

CH-009 B ASC 16182
NORTH TIP OF CHENEGA ISLAND

ACE 1369523



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- Prince William Sound -

DOCUMENTS IN STREAM FILES

ASC# _____ Segment # _____

____ '89 Intertidal Assessment Survey, Sport/Com. Fish
____ '89 Shoreline Clean-Up Program (SAT)
____ '89 Anadromous Fish Stream Authorization, for instream work
____ '89 Stream Treatment Reports
____ '89 Demobilization Reports ____ Bioremediation ____ other
____ '89 RLS Sheet ____ Oil sed. sample ____ Egg sample
____ '89 Fall Walk-a-thon Survey, ADEC
____ '89 Winter Assess. Study Site ____ Winter Stream Survey Form
____ '89 Other Documents _____

____ '90 Pre-Anadscat Survey, multi-assessment form
____ '90 Anadscat Survey
____ '90 Anadromous Fish Stream Evaluation (work order)
____ '90 Anadromous Fish Stream Addendum to work order
____ '90 Shoreline Evaluation, SAT and work order for segment
____ '90 Anadromous Fish Stream Authorization, Title 16 permit
____ '90 Stream Treatment Report
____ '90 ADEC Demobilization Report for Bio
____ '90 ADF&G Oiling Condition Survey, for ASAP use (Aug. survey)
____ '90 ASAP Survey ____ ASAP Rec. ____ ADEC Rec. (Fall)
____ '90 Other Documents _____

ANADROMOUS FISH STREAMS/OILING CONDITION
PWS

Segment # Ch 9 ASC# 226-20-16182 Location N Chenega I

Date 8/6/90 Recorder/Observer Aimee Weseman

Oil in streambed yes Oil on streambanks yes

Oil within 50m of mouth yes Anadromous Fish present a couple of pinks seen jumping far offshore

Description of oil and comments

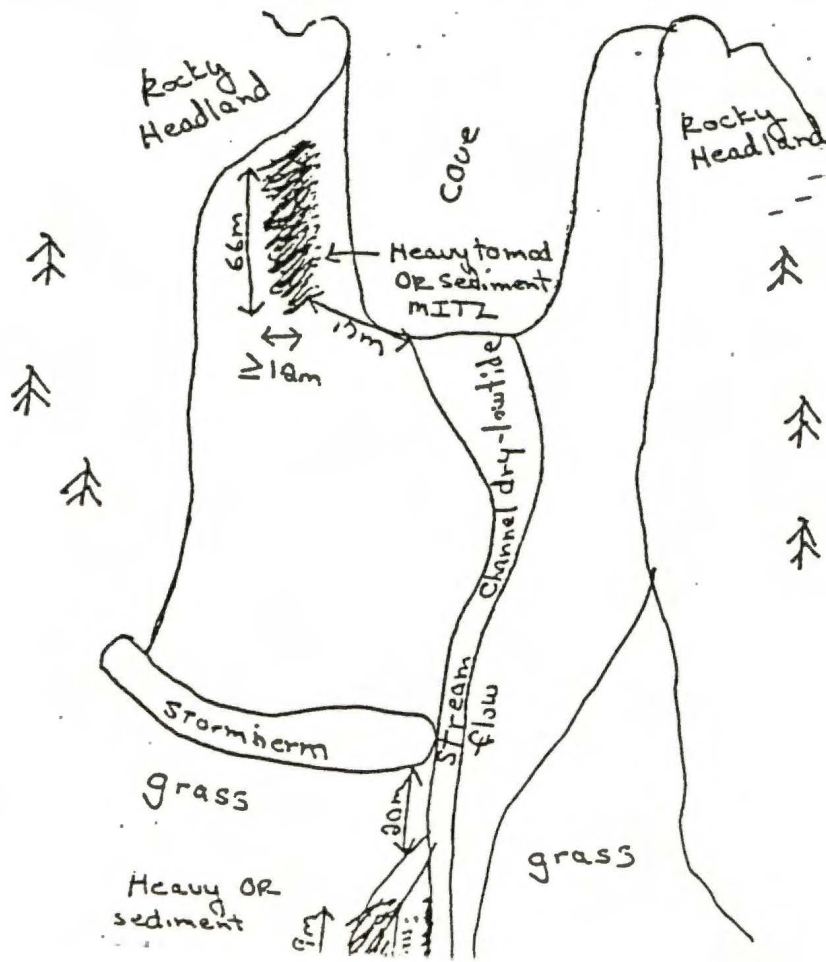
West bank - 20m upstream storm berm - a 9m long x 4m wide patch of Heavy OR sediments in dry stream channel

West bank - 17m from stream mouth in MITZ - a 66m long x ≥ 12 m wide band of heavy to moderate OR sediments

Pec - manual removal of heavier sediments ^(OR) & mechanical tilling & custom blend of lighter OR

Area received INIPOL - didn't help Re-assess in Spring.

Oil Distribution Diagram



Dup

ANADROMOUS FISH STREAMS/OILING CONDITION
PWS

Segment # Ch 9 ASC# 226-20-16182 Location N Chenega I

Date 8/6/90 Recorder/Observer Aimee Weseman

Oil in streambed yes Oil on streambanks yes

Oil within 50m of mouth yes Anadromous Fish present a couple of Pinks seen jumping far offshore

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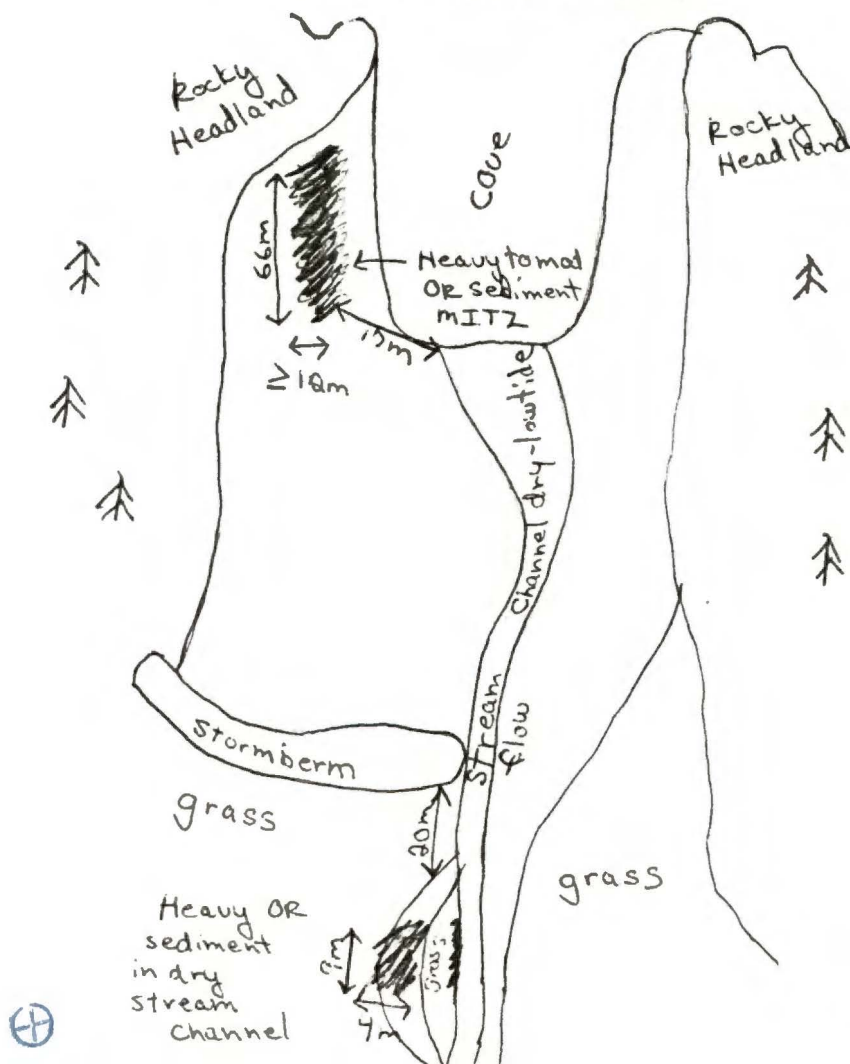
West bank - 20m upstream stormberm - a 9m long x 4m wide patch of Heavy OR sediments in dry stream channel

West bank - 17m from stream mouth in MITZ - a 66m long x ≥ 12 m wide band of heavy to moderate OR sediments

(OR)
Rec - manual removal of heavier sediments & mechanical tilling & custom blen of lighter OR

Area received INIPOL - didn't help Re-assess in spring.

Oil Distribution Diagram



ACE 7355937

ANADROMOUS FISH STREAMS/OILING CONDITION
PWS

Segment # Ch 9 ASC# 226-20-16182 Location N Chenega I

Date 8/6/90 Recorder/Observer Aimee Weseman

Oil in streambed yes Oil on streambanks yes

Oil within 50m of mouth yes Anadromous Fish present a couple of pinks seen jumping far offshore

Description of oil and comments

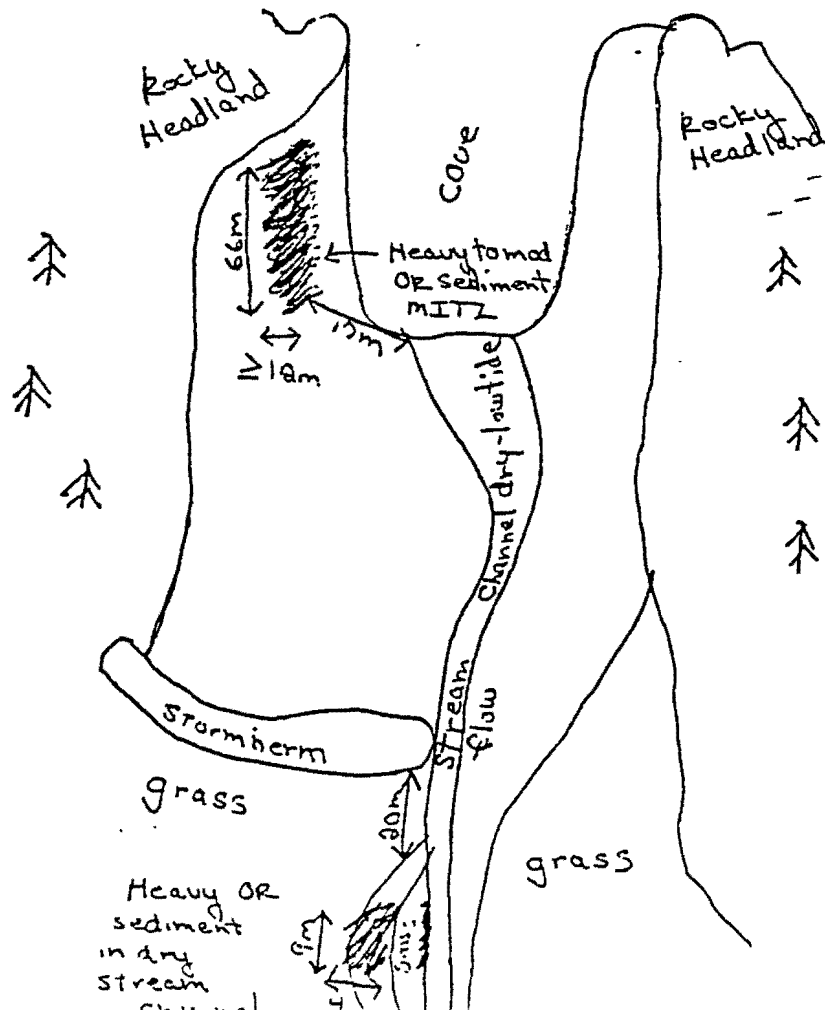
West bank - 20m upstream storm berm - a 9m long x 4m wide patch of Heavy OR sediments in dry stream channel

West bank - 17m from stream mouth in MITZ - a 66m long x ≥ 12 m wide band of heavy to moderate OR sediments

Rec - manual removal of heavier sediments & mechanical tilling & custom blen of lighter OR

Area received INIPOL - didn't help Re-assess in Spring.

Oil Distribution Diagram



- 1) SURVEY TYPE: BS SS 2) REGION: PWS KP, CI K, AP
- 3) METHOD: Aerial Ground Boat
- 4) DATE: 5/5/91 16) HIGH TIDE TIME: _____ 22) TEAM RECORDER: Tom Crowe
- 5) START TIME: 1145 17) HIGH TIDE HTS: _____ 23) OBSERVERS: AMES WESEMAN
- 6) STOP TIME: 1247 18) LOW TIDE TIMES: 1230 24) AGENCY: ADFG
- 7) SEGMENT #: CH009 19) LOW TIDE HTS: +1.6 25) PHOTOS TAKEN: Y N
- 8) K-UNIT: _____ 20) TIDE HT AT SURVEY: +2.3 to +1.8 ROLL #: _____ FRAMES: _____
- 9) LAT: _____ Ebb Slack Flood Slack 26) VIDEO TAKEN: Y N
- 10) LONG: _____ 21) USCG QUAD: _____ TAPE #: _____
- 11) ASC #: 226-20-16182 START: _____ STOP: _____
- 12) STREAM NAME: NONE 27) SAMPLES TAKEN? Y N
- 13) LOCATION: N. CHENEGA ISLAND SAMPLE I.D. _____
- 14) WAVE EXPOSURE: High Moderate Low
- 15) SHORELINE TYPE: Headland Low-lying Rocks Beach
- Cove Lagoon Marsh

28) EXTENT OF OIL

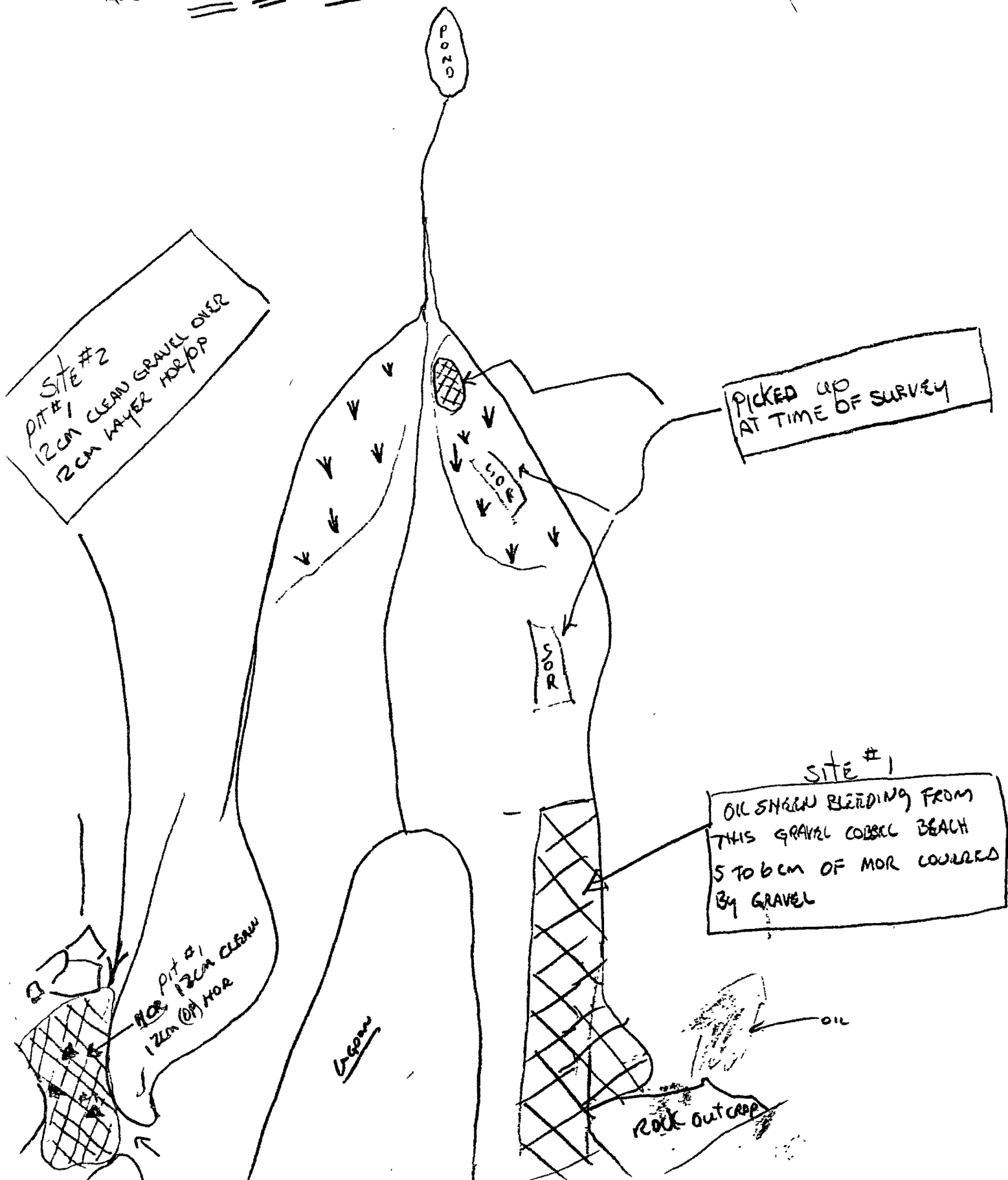
	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	75 M	10 M	750	15	5cm	10 cm	HSOR/mor
SITE 2	20 M	10 M	200		12cm	12 cm	HOR/
SITE 3							
SITE 4							
SITE 5							

- 29) OVERALL OIL IMPACT: H = >6m band with $\geq 50\%$ oil coverage
M = ~~>6m band with $\leq 50\%$ oil coverage or $\geq 2m$ to $\leq 6m$ with $\geq 10\%$ oil coverage~~
 L = <3m band with $\geq 10\%$ oil coverage
 VL = $\leq 10\%$ oil coverage regardless of band width
 N = No oil observed
- 30) OIL IN STREAMBED: (Y) N
- 31) OIL ON BEACH ADJACENT TO MOUTH: (Y) N
- 32) SUBSTRATE TYPE (PERCENT):
 Bedrock _____ Boulder 5% Gravel 90% Sand _____ Cobble 5% Mud/Silt _____
- 33) ANADROMOUS FISH PRESENT: Y N
- 34) WILDLIFE OBSERVATION
- | Species | Number |
|----------------|--------|
| Rock Blennies | 12 |
| Sand pipers | 14 |
| Oyster catcher | 2 |
| Bald eagles | 3 |
- 35) COMMENTS: MINDER PICK UP NEEDED OF HSOR SEDIMENTS AND A MAXIMUM EFFORT PUT FORTH INTO MANUAL TILLING. POCKET BEACH SOUTH OF STREAM REVEALED HOR SEDIMENTS BURIED 12'cm-20cm DEEP 12cm TO 20cm THICK, BORDERLINE OP. SEDIMENTS. THE ONLY SOLUTION TO OIL REMOVAL AT SITE #2 WOULD BE MANUAL TILLING.

CH009

5/5/91

ASC 226-20-16182





12-ANADSCAT-90

ADF&G MULTI-ASSESSMENT DATA FORM

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

METHOD: Aerial Ground Boat

3 DATE: 4/13/90 15 HIGH TIDE TIMES: / 21 TEAM RECORDER: TOM CRANE

4 START TIME: 1132 16 HIGH TIDE HTS: / 22 OBSERVERS: GREG CHENEY (RXTOW)

5 STOP TIME: 1140 17 LOW TIDE TIMES: / 23 AGENCY: ADF&G ASW

6 SEGMENT #: CH009 18 LOW TIDE HTS: / 24 PHOTOS TAKEN: Y N

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

8 K-UNIT: _____ Ebb Slack Flood Slack 25 VIDEO TAKEN: Y N TAPE#: _____

9 STAT AREA: _____ 20 USCG QUAD: _____ Start: _____ End: _____

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

12 SOURCE: Map Loran

13 LOCATION: CHENAGA

14 DESCRIPTION: _____

EXTENT OF OIL

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

30 OVERALL OIL IMPACT: N VL L M H

31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain

32 OILED DEBRIS? Y N

33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cove
Lagoon Marsh ENTER: settled for Cove, Lagoon.

34 WAVE EXPOSURE: High Moderate Low

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

36 CATALOGED ANAD. FISH SREAM? Y N

37 CATALOG #: 226-60-16182

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

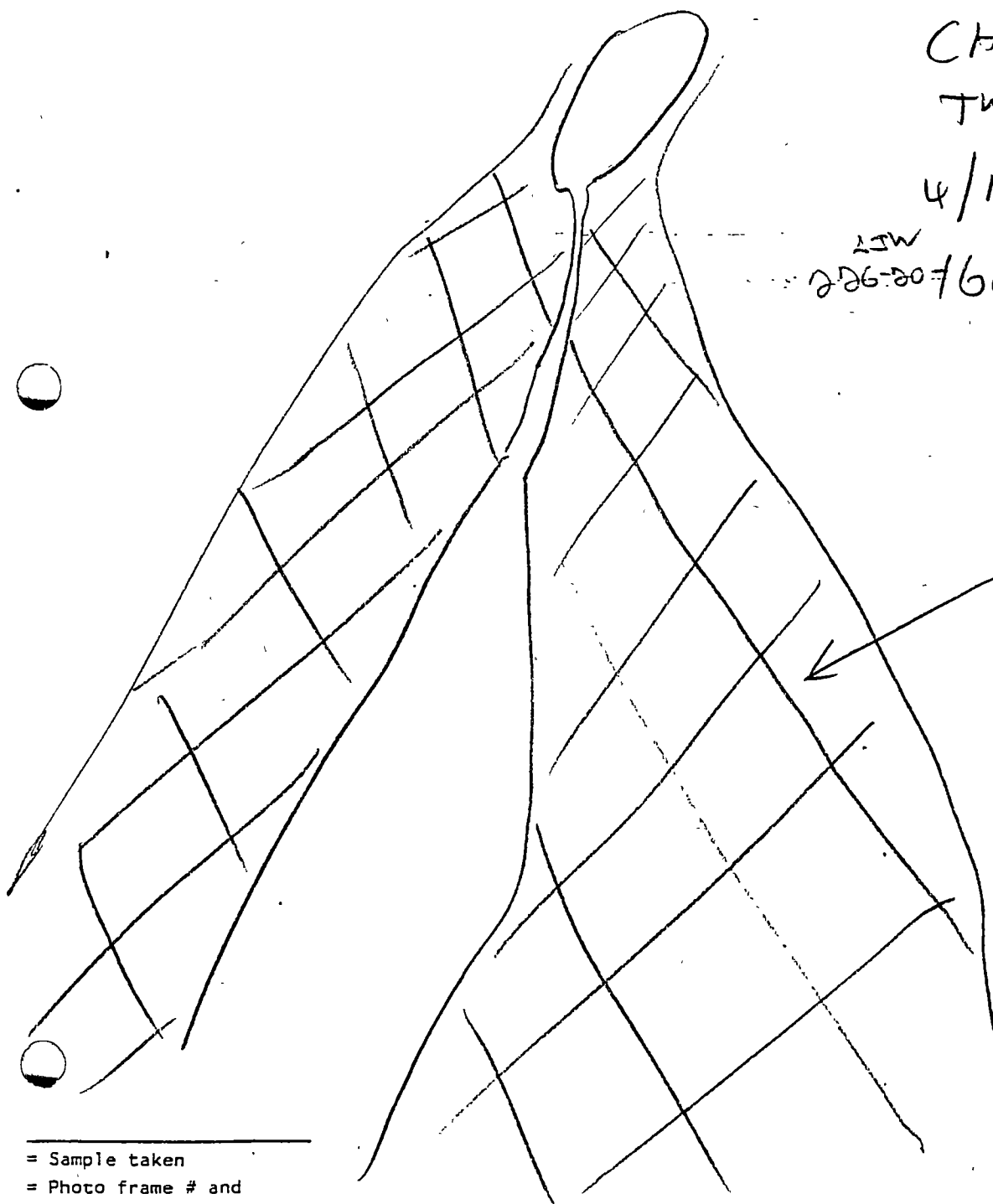
Species	Aerial	Ground

COMMENTS: TOTAL OIL COVERAGE
(SEE WINTER PLAN MAP)

ACE 7236470+15

NAME(S)	DESCRIPTION

46 OIL DISTRIBUTION DIAGRAM



= Sample taken
= Photo frame # and
shot direction.

ASC NUMBER: SEGMENT NUMBER: YR CATALOGED:
 LOCATION:
 STREAM NAME: LATITUDE:
 KODIAK K-UNIT: . LOCAL STREAM #: LONGITUDE:
 USGS QUADRANGLE: LEGAL:
 SHORELINE TYPE: ALL SEGMENTS:
 WAVE EXPOSURE:

ASC NUMBER: 226-20-16182
 SURVEY TYPE:
 METHOD:
 DATE: 4/13/90
 START TIME:
 STOP TIME:

TEAM RECORDER:
 OBSERVERS:
 AGENCY(IES):
 PHOTOS TAKEN?
 Roll #: Frames:
 VIDEO TAKEN? Tape Number:
 Counter Start:

SAMPLES TAKEN?

SAMPLE I.D. NUMBERS: 1. 2. 3.
 4. 5. 6.

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1							AP/SOR
SITE 2							
SITE 3							
SITE 4							
SITE 5							

OVERALL OIL IMPACT:

OIL IN STREAM CHANNEL? Yes

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Yes

SUBSTRATE

Bedrock	Granule
Boulder	Sand
Cobble	Silt
Pebble	Veget.

SPECIES					
COUNT					

COMMENTS:

ACF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: ES SS CS TS AVS SC&A MMS PTA

2 REGION: PWS KP,CI K,AP

METHOD: Aerial Ground Boat

3 DATE: 4/25/90

15 HIGH TIDE TIMES: 1500

21 TEAM RECORDER: Tom Crowe

4 START TIME: 0746

16 HIGH TIDE HTS: +11 FT

22 OBSERVERS: MIKE WIEPMEI

5 STOP TIME: 0926

17 LOW TIDE TIMES: 0830

23 AGENCY: ADFTG (ANADSCAT)

6 SEGMENT #: CH009

18 LOW TIDE HTS: -4 FT

24 PHOTOS TAKEN: Y ☒

7 STATION #:

19 TIDE HT AT SURVEY: -2 FT

Roll #: Frame:

8 K-UNIT:

Ebb Slack Flood Slack

25 VIDEO TAKEN: Y ☒ TAPE#:

9 STAT AREA:

20 USCG QUAD: SEW B-3

Start: End:

10 LAT:

11 LONG:

26 SAMPLES TAKEN? Y ☒ Number

12 SOURCE: Map Loran

Oil None

13 LOCATION: NORTH TIP CHENEGA ISLAND

Sediment

14 DESCRIPTION:

Biological

Water

EXTENT OF OIL

	SHORELINE				STREAM			
	L	W	M ²	%	L	W	M ²	%
27 SURFACE COVERAGE	150	50		80	50	1		0
28 SURFACE THICKNESS	6-16 cm	3cm	30cm					
29 PENETRATION	6-16cm	3cm	30cm					

36 CATALOGED ANAD. FISH SREAM? ☒ N

37 CATALOG #: 226-20-16182

38 STREAM NAME:

39 OIL IN STREAM BED? Y ☒

40 OIL ON STREAM BANKS? ☒ N

30 OVERALL OIL IMPACT: N VL L ☒ H

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

31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain

42 OIL WITHIN 1 MILE OF STREAM? Y N

32 OILED DEBRIS? Y ☒

Where:

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

43 ANADROMOUS FISH PRESENT? Y N

34 WAVE EXPOSURE: High Moderate Low VERY LOW VL

35 SUBSTRATE TYPE: Bedrock Boulder Cobble X

10%?

