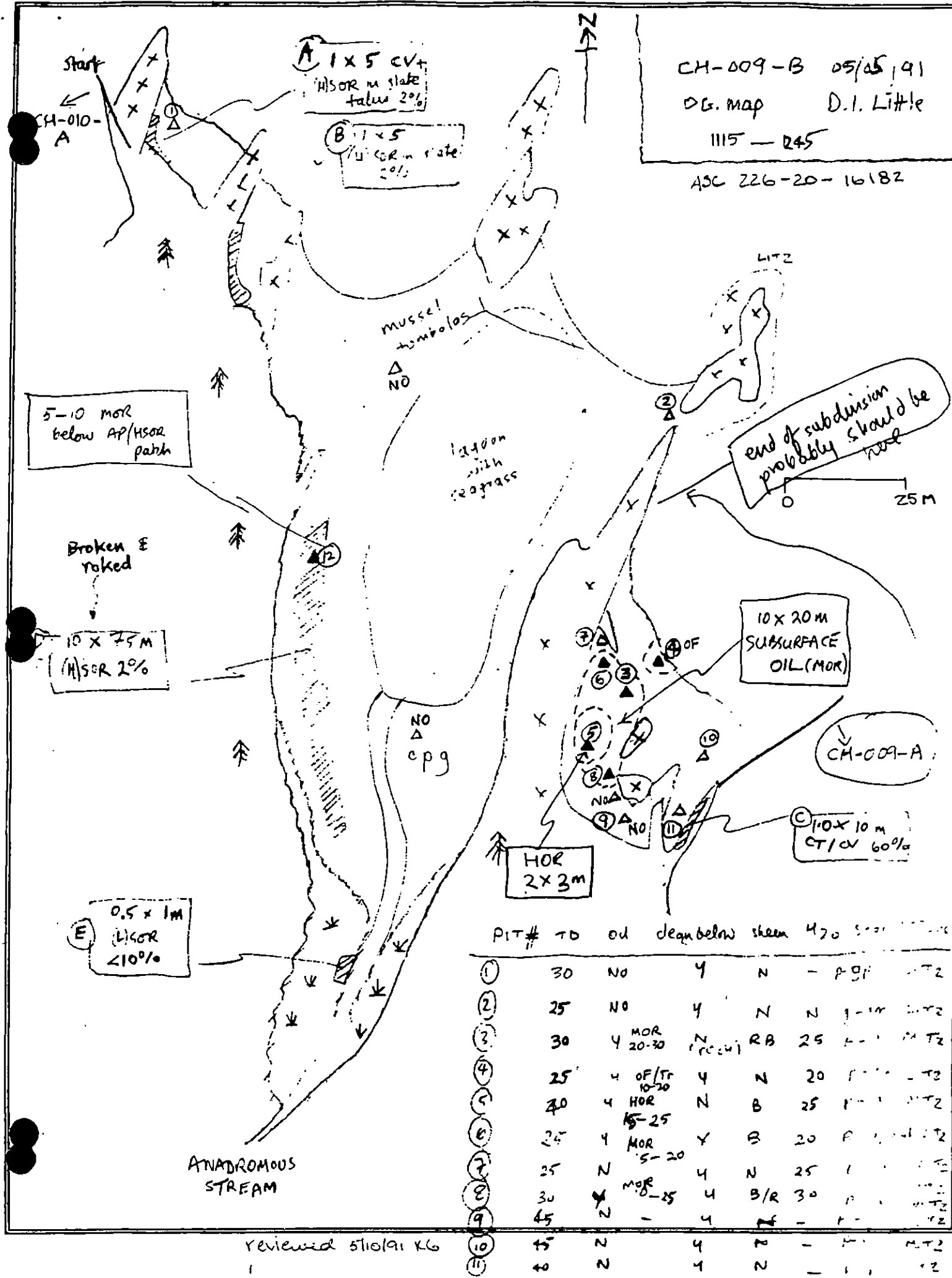
reviewed 5/15/91 K6

CH-009-B 05/05/91

D.G. Map D.I. Little

1115 - 245

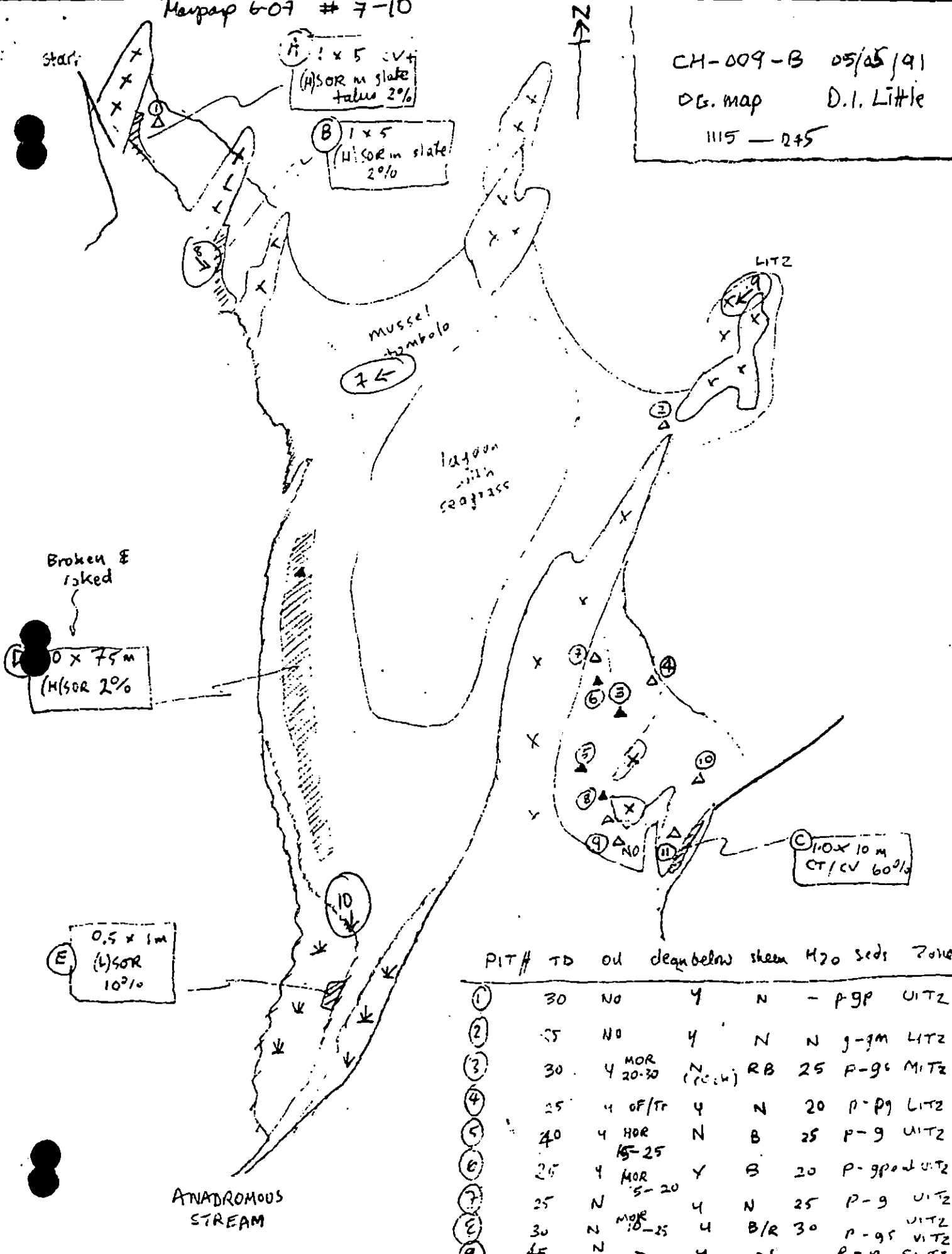
ASC 226-20-16182



reviewed 5/10/91 K6

Map 6-07 # 7-10

CH-009-B 05/05/91
 OG. map D.I. Little
 1115 - 245



PIT#	TD	oil	deqnbelow	shem	H ₂ O	seeds	Zone
(1)	30	NO	Y	N	-	P-9P	UITZ
(2)	35	NO	Y	N	N	g-gm	LITZ
(3)	30	4 MOR 20-30	(N) (C.W)	RB	25	P-9C	MITZ
(4)	25	4 OF/Tr	Y	N	20	P-Pg	LITZ
(5)	40	4 HOR 15-25	N	B	25	P-9	UITZ
(6)	25	4 MOR 5-20	Y	B	20	P-gp	UITZ
(7)	25	N	Y	N	25	P-9	UITZ
(8)	30	N MOR 10-25	Y	B/R	30	P-9S	UITZ
(9)	45	N	Y	N	-	P-P	SUTZ
(10)	45	N	Y	N	-	P-9	M-TZ

WAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6 DATE 5/5/91
 SEGMENT # CH-009 TIDAL HEIGHT (Range) + 2 3/4 ft to + 1 1/2 ft
 SUBDIVISION B BIOLOGIST T. R. Schroeder
 SEA STATE light chop WIND SPEED/DIRECTION variable 5 mph
 PHOTOGRAPHS: ROLL # FRAME #

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

(A, B, D & E) = This beach segment with its lagoon and protective barrier rocks is an extremely lush and productive environment. Mussels, furrowed clam rock blennies, sea grass beds and many other organisms are thriving even in close proximity to remaining oil. The stream is an insignificant trickle of water as far as salmon production goes. However, this lagoon and reef area could be extremely important in supporting rearing salmonids from other more productive streams.

(C) = The subsurface oil on the beach near this location in pits 3, 5, 6 & 8 (see OG map) is in close proximity to this productive reef/lagoon area. The beach is more exposed to N.E. storms and the oil should weather over time. Again no adverse effects of the oil could be seen on this area's tremendously productive biological community.

No intrusive cleanup methods should be used in this area. Reef, lagoon and mussel beds should be well protected.

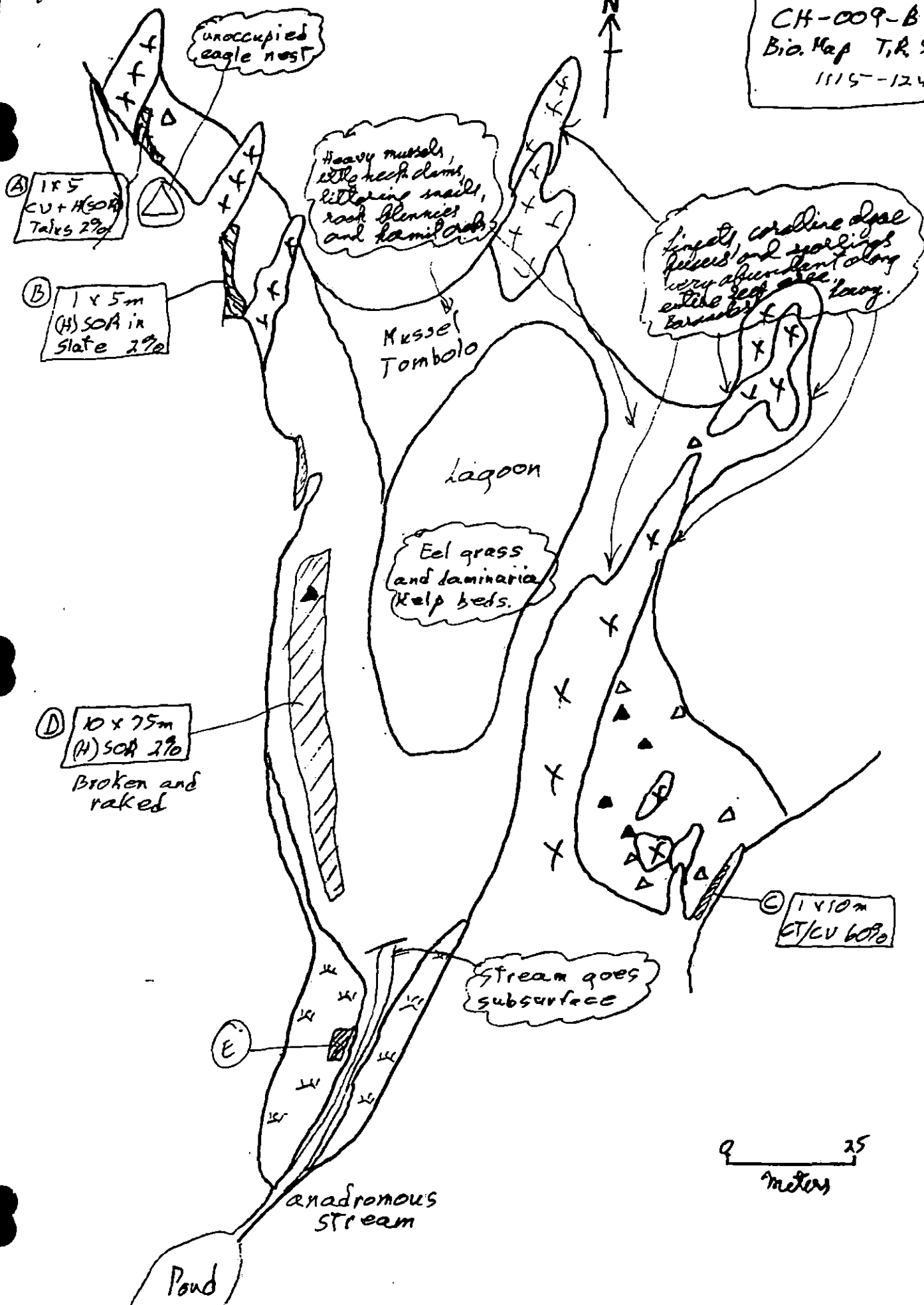
WILDLIFE OBSERVATIONS TO BE COMPLETED IN ALL SUBDIVISIONS

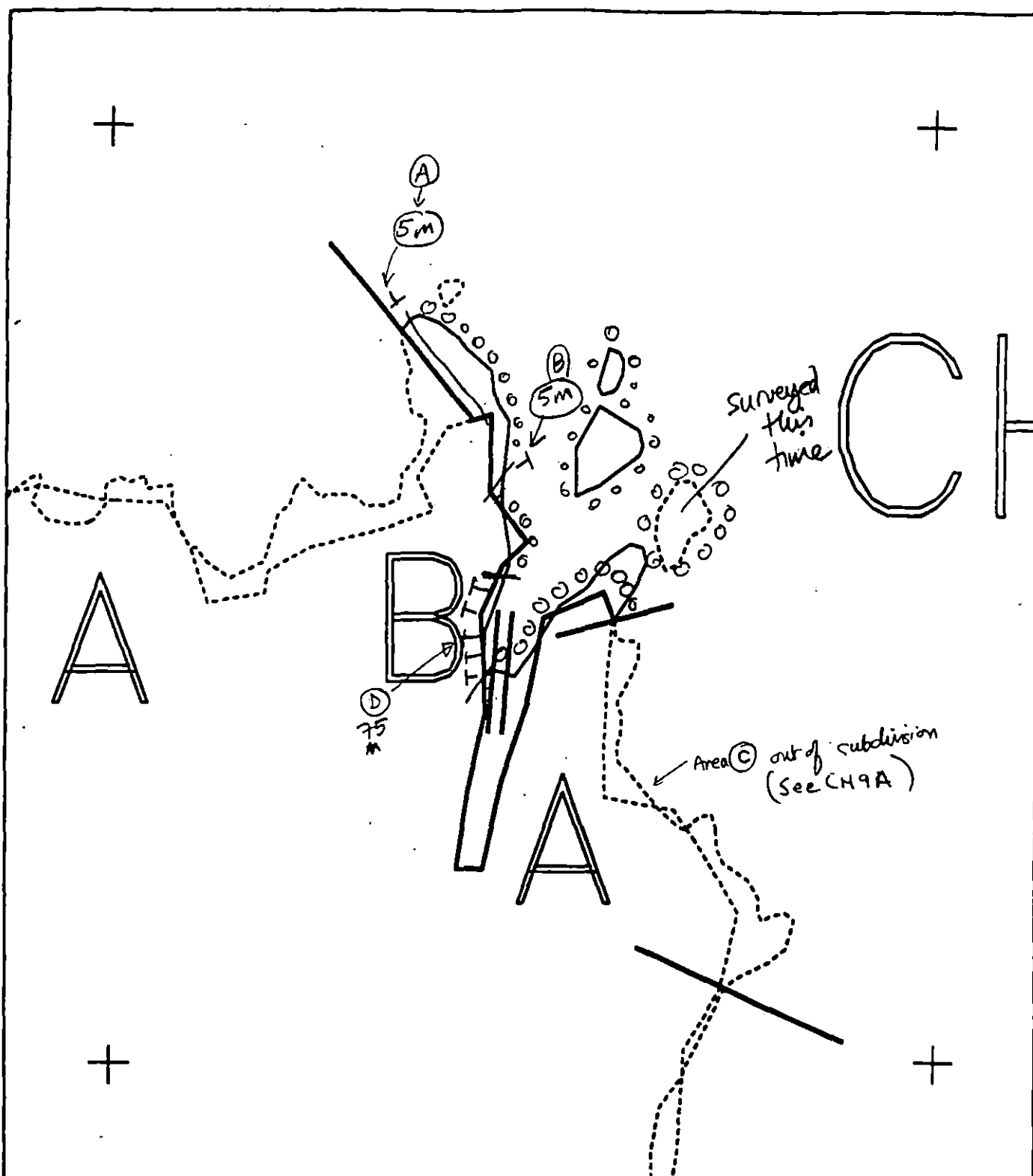
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	3 (2 adult, 1 juv)	12 Rock Blennies
Seabirds			
Waterfowl			
Gulls/Kittiwakes	1 gulls	2	
Shorebirds	2	14 (2 adult, 12 juv)	
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Bales (specify)			

Shoreline subdivision map showing important biological features attached.

CH-009-B 5/5/91
Bio. Map T.R. Schoeder
1115-1245





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

CH009 B
 ADEC Subsegment Length: 630m
 METERS
 0 100 200
 AZ State Plane Zone 4
 pcb005b

Subdivision Field Map
 Map Key: PWSCH009B
 Name: DAVID LITTLE
 Date: 05/05/91
 Date Entered:

reviewed 5/10/91 KG
 Notation 5/15/91 WPK

1991 MAYSAP EVALUATION

SEGMENT: CH 009 SUB: B REGION: PWS SURVEY DATE: 5/5/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Rachel Jan Dahn Date: 5/21/91

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

N

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 21 1991

FOSC APPROVAL DATE: 6/1/91

ADEC

FOSC

EXXON

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

USCG

NOAA

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

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

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

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 6 SEGMENT CH 009 SUBDIVISION B DATE 5/5/91

ADEC / ADF+G

NAME Aimee Weseman SIGNATURE Aimee Weseman☐ NTR ☒ Treatment Recommended.

ASC# 226-20-16182

Resource Uses - Commercial Tourism, Commercial Fishing & Recreation

To complete treatment to Anad portion of subsegment - manually till MSOR sediments in areas D42 on west side of stream.

The small cove area to the east of stream (CH 009-A?) contains quantities of subsurface oil beneath clean gravels which could use treatment. The oiled sediments reside between & among low bedrock ridges & could be difficult to access. Further assessment may determine a suitable treatment.

EXXON

NAME Scott A. Nauman SIGNATURE Scott A. Nauman☒ NTR

The majority of the subdivision showed no surface oil. The long patch of SOR was broken up and raked. This should be all the treatment needed for this oiling condition. Other areas of SOR should weather naturally. Subsurface oil is concentrated in pocket beach (CH-9A) and is well buried. Eagles were observed on this subdivision, and the intertidal zone is very healthy. I see no need for further treatment.

LANDMANAGER

NAME _____ OF _____ SIGNATURE _____

☐ NTR

USCG/NOAA

NAME CWO SPURR / R. HOFF SIGNATURE R. Spurr / Rebecca Hoff☒ NTR

This segment has a very rich lower intertidal community with extensive mussel beds & other biota. Surface oil residue remaining in the upper intertidal was broken up & raked. One area with remnants, subsurface oil was found around the point at the eastern end of the segment. I recommend that this be left to weather naturally since the area is inaccessible and should not pose a threat to benthic communities. The subsurface oil was also far from the araduous stream.

FIELD SHORELINE COMMENT SHEET

SEGMENT AS/ CH 9 SUBDIVISION: _____ SITE: _____ DATE 5-5-91USCG

NAME _____ SIGNATURE _____

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

ADEC

NAME _____ SIGNATURE _____

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

LAND MANAGERNAME CHARLES SELANOFF SIGNATURE Charles Selanoff

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

A considerable amount of oil at the mouth of the stream with patches along the storm berm. This area can be manually worked with some ~~mechanical~~ mechanical tilling done. The Chenega team should be considered for this clean-up (manual pick-up). This area is primarily a subsistence use area.

EXXON

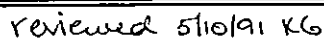
NAME _____ SIGNATURE _____

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

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

reviewed 5/10/91 KG

ASC 226-20-16182



PIT#	TO	OD	dequbelms	sheen	470	5-01	
(1)	30	NO	Y	N	-	P 9/1	1.7
(2)	25	NO	Y	N	N	g-m	1.7
(3)	30	Y MOR 20-30	N (RCLW)	RB	25	1-2	1.7
(4)	25	Y OF/Tr 10-20	Y	N	20	P-1	1.7
(5)	40	Y HOR 15-25	N	B	25	P-1	1.7
(6)	25	Y MOR 5-20	Y	B	20	P-1	1.7
(7)	25	N	Y	N	25	1	1.7
(8)	30	Y MOR 0-25	Y	B/R	30	P-1	1.7
(9)	45	N	Y	P	-	P-1	1.7
(10)	45	N	Y	N	-	P-1	1.7
(11)	40	N	Y	N	-	1	1.7

Mapap 6-09 # 7-10

CH-009-B 05/05/91

OG. map D.I. Little

1115 - 245

Start

A 1 x 5 CV+
(H)SOR in slate
talus 20%

B 1 x 5
(H)SOR in slate
20%

mussel
boulders

lagoon
with
seagrass

Broken &
raked

D 10 x 75 m
(H)SOR 20%

E 0.5 x 1 m
(L)SOR
100%

C 1.0 x 10 m
CT/CV 600%

ANADROMOUS
STREAM

PIT #	TD	oil	deq/below	sheen	H ₂ O	seeds	Zone
①	30	NO	Y	N	-	P-gp	UITZ
②	35	NO	Y	N	N	g-gm	LITZ
③	30	4 MOR 20-30	N (ccw)	RB	25	P-gc	MITZ
④	25	4 OF/Tr	Y	N	20	P-pg	LITZ
⑤	40	4 HOR 15-25	N	B	25	P-g	UITZ
⑥	25	4 MOR 5-20	Y	B	20	P-gp	UITZ
⑦	35	N	Y	N	25	P-g	UITZ
⑧	30	N MOR 10-25	Y	B/R	30	P-gs	UITZ
⑨	45	N	Y	N	-	P-p	SUTZ
⑩	45	N	Y	N	-	P-g	MITZ

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6

DATE 5/5/91

SEGMENT # CH-009

TIDAL HEIGHT(Range) + 2 3/4 to + 1 1/2 ft

SUBDIVISION B

BIOLOGIST T.R. Schroeder

SEA STATE light chop

WIND SPEED/DIRECTION variable 5 mph

PHOTOGRAPHS: ROLL #

FRAME #

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

(A, B, D & E) = This beach segment with its lagoon and protective barrier rocks is an extremely lush and productive environment. Mussels, fucus beds, clam rock alleys, eel grass beds and many other organisms are thriving even in close proximity to remaining oil. The stream is an insignificant trickle of water as far as salmon production goes. However, this lagoon and reef are. could be extremely important in supporting rearing salmonids from other more productive streams.

(C) = The subsurface oil on the beach near this location is pits 3, 5, 6 & 8 (see OG map) is in close proximity to this productive reef/lagoon area. The beach is more exposed to N.E. storms and the oil should weather over time. Again no adverse effects of the oil could be seen on this area's tremendously productive biological community.

No intrusive cleanup methods should be used in this area. Reefs, lagoon and mussel beds should be well protected.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

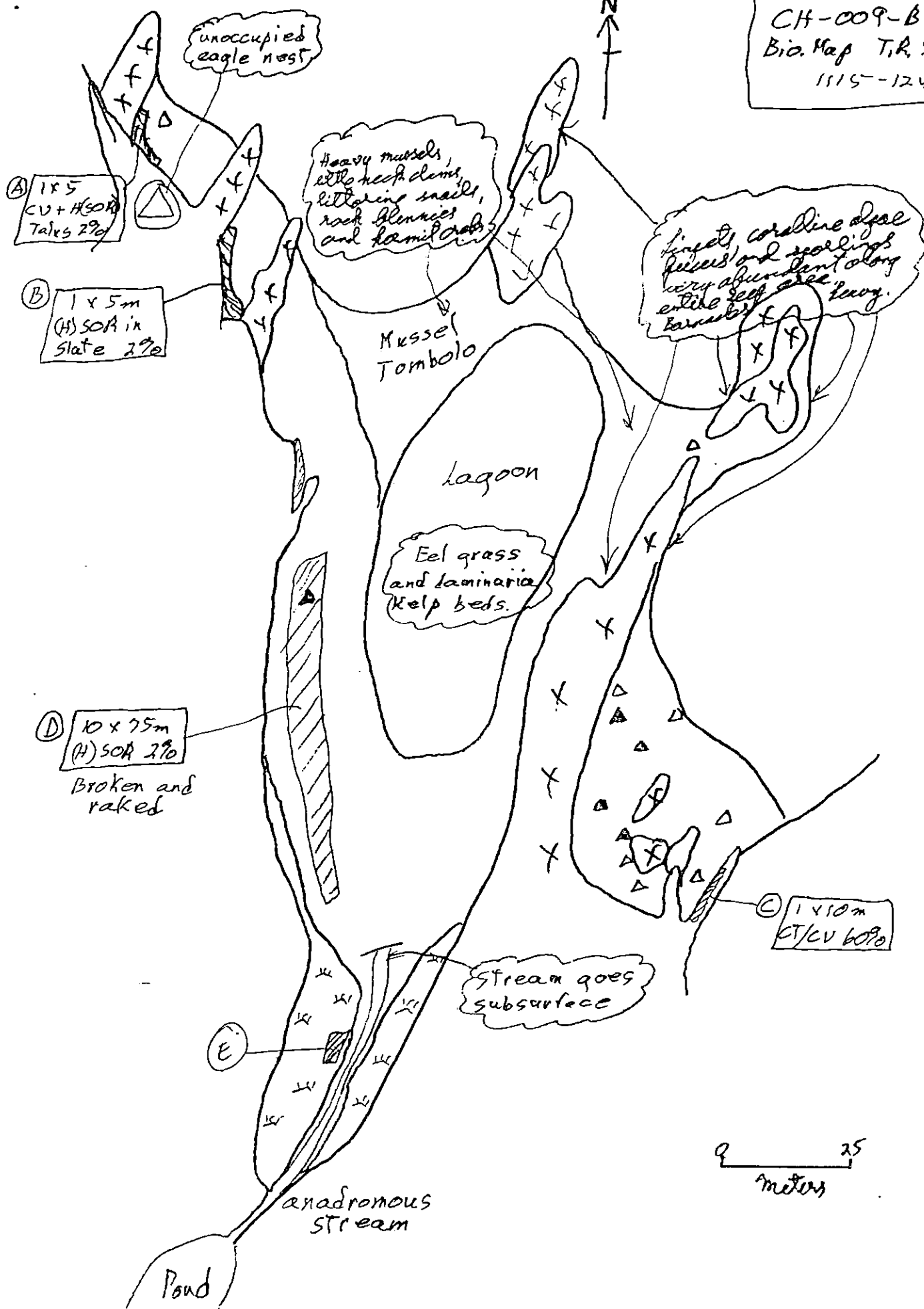
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	3 (2 adult, 1 juv)	12 Rock Ptarmigan
Seabirds			
Waterfowl			
Gulls/Kittiwakes	1 gulls	2	
Shorebirds	2	14 (10 shorebirds, 2 gulls)	
Corvids			
Other Birds			

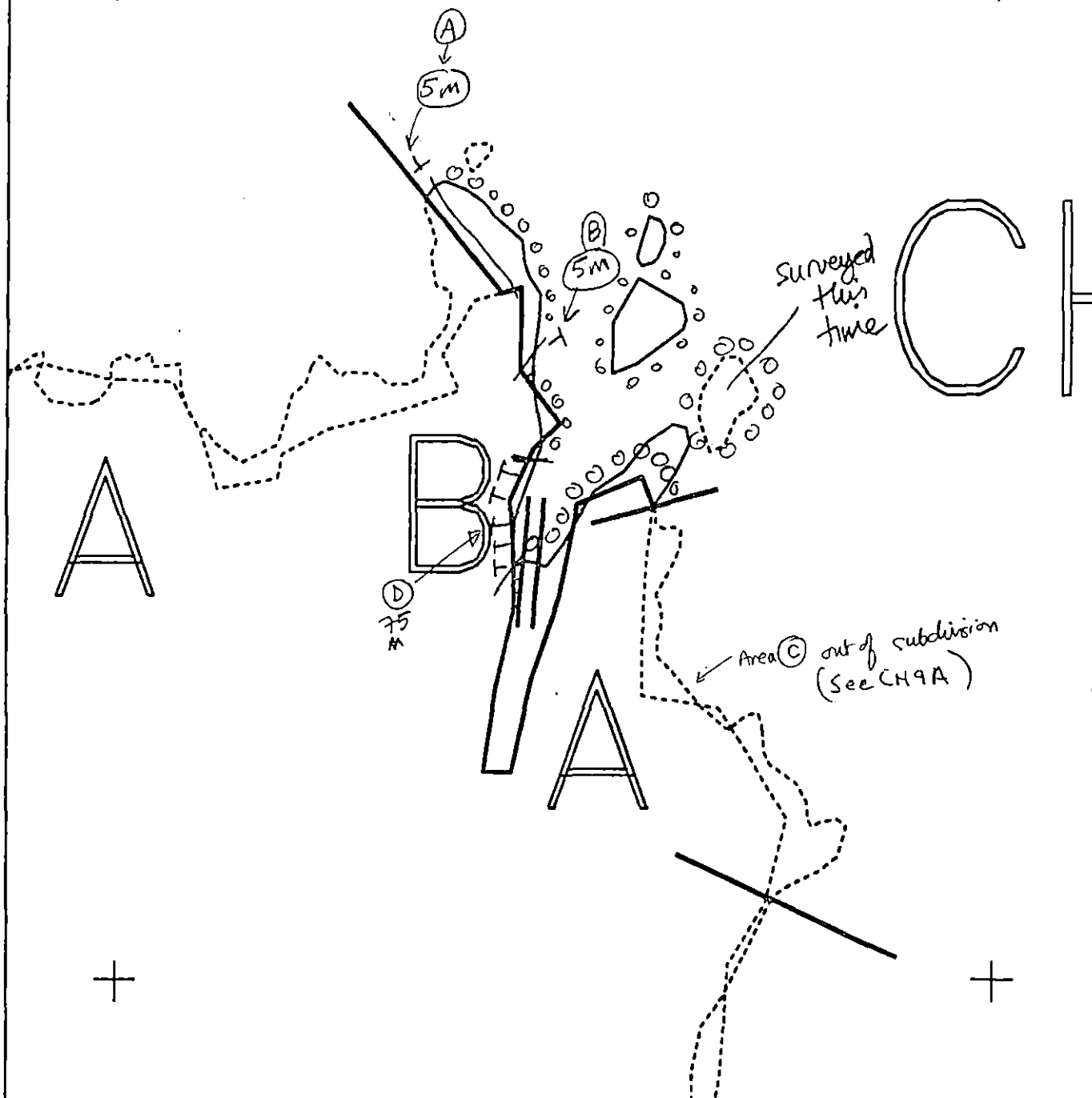
LAND MAMMALS

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

Shoreline subdivision map showing important biological features attached.

Cont. station - 10





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

CH009 B
 ADEC Subsegment Length: 630m
 METERS
 0 100 200
 AK State Plane Zone 4
 pch060b

Subdivision Field Map
 Map Key: PWSCH009B
 Name: DAVID LITTLE
 Date: 05/05/91
 Date Entered:

reviewed 5/10/91 K6
 Notation 5/15/91 WKC

1991 MAYSAP EVALUATION

SEGMENT: CH 009 SUB: A REGION: PWS SURVEY DATE: 5/5/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Rachel Dan Dan Date: 5/21/91

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

N

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 21 1991

FOSC APPROVAL DATE: 5/31/91

ADEC

FOSC

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

EXXON

USCG

NOAA

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 6 SEGMENT CH 009 SUBDIVISION B A^{CCP} DATE 5/5/91

(This is Comment Sheet for CH 009 B, included here for Cove in CH 009 A)

ADEC / ADEFG

NAME Aimee Weseman

SIGNATURE Aimee Weseman

WTK
5/15/91

☐ NTR ☒ Treatment Recommended.

ASC# 226-20-16182

Resource Uses - Commercial Tourism, Commercial Fishing & Recreation

To complete treatment to Anad portion of subsegment - manually till MSOR sediments in areas D4E on west side of stream.

The small cove area to the east of stream (CH 009-A?) contains quantities of subsurface oil beneath clean gravels which could use treatment. The oiled sediments reside between & among low bedrock ridges & could be difficult to access. Further assessment may determine a suitable treatment.

EXXON

NAME Scott A. Nauman

SIGNATURE Scott A. Nauman

☒ NTR

The majority of the subdivision showed no surface oil. The long patch of SOR was broken up and raked. This should be all the treatment needed for this oiling condition. Other areas of SOR should weather naturally. Subsurface oil is concentrated in pocket beach (CH-9A) and is well buried. Eagles were observed on this subdivision, and the intertidal zone is very healthy. I see no need for further treatment.

LANDMANAGER

NAME

OF

SIGNATURE

☐ NTR

USCG/NOAA

NAME CWO SPURR / R. HOFF

SIGNATURE R. Spurr / Rebecca Hoff

☒ NTR

This segment has a very rich lower intertidal community with extensive mussel beds & other biota. Surface oil residue remaining in the upper intertidal was broken up & raked. One area with remaining subsurface oil was found around the point at the eastern end of the segment. I recommend that this be left to weather naturally since the area is inaccessible and should not pose a threat to communities. The subsurface oil was also far from the avian burrows.

FIELD SHORELINE COMMENT SHEET

SEGMENT AS CH 9 SUBDIVISION: A 200 SITE: _____ DATE 5-5-91

USCG

NAME _____ SIGNATURE _____

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

ADEC

NAME _____ SIGNATURE _____

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

LAND MANAGER

NAME CHARLES SELANOFF SIGNATURE Charles Selanoff

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

A considerable amount of oil at the mouth of the stream with patches along the storm berm. This area can be manually worked with some ~~mechanical~~ mechanical tilling done. The Chenega team should be considered for this clean-up (manual pick-up). This area is primarily a subsistence use area.

EXXON

NAME _____ SIGNATURE _____

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

MAYSAP SHORELINE OILING SUMMARY

PAGE 1 OF 2TEAM NO. 6OG D.I. LITTLEBIO T. SCHROEDERSEGMENT CH-009ADEC A. WESEMAN / T. CROWELANDMANAGER C. SELANOFF for CVCSUBDIVISION CH-9AEXXON SCOTT NAUMANUSCG/NOAA CWO SPURR / R. HOFFDATE 05 / 05 / 91TIME 11:15 to 12:45TIDE LEVEL 2³/₄ ft. to 1¹/₂ ft.ENERGY LEVEL: ☐ H ☒ M ☐SURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELOWEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☐ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 10 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

305

EST. OIL CATEGORY LENGTH: W — m M — m N — m VL 10 m NO — m US — m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE V H M L	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A				T	S						P	V	5	5	X	X			In slate talus
B				S							P	V	5	5	X	X			" "
C					P	P					rock	V	1	10		X			rock wall of gully
D				S							P	M/L	10	75	X	X			Broken and catbed (he)
E				S							pveg	M	0.5	1	X				light SOR.

location C
is probably in
CH-009-A

Disregard all but
location C, Those
are included in CH-9B

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

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

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
Subdiv B	7	20								Y	2	N					P-pg	in subdiv B
	8	25								Y	2	N					g-gm	
Subdiv A	9	30			X				20-30	rock	25	RB				X	pgs	} C.H-000 A
	4	25					X	X	10-20	Y	20	N				X	P-pg	
	5	40		X					15-25	N	25	B			X		P-g	
	6	25			X				5-20	Y	20	B			X		P-g	
	7	25						X	—	Y	25	N			X		P-g	
	8	30			X				10-25	Y	30	BR			X		P-gs	
	9	45							X	—	Y	—	N		X		P-p	

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

OG COMMENTS:

Surface oil was limited on slate 'talus' debris to the extreme NW of the subdivision (HSOR). Inside the lagoon oil was found as a 75 m long (MITZ) band which was previously AP, now HSOR at only 2% cover, though sporadically distributed. AP near SOR CV and CT was still apparent in what is likely CH-9-A in the gully at eastern part of map. Subsurface oil was restricted to the same area, although tucked in behind some bedrock ridges, as an area of OF, MOR and a small patch of HOR (2x3 m).

revised 5/13/91 XG
revised 5/13

SEGMENT

СН-009

SUBDIVISION

~~B~~ A LCE

DATE 05 / 05 / 91

[illegible]

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

OG COMMENTS:

revised 5/13/91 KG
 reviewed 5/3

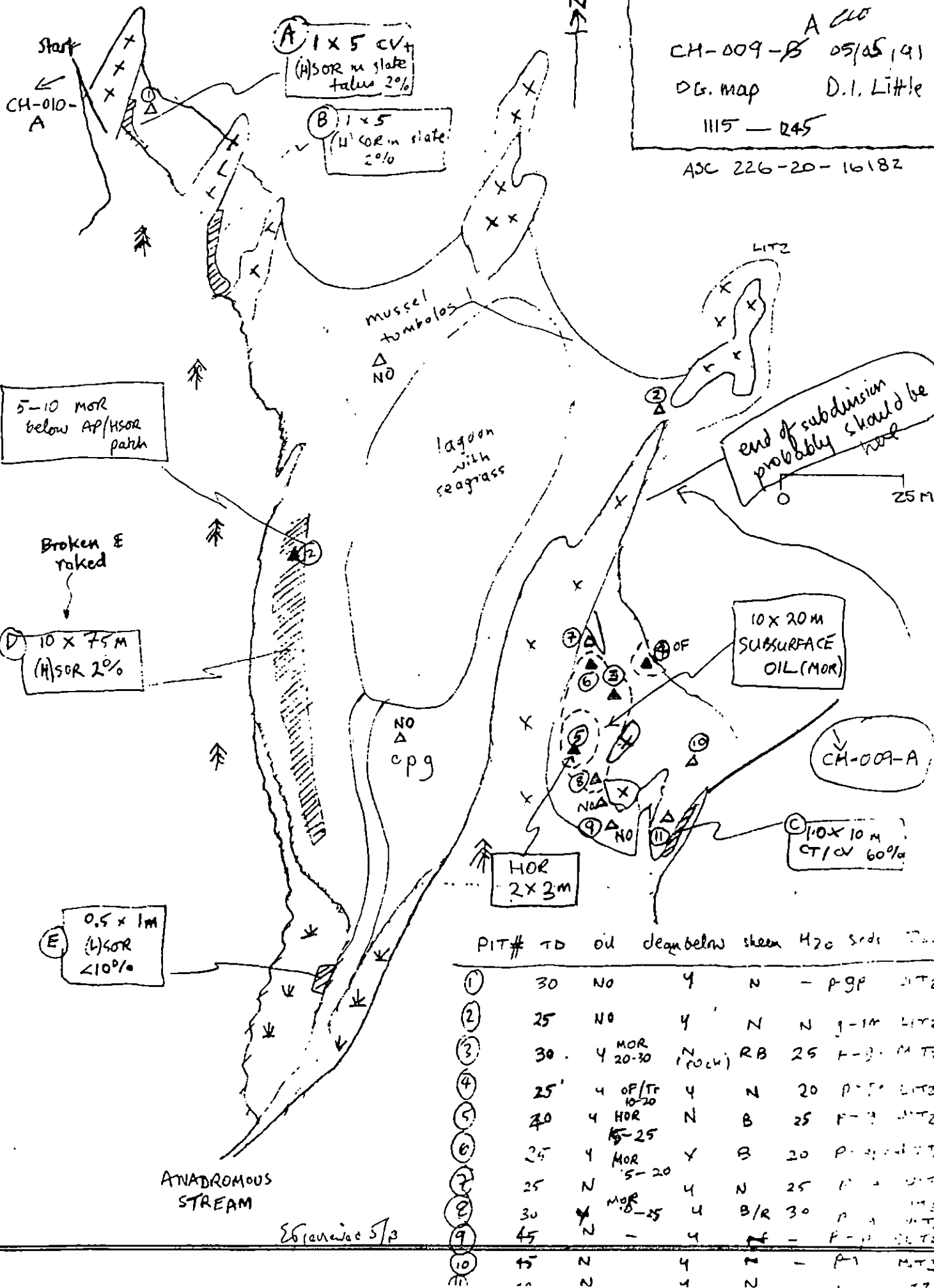
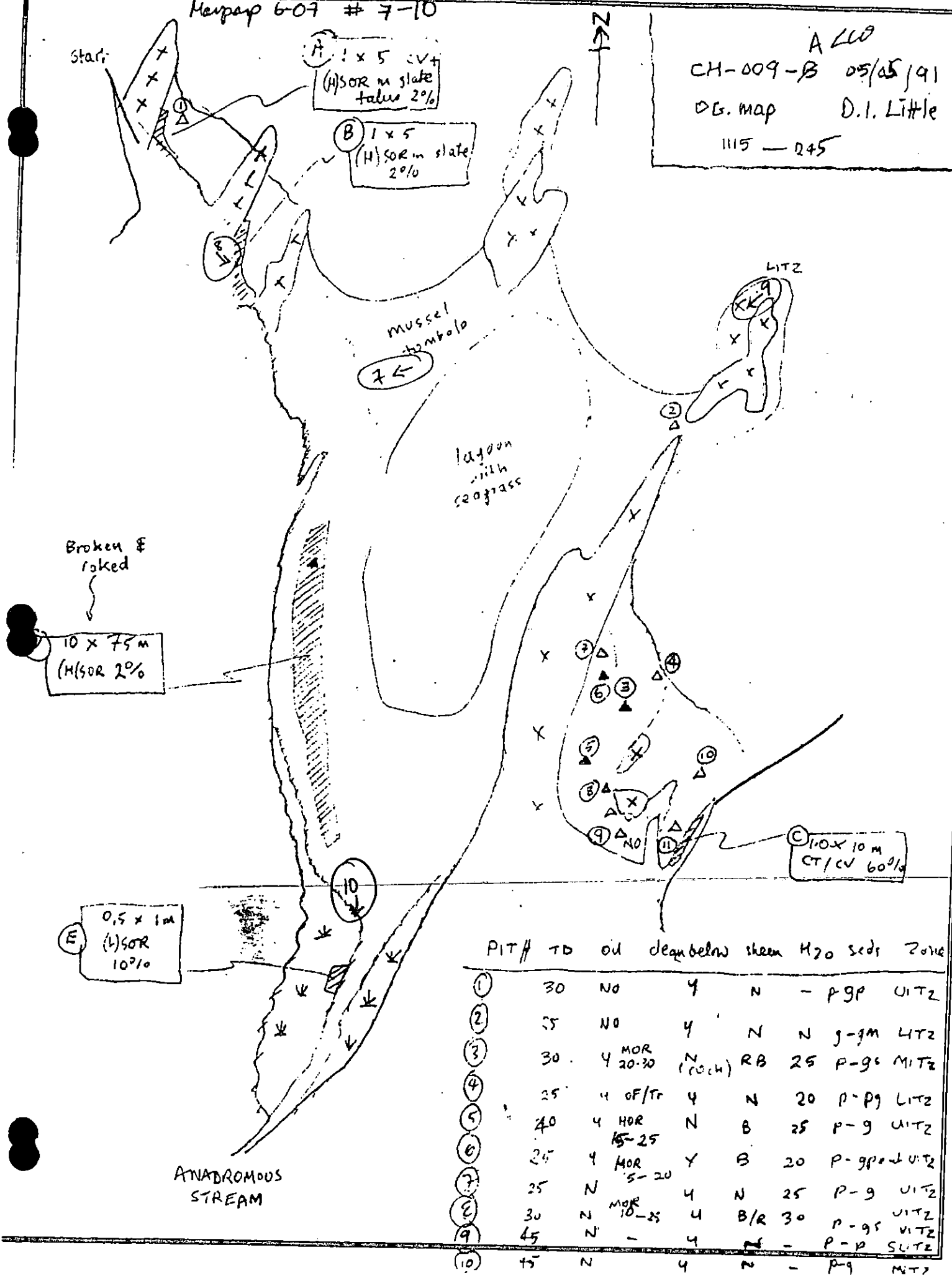


Photo Locations

Mapap 6-07 # 7-10

A LLO
CH-009-B 05/05/91
OG. map D.I. Little
1115 - 245



MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6

DATE 5/5/91

SEGMENT # CH-009

TIDAL HEIGHT (Range) + 2 3/4 to + 1 1/2 ft

SUBDIVISION B A LCO

BIOLOGIST T. R. Schroeder

SEA STATE light chop

WIND SPEED/DIRECTION variable 5 mph

PHOTOGRAPHS: ROLL #

FRAME #

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

(A, B, D & E) = This beach segment with its lagoon and protective barrier rocks is an extremely lush and productive environment. Mussels, fucus beds, clam, rock blennies, eel grass beds and many other organisms are thriving even in close proximity to remaining oil. The stream is an insignificant trickle of water as far as salmon production goes; however, this lagoon and reef are ~~could be extremely~~ important in supporting rearing salmonids from other more productive streams.

(C) = The subsurface oil on the beach near this location in jets 3, 5, 6 & 8 (see OG map) is in close proximity to this productive reef/lagoon area. The beach is more exposed to N.E. storms and the oil should weather away over time. Again no adverse effects of the oil could be seen on this areas tremendously productive biological community.