Gravel X Sand Mud/silt

44 ANADROMOUS FISH OBSERVATION		
Species	Aerial	Ground

COMMENTS: 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 amounts should be used for prolonged release. ACE 7236466+15

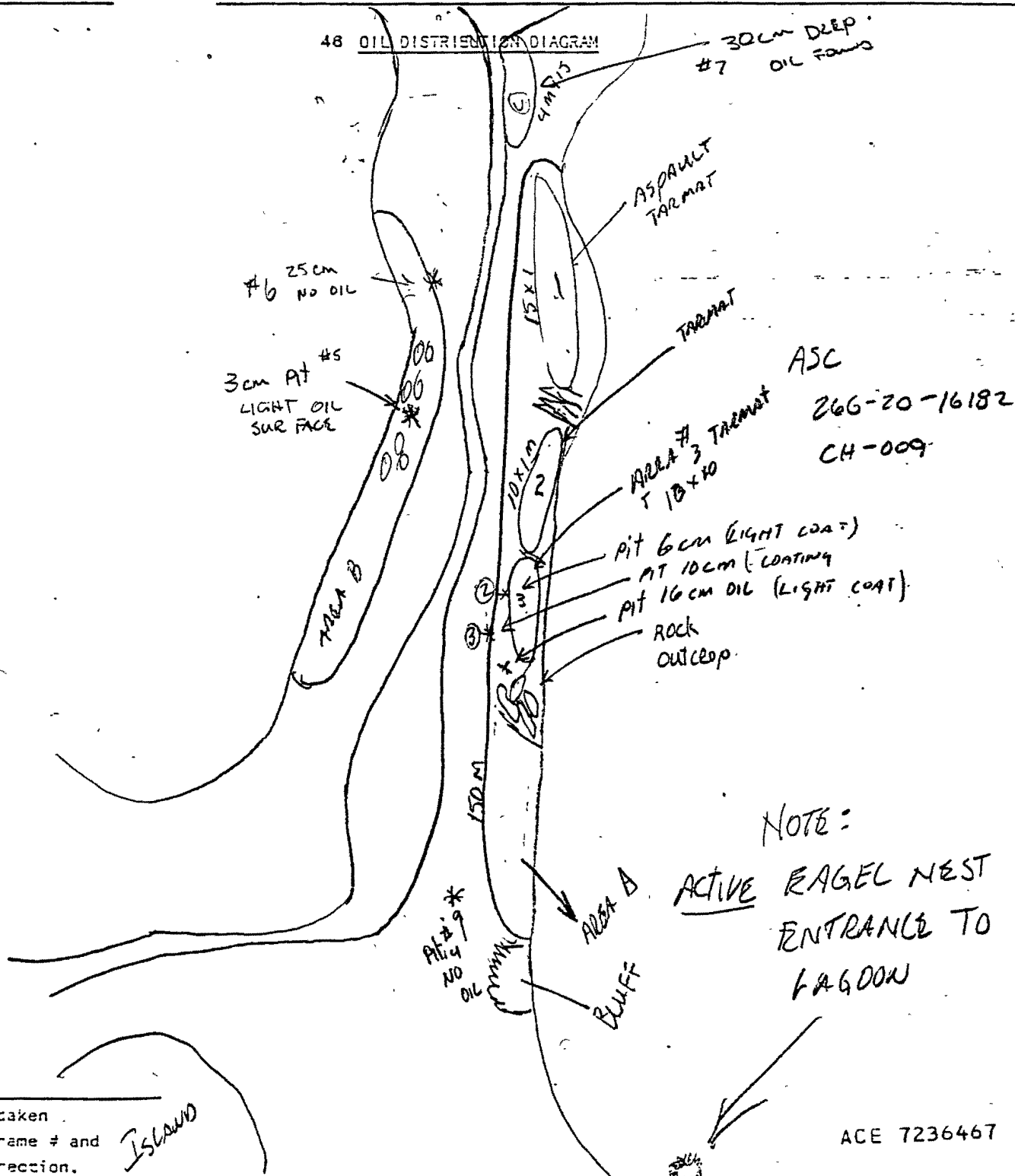
CH009
226-20-16182
4/25/90

DESCRIPTION

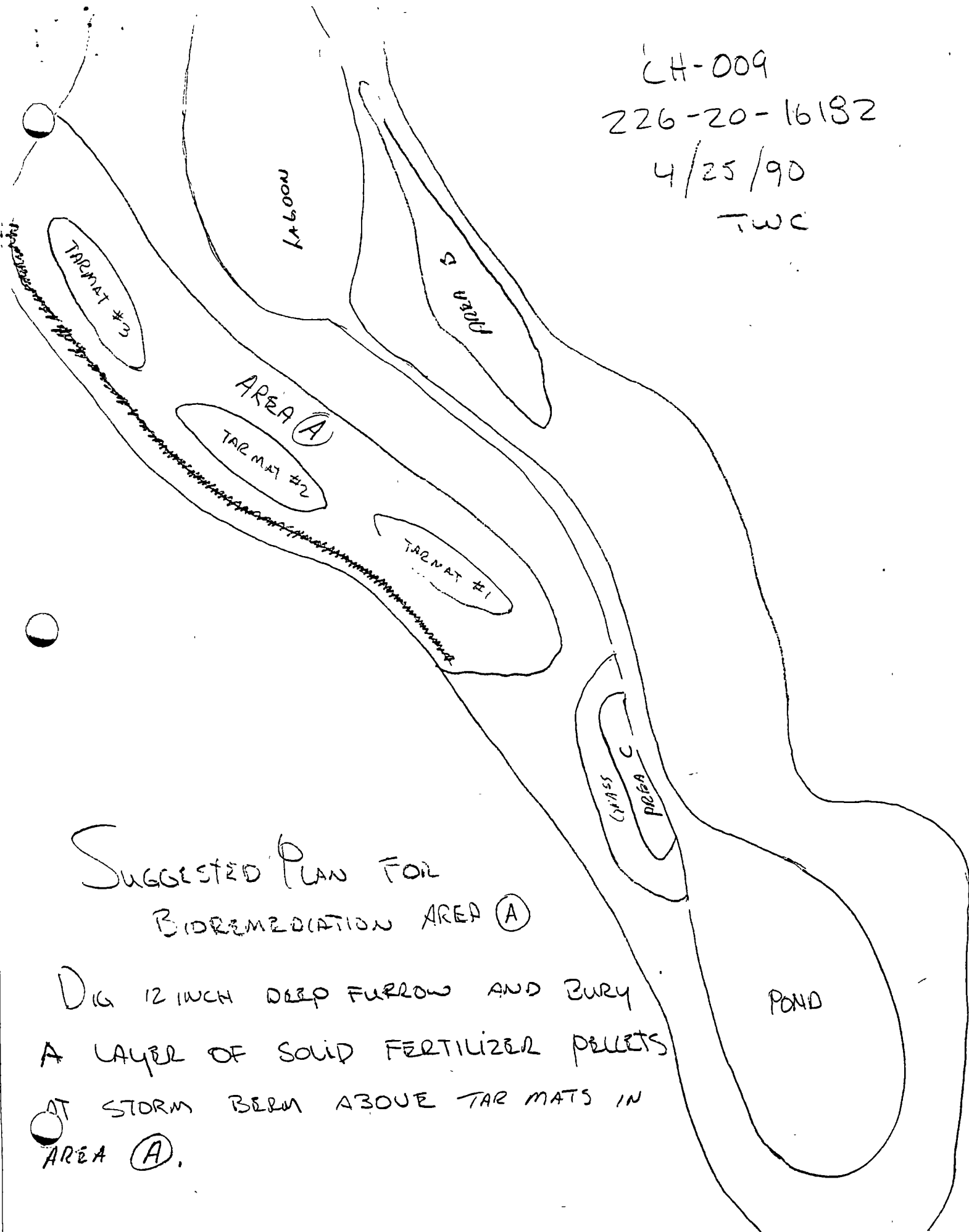
TWC

RECOMMENDATION: REMOVE TAR MATS IN AREA 1, 2, 3
UPPER INTERTIDAL AREA A. NO INIPOL TO BE USED
IN THIS AREA. TREATMENT OF AREA A SHOULD INCLUDE
LIGHT TILLING OF SURFACES OF THE FLAGSTONE CORREL
ALSO BIOREMEDIATION IN THE FORM OF SOLID PELLETS BUREGO
IN LAGOON AT SUPRATIDAL SHOULD BE CONSIDERED FOR
AREA A.

48 OIL DISTRIBUTION DIAGRAM



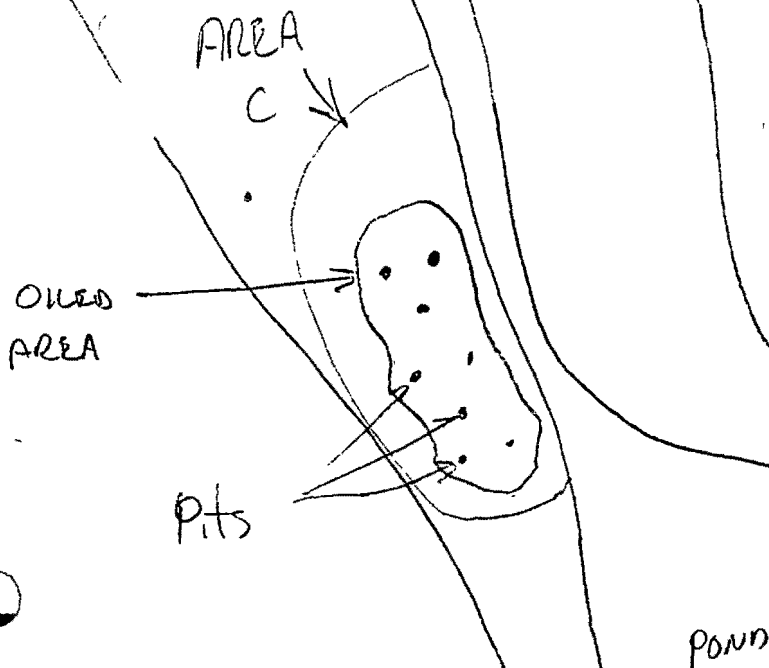
CH-009
226-20-16182
4/25/90
TWC



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).

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.

ASC NUMBER: SEGMENT NUMBER: YR CATALOGED:
 LOCATION:
 STREAM NAME: LATITUDE:
 KODIAK K-UNIT: LOCAL STREAM #: LONGITUDE:
 USGS QUADRANGLE: LEGAL:
 SHORELINE TYPE: ALL SEGMENTS:
 WAVE EXPOSURE:

ASC NUMBER: 226-20-16182
 SURVEY TYPE: Ground
 METHOD:
 DATE: 1/25/90
 START TIME:
 STOP TIME:

TEAM RECORDER:
 OBSERVERS:
 AGENCY(IES):
 PHOTOS TAKEN?
 Roll #: Frames:
 VIDEO TAKEN? Tape Number:
 Counter Start:

SAMPLES TAKEN?

SAMPLE I.D. NUMBERS: 1. 2. 3.
 4. 5. 6.

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	15	1					AP
SITE 2	10	1					AP
SITE 3	10	10			6-16	6-16	AP
SITE 4						3	LOR
SITE 5						30	OR

OVERALL OIL IMPACT:

OIL IN STREAM CHANNEL? YES

OIL ON BEACH WITHIN 50M OF STREAM MOUTH?

SUBSTRATE

Bedrock Granule
 Boulder Sand
 Cobble Silt
 Pebble Veget.

SPECIES					
COUNT					

COMMENTS:

Recommendation: Remove tar mats in area 1,2,3 upper
 intertidal Area A. No ~~lipol~~ hipol to be used
 in this area. Treatment of area A should include
 light tilling of surface of the flagstone cobble. Also
 bioremediation in the form of solid pellets buried in furrows
 at supratidal should be considered for area A.

ADF&G MULTI-ASSESSMENT DATA FORM

- 1) SURVEY TYPE: BS SS 2) REGION: PWS KP, CI K, AP
- 3) METHOD: Aerial Ground Boat
- 4) DATE: 5/5/91 16) HIGH TIDE TIME: _____ 22) TEAM RECORDER: Tom Crowe
- 5) START TIME: 1145 17) HIGH TIDE HTS: _____ 23) OBSERVERS: AMES WESEMAN
- 6) STOP TIME: 1247 18) LOW TIDE TIMES: 1230 24) AGENCY: ADF&G
- 7) SEGMENT #: CH009B 19) LOW TIDE HTS: +1.6 25) PHOTOS TAKEN: Y N
- 8) K-UNIT: _____ 20) TIDE HT AT SURVEY: +2.3 to +1.8 ROLL #: _____ FRAMES: _____
- 9) LAT: _____ Ebb Slack Flood Slack 26) VIDEO TAKEN: Y N
- 10) LONG: _____ 21) USCG QUAD: _____ TAPE #: _____
- 11) ASC #: 226-20-16182 START: _____ STOP: _____
- 12) STREAM NAME: NONE 27) SAMPLES TAKEN? Y N
- 13) LOCATION: N. CHENEGA ISLAND SAMPLE I.D. _____
- 14) WAVE EXPOSURE: High Moderate Low
- 15) SHORELINE TYPE: Headland Low-lying Rocks Beach
- Cove Lagoon Marsh

28) EXTENT OF OIL

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	75 M	10 M	750	15	5cm	10 cm	HSOR/MOR
SITE 2	20 M	10 M	200		12cm	12 cm	HOR/
SITE 3							
SITE 4							
SITE 5							

29) OVERALL OIL IMPACT:

H = >6m band with ≥50% oil coverage

M = >6m band with <50% oil coverage or ≥3m to <6m with ≥10% oil coverage

L = <3m band with >10% oil coverage

VL = ≤10% oil coverage regardless of band width

N = No oil observed

30) OIL IN STREAMBED: (Y) N

31) OIL ON BEACH ADJACENT TO MOUTH: (Y) N

32) SUBSTRATE TYPE (PERCENT):

Bedrock _____ Boulder 5% Gravel 90% Sand _____ Cobble 5% Mud/Silt _____

35) COMMENTS: MINOR PICK UP NEEDED OF HSOR SEDIMENTS AND A MAXIMUM EFFORT PUT FORTH INTO MANUAL TILLING. POCKET BEACH SOUTH OF STREAM REVEALED HOR SEDIMENTS BURIED 12'cm-20cm DEEP 12cm TO 20cm THICK, BORDERLINE OP. SEDIMENTS. THE ONLY SOLUTION TO OIL REMOVAL AT SITE #2 WOULD BE MANUAL TILLING.

33) ANADROMOUS FISH PRESENT: Y N

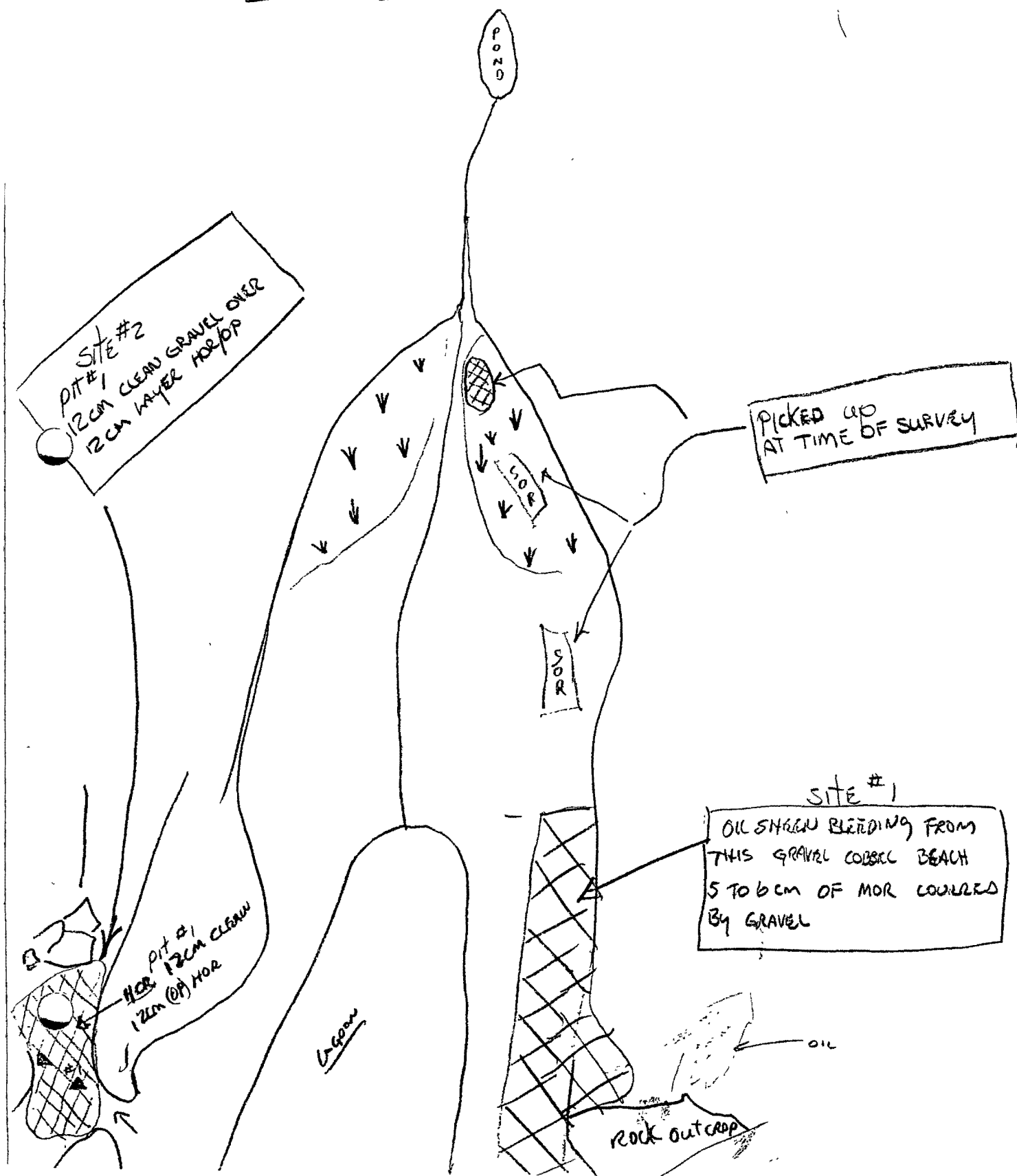
34) WILDLIFE OBSERVATION

Species	Number
sandpipers	14
cystercatchers	2
Rock Bleniorill	12
Blennies	

CH009

5/5/91

ASC 226-20-16182



CATALOG NUMBER: 2262016182 SEGMENT#: CH009 B LOCATION: CHENEGA ISLAND, PRESTON COVE							
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
04/13/90	PRE-ANADS CAT	1	SURFACE			AP SOR	TOTAL OIL COVERAGE BOTH SIDES OF STREAM.
MAD vs. OG: COMMENTS:							

CATALOG NUMBER: 2262016182 SEGMENT#: CH009 B LOCATION: CHENEGA ISLAND, PRESTON COVE							
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
04/25/90	ANADSCAT	1	1 x 15 SURFACE			AP	WEST SIDE: UITZ - ADJACENT TO STREAM.
04/25/90	ANADSCAT	2	1 x 10 SURFACE			AP	WEST SIDE: UITZ - CONTINUATION OF BAND.
04/25/90	ANADSCAT	3	10 x 10 SURFACE	11-50	6	AP	WEST SIDE: PATCHY TARMAT - CONTINUATION OF BAND UITZ AND MITZ.
04/25/90	ANADSCAT	4	150 SUBSURF		3 16	LOR	WEST SIDE AREA A: THIS INCLUDES SITES 1-3 UITZ AND MITZ.
04/25/90	ANADSCAT	5	SURFACE		3 OR		EAST SIDE AREA B: LIGHT SURFACE OIL.
04/25/90	ANADSCAT	6	SUBSURF		30	OR	WEST SIDE AREA C: ADJACENT TO STREAM BANK. OIL DEEPLY BURIED.

MAD vs. OG:
COMMENTS:

AREA C IS AN AREA ADJACENT TO STREAM BANK WHERE OIL IS DEEPLY BURIED. THIS AREA IS AT THE +12 FOOT TIDE LINE. BIOREMEDIATION IN FORM OF SOLID PELLETS. BURIED SIX TO EIGHT INCHES IN INTERMITTANT PITS WITHIN THE OILED AREA. SMALL AMOUNTS SHOULD BE USED FOR PROLONGED RELEASE. RECOMMENDATIONS: REMOVE TARMATS IN AREA 1, 2, 3 UPPER INTERTIDAL AREA. NO INIPOL TO BE USED IN THIS AREA. TREATMENT OF AREA A SHOULD INCLUDE LIGHT TILLING OF SURFACE OF THE FLAGSTONE COBBLE. ALSO BIOREMEDIATION IN THE FORM OF SOLID PELLETS BURIED IN FURROWS AT SUPRATIDAL SHOULD BE CONSIDERED FOR AREA A. SITE CONTAINS SIGNIFICANT AMOUNTS OF SUBSURFACE OIL - MODERATE CONCENTRATIONS OF OIL HAVE PENETRATED DEEPLY ON WEST SIDE.

CATALOG NUMBER: 2262016182 SEGMENT#: CH009 B LOCATION: CHENEGA ISLAND, PRESTON COVE							
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
04/25/90	OG'S ANADSCAT	1	1.5 x 15 SURFACE	51-90	5	AP	WEST SIDE: BROKEN AP IN UITZ.
04/25/90	OG'S ANADSCAT	2	1.5 x 10 SURFACE	51-90	5	PT	WEST SIDE: BROKEN PATTIES IN UITZ.
04/25/90	OG'S ANADSCAT	3	10 x 10 SURFACE	11-50	5	PT	WEST SIDE: PATCHY PATTY.
04/25/90	OG'S ANADSCAT	4	10 x 125 SURFACE	91-100		ST	WEST SIDE: UITZ - CONTINUOUS STAIN. AREA "A" ON SKETCH. (DIMENSIONS FROM OFN).
04/25/90	OG'S ANADSCAT	5	4 x 75 SURFACE	91-100		ST CT	EAST SIDE: UITZ - CONTINUOUS CT AND ST. AREA "B" ON SKETCH. (DIMENSIONS FROM OFN). PIT 5: OF 0-3CM.
04/25/90	OG'S ANADSCAT	6	4 x 25 SURFACE	91-100		CT	WEST SIDE ALONG STREAM BANK: CONTINUOUS COAT. AREA "C" ON SKETCH.
04/25/90	OG'S ANADSCAT	8	SUBSURF		5-30	OR 0-30	WEST SIDE: UITZ - 2 PITS WITH SUBSURFACE 0-30 AND 0-15, NOT EXTENSIVE.

MAD vs. OG: NO DIMENSION FOR SUBSURFACE OIL GIVEN ON OG - MAD HAS SOME. NEED MORE PITS TO DETERMINE EXTENT.
COMMENTS:

CATALOG NUMBER: 2262016182 SEGMENT#: CH009 B LOCATION: CHENEGA ISLAND, PRESTON COVE							
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
08/06/90	PRE-ASAP	1	4 x 9 SUB SURFACE			HOR	WEST BANK, 20M UPSTREAM OF STORM BERM: HEAVY 'OR' SEDIMENTS IN DRY STREAM CHANNEL.
08/06/90	PRE-ASAP	2	>12 x 66 SURFACE			HOR MOR	WEST BANK, 17M FROM STREAM MOUTH IN MITZ: BAND OF HEAVY TO MODERATE 'OR' SEDIMENTS.

MAD vs. OG:

COMMENTS:

RECOMMENDATION - MANUAL REMOVAL OF HEAVIER SEDIMENTS (OP) AND MECHANICAL TILLING AND CUSTOMBLEN OF LIGHTER 'OR'. AREA RECEIVED INIPOL - DIDN'T HELP. REASSESS IN SPRING. A COUPLE OF PINKS SEEN JUMPING FAR OFFSHORE. OIL OBSERVED ON STREAM BANKS.

CATALOG NUMBER: 2262016182 SEGMENT#: CH009 B LOCATION: CHENEGA ISLAND, PRESTON COVE

DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL (cm)	SITE SPECIFIC COMMENTS
05/05/91	MAYSAP	1	10 x 75 BOTH SURFACE	15	5 10	HSOR MOR	WEST SIDE: UITZ AND MITZ.
05/05/91	MAYSAP	2	10 x 20 SURFACE		12 12	HOR	TO EAST OF STREAM IN SPEARATE POCKET BEACH NOT IN CH009B.

MAD vs. OG: OG HAS LOWER % AP IN SITE 1, 1 PIT REVEALED AN MOR LENSE OF 5-10CM, 2 SM. PATCHES OF HSOR-WEST SIDE

COMMENTS:

MINOR PICK UP NEEDED OF 'HSOR' SEDIMENTS AND A MAXIMUM EFFORT PUT FORTH INTO MANUAL TILLING. POCKET BEACH SOUTH OF STREAM REVEALED 'HOR' SEDIMENTS BURIED 12CM - 20CM DEEP, 12CM - 20CM THICK, BORDERLINE 'OP' SEDIMENTS. THE ONLY SOLUTION TO OIL REMOVAL AT SITE #2 WOULD BE MANUAL TILLING. SITE 2 NOT IN CH009B. SCATTERED AP/SOR IN UITZ ON WEST SIDE - PICKED UP AT TIME OF SURVEY.

CATALOG NUMBER: 2262016182 SEGMENT#: CH009 B LOCATION: CHENEGA ISLAND, PRESTON COVE

DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL (cm)	SITE SPECIFIC COMMENTS
08/22/91	POST TREATMENT	A	1 x 1 SURFACE	80	5	HSOR MSOR	WEST STREAM BANK IN GRASS.
08/22/91	POST TREATMENT	A2	 PIT			MOR 5-24	
08/22/91	POST TREATMENT	B	10 x 100 SURFACE	1		AP HSOR	WEST SIDE OF STREAM - UITZ.
08/22/91	POST TREATMENT	B3	 PIT			NONE	
08/22/91	POST TREATMENT	B4	 PIT			LSOR 0-2	

08/22/91	POST TREATMENT	B5	PIT			MOR 0-8	
08/22/91	POST TREATMENT	C	4 x 20 SUBSURF		40	HOR MOR	WEST SIDE IN UITZ: THIS AREA IS LOCATED WITHIN AREA B, WITH H-MOR UP TO 40CM PENETRATION.
08/22/91	POST TREATMENT	C10	PIT			HOR 5-13	
08/22/91	POST TREATMENT	C6	PIT			LSOR 0-4	
08/22/91	POST TREATMENT	C7	PIT			HOR 0-20	
08/22/91	POST TREATMENT	C8	PIT			HOR 0-40	
08/22/91	POST TREATMENT	C9	PIT			HOR 0-35	
08/22/91	POST TREATMENT	D	.5 x .5 SUBSUR			TR	
08/22/91	POST TREATMENT	D1	PIT			TR	

MAD vs. OG:

COMMENTS:

SMALL SILVER SHEEN IN UPPER STREAM, DETERMINED TO BE ORGANIC. AREA A, H TO MSOR MIXED WITH VEGETATION, APPROXIMATELY 5CM IN THICKNESS. AREA B, AP/HSOR SCATTERED, APPROXIMATELY 1-3CM IN THICKNESS. SUBSURFACE, AREA C, HOR AT NORTHWEST END OF AREA B, UNDER COBBLE ARMOR. SUBSURFACE AREA D, TRACE ADJACENT TO STREAM. ALTHOUGH THIS STREAM WAS NOT TREATED IN 1991, WE RECOMMEND REASSESSMENT IN 1992 DUE TO THE SUBSTANTIAL SUBSURFACE OILING. THE HOR DOES APPEAR RELATIVELY STABLE UNDER A COBBLE ARMOR. THE MOST EFFICIENT TREATMENT METHOD WOULD BE MECHANICAL TILLING.

CATALOG NUMBER: 2262016182 SEGMENT#: CH009 B LOCATION: CHENEGA ISLAND, PRESTON COVE							SEQ:
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL (cm)	SITE SPECIFIC COMMENTS
04/13/90	PRE-ANADSCAT	1	SURFACE			AP SOR	total oil coverage both sides of stream

MAD vs. OG:
COMMENTS:
TOTAL OIL COVERAGE. (SEE WINTER PLAN MAP).

delete

CATALOG NUMBER: 2262016182 SEGMENT#: CH009 B LOCATION: CHENEGA ISLAND, PRESTON COVE							SEQ:
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL (cm)	SITE SPECIFIC COMMENTS
04/25/90	ANADSCAT	1	1 x 15 SURFACE			AP	WEST SIDE: -UITZ- adjacent to stream
04/25/90	ANADSCAT	2	1 x 10 SURFACE			AP	WEST SIDE: -UITZ- continuation of band
04/25/90	ANADSCAT	3	10 x 10 SURFACE	11-50	6	AP	WEST SIDE: PATCHY TAR MAT. - continuation of band u+mITZ
04/25/90	ANADSCAT	4	150 SUBSURFACE		6 thick delete penetr.	LOR 10-16 cm	WEST SIDE AREA A: THIS INCLUDES SITES 1 AND 3. - u+mITZ
04/25/90	ANADSCAT	5	SURFACE		3cm	OR SOR	EAST SIDE AREA B: LIGHT SURFACE OIL.
04/25/90	ANADSCAT	6	SUBSURFACE		30	OR	WEST SIDE AREA C: ADJACENT TO STREAM BANK. OIL DEEPLY BURIED.