No intrusive dredging methods should be used in this area. Reefs, lagoons and mussel beds should be well protected.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

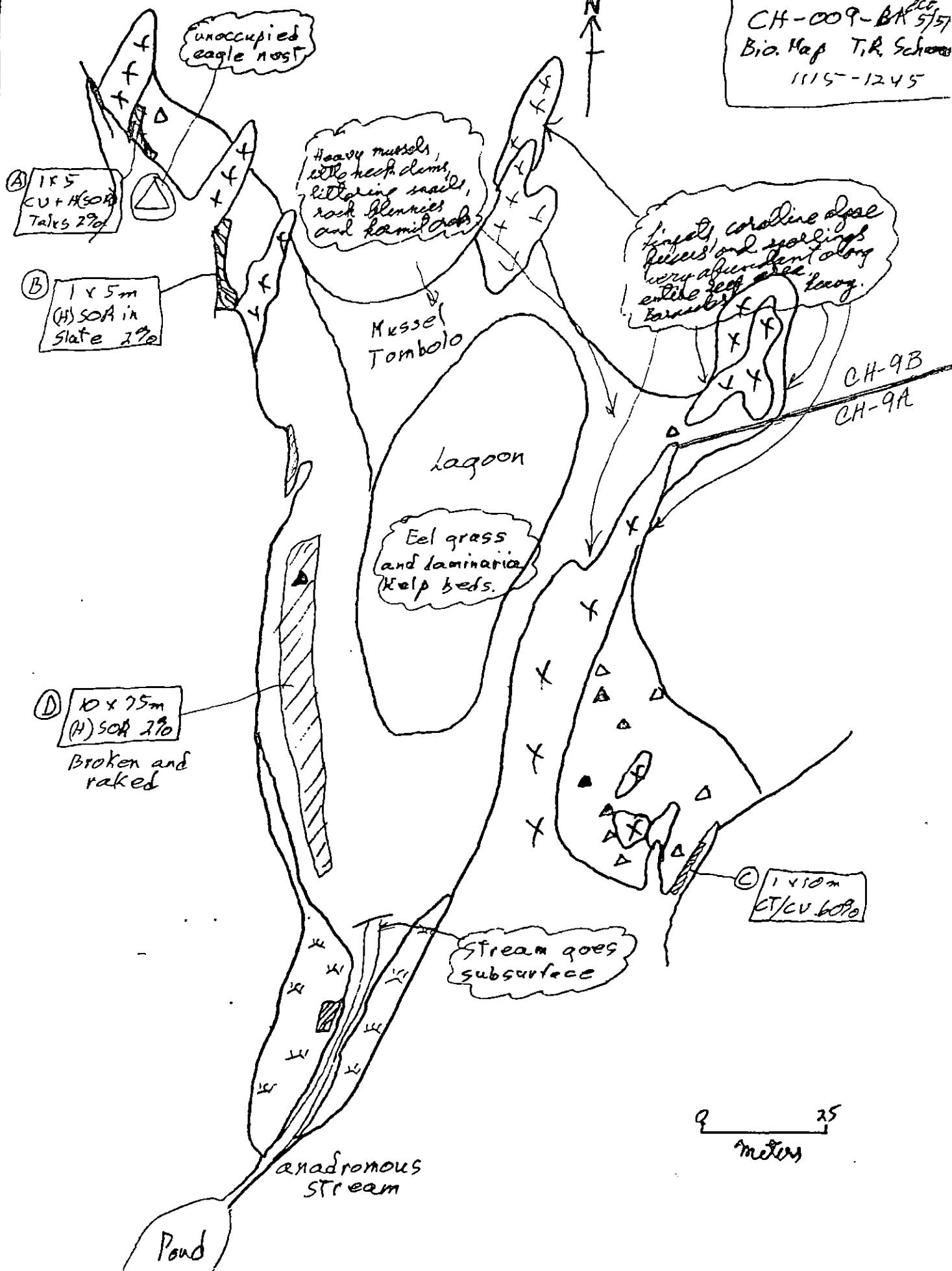
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	3 (2 adults, 1 juv)	12 Rock Blennies
Seabirds			
Waterfowl			
Gulls/Kittiwakes	1 gulls	2	
Shorebirds	2	14 (2000-2001)	
Corvids			
Other Birds			

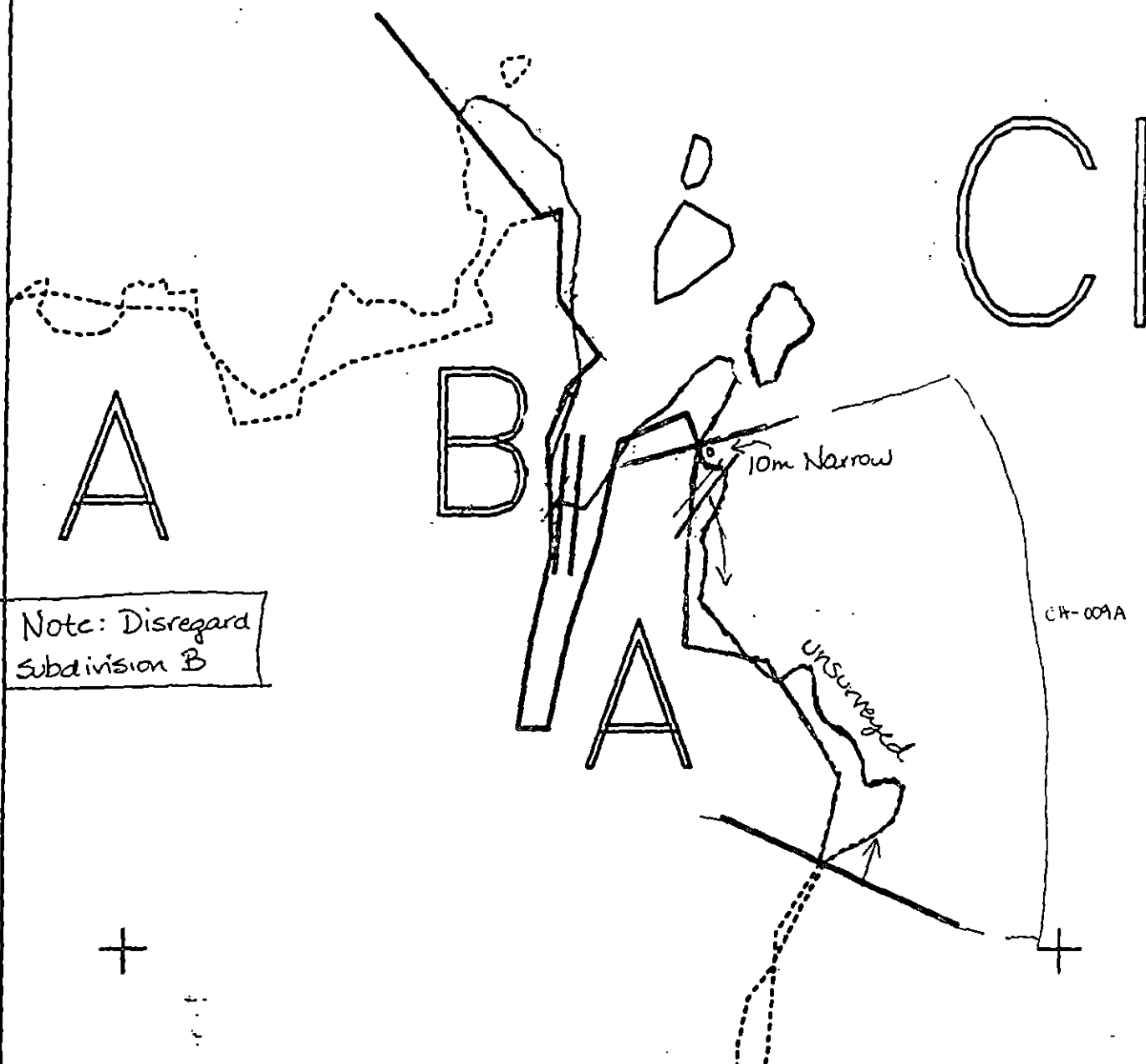
MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

Reviewed 5/13
B. 11 1-13 NM

CH-009-BA 5/57
Bio. Map T.R. Schow
1115-1245





Note: Disregard Subdivision B

XXXX	Wide	CH009	BA	Subdivision Field Map
////	Medium	ADEC Subsegment Length: 315m		Map Key: PWSCH0008
----	Narrow	METERS		Name: DAVID LITTLE
TTTT	Very Light			Date: 05/05/91
0000	No Oil	AK State Plane Zone 4 pc40000		Date Entered:

revised 5/13/91 EG
EG revised 5/13

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.

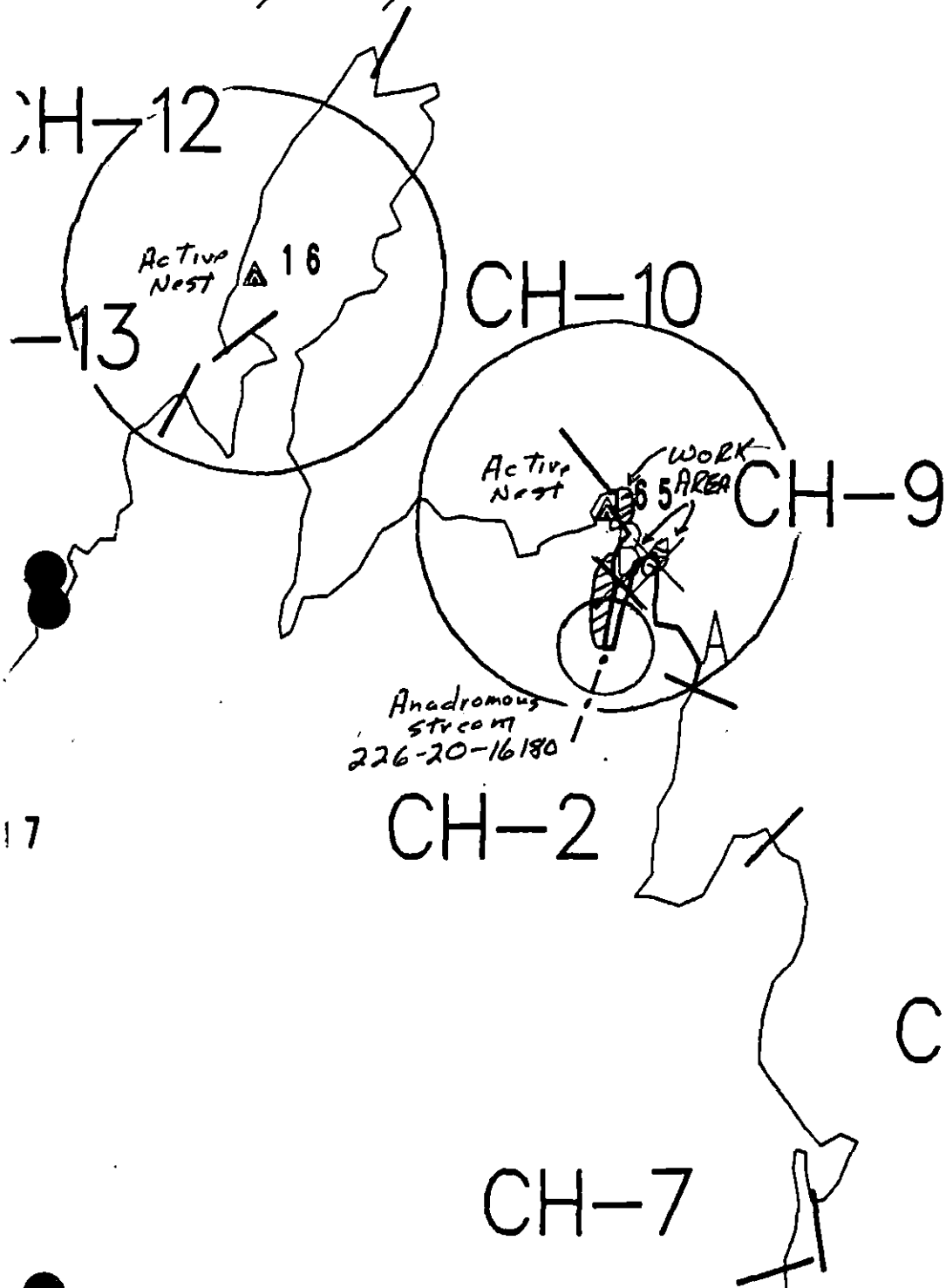
SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16180)
FOR ADDITIONAL CONSTRAINT INFORMATION

FOSC hy L Date 6-10-90

Active Nest
64

CH-11

Incorporates information from
USFWS Bald Eagle survey 5/12/80



17

5/28 JD

EXXON
Exxon Company, USA
Map Key: PMS-Q1+9

ECOLOGY MAP 5/28
SEGMENT CH-9
SUBDIVISION B (2 of 2)
METERS

★	Seabird Colony
▲	Eagle Nest

1 inch = 1962 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.

ARCH ARCHAEOLOGICAL CONSTRAINTS: If cultural resources are ss.
Shor uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a
see member of Exxon's Cultural Resource Program immediately
(564-3657; 564-3658 or 564-3276).
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
<u>X</u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> X 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 (1/1) to (8/15).

[See Constraint Addendum dated 6/9/90] WTK
RAKE / SPOT WASH / POM-POM AREAS OF SUBSURFACE OIL
AS INDICATED ON MAP / SKETCH

TAG COMMENTS:

TAG APPROVAL DATE:

ADEC JOHN BAUER [Signature]
EXXON ANDY TEAL [Signature] FOSC: [Signature] DATE: 5-18-90
NOAA Rud Weicott [Signature]
USCG G.A. REITER [Signature] NOTIFY CVC 24 HRS PRIOR TO WORK.

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 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.

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

SHPO SIGNATURE: Charles E. Hoffman

DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 58 m: V.Light 158 m: No Oil 100 m
Subsurface Oil Observed: Yes X No Maximum Depth 6 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: Manual pickup of pooled oil (tar patties) and tarmat removal as shown on sketch map. Work 7/10 to 8/15 based on constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90

ADEC JOHN BAUER

EXXON ANDY TGA

NOAA Byl Worrell

USCG G.A. REITER

FOSC:

DATE: 5-9-90

cvc Rep to be present -

D. LITTLE

SKETCH MAP

ENT ST/CH-009

VISION A

1 14 90

KLST

row
max. Scale
ySub Brdy
Dist.
th
tgh
Cover
strate Character
L HML/VML
L
site Location(s)
site(s)
Location(s)
oto Location(s)

END

1A

Surface Oil

3A

Surface Oil

CT/C

uous Distribution

CT/B

1 Distribution

CT/P

7 Distribution

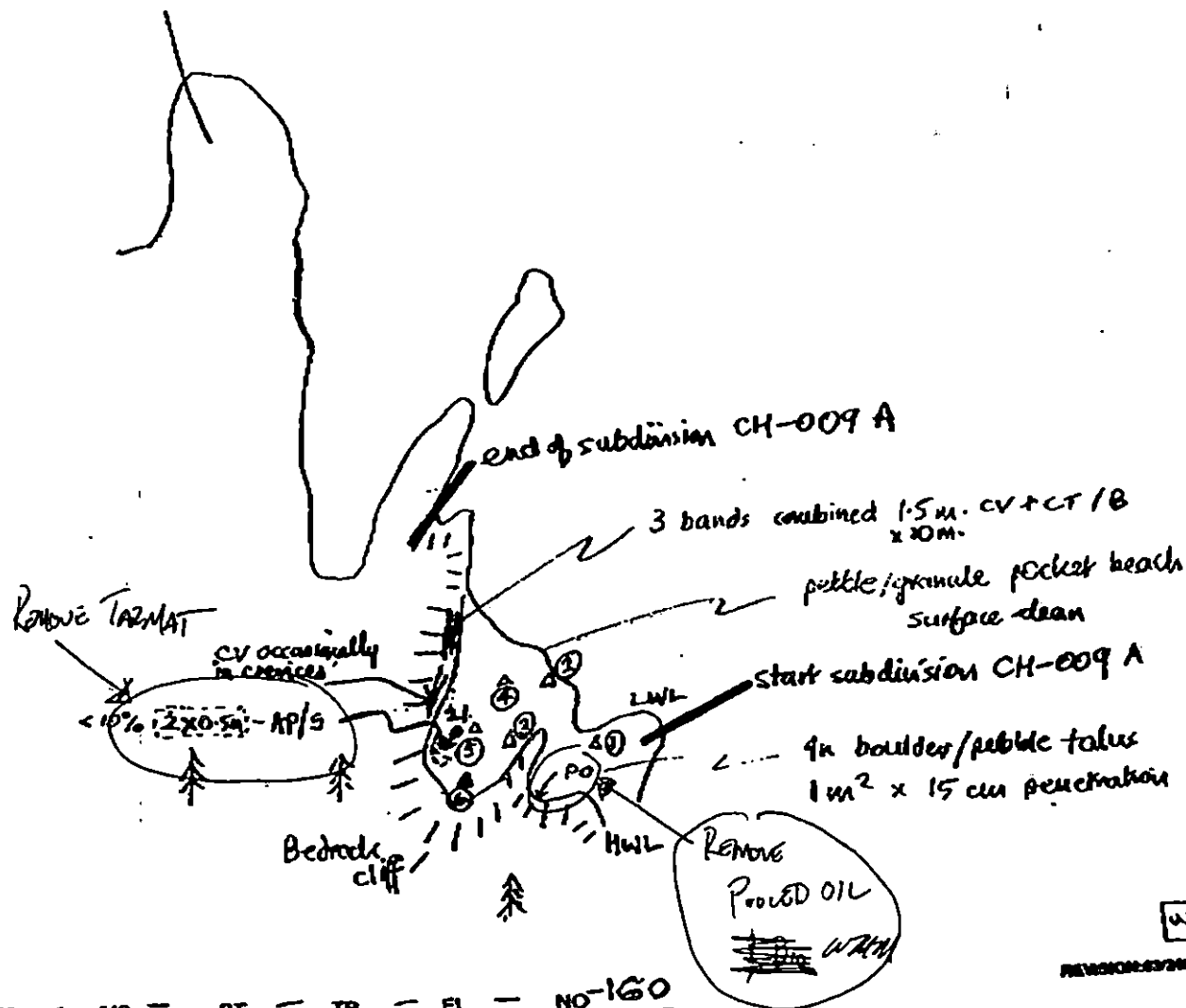
CT/S

hed Distribution

Vegetation

→

location, direction,
umber



varactor Length (m): AP 1 PO 1.5 CV 5 CT 25 ST - MS - PT - TB - FL - NO-160

APR-03-1390 10:29 FROM CORDOVA

TO

SCHT TERM

P.12

REVISION: 03/2000

CH-10

- Surveyed 4/2/90 - CH002-B

CH-9

surveyed by helicopter 4/2/90

visited briefly on foot 4/1/90

CH-2

CH-9-A

XXXX Wide
//// Medium

Map Key: PWS-37

Name: D. LITTLE

RJE
ADF

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.

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

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
<u>X</u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </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.

RAKE / SPOT WASH / POM-POM AREAS OF SUBSURFACE OIL
AS INDICATED ON MAP / SKETCH

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90
ADEC JOHN BAUER
EXXON ANDY TEAR FOSC: [Signature] DATE: 5-18-90
NOAA Bud Wescott
USCG G.A. REITER NOTIFY CVC 24 HRS PRIOR TO WORK.

D. LITTLE

RAKE/SPOT WASH
PRIOR TO BIO

3MENT STACH-00

BDIVISION 0

TE 4/2/90

CHECKLIST

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

LEGEND

① Δ

No Subsurface Oil

② Δ

Subsurface Oil

CT/C

Known Distribution

CT/B

on Distribution

CT/P

by Distribution

CT/S

shed Distribution

|||||

1 Vegetation

to location, direction,
number NOTE—shown
on separate map.

SKETCH MAP

Black Oyster
Catcher

30 cm CT/B

seagrass

CT/S

CT/B

CT/C

CT/B

CT/C

CT/B

CT/C

CT/B

CT/C

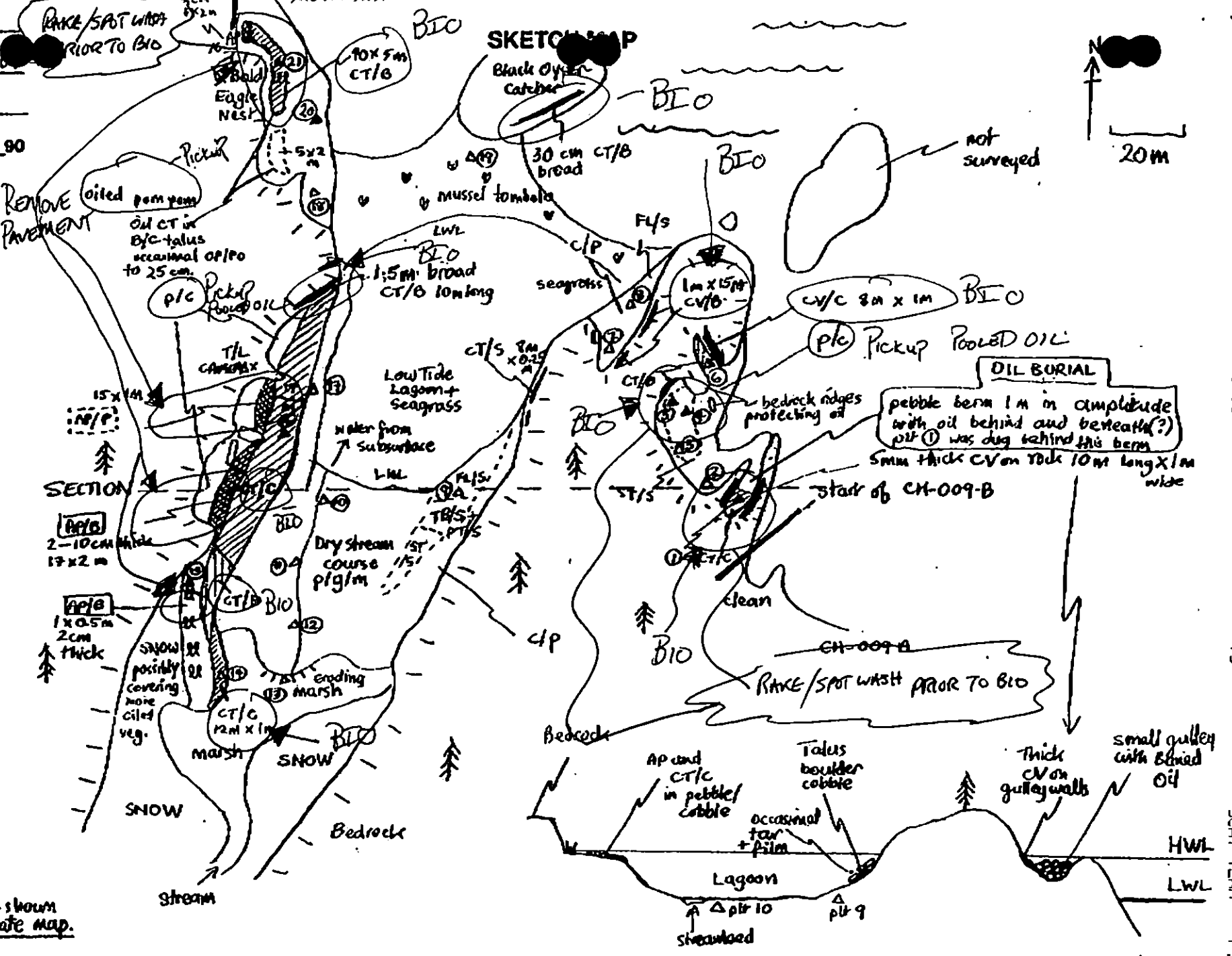
CT/B

CT/C

CT/B

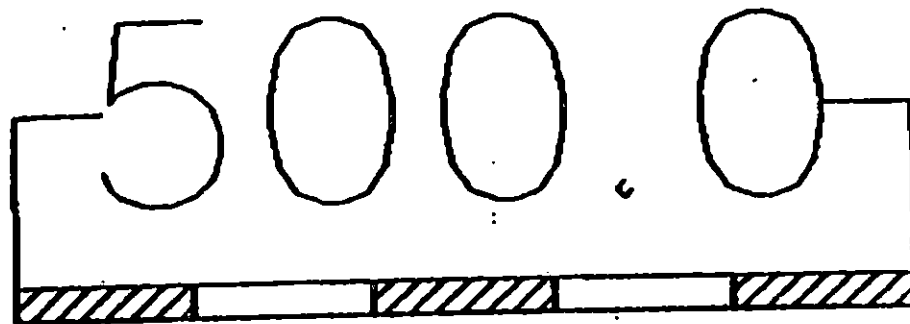


APR-03-1990 10:25 FROM CORDOBA TO SOUTHERN P.O.S



Character Length (m): AP 36 PO 0.5 CV 33 CT 150 ST 35 MS — PT 0.10 TB 0.25 FL 20 NO

REVISION: 000000



CHOO9-B

1-R1 F21 IAM

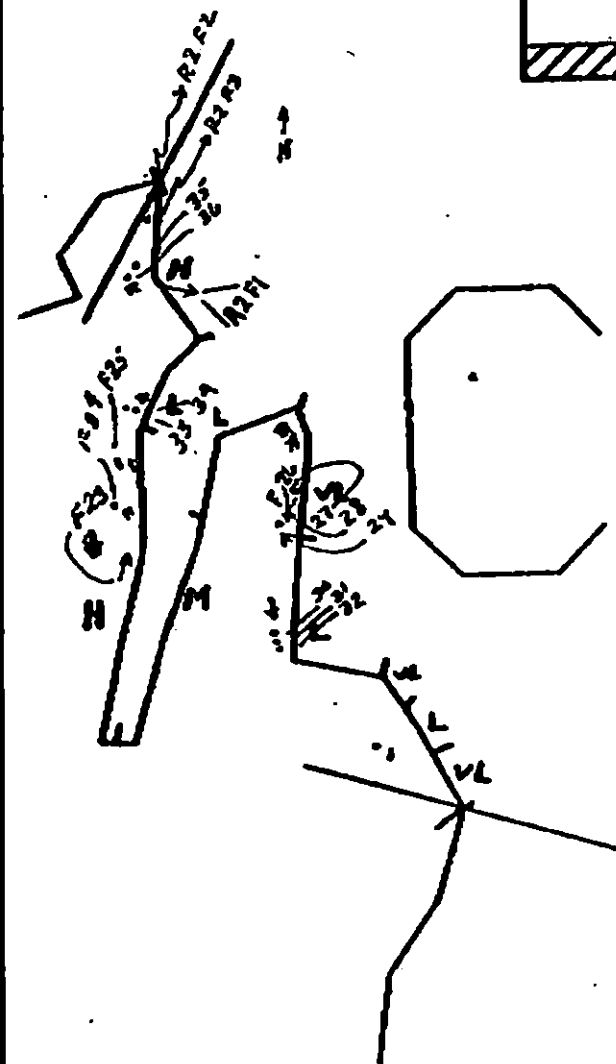
R1 F-23 1040 hr 2 APRIL '90

- R1 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



CH-10

end of subdivision
CH-009-B

not surveyed

start of subdivision CH-009-B

SNOW

CH-9

CH-2

XXXX Wide

//// Medium

---- Narrow

CH-9-B

ADEC Segment Length: 945m

Map Key: .PWS-57

Name: D. LITTLE

NOTE
ADEC

1991 MAYSAP EVALUATION

SEGMENT: CH 009 **SUB:** A **REGION:** PWS **SURVEY DATE:** 5/5/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ **Date:** _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 6 SEGMENT CH 009 SUBDIVISION B A ^{ELF} DATE 5/5/91
 (This is Comment Sheet for CH009 B, included here for Cove in CH009A)

ADEC / ADFG

NAME Aimee Weseman

SIGNATURE Aimee Weseman

WRC
5/15/91

☐ NTR ☒ Treatment Recommended. Resource Uses - Commercial Tourism, Commercial Fishing & Recreation
 ASC# 226-20-16182
 To complete treatment to Anad portion of subsegment - manually till MSOR sediments in areas B42 on west side of stream. The small cove area to the east of stream (CH009-A?) contains quantities of subsurface oil beneath clean gravels which could use treatment. The oiled sediments reside between & among low bedrock ridges & could be difficult to access. Further assessment may determine a suitable treatment.

EXXON

NAME Scott A. Nauman

SIGNATURE Scott A. Nauman

☒ NTR
 The majority of the subdivision showed no surface oil. The long patch of SOR was broken up and raked. This should be all the treatment needed for this oiling condition. Other areas of SOR should weather naturally. Subsurface oil is concentrated in pocket beach (CH-9A) and is well buried. Eagles were observed on this subdivision, and the intertidal zone is very healthy. I see no need for further treatment.

LANDMANAGER

NAME _____ OF _____

SIGNATURE _____

☐ NTR

USCG/NOAA

NAME CWO SPURR / R. HOFF

SIGNATURE R. Spurr / Rebecca Hoff

☒ NTR This segment has a very rich lower intertidal community with extensive mucosel beds & other biota. Surface oil residue remaining in the upper intertidal was broken up & raked. One area with remaining subsurface oil was found around the point at the eastern end of the segment. I recommend that this be left to weather naturally since the area is inaccessible and should not pose a threat to communities. The subsurface oil was also far from the arthropods.

FIELD SHORELINE COMMENT SHEET

SEGMENT AS CH 9 SUBDIVISION: A 200 SITE: _____ DATE 5-5-91

USCG

NAME _____ SIGNATURE _____

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

ADEC

NAME _____ SIGNATURE _____

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

LAND MANAGER

NAME CHARLES SELANOFF SIGNATURE Charles Selanoff

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

A considerable amount of oil at the mouth of the stream with patches along the storm berm. This area can be manually worked with some ~~mechanical~~ mechanical tilling done. The Chenega team should be considered for this clean-up (manual pick-up). This area is primarily a subsistence use area.

EXXON

NAME _____ SIGNATURE _____

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

MAYSAP SHORELINE OILING SUMMARY

PAGE 1 OF 2

TEAM NO. 6

OG D.I. LITTLE

BIO T. SCHROEDER

SEGMENT CH-009

ADEC A. WESEMAN / T. CROWE

LANDMANAGER C. SELANOFF for CVC

SUBDIVISION SE A 26

EXXON SCOTT NAUMANN

USCG/NOAA CWO SPURR / R. HOFF

DATE 05 / 05 / 91

TIME 11 : 15 to 12 : 45

TIDE LEVEL 2 3/4 ft. to 1 1/2 ft.

ENERGY LEVEL: ☐ H ☒ M ☐ L

SURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELO

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

TOTAL LENGTH SHORELINE SURVEYED: 10 m

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

305

EST. OIL CATEGORY LENGTH: W — m M — m N — m VL 10 m NO — m US — m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE V H M L	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A											P	L		5	X	X			in slate talus
B											P	L		5	X	X			" "
C					P	P					rock	V	1	10			X		rock wall of gully
D											P	M/L	10	75	X	X			broken and covered (heavy)
E											p-veg	M	0.5						light soil.

location C
is probably in
CH-009-A

Disregard all but
location C. Those
are included in CH-9B

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

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

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
7	80									Y	2	N					P-gg	in Subdivision B
8	25									Y	2	N					g-gm	
3	30			X					20-30	rock	25	RB			X		AgS	} CH-009 A
4	25					X	X		10-20	Y	20	N				X	P-pg	
5	40		X						15-25	N	25	B		X			P-g	
6	25			X					5-20	Y	20	B		X			P-g	
7	25							X	—	Y	25	N		X			P-g	
8	30			X					10-25	Y	30	BR		X			P-gs	
9	45							X	—	Y	—	N	X				P-p	

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

OG COMMENTS:

Surface oil was limited on slate 'talus' debris to the extreme NW of the subdivision (CH-009). Inside the lagoon it was found as a 75m long (MITZ) band which was previously AP, now HSOR at only 2% cover, though sporadically distributed. Some CV and CT was still apparent in what is likely CH-9-A in the gully at eastern part of map. Subsurface oil was restricted to the same area, although tucked behind some bedrock ridges, as an area of OF, MOR and a small patch of HOR (2x3m).

revised 5/13/91 KG

ASC 226-20-16182

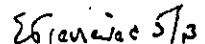
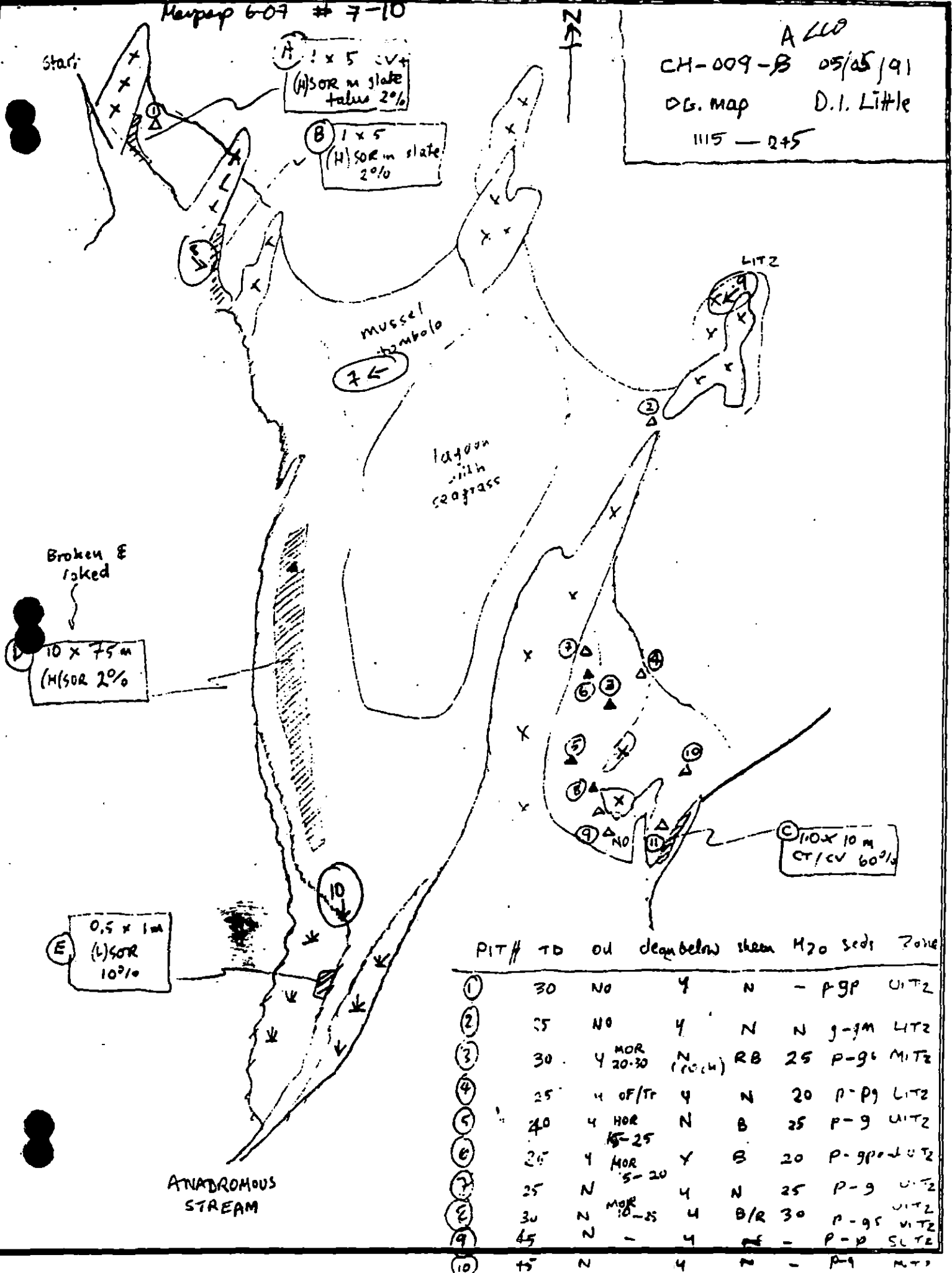


Photo Locations

Map 607 # 7-10

A LLO
CH-009-B 05/05/91
OG. map D.I. Little
1115 - 245



PIT #	TD	od	dean below	shem	H ₂ O	sed	Zone
①	30	NO	Y	N	-	P-9P	UITZ
②	35	NO	Y	N	N	g-gm	LITZ
③	30	4 MOR 20-30	N (10-14)	RB	25	P-9	MITZ
④	25	4 OF/Tr	Y	N	20	P-P	LITZ
⑤	40	4 HOR 15-25	N	B	25	P-9	UITZ
⑥	25	4 HOR 5-20	Y	B	20	P-9P	LITZ
⑦	25	N	Y	N	25	P-9	UITZ
⑧	30	N MOR 10-25	Y	B/R	30	P-9S	UITZ
⑨	45	N	Y	N	-	P-P	SLTZ
⑩	45	N	Y	N	-	P-9	MITZ

NAVSAP BIOLOGICAL SUMMARY FORM

TEAM # 6

DATE 5/5/91

SEGMENT # CH-009

TIDAL HEIGHT (Range) + 2 3/4 ft to + 1 1/2 ft

SUBDIVISION B A LLO

BIOLOGIST T. R. Schroeder

SEA STATE light chop

WIND SPEED/DIRECTION variable 5 mph

PHOTOGRAPHS: ROLL #

FRAME #

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

(A, B, D & E) = This beach segment with its lagoon and protective barrier rocks is an extremely lush and productive environment. Mussels, fucus, kelp, clams, rock blennies, eel grass beds and many other organisms are thriving even in close proximity to remaining oil. The stream is an insignificant trickle of water as far as salmon production goes. However, this lagoon and reef are could be extremely important in supporting rearing salmonids from other more productive streams.

(C) = The subsurface oil on the beach near this location is just 3, 5, 6 & 8 (see OG map) is in close proximity to this productive reef/lagoon area. The beach is more exposed to N.E. storms and the oil should, with time, gain no adverse effects of the oil could be seen on this area's tremendously productive biological community.

No intrusive cleanup methods should be used in this area. Reef, lagoon and mussel beds should be well protected.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

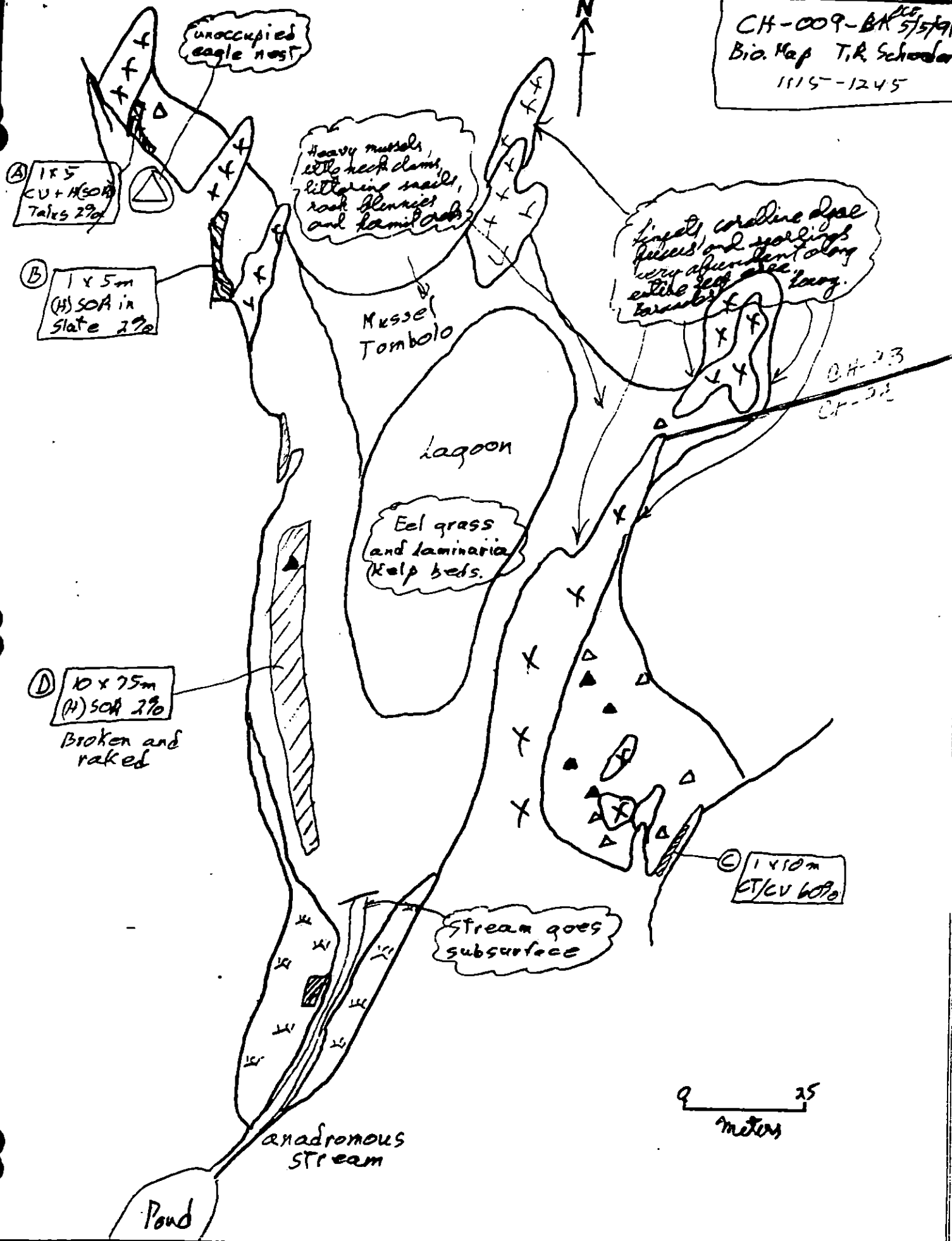
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	3 (2 adult, 1 juv)	12 Rock Blennies
Seabirds			
Waterfowl			
Gulls/Kittiwakes	1 gulls	2	
Shorebirds	2	14 (10 shorebirds, 2 eel grass)	
Corvids			
Other Birds			

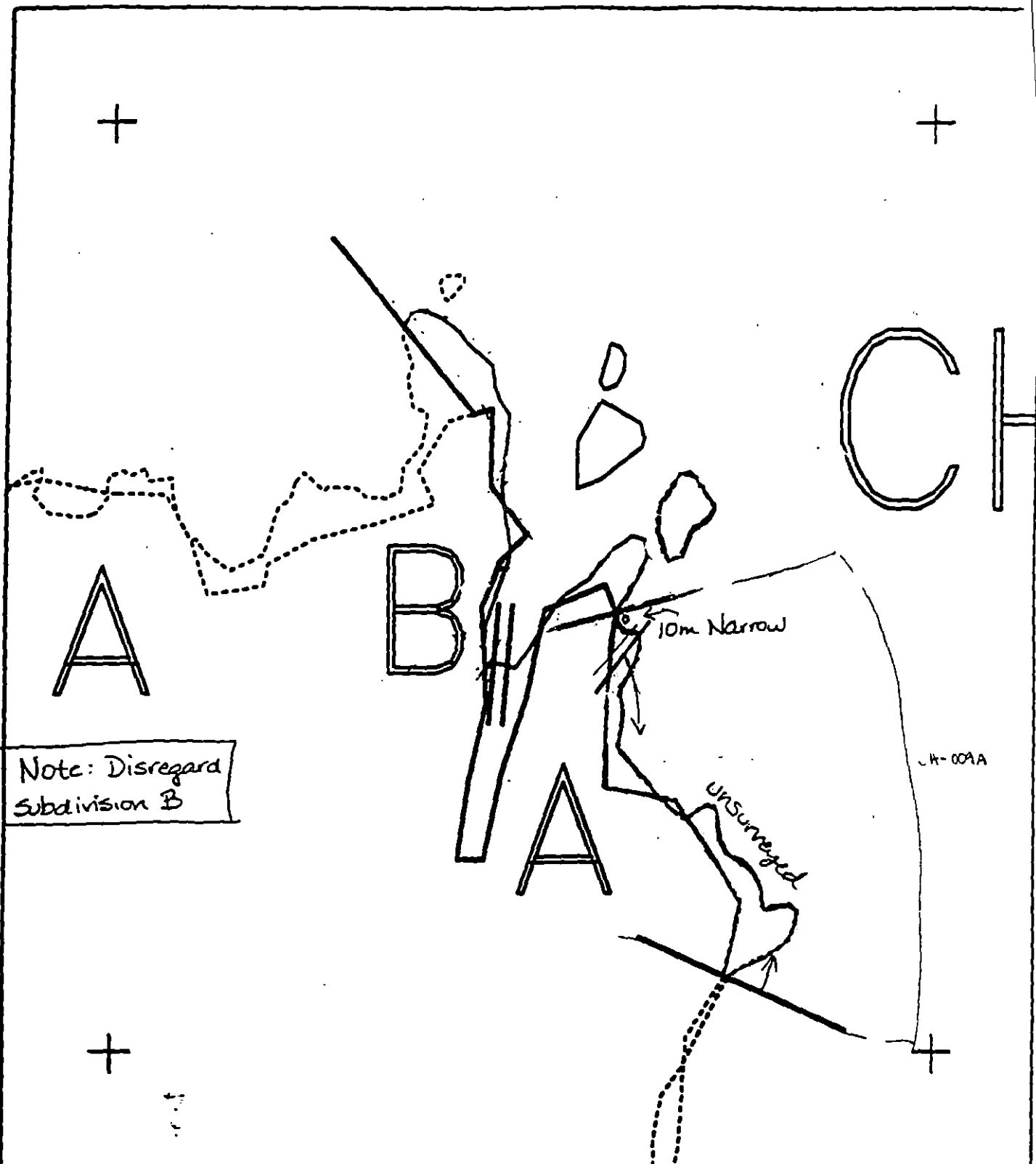
MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Carnivores (specify)			

Shoreline subdivision map showing important biological features attached.

Reviewed 5/3
Printed 5/1/91

CH-009-BK 5/5/91
Bio. Map T.R. Schoder
1115-1245





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

CH009 B A 110
 ADEC Subsegment Length: 315m
 METERS
 0 100 200
 AK State Plane Zone 4
 980000



Subdivision Field Map
 Map Key: PWSCH000B
 Name: DAVID LITTLE
 Date: 05/05/91
 Date Entered:

revised 5/13/91 CG
 E1 revised 5/13

REGION: PRINCE WILLIAM SOUND

SEGMENT: CH-009

SUBDIVISIONS: A (1 OF 2)

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 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.

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 58 m: V.Light 158 m: No Oil 100 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 6 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: Manual pickup of pooled oil (tar patties) and tarmat removal as shown on sketch map. Work 7/10 to 8/15 based on constraints.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

4

SEGMENT ST / CH-009 SUBDIVISION: A DATE 4/4/90

USCG

NAME Kenwin L. Dneher SIGNATURE CWO2 K.L. Dneher☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Needs small amount of manual pick up of small amount of asphalt and spotty
pooled oil.

DEC

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

CHENEGA

NAME

SIGNATURE

☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

Previous LAND MANAGER's Rep
being replaced

fw

SHORELINE OILING SUMMARY

REVISION NO. 02/22/90

2

OG D. LITTLE USCG K. DREHER SEGMENT ST/ CH-009
 BIO K. CORTES LAND REP — SUBDIVISION A (1 of 2)
 EXXON G-STILES ADEC P. ENDRES TIME 15:30 to 16:25
 TEAM NO.: 14 TIDE LEVEL: 4.0 ft to 6 ft DATE 1 / 1 / 90
 EST. SUBDIVISION LENGTH: 388 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			
	IC	IS	IP	IS	SP	SR	SL	SB	ST	SB	ST	SL	SU	UI	MI	LU
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-14-1Frames 21

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	SOB OR	ORP RW	CL	SL	TL	LR	SU	UI	MI	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 North west were banded and one small patch of brown/black pooling was detected among boulder/cobble slates.

SKETCH N

SION A

1 4 90

LIST

IX. Scale
Endry
SL

Male Character
ML/LVL

Location(s)
 (s)
 Location(s)
 Location(s)

NO

2. Surface ON

surface oil

100

18

Distribution

19

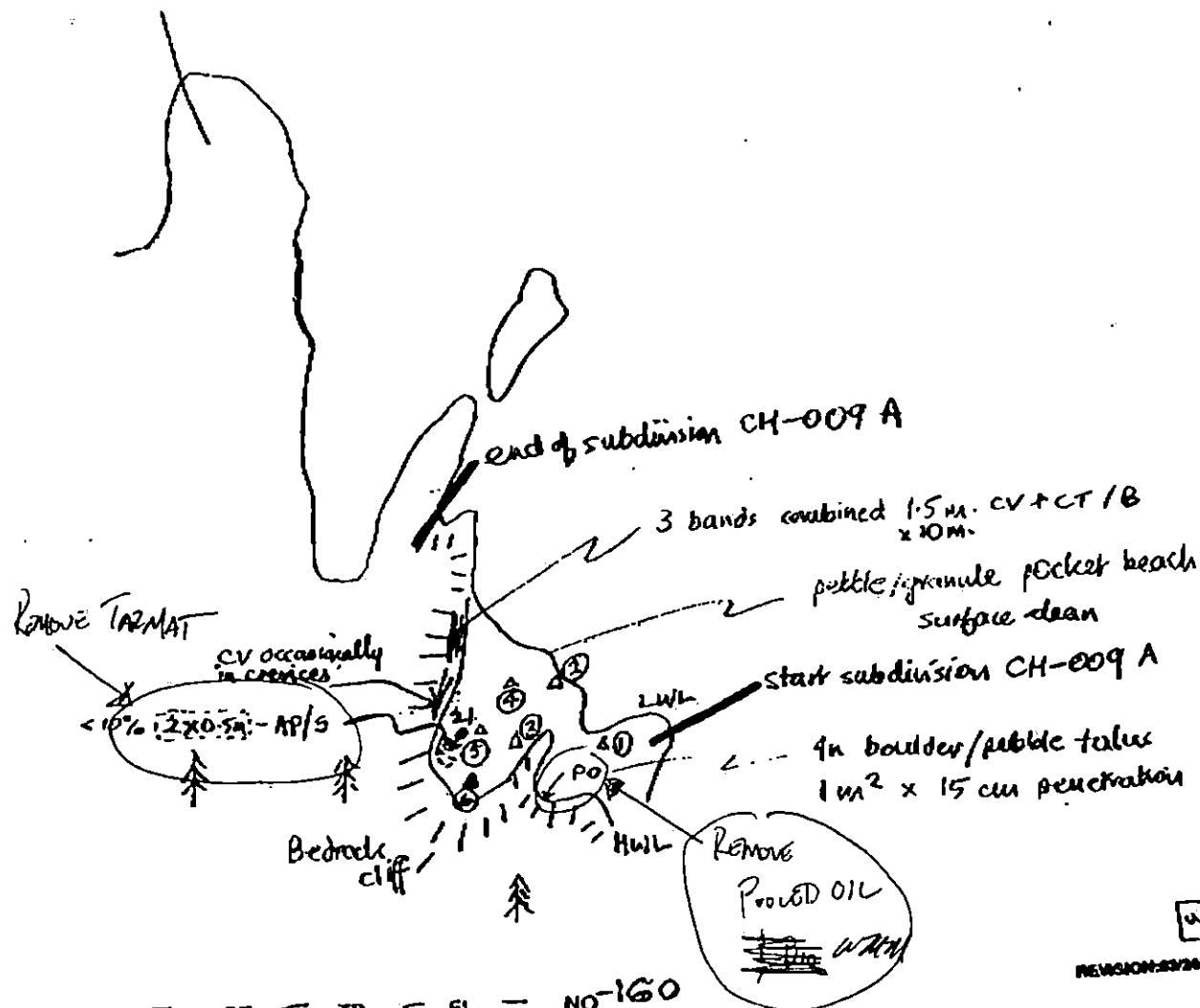
Verboten

1/5
d Distribution

operation

location, direction,
number

Factor Length (m): AP 1 PO 1.5 CV 5 OT 25 ST - MS - PT - TB - FL - NO 160



REVISION: 07/2015

APP-05-1390 10:23 FROM CORDOBA

10

201-111-1111

SHORELINE ECOLOGICAL SUMMARY *page 1 of 2*

REVISION: 06/22/90

Segment ST / C4009 - Subdivision - A Date (mo / day / yr) 9. 01. 90 5Time (24 hr) 1530-1615 Biologist K4 Coates(A) Substrate type and % of segments:
(1) Bedrock 45 (2) Boulder 25 (3) Cobble 10 (4) Pebble 30 (5) Sand (6) Silt (B) Overall % cover of biota (% of segment): Dense 30 Moderate 30 Low 40

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

Segment: ST-CH009 Subdivision: A Date: 4.01.90 6
 Time: 1530-1615 Biologist: KALOATES

Notes:

1. Exposed bedrock areas with large specimens
Balanus cariosus, *Lithothamnion* cover in
 crevices and cracks into upper mid-intertidal.
B. (?Semibalanus) glandulosus new settlement
 dense into splash/spray zone
2. Filamentous greens & browns & spaghetti brown
 in mid to upper intertidal. *Fucus* and
 ?*Endocladia* abundant in upper int. surge
 crevices.
3. New settlement of *Littorina sitkana* and limpets
 abundant in upper intertidal on bedrock
4. Oil residues on upper intertidal barnacles
 but not on rock surfaces
5. Other animals noted at mid-tide - under
 water: *Katharina tunicata*, anemones (? *Tealia*/
Epiactis) - also in pools.

CH-10

CH-9

CH-2

- Surveyed 4/2/90 - CH009-B

surveyed by helicopter 4/2/90

visited briefly on foot 4/1/90

CH-9-A

Map Key: PWS-57

XXXX Wide
//// Medium

RTF
Ad.

REGION: PRINCE WILLIAM SOUND

SEGMENT: CH-009

SUBDIVISIONS: B (2 OF 2)

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.

ARCHAEOLOGICAL CONSTRAINTS: Cultural resource survey in progress. Shoreline treatment cannot proceed until field data have been assessed and a formal archaeological constraint entered on the shoreline evaluation form.

SHPO SIGNATURE: _____ DATE: _____

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> </u> Spot Washing: _____ Wands
<u> X </u> Tarmat: <u> X </u> Breakup	<u> </u> Beach Cleaner
<u> </u> <u> X </u> Removal	<u> </u> Other (see comments)

COMMENTS: 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.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

8

SEGMENT ST/ CH009 SUBDIVISION: B DATE 4-2-90

USCG

NAME Kerwin L. Drohan SIGNATURE cwo2 K. L. Drohan☐ 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 by 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.

DEC

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

SHORELINE OILING SUMMARY

REVISION NO. 03/2/90

OG D. LITTLE USCG K. DREXER SEGMENT ST/ CH-009 2
 BIO K. COATES LAND REP - SUBDIVISION B (2 OF 2)
 EXXON G. STILE ADEC P. ENDRES TIME 09:45 to 13:45
 TEAM NO.: 19 TIDE LEVEL: 7.6' to 1.0' DATE 4/2/90
 ST. SUBDIVISION LENGTH: 960 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 70 % C 20 % P 20 % G 5 % S 2 % M 1 % V 2 %
 SLOPE: Lang 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			
	R	B	P	C	SP RM	DR RM	GY	BL TL	DR TL	SU	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 cmPATTIES / TARBALLS 1 BAGSNEAR SHORE SHEEN? NO BR (RW) SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash	X		
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE POW-POM#BAGS 1

Photographs:

Roll No. ST-14-1 + ST-14-2Frames 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	SP BR	OR RW	GY BL	DR TL	LR	SU	U	M	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.

Page 1 of 2 Ekenler oiling tends to be thin, not deeply penetrated, except in the extreme

REVIEWED W DATE 4-4-90

in some harder-looking talus? oiled.

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	BL	WH	GL	SL	DR	TR	LS	SU	U	M	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					5 - 20	X	X									X					P g

COMMENTS

RJE
ADEL

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/22/90

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 (Δ), new settlement ($\odot$)

Photographs:

Roll No. St-14-1Frames 23-36+ St-14-21-3

NOT PRESENT

on 4
2
1

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

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

in sand + silt
around pebbles

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

in sand:
silt

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments: sea otter just offshore; pigeon guillemots, oyster catchers on rocks (5); golden eye pair; harlequin duck pair; eagle nest off west end of subdivision; loon offshore; eelgrass in bay max 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 islands, as well as along west side small bay/estuary. Eastern cobble beach with heavy oiling in sediments.

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, Acrosiphonia, Ulva, Halosaccion, Laminaria, Corallina, Verrucaria, Catoplaça and white circular lichen abundant in spray zone. Pycnopodia, Leptasterias hexactis (numerous), larger gastropods (Nucella +), Tonicella lineata all found in this area.
- Other abundant animals of sheltered clam-mussel beds (as 2 above): pagurids, Hemigrapsus, limpets — N. scutum, N. persona. — most 0.5-1cm Littorines, Egg cases of moon snails also found. Lunatia

D. LITTLE

INMENT STATION

DIVISION 8

E 4/2/90

ECKLIST

N Arrow
Approx. Scale
Seg/Sub Bndy
Oil Dist.
Width
Length
% Cover
Substrate Character
Est. HML/LML
SSL
Profile Location(s)
Profile(s)
PH Location(s)
Photo Location(s)
Sketch sketch

GENO

① Δ

No Subsurface Oil

② Δ

Subsurface Oil

CT/C

Inshore Distribution

CT/B

on Distribution

CT/P

by Distribution

CT/S

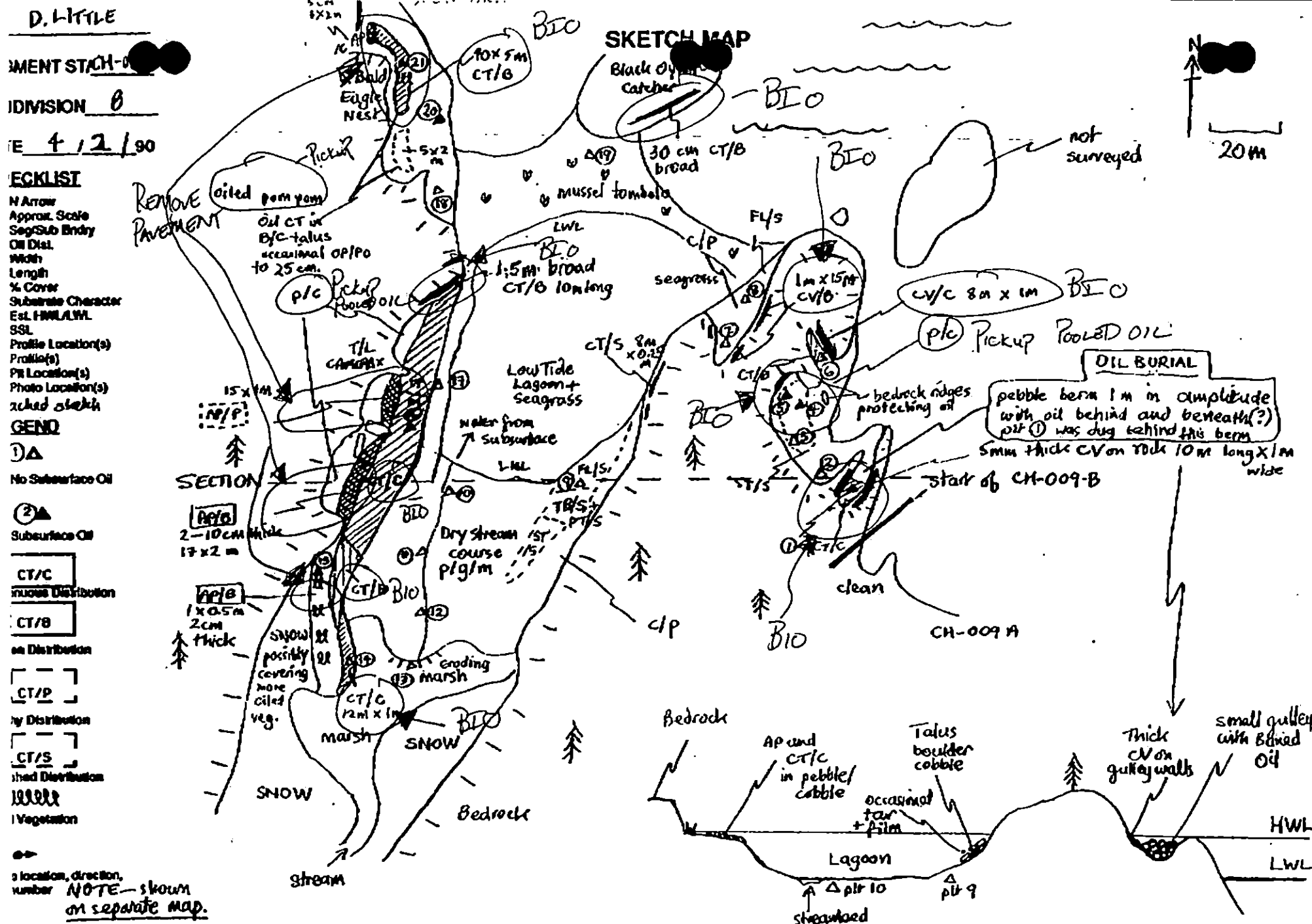
shed Distribution

100000

Vegetation

location, direction,
number NOTE—shown
on separate map.

SKETCH MAP



Character Length (m): AP 36 PO 0.5 CV 33 CT 150 ST 35 MS — PT 0.10 TB 0.25 FL 20 NO

A

REVISION 0024/90

HPR-03-1990 10:25 FROM CORDON

TO

SCT TERM P.05

500.0

CHOO9-B

1- R1 F21 1AM

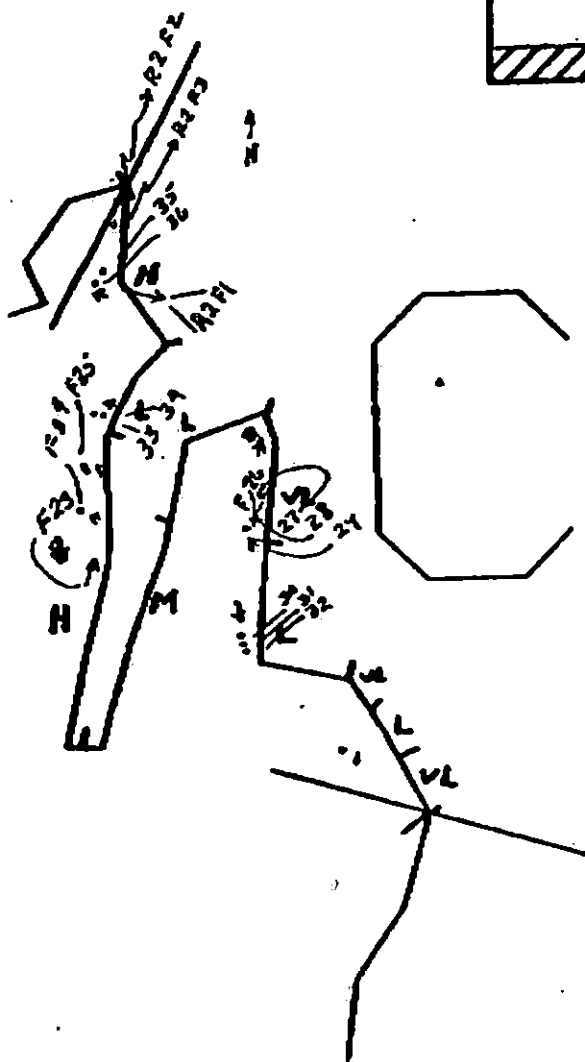
R1 F-23 1040 hr 2 APRIL '90

- R1 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	

AMC Sep/Oct 1990 Survey



CH-10

end of subdivision
CH-009-B

not surveyed

start of subdivision CH-009-B

SNOW

CH-9

CH-2

XXXX Wide
 /// Medium
 --- Narrow

CH-9-B

ADEC Segment Length: 945m

Map Key: PWS-57

Name: D. LITTLE

APR
APR

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
EXXON ANDY TEAL
NOAA Joseph Talbot
USCG G.A. DEITER

FOSC

Date

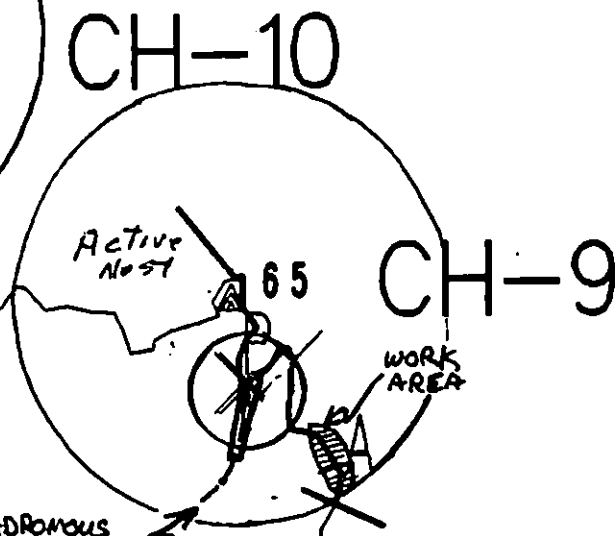
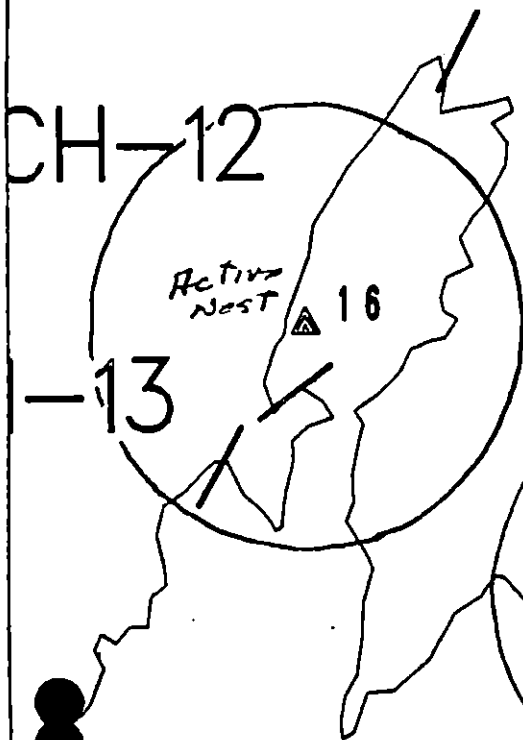
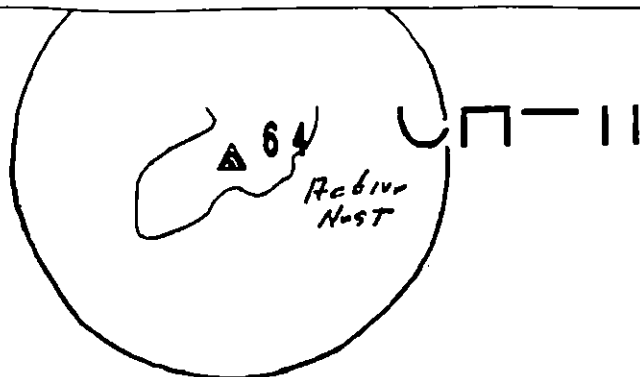
6/4/90

Prepared by

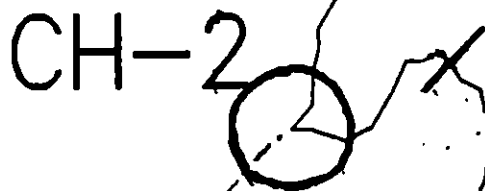
Date

6/3/90

USEFUL 2/11/90 in
 nest survey map.



ANADROMOUS
 STREAM
 226-20-16182



Anadromous
 Stream
 226-20-16130

CH-8

CH-7



Exxon Company, USA
 Map Key: PHS-CH-9
 May 11, 1990



ECOLOGY MAP
 SEGMENT CH-9
 SUBDIVISION A (1 of 2)
 METERS
 0 354 708

★ Seabird Colony
 ▲ Eagle Nest

1 inch = 1162 feet

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 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.

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

SHPO SIGNATURE: Charles E. Holmes DATE: April 17, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 58 m: V.Light 158 m: No Oil 100 m
Subsurface Oil Observed: Yes ☒ No ☐ Maximum Depth 6 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: Manual pickup of pooled oil (tar patties) and tarmat re-
removal as shown on sketch map. (Work 7/10 to 8/15) based on con-
straints.

See ADDENDUM dated 6/3/90

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/15/80
 ADEC JOHN BAUER John Bauer
 EXXON AVOY TGA Real FOSC: M L DATE: 5-9-80
 NOAA By 1/10/80 Shirley H. H. H. H.
 USCG G.A. F. TGA Shirley H. H. H. H. CVC Rep to be present -

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: CH-09

STREAM NO: 226-20-16182

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 uncoiled biota and substrate. Subject stream is located within Subdivision B (2 of 2)

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

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: _____ 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: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

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

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

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

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

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

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

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

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

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

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

1H Remote release site

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

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

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

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

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

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

1L Set net sites (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 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 (6/1 to 9/15)

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

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

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

6Y Special use destination

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

Finfish harvesting

Deer harvesting (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

4/50

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 124009 SUBDIVISION: 16182 DATE 9/25/90

USCG

NAME CWO McMAHON SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

1. MANUAL CLEAN-UP: REMOVE TAR MATS right side (looking on shore)
2. [CAUTION: AREA WAS BIOREMEDIATED '89' TIDES FLUSHED agent OUT TO STRAIN]. SUGGEST treatment again.

ADF 46

ADCS

NAME Tom Crowe SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

1. MANUAL REMOVAL OF TAR MATS #1 #2 #3
2. LIGHT TILLING OF AREA (A) AND/OR RECOMMENDED (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 ☐ TREATMENT SUGGESTED

COMMENTS

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. 01

OG WILLIAM LEID USCG McMAHON SEGMENT ST/ CH009 48/54
 BIO MICHAEL FAWCETT LAND REP 5 STRAIN 25-20-16/84 OF
 EXXON GUS GARCIA ADPG MIKE WISNER TIME 07:45
 TEAM NO. 15 TIDE LEVEL -5 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 7 % B 2 % C 45 % P 53 % G 0 % 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 4 m N 15 m VL 0 m NO 4

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	R	B	P	M	W	Y	OR	BL	W	M	M	U
ASPHALT PAVEMENT		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? (N) 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 (cm)	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	Y	SURF / SUBSURF SEDIMENT
		OP	OR	OL	OF	NO		W	U	W	Y	OR	BL	W	M	M	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					N		P/G
* 5	20				X		0-3	X				X		X					N		P/G
6	25					X	.							X					N		P/G

COMMENTS * OILED INTERVAL < 5 cm IN PITS 1, 2, 3, 5 AND 7 DOES NOT CONSTITUTE SUBSURFACE OIL

REVIEWED JWDATE 4-27

48/54

REVISOR 041.0200

SHORELINE OILING SUMMARY (PAGE 2)

SEGMENT ST/ STREAM 226-20-16182 (OF)

SUBSURFACE OIL (CONTINUED)

[illegible]

COMMENTS

REVIEWED

EW

DATE 4-27-90

506 WILLIAM ROAD
CH009
SEGMENT ST

STREAM 25-2016RZ

DATE 25 / APR 90

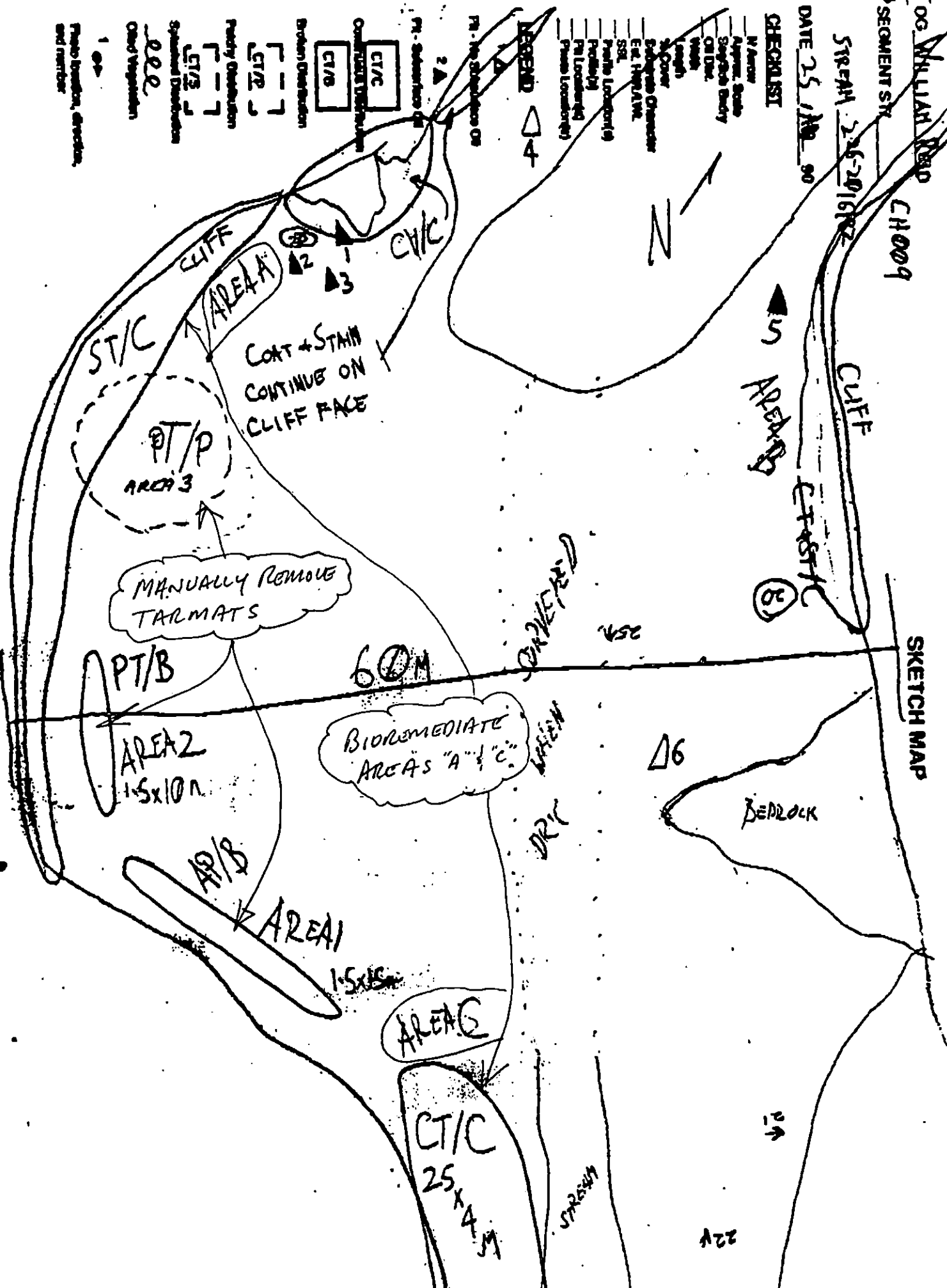
CHECKLIST

- ☐ N. Arrow
- ☐ Approx. Scale
- ☐ Sample Study
- ☐ On Loc.
- ☐ Notes
- ☐ Length
- ☐ No. Cover
- ☐ Substrate Character
- ☐ E.C. Habitat
- ☐ S.S.L.
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Profile Location(s)
- ☐ Profile Location(s)

LEGEND Δ

- ☐ Pt. Selection On
- ☐ CT/C
- ☐ Cont. Selection
- ☐ CT/B
- ☐ Broken Distribution
- ☐ CT/P
- ☐ Paddy Distribution
- ☐ CT/S
- ☐ System Distribution
- ☐ 222
- ☐ Old Vegetation
- ☐ 1
- ☐ Photo location, direction, and number

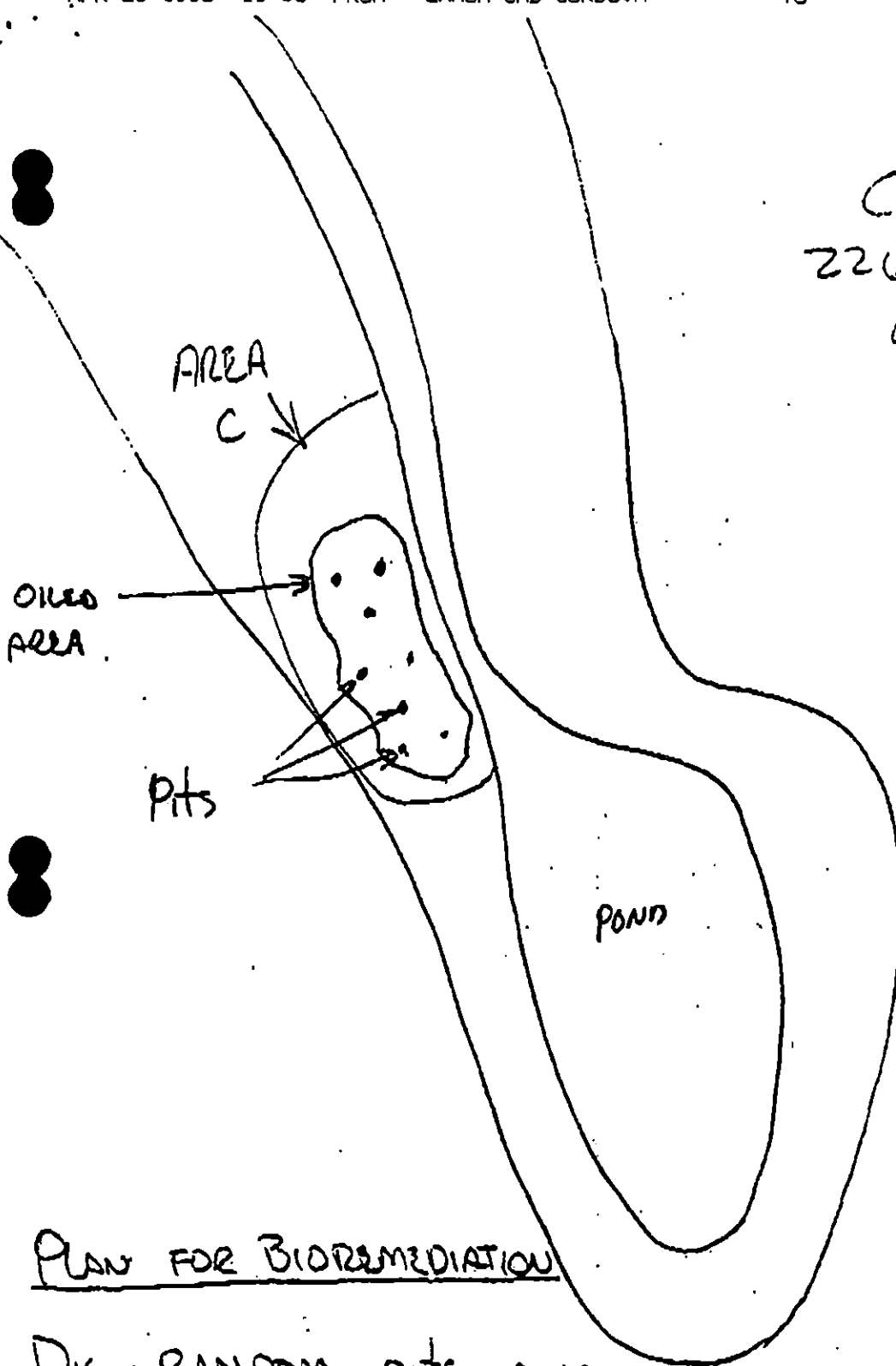
SKETCH MAP



Off Character Length (m): AP PO CV CT ST NA PT TB FL NO

4/25/90

CH-009
226-20-16182
4/25/90
TWC



PLAN FOR BIOREMEDIATION

DIG RANDOM PITS AND
BURY SMALL AMOUNTS OF

SOLID FERTILIZER PELLETS FOR
LOW RELEASE INTO OILED AREA.

PITS SHOULD BE 8 TO 10 INCHES DEEP.

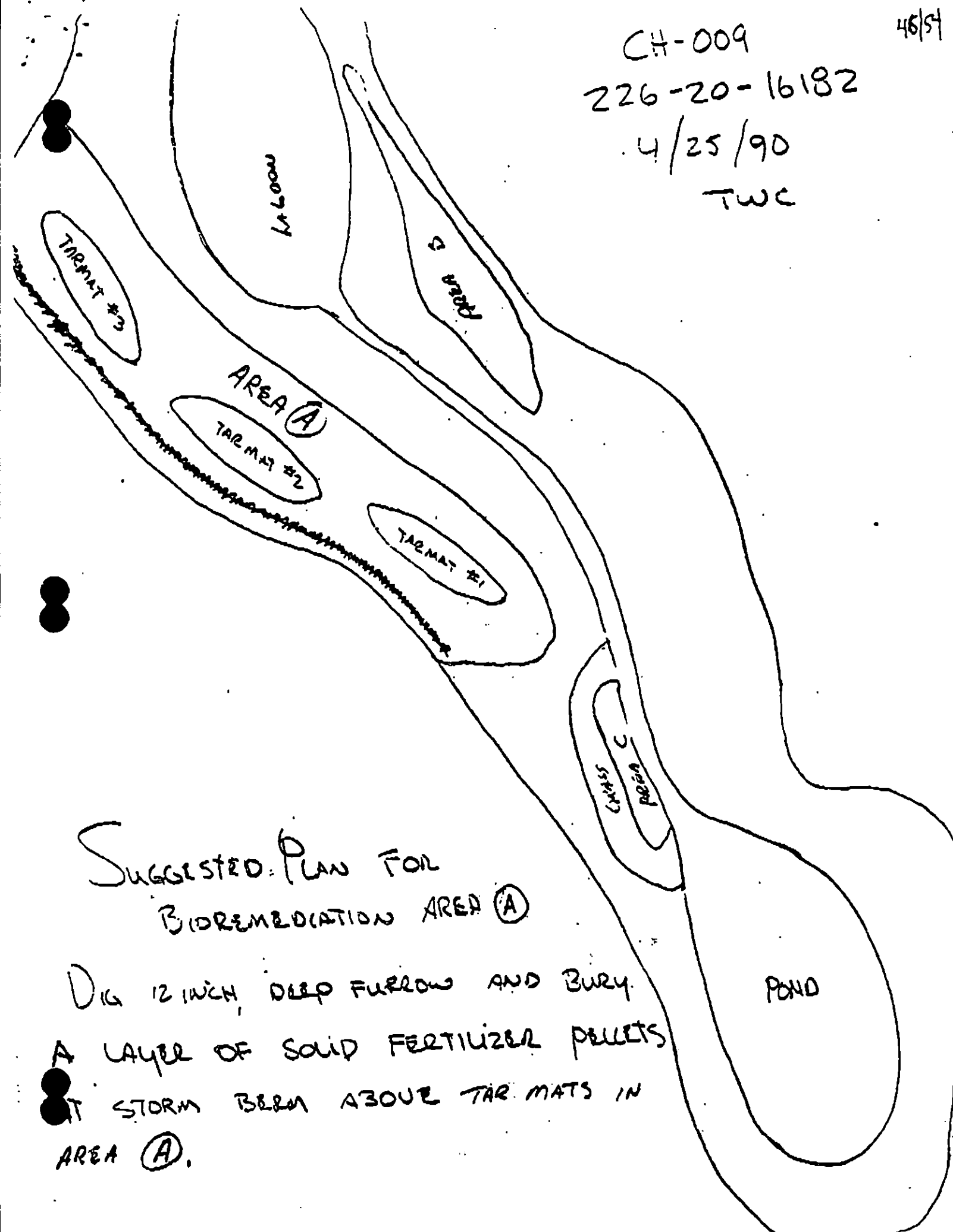
46/54

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
AREA (A).

ADPAC MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS 33 DS TS AVS SCH MMS PTA

2 REGION: FNS KP,CI K,AP

METHOD: Aerial Ground Boats

3 DATE: 4/25/9015 HIGH TIDE TIMES: 150021 TEAM RECORDER: Tom Crowe4 START TIME: 074616 HIGH TIDE HTS: +11 FT22 OBSERVERS: MIKE W. RAMER5 STOP TIME: 092617 LOW TIDE TIMES: 083023 AGENCY: ADPAC (ANADSCAT)6 SEGMENT #: CH00918 LOW TIDE HTS: -4 FT24 PHOTOS TAKEN: 1 00

7 STATION #: _____

19 TIDE HT AT SURVEY: -2 FT

Roll #: _____ Frames: _____

8 K-UNIT: _____

ebb Slack Flood Slack

25 VIDEO TAKEN: Y 00 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 Loren

Oil NONE13 LOCATION: NORTH TIP CHENECA ISLAND

Sediment: _____

Biological: _____

Veget: _____

DESCRIPTION

EXTENT OF OIL

	SHORELINE				STREAM			
	L	V	H	N	L	V	H	N
27 SURFACE COVERAGE	150	50		80	50	1		0
28 SURFACE THICKNESS	6-16 cm	3cm	30cm					
29 PENETRATION	6-16cm	3cm	30cm					
30 OVERALL OIL IMPACT:	N	VL	L	<u>(N)</u>	N			
31 OIL TYPE:	Pooled	Mousse	Tar	<u>Asphalt</u>	<u>Sticky</u>	Seal		
32 OILED DEBRIS?	Y	<u>(N)</u>						
33 SHORELINE TYPE:	Headland	<u>Lagoon</u>	Low-lying Rocks	Marsh	Beach	<u>Cove</u>		
34 WAVE EXPOSURE:	High	Moderate	Low	<u>VERY LOW</u>				
35 SUBSTRATE TYPE:	Bedrock	Boulder	Cobble	<u>X</u>				
	Gravel	<u>X</u>	Sand		Mud/silt			

36 CATALOGED ANAD. FISH STREAM? (N) N37 CATALOG #: 226-20-16182

38 STREAM NAME: _____

39 OIL IN STREAM BED? Y (N)40 OIL ON STREAM BANKS? (N) N41 OIL ON BEACH ADJACENT TO MOUTH? (N) 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

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 IN FORM OF SOLID PELLETS - BURIED SIX TO EIGHT INCHES IN INTERMITTENT PITS WITHIN THE OILED AREA. SMALL

226-20-16182

4/25/90

4/54

45 PHOTOLOG

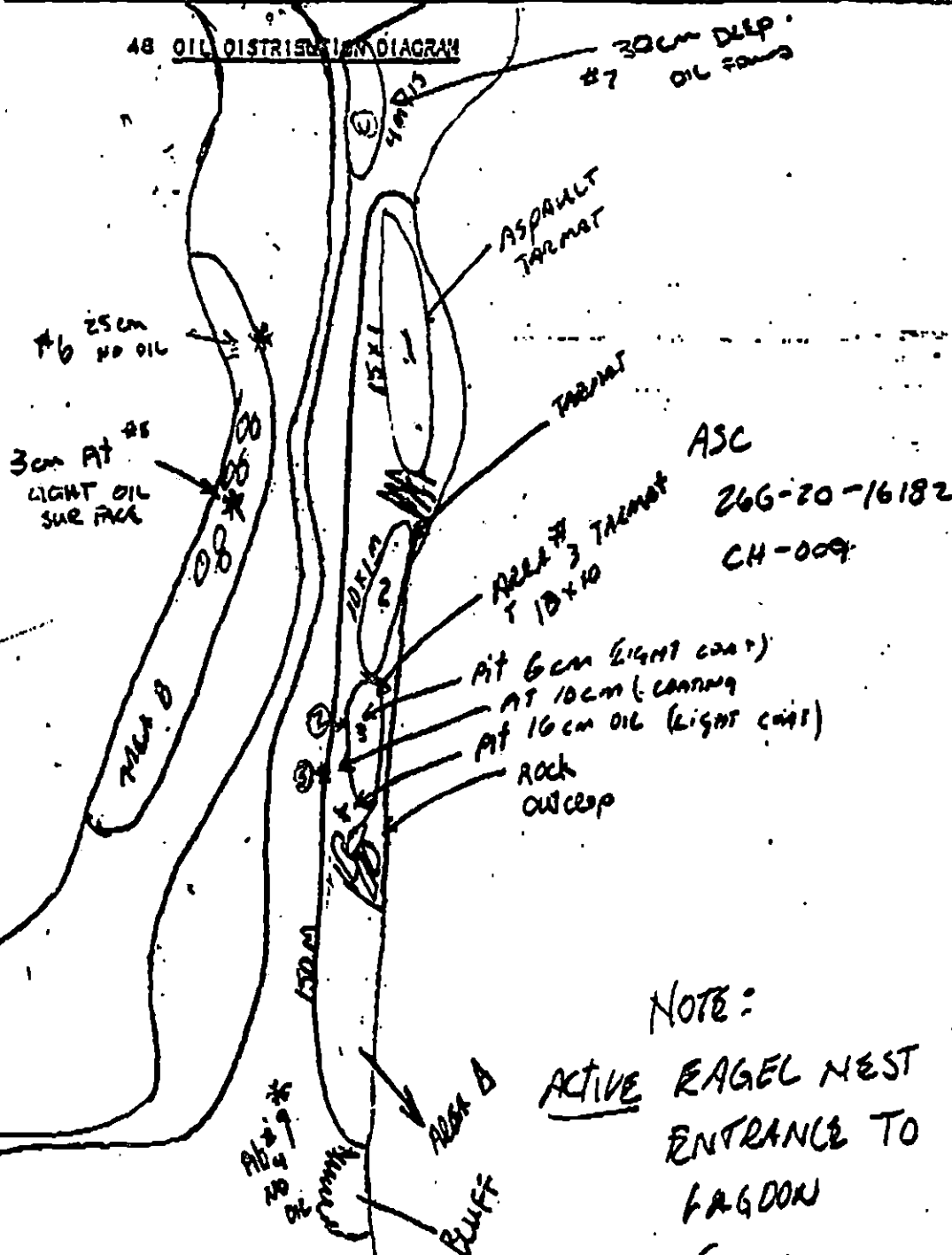
DESCRIPTION

TWC

RECOMMENDATION: REMOVE TAR MATS IN AREA 1, 2, 3
UPPER INTERTIDAL AREA A. NO INTRUDER TO BE USED
IN THIS AREA. TREATMENT OF AREA A SHOULD INCLUDE
LIGHT TILLING OF SURFACES OF THE FALSTONR CORREL
ALSO BIORREMEDIATION IN THE FORM OF SOLID PELETS BURIED
IN FAGON AT SUPRATIDAL SHOULD BE CONSIDERED FOR
AREA A.

I agree with recommendations. M. H. Fawcett

48 OIL DISTRIBUTION DIAGRAM



ASC

266-20-16182

CH-009

NOTE:

ACTIVE EAGLE NEST AT
ENTRANCE TO THIS
LAGOON

sample taken
photo frame # and

Island

53/54

p. 1 of 2

segment ctt 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 pair of oystercatchers were seen.

p. 2 of 2 ⁵⁹¹⁵¹

segment CH009
Stream 226-20-16182
Ecological Summary

4/25/90

Michael Fournell

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 Fournell

CH-10

ECOLOGICAL
MAP

1A, 1B
3NP, 3Q
7II
ST-1

CH-9

- Surveyed 4/2/90 - CH009-B

BAUD
EAGLE
NEST

ANADROMOUS
STREAM
226-20-16/B2
(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
---- Narrow

CH-9

ADEC Segment Length: 945m

Map Key: PWS-57

Name: D. LITTLE
4/1/90

RT
AD

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 + BJO
~~FORMATS~~ (FORMATS - pick-up)

WAS BJO This year

SOR - BJO

Priority Site For Reassessment In 1991

YES ☒ NO ☐
CG
DATA

YES ☒ NO ☐
ADPT

YES ☒ NO ☐
EXXON

YES ☒ NO ☐
LAND MGR

TAG 13 AUG

Manual Removal Termate -
Lake & BJO

* AVOID STREAM CONSTRAINT

ASAP TAG REVIEW SHEET

Segment: CH 9

Subd: B

Site: 2

Date

PRE-Review 11 AUG

Priority For Addressing In 1990

☒ HIGH

☐ MEDIUM

☐ LOW

☐ NTR

Treatment
Recommended:

~~MANUAL~~
~~REMOVE TARMAT~~ BIO SOR

MANUAL REMOVE TARMAT

TARMAT 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 Tarmata -
Rake & BIO

* ANAD STREAM CONSTRAINT

ASAP FOLLOWUP RECOMMENDATIONS

Project: ASI 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 MANUAL
(VICO) CREW REMOVED ONE SUDSACK AND TILLED ABOUT 150' OF BEACH

Followup Recommendations: THIS BEACH COULD USE SOME MANUAL PICK UP
OF RESIDUAL TARMATS OR HEAVY SOL AND SOME MOUSSE PATCHES.
SOME TIME SHOULD BE MANUALLY TILLED IN AREAS OF HIGH % OF SURFACE
SEDIMENTS. THIS SHOULD BE FOLLOWED WITH BIOREMEDIATION AND
STERN MONITORING.

Completed by Pickup Crew: ☐ YES ☒ NO

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

DEC

Bob McCreedy
 (name)

Robert G. McCreedy
 (signature)

Comments: Work would be facilitated by mechanical aid.
A small tracked vehicle would be ideal near stream seg-
ment. Most 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
 13000

Daniel C. Nae
 (name)

Daniel C. Nae
 (signature)

Comments: I agree with the above observations & followup recommendations.

Land Rep.

Steve WARD CVC
 (name)

Steve W
 (signature)

Comments: I agree with Recommendations.