MAD vs. OG:
COMMENTS:
AREA C IS AN AREA ADJACENT TO STREAM BANK WHERE OIL IS DEEPLY BURIED. THIS AREA IS AT THE +12 FOOT TIDE LINE. BIOREMEDIATION IN FORM OF SOLID PELLETS. BURIED SIX TO EIGHT INCHES IN INTERMITTANT PITS WITHIN THE OILED AREA. SMALL AMOUNTS SHOULD BE USED FOR PROLONGED RELEASE. RECOMMENDATIONS: REMOVE TARMATS IN AREA 1, 2, 3 UPPER INTERTIDAL AREA. NO INIPOL TO BE USED IN THIS AREA. TREATMENT OF AREA A SHOULD INCLUDE LIGHT TILLING OF SURFACE OF THE FLAGSTONE COBBLE. ALSO BIOREMEDIATION IN THE FORM OF SOLID PELLETS BURIED IN FURROWS AT SUPRATIDAL SHOULD BE CONSIDERED FOR AREA A.

site contains significant amounts of subsurface oil - moderate concentrations of oil have penetrated deeply on west side

CATALOG NUMBER: 2262016182							SEGMENT#: CH009 B	LOCATION: CHENEGA ISLAND, PRESTON COVE	SEQ:
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL (cm)	SITE SPECIFIC COMMENTS		
04/25/90	OG'S ANADSCAT	1	1.5 x 15 SURFACE	51-90	5	AP	WEST SIDE OF STREAM : BROKEN AP in UITZ.		
04/25/90	OG'S ANADSCAT	2	1.5 x 10 SURFACE	51-90	5	PT	WEST SIDE OF STREAM : BROKEN PATTIES in UITZ.		
04/25/90	OG'S ANADSCAT	3	10 x 10 SURFACE	11-50	5	PT	WEST SIDE OF STREAM : PATCHY PATTY.		
04/25/90	OG'S ANADSCAT	4	10 x 125 SURFACE	91-100		ST	WEST SIDE : UITZ - CONTINUOUS STAIN. AREA "A" ON SKETCH. (DIMENSIONS FROM OFN).		
04/25/90	OG'S ANADSCAT	5	4 x 75 SURFACE	91-100		ST CT	EAST SIDE UITZ : CONTINUOUS CT AND ST. AREA "B" ON SKETCH. (DIMENSIONS FROM OFN) pits : 0-3cm		
04/25/90	OG'S ANADSCAT	6	4 x 25 SURFACE	91-100		CT	WEST SIDE ALONG STREAM BANK : CONTINUOUS COAT. AREA "C" ON SKETCH.		
04/25/90	OG'S ANADSCAT	7	SUBSURF		3	OF	EAST SIDE OF STREAM - 1 OF 3 PITS DUG CONTAINED OIL. PIT 5: 0-3CM OF. NOT SUBSURFACE OIL.		
04/25/90	OG'S ANADSCAT	8	SUBSURF ACE		5-30	OR G-30	WEST SIDE OF STREAM - OIL IN 4 OUT OF 5 PITS - RESTRICTED TO AREAS 4 AND 6. PIT 1: 0-5. PIT 2: 0-6. PIT 3: 0-10. PIT 7: 0-30, ALL IN UITZ. UITZ - 2 pits with subsurface 0-30 & 0-15 - not extensive		
MAD vs. OG: NO DIMENSION FOR SUBSURFACE OIL GIVEN ON OG - MAD HAS SOME - needed more pits to determine extent of subsurface oil									
COMMENTS:									

CATALOG NUMBER: 2262016182 SEGMENT#: CH009 B LOCATION: CHENEGA ISLAND, PRESTON COVE								SEQ:
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL (cm)	SITE SPECIFIC COMMENTS	
08/06/90	PRE-ASAP	1	4 x 9 SURFACE			OR	WEST BANK, 20M UPSTREAM OF STORM BERM: HEAVY 'OR' SEDIMENTS IN DRY STREAM CHANNEL.	

08/06/90	PRE-ASAP	2	>12 x 66 SURFACE			OR H-MOR	WEST BANK, 17M FROM STREAM MOUTH IN MITZ: BAND OF HEAVY TO MODERATE 'OR' SEDIMENTS.
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MAD vs. OG:

COMMENTS:

WEST BANK - 20M UPSTREAM STORM BERM - A 9M LONG X 4M WIDE PATCH OF HEAVY 'OR' SEDIMENTS IN DRY STREAM CHANNEL. WEST BANK - 17M FROM STREAM MOUTH IN MITZ - A 66M LONG X >12M WIDE BAND OF HEAVY TO MODERATE 'OR' SEDIMENTS. REC - MANUAL REMOVAL OF HEAVIER SEDIMENTS (OP) AND MECHANICAL TILLING AND CUSTOMBLEN OF LIGHTER 'OR'. AREA RECEIVED INIPOL - DIDN'T HELP. REASSESS IN SPRING. A COUPLE OF PINKS SEEN JUMPING FAR OFFSHORE. OIL OBSERVED ON STREAM BANKS.

CATALOG NUMBER: 2262016182 SEGMENT#: CH009 B LOCATION: CHENEGA ISLAND, PRESTON COVE SEQ:

DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
05/05/91	MAYSAP	1	10 x 75 SURFACE	15	5 10	HSOR MOR	west side of stream - u+mitz
05/05/91	MAYSAP	2	10 x 20 SURFACE		12 12	HOR	to east of stream in separate pocket beach not in CH009B

MAD vs. OG: OG shows a lower % of AP in site 1, but 1 pit revealed an MOR lense of 5-10cm. OG also has 2 small patches of SOV on west side.

COMMENTS: MINOR PICK UP NEEDED OF 'HSOR' SEDIMENTS AND A MAXIMUM EFFORT PUT FORTH INTO MANUAL TILLING. POCKET BEACH SOUTH OF STREAM REVEALED 'HOR' SEDIMENTS BURIED 12CM - 20CM DEEP, 12CM - 20CM THICK, BORDERLINE 'OP' SEDIMENTS. THE ONLY SOLUTION TO OIL REMOVAL AT SITE #2 WOULD BE MANUAL TILLING. - site 2 not in CH009B

scattered AP/SOR in u+mitz on west side - picked up at time of survey

CATALOG NUMBER: 2262016182 SEGMENT#: CH009 B LOCATION: CHENEGA ISLAND, PRESTON COVE SEQ:

DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
08/22/91	POST TREATMENT	A	1 x 1 SURFACE	80	5	HSOR MSOR	west stream bank in grass
08/22/91	POST TREATMENT	A2	PIT			MOR 5-24	
08/22/91	POST TREATMENT	B	10 x 100 SURFACE	1		AP HSOR	west side of stream - u+mitz
08/22/91	POST TREATMENT	B3	PIT			NONE	

08/22/91	POST TREATMENT	B4	PIT			LOR 0-2 LSOR	
08/22/91	POST TREATMENT	B5	PIT			MOR 0-8	
08/22/91	POST TREATMENT	C	4 x 20 SUBSURFACE		40 (penetr.)	HOR MOR	WEST SIDE in UITE: This area is located within Area B, with H-MOR up to 40 cm penetration.
08/22/91	POST TREATMENT	C10	PIT			HOR 5-13	
08/22/91	POST TREATMENT	C6	PIT			LOR 0-4 LSOR	
08/22/91	POST TREATMENT	C7	PIT			HOR 0-20	
08/22/91	POST TREATMENT	C8	PIT			HOR 0-40	
08/22/91	POST TREATMENT	C9	PIT			HOR 0-35	
08/22/91	POST TREATMENT	D	.5 x .5 SUBSUR			TR	
08/22/91	POST TREATMENT	D1	PIT			TR	

MAD vs. OG:

COMMENTS:

SMALL SILVER SHEEN IN UPPER STREAM, DETERMINED TO BE ORGANIC. AREA A, H TO MSOR MIXED WITH VEGETATION, APPROXIMATELY 5CM IN THICKNESS. AREA B, AP/HSOR SCATTERED, APPROXIMATELY 1-3CM IN THICKNESS. SUBSURFACE, AREA C, HOR AT NORTHWEST END OF AREA B, UNDER COBBLE ARMOR. SUBSURFACE AREA D, TRACE ADJACENT TO STREAM. ALTHOUGH THIS STREAM WAS NOT TREATED IN 1991, WE RECOMMEND REASSESSMENT IN 1992 DUE TO THE SUBSTANTIAL SUBSURFACE OILING. THE HOR DOES APPEAR RELATIVELY STABLE UNDER A COBBLE ARMOR. THE MOST EFFICIENT TREATMENT METHOD WOULD BE MECHANICAL TILLING.

In a nut shell - west bank - UITE - 10x100m AP/HSOR - 10% within that band, an area of H-MOR 4x20m - up to 40cm penetration

Nancy
Please type two in bold in (No can do)

OG SUPPLEMENTAL INFO TO MAD

RECORDER: Wesembo RED-DATE: 10/2/91

PAGE

CATALOG NUMBER: 226-20-16182
STREAM NAME:

STREAM NAME:

LOCATION: N Cheneg 9

SEGMENT NUMBER: CH009B

SHORELINE TYPE: COVER

DATE: 4/25/90 TIME:

OG vs. MAD:

No dimensions for subsurface oil
given on OG - MAB has some.

[illegible]

ANADSCAT 90

ADF&G MULTI-ASSESSMENT DATA FORM

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

METHOD: Aerial Ground Boat

3 DATE: 4/25/90 15 HIGH TIDE TIMES: 1500 21 TEAM RECORDER: TOM CROWE

4 START TIME: 0746 16 HIGH TIDE HTS: +11 FT 22 OBSERVERS: MIKE WIERMER

5 STOP TIME: 0926 17 LOW TIDE TIMES: 0830 23 AGENCY: ADF&G (ANADSCAT)

6 SEGMENT #: CH009 18 LOW TIDE HTS: -4 FT 24 PHOTOS TAKEN: Y CD

7 STATION #: _____ 19 TIDE HT AT SURVEY: -2 FT Roll #: _____ Frame: _____

8 K-UNIT: _____ Ebb Slack Flood Slack 25 VIDEO TAKEN: Y AD TAPE#: _____

9 STAT AREA: _____ 20 USCG QUAD: SEW B-3 Start: _____ End: _____

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

12 SOURCE: Map Loran 011 HONE

13 LOCATION: NORTH TIP CHENEGA ISLAND Sediment _____

14 DESCRIPTION: _____ Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	W	M ²	%	L	W	M ²	%
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 (M) H

31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain

32 OILED DEBRIS? Y (N)

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

34 WAVE EXPOSURE: High Moderate Low VERY LOW

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

36 CATALOGED ANAD. FISH SREAM? (Y) N

37 CATALOG #: 226-20-16182

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: 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 AMOUNTS SHOULD BE USED FOR PROLONGED RELEASE. ACE 7236466+15

DESCRIPTION

Two

RECOMMENDATION: REMOVE TAR MATS IN AREA 1, 2, 3 UPPER INTERTIDAL AREA A. NO INIPOL TO BE USED IN THIS AREA. TREATMENT OF AREA A SHOULD INCLUDE LIGHT TILLING OF SURFACE OF THE FLAGSTONE COBBLE ALSO BIOREMEDIATION IN THE FORM OF SOLID PELLETS BURIED IN FURROW AT SUPRATIDAL SHOULD BE CONSIDERED FOR AREA A.

AREA A.

30cm DEEP.
#7 OIL FAMES

site 46
subsurface

#6 25 cm
NO OIL

3cm At #5
LIGHT OIL
SURFACE

Site 5
10/3/91
MEX 8

ASPAULT
TARNAT

TARNAT

ASC

266-20-16182

CH-009

Area # 3 Tarmac
T 10x10

pit 6 cm (LIGHT COAT)
— AT 10 cm (COATING
AT 16 cm OIL (LIGHT COAT)

Rock
outcrop

Subsurface

NOTE:

RAGEL NEST AT
ENTRANCE TO THIS
LAGOON

APR 4
NO

Buff

Sample taken
Photo frame # and
shot direction.

Island

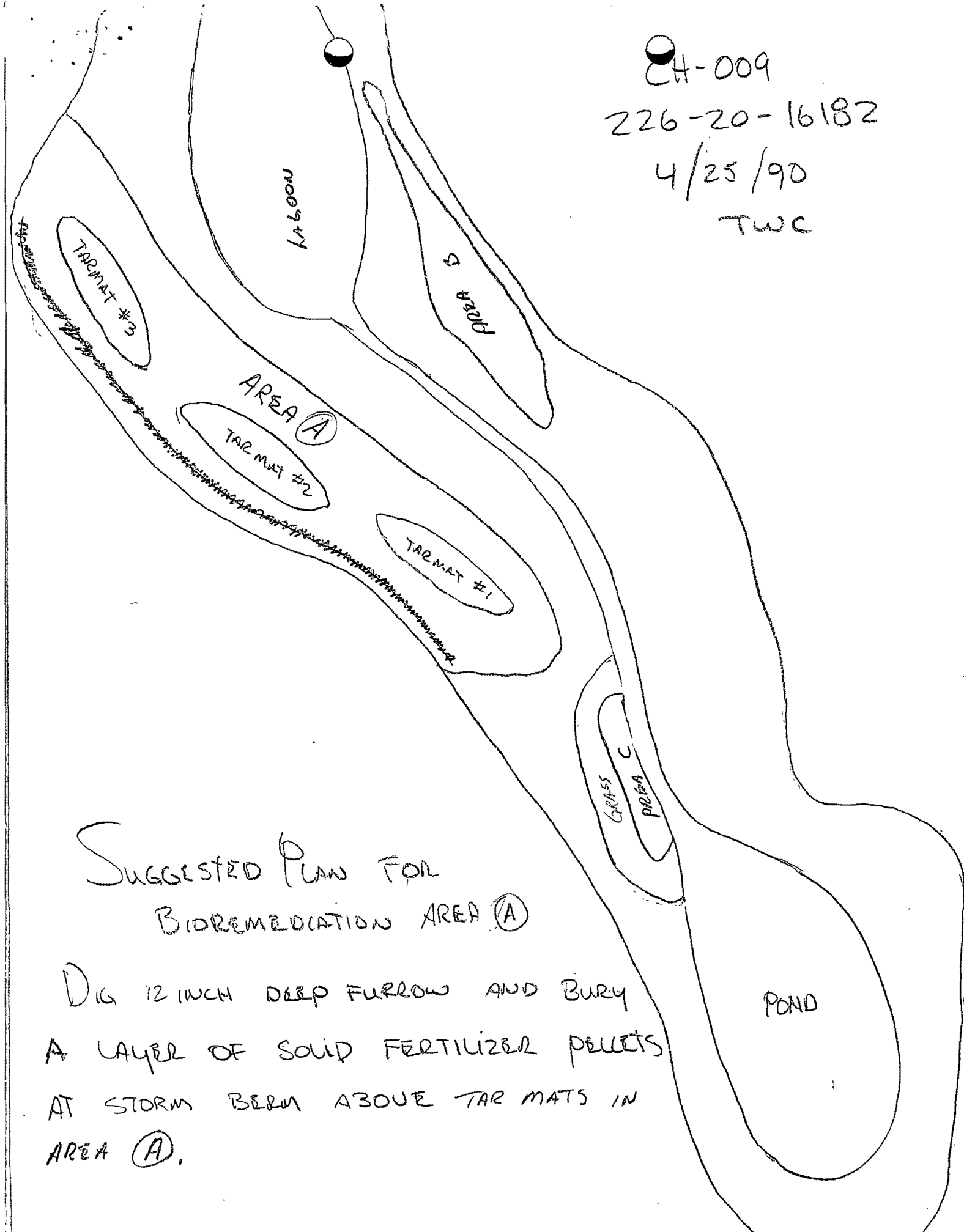
ACE 7236467

CH-009

226-20-16182

4/25/90

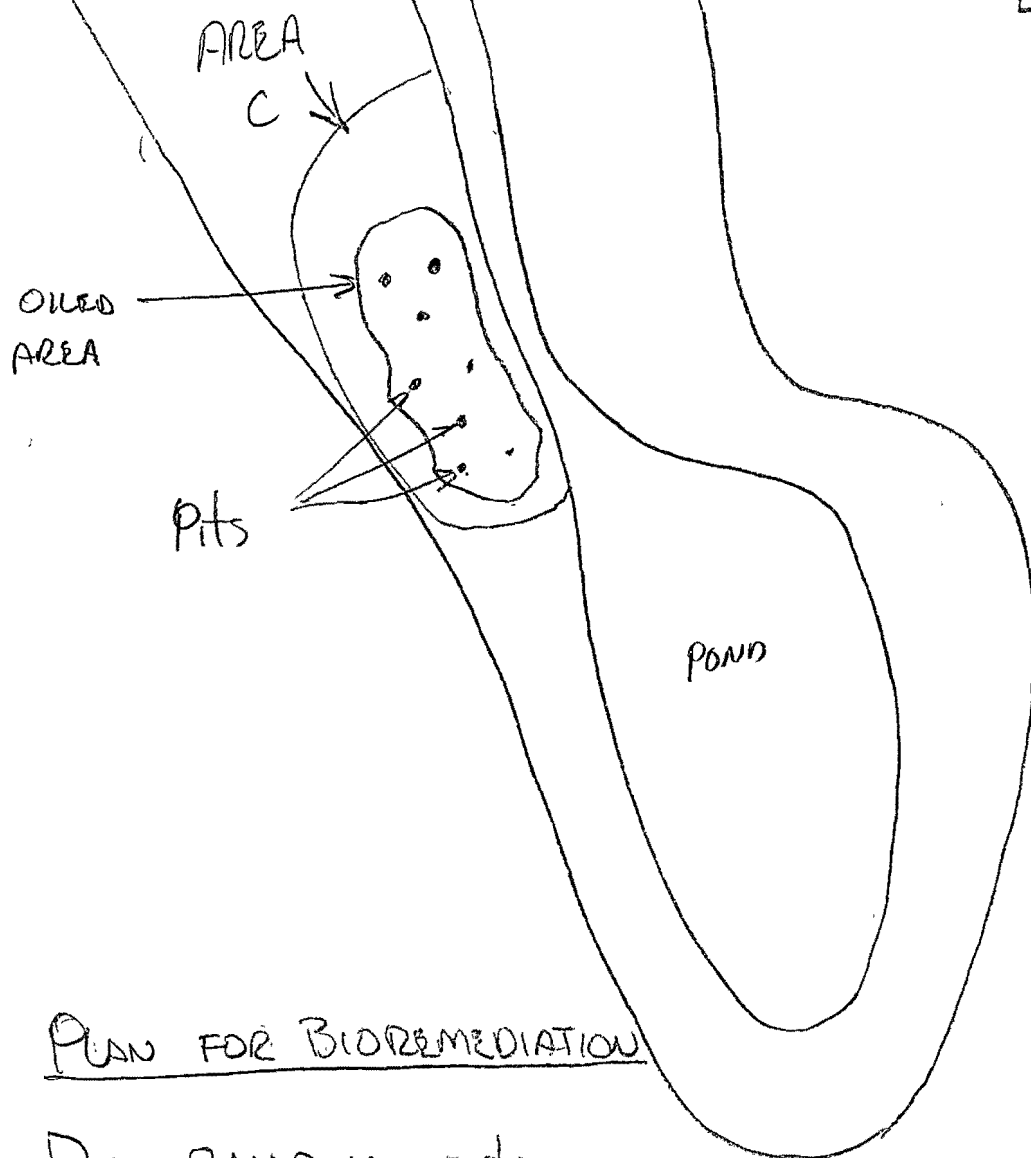
TWC



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).

CH-009
226-20-16182
4/25/90
TWC



PLAN FOR BIOREMEDIATION

1. 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.

Alaska Department of Fish and Game

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

25 April 1990

ASC # 226-20-16182

Segment CH-009

Observations The intertidal zone surrounding this channel is confined to a low energy, elongated cove bordered by bedrock walls. The substrate is composed predominantly of shale cobble and gravel. A very rich biota occurs throughout the lower intertidal zones below the oiled areas.

A wide range of oiling types and degrees exist at this site (see ADF&G Multi-Assessment Form for specific descriptions). While this site still contains significant amounts of subsurface oil, treatment of this site will be difficult. Moderate concentrations of oil have penetrated deeply into a poorly sorted shale boulder, cobble, gravel, sand matrix along the upper-intertidal zone west of the channel.

Other than complete removal of the substrate, elimination of oil will be difficult. Additionally, the very rich intertidal flora and fauna adjacent to the oiled zone will be at risk during and after extensive treatment operations.

Treatment Recommendations All surface tar mats and patties should be manually removed. See the ADF&G Multi-Assessment Data Form for additional treatment suggestions.

ASC # 226-20-16200

Segment CH-900

Observations Large shale cobbles and boulders compose the substrate of this low-exposure cove. A band of sporadic tar patties rings the high tide line on either side of the channel. No significant subsurface oil was identified.

Treatment Recommendations Manually remove tar patties. Trowels may be required to remove oil from interstitial spaces.

SHORELINE OILING SUMMARY (ANAD.)

REVISION NO. 00

OG WILLIAM LEID USCG McMAHON SEGMENT ST/ CH009 48/54
 BIO MICHAEL FAWCETT LAND REP STRAM 26-20-16/84 OF
 EXXON GUS GARCIA ADFG MIKE WIEDNER TIME 07:45:10
 TEAM NO. 15 TIDE LEVEL 3 FT DATE 25 / APR / 90
 EST. SUBDIVISION LENGTH: 60 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 2 % B 2 % C 45 % P 53 % G 0 % S 0 % M 0 % V 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			
	N	S	P	E	1	2	3	4	5	SW	W	M	U
ASPHALT PAVEMENT		X			X	X	X	X	X	X			
POOLED													
COVER	X				X					X			
COAT	X				X					X			
STAIN	X				X					X			
MOUSSE													
PATTIES		X	X					X		X			
TARBALLS													
FILM													
NO OIL										X	X	X	

PAVEMENT H (F) S 20 sq. m by 7PATTIES / TARBALLS 1 BNEAR SHORE SHEEN? (N) BR RW SL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

Did you Col
DEBRIS
☐ YES ☒ NO

TYPE 0#BAGS 0

Photographs:

Roll No. 0Frames 0

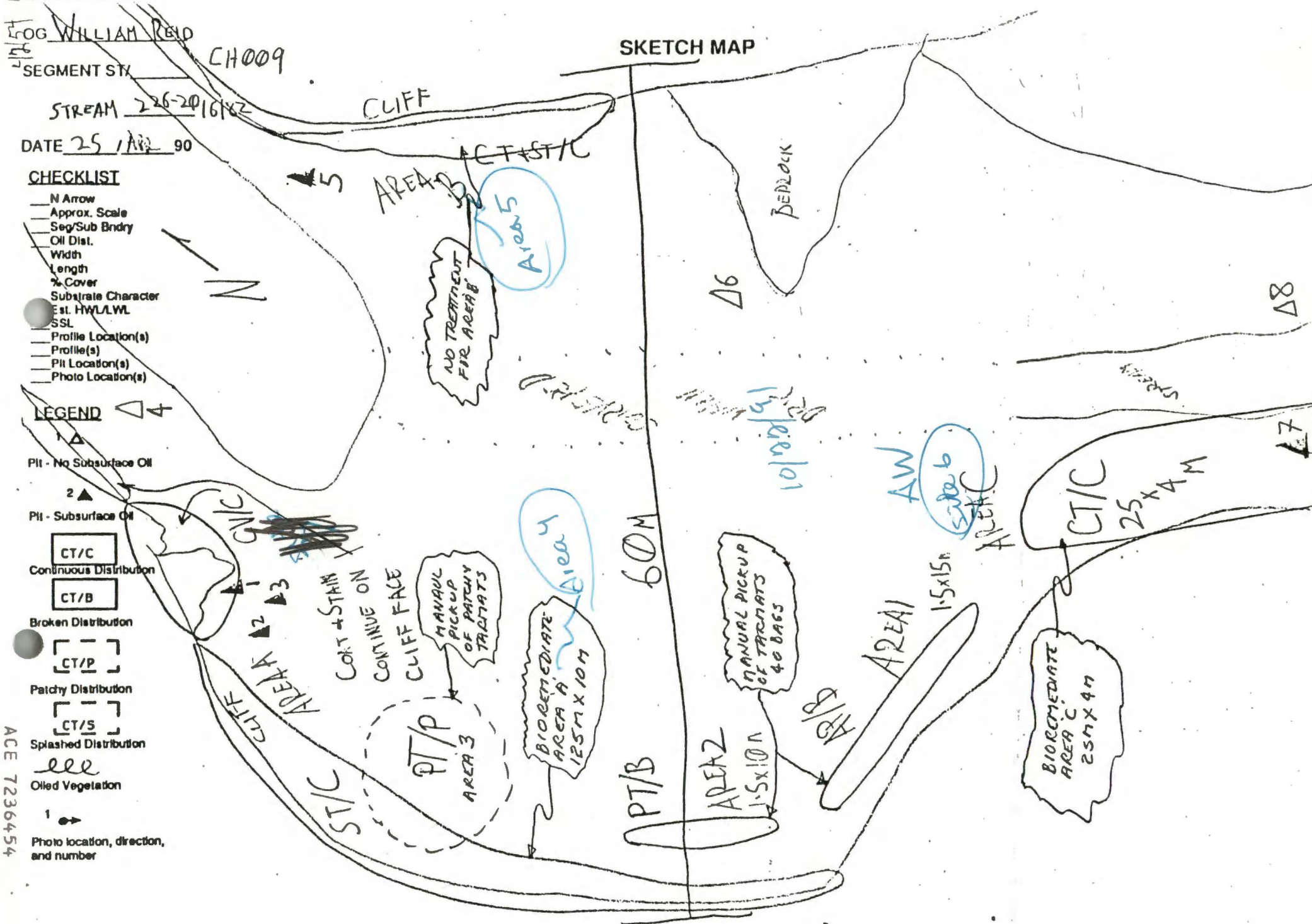
SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (Y/N)	T	SURF/ SUBSURF SEDIMENT
		OP	OR	OL	OF	NO		NO	BC	1	2	3	4	5	SW	W	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		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 4-27-90

ACE 7236427



Segment CH 009

4/25/90

Stream 226-20-16182

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, echinuroids, 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. (ACE 7236464)

Remaining oil consists of stains on bedrock walls and UTZ boulders, and a band of

segment CH009

4/25/90

Stream 226-20-16182

Michael Fournet

Ecological Summary

surface tar in V.T.Z. 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. Fournet

OPERATIONS FIELD NOTES

See Back for Instructions

4/5

SEGMENT ID ANAD CH-009
 STREAM ID # 226-20-16102
 ANNOTATED MAP INCLUDED GIN

DATE 4-25-90
 NAME GARCIA
 TEAM # 15

SURFACE OIL	Quantities in Meters			None	Treatment Recommendation					
	Length	Width	Area		Bioremediation		Tilling		Spot Hot Water	
					Y/N	% Treat	Y/N	% Treat	Y/N	% Treat
Wide Band AREA 'A'	125	10	1250		Y	100	N	—	N	—
Medium Band AREA 'B'	75	4	300	✓						
Narrow Band AREA 'C'	25	4	100		Y	100	N	—	N	—
Very Light										
TOTAL MANDAYS						4				

SUBSURFACE OIL — YES. 0-15CM IN DEPTH. REFER TO MAP FOR TREATMENT RECOMMENDATION.

Other (Describe)?	

TARMATS	Quantities in Meters			Treatment Rec			# of Bags	Mandays Required	
	Length	Width	Thick(cm)	None	Breakup	Remove		Breakup	Remove
Area #1	15	1 1/2	5			✓	30		2
Area #2	10	1 1/2	5			✓	10		2
Area #3 PATCHY	10	10	5			✓	15		2
Area #4									
Sporadic Mats									

MANUAL PICKUP	Type of Debris			In Meters		# of Bags	Pickup Y/N	Manday Estimate
	Mousse Tarballs	Oiled Veget	Cleanup Debris	Length	Width			
"Pocket" #1		NE						
"Pocket" #2	NO							
"Pocket" #3								
Random/Continuous								

OILED LOGS Y/N	OILING H/M/L	QUANTITY L/M/S	BURN Y/N
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Is there Other Debris on the Beach? Y/N How Many Bags? — Is it mingled with the Oiled Debris Y/N

GENERAL
 Wave Exposure H/M/L Access Limitations: NONE
 Snare Boom/Pom Poms Recommended? NO
 Would the production Craft have to be relocated to complete work on this subdivision? Y/N, # of Times —

COMMENTS:
 RECOMMENDATION: MANUALLY REMOVE TARMATS IN AREAS 1, 2, & 3 THEN BIOREMEDIATE AREAS A & C. TOTAL MANDAYS REQUIRED FOR THIS STREAM IS 10.

ACE 7236453 +1S

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 CH 009 SUBDIVISION: 16182 DATE 4/25/90

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' & DES FLUSHED AGENT OUT TO STRM], SUGGEST treatment again.

ADF 16

ADFC

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 NO TREATMENT.

LAND MANAGER

NAME _____

SIGNATURE _____

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

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 McManus 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 Weimer Art Weimer
EXXON Andi Tetz Andi Tetz
NOAA Barl Wesscott Barl Wesscott
USCG D. D. Rome D. D. Rome

FOSC: ML DATE: 5-15-90

NOTIFY CVC 24 HRS IN ADVANCE
OF WORK

ACE 7236420

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

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

5T Bald Eagle Nest

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

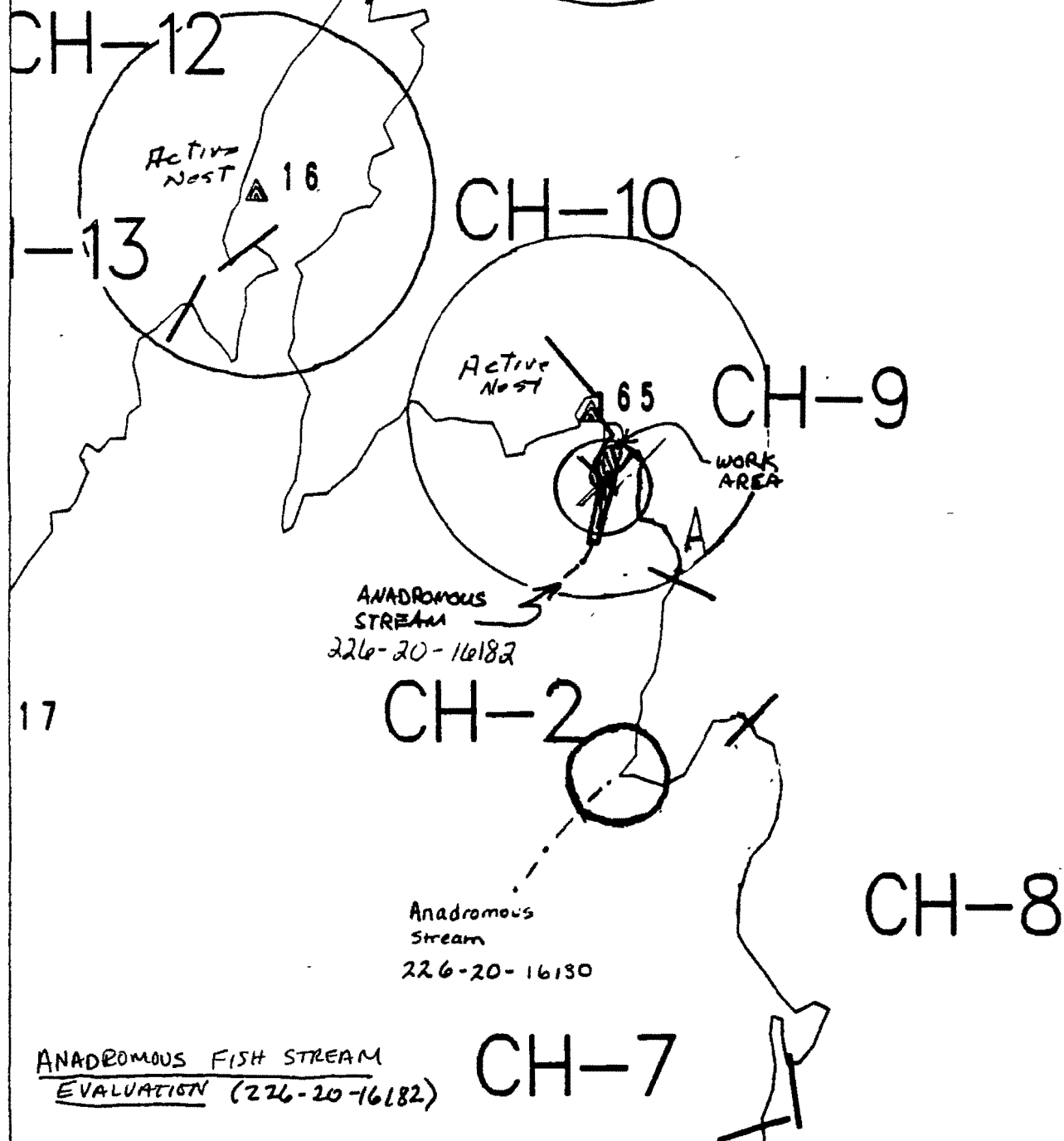
ACE 7236417 +15

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (8/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (8/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (8/1 to 9/15)
6V Anchorages (8/1 to 9/15)
6W Forest Service cabins (8/1 to 9/15)
6X Lodge (8/1 to 9/15)
6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH Finfish harvesting
7I Deer harvesting (8/15 to 2/26)
7JJ Invertebrate harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

ACE 7236424

USFWS 3/1/90
NEST SURVEY map



Exxon Company, USA
Map Key: PWS-CH-9



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

- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1162 feet

ACE 7236418

54/54

SSAT DATA ENTRY FORM

PAGE 1 OF 2

GENERAL DATA

SEG ID: CH 009 ²²⁶⁻²⁰⁻ SUBDIV: 16182 TEAM: A5-15 SURVEY DATE: 4/25/90
PAVEMENT: CHAR F AREA 20 THICKNESS 7 TARBALLS 0
OILED: LGS - VEG - TRH - DBR - WAVE EXP: LW X MD - HG -
FAX RCVD: - DT: - AGENCY DISAGREE: -
EST SUBDIV LGTH: 60 OIL CATEGORY: W 0 M 4 N 65 VL 0 NO 41 U 0

SURFACE DATA

SURFACE SEDIMENT: BRK 0 BLD 2 COB 45 PEB 53 GRN 0 SAN 0 MUD 0 VEG 0

CHAR #: 1 OIL CHAR: AP OIL DIST: CONT - BRKN X PTCH - SPLH -
OIL CLR: DBL FILM CLR: - TIDAL ZONE: SU - UI X MI - LI -

CHAR #: 2 OIL CHAR: CV OIL DIST: CONT X BRKN - PTCH - SPLH -
OIL CLR: DBL FILM CLR: - TIDAL ZONE: SU - UI X MI - LI -

CHAR #: 3 OIL CHAR: CT OIL DIST: CONT X BRKN - PTCH - SPLH -
OIL CLR: DBL FILM CLR: - TIDAL ZONE: SU - UI X MI - LI -

CHAR #: 4 OIL CHAR: ST OIL DIST: CONT X BRKN - PTCH - SPLH -
OIL CLR: DBL FILM CLR: - TIDAL ZONE: SU - UI X MI - LI -

CHAR #: 5 OIL CHAR: PT OIL DIST: CONT - BRKN X PTCH X SPLH -
OIL CLR: DBR FILM CLR: - TIDAL ZONE: SU - UI X MI - LI -

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

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

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

ACE 7236462

SSAT DATA ENTRY FORM

SUBSURFACE DATA

PAGE 2 OF 2

SEGMENT ID: CH009 SUBDIV: 226-20-16182

PIT # 1 PIT DEPTH 20 OIL CHARACTER OR OIL INTVAL: FROM 0 TO 15
 QUANT: UC OIL CLR: DBR FLM CLR: — ZONE: SU — UI X MI — LI —
 SUBSURF SEDIMENT: BRK — BLD — COB X PEB X GRN X SAN — MUD — VEG —

PIT # 2 PIT DEPTH 35 OIL CHARACTER OR OIL INTVAL: FROM 0 TO 6
 QUANT: UC OIL CLR: DBR FLM CLR: — ZONE: SU — UI X MI — LI —
 SUBSURF SEDIMENT: BRK — BLD — COB X PEB X GRN X SAN — MUD — VEG —

PIT # 3 PIT DEPTH 30 OIL CHARACTER OR OIL INTVAL: FROM 0 TO 10
 QUANT: UC OIL CLR: DBR FLM CLR: — ZONE: SU — UI X MI — LI —
 SUBSURF SEDIMENT: BRK — BLD — COB X PEB X GRN X SAN — MUD — VEG —

PIT # 4 PIT DEPTH 40 OIL CHARACTER — OIL INTVAL: FROM 0 TO 0
 QUANT: — OIL CLR: — FLM CLR: — ZONE: SU — UI — MI X LI —
 SUBSURF SEDIMENT: BRK — BLD — COB X PEB X GRN X SAN — MUD — VEG —

PIT # 5 PIT DEPTH 20 OIL CHARACTER OF OIL INTVAL: FROM 0 TO 3
 QUANT: UC OIL CLR: DBR FLM CLR: — ZONE: SU — UI X MI — LI —
 SUBSURF SEDIMENT: BRK — BLD — COB X PEB X GRN X SAN — MUD — VEG —

PIT # 6 PIT DEPTH 25 OIL CHARACTER — OIL INTVAL: FROM 0 TO 0
 QUANT: — OIL CLR: — FLM CLR: — ZONE: SU — UI X MI — LI —
 SUBSURF SEDIMENT: BRK — BLD — COB X PEB X GRN X SAN — MUD — VEG —

PIT # 7 PIT DEPTH 30 OIL CHARACTER OR OIL INTVAL: FROM 0 TO 30
 QUANT: UO OIL CLR: SBL FLM CLR: — ZONE: SU — UI X MI — LI —
 SUBSURF SEDIMENT: BRK DBL — BLD — COB X PEB X GRN X SAN — MUD — VEG —

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

PROBLEMS: —

RECEIVED
MAY 07 1990

DEPT. OF
ENVIRONMENTAL CONSERVATION

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: CH-09

STREAM NO: 226-20-16182

JOHN THIS IS THE AREA WE SAW AND VIDEOED
LAST SUMMER WHERE INIPOOL HAD COLLECTED IN A
LAGOON/TIDE POOL ALMOST ONE MONTH AFTER ITS APPLICATION.
THIS IS A-SPOT WHERE BURIED SOLID FERTILIZER PELLETS
WOULD BE THE MOST DESIRABLE CHOICE FOR BIODEGRADATION.
INIPOOL SHOULD NOT BE USED IN THIS AREA BECAUSE WE
HAVE ALREADY PROVEN THAT IT HAS BEEN HARMFUL.
THE EXXON BIOLOGIST HAS EVEN WRITTEN IN HIS RECOMMEN-
DATION TO USE BURIED SOLID FERTILIZER. ALSO
HAND TILLING WITH SHOVELS & PICKS WILL GREATLY
ACCELERATE PROCESS OF DEGRADATION OF THE OIL BY
BIOREMEDIATION

NOTE: SEE HIGHLIGHTED COMMENT

ACE 7236490 US

CATALOG NUMBER: 2262016182

STREAM NAME:

LOCATION: CHENEGA ISLAND, PRESTON COVE

SEGMENT NUMBER: CH009 B

SHORELINE TYPE:

DATE: 04/13/90 TIME: LAGOO-1140

SITE	WIDTH (m)	LENGTH (m)	AREA (sqm)	PERCENT OIL	THICKNESS (cm)	PENETRATION (cm)	SURFACE SUBSURF	OIL TYPES	COMMENTS
1							SURFACE	AP SOR	- Both sides of stream.

COMMENTS:

TOTAL OIL COVERAGE. (SEE WINTER PLAN MAP).

OIL WITHIN 1 MILE OF STREAM.

CATALOG NUMBER: 2262016182

STREAM NAME:

LOCATION: CHENEGA ISLAND, PRESTON COVE

SEGMENT NUMBER: CH009 B

SHORELINE TYPE:

DATE: 04/25/90 TIME: LAGOO-0926

SITE	WIDTH (m)	LENGTH (m)	AREA (sqm)	PERCENT OIL	THICKNESS (cm)	PENETRATION (cm)	SURFACE SUBSURF	OIL TYPES	COMMENTS
1	1	15					SURFACE	AP	west side of stream
2	1	10					SURFACE	AP	" " " " " "
3	10	10					SURFACE	AP	" " " " " " - Patchy tarmat
4		150		11-50	3 cm	30	SURFACE	LOR	west side - Area A - Includes sites 1-3
5	4	15					SURFACE	OR	East side - Area B - light surface oil
6							SURFACE	OR	west side Area C -

COMMENTS:

AREA C IS AN AREA ADJACENT TO STREAM BANK WHERE OIL IS DEEPLY BURIED. THIS AREA IS AT THE +12 FOOT TIDE LINE. BIOREMEDIATION IN FORM OF SOLID PELLETS. BURIED SIX TO EIGHT INCHES IN INTERMITTANT PITS WITHIN THE OILED AREA. SMALL AMOUNTS SHOULD BE USED FOR PROLONGED RELEASE.

RECOMMENDATIONS: REMOVE TARMATS IN AREA 1, 2, 3 UPPER INTERTIDAL AREA. NO INIPOL TO BE USED IN THIS AREA. TREATMENT OF AREA A SHOULD INCLUDE LIGHT TILLING OF SURFACE OF THE FLAGSTONE COBBLE. ALSO BIOREMEDIATION IN THE FORM OF SOLID PELLETS BURIED IN FURROWS AT SUPRATIDAL SHOULD BE CONSIDERED FOR AREA A.

CATALOG NUMBER: 2262016182

STREAM NAME:

LOCATION: CHENEGA ISLAND, PRESTON COVE

SEGMENT NUMBER: CH009 B

SHORELINE TYPE:

DATE: 05/05/91 TIME: LAGOO-1247

SITE	WIDTH (m)	LENGTH (m)	AREA (sqm)	PERCENT OIL	THICKNESS (cm)	PENETRATION (cm)	SURFACE SUBSURF	OIL TYPES	COMMENTS
1	10	75	750	15	5	10	SURFACE	HSOR MOR	
2	10	20	200		12	12	SURFACE	HOR	

COMMENTS:

MINOR PICK UP NEEDED OF 'HSOR' SEDIMENTS AND A MAXIMUM EFFORT PUT FORTH INTO MANUAL TILLING. POCKET BEACH SOUTH OF STREAM REVEALED 'HOR' SEDIMENTS BURIED 12CM - 20CM DEEP, 12CM - 20CM THICK, BORDERLINE 'OP' SEDIMENTS. THE ONLY SOLUTION TO OIL REMOVAL AT SITE #2 WOULD BE MANUAL TILLING.

CATALOG NUMBER: 2262016182

SEGMENT NUMBER: CH009 B

STREAM NAME:

SHORELINE TYPE:

LOCATION: CHENEGA ISLAND, PRESTON COVE

DATE: 08/22/91 TIME: LAG00-1015

SITE	WIDTH (m)	LENGTH (m)	AREA (sqm)	PERCENT OIL	THICKNESS (cm)	PENETRATION (cm)	SURFACE SUBSURF	OIL TYPES	COMMENTS
A2							PIT	MOR	
B3							PIT	NONE	
B4							PIT	LOR	
B5							PIT	MOR	
C10							PIT	HOR	
C6							PIT	LOR	
C7							PIT	HOR	
C8							PIT	HOR	
C9							PIT	HOR	
D1							PIT		
C	4	20	80				SUBSUR	HOR	
D	.5	.5	.25				SUBSUR	TR	
A	1	1	1	80			SURF	HSOR MSOR	
B	10	100	1000	1	5		SURF	AP HSOR	

COMMENTS:

SMALL SILVER SHEEN IN UPPER STREAM, DETERMINED TO BE ORGANIC. AREA A, H TO MSOR MIXED WITH VEGETATION, APPROXIMATELY 5CM IN THICKNESS. AREA B, AP/HSOR SCATTERED, APPROXIMATELY 1-3CM IN THICKNESS. SUBSURFACE, AREA C, HOR AT NORTHWEST END OF AREA B, UNDER COBBLE ARMOR. SUBSURFACE AREA D, TRACE ADJACENT TO STREAM. ALTHOUGH THIS STREAM WAS NOT TREATED IN 1991, WE RECOMMEND REASSESSMENT IN 1992 DUE TO THE SUBSTANTIAL SUBSURFACE OILING. THE HOR DOES APPEAR RELATIVELY STABLE UNDER A COBBLE ARMOR. THE MOST EFFICIENT TREATMENT METHOD WOULD BE MECHANICAL TILLING.

Pre-ASAP

ANADROMOUS FISH STREAMS/OILING CONDITION
PWS

Segment # Ch 9 ASC# 226-20-16182 Location N Chenega I

Date 8/6/90 Recorder/Observer Aimee Weseman

Oil in streambed yes Oil on streambanks yes

Oil within 50m of mouth yes Anadromous Fish present a couple of pinks seen jumping far offshore

Description of oil and comments

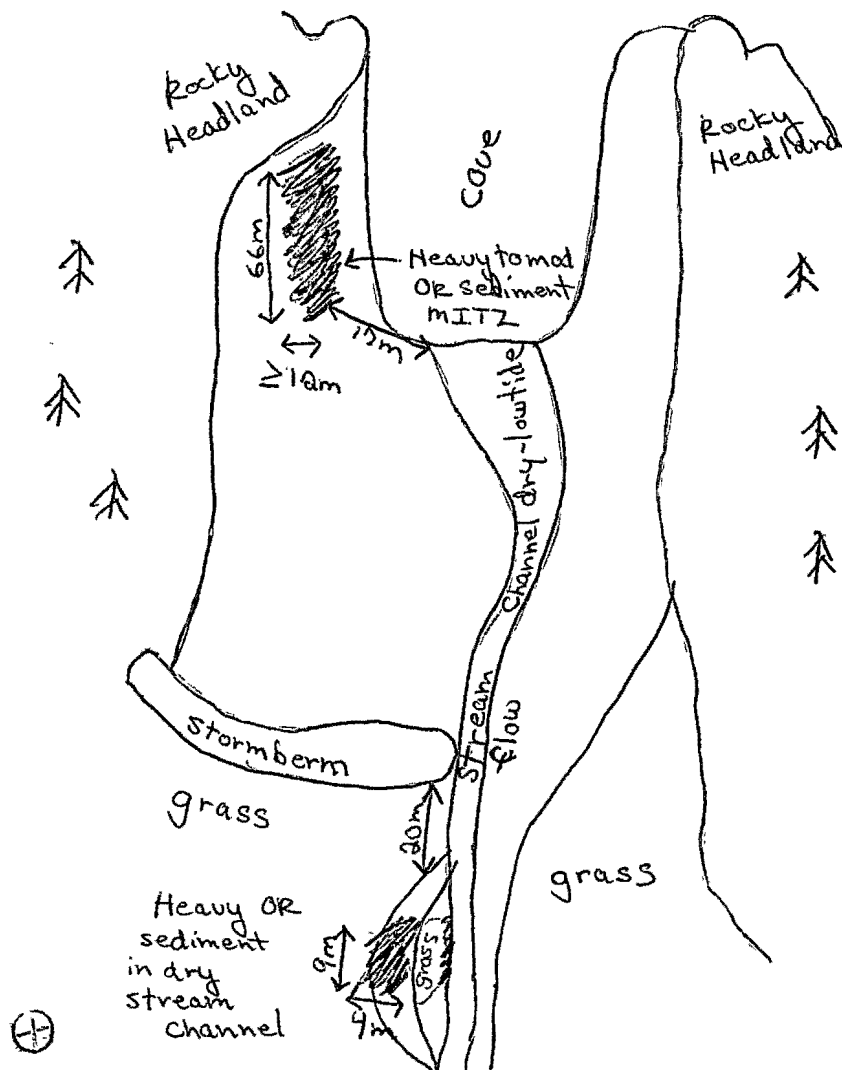
West bank - 20m upstream stormberm - a 9m long x 4m wide patch of Heavy OR sediments in dry stream channel

West bank - 15m from stream mouth in MITZ - a 66m long x ≥ 12 m wide band of heavy to moderate OR sediments

Rec - manual removal of heavier sediments & mechanical tilling & custom blen of lighter OR

Area received INIPOL - didn't help Re-assess in spring.

Oil Distribution Diagram



ACE 7236398

ADF&G MULTI-ASSESSMENT DATA FORM

Pre-ANADSCAT-90

1 SURVEY TYPE: BS SS DS TS AVS SCHM MMHS PTA

2 REGION: PWS KP, CI K, AP

METHOD: Aerial Ground Boat

3 DATE: 4/13/90

15 HIGH TIDE TIMES: /

21 TEAM RECORDER: TOM CRAWF

4 START TIME: 1132

16 HIGH TIDE HTS: /

22 OBSERVERS: GREG CHENY (RYXOW)

5 STOP TIME: 1140

17 LOW TIDE TIMES: /

23 AGENCY: ADF&G ATW

6 SEGMENT #: CH009

18 LOW TIDE HTS: /

24 PHOTOS TAKEN: Y (N)

7 STATION #:

19 TIDE HT AT SURVEY:

Roll #: Frame:

8 K-UNIT:

Ebb Slack Flood Slack

25 VIDEO TAKEN: Y (N) TAPE#:

9 STAT AREA:

20 USCG QUAD:

Start: End:

10 LAT:

11 LONG:

26 SAMPLES TAKEN? Y (N) Number

12 SOURCE: Map Loran

13 LOCATION: CHANKA

14 DESCRIPTION:

EXTENT OF OIL

SHORELINE

STREAM

L W M² % L W M² %

27 SURFACE COVERAGE

--	--	--	--	--	--	--	--	--	--

28 SURFACE THICKNESS

--	--	--	--	--	--	--	--	--	--

29 PENETRATION

--	--	--	--	--	--	--	--	--	--

30 OVERALL OIL IMPACT: N VL L M H

31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain

32 OILED DEBRIS? Y N

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

34 WAVE EXPOSURE: High Moderate Low

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

36 CATALOGED ANAD. FISH STREAM? (Y) N

37 CATALOG #: 226-20-16182

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: TOTAL OIL COVERAGE

(SEE WINTER PLAN MAP)

ACE 7236470+15

FRAME(S)

DESCRIPTION

46 OIL DISTRIBUTION DIAGRAM

CH009

TWC

4/13/90

ATW

226-20-16182

TOTAL
COVERAGE
TAN

= Sample taken
= Photo frame # and
shot direction.

ACE 7236471 -15

ADEC EXXON VALDEZ POST-TREATMENT SURVEY REPORT

SEGMENT#: CH009
LOCATION: NE CHENEGA ISLAND

DATE: 10/05/89
TIME: 8:25

Survey Type: Boat, Ground
Team: D. Gardner, B. McCready

WEATHER AND SEA CONDITIONS

Weather: Cloudy, Rain Wind Direction: SE
Sea State: Moderate Knots: 0-15

Low Tide: 23:43 Feet: 1.73 High Tide: 5:15 Feet: 9.39
Low Tide: 10:46 Feet: 4.86 High Tide: 16:32 Feet: 11.7

SHORELINE DESCRIPTION

Shoretypes: H,LR,B,C
(H=headland, LR=low-lying rock, B=beach, C=cove, L=lagoon, M=marsh)

Wave Exposure: M (H=high, M=moderate, L=low)
Shoreline Composition: R,B,C,G
(R=bedrock, B=boulder, C=cobble, G=gravel, S=sand, M=silt)

OIL CHARACTERISTICS

Degree of Oiling: VL,L,M,H
(N=none, VL=very light, L=Light, M=moderate, H=heavy)
Area of Impact: H,M,L
(S=supratidal, H=high intertidal, M=mid tidal, L=low intertidal)

Max. Oil Thickness: 3 mm (1 = 1 mm or less, 0 = no oil)
Max. Oil Penetration: 30 cm (35 = 35 cm or greater)

Percent Segment Categorized as Oiled: 75%
Presence of Oiled Driftwood (y/n): n
Oil Types: SY,T,ST
(P=pooled, M=mousse, SY=sticky, T=tar, A=asphalt, ST=stain)
Samples: none / none / none / none

DAMAGED OR OILED ORGANISMS

Fucus (y/n): y Barnacles (y/n): y Mussels (y/n): y
Dead Mammals: 0 Dead Birds: 0

SOLID WASTE FOUND

Type: None
Bags Collected: 0

Draft

Printed: 12/12/89 11:02

Walk-a-thon

ACE 7236383+AC

Final Anadromous Stream Treatment Information

Segment ID - Stream ID	NTR	Bio	Bio Start	Bio End	Man	Man Start	Man End
BA002 226-40-16450	X						
BA002 226-40-16451		X	6/22/90	6/23/90	X	6/22/90	6/23/90
BP004 226-20-16388					X	7/1/90	7/2/90
BP004 226-20-16392					X	7/2/90	7/3/90
BP004 226-20-16395					X	7/3/90	7/4/90
BP004 226-20-16397		X	7/7/90	8/27/90	X	7/4/90	7/7/90
CB003 242-20-10190					X	6/14/90	6/14/90
CH001 226-20-16280					X	6/16/90	6/16/90
CH002 226-20-16180		X	7/3/90	9/12/90	X	6/16/90	6/16/90
CH009 226-20-16182		X	7/4/90	9/12/90	X	7/4/90	7/4/90
CH014 226-20-16255					X	6/20/90	6/20/90
CH016 226-20-16258	X						
CH0900 226-20-16200					X	7/3/90	7/3/90
CU001 224-20-12995					X	5/18/90	5/23/90
CU007 224-20-13010	X						
CU013 224-20-13030					X	6/3/90	6/3/90
CU014 224-20-13034					X	6/21/90	6/21/90
CU014 224-20-13036					X	6/21/90	6/21/90
EI001 242-10-10270					X	7/1/90	7/1/90
EL015 226-10-16908					X	6/30/90	6/30/90
EL052 226-10-16902		X	6/28/90	9/4/90			
ER005 226-50-16432					X	6/21/90	6/21/90
ER006 226-50-16430					X	6/20/90	6/20/90
ER007 226-50-16428					X	6/20/90	6/20/90
ER019 226-50-16406	X						
EV003 226-40-16590					X	6/10/90	6/10/90
EV007 226-40-16559	X						
EV012 EV012-UNCAT		X	6/22/90	6/23/90	X	6/22/90	6/23/90
EV014 226-40-16640					X	6/23/90	6/23/90
EV017 226-40-16620					X	6/19/90	6/19/90
EV017 226-40-16630					X	6/19/90	6/19/90
EV025 226-40-16613		X	7/1/90	7/1/90	X	6/9/90	6/9/90
EV027 226-40-16610					X	7/8/90	7/8/90
EV070 226-40-16509		X	6/12/90	9/1/90	X	6/12/90	6/12/90
EV071 226-40-16484		X	7/5/90	9/1/90	X	6/21/90	6/21/90
FL002 226-40-16390	X						
FL005 226-40-16400	X						
GR007 GR007-UNCAT					X	6/27/90	6/27/90
GR013 227-20-17890	X						
GR103 227-20-17880					X	6/24/90	6/26/90
IN031 226-10-16916					X	7/5/90	7/5/90
K0101-SI008 251-81-10010	X						
K0101-SI014 251-82-10090					X	7/3/90	7/3/90
K0112-SS009 251-50-10045					X	7/2/90	7/2/90
K0201-SI013 251-81-812	X						
K0302-IB005 252-31-10020					X	6/5/90	6/5/90
K0911-CD018 262-10-10100					X	7/5/90	7/7/90
K0911-CD020 262-10-10040					X	7/3/90	7/8/90
K0911-CD020 262-10-10070	X						

ASAP Survey - 90

DSW

SEGMENT AS1 CH-9 SUBDIVISION: 226-20-14 SITE: 2 DATE 8/4/90

USCG

NAME David C. Noy, NOAA SIGNATURE David C. Noy

Don O'Rourke (USCG)

☒ 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 McClesor SIGNATURE Robert G. McClesor

☒ 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. Substantiated AP and subsurface OP and OR oil remains and requires further treatment. South portion of segment adjacent to stream is a little lighter in oily. 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 Art C. Loe SIGNATURE Art C. Loe

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Lots of oil - Requires lots more manual or mechanical.
Lots of sub-surface Highest Priority in 90 and 91

EXXON

NAME RANDALL K. BOYER SIGNATURE Randall K. Boyer

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

SURFACE OILING IN THE SOR CATEGORY SHOULD BE CONSIDERED WHEN ASSEMBLING THE PRIORITY 1991 ASSESSMENT LIST. THE ANADROMOUS FISH STREAM SEGMENT HAS SOME OILING THAT WAS BIODE. THE EFFECTS OF BIO SHOULD BE ASSESSED.