SEGMENT AS / CH-9 SUBDIVISION: B SITE: 1 DATE 8-4-90

CG/NOAA

NAME David C. [Signature] NOAA SIGNATURE [Signature]

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Large areas of oiling have been treated, but removal & 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 [Signature]

☒ 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 [Signature] SIGNATURE [Signature]

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

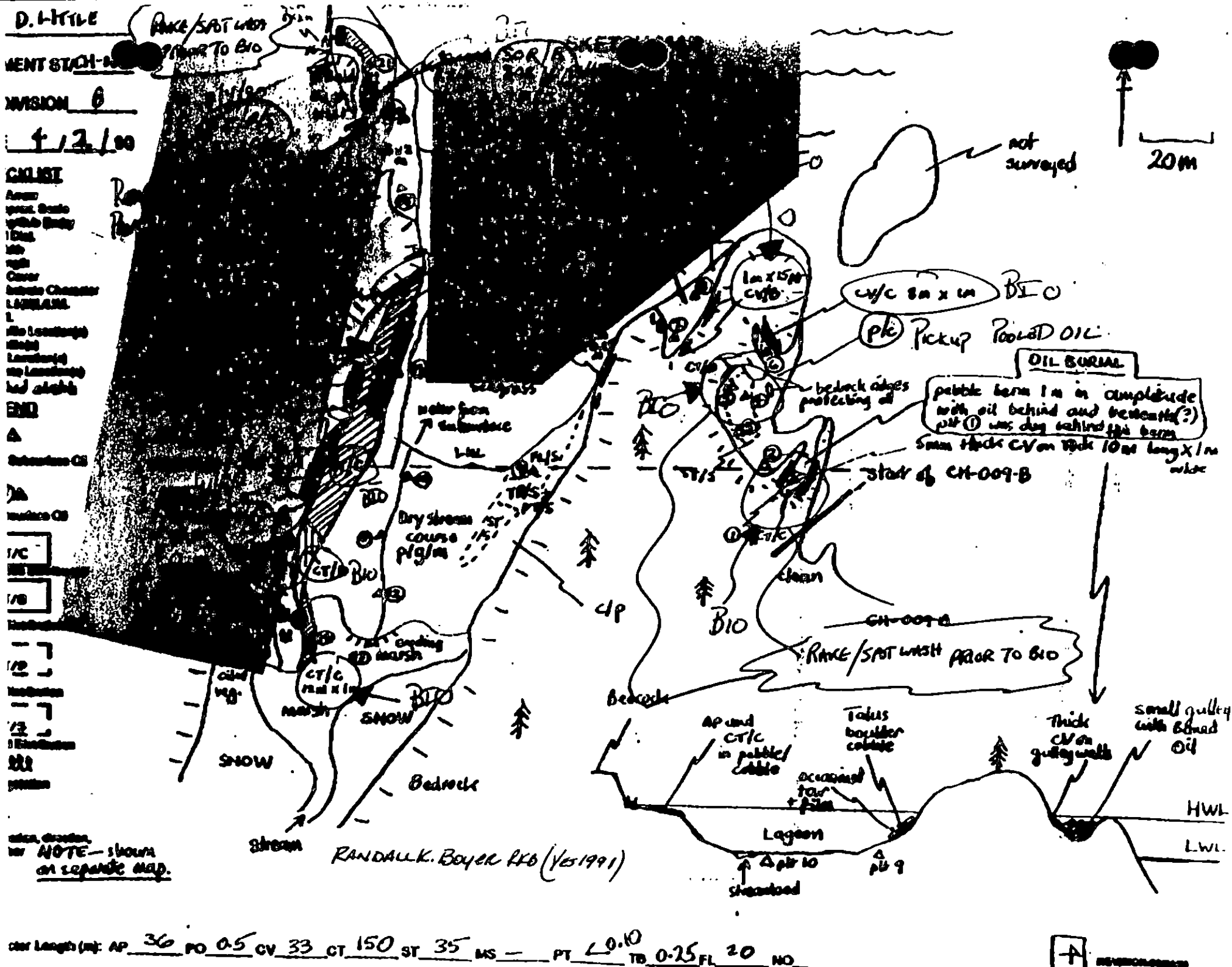
REASON:

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.

COMMENTS

- WESTERN SIDE OF THE SITE CONSISTED OF CT & ST IN THE TOP, CENTER, AND BOTTOM SEGMENTS
- THESE AREAS HAD BEEN PREVIOUSLY TREATED - 2 STD. BALLOONS & FOGGING WERE RECOVERED
- THE SHORELINE IS COMPOSED OF BUILDERS/LEAKING RADIUM OR ...

REVISION NO. 7/27/78



SEGMENT AS1 CH-9 SUBDIVISION: 226-20-150 SITE: 2 DATE 8/4/90

SCG

NAME David C. Van Dine SIGNATURE David C. Van Dine

☒ 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 clean 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 Eve SIGNATURE At the Eve

☒ 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. BOPE SIGNATURE Randall K. Bope

☒ 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 BIODE. THE EFFECTS OF BIO SHOULD BE ASSESSED. THE DON HOLLINGER SQUAD IS SET IN FOR

SITE 3

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SU	UI	MI	LI
ASPHALT								
S.O.R		X				X		
POOLED								
COVER								
COAT								
STAIN				X		X		
MOUSSE								
PATTIES/T.B.								
FILM								
NO OIL					X		X	X
EST. SITE LENGTH					100m			

[illegible][illegible]

9 SURFACE OIL

[illegible]

Photographs:

Roll No. 6

Frames on

Reviewed
8/6/90 YW

COMMENTS

- SOR AND ST WERE LOCATED ON THE WEST SIDE OF THE STREAM
- THE SOR AREA WAS PREVIOUSLY TREATED AND APPEARED AS A BROKEN DISTRIBUTION OF MEDIUM OILING
- THE ST WAS STATIONARY AND APPEARED AS A BROKEN DISTRIBUTION

SEGMENT SIX

CH009

STREAM 24-2010

DATE 25/10/90

CHECKLIST

- ✓ N. Area
- ✓ S. Area
- ✓ E. Area
- ✓ W. Area
- ✓ C. Area
- ✓ D. Area
- ✓ F. Area
- ✓ G. Area
- ✓ H. Area
- ✓ I. Area
- ✓ J. Area
- ✓ K. Area
- ✓ L. Area
- ✓ M. Area
- ✓ N. Area
- ✓ O. Area
- ✓ P. Area
- ✓ Q. Area
- ✓ R. Area
- ✓ S. Area
- ✓ T. Area
- ✓ U. Area
- ✓ V. Area
- ✓ W. Area
- ✓ X. Area
- ✓ Y. Area
- ✓ Z. Area

LEGEND

- CT/C
- CT/B
- CT/A
- CT/D
- CT/E
- CT/F
- CT/G
- CT/H
- CT/I
- CT/J
- CT/K
- CT/L
- CT/M
- CT/N
- CT/O
- CT/P
- CT/Q
- CT/R
- CT/S
- CT/T
- CT/U
- CT/V
- CT/W
- CT/X
- CT/Y
- CT/Z

SKETCH MAP

5 Areas

(8)

CLIFF

Barrock

60m

24/2010

CONT + STAIN
CONTINUES ON
CLIFF FACE

PT/P
AREA 3

MANUALLY REMOVED
TAR MATS

PT/B

AREA 2
15x10m

ST/S

25m x 3.0
VERY SPORADIC

SOR/B

20m x 1.5m

8/4/90

CT/E

25 x 4m

234

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)

ARCHAEOLOGICAL CONSTRAINTS:

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

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

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 LITZ AND TIDAL POOL - NO Bioremediation IN THESE AREAS.

TAG APPROVAL DATE: 5/9/90.

ADEC ART WENGER
EXXON ANDY TEELE
NOAA Barl Wesscott
USCG D. D. ROME

FOSC: ML DATE: 5-15-90

NOTIFY CVC 24 HRS IN ADVANCE OF WORK

OG WILLIAM REED
SEGMENT SK

CH009

STREAM 2-6-201618Z

DATE 25 / APR 90

CHECKLIST

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

LEGEND

△ 4
PR - No Subsurface Oil

2 △
PR - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

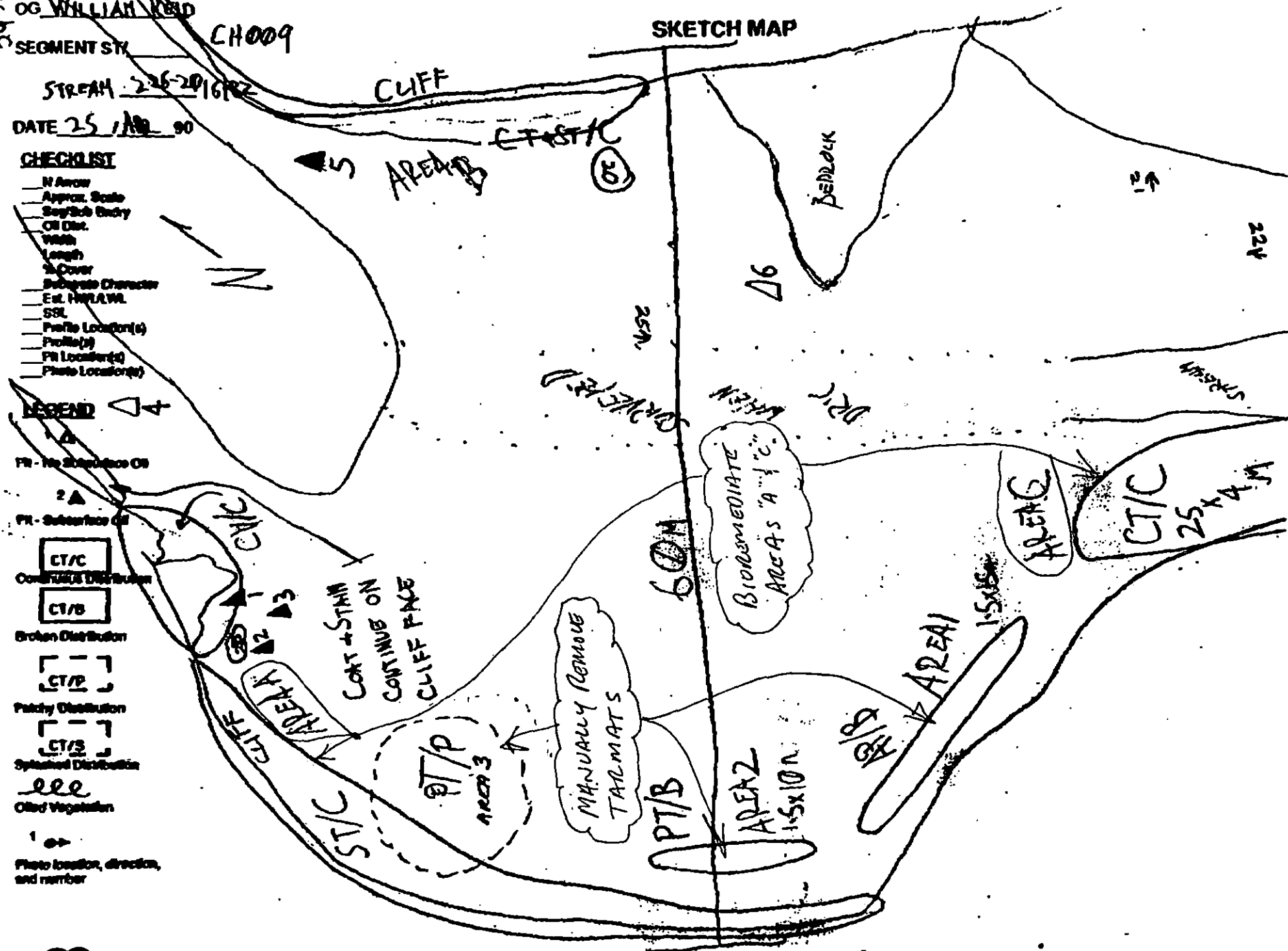
[CT/P]
Patched Distribution

[CT/S]
Spotted Distribution

eee
Other Vegetation

→
Photo location, direction,
and number

SKETCH MAP



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

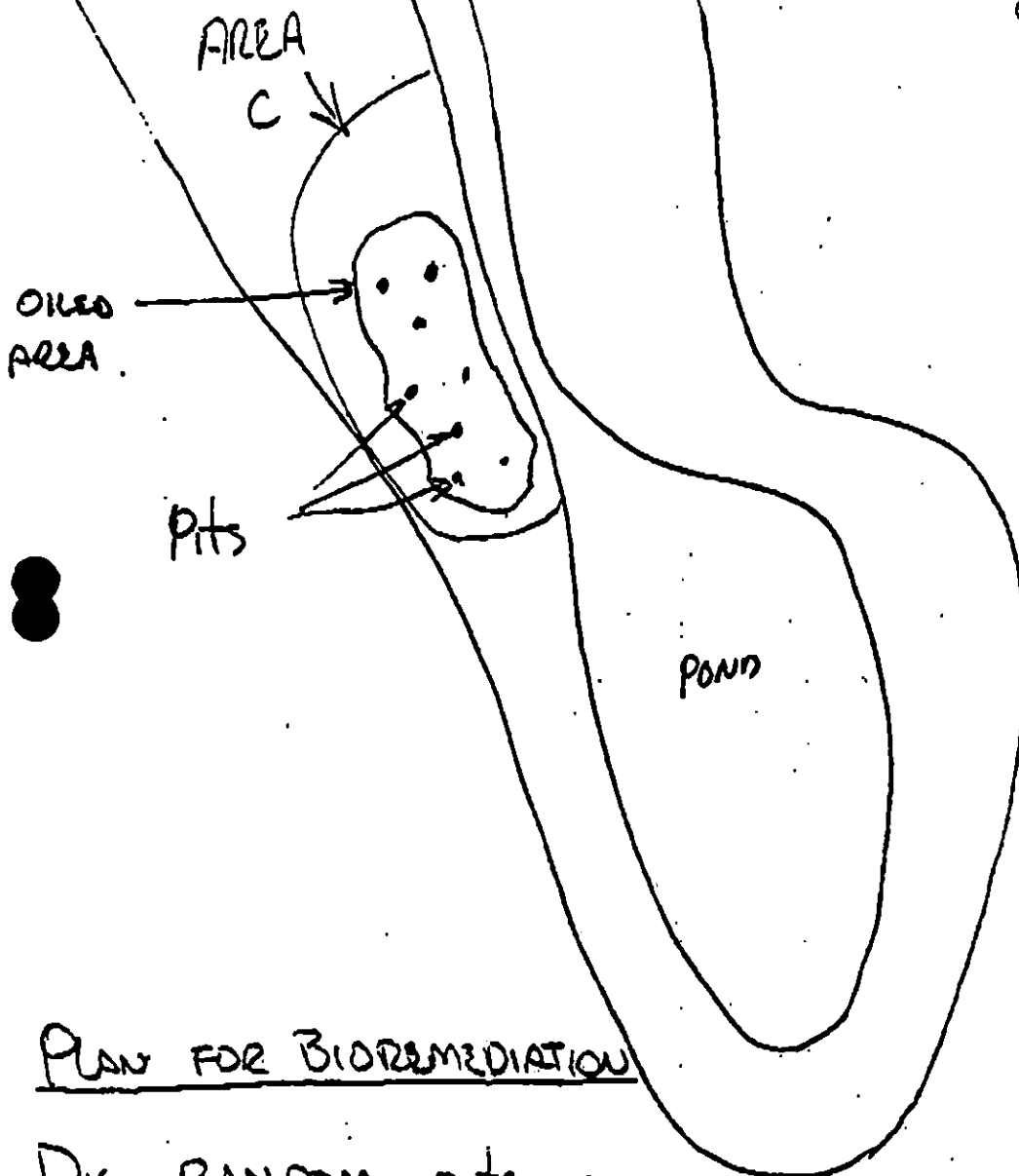
4/25/90

CH-009

226-20-16182

4/25/90

TWC

PLAN FOR BIOREMEDIATION

DIG RANDOM PITS AND
BURY SMALL AMOUNTS OF
SOLID FERTILIZER PELLETS FOR
SLOW RELEASE INTO OILED AREA.

PITS SHOULD BE 8 TO 10 INCHES DEEP.

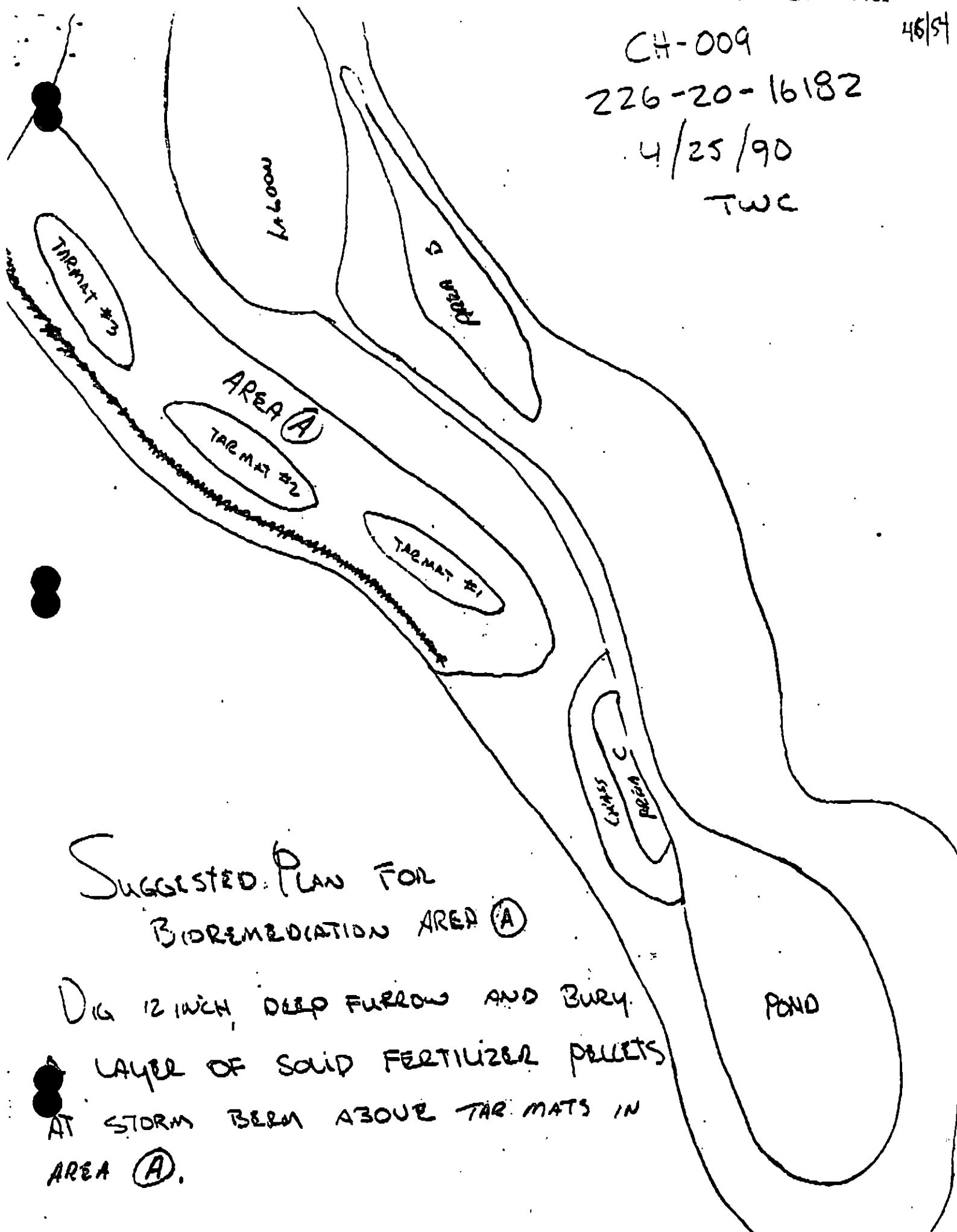
46/54

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 TARMATS IN
AREA (A).

43 PHOTOLOG

226-20-16182

4/25/90

40/54

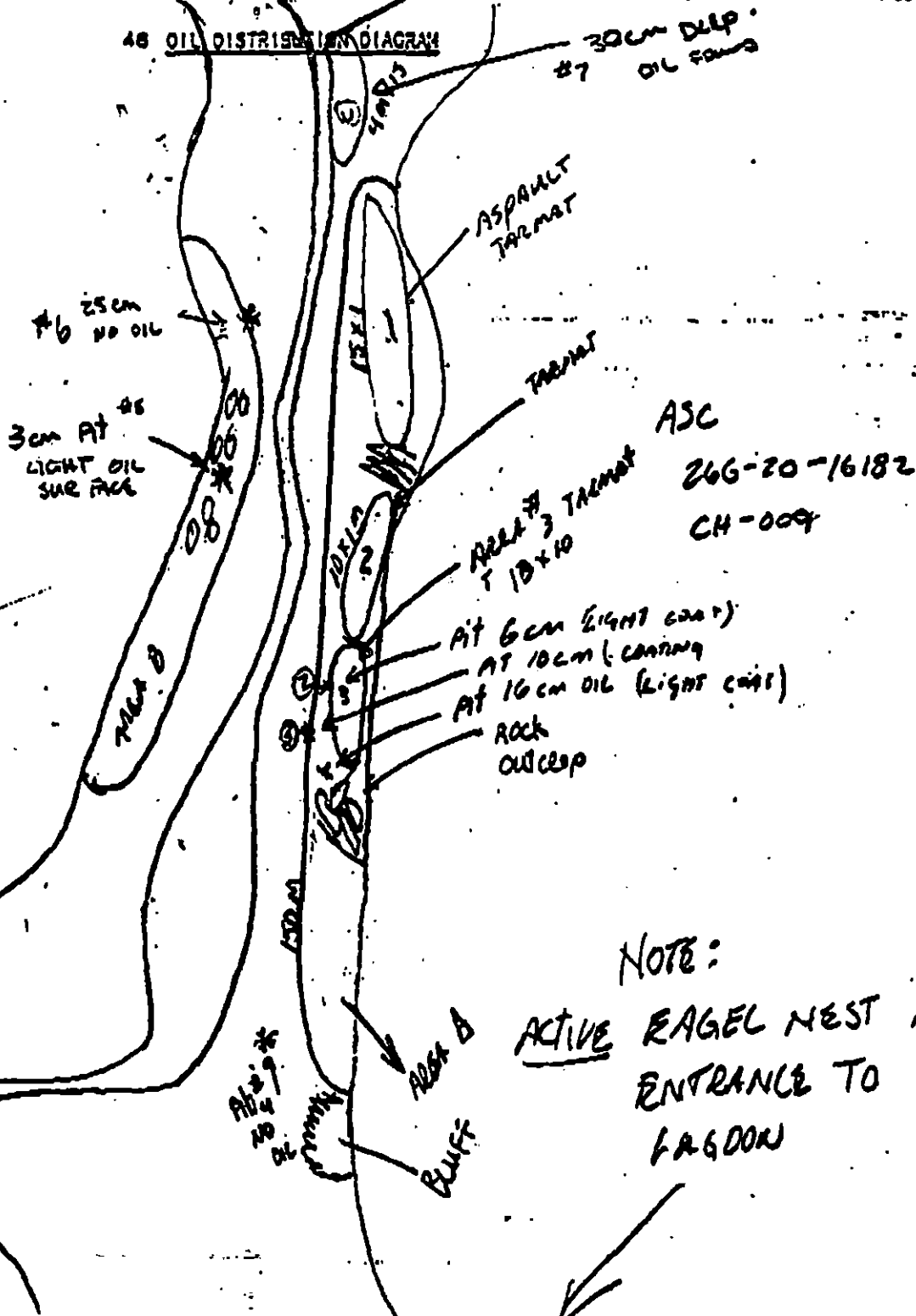
DESCRIPTION

TWC

RECOMMENDATION: REMOVE TAR MATS IN AREA 1, 2, 3
 UNDER INTERIOR AREA A. NO INTEL TO BE USED
 IN THIS AREA. TREATMENT OF AREA A SHOULD INCLUDE
 LIGHT TILLING OF SURFACE OF THE FLAGSTORM CORREL
 ALSO BIORREMEDIATION IN THE FORM OF SOLID PELLETS BURIED
 IN LAGOON AT SUPERSTAGE SHOULD BE CONSIDERED FOR
 AREA A.

I agree with recommendations. ~~AT 4/25/90~~

43 OIL DISTRIBUTION DIAGRAM



NOTE:

ACTIVE EAGLE NEST AT
 ENTRANCE TO THIS
 LAGOON

CH-10

ECOLOGICAL
MAP

1A, 1B
3NP, 3Q
7II
ST-1

CH-9

Surveyed 4/2/90 - CH009-B

BALD
EAGLE
NEST

surveyed by helicopter 4/2/90

visited briefly on foot 4/1/90

ANADROMOUS
STREAM
226-20-16/82
(Ps, CH₅, 2/90)

CH-2

LOCATED IN
CH-09-B (2 of 2)

XXXX Wide
//// Medium

--- Narrow

TTTT Very Thin

CH-9

ADEC Segment Length: 945m

Map Key: PWS-57

Name: D. LITTLE

Date: 4/1/90

RTT
Ad.

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-20-16182

SEGMENT CH-9 SUBDIVISION A

WORK WINDOW	
Manual Pickup Tarmat Removal	CLOSED
Bioremediation	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,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 tarmat removal.
1K	Purse Seine Hook-off	No constraint to manual pickup and tarmat 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, tarmat 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 tarmat removal. Closed to bioremediation after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

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

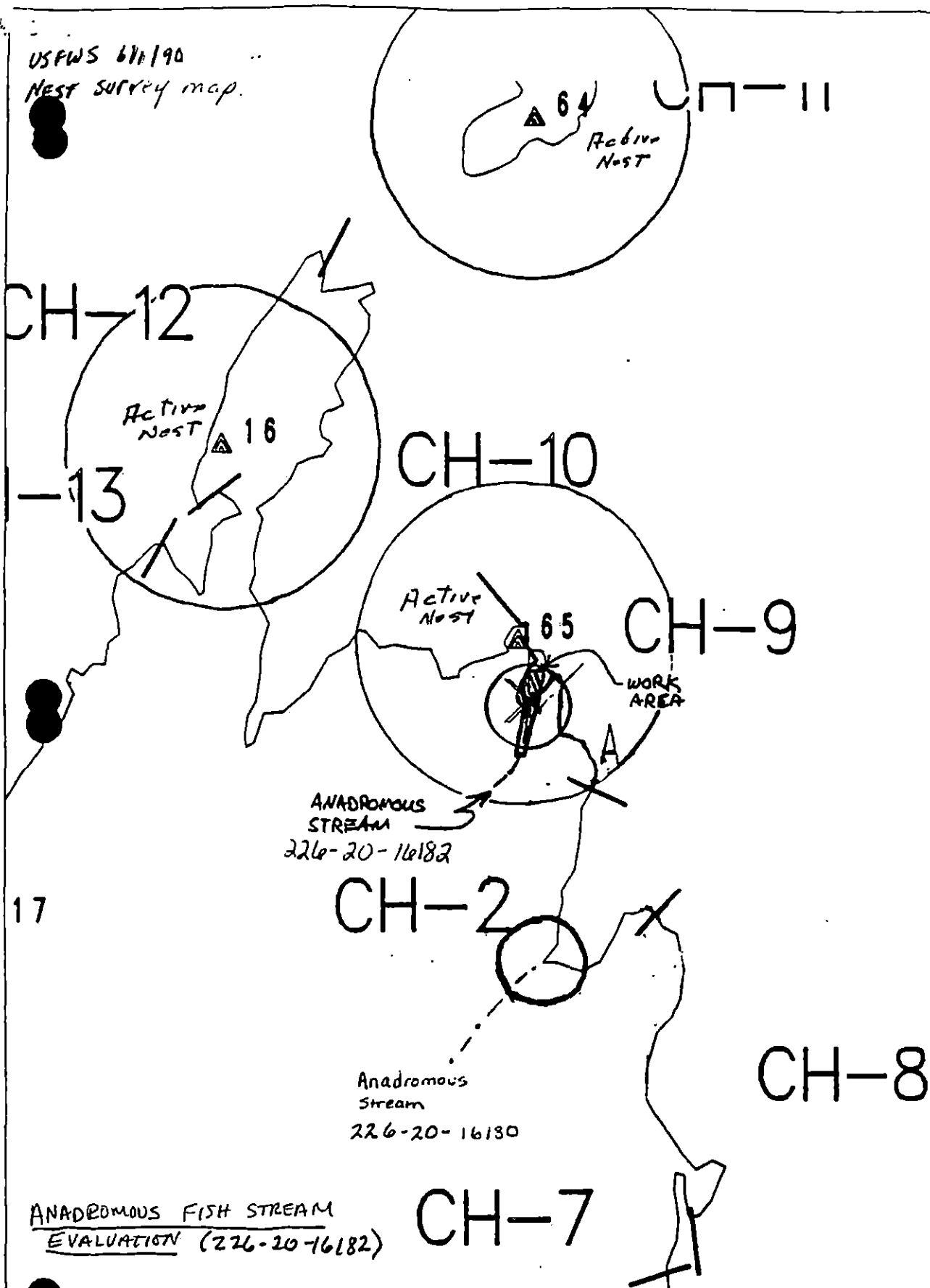
SEE SUBDIVISION CONSTRAINT ADDENDUM CU-9A
FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC

Date

6-10-90

USFWS 6/1/90
NEST SURVEY map.



ANADROMOUS FISH STREAM
EVALUATION (226-20-16182)



Exxon Company, USA
Map Key: PMS-CH-9
1:1000

ECOLOGY MAP
SEGMENT CH-9
SUBDIVISION A (1 of 2)
METERS



★	Seabird Colony
▲	Eagle Nest

1 inch = 1162 feet

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)
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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 uncoiled biota and substrate. Subject stream is located within Subdivision B (2 of 2)

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: [Signature] DATE: 5/10/90

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.
See Constraint Addendum dated 6/9/90 [unc]

TAG COMMENTS: MONITORS TO PAY PARTICULAR ATTENTION TO PROTECTION OF RICH LITZ AND TIDAL POOL - NO Bioremediation IN THESE AREAS.

TAG APPROVAL DATE: 5/9/90

ADEC [Signature]
EXXON [Signature]
NOAA [Signature]
USCG D. D. ROME

FOSC: DATE:

7057

ASAP FOLLOWUP RECOMMENDATIONS - TEAM 3

ment: 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 SOR AND SOME SUBSURFACE OR 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

DEC

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 Vico
(name)


(signature)

Comments: RECOMMEND MANUAL BREAK UP OF OILED PILLS PRIOR TO APPLICATION
OF ANY BIOREMEDIATION.

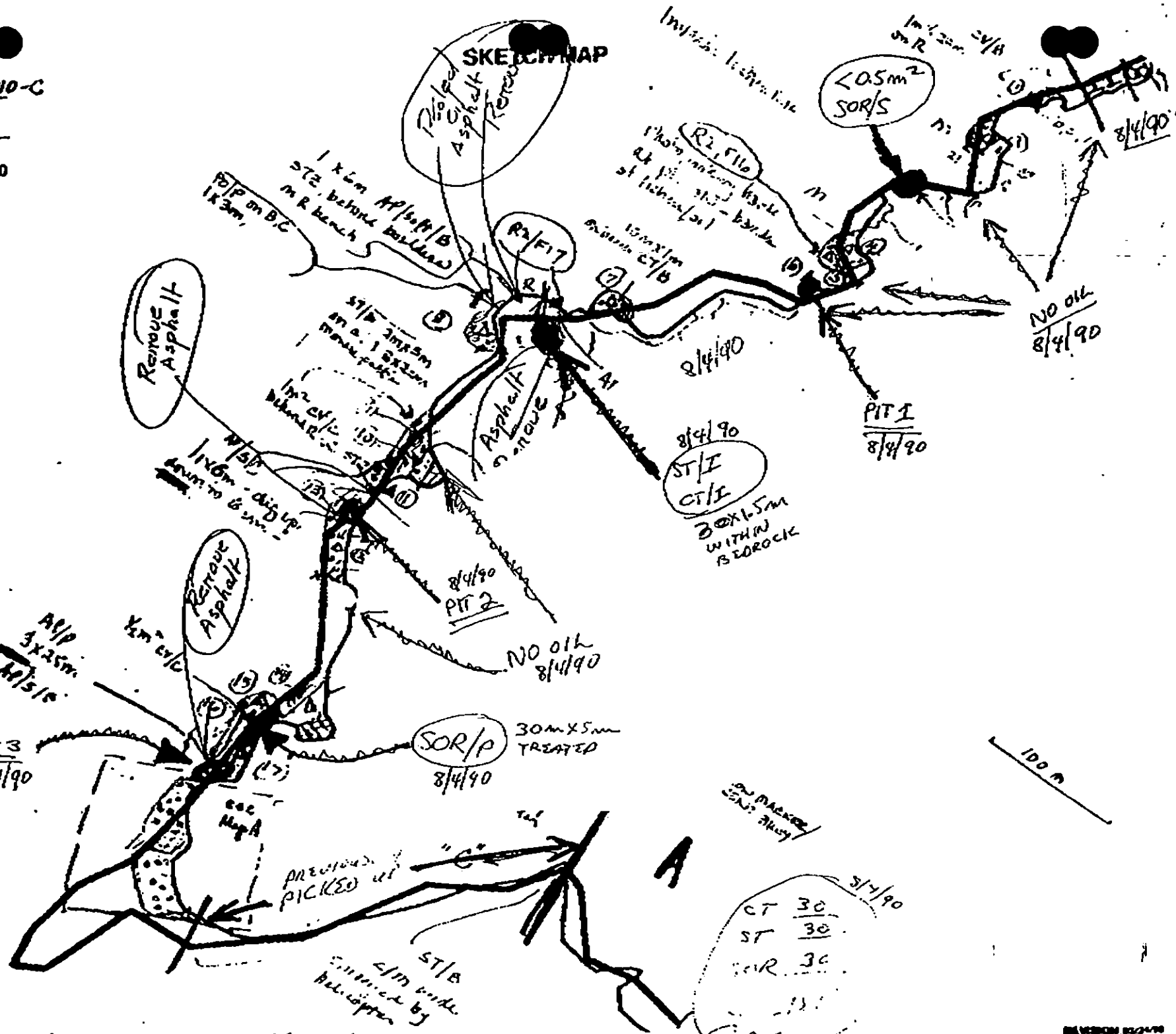
and Rep.

Steve Whoo CVC
(name)


(signature)

Comments: Above Comments will be complete

REVISED: 12/2/79



ASAP

SEGMENT AS1 CH-10 SUBDIVISION: C SITE: 1 DATE 8-4-90

SCG

NAME David C. Noe NOAASIGNATURE 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

ADEC

NAME 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 band 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.

LAND MANAGER

NAME Joe WARD CVCSIGNATURE Joe Ward☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Shallow have more mammal and b.b.d. Small oiling that should be dealt with.

EXXON

NAME 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.

NAME: NUTTY MCKINNON USGS NOAA DAVE NCE SUBDIVISION C
308 McCRAVEN LAND REP STEVE WARD TOTAL NO SITES 1
 DATE: 8/4/90 TIME: 9 04 10 9 42 USCG TIDE LEVEL -2.0 10-3.0
 TOTAL EST LENGTH OF SHORELINE SURVEYED: 1577 m DOU ORVIS
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WEATHER: ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 OIL CATEGORY LENGTH: W 1 m M 1 m N 1 m VL 60 m NO 1577 m US 1 m

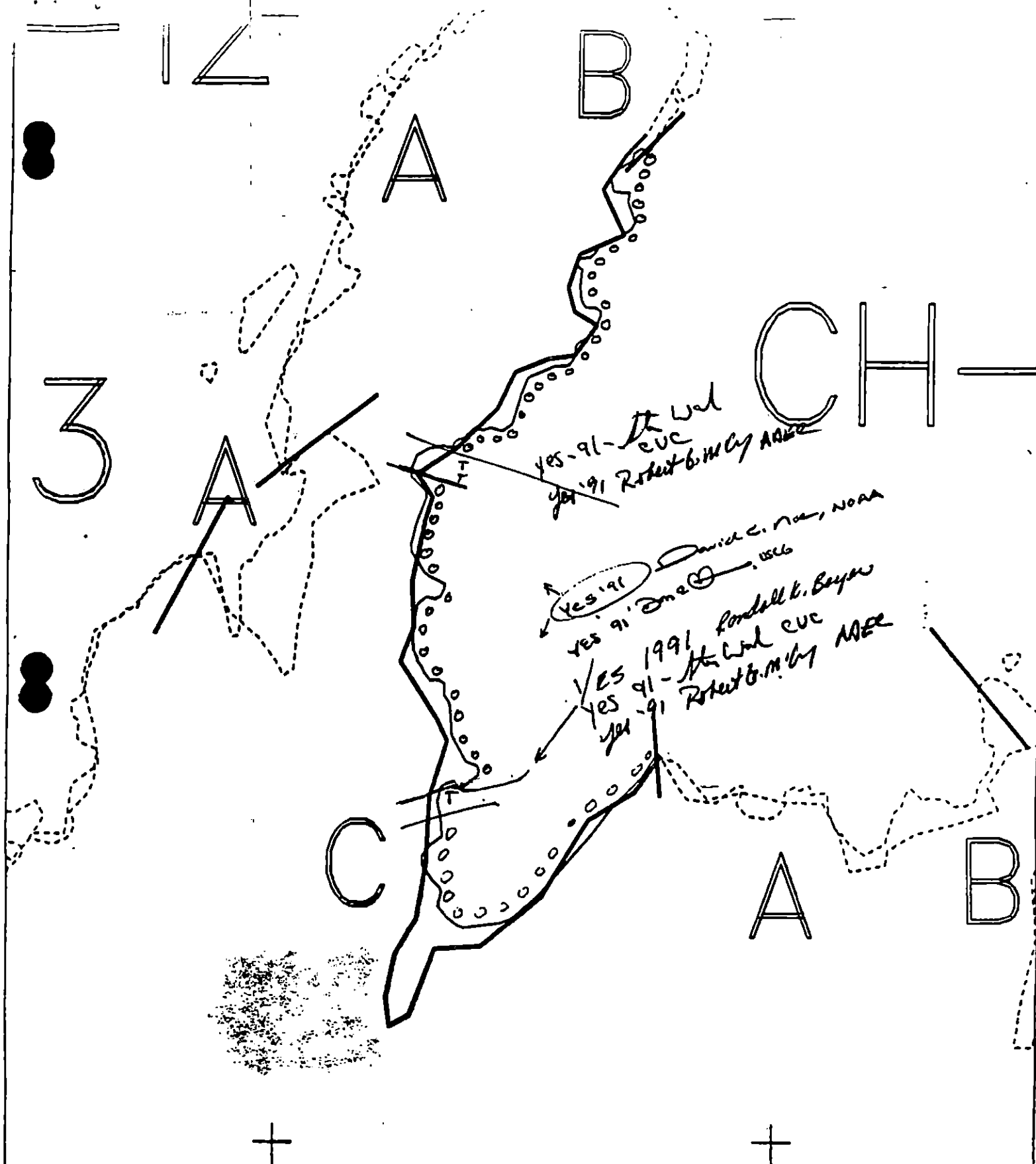
SURFACE OIL									SITE 1									SITE 2									SITE 3								
CHARACTER	DISTRIBUTION				OILED ZONES						DISTRIBUTION				OILED ZONES								DISTRIBUTION				OILED ZONES								
	/C	/B	/P	/S	SU	UI	MI	LI			/C	/B	/P	/S	SU	UI	MI	LI					/C	/B	/P	/S	SU	UI	MI	LI					
ASPHALT																																			
S.O.R.			X	X		X																													
POOLED																																			
COVER			X			X																													
COAT			I			X																													
STAIN			I			X																													
MOUSSE																																			
PATTIES/T.B.																																			
FILM																																			
NO OIL					X		X	X																											
EST. SITE LENGTH					1577																														

SUBSURFACE OIL																	
SITE NO	PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER				OILED INTERVAL (cm)	CLEAN BELOW (Y/N)	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS				
			OP	OR	OF	NO			SU	UI	MI	LI					
1	1	30				X	.			X			P/G				
1	2	20				X	.			X			P/G				
1	3	18				X	.			X			P/C/G				
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Photographs:
 Roll No. 0
 Frames 0

 REVIEWED
 8/6/90 *Y/W*

COMMENTS
 ST/CT & SOR WERE FOUND AT THE NORTH END OF SMALL POCKET BEACHES
 - THE ST & CT WERE INTERSTITIAL IN A 1.5m BAND NEAR THE CENTER OF THE SEGMENT.



XXXX
 //

 TTTT
 0000

Wide
 Medium
 Narrow
 Very Light
 No Oil

CH-10 C

ADEC Subsegment Length: 1577m
 METERS

0 130 277

AK State Plane Zone 4
 pch-10a 1:5458



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 1517 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 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 #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

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

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

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

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

ASAP DATA ENTRY FORM

SUBSURFACE DATA

PAGE 2 OF 2SEGMENT ID: 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

1991 MAYSAP EVALUATION

SEGMENT: CH 010 SUB: B REGION: PWS SURVEY DATE: 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) Eagle nest,
Fish harvest area, Subsistence - Deer harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Rechel Dan Wren Date: 5/21/91

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

N

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 21 1991

FOSC APPROVAL DATE: 6/1/91

ADEC

FOSC

EXXON

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

USCG

NOAA

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

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

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.

TEAM NO. 4 SEGMENT CH 010 - B SUBDIVISION B DATE 11 MAY 91

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson☐ NTR ☒ Treatment Recommended

Areas of tarmats to 5cm, also HSOR, MHSOR and HHSOR. Although area with HHSOR was worked on it was not completed due to time constraints. Recommend manual removal of tarmats and SOR categories on sketch map. SOR areas are often tarmats.

EXXON

NAME LARRY D. OLSON SIGNATURE Larry D. Olson

☒ NTR An area of HHSOR was located during survey. VECO crew removed 16 bags of this but did not complete. If completed carefully not to do further damage to mussels already growing in this area, CVC clean up crew could remove remainder of HHSOR sediments.

LANDMANAGER

NAME LARRY EVANOFF OF CVC SIGNATURE LE☐ NTR ☒ TREATMENT RECOMMENDED

AN AREA WITH ~~HSOR~~ HHSOR WAS FOUND, THIS AREA WAS WORKED ON BY VECO CREW BUT I DO NOT KNOW IF IT WAS COMPLETED. OTHER TB/PATTIES AMONG COBBLE/BOULDERS THAT COULD BE PICKED UP. COAT ON ROCK ARE AND UNDERNEATH ROCKS COULD BE SCRAPED WITH TROWELS.

USCG/NOAA

NAME JERRY SCHULTZ SIGNATURE Jerry Schultz☒ NTR

TO REMOVE REMAINING RESIDUAL WOULD REQUIRE REMOVING THE ARMOR OF COBBLE & PEBBLE AND WOULD DISTURB THE EXISTING MUSSEL BEDS.

reviewed 5.4 QY
revised 5.7 KG
5.5 revised 5/11

24 SKETCH MAP

H010-B

17 Samples

May 91

08-10-1000

Legend

[+] P. rock down
vertical foliation
[o] angular ds pb
over sd/mo/l pb

N

Zodiac

A1

LSOR 9%
0.5x2

worked on.

A2

LSOR 9%
3x5

Silica Sheen
on ls

Few etom
underlying
lobules
< 20 m dia

P.U.

A3

HSOR 30%

3x3
under veneer of
ds/pb max 5cm
thickness

worked on

Zodiac

MSOR 30%
0.5x6

A1

0 100 200

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #	4	DATE/TIME	May 1, 1991 0900 - 1015
SEGMENT #	CHO10	TIDAL HEIGHT (Range)	-1.0 => -1.0
SUBDIVISION	B	BIOLOGIST	JIM BARRY
SEA STATE	Calm	WIND SPEED/DIRECTION	Calm, Cloudy

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

A=H4 Medium to high exposure headland with bedrock outcrops and angular cobble/boulder pocket beach. Oiled site (MSOR) located at the upper edge of the upper intertidal along the drift line at the base of a bedrock outcrop. Biota at location of oil are very sparse (black lichen, sparse beach grass). Little or very sparse biota towards beach for 30 m.

MANUAL PICK-UP PERFORMED DURING SURVEY. Addition treatment, if required, will have no negative impacts on the intertidal biota.

B=H3 This oiled site (HSOR) occurs in the middle of the upper intertidal zone. This location is a medium slope and low exposure beach composed of medium cobble and scattered boulders and bedrock outcrops. The biota surrounding and amongst the oiled area are moderately dense mussels (adults, juveniles), sparse clams, dense to moderate littorines (adults, egg masses), moderate barnacles (Balanus, adults, spat), and sparse to rare Fucus. Below the site, the intertidal biota are somewhat denser, with higher cover of Fucus, moderate mussel densities and cover, especially on scattered bedrock outcrops, sea stars (Leptasterias, brooding). Above the area, mussels are also moderately abundant and to a slight extent, form a sparse mussel bed in the cobble beach sediments. The extreme low intertidal and subtidal appear to have a denser infaunal clam community and sparse eel grass bed.

MANUAL CLEAN-UP PERFORMED DURING SURVEY. Additional cleanup operations on this location should be restricted to manual cleaning only with no heavy equipment allowed on the beach. The impacts to the beach fauna will be minor from such operations.

WILDLIFE OBSERVATIONS - Completed on all subdivisions

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	
Seabirds			
Waterfowl	2	8	
Gulls/Kittiwakes	2	9	
Shorebirds	1	2	
Corvids	1	5	
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters		River Otter	2
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

Reviewed 5/12
D. J. Smith

CH010-B Biological Report - Continued

C=A This oiled site (LSOR) shows some sheen in the middle to upper zone of the intertidal cobble beach. The beach has a shallow to medium slope and low exposure to swell. The biota at the oiled site are typical of the middle to high zone and include moderate cover of *Fucus*, high cover of filamentous algae (green and red?), scattered clams and barnacles, and moderate densities of mussels. This mussel bed partially consolidates the cobble and pebble sediments. Adults and juveniles are present. Barnacles, littorines, limpets and associated fauna are moderately abundant. The lower zones below the oiled site grade into an eel grass and clam bed in the subtidal zone.

Cleanup activities, if recommended at this site, should be highly restricted. Manual removal crews should not be allowed to till the beach due to the potential impact to the mussel bed. Heavy equipment should be prohibited from the beach. Removal of residual surface oil from locations within the mussel bed community should proceed with caution to prevent disturbance to this community. Area M on the Bio-map indicates the general location of a well consolidated mussel bed in the upper intertidal near the oiled site. Foot travel over this bed should be avoided to minimize disturbance.

D=A This oiled area is located along the drift line in the upper intertidal on the 'shoulder' of the cobble beach. This site has sparse barnacles, black lichen, occasional *Fucus* and moderate littorines and limpets. Directly below the site, the middle intertidal cobble beach has a moderately dense mussel bed which grades into a clam bed and eel grass bed in the low and subtidal zones.

MANUAL CLEAN-UP ACTIVITIES PERFORMED DURING SURVEY. Additional clean up should be restricted to manual cleanup, with no access to the beach by heavy equipment.