ACE 7236408+15

DATE 8/4/90 TIME 110910 1117 USCGC Don Davis TIDE LEVEL 6.1 to 6.5
 TOTAL EST LENGTH OF SHORELINE SURVEYED: 100 m
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WEATHER: ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 OIL CATEGORY LENGTH: W — m M 20 m N — m VL 25 m NO 55 m US — m

SURFACE OIL

SITE #2

SITE 2

SITE 3

CHARACTER	DISTRIBUTION				OILED ZONES			
	I/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			

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

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

SUBSURFACE OIL

SITE NO	PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER				OILED INTERVAL (cm)	CLEAN BELOW (Y/N)	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS
			OP	OR	OF	NO			SU	UI	MI	LI	
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Photographs

Roll No 0

Frames 0

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 ATTRIBUTION OF MEDIUM OILING

ACE 7236409

$$\frac{06}{8} / \frac{4}{8} / \frac{90}{8}$$

JAN

~~~~~

1 ☐ Snow

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

**YES**      ☐ **NO**      **PRIORITY SITE FOR REASSESSMENT IN 1991**

the WARD CVC

**YES** ☐ **NO** **PRIORITY SITE FOR REASSESSMENT IN 1991**

heavy oil still on site - more material in 90 with Bio in 90  
Reassessment in 91 with concentration on Sub Surface oil.

**ES** ☐ **NO** **PRIORITY SITE FOR REASSESSMENT IN 1981**

MANUAL TREATMENT IN 1990 WAS NOT AS EFFECTIVE  
IN THIS SUBDIVISION AS IT WAS ON OTHERS WITH COMPARITIVE  
SILING. 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.

ACE 723641

REVISION NO. 7/20/90

ACE 723641

REVISION NO. 7/20/00

100-74374-100

A.S.A.P.

CH 9-b  
site 1

August 4, 1990

ADEC recommends the following treatment:

- 1) Manual removal of existing AP and tarmats. Also substantial amounts of OP, OR, and OF oiling.
- 2) Vigorous manual tilling of coat covered shale sediments and shale sediments impossible to remove.
- 3) Mechanically remove tarmats, AP, and subsurface oil followed by either mechanical or manual removal of sediments.
- 4) Bioremediate the small amounts of residual oil using Inipol and Customblen.

## ASAP FOLLOWUP RECOMMENDATIONS

Segment: AS/ CU-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 RECOVERY COULD OCCUR ON THIS SUBDIVISION. ASAP MANUAL  
CREW REMOVED ONE SUPERSACK AND FILLED ABOUT 150' OF BEACH

Followup Recommendations: THIS BEACH COULD USE SOME MANUAL PICK UP  
OF RESIDUAL TACNATS OR HEAVY SOL AND SOME MOUSSO PATCHES.  
SOME TIME SHOULD BE MANUALLY TILLED IN AREAS OF HIGH % OF SURFACE  
SEDIMENTS. THIS SHOULD BE FOLLOWED WITH BIOREMEDIATION AND  
SHORE MONITORING.

Completed by Pickup Crew: ☐ YES ☒ NO

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

ADEC 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. North of this however would require manual work.

Exxon RANDALL K. BOYER  
 (name)

Randall K. Boyer  
 (signature)

Comments: I CONCUR WITH THE ABOVE OBSERVATIONS AND FOLLOW UP  
RECOMMENDATION

NOAA Don C. McCreedy  
 (name)

Don C. McCreedy  
 (signature)

Comments: I agree with the above observations & Followup recommendations.

Land Rep. Steve W. Doo CVR  
 (name)

Steve W. Doo  
 (signature)

Comments: I Agree with Recommendations.

## ASAP TAG REVIEW SHEET

Segment: Ch 9Subd: BSite: 1

Date

PRE-Review 11 AugPriority For Addressing In 1990☒ HIGH☐ MEDIUM☐ LOW☐ NTR

## Treatment

Recommended:

manual pick-up + BIO~~farm~~ (FarmATS - pick-up)WAS BIO This yearSOR - BIOPriority Site For Reassessment In 1991

YES

NO

☒ CG  
DATA

YES

NO

☒ DATA

YES

NO

☒ EXXON

YES

NO

☒ LAND MGRTAG 13 AUGManual Removal Treatment -  
Lake & BIO\* ANAD STREAM CONSTRAINT

# ASAP TAG REVIEW SHEET

Segment: CH9 Subd: B Site: 2 Date  
PRE-Review 11 AUG

## Priority For Addressing In 1990

☒ HIGH ☐ MEDIUM ☐ LOW ☐ NTR

Treatment  
Recommended:

~~MANUAL~~  
~~REMOVE TARMAT~~ ~~BIO FOR~~  
MANUAL REMOVE TARMAT

TARMAT ON BOTH SITE 1 & 2

## Priority Site For Reassessment In 1991

YES ☒ NO ☐ YES ☒ NO ☐ YES ☒ NO ☐ YES ☒ NO ☐  
CG ADEC EXXON LAND MGR

TAG 13 AUG

Manual Removal Tarmata -  
Lake & BIO

\* ANAD STREAM CONSTRAINT



# ASAP FOLLOWUP RECOMMENDATIONS

3057

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 SURFACE AND TILLED ABOUT 150' OF BEACH

Followup Recommendations: THIS BEACH COULD USE SOME MANUAL PICK UP  
OF RESIDUAL TARMATS OR HEAVY SOIL AND SOME MOUSSA PATCHES.  
SOME TIME SHOULD BE MANUALLY TILLED IN AREAS OF HIGH % OF SURFACE  
SEDIMENTS. THIS SHOULD BE FOLLOWED WITH BIOREMEDIATION AND  
SHEEN MONITORING.

Completed by Pickup Crew: ☐ YES ☒ NO

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

DEC

Bob McCreedy  
(name)

Robert B. McCreedy  
(signature)

Comments: Work would be facilitated by mechanical aid.  
A small tracked vehicle would be ideal near station seg-  
ment. North of this however would require manual work.

Exxon

RANDALL K. BOYER  
(name)

Randall K. Boyer  
(signature)

Comments: I CONCUR WITH THE ABOVE OBSERVATIONS AND FOLLOW UP  
RECOMMENDATION.

NOAA  
USCG

Daniel S. Lee  
(name)

Daniel S. Lee  
(signature)

Comments: I agree with the above observations & Followup recommendations

Land Rep.

Steve WARD CVC  
(name)

Steve W. Ward  
(signature)

Comments: I Agree with Recommendations.

SEGMENT AS1 CH-9 SUBDIVISION: B SITE: 1 DATE 8-4-90

USCG/NOAA

NAME David C. Noe, NOAA SIGNATURE David C. Noe

☒ 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 Steve Ward

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Heavy oil still on site - more manual in 90 with bio in 90  
Reassessment in 91 with concentration on sub-surface oil.

EXXON

NAME Randy SIGNATURE Randy

☒ 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.

### SITE 3

| CHARACTER        | DISTRIBUTION |   |   |   | OILED ZONES |    |    |   |
|------------------|--------------|---|---|---|-------------|----|----|---|
|                  | C            | B | P | S | SU          | UI | MI | U |
| ASPHALT          |              |   |   |   |             |    |    |   |
| SOR              |              | I | I | X |             | X  |    |   |
| POOLED           |              |   |   |   |             |    |    |   |
| COVER            |              |   |   |   |             |    |    |   |
| COAT             |              |   | X | X |             | X  |    |   |
| STAIN            |              |   | X | X |             | X  |    |   |
| MOUSSE           |              |   |   | I |             | X  |    |   |
| PATTIES/T.B.     |              |   |   |   |             |    |    |   |
| FILM             |              |   |   |   |             |    |    |   |
| NO OIL           |              |   |   |   | X           |    | X  | X |
| EST. SITE LENGTH |              |   |   |   | 400         |    |    |   |

[illegible][illegible]

## SUBSURFACE OIL

[illegible]

**Photographs:**

Roll No 06

Frames of

REVIEWED

8/6/90 J.D.

### COMMENTS

- COMMENTS
- WESTERN SIDE OF THE RYE CONSISTED OF CT & ST IN THE TOP, CENTER, AND BOTTOM SEGMENTS
  - THESE AREAS HAD BEEN PREVIOUSLY TREATED - 2 STD. GALLEONS & FARGING WERE RECOVERED
  - THE SHORELINE IS COMPOSED OF SAND/CLAY/SHALE. ACHERON AN AREA - 1"
- REVISION NO. 7  
ACE 7236403

REVISION NO. 7/07/00

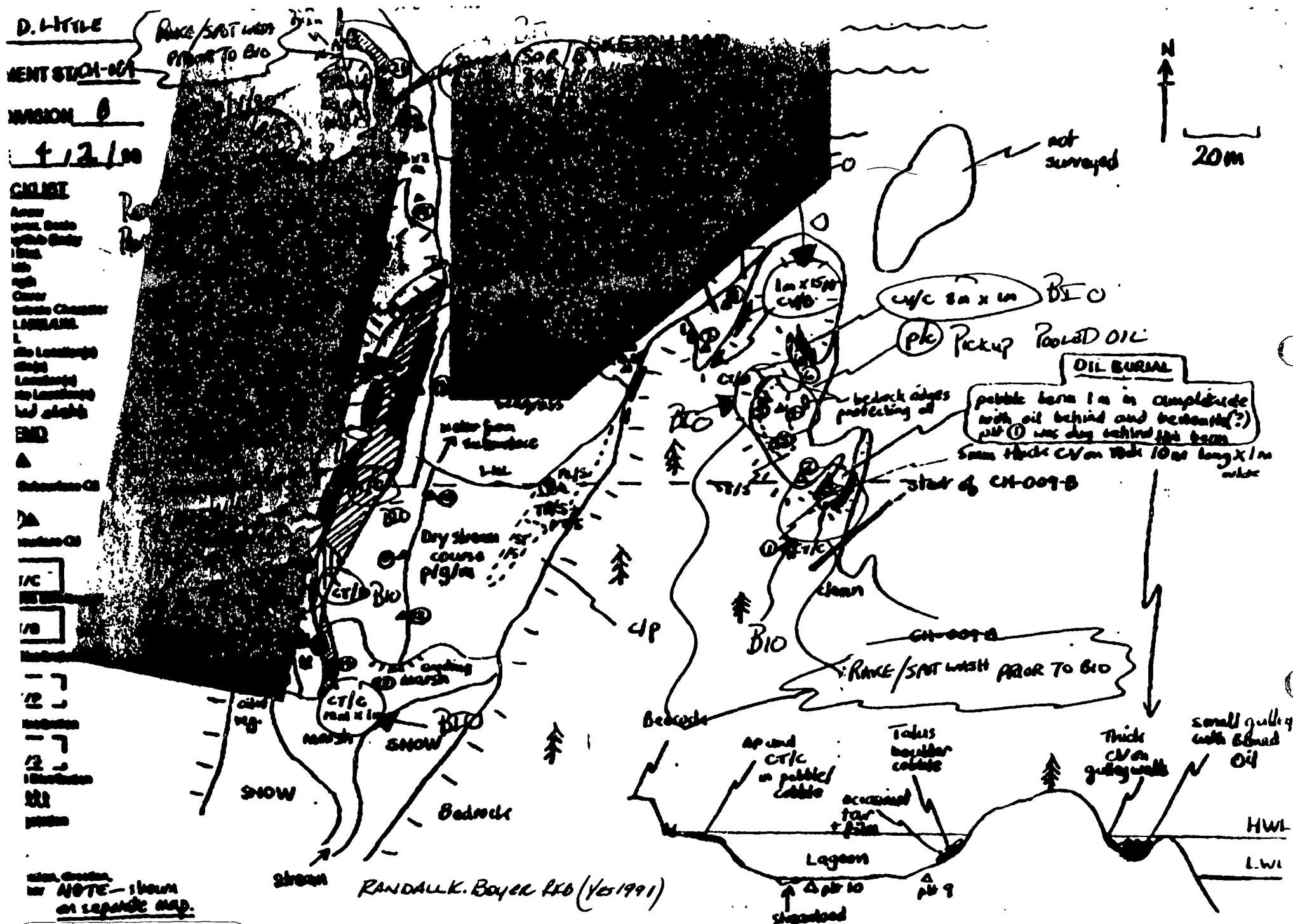
ACE 7236403

**NOTE** - shown  
on separate map.

ACE 7236404

Chin Length (mm): AP 36 PO 05 CV 33 CT 150 ST 35 MS - PT 0.10 TB 0.25 FL 20 NO -

**A** **RESEARCHER**



SEGMENT AS1 CH-9 SUBDIVISION: 226-20-1112 SITE: 2 DATE 8/4/90

**USCG**

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 B. 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. Substrates AP and subsurface OP and OR oil remains and requires further treatment. South portion of segment adjacent to stream is a little lighter in oily. 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 Bob CUC SIGNATURE Bob CUC

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

**REASON:**

Lots of oil - Requires lots more manual or mechanical.  
Lots of sub-surface Highest priority in 90 and 91

**EXXON**

NAME RANDALL K. BOYER SIGNATURE Randall K. Boyer

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

**REASON:**

SURFACE OILING IN THE SOR CATEGORY SHOULD BE CONSIDERED WHEN ASSEMBLING THE PRIORITY 1991 ASSESSMENT LIST. THE ANADROMOUS FISH STREAM SEGMENT HAS SOME OILING THAT WAS BIODE. THE EFFECTS OF BIO SHOULD BE ASSESSED. THE NON BOLLINGER SQUADS SET UP 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]

## SUBSURFACE OIL

[illegible]

**Photographs:**

Roll No 10

Frames of

Reviewed  
8/6/90 y/w

### 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 OF MEDIUM OILING

REVISION NO. 7/57700

ACE 7236406



**ASAP Follow-Up Recommendations**  
**TAG Recommendations - August 13, 1990**

|                |    |          |                                                                                                             |
|----------------|----|----------|-------------------------------------------------------------------------------------------------------------|
| <b>SEGMENT</b> |    |          |                                                                                                             |
| CH-00          | II | Site 1   | Manual pickup of tarmats, rake and bioremediate* H.P.                                                       |
|                |    | Site 2   | Manual pickup of tarmats, rake and bioremediate* H.P.                                                       |
| EL-87          | II |          | NTR                                                                                                         |
| EL-88          | A  |          | Manual till - mop up mobile oil with snare and bioremediate<br>- low priority                               |
| EL-88          | C  |          | Storm berm relocation (mechanical if necessary)                                                             |
| EL-88          | C  |          | NTR - Reassessment in '91                                                                                   |
| EL-88          | D  |          | Customblen application and reassessment in '91                                                              |
| ER-07          | A  | Site 1   | NTR                                                                                                         |
|                |    | Site 2   | Manual pickup of tarmat and bioremediation (low priority)                                                   |
| EV-05          | A  |          | Limited manual pickup followed by bioremediation -<br>Customblen (low priority)                             |
| EV-05          | II |          | Manual pickup of mousse/AP followed by bioremediation. Manual<br>till in heaviest areas if necessary (H.P.) |
| EV-12          | A  |          | Access and remove heaviest concentration of AP/OP/HOR<br>manual removal followed by bioremediate            |
| EV-15          | A  |          | Manual removal of MS/AP/OP/HOR where accessible -<br>bioremediate (H.P.)                                    |
| EV-26          | A  |          | Manual removal of AP and bioremediate (M.P.)                                                                |
| EV-37          | A  |          | Manual pickup of OP/HOR sediments (relocate armor to<br>access)                                             |
| EV-39          | A  |          | Bioremediate                                                                                                |
| FL-01          | A  |          | NTR - work done                                                                                             |
| GR-301         | B  | Site 1   | Manual pickup of mousse (H.P.)                                                                              |
|                |    | Site 2   | NTR                                                                                                         |
|                |    | Site 3   | NTR                                                                                                         |
| GR-301         | II | New Site | Manual pickup of mousse (H.P.)                                                                              |
| KN-07          | A  |          | Manual pickup of AP/OP/mousse and bioremediate (H.P.)<br>both areas                                         |
| KN-08          | A  |          | Manual pickup followed by bioremediation (L.P.)                                                             |
| KN-201         | A  |          | Manual removal of AP followed by bioremediation (M.P.)                                                      |
| KN-211         | I  | Site 1   | Manual pickup of oiled debris at stream mouth next to<br>small pool, use chain saw as necessary to access.  |
|                |    | Site 2   | NTR                                                                                                         |
|                |    | Site 3   | NTR                                                                                                         |
|                |    | Site 4   | NTR                                                                                                         |
| KN-400         | A  | Site 1   | Manual removal of accessible AP followed by rake and<br>bioremediation (L.P.)                               |
|                |    | Site 3   | NTR                                                                                                         |
| KN-404         | A  |          | Bioremediate and assessment in '91                                                                          |
| KN-405         | A  |          | Further TAG evaluation - bioremediate and assessment in<br>'91                                              |
| NK-02          | A  |          | Manual pickup AP/mousse - bioremediation (M.P.)                                                             |
| PD-04          | A  |          | Manual pickup of mousse patties and bioremediation, Inipol<br>and Customblen (M.P.)                         |
| PN-01          | A  |          | Manual pickup of AP and bioremediation (L.P.)                                                               |

ANADROMOUS STREAM CONSTRAINT

TAG  
 EXXON  
 ADEC  
 USCG  
 NOAA

DATED

Aug 15 1990

FOSC

DATED

ACE 7236386

LIST OF ASAP REPORTS and TAG RECOMMENDATIONS  
CONTAINING ANDROMOUS STREAMS

9/10/90

| <u>SEGMENT</u> | <u>CATALOG #</u> | <u>TAG RECOMMENDATION</u> |
|----------------|------------------|---------------------------|
| BA002A         | 226-40-16450     |                           |
| BP004          | 226-20-16392     |                           |
| BP004          | 226-20-16397     | Bio/Customblen            |
| BP004          | 226-20-16388     |                           |
| BP004          | 226-20-16395     |                           |
| CH002A         | 226-20-16180     |                           |
| CH009B         | 226-20-16182     | Tarmat removal/Bio        |
| CH900A         | 226-20-16200     |                           |
| CU014A         | 224-20-13036     |                           |
| CU013A         | 224-20-13030     |                           |
| EL052B         | 226-10-16902     | NTR                       |
| EV014A         | 226-40-16640     |                           |
| EV017A         | 226-40-16620     |                           |
| EV025A         | 226-40-16613     |                           |
| EV071B         | 228-40-16484     |                           |
| GR007A         | NOT CATALOGED    |                           |
| GR103A         | 227-20-17880     |                           |
| KN213B         | 226-30-16853     | NTR                       |