Summary of Biological Characteristics of CH010-B

This subdivision has very diverse habitat types, ranging from exposed bedrock headlands to highly protected coves and cobble beaches. The headlands are very diverse, with nearly 100% cover by macroalgae, barnacles, and mussels. The key species (*Fucus*, mussels, barnacles, littorines) dominate most space. Minor species are also abundant in these locations. In the protected coves and middle to upper intertidal zones behind the bedrock headlands, mussels and clams are abundant. In some locations mussel beds are dense and consolidate the beach sediments. In lower zones on these cobble beaches, the infaunal community is very rich, with clams, mussels, infaunal worms, crabs, peanut worms, and eel grass beds. Mussel beds, eel grass, and clam beds are sensitive to human disturbance and care should be taken to prevent disturbance to these resources during potential cleanup operations.

One bald eagle and two river otters were observed on this subdivision.

List of Common Species from CH010-B

A. Marine Plants

1. Diatoms, Blue Greens
2. Green Algae - Chlorophyta
Enteromorpha sp., *Ulva* sp., *Urospora* sp., filamentous green
3. Brown Algae - Phaeophyta
Agarum fimbriatum, *Ectocarpus* spp., *Fucus distichus*, *Hildenbrandia* sp., *Ralfsia* sp., *Syctosiphon lomentaria*
4. Red Algae - Rhodophyta
Calliarthron sp., *Corallina* sp., *Cryptosiphonia woodii*, *Cumagloia andersonii*, *Halosaccion glandiforme*, *Iridaea* sp., *Lithothamnion* sp., *Mastocarpus* sp., *Membranoptera dimorpha*, *Odonthalia floccosa*, *Palmaria palmata*, *Rhodomela larix*, filamentous red algae

CH010-B Biological Report - Continued

II. Marine Animals

1. Sponges - Porifera
Halichondria sp.
2. Anemones
Anthopleura artemesia, *A. elegantissima*, *Epiactis Ritteri*, *Metridium senile*,
Urticina crassicornis,
3. Hydroids - Sertularidae - *Sertularella*?
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms -
Emplectonema gracile, *Tubulanus polymorphus*
8. Polychaetes
Glyceridae
Nepthyidae
Nereidae - *Nereis* spp.
Serpulidae
Serpula sp., *Crucigera* sp., *Eudistylia polymorpha*
Spriorbidae - *Spirorbis* sp.
9. Peanut worms - Sipunculids - *Phascolosoma agassizii*
10. Crustaceans
 - a. Amphipods - *Orchestia* sp.?
 - b. Barnacles
Balanus glandula, *Chthamalus dalli*, *Semibalanus cariosus*
 - c. Crabs
Haplogaster sp., *Hemigrapsus oregonensis*, Paguridae (hermit crabs),
Oregonia gracilis,
11. Mollusca
 - a. Chitons
Mopalia mucosa, *Tonicella lineata*,
 - b. Snails - Gastropods
Littorina scutulata, *L. sitkana*, *Margarites* sp., *Natica clausa*, *Nucella*
lamellosa, *N. lima*,
 - c. Limpets
Acmaea mitra, *Lottia digitalis*, *L. persona*, *Tectura fenestrata*
 - e. Mussels and Clams
Clinocardium sp., *C. nuttalli*, *Macoma balthica*, *Macoma nasuta*, *Modiolus*
sp., *Mya arenaria* (soft-shell clam), *Mytilus californianus*, *M. cepio*,
Prototheca staminea, *Saxidomus giganteus*,
12. Echinoderms
 - a. Brittle Stars - *Ophiolus* sp., ?
 - b. Sea stars
Dermasterias imbricata, *Evasterias truscheli*, *Leptasterias hexactis*,
Pycnopoda helianthoides, *Solaster* sp.
 - c. Sea Cucumbers - Holothurians - *Leptosynapta* sp.
 - d. Urchins - *Strongylocentrotus droebachiensis*
13. Bryozoans - *Membranipora* sp., *Schizoporella* sp.
15. Fishes
Cottidae - several unknown species
Liparidae
Liparis callyodon
Stichaeidae - *Xiphister atropurpureus*, *X. mucosus*

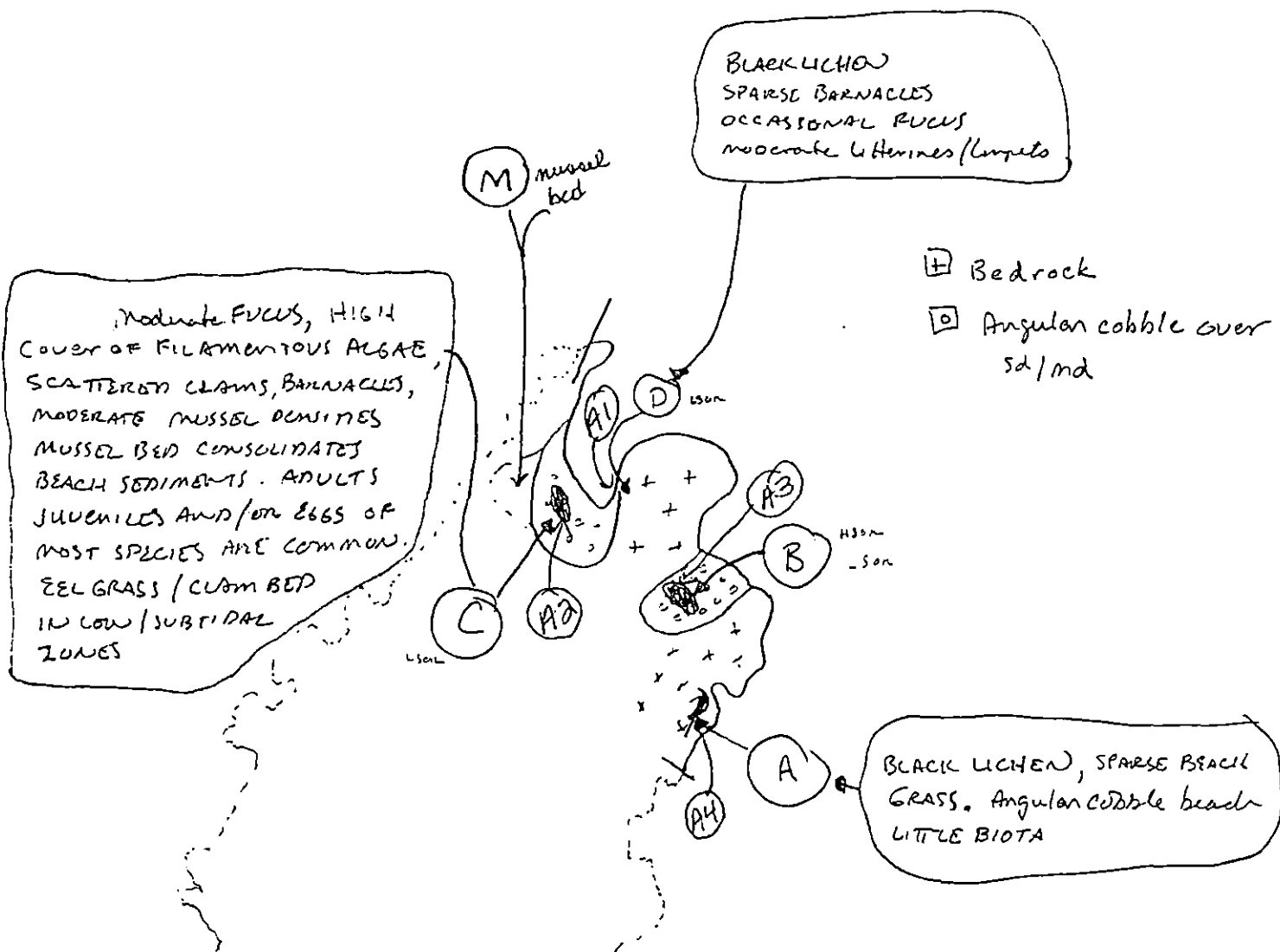
BIO SKETCH MAP

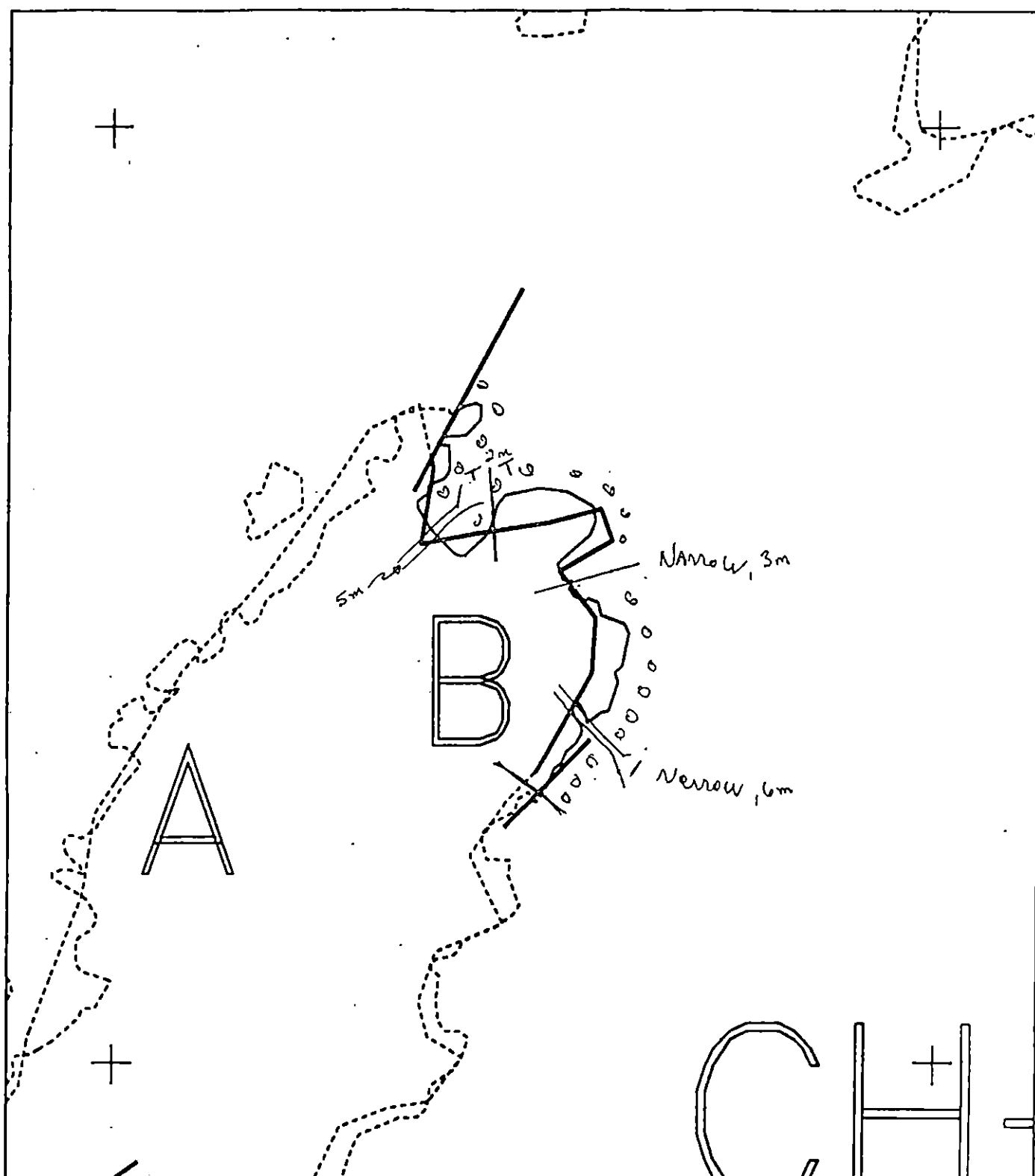
CH 010-B

1 MAY 91

⊗ Bedrock

⊞ Cobble/Pebble Beach





XXXX	Wide	CH010 B ADEC Subsegment Length: 423m METERS 0 100 200 AK State Plane Zone 4 peb010b	Subdivision Field Map
////	Medium		Map Key: PVSCH010B
----	Narrow		Name: <u>J. Sempels</u>
TTTT	Very Light		Date: <u>MAY 1, 91</u>
0000	No Oil		Date Entered:

Reviewed 5.4 94
 Reviewed 5/12

1991 MAYSAP EVALUATION

SEGMENT: CH 010 SUB: C REGION: PWS SURVEY DATE: 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) Eagle nest,
Subsistence - Deer harvesting, Subsistence - Invertebrate har-
vesting, Subsistence - Finfish harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Loelle Dan Dan

Date: 5/17/91

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

N

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 17 1991

FOSC APPROVAL DATE: 25 MAY 1991

ADEC

FOSC

E. E. PAGE, CDR, USCG

EXXON

CHIEF OF STAFF, FOSC

USCG

NOAA

→ The state will evaluate the need
 for further treatment. JB

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.

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

Subsistence, Finfish Harvesting: Unlimited treatment.

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 4SEGMENT CH 010SUBDIVISION CDATE 1 MAY 91

ADEC

NAME Dianne MunsonSIGNATURE Dianne Munson☐ NTR ☐ Treatment Recommended

Tar balls, patties remain, also SCR under coarse veneer.
- Possibly recommend manual removal.

EXXON

NAME LARRY D. OLSONSIGNATURE Larry D. Olson

☒ NTR Removed oiled debris and old shore boom. Worked on areas as found. Beach appeared rich with biological growth.

LANDMANAGER

NAME LARRY EVANOFF OF CVCSIGNATURE Lu 877☐ NTR ☒ TREATMENT RECOMMENDED

TP/PATTIES FOUND. AND WORKED ON. I THINK FURTHER WORK CAN BE DONE TO REMOVE OILED SAND/GRAVEL FROM UNDERNEATH ROCKS. SCRAPE ~~THE~~ OIL FROM ROCK FACE. NO BIOREMEDIATION RECOMMENDED.

USCG/NOAA

NAME JERRY SCHULTZSIGNATURE Jerry Schultz☒ NTR

FURTHER REMOVAL OPERATIONS WOULD CAUSE MORE ENVIRONMENTAL HARM THAN GOOD

Og sketch MAP

CH010 - C

In Samples

MAY 1 / 91

0745 - 0835

Legend

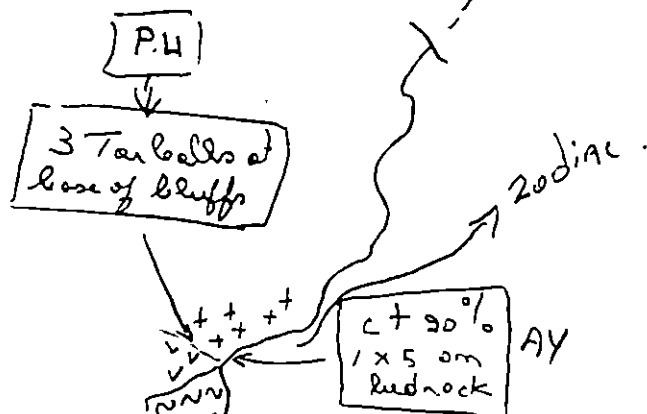
[+] Bedrock

[o] pb/cb

[v] Bd

[n] pb

View 1:



A5

LSOR 20%
1 x 3 m cb/pb

Few ct on bedrock

Part of smare boom
picked up

Zodiac

Part of smare boom picked up

5 ct patches < 20 cm dia

LSOR 20% A1
1 x 3

HSOR 4 patches < 20 cm dia

CT 20% A2
0.5 x 1 m

A3

CT 10%
1 x 10
Splatters < 10 cm dia
on bedrock

Assumed: area
of 1 x 10 m
verified by JMS
5/6/91

Worked on

Worked on

METERS

0 200 400

REVIEWED: 5/16/91 MC

REVISED 5/16/91 KG

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 4 DATE/TIME May 1, 1991 0745 => 0900
 SEGMENT # CH010 TIDAL HEIGHT (Range) +1.0 => -1.0
 SUBDIVISION C BIOLOGIST JIM BARRY
 LA STATE Calm WIND SPEED/DIRECTION Variable, 5 kt., Cloudy

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

A² Oiled site (LSOR) located at the upper intertidal drift line. Biota include black lichen, mosses, beach drift. Nearby the beach cobble has little attached biota. The lower zone is approximately 30 m down the beach slope, where the densities of Fucus, barnacles, littorines, and associated species increase.

MANUAL PICKUP PERFORMED DURING SURVEY. Additional cleanup, if recommended, will not adversely impact the biota on this beach.

B=A3 Oiled site (CT) located on outcrops and the upper zone/ supratidal cobble beach near the drift line. Biota include black lichen, mosses, beach drift algae, moderate to sparse barnacles, scattered littorines. Barnacle spat present on weathered oil. Littorines present on weathered oil. Juvenile mussels present within the oiled area.

MANUAL PICKUP PERFORMED DURING SURVEY. Additional cleanup will not adversely impact the biota on this beach.

C=A5 Oiled Site (LSOR) located in the upper/supratidal drift line on a cobble/shingle beach with scattered bedrock outcrops. Biota at oiled site: Black lichen, sparse beach grass, mosses, scattered barnacles. Below oiled site: sparse Fucus, dense littorines (adults, eggs), barnacle spat, moderate limpets.

Clean-up activities, if recommended, will not negatively impact the biota at the site.

WILDLIFE OBSERVATIONS - Completed on all subdivisions

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	
Seabirds			
Waterfowl	1	3	
Gulls/Kittiwakes	2	5	
Shorebirds			
Corvids	1	1	
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters		River Otter	1
Pinnipeds (specify)			
Whales (specify)			

Preline subdivision map showing important biological features attached.

CH010-C - Biological Report, Continued

D= This oiled area (CT) is located at the upper extent of a cobble beach, with a bedrock cliff above and boulders and cobble below. Biota of the oiled site are sparse black lichen, scattered barnacles and littorines, and Fucus drift algae. The cobble beach below has little biota, although dense barnacle spat are present on larger cobble, with littorine eggs and adults under cobble.

MANUAL PICK-UP PERFORMED DURING SURVEY. Further treatment would not have adverse effects on the intertidal biota at the site.

Summary of Biological Characteristics of CH010-C

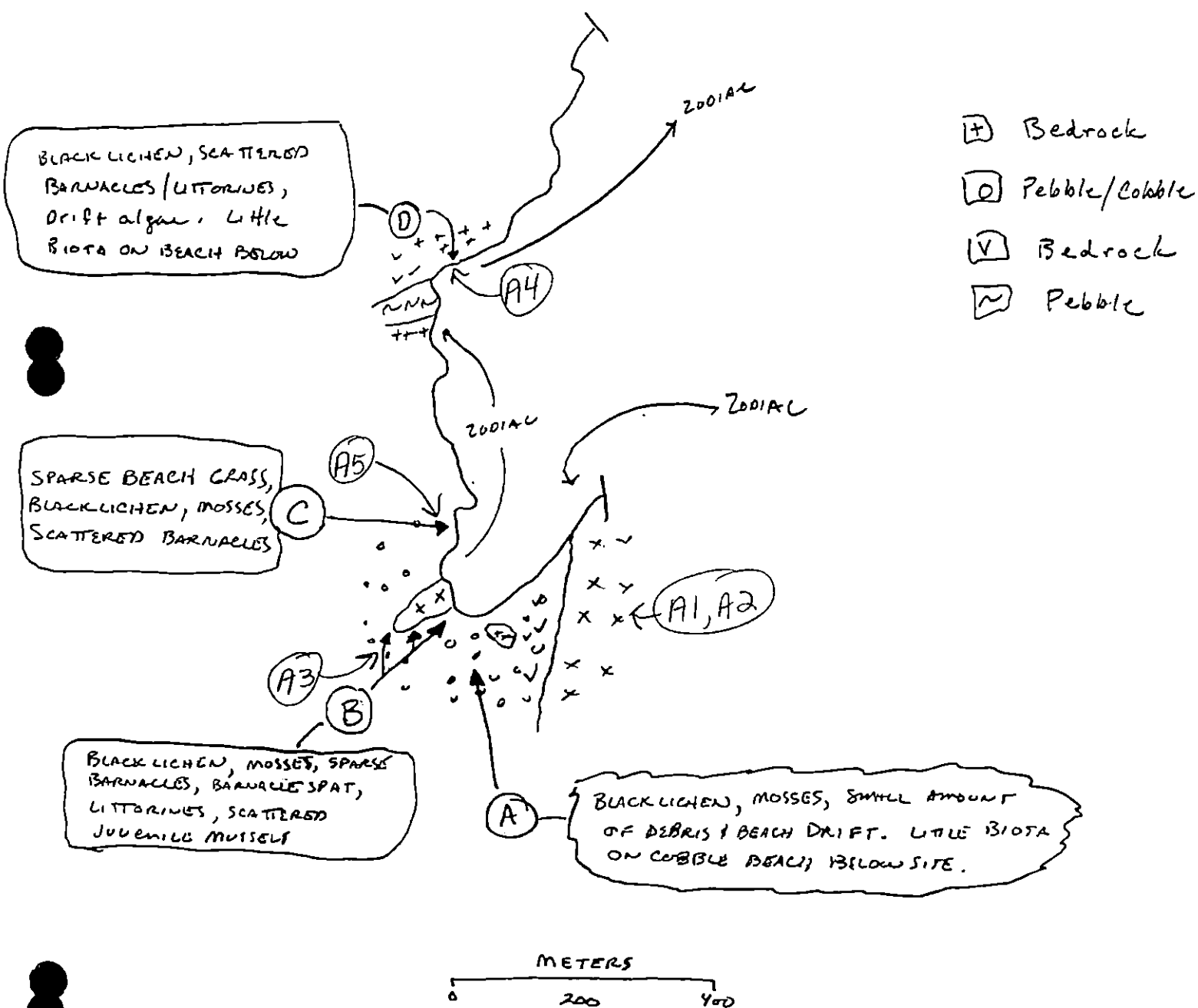
This subdivision includes several types of habitats, ranging from exposed headlands to protected coves. The headlands have nearly total cover of algae, dominated by Fucus, as well as several species of red algae (*Odonthalia floccosa*, *Rhodomela larix*, and others) and invertebrates. Mussels are dense in patches, with high cover of barnacles (*Semibalanus cariosus*). Limpets, littorines, sea stars, and urchins are common. In contrast, the cobble beaches have little attached biota. Sparse Fucus, moderate barnacles, and fairly high densities of littorines, limpets, and amphipods are present under beach cobble.

Most species are present as adult and reproductive life phases, especially on bedrock habitats.

Nearly all of the oiled substrata are located at the highest high tide line on cobble beaches. Clean-up operations will have little negative impact on the biota of these areas.

BIO SKETCH MAP - CH010-C

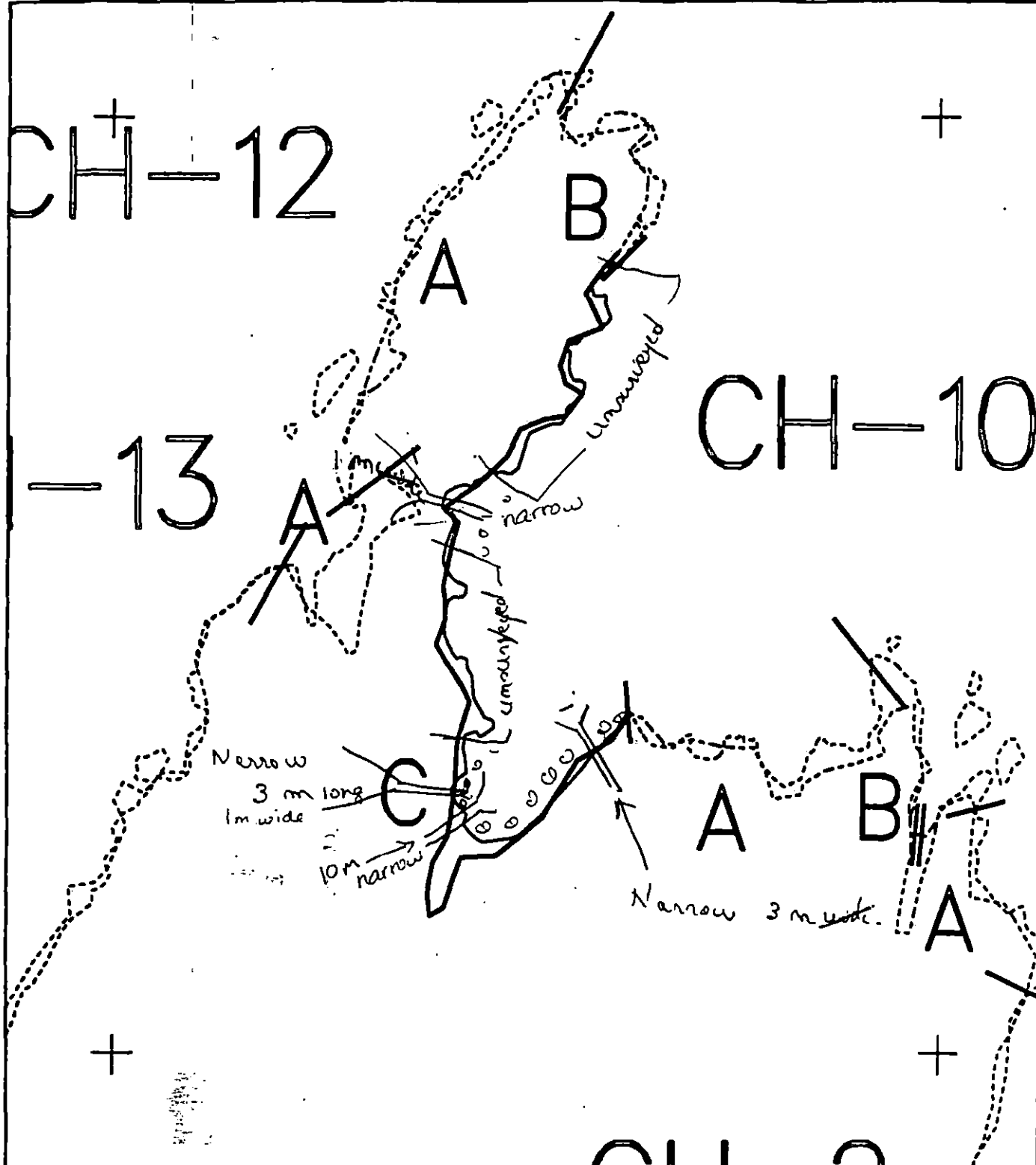
MAY 1, 1991



CH-12

-13

CH-10



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

CH010 C
 ADEC Subsegment Length: 1577m
 METERS
 0 200 400
 AK State Plane Zone 5
 pch010a



Subdivision Field Map
 Map Key: PWSCH010C
 Name: J. M. Semple
 Date: MAY 1/91
 Date Entered:

Reviewed: MC 5/10/91
 revised, 5/6/91 KG

1991 MAYSAP EVALUATION

SEGMENT: CH 010 SUB: A REGION: PWS SURVEY DATE: 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) Eagle nest,
Fish Harvest area, Subsistence - Deer harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Charles Z. Holmes Date: 5/10/91

RECOMMENDATIONS:

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

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 10 1991

FOSC APPROVAL DATE: 5/15/91

ADEC [Signature]

FOSC [Signature]

EXXON [Signature]

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

USCG [Signature]

NOAA [Signature]

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

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

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.

MAYSAP FIELD SHORELINE COMMENT SHEET

CH010-A

1/6

TEAM NO. 4 SEGMENT C1010 SUBDIVISION A DATE 1 MAY 1991

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson☒ NTR ☐ Treatment Recommended

Tarballs and tar patties observed were removed.
Coats, stains and SOR remain.

EXXON

NAME LARRY D. OLSON SIGNATURE Larry D. Olson

☒ NTR Removed what was found on the beach. No further clean up as area appeared healthy and clean.

LANDMANAGER

NAME LARRY EVANOFF OF CVC SIGNATURE LM EV☒ NTR ☐ TREATMENT RECOMMENDED

TAR BALLS/PATTIES WERE FOUND AND ~~IT~~ WERE PICKED UP. STAINS REMAIN ON ROCK FACE AND UNDERNEATH ROCKS.

USCG/NOAA

NAME JERRY SCHULTZ SIGNATURE Jerry Schultz☒ NTR

REMOVED WHAT WAS RECOVERABLE. NO FURTHER INTRUSION NECESSARY

PAGE 2 OF 6

reviewed 5.4 9y
REVIEWED: F.W. 5/5/91

Og Sketch Map.

CH010-A

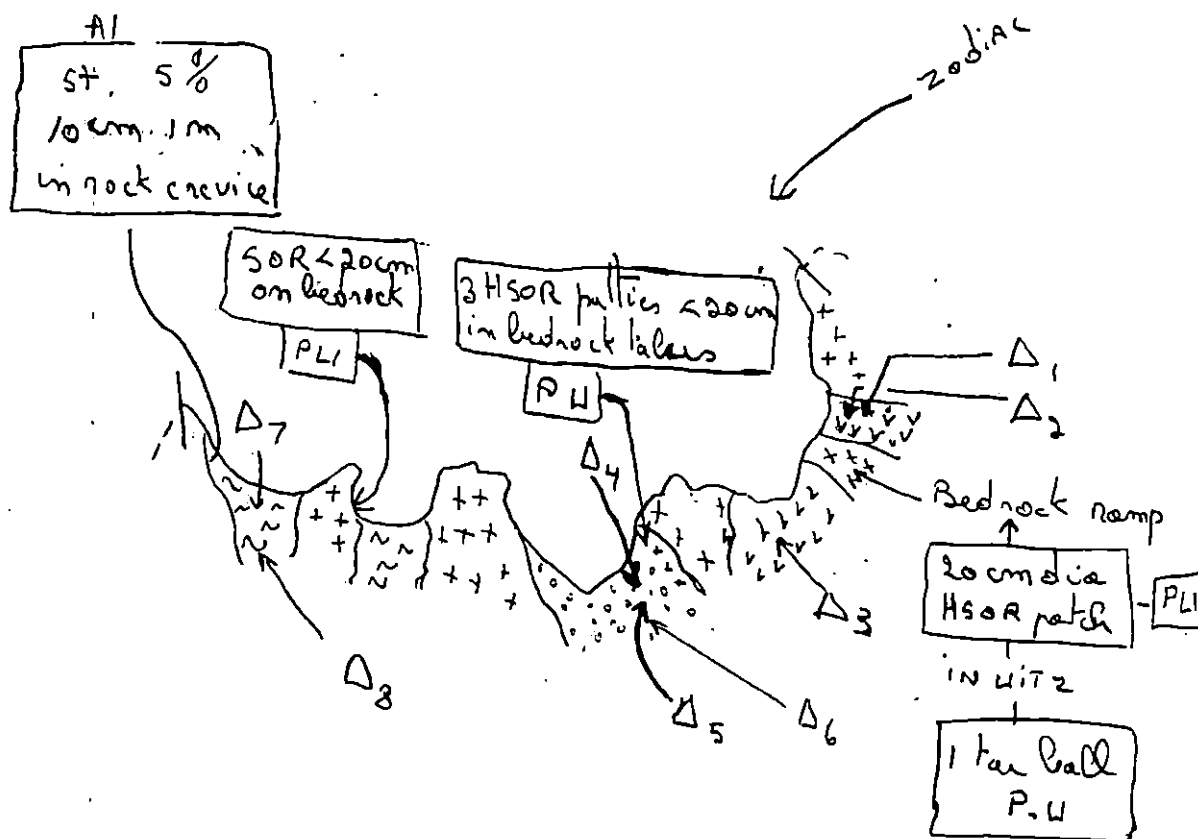
7 Samples

1 MAY 91

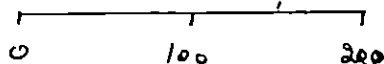
0700 - 1900

Legend

- [+] Bedrock / talus
- [o] Pb. well sorted
- [v] Pb / cl.
- [N] Pb / sd



METERS



reviewed 5.4 94
 REVIEWED: F.W. 5/5/91

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #	4	DATE/TIME	May 1, 1991 0655 - 0742
SEGMENT #	CH010	TIDAL HEIGHT (Range)	+4.5 => +1.0
SUBDIVISION	A	BIOLOGIST	JIM BARRY
SEA STATE	Calm	WIND SPEED/DIRECTION	Variable 5 kt., cloudy

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

pu Oiled site (HSOR) located at high zone drift line. This is a bedrock ramp and cobble beach site. Biota are black lichen, and little else. Below the site, there is dense Fucus, dense littorines, high barnacles densities (Balanus adults spat), and sparse mussels cover (adults and juveniles).

MANUAL PICKUP PERFORMED DURING SURVEY. Additional cleaning will not impact nearby biota, provided care is taken to prevent impacts to exposed headland in lower zone.

pu Oil (HSOR patties) located in high intertidal on the border of a cobble beach with adjacent bedrock outcrops. The oiled site biota are sparse to moderate barnacles, sparse Fucus and turf-like red algae, littorines, and limpets. The adjacent boulders have moderate cover of Fucus. The cobble beach has little biota attached. Lower on the beach barnacle densities are greater on cobble.

MANUAL PICKUP PERFORMED DURING SURVEY. Additional cleanup will have few, if any, negative impacts to intertidal biota.

DAI Oiled site (SOR/ST) is a bedrock face in the upper intertidal with black lichen, Fucus drift algae, and little else. The headland below has a richer Fucus-dominated community.

MANUAL PICKUP PERFORMED DURING SURVEY. Additional cleanup, if necessary, can consist of manual pickup of oil patches with no impact to the site.

WILDLIFE OBSERVATIONS - Completed on all subdivisions

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

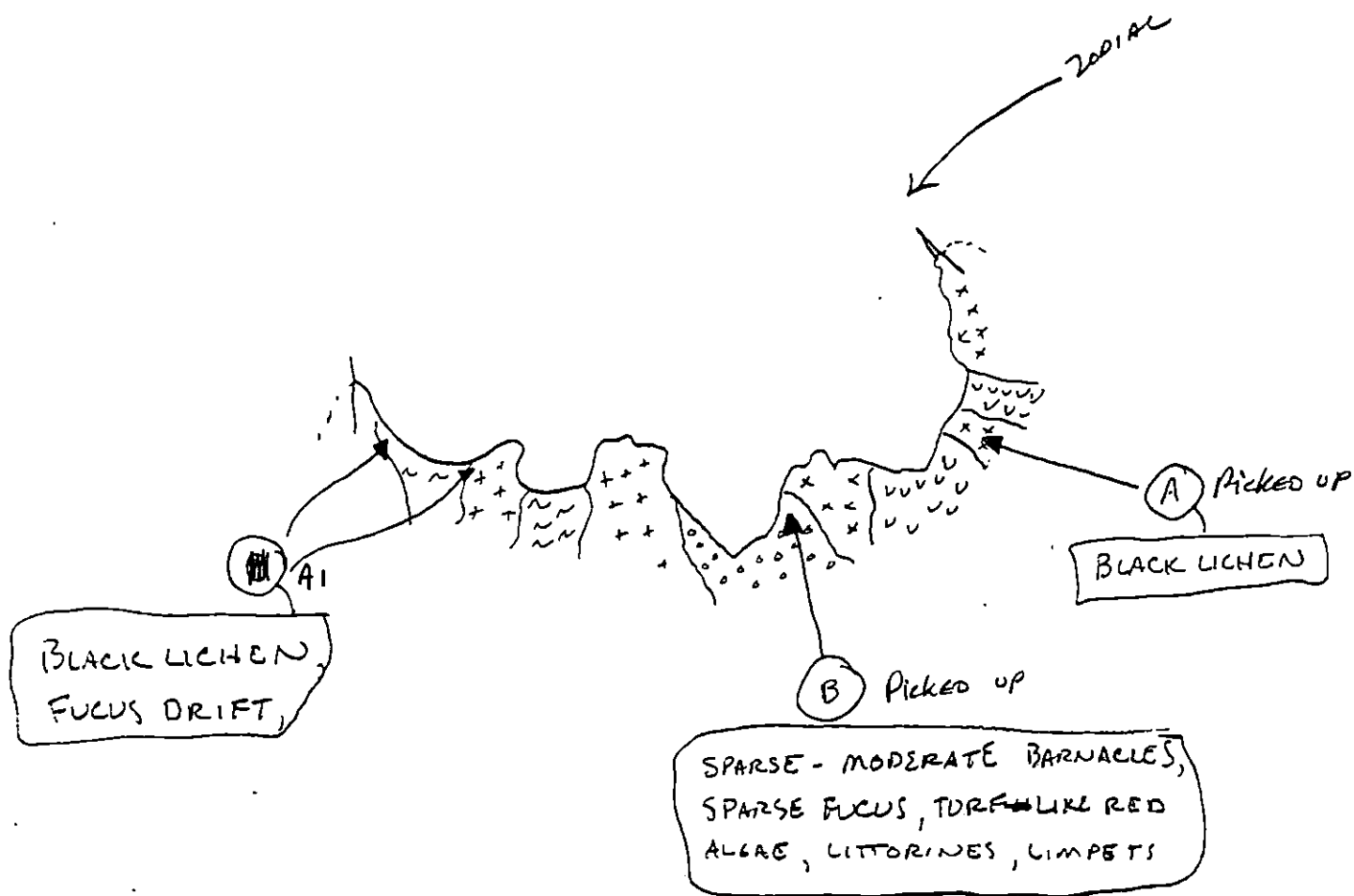
MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters		River Otter	1
Pinnipeds (specify)			
Whales (specify)			

Preline subdivision map showing important biological features attached.

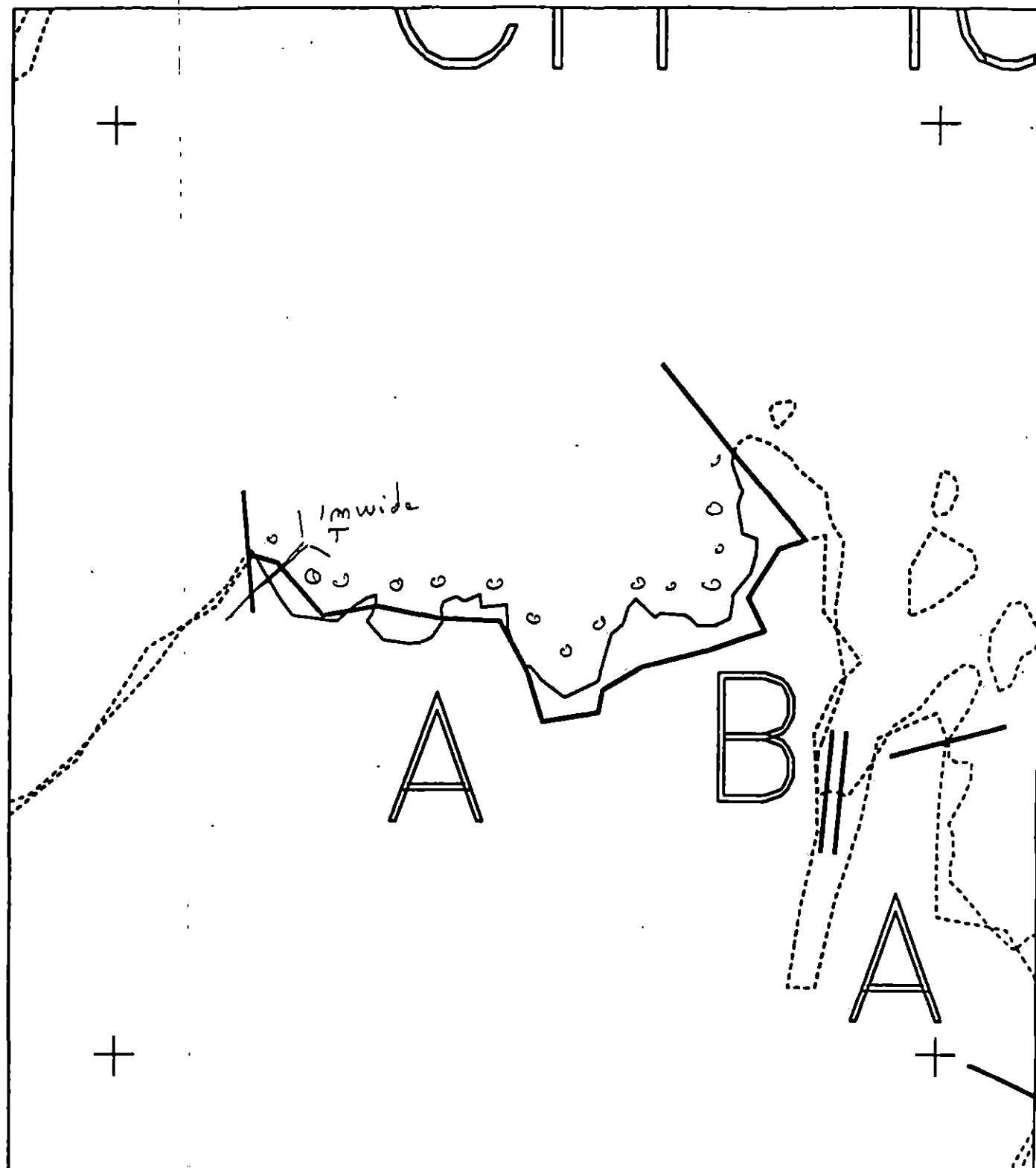
Reviewed MB 5/4/91

BIO SKETCH MAP CHOIO-A

1 MAY 91

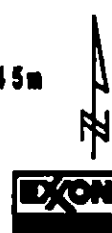


- + Bedrock / Talus
- o Well Sorted Pebbles
- v Pebbles / Cobble
- Pebbles / Sand



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

CH010 A
ADEC Subsegment Length: 545m
METERS
5 100 200
AK State Plane Zone 4
psch010a



Subdivision Field Map
Map Key: PWSCH010A
Name: M. Sempels
Date: MAY 1 / 91
Date Entered:

Reviewed 5.4 9y
REVIEWED: F.W. 5/5/91

1991 MAYSAP EVALUATION

SEGMENT: CH 010 **SUB:** C **REGION:** PWS **SURVEY DATE:** 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) Eagle nest,
Subsistence - Deer harvesting, Subsistence - Invertebrate har-
vesting, Subsistence - Finfish harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ **Date:** _____

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

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____ **FOSC APPROVAL DATE:** _____

ADEC _____ **FOSC** _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.

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

Subsistence, Finfish Harvesting: Unlimited treatment.

5 YEAR FIELD SHORELINE COMMENT SHEET

TEAM NO. 4 SEGMENT CH 010 SUBDIVISION C DATE 1 May 91

ADEC

NAME Dianne Manson SIGNATURE Dianne Manson

☐ NTR ☐ Treatment Recommended

Tar balls, Patties remain, also SOR under coarse veneer.
- Possibly recommend manual removal.

EXXON

NAME LARRY D. OLSON SIGNATURE Larry D. Olson

☒ NTR Removed oiled debris and old snare boom. Worked on areas as found. Beach appeared rich with Biological growth.

LANDMANAGER

NAME LARRY EVANOFF OF CVC SIGNATURE LE 8/8

☐ NTR ☒ TREATMENT RECOMMENDED

TB/PATTIES FOUND AND WORKED ON. I THINK FURTHER WORK CAN BE DONE TO REMOVE OILED SAND/GRAVEL FROM UNDERNEATH ROCKS, SCRAPE ~~THE~~ OIL FROM ROCK FACE. NO BIOREMEDIATION RECOMMENDED.

USCG/NOAA

NAME JERRY SCHULTE SIGNATURE Jerry Schulte

☒ NTR

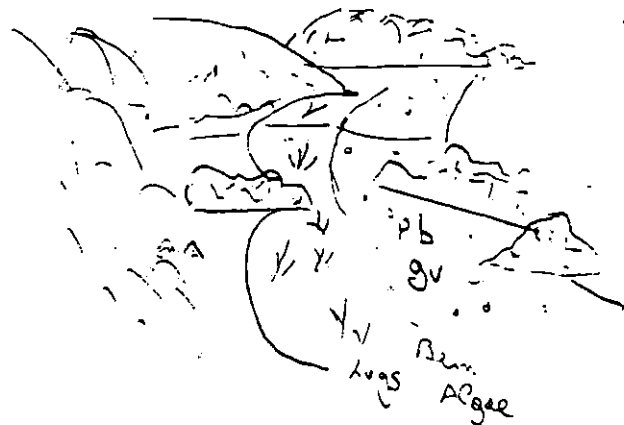
FURTHER REMOVAL OPERATIONS WOULD CAUSE MORE ENVIRONMENTAL HARM THAN GOOD

revised 5/6/91 KC.

Og sketch MAP.

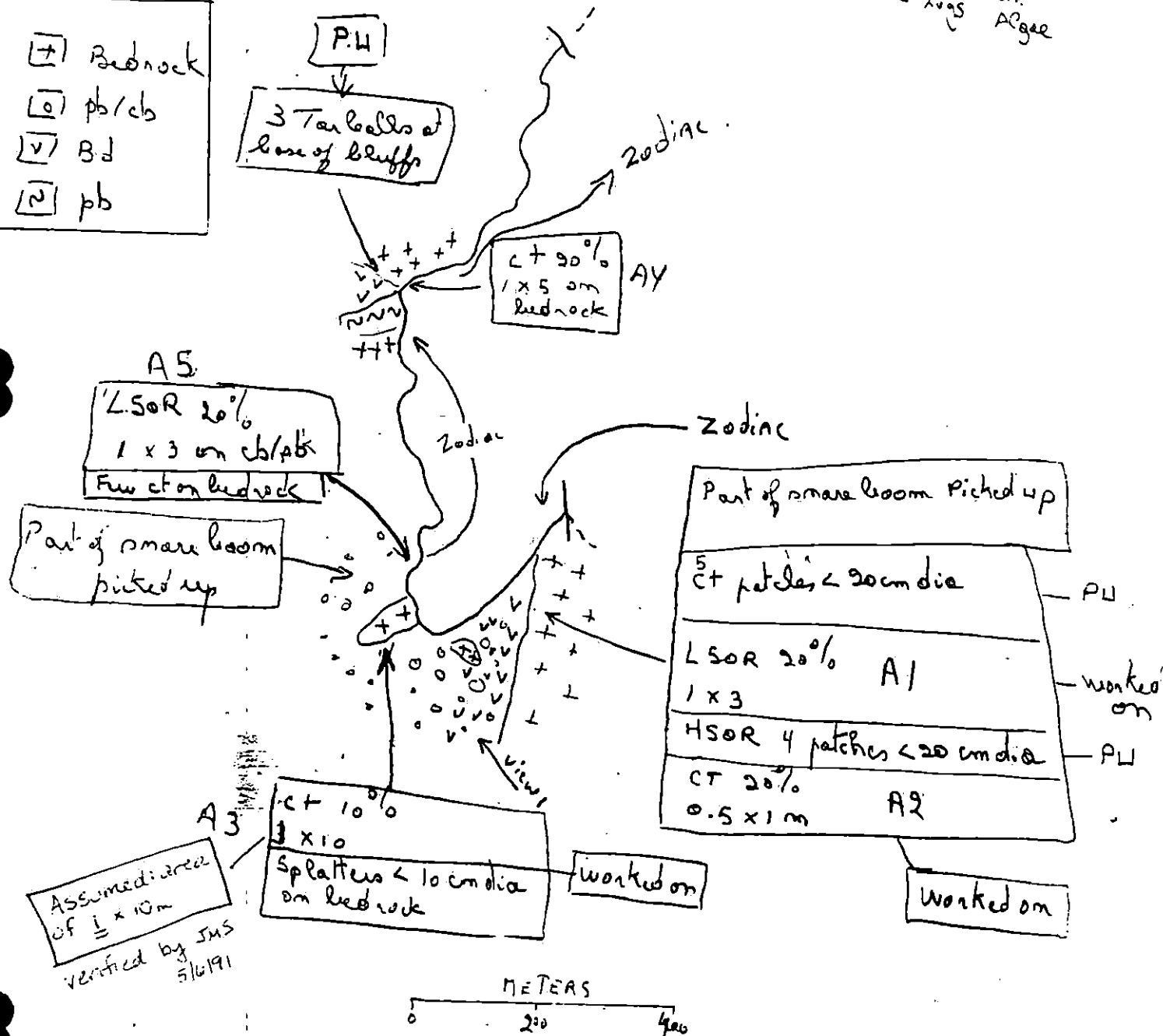
CH010 - C
 In Sample
 MAY 1 / 91
 0745 - 0835

View 1:



Legend

- [+] Bedrock
- [o] pb/cb
- [v] Bd
- [n] pb



REVIEWED: 5/14/91 MC
 REVISED 5/16/91 MC

NAYSAP BIOLOGICAL SUMMARY FORM

TEAM #	4	DATE/TIME	May 1, 1991 0745 => 0900
SEGMENT #	CH010	TIDAL HEIGHT (Range)	+1.0 => -1.0
SUBDIVISION	C	BIOLOGIST	JIM BARRY
SEA STATE	Calm	WIND SPEED/DIRECTION	Variable, 5 kt., Cloudy

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

A2 Oiled site (LSOR) located at the upper intertidal drift line. Biota include black lichen, mosses, beach drift. Nearby the beach cobble has little attached biota. The lower zone is approximately 30 m down the beach slope, where the densities of Fucus, barnacles, littorines, and associated species increase.