| KN129A         | 226-10-16975     |                           |
| KN129B         | NOT CATALOGED    |                           |
| KN132B         | 226-10-16982     |                           |
| KN135A         | 226-30-16285     |                           |
| KN211E         | 226-10-16875     | NTR                       |
| KN401A         | 226-30-16820     |                           |
| KN500A         | 226-10-16992     | NTR                       |
| KN701B         | 226-30-16840     | NTR                       |
| LA018A         | 226-40-16780     |                           |
| LA021B         | 226-40-16776     |                           |
| LA021A         | 226-40-16774     |                           |



# ADEC DEMOBILIZATION REPORT FOR INIPOL AND CUSTOMBLEN TREATMENT

To: Alaska Department of Environmental Conservation  
Oil Spill Response Center  
Anchorage, Alaska

Attn: John Bauer  
FAX 265-4666

From: Jay Vincent (please print)

RE: SEGMENT NUMBER CH 09 SUBSEGMENT NUMBER B(2 of 2)

ADEC REP Jay Vincent USCG REP Dave Garbis

EXXON REP Darryl Yori BOAT NAME/SQUAD NUMBER M/V Corinthian Squad  
oops Ed Turner

| Site # | Length<br>(along shore m) | Area<br>m <sup>2</sup> | Inipol<br>(gallons) | Customblen<br>(lbs.) |
|--------|---------------------------|------------------------|---------------------|----------------------|
| ①      | 18 x 18 (=0.5x60)         | 97.2m <sup>2</sup>     | N/A                 | 20                   |
| ②      | 3 x 10                    | 30                     | 2.5                 | 1                    |
| ③      | 1 x 14                    | 14                     | N/A                 | 3                    |
| ④      | Patchy area               | 110                    | 8.5                 | 4                    |

Has work been completed as stated on the work order? If your answer is no please explain in detail how the work performed was different from the work order language.

Yes

Describe the amount of oil remaining (type, size of area and location).

Surface oil in shale bedrock crevices  
Light OR sub-surface oiling

Additional Comments (keep objective)

None

signature Jay Vincent

Date and time of demobilization from segment 7/15/90 @ 1400  
Shoremon\Demob.bio 55/30/90



**ADEC DEMOBILIZATION REPORT  
FOR PHYSICAL/MECHANICAL TREATMENT AND CUSTOMBLEN**

To: Alaska Department of Environmental Conservation  
Oil Spill Response Center  
Anchorage, Alaska

Attn: John Bauer  
FAX 265-4666, 265-4656

CHENEKA ISLAND

RE: SEGMENT NUMBER CH-09 SUBSEGMENT NUMBER B

DEC REP JEFF GINALIAS USCG REP BASILIO FLORES

EXXON REP DARRYL YOE BOAT NAME/SQUAD NUMBER CORINTHIAN SQUAD 1

DOCS - STEVE MANUEL

MANUAL

Has work been completed as stated on the work order? If your answer is no please explain in detail how the work performed was different from the work order language.

YES - WORK ORDER MODIFICATION EXECUTED WHICH  
DELETED SPOT WASHING (ATTACHED)

Is there additional oil remaining which can be removed with further physical/mechanical treatment? If yes what is the recommended treatment method.

No

Describe the amount of oil remaining (type, size of area and location). NONE, BUT FOR RESIDUAL OIL IN SEDIMENTS, AND OILED GRAVEL.

INPOL AND CUSTOMBLEN APPLIED

**Additional Comments (keep objective)**

INPOL & CUSTOMBLEN info provided on SEPARATE BIOREMEDIATION  
DEMOBILIZATION FORM

- Review of analogous stream work area done 7/4/90 appears to be marginal quality. If time permits, should be subject to reassessment

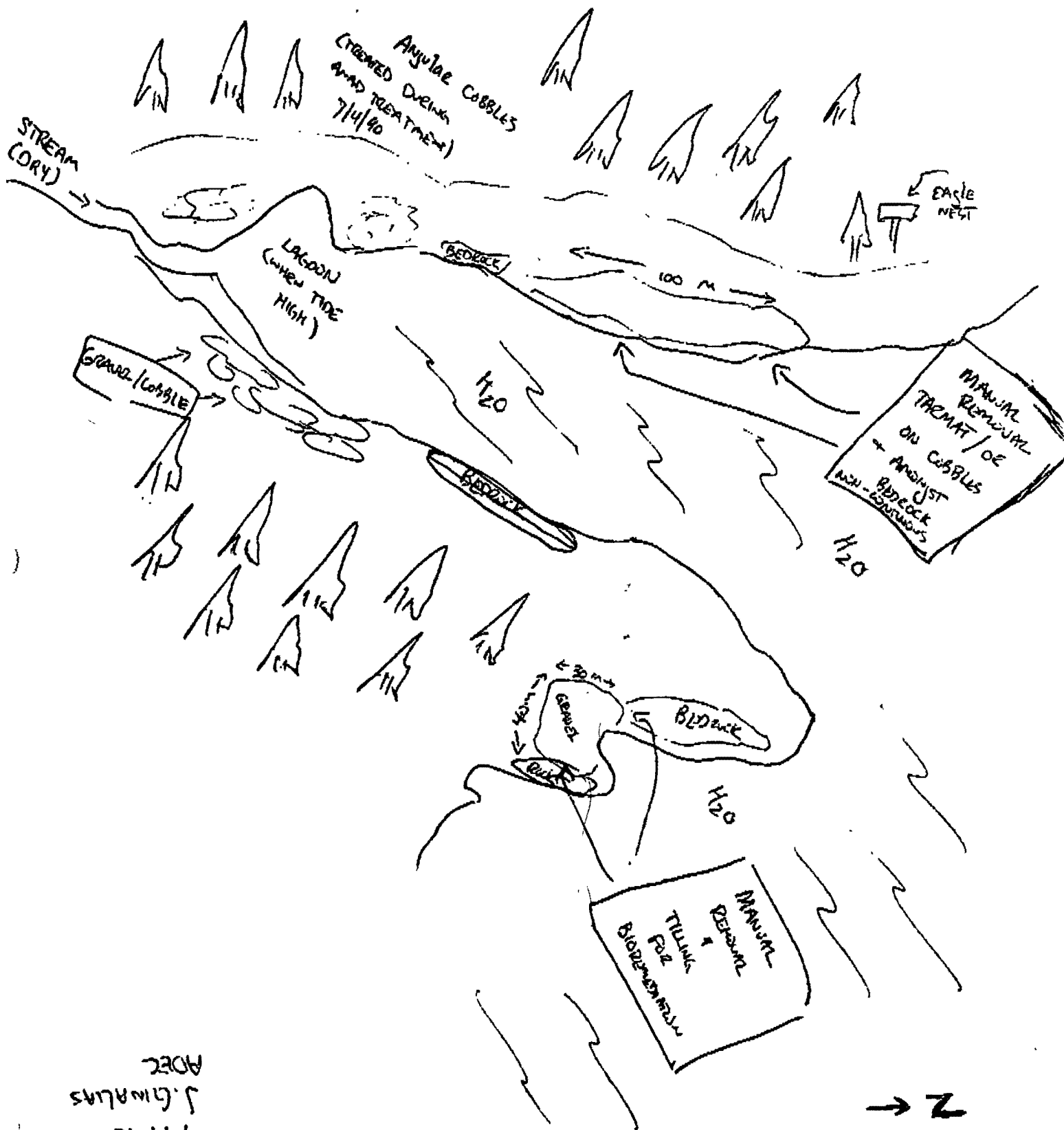
signature \_\_\_\_\_

Date and time of demobilization from segment 13:00 7-19-90  
Shoremon/55 5-12-90

CREW GRADE

B

ACE 7236415



CH-009 B  
CHUGA Island  
Manual Cleanup  
7-19-90  
J. GIVALLAS  
ADEC

# ADEC BIOREMEDIATION DAILY REPORT

DATE: 9/12/90

ADEC Monitor: Rowann Hudnall

|        |       |         |                                            |
|--------|-------|---------|--------------------------------------------|
| TIDES: | TIME: | HEIGHT: | WEATHER: <u>Cloudy</u> <u>Rain</u> Fog Sun |
| Low    | _____ | _____   | TEMP: <u>55°</u> SEA COND: <u>1' chop</u>  |
| High   | _____ | _____   | WIND DIR: N-NE-E-SE-S-SW-W-NW              |
| Low    | _____ | _____   | WIND SPEED <u>0-15</u> 16-30 30+           |
| High   | _____ | _____   |                                            |

|                             |                       |
|-----------------------------|-----------------------|
| USCG <u>Scott Rainsford</u> | Exxon <u>Al Snook</u> |
| OOPS <u>James Byars</u>     | Other _____           |

OGS Jim Conner, Greg Chaney

| Segment | Sub | No. Sites | Inipol (gal) | Custom (lbs.) | Comments                        |
|---------|-----|-----------|--------------|---------------|---------------------------------|
| CH2     | B   | 1         | 0            | 275           | 3rd treat, anad stream          |
| CH9     | A   | 3         | 0            | 210           | 3rd treat; anad stream          |
| CH13    | A   | 2         | 0            | 55            | 3rd treat                       |
| SL1     | E   | 0         | 2            | 20            | 3rd treat                       |
| MU1     | C   | 4         | 0            | 119           | 3rd treat                       |
| PR16    | A   | 1         | 165          | 82            | 2nd treat, Asap berm relocation |
| PR8     | C   | 2         | 0            | 55            | 3rd treat                       |

\shorelin\rowann\biorept 8/7/90

ADEC DEMOBILIZATION REPORT  
FOR INIPOL AND CUSTOMBLEN TREATMENT

To: Alaska Department of Environmental Conservation  
Oil Spill Response Center  
Anchorage, Alaska

Attn: John Bauer  
FAX 265-4666

From: \_\_\_\_\_ (please print)

RE: SEGMENT NUMBER CH9 SUBSEGMENT NUMBER 4

ADEC REP Rawann Hudnall USCG REP Scott Rainsford

EXXON REP Al Snook BOAT NAME/SQUAD NUMBER Don Bollinger  
Squad 3

| Site # | Length<br>(along shore m) | Area<br>m <sup>2</sup> | Inipol<br>(gallons) | Customblen<br>(lbs.) |
|--------|---------------------------|------------------------|---------------------|----------------------|
|--------|---------------------------|------------------------|---------------------|----------------------|

See Daily Report & OG report  
for details

Has work been completed as stated on the work order? If your answer is no please explain in detail how the work performed was different from the work order language.

yes. bio reapplication. 3rd treat

customblen only due to presence of anad stream.

Describe the amount of oil remaining (type, size of area and location).

Light to moderate SOR covering a wide band from UITZ to <sup>L</sup>AITZ. Needs reassessment in 1991.

Additional Comments (keep objective)

ADF+G Rick Gustin approved treatment 20 ft from stream in conversation on 9/12.

signature Rawann T Hudnall

Date and time of demobilization from segment 9/12/90  
Shoremon\Demob.bio 55/30/90



ADEC DEMOBILIZATION REPORT  
FOR INIPOL AND CUSTOMBLEN TREATMENT

To: Alaska Department of Environmental Conservation  
Oil Spill Response Center  
Anchorage, Alaska

Attn: John Bauer  
FAX 265-4666

From: \_\_\_\_\_ (please print)  
RE: SEGMENT NUMBER C.H007 SUBSEGMENT NUMBER A + AS

ADEC REP Rowann Hudnall USCG REP Don Percy

EXXON REP Frank Boy BCAT NAME/SQUAD NUMBER Don Bollinger  
Squad 3

| Site # | Length<br>(along shore m) | Area<br>m <sup>2</sup> | Inipol<br>(gallons) | Customblen<br>(lbs.) |
|--------|---------------------------|------------------------|---------------------|----------------------|
|--------|---------------------------|------------------------|---------------------|----------------------|

See Daily Report / OG Report for details

Has work been completed as stated on the work order? If your answer is no please explain in detail how the work performed was different from the work order language.

yes. bio reapplication. Aimee Weseman ADF+G approved treatment. 1/2 bucket oiled peat removed from stream area

Describe the amount of oil remaining (type, size of area and location).

(light) SOR throughout beach UITE, MITZ, LITE.

Additional Comments (keep objective)

Will need further assessment. USCG monitored treatment + reported no incident.

signature Rowann G. Hudnall

Date and time of demobilization from segment 8/27/90  
Shoremon\Demob.bio 55/30/90



# ADEC DEMOBILIZATION REPORT FOR INIPOL AND CUSTOMBLEN TREATMENT

To: Alaska Department of Environmental Conservation  
Oil Spill Response Center  
Anchorage, Alaska

Attn: John Bauer  
FAX 265-4666

From: \_\_\_\_\_ (please print)

RE: SEGMENT NUMBER CH007 SUBSEGMENT NUMBER A + AS

ADEC REP Rowann Hudnall USCG REP Dan Pearcy

EXXON REP Frank Boy BOAT NAME/SQUAD NUMBER Don Bollinger  
Squad 3

| Site # | Length<br>(along shore m) | Area<br>m <sup>2</sup> | Inipol<br>(gallons) | Customblen<br>(lbs.) |
|--------|---------------------------|------------------------|---------------------|----------------------|
|--------|---------------------------|------------------------|---------------------|----------------------|

See Daily Report / OG Report for details

Has work been completed as stated on the work order? If your answer is no please explain in detail how the work performed was different from the work order language.

yes. bio reapplication. Aimee Weseman ADF+G approved treatment. 1/2 bucket oiled peat removed from stream area

Describe the amount of oil remaining (type, size of area and location).

(light) SOR throughout beach UITE, MITZ, LITZ.

Additional Comments (keep objective)

Will need further assessment. USCG monitored treatment + reported no incident.

signature Rowann G. Hudnall

Date and time of demobilization from segment 8/27/90  
Shoremon\Demob.bio 55/30/90

# ADEC BIOREMEDIATION DAILY REPORT

DATE: 8/27/90

ADEC Monitor: Rowann Hudnall

TIDES:      TIME:      HEIGHT:  
 Low      11:31      -0.9  
 High      05:05      12.0  
 Low      23:58      2.6  
 High      19:12      11.5

WEATHER: Cloudy Rain Fog Sun  
 TEMP: 55°F SEA COND: 1 ft chop  
 WIND DIR: N-NE-E-SE-S-SW-W-NW  
 WIND SPEED 0-15 16-30 30+

USCG Dan Percy  
 OOPS James Byars

Exxon Frank Boy  
 Other \_\_\_\_\_

OGS Dan Mann, John Wardrop

| Segment | Sub | No. Sites | Inipol (gal) | Custom (lbs.) | Comments |
|---------|-----|-----------|--------------|---------------|----------|
|---------|-----|-----------|--------------|---------------|----------|

|             |     |   |     |     |  |
|-------------|-----|---|-----|-----|--|
| <u>BA02</u> | A   | 1 | 0   | 45  |  |
| <u>BP04</u> | A   | 5 | 0   | 200 |  |
| CH20        | A   | 3 | 8   | 12  |  |
| <u>CH01</u> | A   | 1 | 0   | 1.5 |  |
| <u>CH02</u> | A   | 1 | 0   | 138 |  |
| <u>CH09</u> | A   | 3 | 0   | 210 |  |
| CH13        | A   | 2 | 4.5 | 6   |  |
| <u>CH09</u> | A-S | 1 | 0   | 182 |  |

\shorelin\rowann\biorept 8/7/90

# ADEC BIOREMEDIATION DAILY REPORT

DATE: 8/27/90

ADEC Monitor: Rowann Hudnall

| TIDES: | TIME:        | HEIGHT:     |
|--------|--------------|-------------|
| Low    | <u>11:31</u> | <u>-0.9</u> |
| High   | <u>05:05</u> | <u>12.0</u> |
| Low    | <u>23:58</u> | <u>2.6</u>  |
| High   | <u>18:12</u> | <u>11.5</u> |

WEATHER: Cloudy Rain Fog Sun  
 TEMP: 55°F SEA COND: 1 ft chop  
 WIND DIR: N-NE-E-SE-S-SW-W-NW  
 WIND SPEED 0-15 16-30 30+

USCG Dan Percy  
 OOPS James Byars

Exxon Frank Boy  
 Other \_\_\_\_\_

OGS Dan Mann, John Wardrop

| Segment | Sub | No. Sites | Inipol (gal) | Custom (lbs.) | Comments |
|---------|-----|-----------|--------------|---------------|----------|
|---------|-----|-----------|--------------|---------------|----------|

|             |     |   |     |     |  |
|-------------|-----|---|-----|-----|--|
| <u>BA02</u> | A   | 1 | 0   | 45  |  |
| <u>BP04</u> | A   | 5 | 0   | 200 |  |
| CH20        | A   | 3 | 8   | 12  |  |
| <u>CH01</u> | A   | 1 | 0   | 1.5 |  |
| <u>CH02</u> | A   | 1 | 0   | 138 |  |
| <u>CH09</u> | A   | 3 | 0   | 210 |  |
| CH13        | A   | 2 | 4.5 | 6   |  |
| <u>CH09</u> | A-S | 1 | 0   | 182 |  |

\shorelin\rowann\biorept 8/7/90



FROM DON BULLINGER 2152 TO 1A-----0019072654666R F.00  
ADEC DEMOBILIZATION REPORT  
FOR INIPOL AND CUSTOMBLEN TREATMENT

Date: 8/7

To: Alaska Department of Environmental Conservation  
Oil Spill Response Center  
Anchorage, Alaska

Attn: John Bauer  
FAX 265-4666

From: Chris Strand (please print)

RE: SEGMENT NUMBER CH-09 SUBSEGMENT NUMBER A

ADEC REP Chris Strand USCG REP Dan Percy

EXXON REP Al Snook BOAT NAME/SQUAD NUMBER Don Bullinger / SQUAD #

| Site # | Length<br>(along shore m) | Area<br>m <sup>2</sup> | Inipol<br>(gallons) | Customblen<br>(lbs.) |
|--------|---------------------------|------------------------|---------------------|----------------------|
|--------|---------------------------|------------------------|---------------------|----------------------|

See Attached

Has work been completed as stated on the work order? If your answer is no please explain in detail how the work performed was different from the work order language. Yes.

Areas outside 100m stream buffer were rebioed as per original work order and monitor consensus.

Describe the amount of oil remaining (type, size of area and location). Between bedrock outcrops, the small boulder/cobble/pebble beaches held coat/cover sporadically and in isolated areas with exposed portions of subsurface light-moderate residue. In places, vertical bedrock fractures held collections of firm cover/residue.

Additional Comments (keep objective)

Secondary bio treatment. Crews avoided grasses and exposed area along upper/supra tidal line well, as per monitor requests.

signature C. Strand

Date and time of demobilization from segment 8/7/90, 1225  
Shoremon/Demob.bio 55/30/90

**ADEC DEMOBILIZATION REPORT  
FOR INIPOL AND CUSTOMBLEN TREATMENT**

Date: 7/4/90

To: Alaska Department of Environmental Conservation  
Oil Spill Response Center  
Anchorage, Alaska

Attn: John Bauer  
FAX 265-4666

From: Chris Strand (please print)  
RE: SEGMENT NUMBER CH-09 SUBSEGMENT NUMBER A

ADEC REP Chris Strand

USCG REP Dan Percy

EXXON REP Al Snook

BOAT NAME/SQUAD NUMBER Don Bollinger/squad #3

| Site # | Length<br>(along shore m) | Area<br>m <sup>2</sup> | Inipol<br>(gallons) | Customblen<br>(lbs.) |
|--------|---------------------------|------------------------|---------------------|----------------------|
| ① A    | 35                        | 525                    | 42                  | 21                   |
| B      | 23                        | 345                    | 23                  | 14                   |
| C      | 14                        | 84                     | 7                   | 3.5                  |
| D      | 44                        | 132                    | 11                  | 5.5                  |
| E      | 40                        | 240                    | —                   | 48                   |

Has work been completed as stated on the work order? If your answer is no please explain in detail how the work performed was different from the work order language. Yes.

Areas marked on map biced, with monitor approved deviation, as per work order. The inland most portion had manual removal only of oiled sediment and vegetation, and additional areas further abreast from the stream were biced as conditions warranted.

Describe the amount of oil remaining (type, size of area and location). 2 main sections of bar mat removal revealed light-moderate residue through pebble/granule/sandy submatrix which extended as a broad band for northern ~60m, and tapered to south as a thin (~3m) band, which dissipated and became sporadic as far south as inland pool. Area has small boulders and cobbles with coat/moderate cover, mostly of freshly exposed and killed nature. North 1/2 of beach killed. Small pockets of firm surface residual/borderline bar mat were broken up. Isolated occurrences of residue throughout low lying vegetation, with one area excavated leaving uniform film (odor) and small (~3-6mm) globules of residual/mousse in surrounding sediments.