MANUAL PICKUP PERFORMED DURING SURVEY. Additional cleanup, if recommended, will not adversely impact the biota on this beach.

B-A3 Oiled site (CT) located on outcrops and the upper zone/ supratidal cobble beach near the drift line. Biota include black lichen, mosses, beach drift algae, moderate to sparse barnacles, scattered littorines. Barnacle spat present on weathered oil. Littorines present on weathered oil. Juvenile mussels present within the oiled area.

MANUAL PICKUP PERFORMED DURING SURVEY. Additional cleanup will not adversely impact the biota on this beach.

C-A5 Oiled Site (LSOR) located in the upper/supratidal drift line on a cobble/shingle beach with scattered bedrock outcrops. Biota at oiled site: Black lichen, sparse beach grass, mosses, scattered barnacles. Below oiled site: sparse Fucus, dense littorines (adults, eggs), barnacle spat, moderate limpets.

Clean-up activities, if recommended, will not negatively impact the biota at the site.

WILDLIFE OBSERVATIONS - Completed on all subdivisions

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	
Seabirds			
Waterfowl	1	3	
Gulls/Kittiwakes	2	5	
Shorebirds			
Corvids	1	1	
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters		River Otter	1
Pinnipeds (specify)			
Whales (specify)			

oreline subdivision map showing important biological features attached.

CH010-C - Biological Report, Continued

D= This oiled area (CT) is located at the upper extent of a cobble beach, with a bedrock
A4 cliff above and boulders and cobble below. Biota of the oiled site are sparse black
lichen, scattered barnacles and littorines, and Fucus drift algae. The cobble beach
below has little biota, although dense barnacle spat are present on larger cobble,
with littorine eggs and adults under cobble.

MANUAL PICK-UP PERFORMED DURING SURVEY. Further treatment would not have adverse
effects on the intertidal biota at the site.

Summary of Biological Characteristics of CH010-C

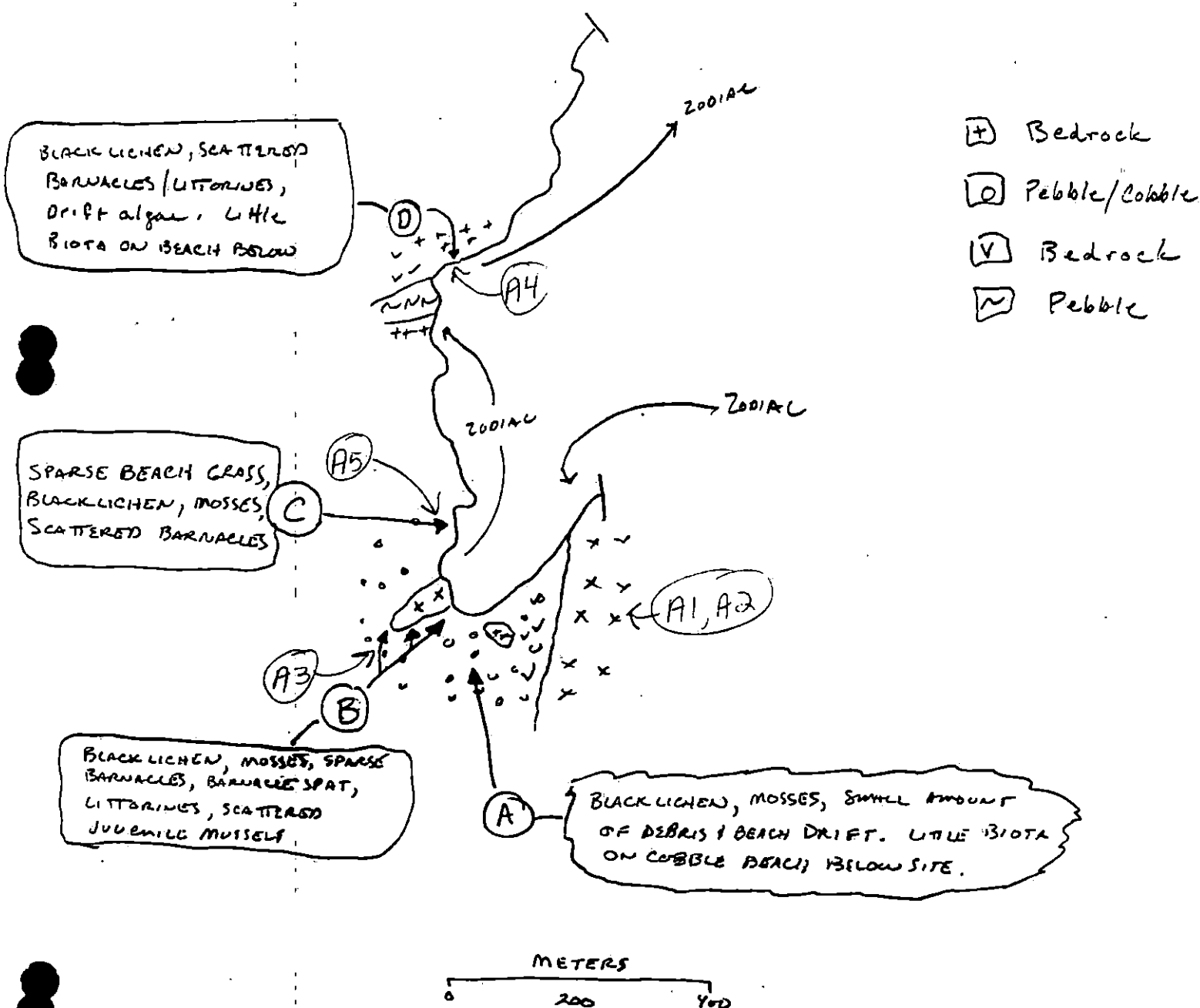
This subdivision includes several types of habitats, ranging from exposed headlands to
protected coves. The headlands have nearly total cover of algae, dominated by Fucus, as
well as several species of red algae (*Odonthalia floccosa*, *Rhodomela larix*, and others)
and invertebrates. Mussels are dense in patches, with high cover of barnacles
(*Semibalanus cariosus*). Limpets, littorines, sea stars, and urchins are common. In
contrast, the cobble beaches have little attached biota. Sparse Fucus, moderate
barnacles, and fairly high densities of littorines, limpets, and amphipods are present
under beach cobble.

Most species are present as adult and reproductive life phases, especially on bedrock
habitats.

Nearly all of the oiled substrata are located at the highest high tide line on cobble
beaches. Clean-up operations will have little negative impact on the biota of these
areas.

BIO SKETCH MAP - CH010-C

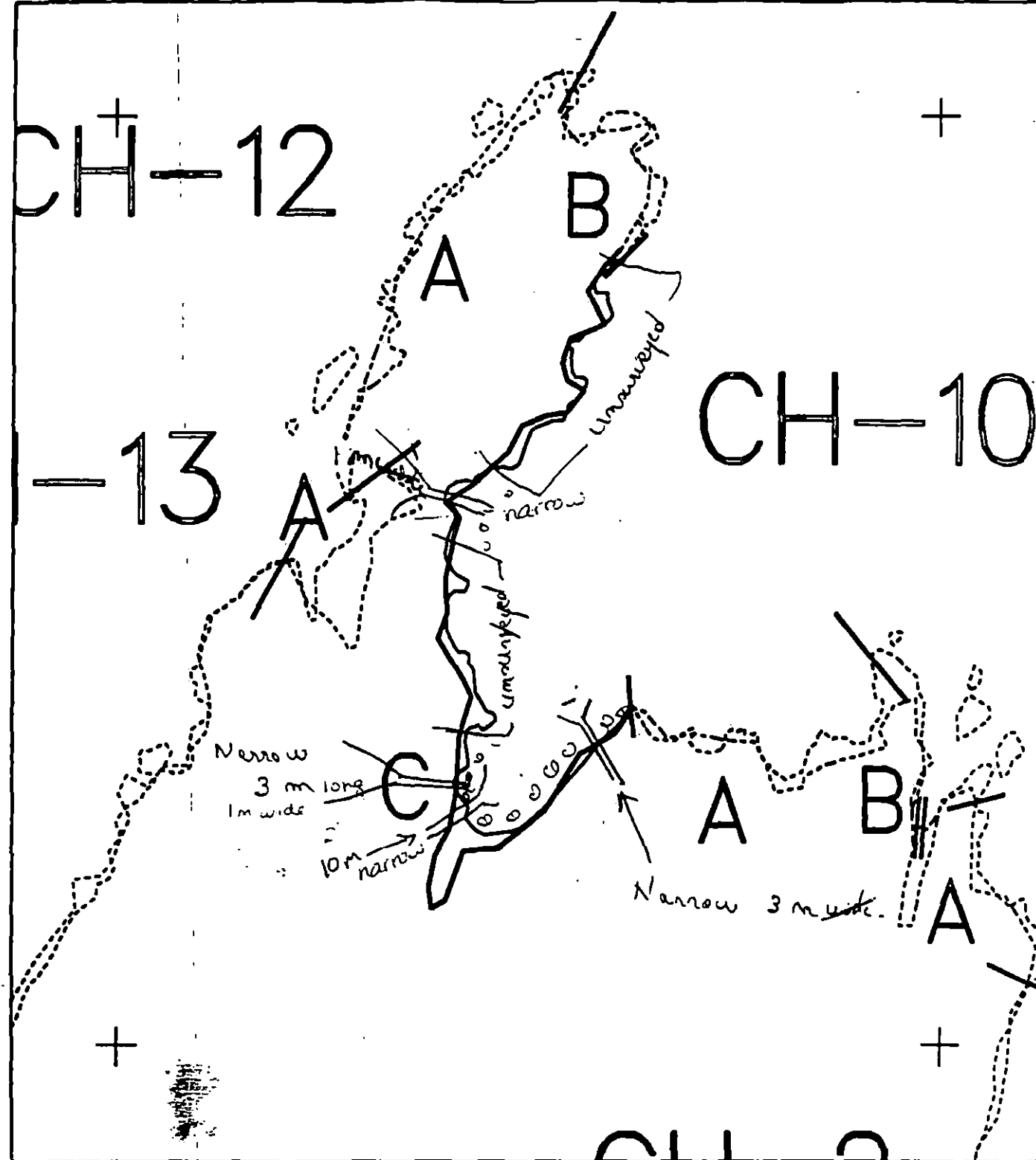
MAY 1, 1991



CH-12

-13

CH-10



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

CH010 C
 ADEC Subsegment Length: 1577m
 METERS
 0 200 400
 AK State Plane Zone 5
 500100



Subdivision Field Map
 Map Key: PWSCH010C
 Name: Jim Semple
 Date: MAY 1 1991
 Date Entered:

Reviewed: MC 5/10/91

revised 5/6/91 KC

1991 MAYSAP EVALUATION

SEGMENT: CH 010 SUB: B REGION: PWS SURVEY DATE: 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) Eagle nest,
Fish harvest area, Subsistence - Deer harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

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

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.

TEAM NO. 4 SEGMENT CH 010 - B SUBDIVISION B DATE 1 MAY 91

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson☐ NTR ☒ Treatment Recommended

Areas of tarmats to 5cm, also HSOR, MSOR and HSOR. Although area with HSOR was worked on it was not completed due to time constraints. Recommend manual removal of tarmats and SOR categories on sketch map. SOR areas are often tarmats.

EXXON

NAME LARRY D. OLSON SIGNATURE Larry D. Olson

☒ NTR An area of HSOR was located during survey. VECO crew removed 16 bags of this but did not complete. If completed carefully not to do further damage to mussels already growing in this area, CVC clean up crew could remove remainder of HSOR sediments.

LANDMANAGER

NAME LARRY EVANOFF OF CVC SIGNATURE Lu EOX☐ NTR ☒ TREATMENT RECOMMENDED

AN AREA WITH ~~HEOR~~ HEDR WAS FOUND, THIS AREA WAS WORKED ON BY VECO CREW BUT I DO NOT KNOW IF IT WAS COMPLETED. OTHER TB/PATTIES AMONG COBBLE/BOULDERS THAT COULD BE PICKED UP. COAT ON ROCK ARE AND UNDERNEATH ROCKS COULD BE SCRAPPED WITH TROWELS.

USCG/NOAA

NAME JERRY SCHULTZ SIGNATURE Jerry Schultz☒ NTR

TO REMOVE REMAINING RESIDUAL WOULD REQUIRE REMOVING THE ARMOR OF COBBLE & PEBBLE AND WOULD DISTURB THE EXISTING MUSSEL BEDS.

TEAM NO. 4OG 175 SempelsBIO J. BarrySEGMENT CH010ADEC D. MurnonLANDMANAGER L. Evansoff for _____SUBDIVISION BEXXON L. OlsonUSCG/NOAA G. SchultzDATE 1 MAY 1991TIME 08:40 to 10:00TIDE LEVEL 0 ft. to -1 ft.ENERGY LEVEL: ☐ H ☒ M ☐ LSURVEYED FROM: ☒ FOOT ☒ BOAT ☐ HELOWEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☐ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 423 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONEEST. OIL CATEGORY LENGTH: W — m M — m N 9 m VL 7 m NO 407 m US — m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA		ZONE				NOTES
	AP	MS	TB	SOF	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A1				S							cb	L	0.5	2	*				LSOR
A2				S							cbpb	L	3	5	*				LSOR
A3				P							cbpb	L	2	3	*				HSOR
A4				P							cbpb	M	0.5	6	*				HSOR

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

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

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	25								-	Y							P, G, S	
2	25								-	Y							P, G, S	
									-									
									-									
									-									
									-									
									-									
									-									
									-									
									-									

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

OG COMMENTS:

2 pocket beaches of angular cb/pb, in some areas over sand/mud/pb/cb; between low headlands of bedrock with vertical foliation. Oiling includes LSOR, one area of HSOR and a few ct on the underside of cb.

reviewed 5.4 9/9
revised 5-7 KG
EG revised 5/11

Sketch Map

CHO10-B

Samples

MAY 91

28-0-1000

Legend

- Brack low vertical hole con
- irregular ch pb
- over sd/mol pb



Zodiac



A1

LSOR 9.0%
0.5 x 2

Worked on

A2

LSOR 9.0%
3 x 5
Sign Green

Few etom
underlying
cobble
20 m dia

P.H.

A3

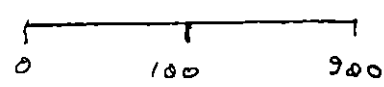
HSOR 30%
3 x 3
under water d
ch/pb max 5cm
thickness

Worked on

Zodiac

MSOR 30%
0.5 x 6

A1



MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 4 DATE/TIME May 1, 1991 0900 - 1015
 SEGMENT # CH010 TIDAL HEIGHT (Range) -1.0 => -1.0
 DIVISION B BIOLOGIST JIM BARRY
 STATE Calm WIND SPEED/DIRECTION Calm, Cloudy

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

A-4 Medium to high exposure headland with bedrock outcrops and angular cobble/boulder pocket beach. Oiled site (MSOR) located at the upper edge of the upper intertidal along the drift line at the base of a bedrock outcrop. Biota at location of oil are very sparse (black lichen, sparse beach grass). Little or very sparse biota towards beach for 30 m.

MANUAL PICK-UP PERFORMED DURING SURVEY. Addition treatment, if required, will have no negative impacts on the intertidal biota.

B-43 This oiled site (HSOR) occurs in the middle of the upper intertidal zone. This location is a medium slope and low exposure beach composed of medium cobble and scattered boulders and bedrock outcrops. The biota surrounding and amongst the oiled area are moderately dense mussels (adults, juveniles), sparse clams, dense to moderate littorines (adults, egg masses), moderate barnacles (Balanus, adults, spat), and sparse to rare Fucus. Below the site, the intertidal biota are somewhat denser, with higher cover of Fucus, moderate mussel densities and cover, especially on scattered bedrock outcrops, sea stars (Leptasterias, brooding). Above the area, mussels are also moderately abundant and to a slight extent, form a sparse mussel bed in the cobble beach sediments. The extreme low intertidal and subtidal appear to have a denser infaunal clam community and sparse eel grass bed.

MANUAL CLEAN-UP PERFORMED DURING SURVEY. Additional cleanup operations on this location should be restricted to manual cleaning only with no heavy equipment allowed on the beach. The impacts to the beach fauna will be minor from such operations.

WILDLIFE OBSERVATIONS - Completed on all subdivisions

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	
Seabirds			
Waterfowl	2	8	
Gulls/Kittiwakes	2	9	
Shorebirds	1	2	
Corvids	1	5	
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters		River Otter	2
Pinnipeds (specify)			
Whales (specify)			

shoreline subdivision map showing important biological features attached.

Reviewed 5/12
 David Smith

C-2 This oiled site (LSOR) shows some sheen in the middle to upper zone of the intertidal cobble beach. The beach has a shallow to medium slope and low exposure to swell. The biota at the oiled site are typical of the middle to high zone and include moderate cover of *Fucus*, high cover of filamentous algae (green and red?), scattered clams and barnacles, and moderate densities of mussels. This mussel bed partially consolidates the cobble and pebble sediments. Adults and juveniles are present. Barnacles, littorines, limpets and associated fauna are moderately abundant. The lower zones below the oiled site grade into an eel grass and clam bed in the subtidal zone.

Cleanup activities, if recommended at this site, should be highly restricted. Manual removal crews should not be allowed to till the beach due to the potential impact to the mussel bed. Heavy equipment should be prohibited from the beach. Removal of residual surface oil from locations within the mussel bed community should proceed with caution to prevent disturbance to this community. Area M on the Bio-map indicates the general location of a well consolidated mussel bed in the upper intertidal near the oiled site. Foot travel over this bed should be avoided to minimize disturbance.

D-1 This oiled area is located along the drift line in the upper intertidal on the 'shoulder' of the cobble beach. This site has sparse barnacles, black lichen, occasional *Fucus* and moderate littorines and limpets. Directly below the site, the middle intertidal cobble beach has a moderately dense mussel bed which grades into a clam bed and eel grass bed in the low and subtidal zones.

MANUAL CLEAN-UP ACTIVITIES PERFORMED DURING SURVEY. Additional clean up should be restricted to manual cleanup, with no access to the beach by heavy equipment.

Summary of Biological Characteristics of CH010-B

This subdivision has very diverse habitat types, ranging from exposed bedrock headlands to highly protected coves and cobble beaches. The headlands are very diverse, with nearly 100% cover by macroalgae, barnacles, and mussels. The key species (*Fucus*, mussels, barnacles, littorines) dominate most space. Minor species are also abundant in these locations. In the protected coves and middle to upper intertidal zones behind the bedrock headlands, mussels and clams are abundant. In some locations mussel beds are dense and consolidate the beach sediments. In lower zones on these cobble beaches, the infaunal community is very rich, with clams, mussels, infaunal worms, crabs, peanut worms, and eel grass beds. Mussel beds, eel grass, and clam beds are sensitive to human disturbance and care should be taken to prevent disturbance to these resources during potential cleanup operations.

One bald eagle and two river otters were observed on this subdivision.

List of Common Species from CH010-B

A. Marine Plants

1. Diatoms. Blue Greens
2. Green Algae - Chlorophyta
Enteromorpha sp., *Ulva* sp., *Urospora* sp., filamentous green
3. Brown Algae - Phaeophyta
Agarum fimbriatum, *Ectocarpus* spp., *Fucus distichus*, *Hildenbrandia* sp., *Ralfsia* sp., *Syctosiphon lomentaria*
4. Red Algae - Rhodophyta
Calliarthron sp., *Corallina* sp., *Cryptosiphonia woodii*, *Cumagloia andersonii*, *Halosaccion glandiforme*, *Iridaea* sp., *Lithothamnion* sp., *Mastocarpus* sp., *Membranoptera dimorpha*, *Odonthalia floccosa*, *Palmaria palmata*, *Rhodomela larix*, filamentous red algae

5. Higher Plants - *Zostera marina* (eel grass), *Leymus mollis* (beach rye grass)

CH010-B Biological Report - Continued

II. Marine Animals

1. Sponges - Porifera
Halichondria sp.
2. Anemones
Anthopleura artemesia, *A. elegantissima*, *Epiactis Ritteri*, *Metridium senile*,
Urticina crassicornis,
3. Hydroids - Sertularidae - *Sertularella*?
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms -
Emplectonema gracile, *Tubulanus polymorphus*
8. Polychaetes
Glyceridae
Nephtyidae
Nereidae - *Nereis* spp.
Serpulidae
Serpula sp., *Crucigera* sp., *Eudistylia polymorpha*
Spriorbidae - *Spirorbis* sp.
9. Peanut worms - Sipunculids - *Phascolosoma agassizii*
10. Crustaceans
 - a. Amphipods - *Orchestia* sp.?
 - b. Barnacles
Balanus glandula, *Chthamalus dalli*, *Semibalanus cariosus*
 - c. Crabs
Haplogaster sp., *Hemigrapsus oregonensis*, Paguridae (hermit crabs),
Oregonia gracilis,
11. Mollusca
 - a. Chitons
Mopalia mucosa, *Tonicella lineata*,
 - b. Snails - Gastropods
Littorina scutulata, *L. sitkana*, *Margarites* sp., *Natica clausa*, *Nucella lamellosa*, *N. lima*,
 - c. Limpets
Acmaea mitra, *Lottia digitalis*, *L. persona*, *Tectura fenestrata*
 - e. Mussels and Clams
Clinocardium sp., *C. nuttalli*, *Macoma balthica*, *Macoma nasuta*, *Modiolus* sp., *Mya arenaria* (soft-shell clam), *Mytilus californianus*, *M. cepio*,
Prototheca staminea, *Saxidomus giganteus*,
12. Echinoderms
 - a. Brittle Stars - *Ophiolus* sp., ?
 - b. Sea stars
Dermasterias imbricata, *Evasterias truscheli*, *Leptasterias hexactis*,
Pycnopoda helianthoides, *Solaster* sp.
 - c. Sea Cucumbers - Holothurians - *Leptosynapta* sp.
 - d. Urchins - *Strongylocentrotus droebachiensis*
13. Bryozoans - *Membranipora* sp., *Schizoporella* sp.
15. Fishes
Cottidae - several unknown species
Liparidae
Liparis callyodon
Stichaeidae - *Xiphister atropurpureus*, *X. mucosus*

BIO SKETCH MAP

CH 010 - B

1 MAY 91

⊗ Bedrock

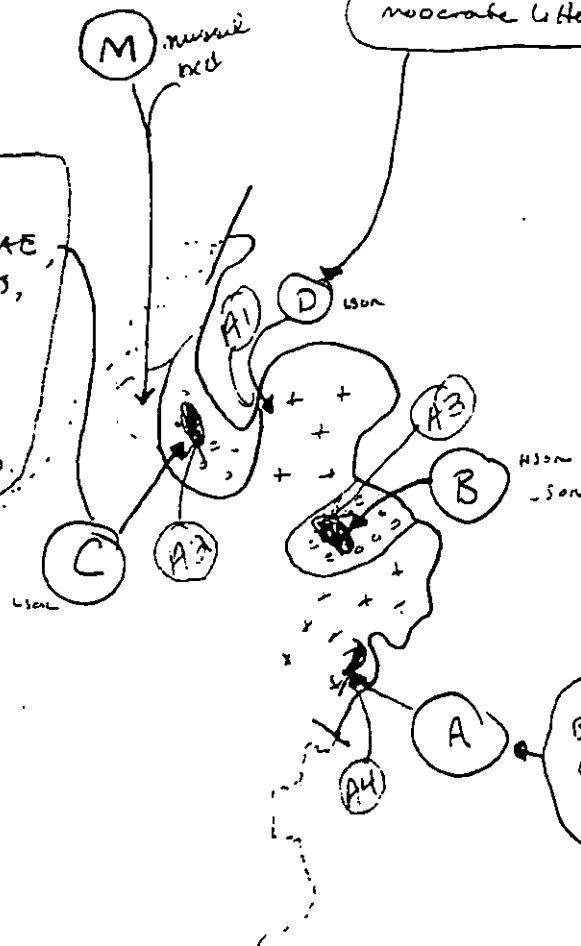
□ Cobble/Pebble Beach

Moderate Fucus, HIGH COVER OF FILAMENTOUS ALGAE, SCATTERED CLAMS, BARNACLES, MODERATE MUSSEL DENSITIES. MUSSEL BED CONSOLIDATES BEACH SEDIMENTS. ADULTS JUVENILES AND/OR EGGS OF MOST SPECIES ARE COMMON. EEL GRASS / CLAM BED IN LOW / SUBTIDAL ZONES

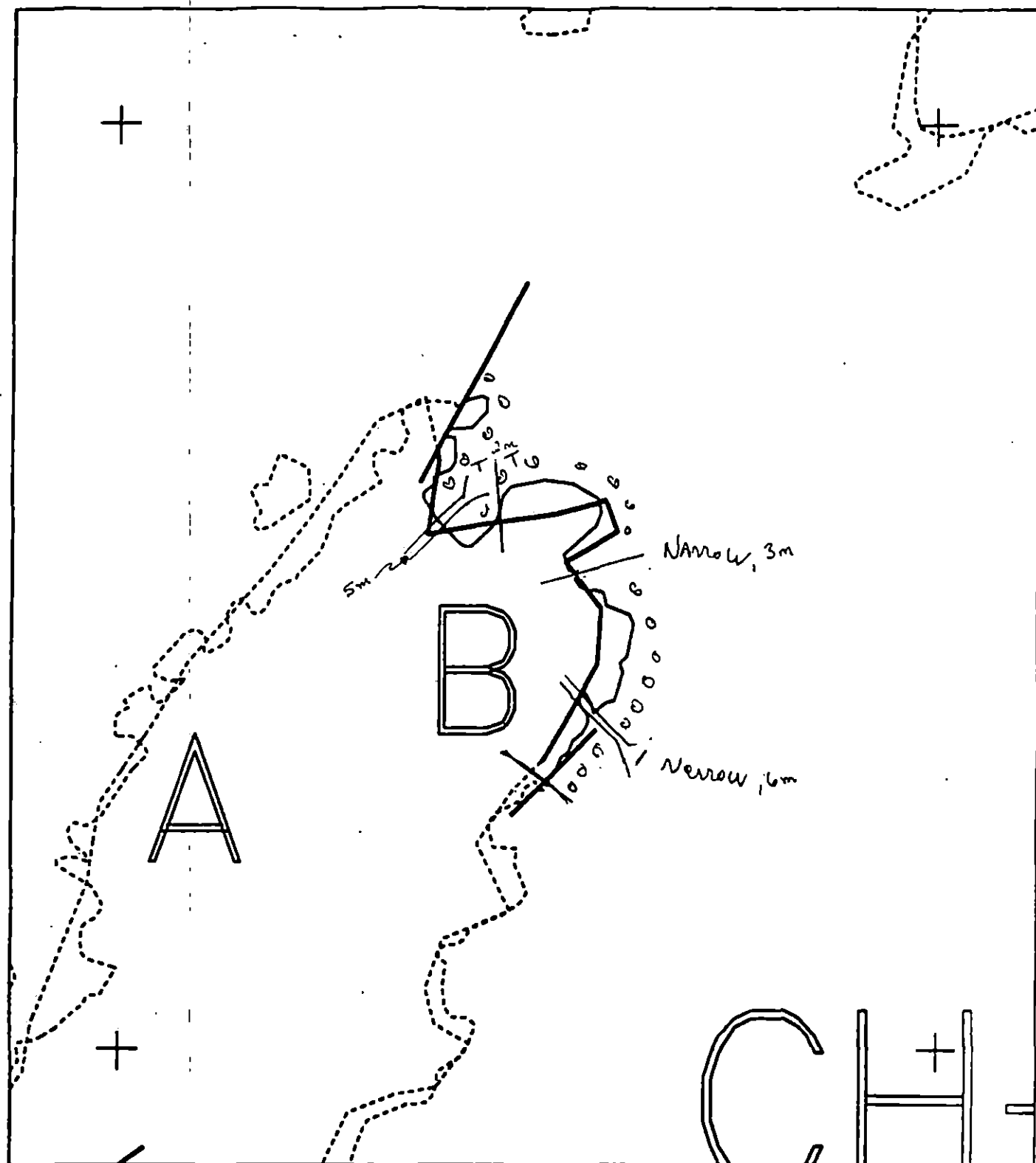
BLACK LICHEN
SPARSE BARNACLES
OCCASIONAL FUCUS
MODERATE LITERINES / Limpets

⊕ Bedrock

□ Angular cobble over sd/md



BLACK LICHEN, SPARSE BEACH GRASS. Angular cobble beach - LITTLE BIOTA



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

CH010 B
 ADEC Subsegment Length: 423m
 METERS
 0 100 200
 AK State Plane Zone 4
 pch010b



Subdivision Field Map
 Map Key: PWSCH010B
 Name: J. Sempels
 Date: MAY 1, 91
 Date Entered:

reviewed 5.4 74
 5/12

1991 MAYSAP EVALUATION

SEGMENT: CH 010 SUB: A REGION: PWS SURVEY DATE: 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) Eagle nest,
Fish Harvest area, Subsistence - Deer harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

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

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.

TEAM NO. A SEGMENT C4010 SUBDIVISION A DATE 1 MAY 1991

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson☒ NTR ☐ Treatment Recommended

Tarballs and tar patties observed were removed.

Coats, stains and SOR remain.

EXXON

NAME LARRY D. OLSON SIGNATURE Larry D. Olson☒ NTR removed what was found on the beach. No further clean up as area appeared healthy and clean.

LANDMANAGER

NAME LARRY EVANOFF OF CVC SIGNATURE ME SN☒ NTR ☐ TREATMENT RECOMMENDEDTAR BALLS/PATTIES WERE FOUND AND ~~AT~~ WERE PICKED UP. STAINS REMAIN ON ROCK FACE AND UNDERNEATH ROCKS.

USCG/NOAA

NAME TERRY SCHULTZ SIGNATURE Terry Schultz☒ NTR

REMOVED WHAT WAS RECOVERABLE. NO FURTHER INTRUSION NECESSARY

REVIEWED: F.W. 5/5/91

Og Sketch Map.

CH010-A

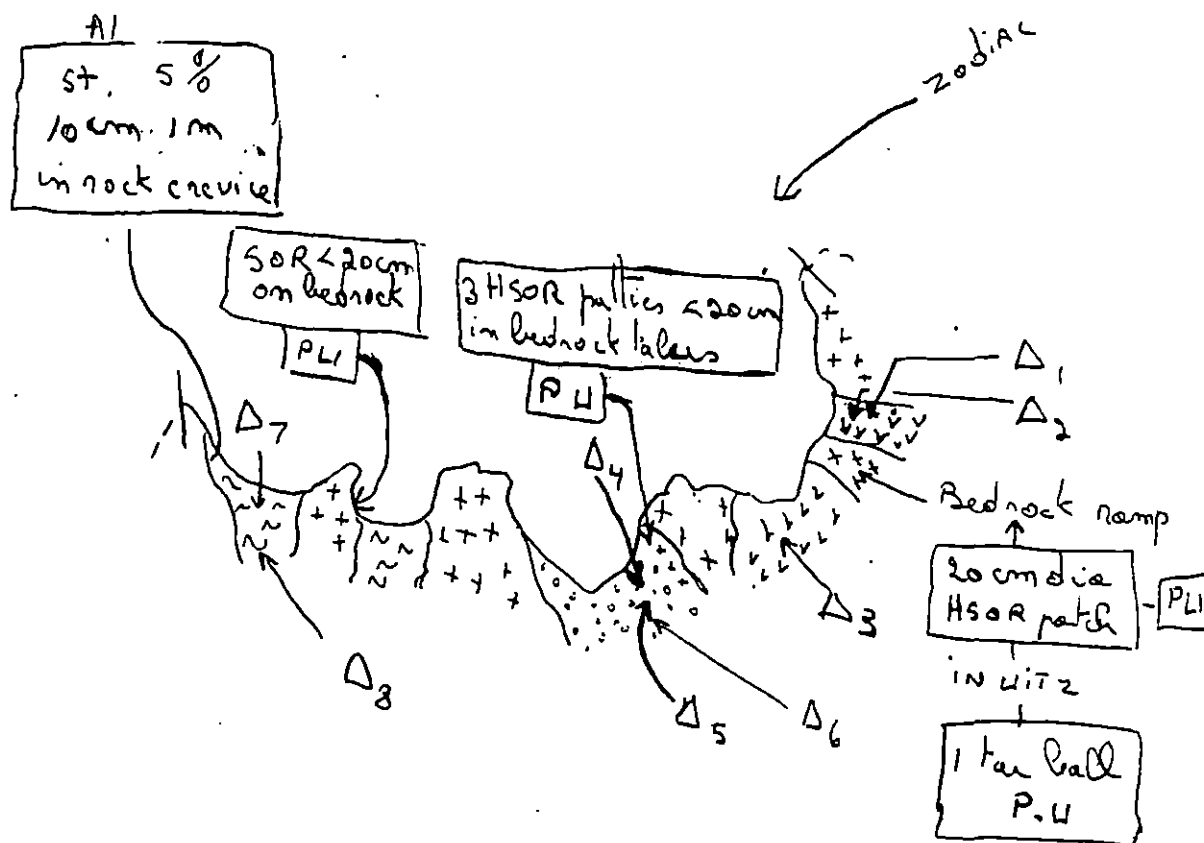
LM Samples

MAY 91

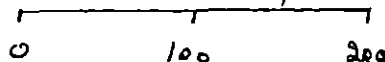
0700 - 1900

Legend

- [+] Bedrock/talus
- [o] Pb. well sorted
- [v] Pb/cb.
- [N] Pb/sd



METERS



MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #	4	DATE/TIME	May 1, 1991 0655 - 0742
SEGMENT #	CH010	TIDAL HEIGHT (Range)	+4.5 => +1.0
SUBDIVISION	A	BIOLOGIST	JIM BARRY
STATE	Calif	WIND SPEED/DIRECTION	Variable 5 kt., cloudy

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

pu Oiled site (HSOR) located at high zone drift line. This is a bedrock ramp and cobble beach site. Biota are black lichen, and little else. Below the site, there is dense Fucus, dense littorines, high barnacles densities (Balanus adults spat), and sparse mussels cover (adults and juveniles).

MANUAL PICKUP PERFORMED DURING SURVEY. Additional cleaning will not impact nearby biota, provided care is taken to prevent impacts to exposed headland in lower zone.

pu Oil (HSOR patties) located in high intertidal on the border of a cobble beach with adjacent bedrock outcrops. The oiled site biota are sparse to moderate barnacles, sparse Fucus and turf-like red algae, littorines, and limpets. The adjacent boulders have moderate cover of Fucus. The cobble beach has little biota attached. Lower on the beach barnacle densities are greater on cobble.

MANUAL PICKUP PERFORMED DURING SURVEY. Additional cleanup will have few, if any, negative impacts to intertidal biota.

AI Oiled site (SOR/ST) is a bedrock face in the upper intertidal with black lichen, Fucus drift algae, and little else. The headland below has a richer Fucus-dominated community.

MANUAL PICKUP PERFORMED DURING SURVEY. Additional cleanup, if necessary, can consist of manual pickup of oil patches with no impact to the site.

WILDLIFE OBSERVATIONS - Completed on all subdivisions

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

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters		River Otter	1
Pinnipeds (specify)			
Whales (specify)			

Coreline subdivision map showing important biological features attached.

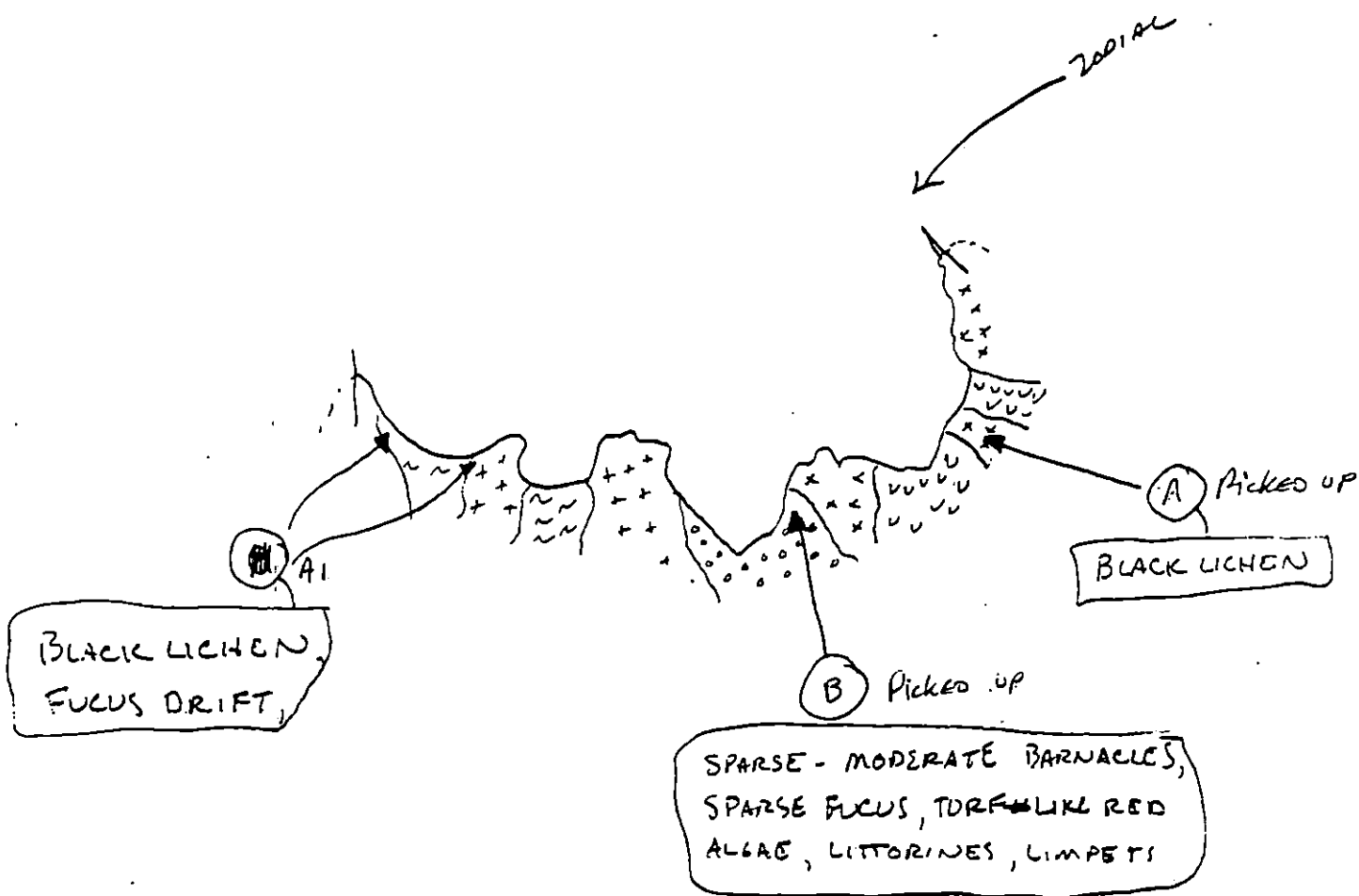
Reviewed MB 5/4/91

BIO SKETCH MAP CHOIO-A

1 MAY 91

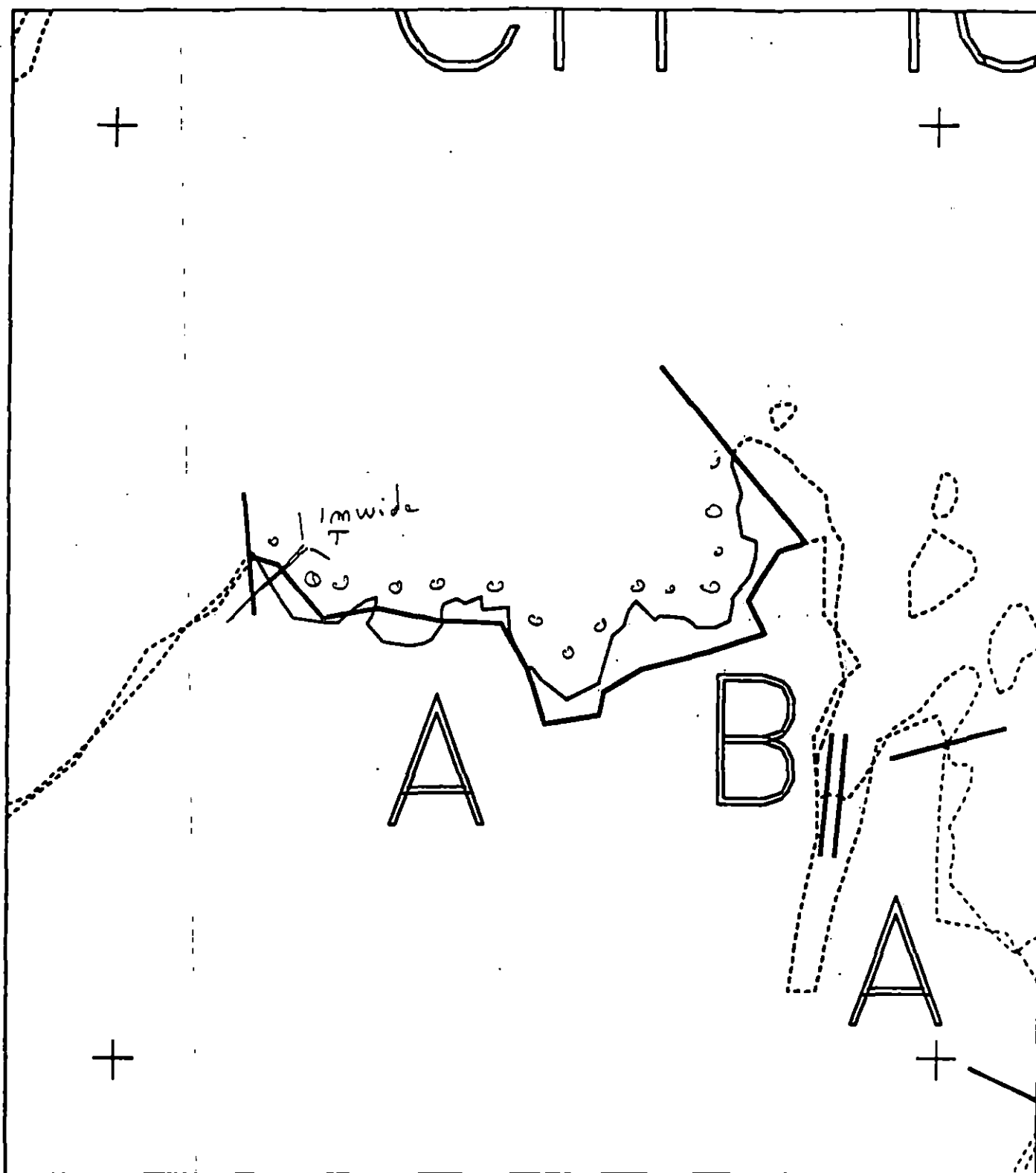
CHOIO-A

P/6



- + Bedrock / Talus
- o Well Sorted Pebbles
- v Pebbles / Cobble
- x Pebbles / Sand

Reviewed in B 5/4/91



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

CH010 A
 ADEC Subsegment Length: 545m
 METERS
 0 100 200
 AK State Plane Zone 4
 940100



Subdivision Field Map
 Map Key: PWSCH010A
 Name: J. M. Smith
 Date: MAY 1 / 91
 Date Entered:

Reviewed 5.4 7;
 REVIEWED: F.W. 5/5/91

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

[Signature]

Date

6/16/90

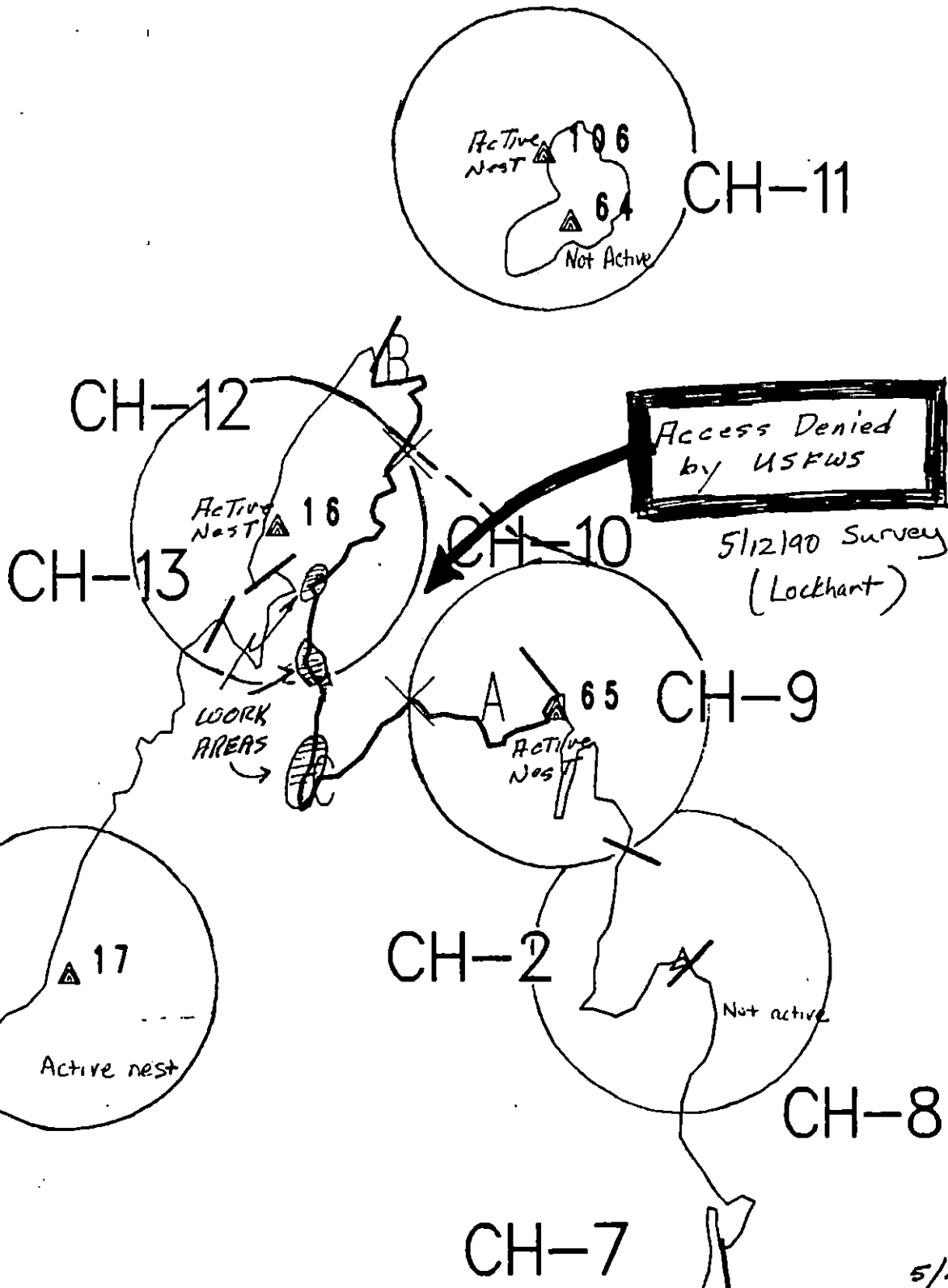
Prepared by

[Signature]

Date

6/14/90

Interpolates data from
USFWS bald eagle nest
survey map 6/1/90.