Additional Comments (keep objective)

Area was visited by Ft G's Tom Crowe, and CVC's Mike Eleshansk while the Beulah Capdies' manual crew was here this morning, and a DSA should be in file with Wts Gormley's manual demob.

signature C. Strand

Date and time of demobilization from segment 7/4/90, 1848  
Shoremon/Demob.bio 55/30/90

ACE 7236396



**ADEC DEMOBILIZATION REPORT  
FOR PHYSICAL/MECHANICAL TREATMENT AND CUSTOMBLEN**

To: Alaska Department of Environmental Conservation  
Oil Spill Response Center  
Anchorage, Alaska  
Attn: John Bauer  
FAX 265-4666, 265-4656

RE: SEGMENT NUMBER CH-9 SUBSEGMENT NUMBER B A

DEC REP Wesley Ghormley USCG REP Scott Thomas

EXXON REP Ray Sotelo / AL SNOOK BOAT NAME/SQUAD NUMBER Beulah Candies / Squad 6

Has work been completed as stated on the work order? If your answer is no please explain in detail how the work performed was different from the work order language. TAR mats were removed as requested on work order. However, Bio squad from Don Bollinger was on beach to help us; they were trying to break up tar mats & bio them. AL SNOOK EXXON was also calling obvious tar mats a coat. USCG Thomas explained all tar mats must go even if they are broken up. And the definition of a tar mat was explained to him.

Is there additional oil remaining which can be removed with further physical/mechanical treatment? If yes what is the recommended treatment method. YES, reassessment of beach very necessary in future. Manual excavation. Saturated sediment should be manually removed in future if bioremediation shows no improvement. There is also very light patches of oil thru-out grassy area up stream that could be removed by one or two persons.

Describe the amount of oil remaining (type, size of area and location).

1. N.W. portion of segment - 80 M of OR sediment to the depth of +30 cm  
80 x 20 m (Area #3 & #2)
2. Area #1, 60 x 3 m of OR sediments
3. upstream, light scattering of oil thru-out grassy area.

Additional Comments (keep objective)

This segment needs to be added to Hot List. Reassessment in future is very necessary. Bio squad was also trying to bio tar mats, by breaking them up & leaving them. Stream damage was done up stream by Don Bollinger crew. It got to the point that the crew was doing more harm than good. Possible visit to site by John Bauer might be in order. Inipol & Custom blend was applied on 7/4/90.

signature Wesley Ghormley  
Date and time of demobilization from segment 7/4/90 - 1730 Hrs.  
Shoremon\55 5-12-90

|                                          |                                 |                     |
|------------------------------------------|---------------------------------|---------------------|
| Post-It™ brand fax transmittal memo 7671 |                                 | # of pages <u>3</u> |
| To <u>John Bauer</u>                     | From <u>Wes Ghormley</u>        |                     |
| Co. <u>ADEC</u>                          | Co. <u>Beulah Candies</u>       |                     |
| Dept. <u>Clean-up-Monitor</u>            | Phone # <u>011 872 150 1403</u> |                     |

ACE 7236397  
-15

RECEIVED  
APR 10 1965

REGION: PRINCE WILLIAM SOUND

DEPT. OF  
ENVIRONMENTAL CONSERVATION

SEGMENT: CH-009

SUBDIVISIONS: A (1 OF 2)

*Concur with recommended treatment.  
manual pickup O.K. near streams may to  
July with concurrence of SOP #6 monitor.*

ACE 7236472 +15

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:

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

ACE 7236473

# FIELD SHORELINE COMMENT SHEET

4

SEGMENT ST / CH-009 SUBDIVISION: A DATE 4/1/90

**USCG**

NAME Kerwin L Dreher SIGNATURE CWO2 K. L. Dreher

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

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

**ADEC**

NAME Patrick J. Endres SIGNATURE Patrick J. Endres

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Minimal oiling present. Small amounts of asphaltting should be removed by trowel or shovel.

**LAND MANAGER**

CHENEGA

NAME CHENEGA SIGNATURE

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

Previous LAND MANAGER's Rep  
being replaced

fw

ACE 7236474

# SHORELINE OILING SUMMARY

REVISION NO 03/22/90

2

OG D. LITTLE USCG K. DREHER SEGMENT ST/ CH-009  
 BIO K. COATES LAND REP — SUBDIVISION A (1 of 2)  
 EXXON G. STILES ADEC P. ENDRES TIME 15:30 to 16:25  
 TEAM NO.: 14 TIDE LEVEL: 4.0 ft to 6 ft DATE 1/1 / 1 / 90  
 EST. SUBDIVISION LENGTH: 382 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock  
 SURVEYED FROM: ☒ Foot ☐ Boat ☒ Helo WORKING DIRECTION: S to N  
 SURFACE SEDIMENTS: R 45 % B 15 % C 10 % P 20 % G 10 % S — % M — % V — %  
 SLOPE: Long 55 % Hang 10 % 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 |    |    |    |
|------------------|--------------|----|----|----|------------------|----|----|----|----------------|----|----|----|
|                  | 10           | 15 | 20 | 25 | 30               | 35 | 40 | 45 | SU             | UI | MI | LI |
| ASPHALT PAVEMENT |              |    |    | X  |                  |    |    |    |                | X  |    |    |
| POOLED           |              |    | X  |    | X                |    |    | X  | X              |    |    |    |
| COVER            |              |    | X  |    | X                |    |    |    |                | X  |    |    |
| COAT             |              | X  |    |    | X                |    |    |    |                | X  |    |    |
| STAIN            |              |    |    |    |                  |    |    |    |                |    |    |    |
| MOUSSE           |              |    |    |    |                  |    |    |    |                |    |    |    |
| PATTIES          |              |    |    |    |                  |    |    |    |                |    |    |    |
| TARBALLS         |              |    |    |    |                  |    |    |    |                |    |    |    |
| FILM             |              |    |    |    |                  |    |    |    |                |    |    |    |
| NO OIL           |              |    |    |    |                  |    |    |    | S              |    | X  | X  |

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

PATTIES / TARBALLS 1 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

| OILED DEBRIS | AMOUNT |    |    |
|--------------|--------|----|----|
|              | SM     | MD | LG |
| Logs         |        |    |    |
| Vegetation   |        |    |    |
| Trash        |        |    |    |
| Debris       |        |    |    |

DEBRIS COLLECTED  
☐ YES ☒ NO

TYPE —

#BAGS —

Photographs:

Roll No. ST-14-1

Frames 21

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (CM-ON) | BELOW | OIL / FILM COLOR |    |    |    |    | PIT ZONE |    |    |    | A N A | SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|------------------------|-------|------------------|----|----|----|----|----------|----|----|----|-------|----------------------|
|         |                | OP                       | OR | OL | OF | NO |                        |       | UO               | UC | 30 | 35 | 40 | 45       | 50 | 55 | 60 |       |                      |
| 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                  |

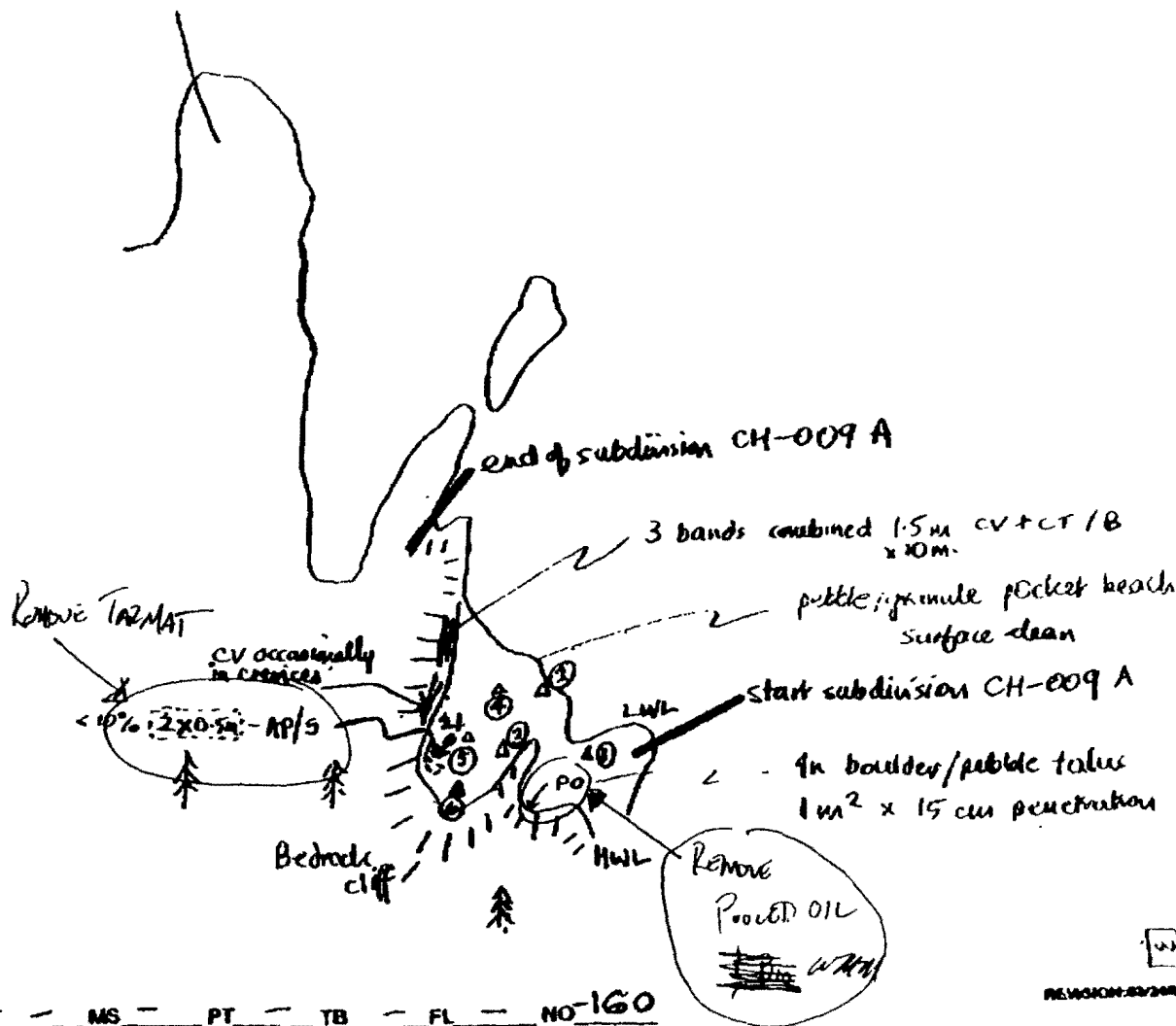
## COMMENTS

ACE 7236475

This subdivision was a small pocket beach — northeast facing and exposed to moderate f. A small mid-tide berm developed on pebbles was recent. No debris could be seen and only one small patch of surface oil which was soft. Rocks to Northwest were banded and one small patch of brown/black pooling was detected among boulder/cobble slate. L. L. and center and a subdivision. NOTE a small area of the eastern end NW 4 ft.



REVISION 02/2000



# SHORELINE ECOLOGICAL SUMMARY *page 1 of 2*

REVISION: 08/22/90

Segment ST / CH209 - Subdivision - A Date (mo / day / yr) 4. 01. 90 5

Time ( 24 hr ) 1530-1615 Biologist KACoates

(A) Substrate type and % of segments:  
(1) Bedrock 45 (2) Boulder 25 (3) Cobble 10 (4) Pebble 30 (5) Sand      (6) 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: Roll No. St-14-1

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 to clean-up disturbances.*

ACE 7236477

Ecology Summary page 2 of 2

Segment: ST-CH009 Subdivision: A Date: 4.01.90

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 (?Teuthis/Epractis) - also in pools

CH-10

- Surveyed 4/2/90 - CH009-B

CH-9

surveyed by helicopter 4/2/90

visited briefly on foot 4/1/90

CH-2

XXXX Wide  
//// Medium

CH-9-A

Map Key: PWS-57

Name: D. LITTLE

ACE 7236479 1/5

RJT  
AD

RECEIVED  
APR 10 1981

DEPT. OF  
ENVIRONMENTAL CONSERVATION

REGION: PRINCE WILLIAM SOUND

SEGMENT: CH-009

SUBDIVISIONS: B (2 OF 2)

NO BIOREMEDIATION - pinnipeds and salmon  
by rearing  
manual pickup in conformance with  
sensitivities; o.k. near stream May-July  
with concurrence of ADP & G monitor

additional  
~~more~~ → Ice & spot wash where  
appropriate, esp. ↓  
Pits 1, 4, 6  
O.K. = rec.

ACE 7236480+15



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:**

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

SEGMENT ST / CHOCQ. SUBDIVISION: B DATE 4-2-90

**USCG**

NAME Kerwin L. Dreher SIGNATURE CWO2 K. L. Dreher

☐ 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.*

**ADEC**

NAME PATRICK J. ENDRES SIGNATURE Patrick J. Endres

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

*I feel the team did a very comprehensive survey of this segment subdivision. Oiling varied in degree from stain to asphalt pavement on surface and heavy subsurface saturation. I recommend both manual + mechanical treatment. Areas located by pits # 1, 4, 5 on sketch map by Dave Little are problem areas. Type of cleanup is questionable. The team has asked for further review on this specific portion.*

**LAND MANAGER** CHENEGA

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

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

*PREVIOUS LAND MANAGER'S REP.  
BEING REPLACED*

ACE 7236482

## SHORELINE OILING SUMMARY

REVISION NO. 03/07/90

OG D. LITTLE USCG K. DREHER SEGMENT ST/ CH-009  
 BIO K. COATES LAND REP - SUBDIVISION B (2 OF 2)  
 EXXON G. STILW ADEC P. ENDRES TIME 09:45 to 13:5  
 TEAM NO.: 19 TIDE LEVEL: 7.6' to 1.0' DATE 4/2/90  
 EST. SUBDIVISION LENGTH: 950 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock  
 SURVEYED FROM: ☒ Foot ☐ Boat ☒ Helo WORKING DIRECTION: E to W  
 SURFACE SEDIMENTS: R 30 % B 20 % C 20 % P 20 % G 5 % S 2 % M 1 % V 2 %  
 SLOPE: Lang 70 % Hang 25 % Vert 5 % WAVE EXPOSURE: ☒ Low ☒ Med ☐ High  
 OIL CATEGORY LENGTH: W 170 m M 135 m N - m VL 285 m NO 160 m

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |   |   |   |   |   | IMPACTED ZONES |   |   |   |
|------------------|--------------|---|---|---|------------------|---|---|---|---|---|----------------|---|---|---|
|                  | R            | B | P | V | W                | Y | G | B | P | L | 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) 575 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 POM-pm#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-CH) | BELOW |    | OIL / FILM COLOR |   |   |   |   |   | PIT ZONE |   |   |   | A N A | SUBSURFACE SEDIMENTS   |
|---------|----------------|--------------------------|----|----|----|----|------------------------|-------|----|------------------|---|---|---|---|---|----------|---|---|---|-------|------------------------|
|         |                | OP                       | OR | OL | OF | NO |                        | UO    | UC | W                | Y | G | B | P | L | SU       | U | M | L |       |                        |
| 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.

Elsewhere oiling tends to be thin, not deeply penetrated, except in the extreme northwest of the subdivision where there are some boulder/pebble talus oiled.

Page 1 of 2

REVIEWED W DATE 4-4-90

ACE 7236483

## SHORELINE OILING SUMMARY (PAGE 2 of 2)

REVISION 7/22/99

SEGMENT ST/ CU-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<br>N<br>A | SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|------------------------|-------|----|------------------|--------------|--------------|--------------|--------------|--------------|----------|---|---|---|-------------|----------------------|
|         |                | OP                       | OR | OL | OF | NO |                        | UO    | UC | <del>1</del>     | <del>2</del> | <del>3</del> | <del>4</del> | <del>5</del> | <del>6</del> | 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  
COMMENTS

5 - 20 X X

X

P g

ACE 7236484

REVIEWED \_\_\_\_\_ DATE \_\_\_\_\_

RTE  
ADEL

# SHORELINE ECOLOGICAL SUMMARY

REVISION: 05/22/90

Segment ST / CH009 Subdivision B Date (mo / day / yr) 4.02.90

Time (24 hr) 1010-1340 Biologist K A Coates

- (A) Substrate type and % of segments:  
 (1) Bedrock 30 (2) Boulder 20 (3) Cobble 20 (4) Pebble 25 (5) Sand 2 (6) Silt 1
- (B) Overall % cover of biota (% of segment): Dense 30 Moderate 30 Low 40
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs: Roll No. St-14-1

Frames 23-36

+ St-14-2

1-3

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; loons offshore; eelgrass in bay marsh  
 Known sensitivities: nesting eagles, anadromous stream; seal & sea lion  
 Ecological Considerations: pupping; molting; deer harvesting - tracks at stream head marsh observed 2 April

Dense mussel and clam beds in northwest, inside barrier islands, as well as along west side small bay/estuary.  
 Eastern cobble beach, with heavy oiling in sediments,  
 is a potential source of contamination.



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

DATE 4/2/90

## CHECKLIST

- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Significant Entry
- ☒ US Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. H2O/L/FA
- ☒ S/L
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ PA Location(s)
- ☒ Photo Location(s)

### LEGEND

①△

### 74 - No Subsurface Oil

②

71 - Subsurface Oil

**CT/C**

CT/B

### Intervening Characteristics

CT/P

### Index Distribution

**CT/S**  
Special Distribution

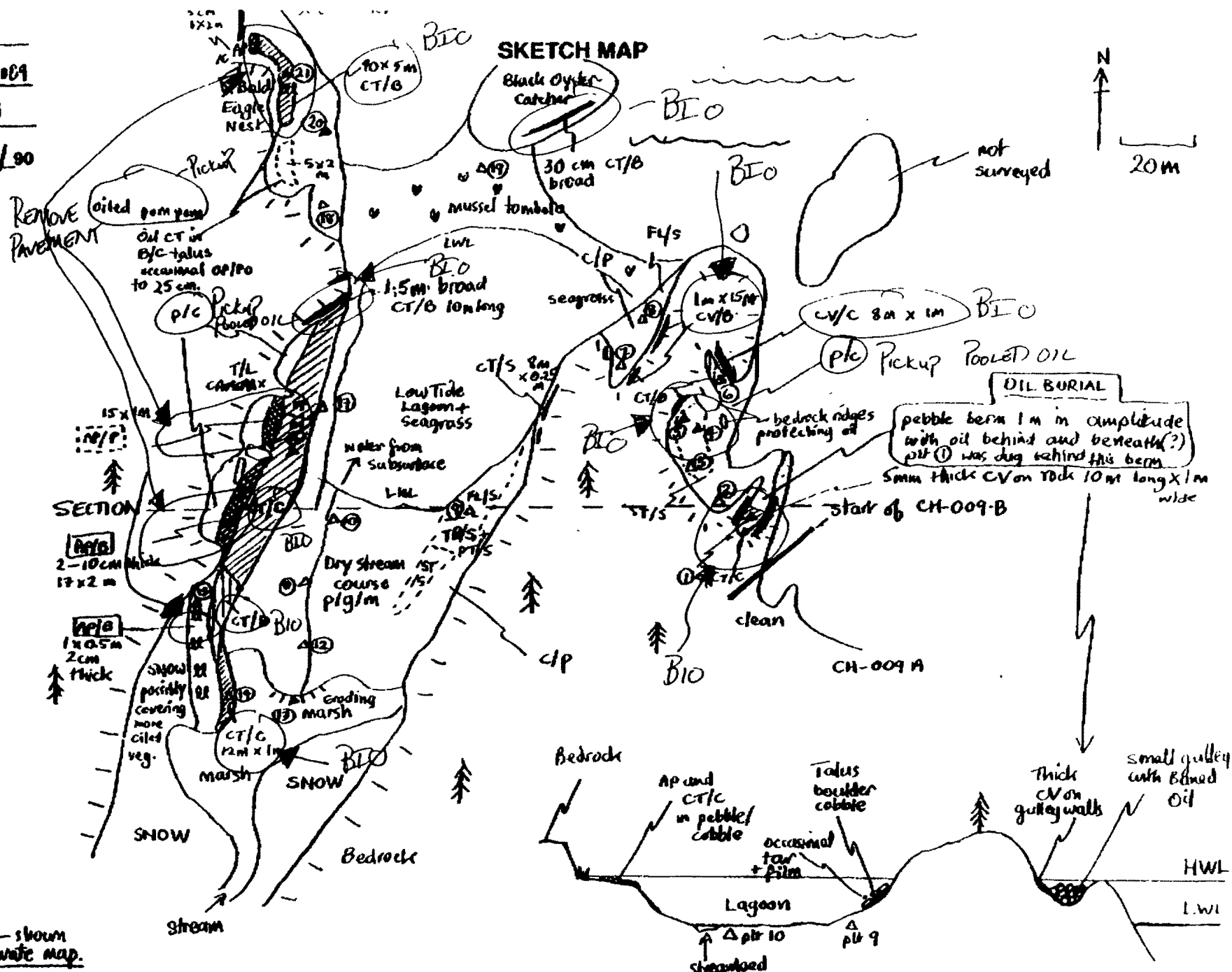
1999

### Red Vegetation



Note location, direction,

**NOTE**—shown on separate map.



ACE 7236487

Character Length (m): AP 30 PO 0.5 CV 33 CT 150 ST 35 MS - PT 20.10 TB 0.25 FL 20 NO

4

THE VERSION: 01/24/14

500.0

CH009-B

1 - RI F-21 IAM

RI F-23 1040 hr 2 APRIL '90

RI F-24

" F-25

" F-26

" F-27

" F-28

" F-29

photo locations

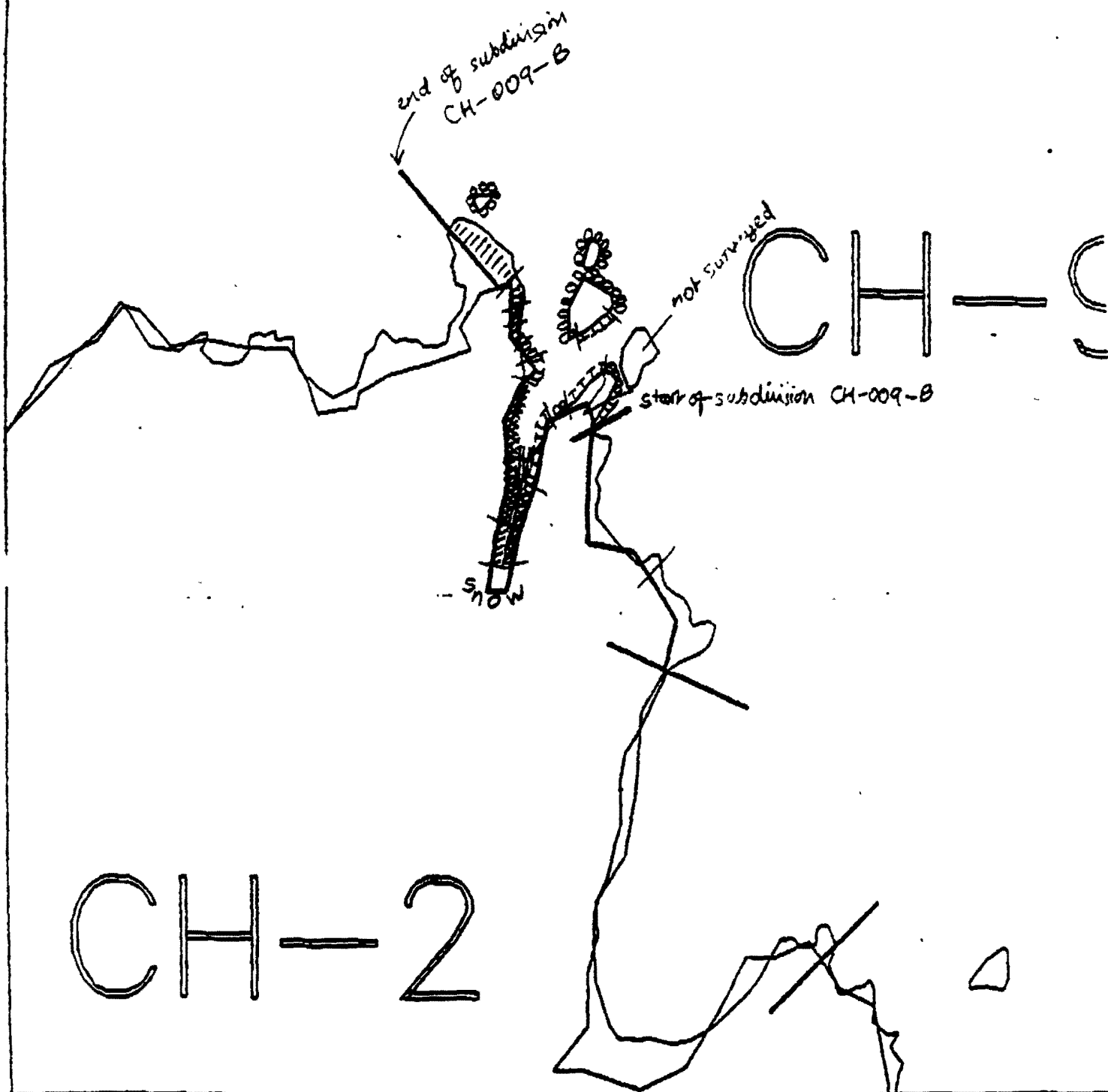
| OILING             |              |
|--------------------|--------------|
| H                  | Heavy        |
| M                  | Moderate     |
| L                  | Light        |
| VL                 | Very Light   |
| N                  | None         |
| NS                 | Not Surveyed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

5

MEC Sep/Oct 1990 Survey

ACE 7236488

CH-10



XXXX Wide

//// Medium

--- Narrow

TTTT Very light

CH-9-B

ADEC Segment Length: 945m

Map Key: .PWS-57

Name: D. LITTLE

Date: 4/2/90

ACE 7236489-5

4/54

Extra copies  
ANADSCAT 90

ACF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: ES SS DS TS AVS SCHA MMS PTA 2 REGION: PWS KP,CI K,AP  
METHOD: Aerial Ground Boat  
3 DATE: 4/25/90 15 HIGH TIDE TIMES: 1500 21 TEAM RECORDER: TOM CROWE  
4 START TIME: 0746 16 HIGH TIDE HTS: +11 FT, 22 OBSERVERS: MIKE WIEPMA  
5 STOP TIME: 0926 17 LOW TIDE TIMES: 0830 23 AGENCY: ADFTG (ANADSCAT)  
6 SEGMENT #: CH009 18 LOW TIDE HTS: -4 FT, 24 PHOTOS TAKEN: Y 30  