5/12/90 Survey
(Lockhart)

5/28 JP



Exxon Company, USA

Map Key: PMS-CH-10

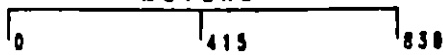
May 11 1990

ECOLOGY MAP 5/28

SEGMENT CH-10

SUBDIVISION C (3 of 3)

METERS



- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1362 feet

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)
30,3Q 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.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles H. Jones 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. SEE CONSTRAINTS ADDENDUM dated 6/4/90

TAG COMMENTS: MANUAL REMOVAL RECOMMENDED DUE TO RICH INTERIOR BIOTA AND COMMENT OF THE FIELD PERSONNEL NO BIOREMEDIATION.

TAG APPROVAL DATE: 4/25/90

ADEC ART LEMER
EXXON ANDY TALL
AA Joseph Talkitt
TG KENNETH KANE

FOSC: M L DATE: 5-9-90
A Cve Rep to be present

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 uncoiled biota and substrate. Eagle nest in Subdivision A. Do not trample or otherwise disturb mussel beds.

ARCHAEOLOGICAL CONSTRAINTS:

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

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 pinneped 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 WEINER Art Weiner

EXXON KWYTER Real

NOAA Joseph J. Talbot Jr. [Signature]

USCG KENNETH KEANE [Signature]

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

cvc Rep to be present →

3 D. LITTLE

SKETCH MAP

SEGMENT ST/ CH-010

SUBDIVISION A

DATE 1/2/90

CHECKLIST

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

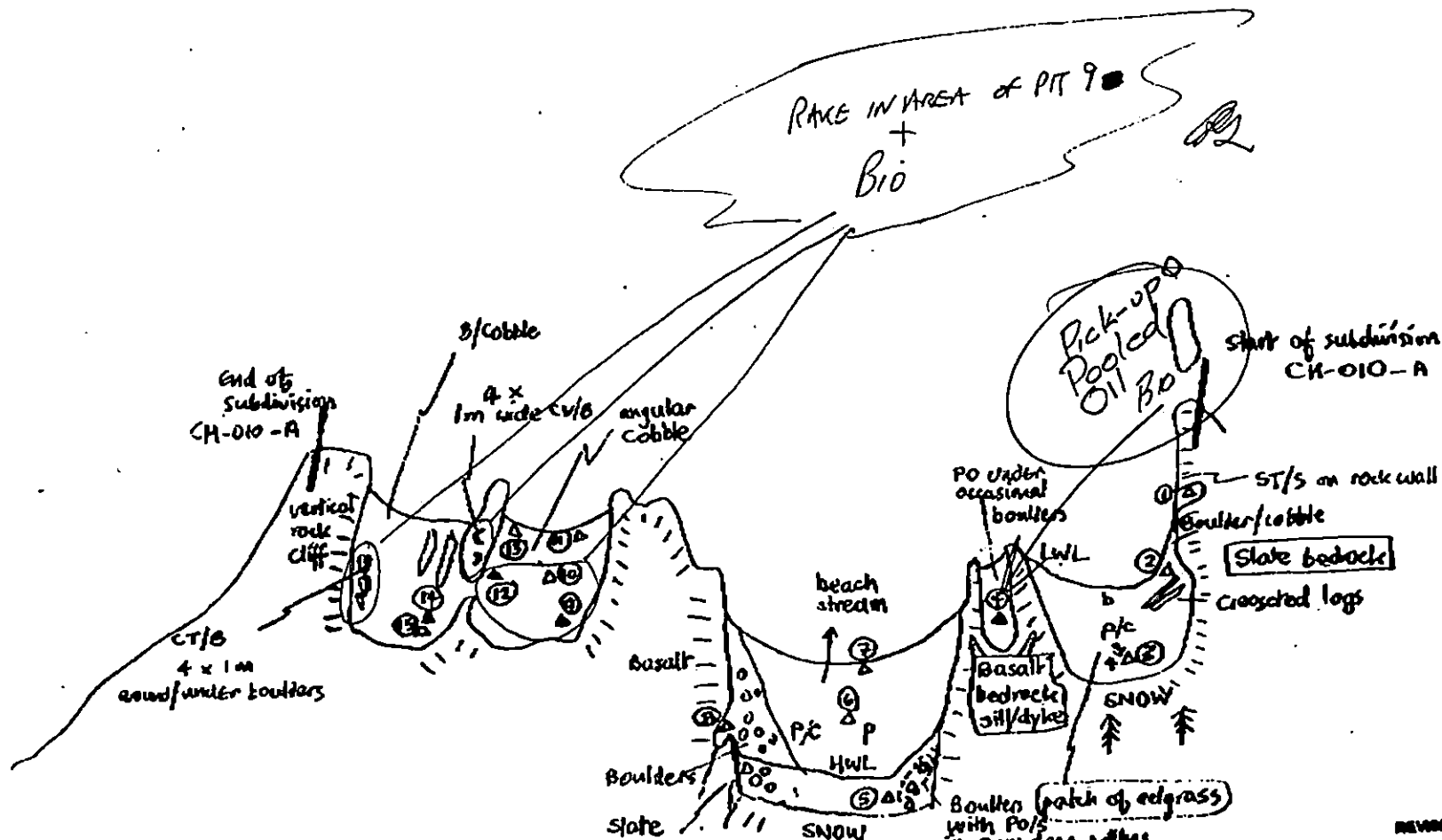
CT/S

Splashed Distribution

Oil on Vegetation

1 →

Photo location, direction, and number
only one photo taken.

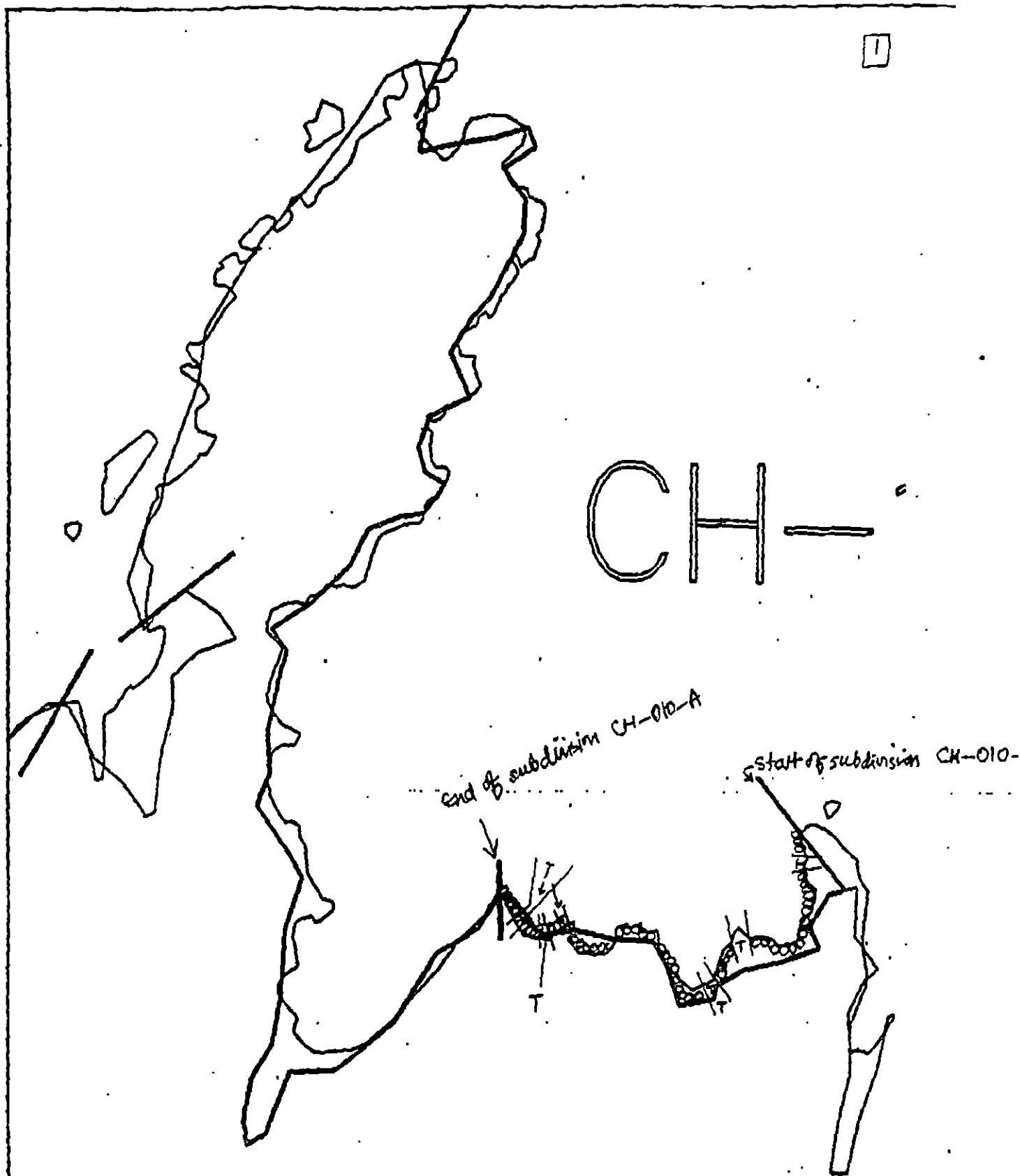


Oil Character Length (m): AP — PO 3 CV 4 CT 4 ST 2 MS — PT — TB — FL — NO 630

REVISION: 03/04/90

18

APR-03 1990 10:32 FROM CORROU TO SCOT TEH 2.13



CH-

end of subdivision CH-010-A

start of subdivision CH-010-

XXXX Wide

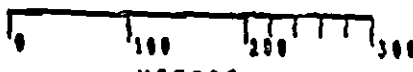
//// Medium

--- Narrow

TTTT Very Light

CH-10-A

ADEC Segment Length: 2545m

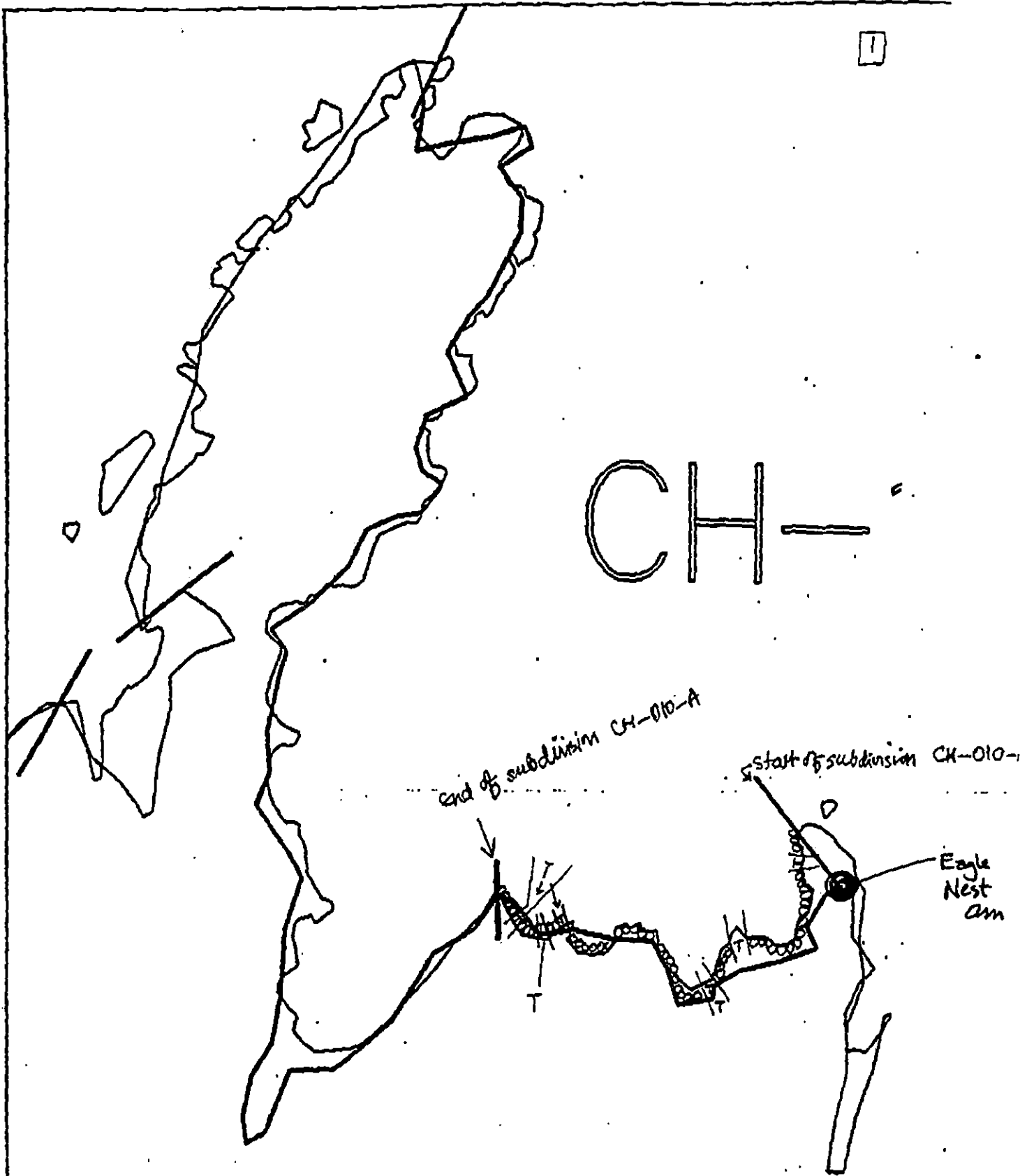


Map Key: PKS-36a

Name: D. LITTLE

Date: 4/2/90

Date Entered:



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

CH-10-A

ADEC Segment Length: 2545m



Map Key: PKS-36a

Name: D. LITTLE

Date: 4/2/90

Date Entered:

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)
30,3Q 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.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: [Signature] DATE: 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:

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

COMMENTS: Recommended treatment includes 1) manual pick up of 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 POOLED OIL + PATTIES, OILED DEBRIS + TRASH
AND ASPHALT PRIOR TO BIO AS INDICATED ON SKETCH

TAG APPROVAL DATE: 4/25/90

ADEC Art Weiner

EXXON Andy Tarr

NOAA Joseph Talar

USCG Kenneth Keene

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

CVE Rep to be present

OG D.L.

SEGMENT ST/ CH-010-B

SUBDIVISION B

DATE 04/05/90

CHECKLIST

- ☒ H Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Body
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HML/LML
- ☒ SSL
- ☒ Profile Location(s) (idealized!)
- ☒ Profile(s)
- ☒ Pit Location(s)
- ☒ Photo Location(s)
- ☒ separate sketch

LEGEND

① Δ

Pit - No Subsurface Oil

② Δ

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

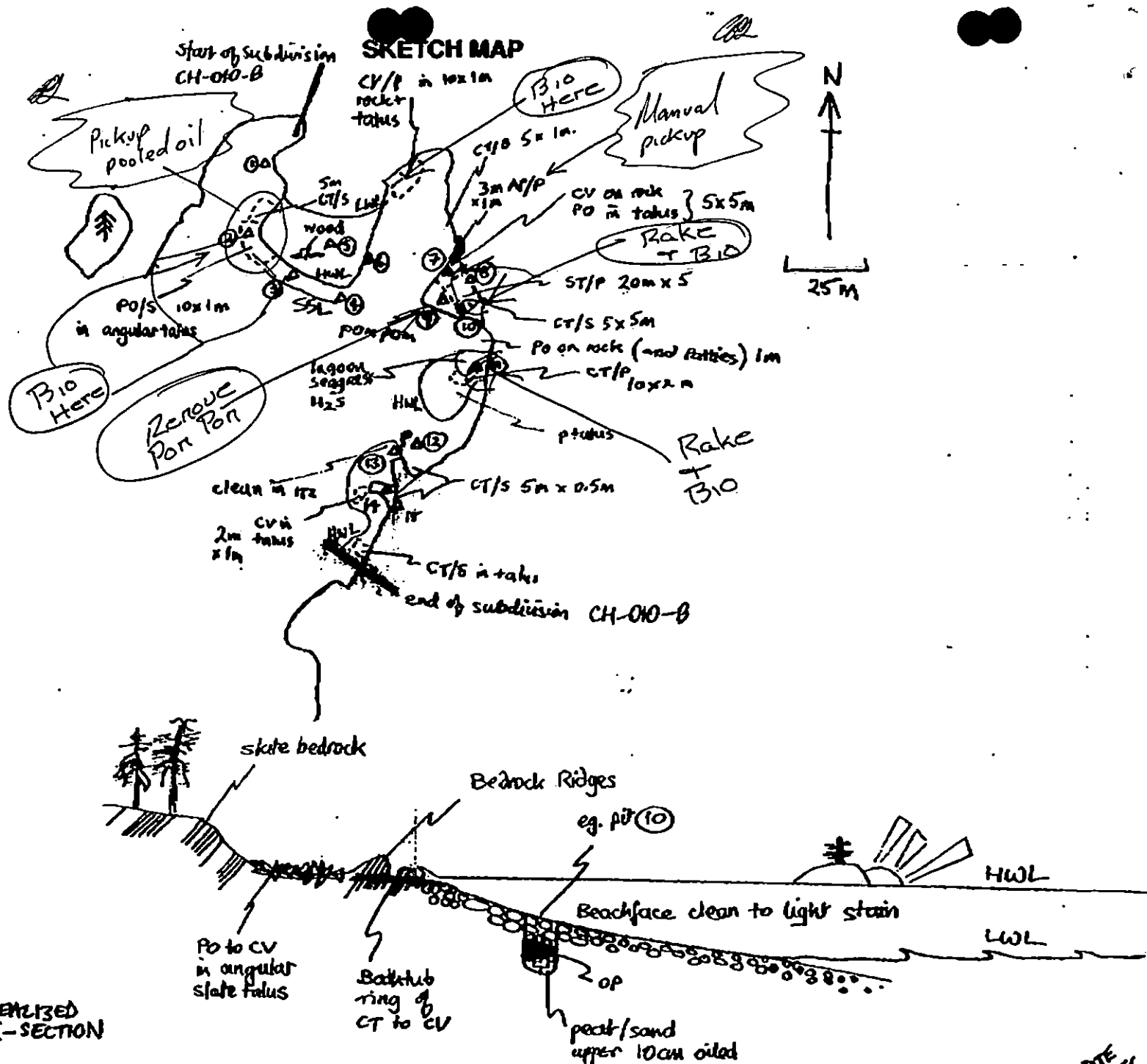
Patchy Distribution

CT/S

Splashed Distribution

Oiled Vegetation

Photo location, direction, and number



Oil Character Length (m): AP 3 PO 12.5 CV 14.5 CT 40 ST 20 MS - PT 1m TB - FL - NO ~400

REVISION: 02/24/90

PTE
AGEC

OG D. LITTLE

SEGMENT 57 CH-010-B

SUBDIVISION B

DATE 04/05/90

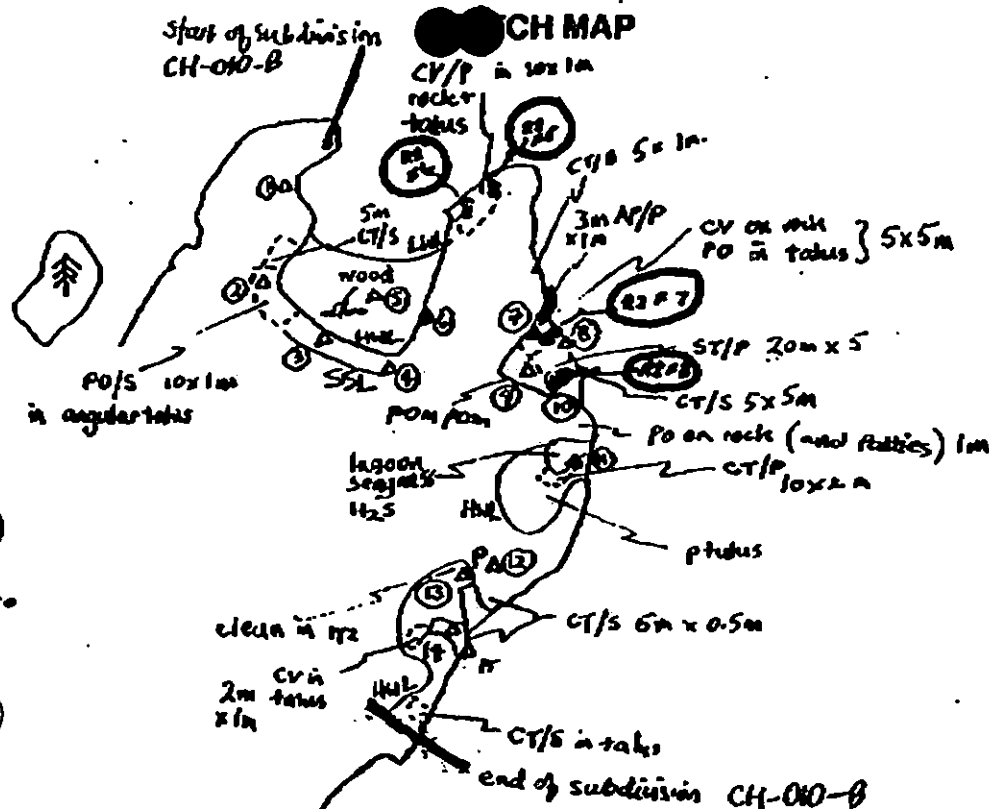
CHECKLIST

- ☒ N Area
- ☒ Approx. Scale
- ☒ Seg/Sub Body
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HWL/LWL
- ☒ SSL
- ☒ Profile Location(s) (idealized!)
- ☒ Profile(s)
- ☒ P/L Location(s)
- ☒ Photo Location(s)
- ☒ separate sketch

LEGEND

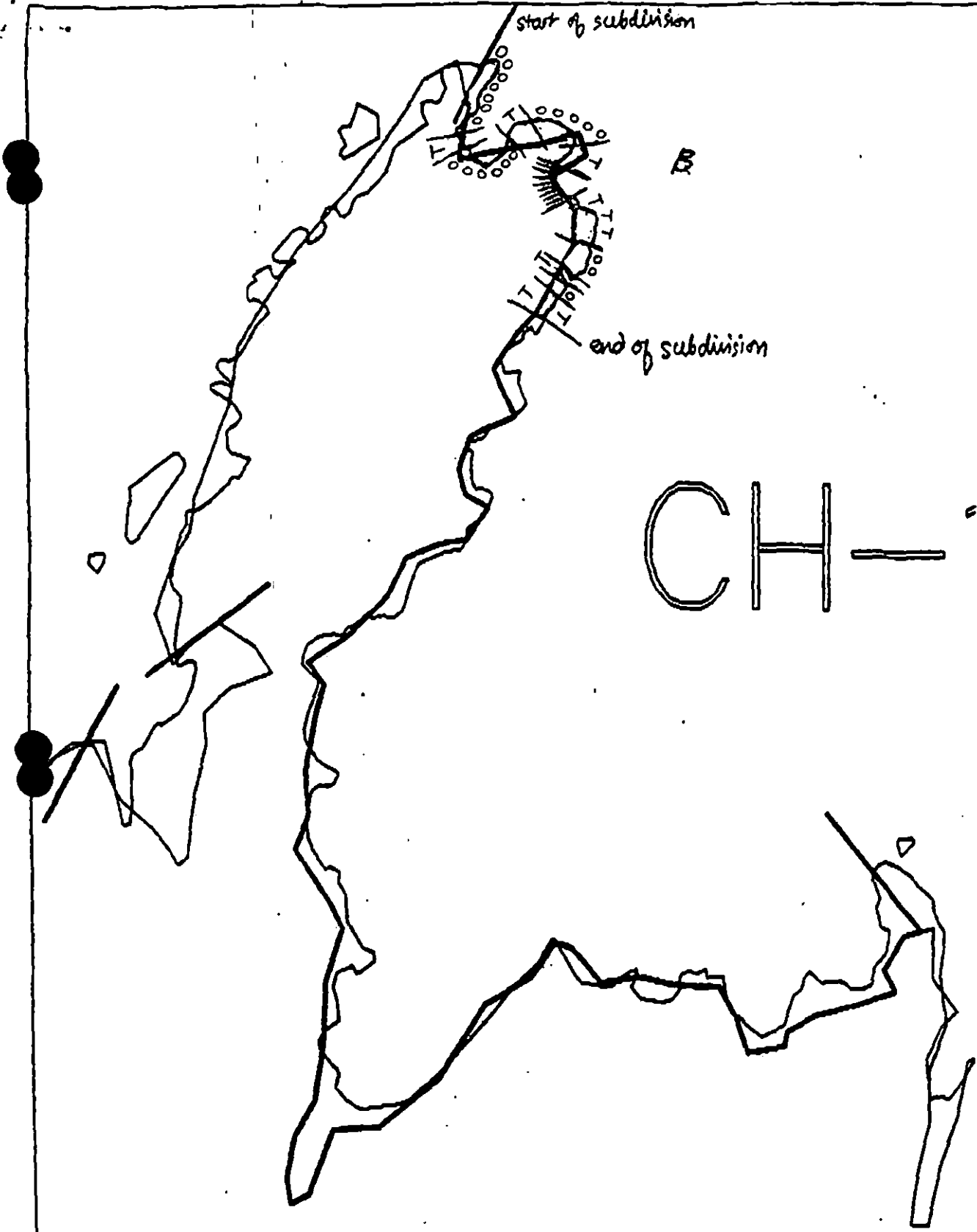
- ① Δ
- PA - No Subsurface Oil
- ③ Δ
- PA - Subsurface Oil
- CT/C
- Continuous Distribution
- CT/B
- Broken Distribution
- CT/P
- Patchy Distribution
- CT/S
- Splashed Distribution
- Oiled Vegetation
- Photo location, direction, and number

IDEALIZED
X-SECTION



Oil Character Length (m): AP 3 PO 12.5 CV 14.5 CT 40 ST 20 MS - PT 1m TB - FL - NO ~ 100

REVISION 2/20/90



CH-

start of subdivision

end of subdivision

ATE
ADEC

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.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles H. Jones 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 INTERTIDAL BIOTA AND COMMENT OF THE FIELD PERSONNEL NO BIOREMEDIATION.

TAG APPROVAL DATE: 4/25/90

ADEC ART WERNER
EXXON ANDY GEAR
NOAA Joseph T. Burt
USCG KENNETH KEANE

FOSC: ML DATE: 5-9-90
A Cve Rep to be present

OG N. D. 1000R

SEGMENT ST/ CH-DID-C

SUBDIVISION C

DATE 4/8/90

CHECKLIST

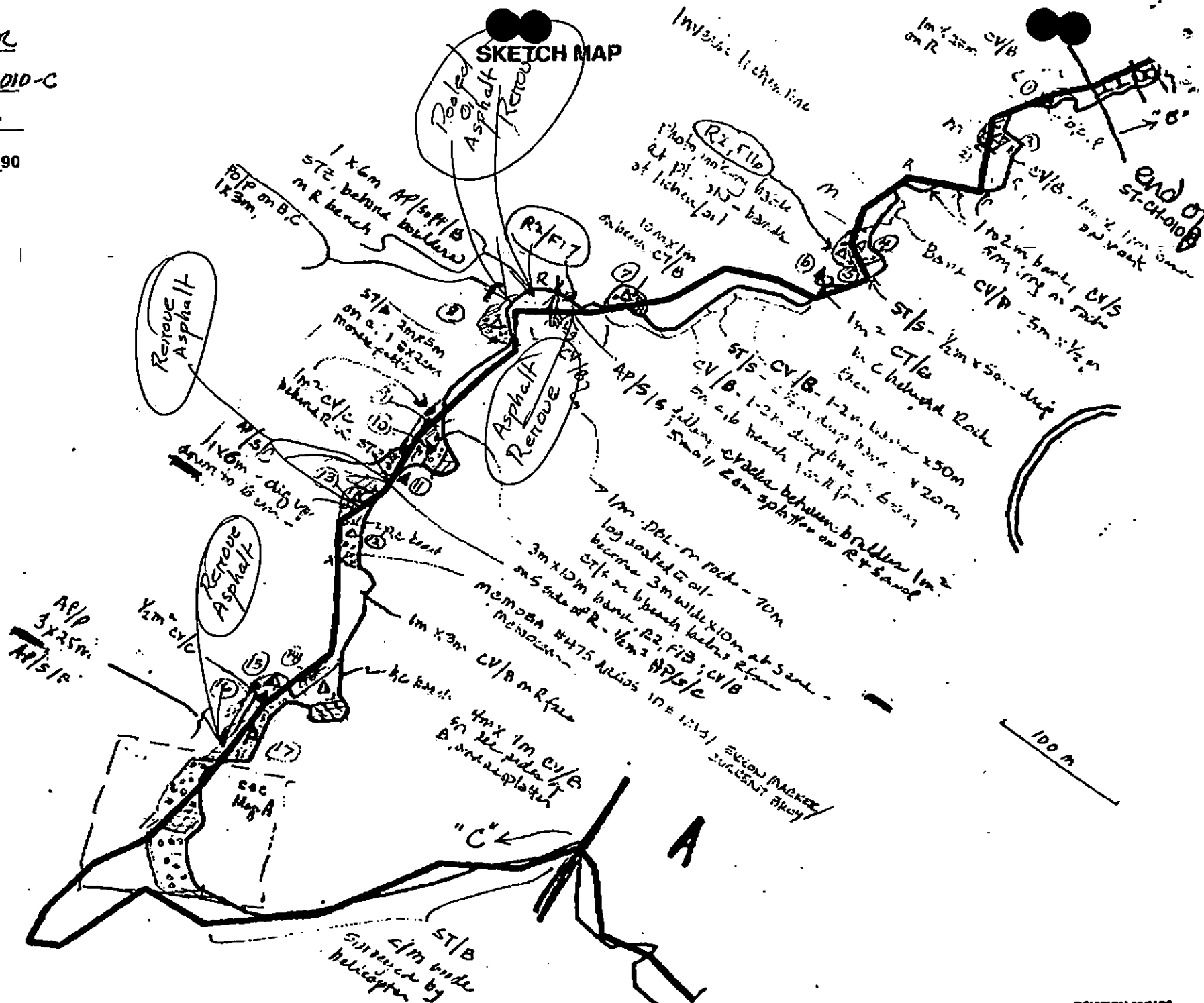
- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Bndry
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HML/LWL
- ☒ SST
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ Pli Location(s)
- ☒ Photo Location(s)

LEGEND

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

AMEC
RTE

SKETCH MAP



Oil Character Length (m): AP 45 PO 3 CV 230 CT 25 ST 417 MS 0 PT 0 TB 0 FL 0 NO 925

REVISION: 03/24/90

OG N. Biggs
 SEGMENT STI CH-010
 SUBDIVISION C
 DATE 4/7/90

SKETCH MAP

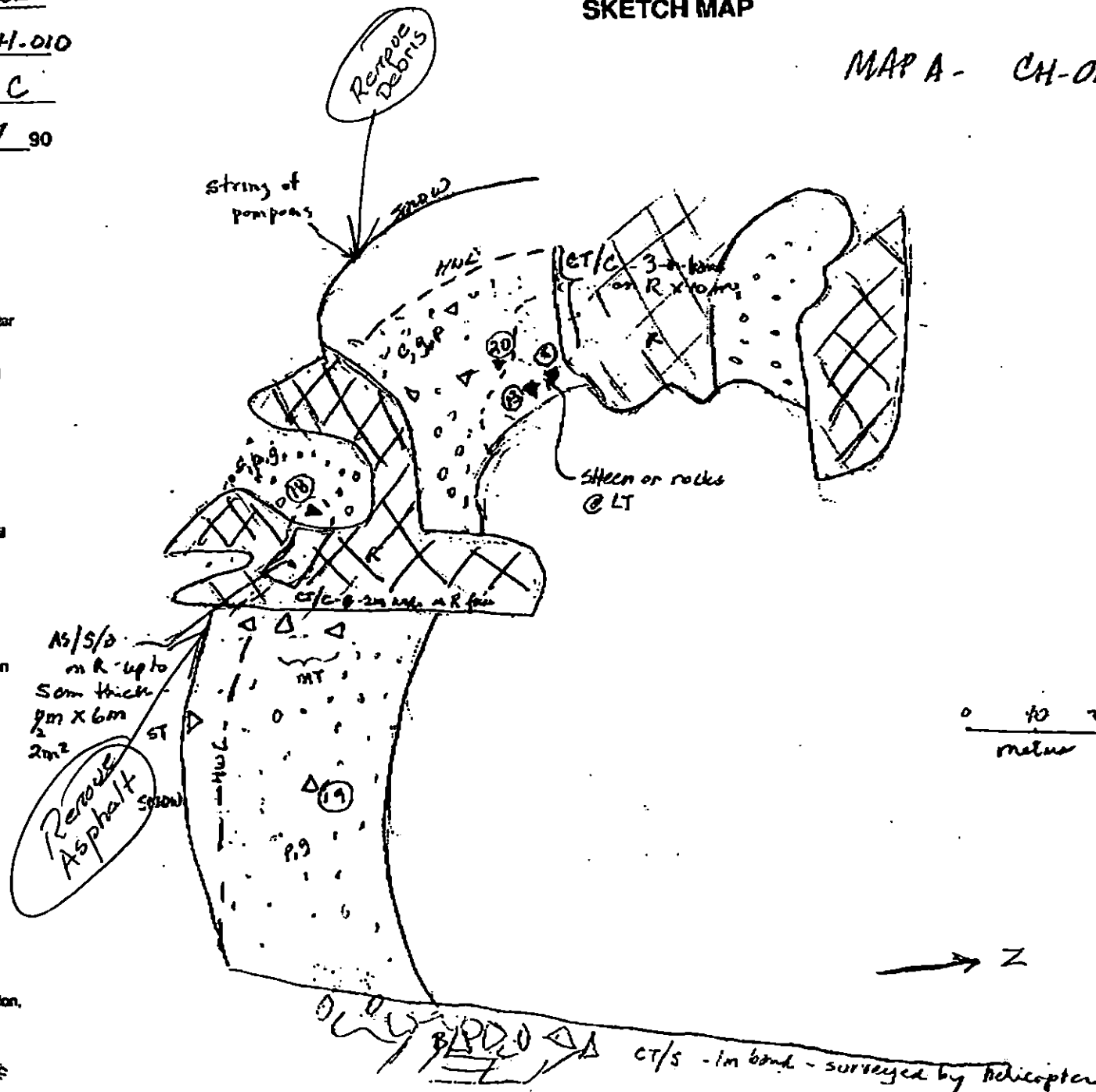
MAP A - CH-010-C

CHECKLIST

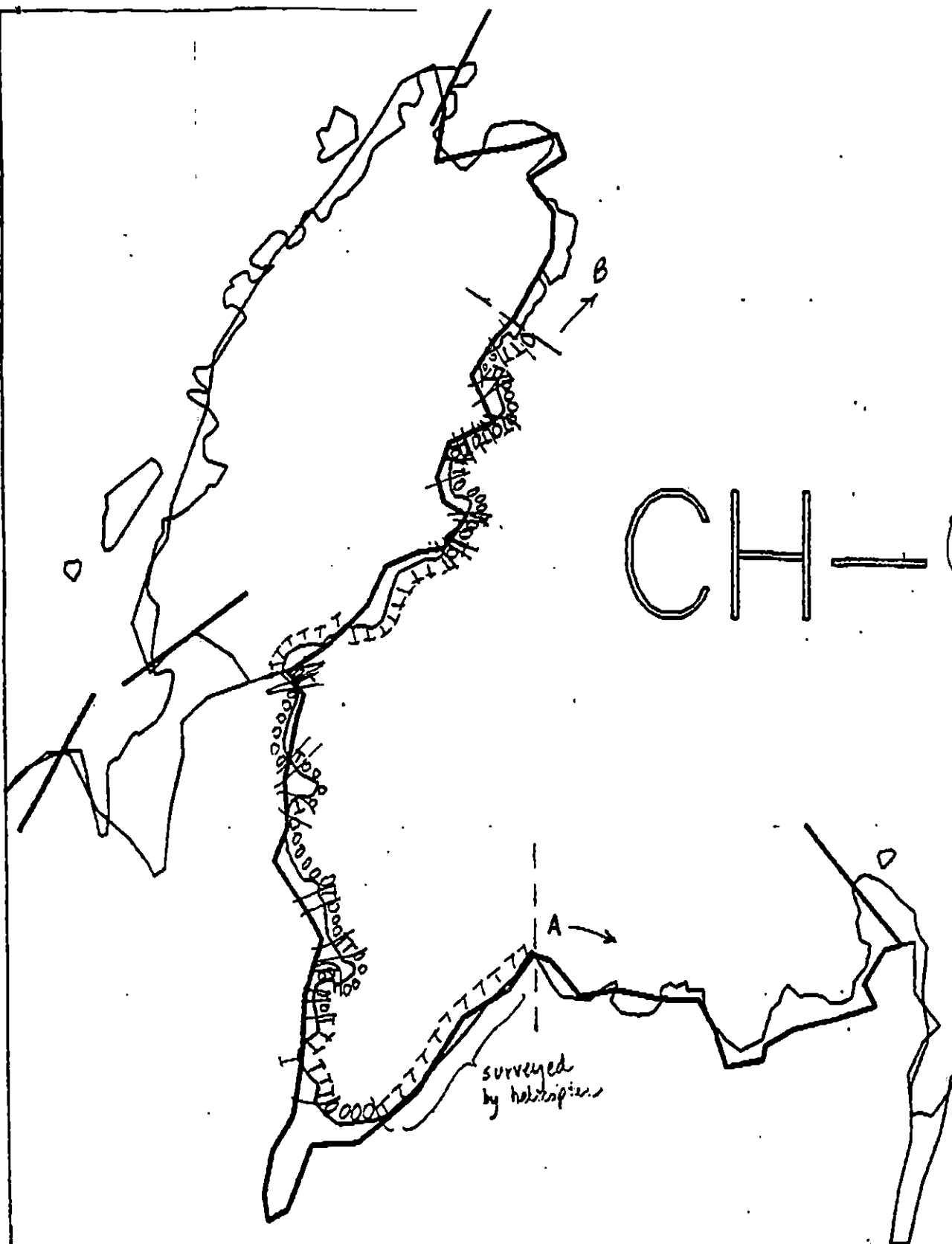
- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Bndry
- ☒ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HML/LWL
- ☒ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pli Location(s)
- ☐ Photo Location(s)

LEGEND

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



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



CH-010-C

surveyed
by helicopterADEC
RTE

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

CH-10

ADEC Segment Length: 2545m



Map Key: PWS-36a

Name: N. BiggerDate: 4/8/90

Date Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/CH-10

SUBDIVISIONS: C (3 OF 3)

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.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 8 m: V.Light 766 m: No Oil 804 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 15 cm

RECOMMENDATIONS:

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

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
 1D Esther Hatchery release (4/15 to 6/1)
 1E Main Bay Hatchery release (4/20 to 5/10)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 1I Gill net area (6/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (6/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- ~~3N, 3P~~
~~3O, 3Q~~ Harbor seal and sea lion pupping (5/15 to 7/1)
 Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic.
- ~~6T~~ All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- ~~6U~~ Recreation: Tent sites (6/1 to 9/15)
~~6V~~ Anchorages (6/1 to 9/15)
 6W Forest Service cabins (6/1 to 9/15)
 6X Lodge (6/1 to 9/15)
~~6Y~~ Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 7HH Finfish harvesting
~~7I~~ Deer harvesting (8/15 to 2/28)
 7JJ Invertebrate harvesting
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CH-010 SUBDIVISION: 6 DATE 4-7-90**USCG**NAME Kerwin L. Droher SIGNATURE K. L. Droher☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Manual pick up of oiled sediments. Trowel splatter from larger boulder faces.
Do not recommend bioremediation.

ADECNAME 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 occurs it is possible to avoid much of the mid and low inter-tidal zones.

LAND MANAGERNAME LARRY M. EVANOFF SIGNATURE L. M. Evanoff☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

RECOMMEND MANUAL PICK-UP, TILING AND WASHING IN SELECTED AREAS.
TROWEL / SCRAPE AS MUCH OIL FROM ROCK FACES AND CRACKS. Pom Pom
NEEDS TO BE PICKED UP. NO BIOREMEDIATION.

SHORELINE OILING SUMMARY

REVISION NO. 032290

OG N. Bignone USCG K. Dechen SEGMENT ST/ CH-010
 BIO K. J. Cooper LAND REP L. Erenoff -CVC SUBDIVISION C
 EXXON G. Stiles ADEC P. Endrege TIME 15:30 to 18:05
 TEAM NO.: 14 TIDE LEVEL: 5.0 to 0.5 DATE 4/17 190 4/8
 EST. SUBDIVISION LENGTH: 1645 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow 7-7:30 PM
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 10 % 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 712 m NO 925 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	IC	IB	IP	IS	BR	BL	GR	GY	BL	TR	LR	LR	SU	U	M	U
ASPHALT PAVEMENT	X	X				X	X							X		
POOLED			X			X								X		
COVER	X	X		X		X								X		
COAT	X	X				X							X	X		
STAIN				X		X								X		
MOUSSE	X									X			X	X		
PATTIES																
TARBALLS																
FILM																
NO OIL													X	X	X	X

PAVEMENT: H F (S) 56 sq. m by 5-6 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

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

DEBRIS COLLECTED
☐ YES ☒ NOTYPE /
#BAGS /Photographs: port pom's
Exxon current buoyRoll No. 2Frames 16, 17

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	BR	BL	GR	GY	BL	TR	LR	LR	SU	U	M	U		
1	10					X	-		X											X			C, P
2	15					X	-		X										X				P, G
3	18					X	-		X											X			P, G
4	18					X	-		X											X			P, G
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 rk pt. of med. segment and at the S end of the segment. In vicinity of pit (20) there was a phen 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. Pocket beach on South end is very protected. Remainder of segment receives low to moderate wave action. Extreme eastern part of segment is a boulder / talus beach and was

SHORELINE OILING SUMMARY (PAGE 2 of 2)

REVISION 03/22/90

SEGMENT ST/ CH-010 SUBDIVISION C

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR							PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UD	SP-GR	OR-GR	FW	OL	SL	TL	LR	SU	U	ME	LI		
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 peat
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 peat

COMMENTS

surveyed by helicopter only. * Sheen on H₂O in pit

REVIEWED

JW

DATE

4/13/90

ADEC
PTE

SHORELINE ECOLOGICAL SUMMARY

1 of 3

REVISION: 03/22/80

Segment ST/CH010 Subdivision C Date (mo/day/yr) 04.06.90
04.07.90

Time (24 hr) 1855-1913 Biologist LA Coates
(7th) 1537 1805

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

(B) Overall % cover of biota (% of segment): Dense 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
1L	1U	1M	1L
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

Dense	Moderate	Sparse	Rare
1U	1M	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: 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; sea otter 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

2 of 3.

Segment: STCHO10 Subdivision: C Date: 04.06.90 Time: 1855-1913
 Biologist: KA Coates 04.07.90 1537-1805

Notes:

1. Surveyed from northwest to southeast - beginning at boundary of STCHO10 Subdiv. B. Includes 3 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.
- 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 Endocladia 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
ADEL

3 of 3.

Segment: STCH010 Subdivision: C Date: 04.06.90 1955-1913
04.07.90 1537-1905
Biologist: KA Coates

Notes (cont'd)

5. (cont'd) under cobble throughout same area. Fucus, spaghetti brown, sparse at low water; Palmeria, Polysiphonia 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.

ADEL
PTE

OG N. B. [redacted]

SEGMENT ST/CH-010-C

SUBDIVISION C

DATE 4/8/90

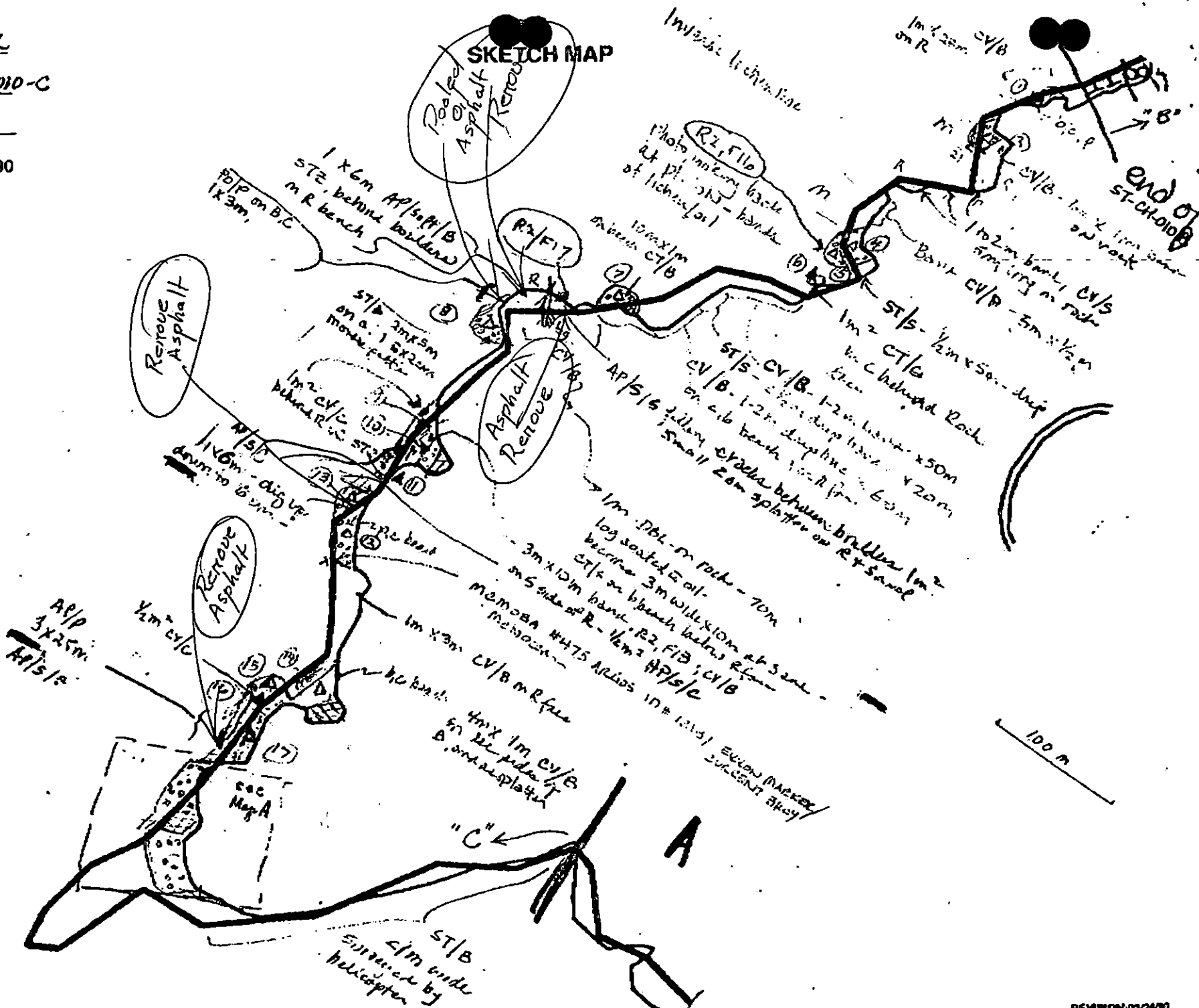
CHECKLIST

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

LEGEND

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

SKETCH MAP



OG N. Big

SEGMENT STI CH-010

SUBDIVISION C

DATE 4/7/90

CHECKLIST

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

LEGEND

1 ▲

Pit - No Subsurface Oil

2 ▲

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashod Distribution

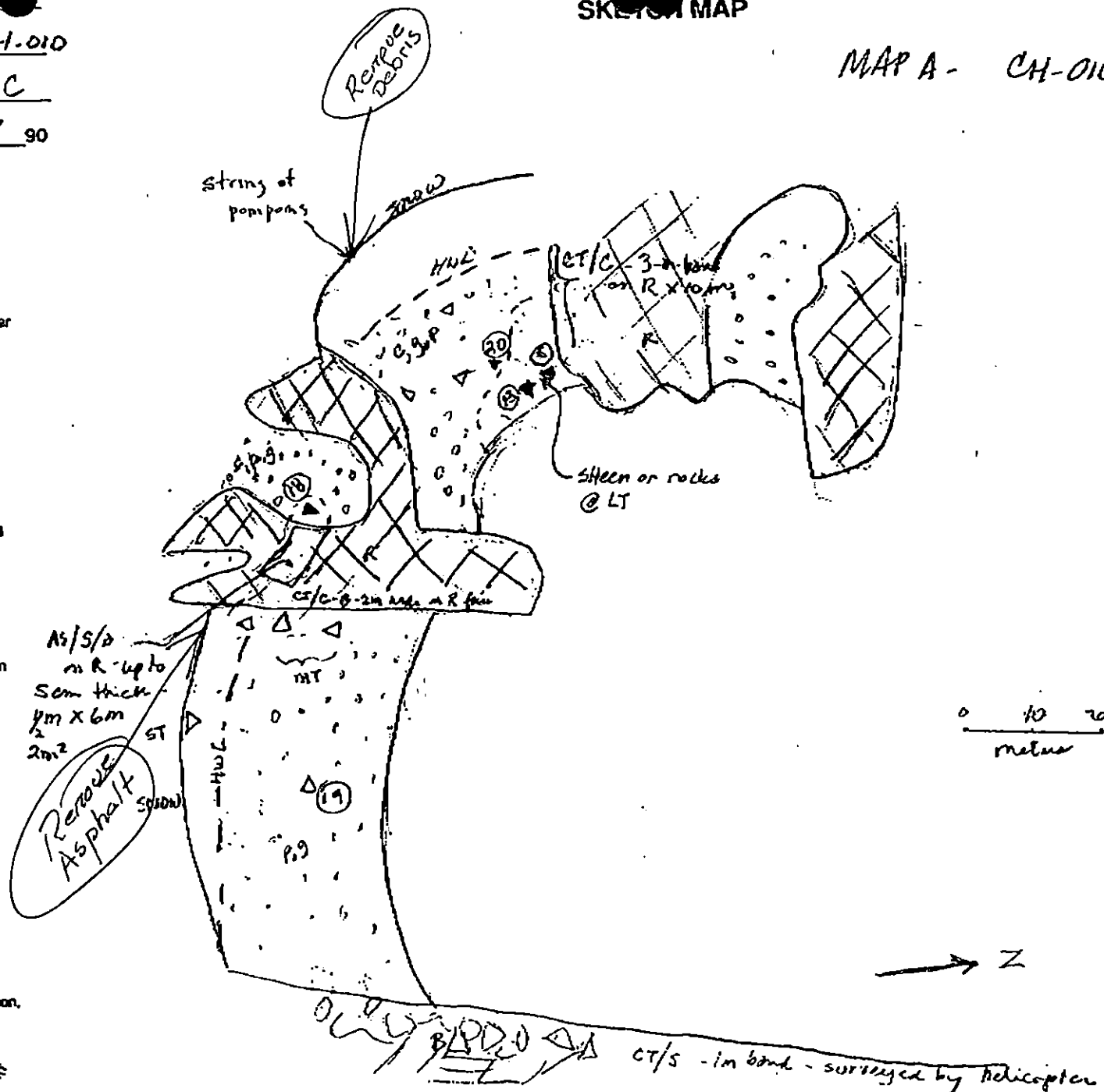
Oiled Vegetation

1 →

Photo location, direction, and number

SKETCH MAP

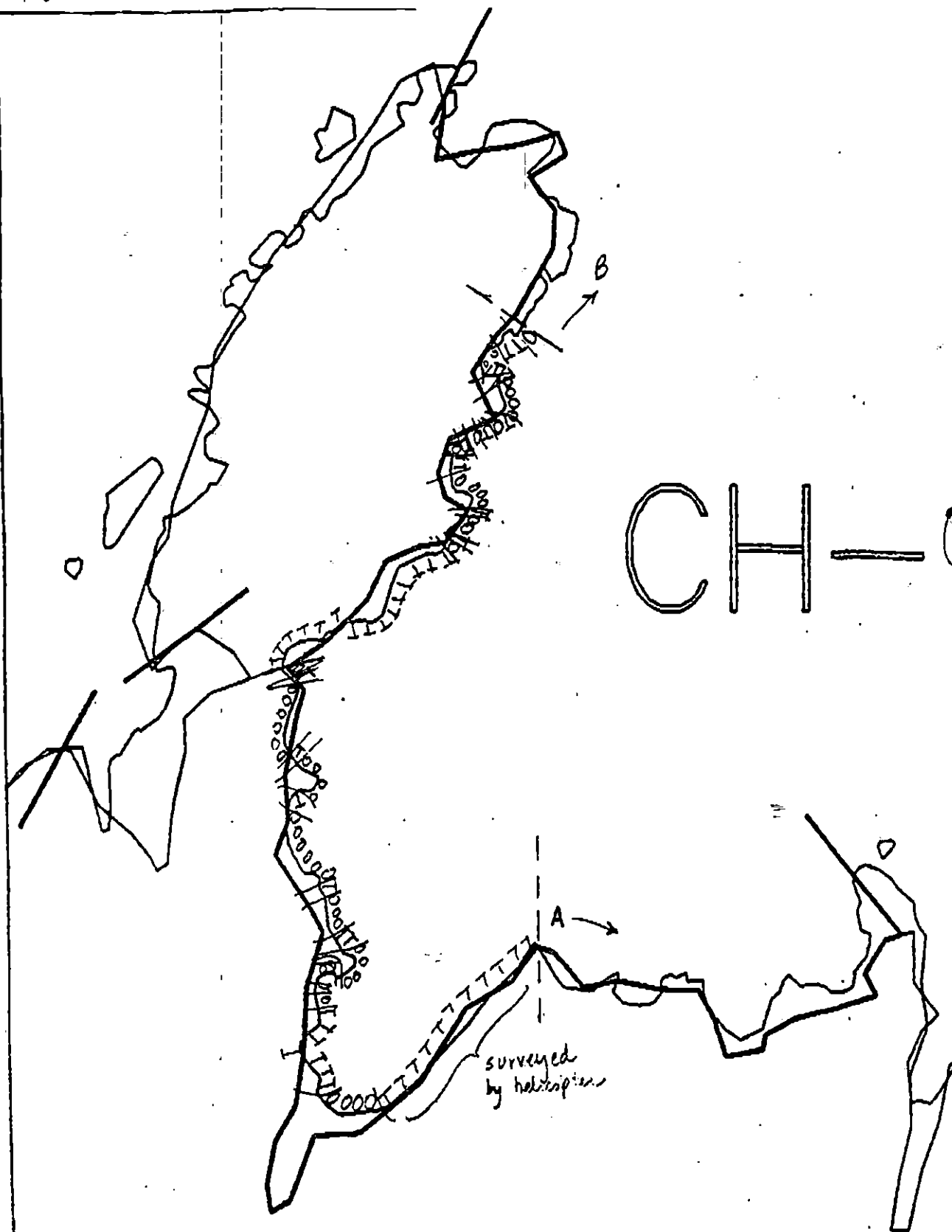
MAP A - CH-010-C



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

REVISION: 03/24/90

HR-05-1930 15:53 FROM HURIGH TO EMON SCHR P.05



CH-10-C

surveyed
by helicopterADEC
RTE

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

CH-10

ADEC Segment Length: 2545m

0 100 200 300
 METERS

Map Key: PWS-36a

Name: N. BiggsDate: 4/8/90

Data 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 Mearns
EXXON Andy Teal
NOAA Joseph J. J. J.
USCG GA. HELLER

FOSC

Date

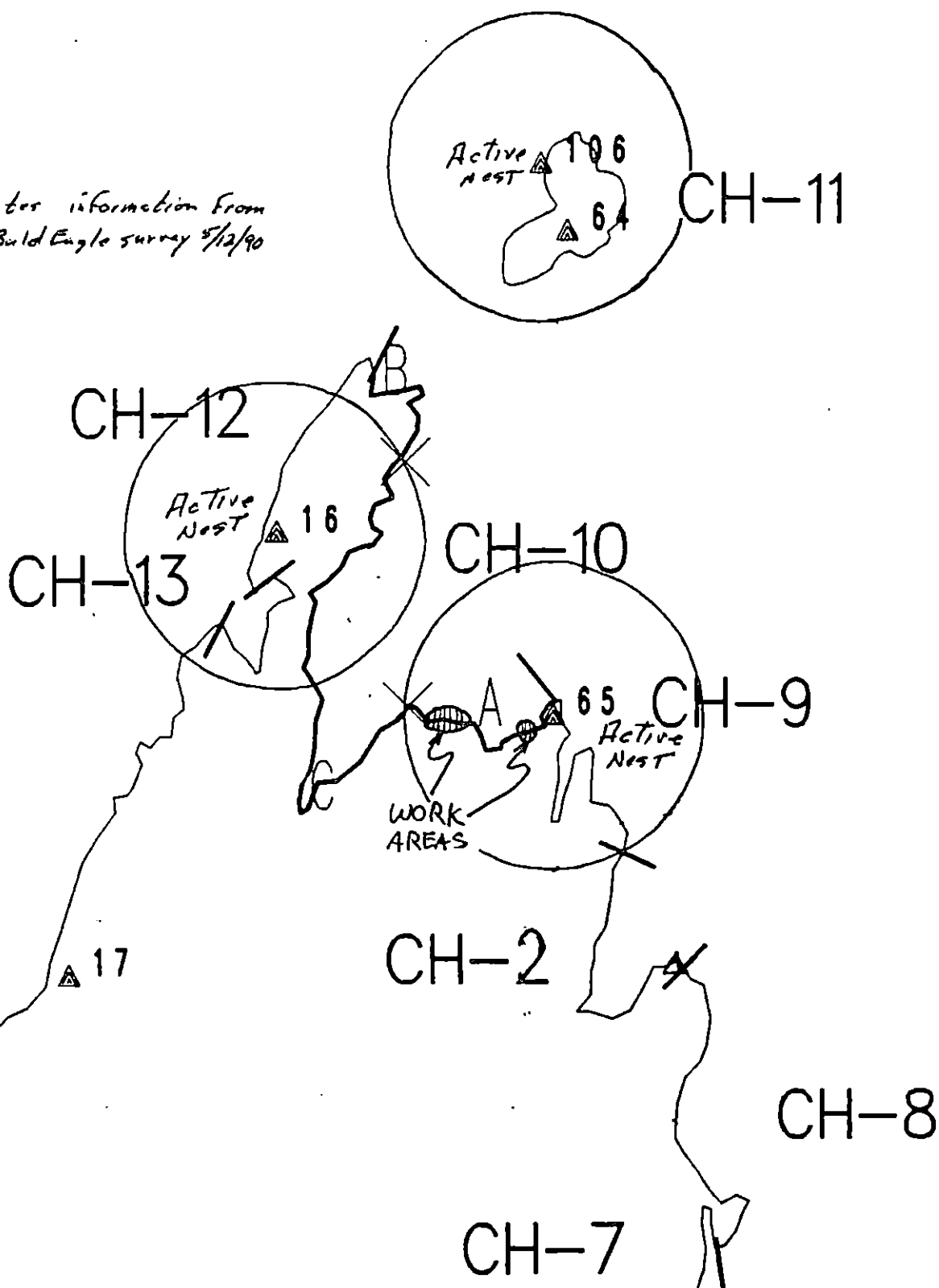
6/4/90

Prepared by

Date

6/3/90

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

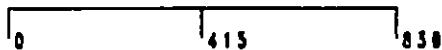


Exxon Company, USA
Map Key: PWS-CH-10
May 11, 1990

ECOLOGY MAP 5/28 SEGMENT CH-10

SUBDIVISION A (1 of 3)

METERS



- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1362 feet

SHORELINE EVALUATION

SEGMENT ST/ CH-10 SUBDIVISION A (1 OF 3) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

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

SPILLING 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:

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

COMMENTS: Recommend 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. See Addendum dated 6/3/90 JPD

TAG COMMENTS: RAKE PRIOR TO BIO IN AREA OF PIT 9

TAG APPROVAL DATE: 4/25/90

ADEC ART WEINER [Signature]

EXXON [Signature] [Signature]

NOAA Joseph Tallent [Signature]

USCG KENNETH KEANE [Signature]

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

cvc Rep to be present -

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CH-10 SUBDIVISION B (2 of 3)

WORK WINDOW	
Manual Pickup Tarnat Removal	OPEN
Bioremediation	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	No constraint to manual pickup and tarnat removal. Closed to bioremediation after 7/20.
3N,O 3P,Q	Harbor Seal & Sea Lion Pupping & Molting	NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.
5T	Bald Eagle Nest	NO CONSTRAINT. Eagle nest in adjacent Segment CH-12 is more than 400m from recommended treatment area.
7II	Subsistence: Deer Harvesting	No constraint to manual pickup and tarnat removal. Closed to bioremediation after 8/15.

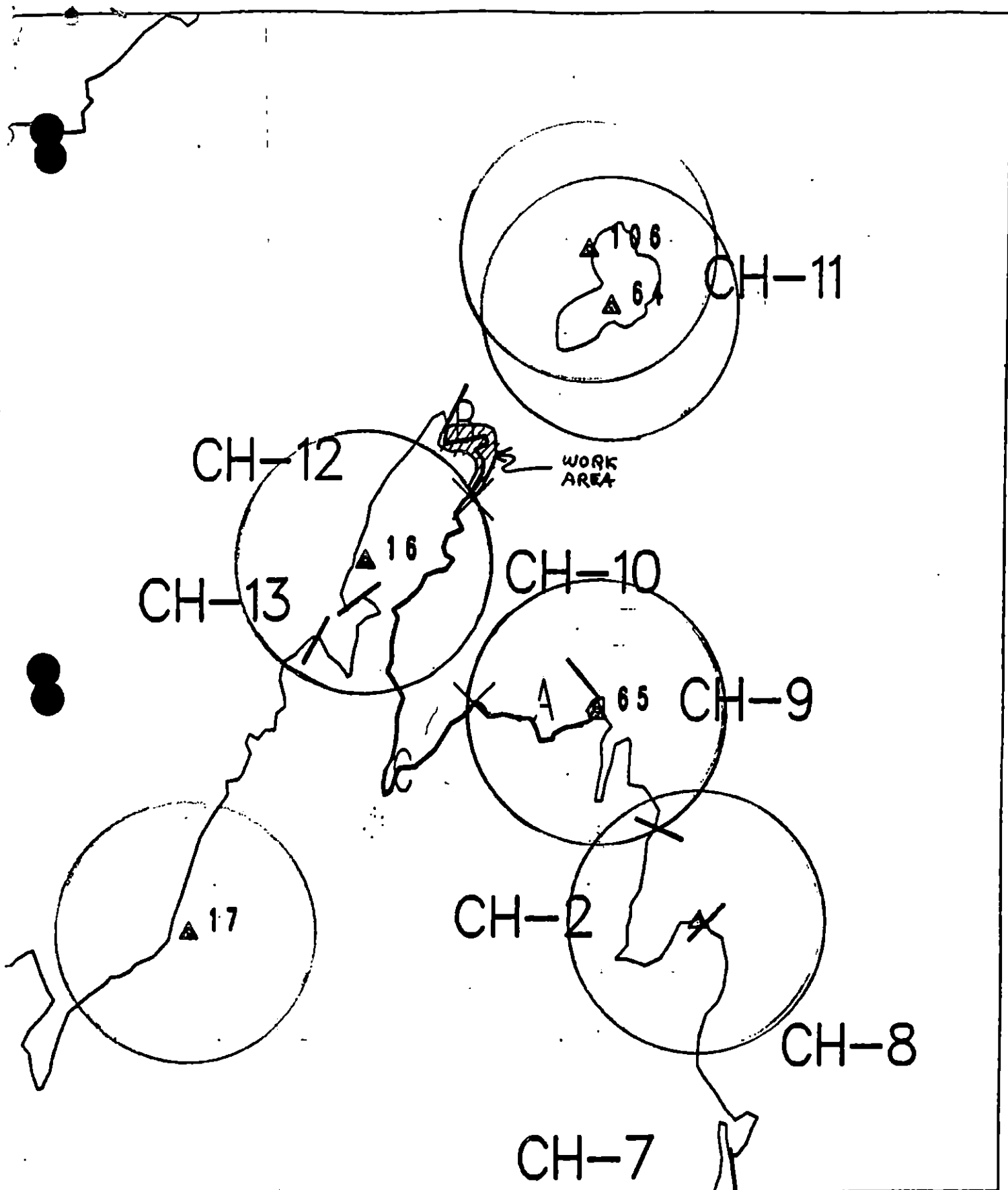
OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic to essential minimum after 7/20. 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 beach disturbance to essential minimum after 8/15. When working on or near haulouts, complete the job as quickly as possible with minimum personnel, equipment, noise and disturbance. Keep boats and personnel as far from actual haulouts as is practical to do the work specified. Minimize air traffic near haulouts, maintain elevation as is practical, and avoid repeated overflights of the same haulout areas. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

TAG APPROVAL DATE 5/24/90
ADEC Art Wenzel
EXXON ANDY GAZ
NOAA Burt Wes. off
USCG M. J. Hall

FOSC ML Date 5-24-90

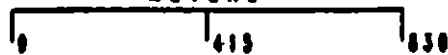
Prepared by Anders Meyer Date 5/22/90



Kon Company, USA
Map Key: PMS-CH-10
May 11, 1990

ECOLOGY MAP SEGMENT CH-10 SUBDIVISION B (2 of 3)

METERS



- ★ 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 unoiled biota and substrate. Eagle nest in Subdivision A.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: [Signature] DATE: 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:

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

COMMENTS: Recommended treatment includes 1) manual pick up of 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.

SEE CONSTRAINT ADDENDUM DATED 5/22/90 WPK

TAG COMMENTS: MANUAL PICKUP OF POOLED OIL + PATTIES, OILED DEBRIS + TRASH
AND ASPHALT PRIOR TO BIO AS INDICATED ON SKETCH

TAG APPROVAL DATE: 4/25/90

ADEC ART WEINER
EXXON ANDY TER
NOAA Joseph Tallant
USCG KENNETH KENNEDY

FOSC: [Signature]

DATE: 5-2-90

CVE Rep to be present-

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/CH-10

SUBDIVISIONS: A (1 OF 3)

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.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 99 m: No Oil 459 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 8 cm

RECOMMENDATIONS:

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

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
 1D Esther Hatchery release (4/15 to 6/1)
 1E Main Bay Hatchery release (4/20 to 5/10)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 1I Gill net area (6/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (6/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (6/1 to 9/15)
 6V Anchorages (6/1 to 9/15)
 6W Forest Service cabins (6/1 to 9/15)
 6X Lodge (6/1 to 9/15)
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 7HH Finfish harvesting
 7II Deer harvesting (8/15 to 2/28)
 7JJ Invertebrate harvesting
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

21

7

SEGMENT ST / CH-010 SUBDIVISION: A DATE 02 APR 90

USCG

NAME Kerwin L. Dreher SIGNATURE cwoz K.L. Dreher

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Trowelling of small amount of pooled oil at base of protective boulders.

ADEC

NAME Patrick Endres SIGNATURE Patrick J. Endres

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

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
COMMENTS

☐ TREATMENT SUGGESTED

Land manager
unfit for duty.

SHORELINE OILING SUMMARY

REVISION NO. 02/22/88

G D. LITTLE USCG K. BREMER SEGMENT ST/ CH-010 2
 IO K. COATES LAND REP SUBDIVISION A 1043
 EXXON G. STILES ADEC P. ENDEES TIME 13:30 10:15:45
 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 25 % Hang 35 % Vert 10 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W ϕ m M ϕ m N ϕ 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	6	7	8	SU	U	M	U
ASPHALT PAVEMENT																
POOLED				X					X					X		
COVER		X				X								X		
COAT		X				X								X		
STAIN				X		X								X		
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL													S		X	X

PAVEMENT: H F S ϕ sq. m by ϕ cmPATTIES / TARBALLS ϕ BAGSNEAR 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-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	SU	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.

REVIEWED

DL

DATE 4/3/90

SHORELINE OILING SUMMARY (PAGE 2 of 2)

REVISION 03/22/90

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		UG	UC	1/2" B	1/2" R	1/2" Y	1/2" G	1/2" BL	1/2" BR	SU	UI	ME	U		
7	20					X	-												X		CPG
8	25					X	-										X				P
9	15	X					5-6		X	X							X				CPG / peat layer
10	25					X	-											X			CPG
11	25					X	-												X		CPG
12	10		X				5-6		X	X								X			Pgs
13	20					X	-												X		CP
14	20		X				5-6		X	X							X				PgsC
15	25					X	-										X				Pg / organics
16							-														
17							-														
18							-														
19							-														
20							-														

COMMENTS

REVIEWED _____ DATE _____

SHORELINE ECOLOGICAL SUMMARY *page 1 of 2*

REVISION: 06/28/90
14
5

Segment ST / CH010 Subdivision A Date (mo / day / yr) 09.02.90

Time (-24 hr) 15:50 Biologist KA COOKES

- (A) Substrate type and % of segments:
 (1) Bedrock 70 (2) Boulder 15 (3) Cobble 20 (4) Pebble 23 (5) Sand 2 (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 40 Low 50
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)
- Photographs: Roll No. ST-14-2
 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 PRESENT
on pebble
& sand.

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
may extend
into sand
around pebbles
& cobble.

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
on cobble
over sand.

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: *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; tenting & anchorage; seal & sea lion pupps and molting.*

dense populations mussels on cobble beaches in finer sediments below. Possible subsistence harvesting or other intermittent harvesting. Scat (? bird-large or other) in swimming scallop, mussel.

and crab fragments, may be abundant in the bay.

(DIL. missed out by FAX).

20

6

ECO SUMMARY page 2 of 2

Segment: STCHO10 Subdivision: A Date: 04.02.90

Time: 1345-1550 Biologist: KACoates

Notes:

1. Amphipods abundant throughout lower mid-tidal, under cobble ~~over rocks~~ Holosaccion, Palmeria & 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 cariosus numerous in small area of exposed bedrock. Brigandiosus and Fucus dense to upper intertidal on these surfaces.

G D-LITTLE

SKETCH MAP



HR-05-1550 10:32 FROM CORRUPT

TO

SCAT TERM

F.15

18

EGMENT ST/ CH-010

UBDIVISION A

ATE 1/2/90

CHECKLIST

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

LEGEND

① Δ

PK - No Subsurface Oil

② Δ

PK - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

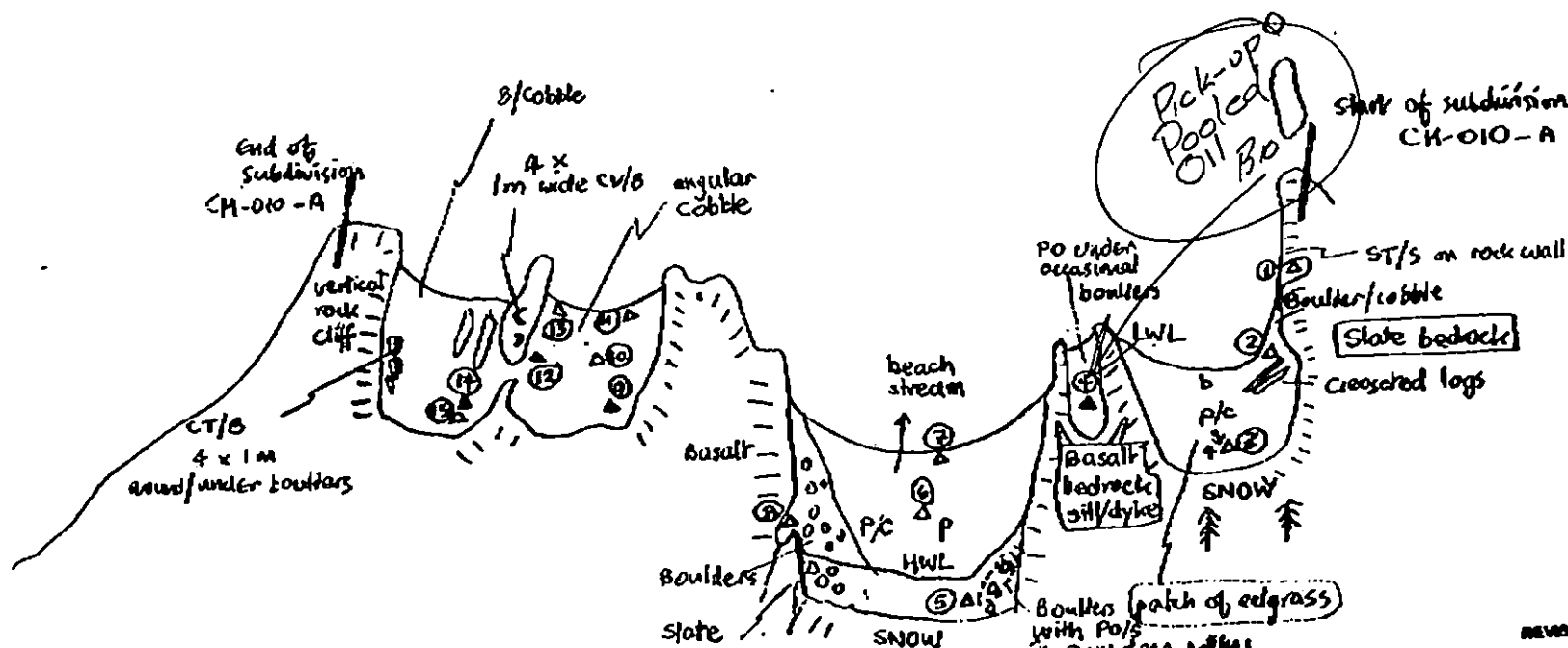
CT/S

Splashed Distribution

Oiled Vegetation

➔

Photo location, direction, and number
only one photo taken.



Oil Character Length (m): AP — PO 3 CV 4 CT 4 ST 2 MS — PT — TB — FL — NO 630

REVISION-DATE

1

$$\text{CH}_3$$

End of subdivision CH-010-A

Start of subdivision CH-010-

XXXX Wide

/// Medium

----- Narrow

TTTT Very Light

CH-10-A

ADEC Segment Length: 2545m



Map Key: PWS-36a

Name: D. LITTLE

Date: 4/2/90

Date Entered:

1

CH-

end of subdivision CH-010-A

start of subdivision CH-010+

Eagle Nest
Am

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

CH-10-A

ADEC Segment Length: 2545m



Map Key: PWS-35a
Name: D. LITTLE
Date: 4/2/90
Date Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/CH-10

SUBDIVISIONS: B (2 OF 3)

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 unopened biota and substrate. Eagle nest in Subdivision A.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 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
☒ 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, 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: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
 1D Esther Hatchery release (4/15 to 6/1)
 1E Main Bay Hatchery release (4/20 to 5/10)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 1I Gill net area (6/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (6/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (6/1 to 9/15)
 6V Anchorages (6/1 to 9/15)
 6W Forest Service cabins (6/1 to 9/15)
 6X Lodge (6/1 to 9/15)
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 7HH Finfish harvesting
 7II Deer harvesting (8/15 to 2/28)
 7JJ Invertebrate harvesting
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CH-010 SUBDIVISION: B DATE 4/5/90

USCG
NAME

K. DREHER

SIGNATURE CWO2 H. R. Disher

☐ 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. H

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 up 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 Lu Evanoff

☒ 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. 02/22/90

OG D. LITTLE USCG K. DREHER SEGMENT ST/ CH-010
 BIO K. COATES LAND REP L. EVANOFF SUBDIVISION B
 EXXON G. STILES ADEC P. ANDRES TIME 12:45 to 15:00
 TEAM NO.: 14 TIDE LEVEL: 8.2' to 1.0' 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 40 % Vert 5 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 80 m N 0 m VL 200 m NO 300 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	R	B	P	S	1	2	3	4	5	6	7	8	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 cm

PATTIES / TARBALLS 1 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

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

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE —

#BAGS —

Photographs:

Roll No. ST-14-2Frames 5-8

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-DM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UG	1	2	3	4	5	6	7	8	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.

Page 1 of 2 Next page for subsurface oil.

REVIEWED _____ DATE _____

SHORELINE OILING SUMMARY (PAGE 2 of 2)

REVISION 08/23/90

SEGMENT ST/ CH-010 SUBDIVISION B

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	VO	1	2	3	4	5	6	7	SU	U	ME	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 in lag. near
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 BNL DATE 4/8/90

SHORELINE ECOLOGICAL SUMMARY

page 1 of 2
REVISION: 08/22/88Segment ST CH010 Subdivision B Date (mo / day / yr) 04.05.90Time (24 hr) 1230-1500 Biologist KACotes(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: ST-14-2
Roll No. 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 male, 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

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 alga) 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.

page 3 of 3

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~~ ^{clams} 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.

APR
1990

OG D. LITTLE
 SEGMENT ST/CH-010-B
 SUBDIVISION B
 DATE 04/05/90

CHECKLIST

- ☒ N Area
- ☒ Approx. Scale
- ☒ Seg/Sub Body
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HML/LWL
- ☒ SGL
- ☒ Profile Location(s) (idealized!)
- ☒ Profile(s)
- ☒ Pit Location(s)
- ☒ Photo Location(s)
- ☒ Separate sketch

LEGEND

① Δ

PR - No Subsurface Oil

② Δ

PR - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

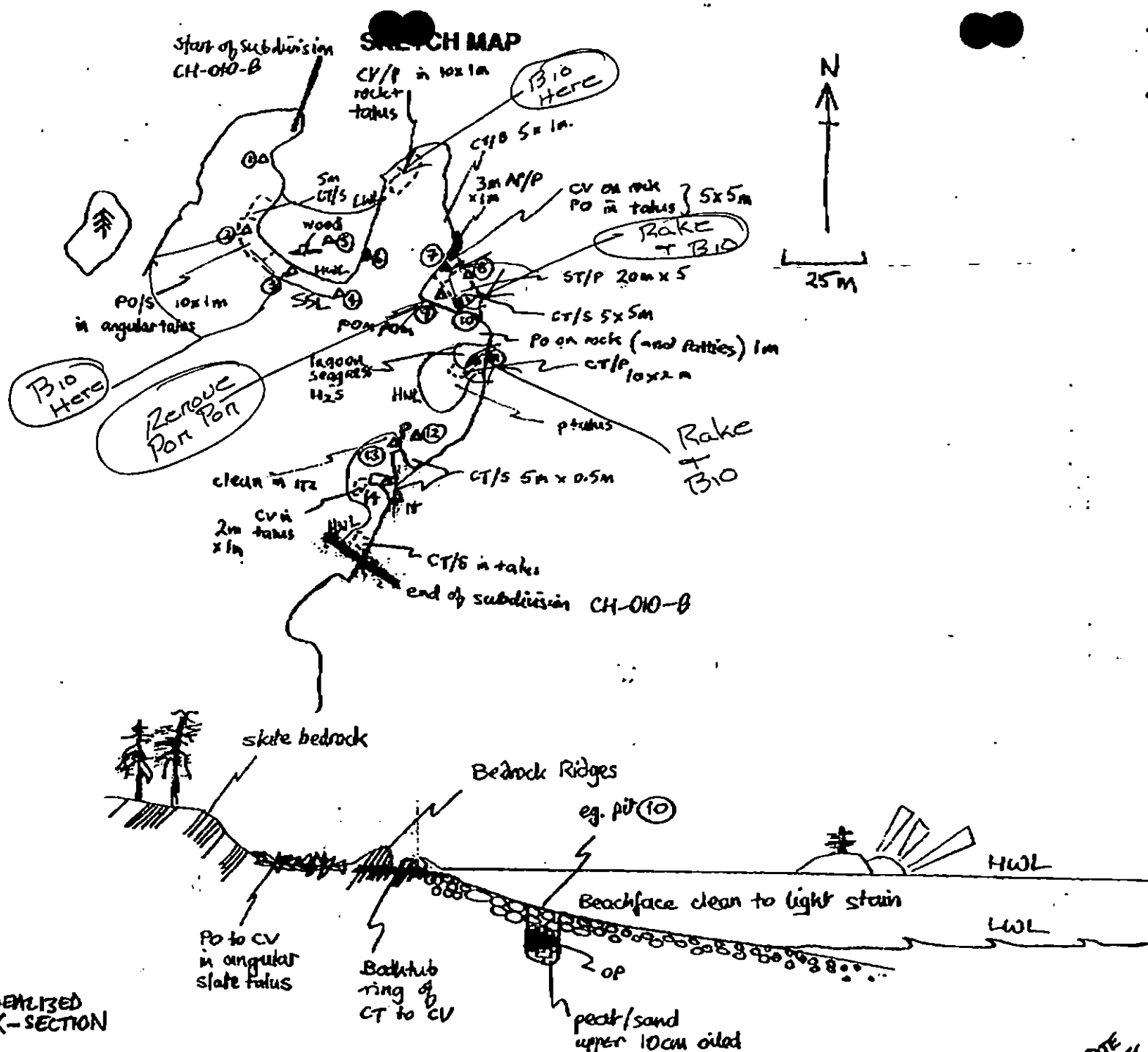
Splashed Distribution

Oiled Vegetation

→

Photo location, direction, and number

IDEALIZED
X-SECTION



Oil Character Length (m): AP 3 PO 12.5 CV 4.5 CT 40 ST 20 MS - PT 1m TB - FL - NO ~400

REVISED 08/24/98

OG D. LITTLE

SEGMENT S ~~100~~ 00-B

SUBDIVISION B

DATE 04/05/90

CHECKLIST

- ☒ M Area
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HWM/LWL
- ☒ SS
- ☒ Profile Location(s) (idealized!)
- ☒ Profile(s)
- ☒ P/L Location(s)
- ☒ Photo Location(s)
- ☒ separate sketch

LEGEND

① Δ

PH - No Subsurface Oil

② Δ

PH - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Oiled Vegetation

1 →

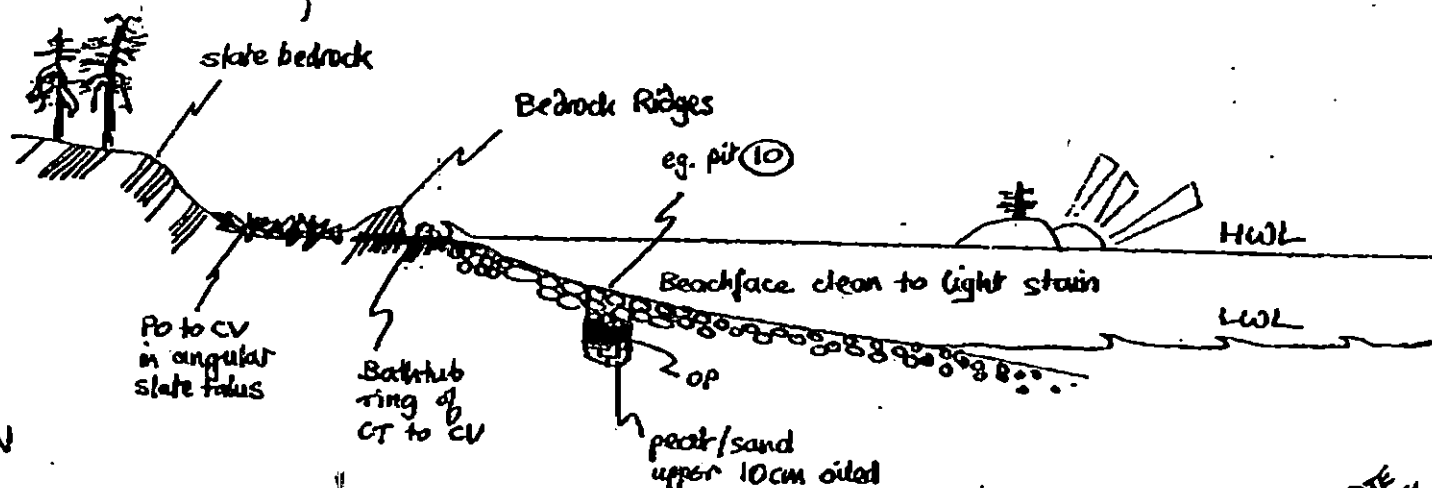
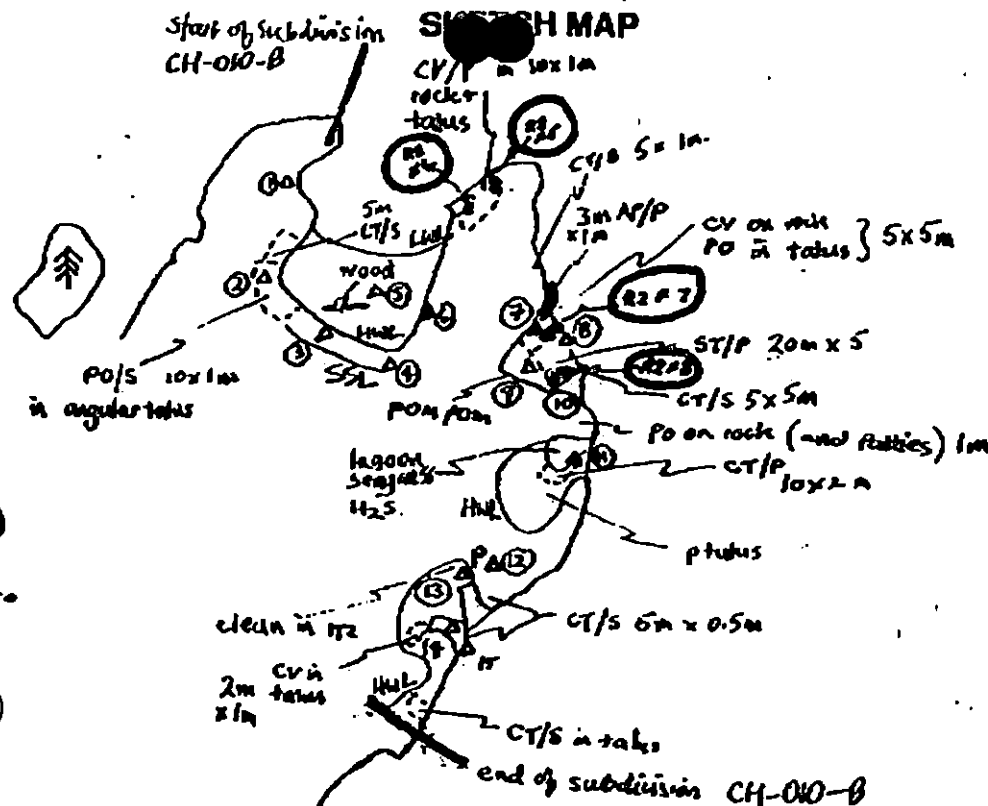
Photo location, direction, and number

photographs:

R2F5

With
PHOTO
LOCATIONS

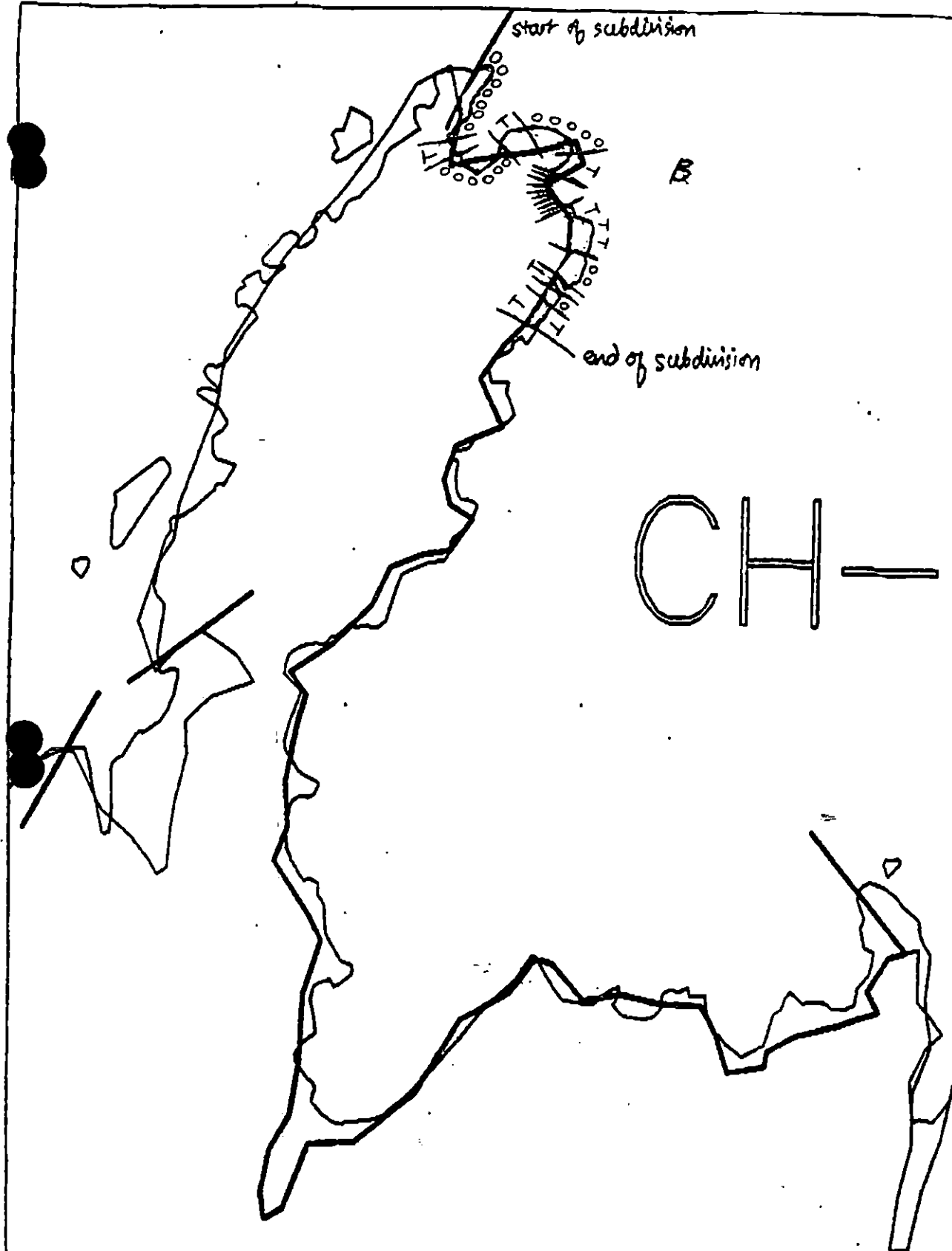
IDEALIZED
X-SECTION



Oil Character Length (m): AP 3 PO 12.5 CV 14.5 CT 40 ST 20 MS - PT 1m TB - FL - NO ~100

REVISION: 210400

AVE
ALEX



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

CH-10

ADEC Segment Length: 2545m



METERS



Map Key: PWS-36a

Name: D. LITTLEDate: 4/5/90

Data Entered:

RTE
ADEC

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