7 STATION #: \_\_\_\_\_ 19 TIDE HT AT SURVEY: -2 FT Roll #: \_\_\_\_\_ Frame: \_\_\_\_\_  
8 K-UNIT: \_\_\_\_\_ Ebb Slack Flood Slack 25 VIDEO TAKEN: Y 10 TAPE#: \_\_\_\_\_  
9 STAT AREA: \_\_\_\_\_ 20 USCG QUAD: SEW B-3 Start: \_\_\_\_\_ End: \_\_\_\_\_  
10 LAT: \_\_\_\_\_ 11 LONG: \_\_\_\_\_ 26 SAMPLES TAKEN? Y 10 Number  
12 SOURCE: Map Loran Oil NONE  
13 LOCATION: NORTH TIP CHENEGA ISLAND Sediment \_\_\_\_\_  
14 DESCRIPTION: \_\_\_\_\_ Biological \_\_\_\_\_  
Water \_\_\_\_\_

EXTENT OF OIL

|                        | SHORELINE |                 |                |                 | STREAM        |       |                |   |
|------------------------|-----------|-----------------|----------------|-----------------|---------------|-------|----------------|---|
|                        | L         | M               | M <sup>2</sup> | %               | L             | M     | M <sup>2</sup> | % |
| 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>M</u>        | H             |       |                |   |
| 31 OIL TYPE:           | Pooled    | Mousse          | Tar            | <u>Asphalt</u>  | <u>Sticky</u> | Stain |                |   |
| 32 OILED DEBRIS?       | Y         | <u>N</u>        |                |                 |               |       |                |   |
| 33 SHORELINE TYPE:     | Headland  | Low-lying Rocks | Beach          | <u>Cove</u>     |               |       |                |   |
|                        |           | <u>Lagoon</u>   | Marsh          |                 |               |       |                |   |
| 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? Y N  
37 CATALOG #: 226-20-16182  
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  

|  |  |  |
|--|--|--|
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

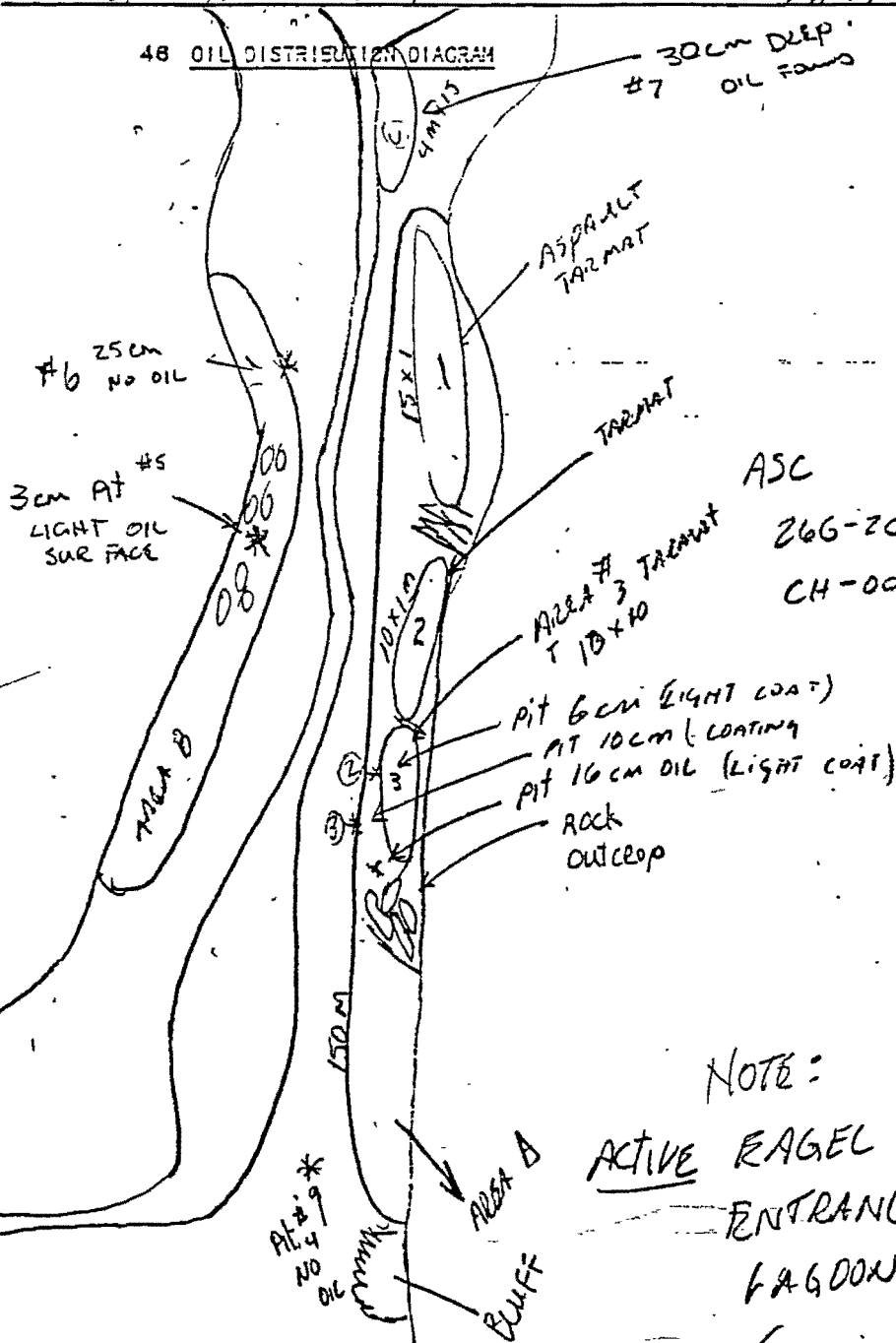
COMMENTS: Area C is an area adjacent to stream bank where oil is deeply buried. This area is at the +12 FT TIDE LINE. BIOREMEDIATION IN FORM OF SOLID PELLETS - BURIED SIX TO EIGHT INCHES IN INTERMITTENT PITS WITHIN THE OILED AREA. SMALL AMOUNTS SHOULD BE USED FOR PROLONGED RELEASE.



Two

I agree with recommendations. M. H. Fawcett

30cm DEEP  
7 OIL FANS



NOTE:

ACTIVE EAGLE NEST AT  
ENTRANCE TO THIS  
LAGOON

sample taken  
photo frame # and  
not direction.

Island

ACE 7236459

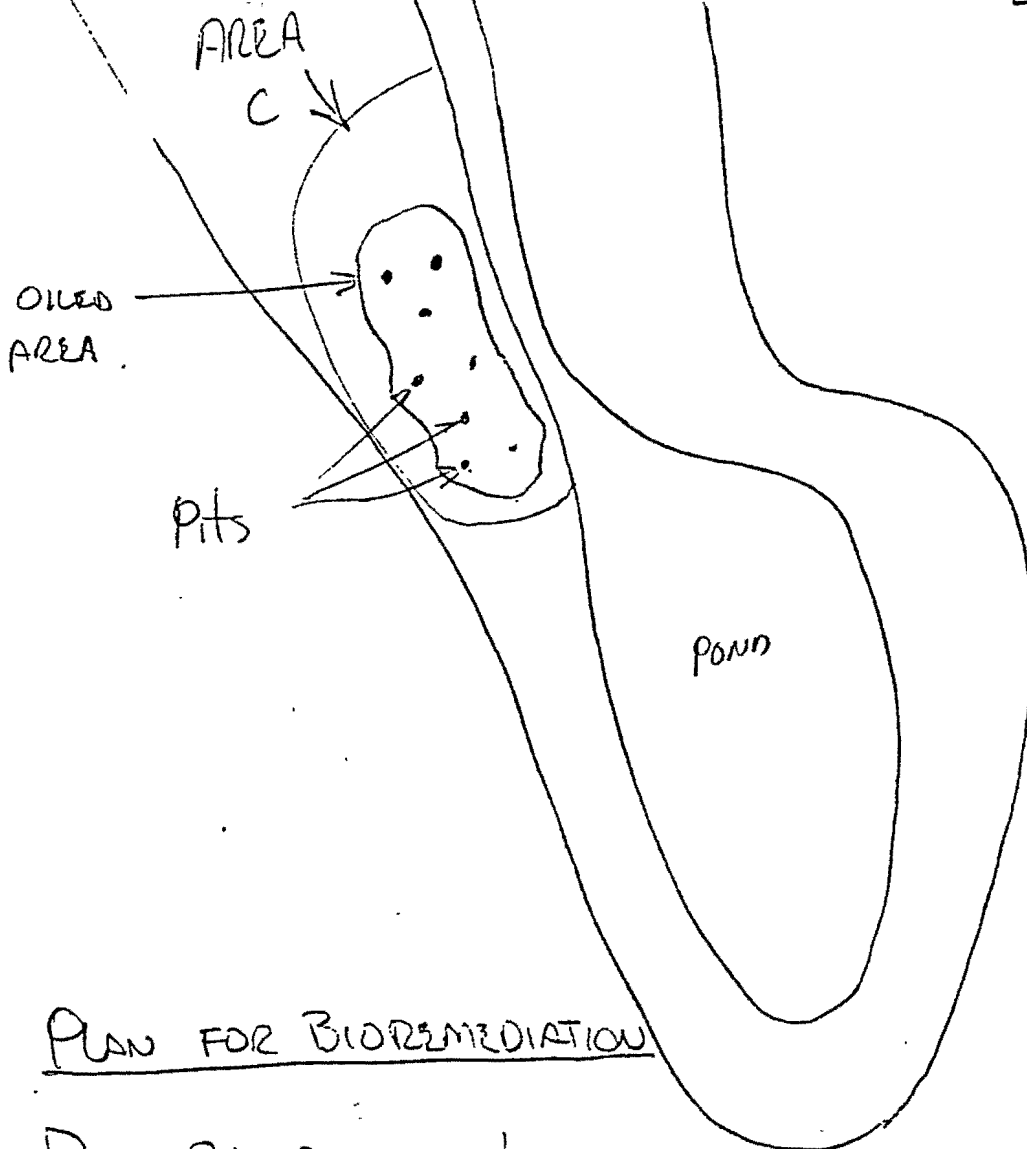
4/5/91

CH-009

226-20-16132

4/25/90

TWC



### PLAN FOR BIOREMEDIATION

DIG RANDOM PITS AND  
BURY SMALL AMOUNTS OF  
SOLID FERTILIZER PELLETS FOR  
SLOW RELEASE INTO OILED AREA.  
PITS SHOULD BE 8 TO 10 INCHES DEEP.

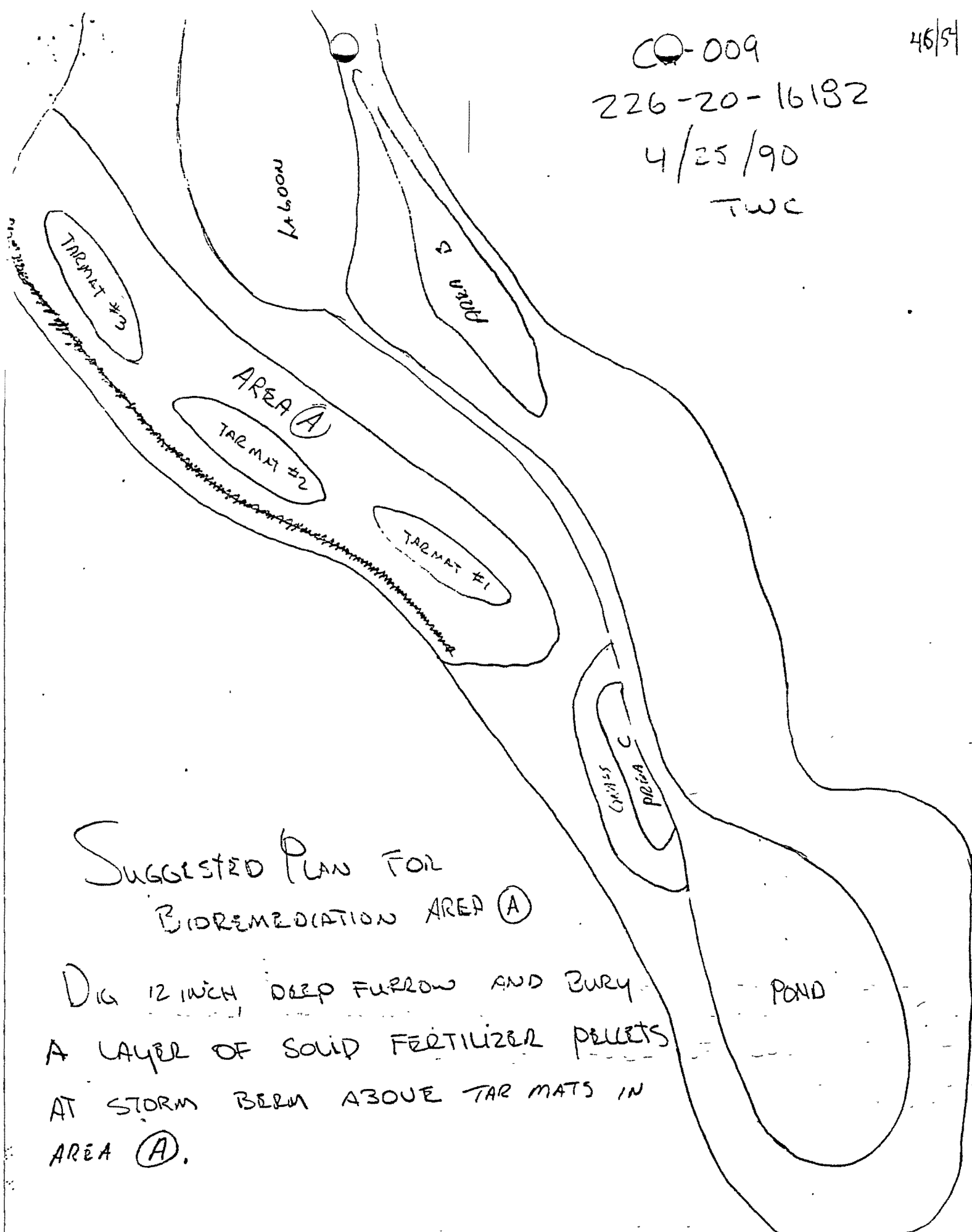
CO-009

46/54

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).

ACE 7236429

OG WILLIAM ROAD  
SEGMENT STR

STREAM 226-201618Z

DATE 25 MAR 90

## CHECKLIST

☐ N Arrow  
☐ Approx. Scale  
☐ Day/Sea Study  
☐ Oil Dist.  
☐ Width  
☐ Length  
☐ % Cover  
☐ Substrate Character  
☐ Est. HAZ/AVL  
☐ SSL  
☐ Profile Location(s)  
☐ Profile(s)  
☐ PH Location(s)  
☐ Photo Location(s)

## LEGEND

PH - No Subsurface Oil

PH - Subsurface Oil

 CT/C  
 Continuous Distribution

 CT/B  
 Broken Distribution

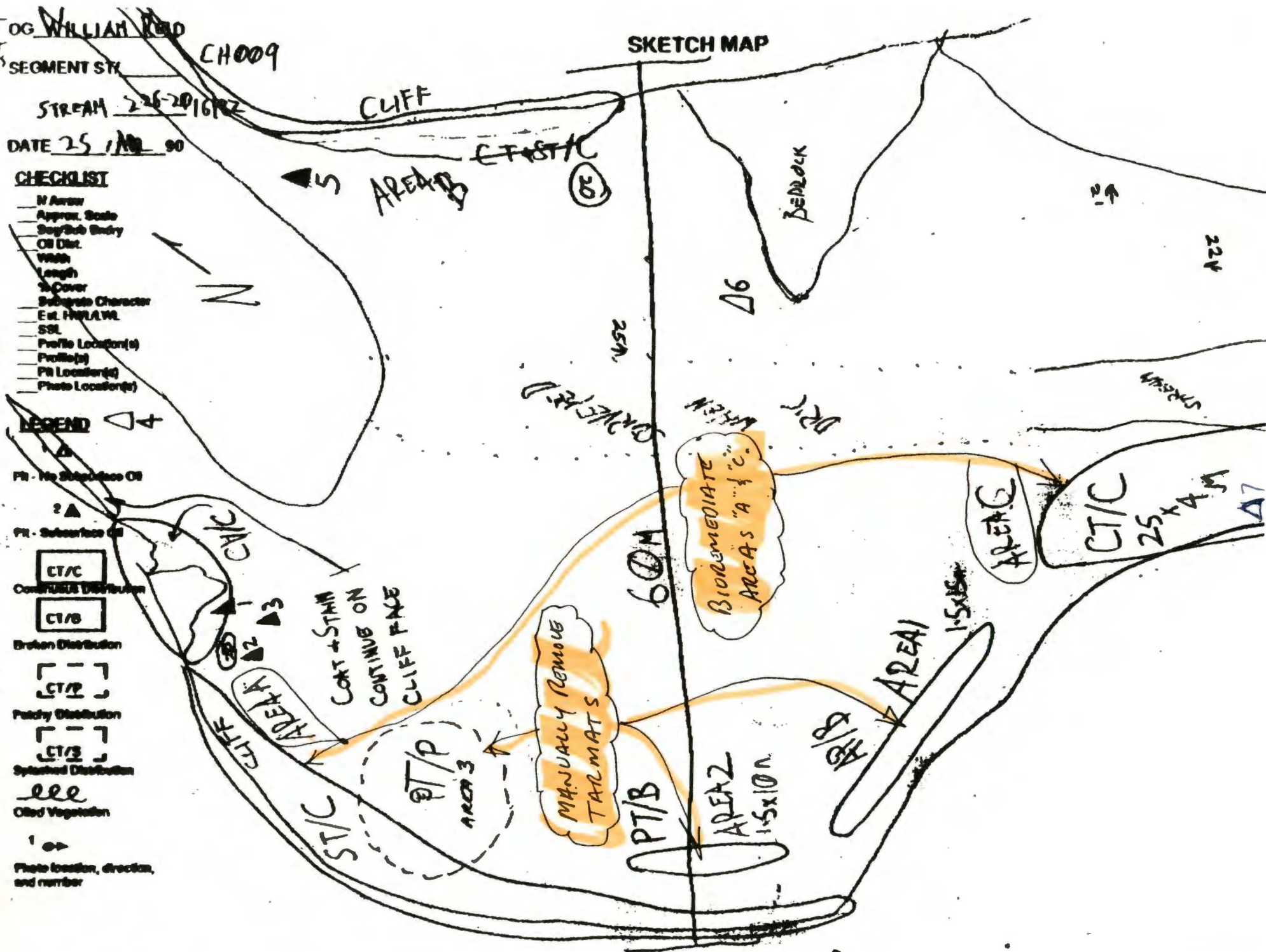
 CT/P  
 Patchy Distribution

 CT/S  
 Splashed Distribution

   
 Oil Vegetation

   
 Photo location, direction, and number

## SKETCH MAP



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

# FIELD SHORELINE COMMENT SHEET

SEGMENT ST CH009 SUBDIVISION: 16182 DATE 4/25/90

**USCG**

NAME CWO McMAHON

SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

1. MANUAL CLEAN-UP: REMOVE TAR MATS right side (looking onshore)
2. [CAUTION: AREA WAS BIOREMEDIATED '89' tides Flushed agent OUT TO STREAM]. Suggest treatment again.

**ADF46**

**ADEC**

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 NO TREATMENT.

**LAND MANAGER**

NAME \_\_\_\_\_

SIGNATURE \_\_\_\_\_

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS



## ADPAC MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS SS CS TS AVS SQM NMS PTA

2 REGION: PWS KP, CI -K, AP

METHOD: Aerial Ground Boat

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 0

7 STATION #:

19 TIDE HT AT SURVEY: -2 FT

Roll #: \_\_\_\_\_ Frames: \_\_\_\_\_

8 K-UNIT: \_\_\_\_\_

25b Slack Flood Slack

25 VIDEO TAKEN: Y 0 TAPES: \_\_\_\_\_

9 STAT AREA: \_\_\_\_\_

20 USCG QUAD: SBW B-3

Starts: \_\_\_\_\_ Ends: \_\_\_\_\_

10 LAT: \_\_\_\_\_

11 LONG: \_\_\_\_\_

26 SAMPLES TAKEN: Y 0 Number

12 SOURCE: Map Loran

Oil: NONE13 LOCATION: NORTH TIP CHENECA ISLAND

Sediment: \_\_\_\_\_

14 DESCRIPTION: \_\_\_\_\_

Biological: \_\_\_\_\_

Water: \_\_\_\_\_

## EXTENT OF OIL

|                     | SHORELINE |    |   |    | STREAM |   |   |   |
|---------------------|-----------|----|---|----|--------|---|---|---|
|                     | L         | Y  | N | S  | L      | Y | N | S |
| 27 SURFACE COVERAGE | 150       | 50 |   | 80 | 50     | 1 |   | 0 |

36 CATALOGED ANAD. FISH STREAM? 0 N37 CATALOG #: 226-20-16182

38 STREAM NAME: \_\_\_\_\_

|                      | SHORELINE |     |      |   | STREAM |   |   |   |
|----------------------|-----------|-----|------|---|--------|---|---|---|
|                      | L         | Y   | N    | S | L      | Y | N | S |
| 28 SURFACE THICKNESS | 6-16      | 3cm | 30cm |   |        |   |   |   |

39 OIL IN STREAM BED? 1 0

|                | SHORELINE |     |      |   | STREAM |   |   |   |
|----------------|-----------|-----|------|---|--------|---|---|---|
|                | L         | Y   | N    | S | L      | Y | N | S |
| 29 PENETRATION | 6-16cm    | 3cm | 30cm |   |        |   |   |   |

40 OIL ON STREAM BANKS? 0 N30 OVERALL OIL IMPACT: N VL L 0 H41 OIL ON BEACH ADJACENT TO MOUTH? 0 N  
(within 50 meters)31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain

42 OIL WITHIN 1 MILE OF STREAM? Y N

32 OILED DEBRIS: Y 0

Where: \_\_\_\_\_

33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cove

43 ANADONOUS FISH PRESENT? Y N

34 WAVE EXPOSURE: High Moderate Low VERY LOW44 ANADONOUS FISH OBSERVATION  
Species Aerial Ground35 SUBSTRATE TYPE: Bedrock \_\_\_\_\_ Boulder \_\_\_\_\_ Cobble XGravel X Sand \_\_\_\_\_ Mud/silt \_\_\_\_\_

| 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. BIODEGRADATION IN FORM OF SOLID PELLETS - BURIED SIX TO EIGHT INCHES IN INTERMITTENT PITS WITHIN THE OILED AREA. SMALL AMOUNTS SHOULD BE USED FOR PROLONGED RELEASE.

ACE 7236500

4/25/90

4/25/90

PAGE(S)

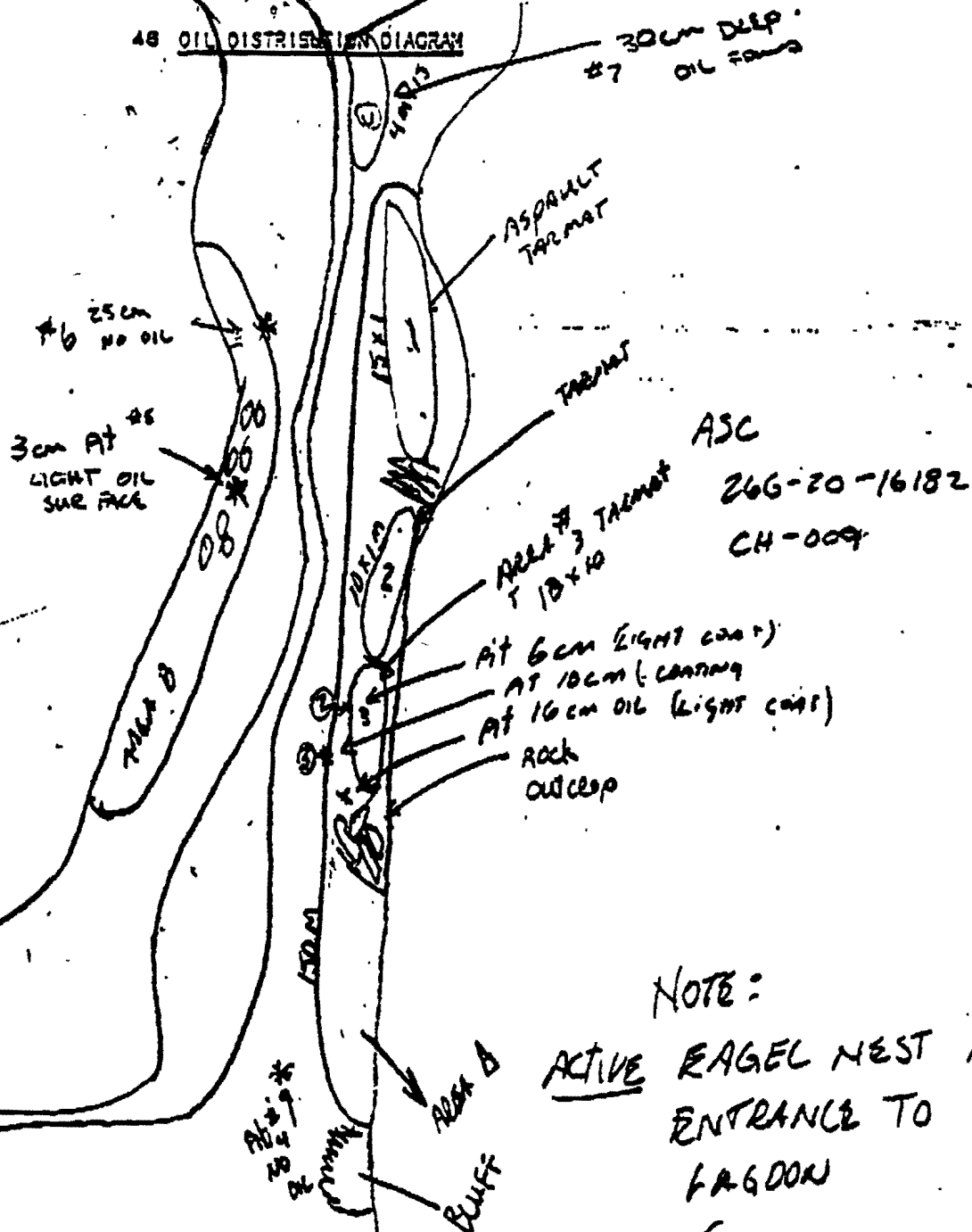
DESCRIPTION

TWC

RECOMMENDATION: REMOVE TAR MATS IN AREA 1, 2, 3  
 UPPER INTERTIDAL AREA A. NO INIPOL TO BE USED  
 IN THIS AREA. TREATMENT OF AREA A SHOULD INCLUDE  
 LIGHT TILLING OF SURFACES OF THE FLA STONE COARSE  
 ALSO BIORIMEDIATION IN THE FORM OF SOLID PELLETS BURIED  
 IN FARDON AT SUPERTIDES SHOULD BE CONSIDERED FOR  
 AREA A.

I agree with recommendations. M. R. F. F. F.

## 48 OIL DISTRIBUTION DIAGRAM



sample taken  
 1000 frame # and  
 not direction.

Island

ACE 7236501

P. 1 of 2

segment CH 009

4/25/90

Stream 22620-16182

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 25 m 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.

CH-10

ECCOLOGICAL  
MAP

1A.1B  
3NP 3G  
7II  
ST-1

- Surveyed 4/2/90 - CH009-B

CH-9

BALD  
EAGLE  
NEST

ANADROMOUS  
STREAM  
226-20-16/82  
(Ps, CH<sub>5</sub>, 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

Date: 4/1/90

ACE 7236504  
-/5

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ CH-09 <sup>3</sup> 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 unopened 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 McMillan DATE: 5/10/90

Subsurface Oil Observed: Yes X No      Maximum Depth 30+ cm

**RECOMMENDATIONS:**

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

COMMENTS: Recommended treatment includes 1) manual pickup and removal of tar patties and tarmats in areas indicated on sketch map, and 2) bioremediation of areas "A" and "C" indicated on sketch map. Work should be conducted between 7/1 and 8/1 based on pinniped constraints with approval of ADF&G due to salmon stream constraint and USFWS re-regarding eagle nest.

TAG COMMENTS: MONITORS TO PAY PARTICULAR ATTENTION TO PROTECTION OF RICH LITZ AND TIDAL POOL - NO BIOREMEDIATION IN THESE AREAS.

TAG APPROVAL DATE: 5/9/90.  
ADEC ART WENGER  
EXXON ANDY TOL  
NOAA Barl Werritt  
USCG D. D. ROME

FOSC: [Signature] DATE: 5-15-90

NOTIFY CWC 24 HRS IN ADVANCE  
OF WORK  
ACE 7236440 +/SG



4/25

## FIELD SHORELINE COMMENT SHEET

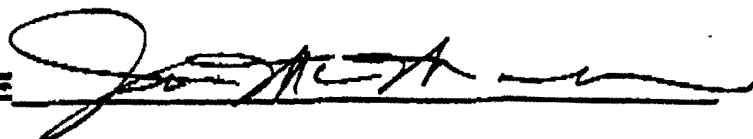
SEGMENT ST 1 CH 009 SUBDIVISION: 16182 DATE 4/25/90

USCG

NAME

CWO McNamara

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' & DES FLUSHED AGENT OUT TO STRAIN]. SUGGEST TREATMENT Again.

ADF 16

SDS

NAME

Tom Crowe

SIGNATURE

☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

1. MANUAL REMOVAL OF TAR MATS #1 #2 #3
2. LIGHT TILLING OF AREA (A) AND/OR RECOMMEND (SEE MAPS, BIOREMEDIATION OF SAME AREA. (NO INIPOL TREATMENT))
3. RECOMMENDED BIOREMEDIATION OF AREA C (SEE MAPS) OR NO 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 # 226-20-16182Segment 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 # 226-20-16200Segment 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. 04

OG WILLIAM LEID USCG McMAHON SEGMENT ST/ CH009 48/54  
 BIO MICHAEL FAWCETT LAND REP STRAN 22-20-16/84 OF  
 EXXON GUS GARCIA ADFG MIKE WIDMER TIME 07:45 to  
 TEAM NO. 15 TIDE LEVEL -3 FT DATE 25 / APR / 90  
 EST. SUBDIVISION LENGTH: 60 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock  
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo  
 SURFACE SEDIMENTS: R 70 % B 2 % C 45 % P 53 % G 0 % S 0 % M 0 % V  
 SLOPE: Long 70 % Hang 30 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High  
 OIL CATEGORY LENGTH: W 4 m M 4 m N 15 m VL 4 m NO 4

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |   |   |   | IMPACTED ZONES |    |    |    |
|------------------|--------------|---|---|---|------------------|---|---|---|----------------|----|----|----|
|                  | N            | E | S | W | 1                | 2 | 3 | 4 | SW             | SE | NE | NW |
| 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) | ↓ | SURF / SUBSURF SEDIM |
|---------|----------------|--------------------------|----|----|----|----|---------------------|-------|----|------------------|---|---|---|---|----------|----|----|----|-------|-------------|---|----------------------|
|         |                | OF                       | OR | OL | OF | NO |                     | NO    | UC | 1                | 2 | 3 | 4 | 5 | SW       | SE | NE | NW |       |             |   |                      |
| * 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/C                  |
| 6       | 25             |                          |    |    |    | X  | .                   |       |    |                  |   |   |   |   | X        |    |    |    |       | N           |   | P/C                  |

COMMENTS \* OILED INTERVAL &lt; 5 cm IN PITS 1, 2, 3, 5 AND 7 DOES NOT CONSTITUTE SUBSURFACE OIL



APR-25-1990 19:55 FROM EXXON CMD CORDOVA

TO

SCAT TEAM

P.01

OG WILLIAM REED  
SEGMENT STY

DATE 25 MAR 90

## CHECKLIST

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

## LEGEND

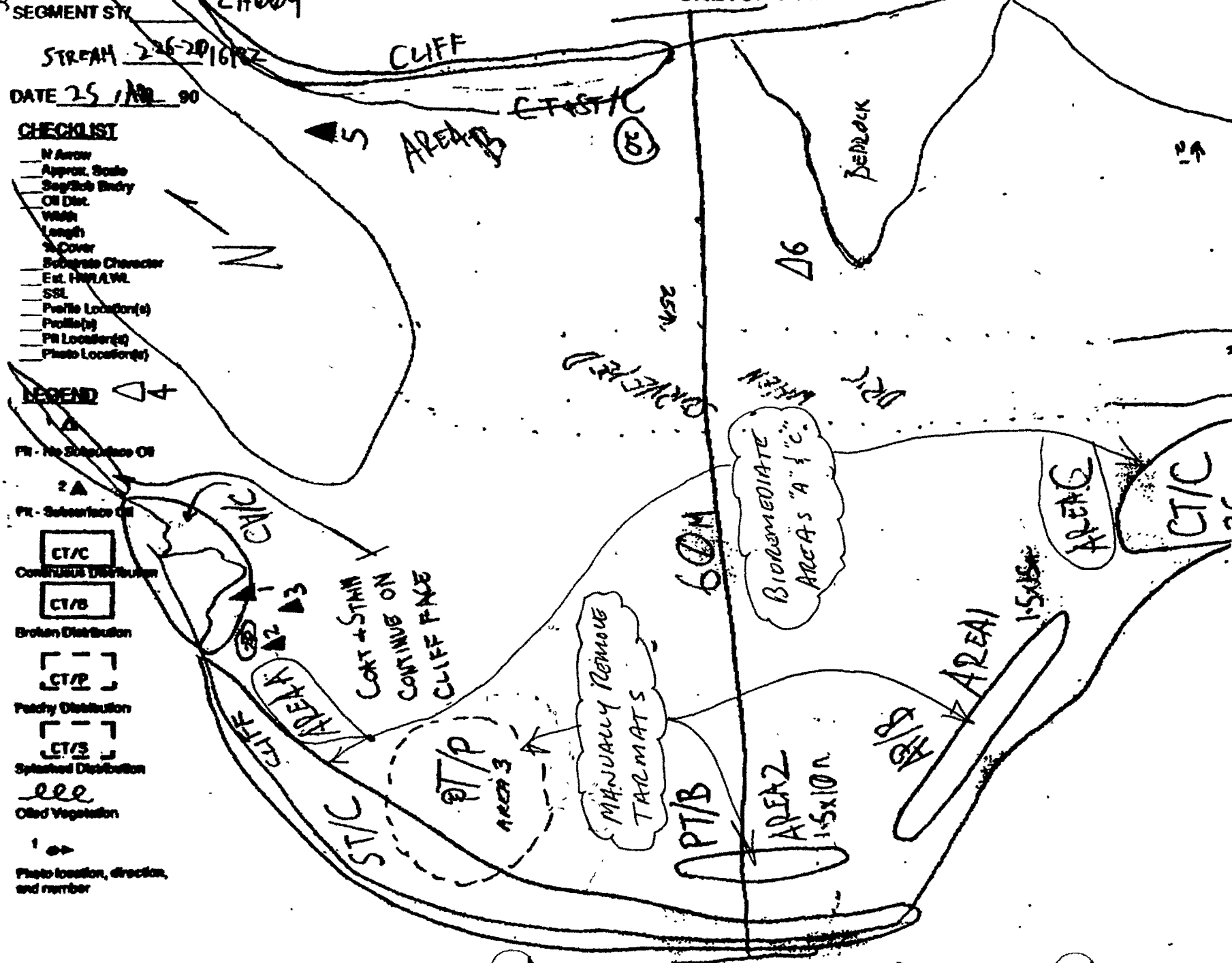
☐ No Subsurface Oil  
☐ Subsurface Oil

☐ Continuous Distribution  
☐ Broken Distribution  
☐ Patchy Distribution  
☐ Splashed Distribution  
☐ Oiled Vegetation  
☐ Photo location, direction, and number

CT/C  
 Continuous Distribution  
 CT/B  
 Broken Distribution  
 CT/P  
 Patchy Distribution  
 CT/S  
 Splashed Distribution  
 eee  
 Oiled Vegetation

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

## SKETCH MAP





APR-25-1990 19:50 FROM EXXON CMD CORDOVA

TO

SCAT TEAM

P.18

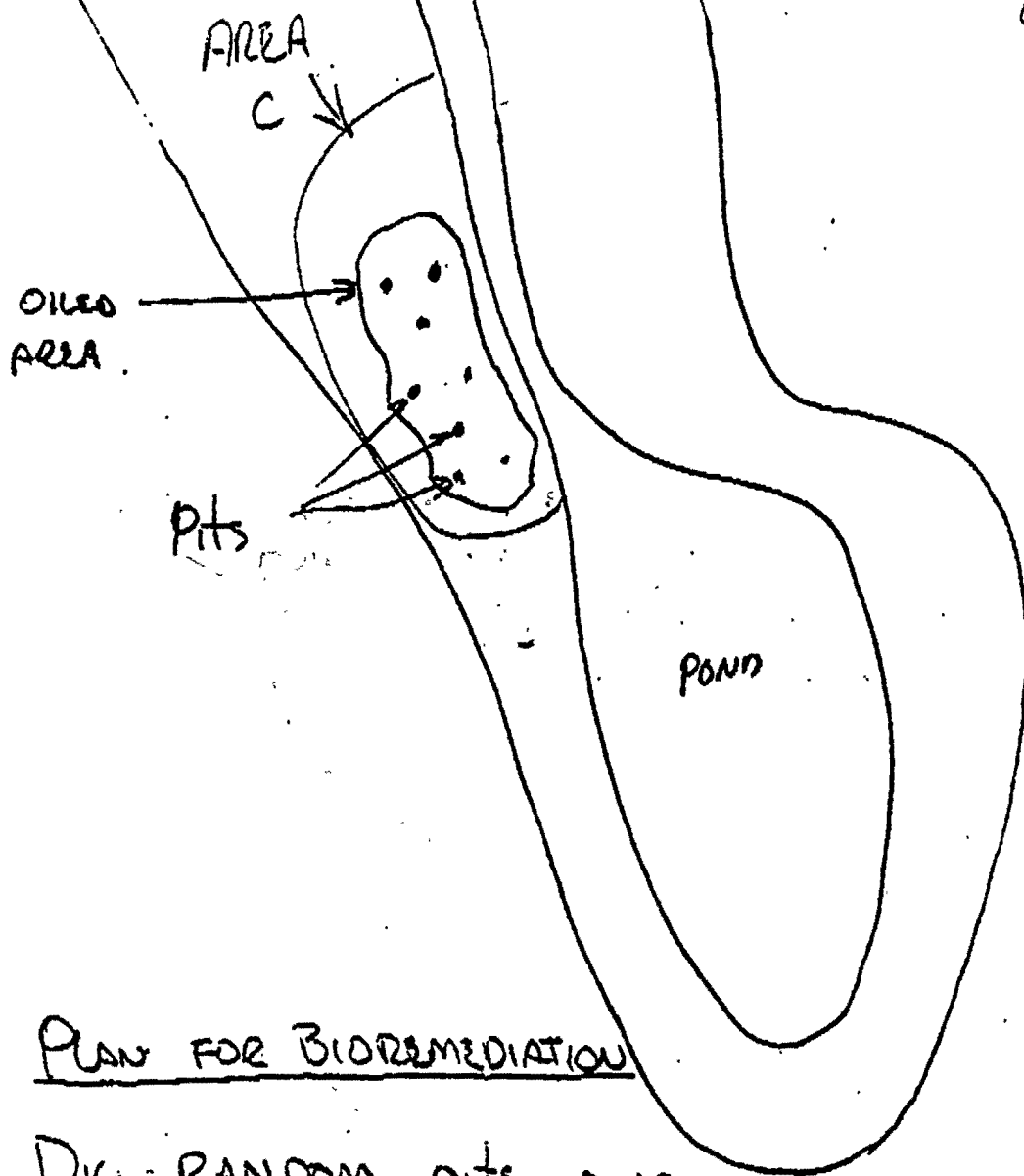
4/25/90

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.

ACE 7236446

APR-25-1990 19:52 FROM EXXON CMD CORDOVA

TO

SCAT TEAM

P.01

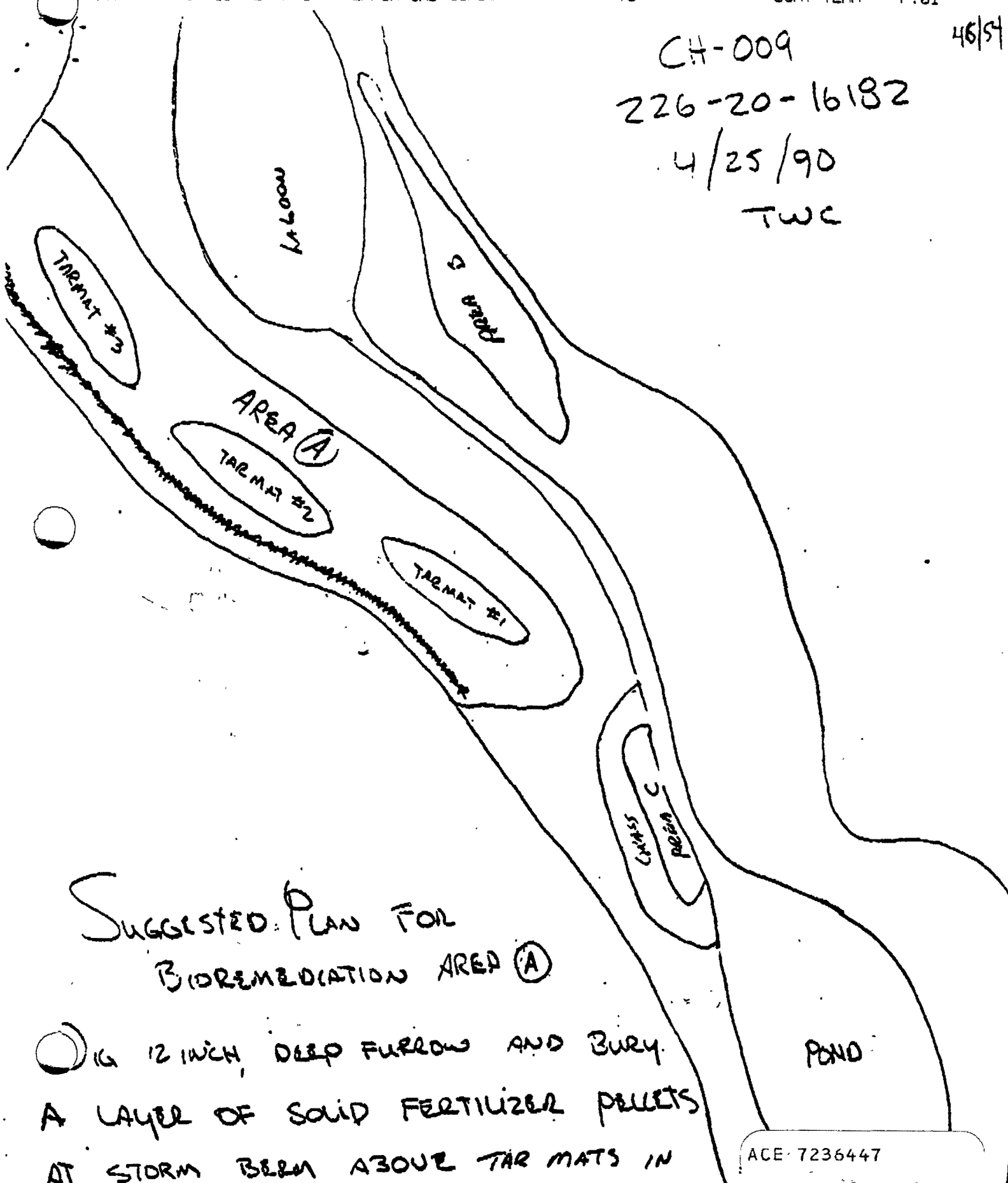
CH-009

46/54

226-20-16182

4/25/90

TWC



# SUGGESTED PLAN FOR BIOREMEDIATION AREA (A)

1. DIG 12 INCH, DEEP FURROW AND BURY  
A LAYER OF SOLID FERTILIZER PELLETS  
AT STORM BERM ABOVE TAR MATS IN

ACE 7236447

## ADPAC MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS 33 DS TS AVS SCH MMS PTA

2 REGION: PYS KP, CI K, AP

METHOD: Aerial Ground Boat

3 DATE: 4/25/9015 HIGH TIDE TIMES: 150021 TEAM RECORDER: TOM CROWE4 START TIME: 074616 HIGH TIDE HTS: 411 FT22 OBSERVERS: MIKE WIEAMER5 STOP TIME: 092617 LOW TIDE TIMES: 083023 AGENCY: ADPAC (ANADSCAT)6 SEGMENT #: CH00918 LOW TIDE HTS: -4 FT24 PHOTOS TAKEN: Y 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 00 Number

12 SOURCE: Map Loban

Oil: NONE13 LOCATION: NORTH TIP CHENEGA ISLAND

Sediment: \_\_\_\_\_

14 DESCRIPTION: \_\_\_\_\_

Biological: \_\_\_\_\_

Water: \_\_\_\_\_

## EXTENT OF OIL

|                     | SHORELINE |    |   |    | STREAM |   |   |   |
|---------------------|-----------|----|---|----|--------|---|---|---|
|                     | L         | M  | H | S  | L      | M | H | S |
| 27 SURFACE COVERAGE | 150       | 50 |   | 80 | 50     | 1 |   | 0 |

|                      | SHORELINE |     |      |   | STREAM |   |   |   |
|----------------------|-----------|-----|------|---|--------|---|---|---|
|                      | L         | M   | H    | S | L      | M | H | S |
| 28 SURFACE THICKNESS | 6-16 cm   | 3cm | 30cm |   |        |   |   |   |
| 29 PENETRATION       | 6-16cm    | 3cm | 30cm |   |        |   |   |   |

30 OVERALL OIL IMPACT: N VL L (N) H36 CATALOGED ANAD. FISH STREAM? 0 N31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain37 CATALOG #: 226-20-1618232 OILED DEBRIS: Y (N)

38 STREAM NAME: \_\_\_\_\_

33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cove39 OIL IN STREAM BED: Y 00Lagoon Marsh40 OIL ON STREAM BANKS: 0 N34 WAVE EXPOSURE: High Moderate Low VERY LOW41 OIL ON BEACH ADJACENT TO MOUTH? (Y) N

(within 50 meters)

35 SUBSTRATE TYPE: Bedrock \_\_\_\_\_ Boulder \_\_\_\_\_ Cobble X42 OIL WITHIN 1 MILE OF STREAM: Y NGravel X Sand \_\_\_\_\_ Mud/silt \_\_\_\_\_

44 ANADROMOUS FISH OBSERVATION

| Species | Aerial | Ground |
|---------|--------|--------|
|         |        |        |
|         |        |        |
|         |        |        |
|         |        |        |

ACE 7236448

REMARKS: Area C is an area adjacent to stream bank where oil

43 PHOTOLOG

226-20-16182

4/25/90

40/50

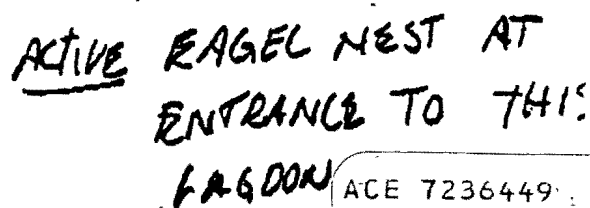
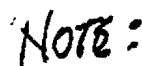
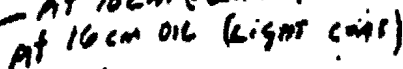
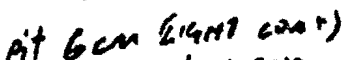
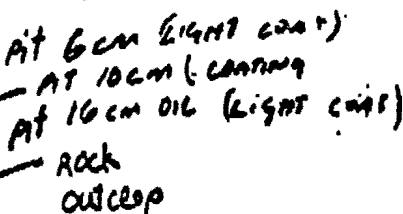
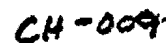
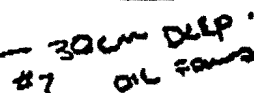
1535

**DESCRIPTION**

Two

RECOMMENDATION: REMOVE TAR MATS IN AREA 1, 2, 3 UPPER INTERTIDAL AREA A. NO INEPOD TO BE USED IN THIS AREA. TREATMENT OF AREA A SHOULD INCLUDE LIGHT TILLING OF SURFACE OF THE RAYSTONE CORREL ALSO BIOREMEDIATION IN THE FORM OF SOLID PELLETS BURIED IN EARTH AT SURFATIDE. SHOULD BE COMPLETED FOR AREA A.

I agree with recommendations. ~~At Four~~



ACE 7236449

P. 1 of 2

segment CH 009

4/25/90

Stream 226-20-16182

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, echinroids, 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



P. 2 of 2 <sup>59157</sup>

segment CH009  
Stream 226-20-16182  
Ecological Summary

4/25/90

Michael Fawcett

surface tar in V.T.Z. Manual removal is suggested, and possibly bio-remediation using pellets rather than the liquid compound, so as to avoid concentration of the fertilizer in the lagoon during falling tides. Cleanup crews and equipment should be kept away from the lower intertidal area, including the big mussel bed and all of the area below the lagoon mouth.

M F Fawcett

CH-10

ECOLOGICAL  
MAP

1A, 1B  
3NP, 3Q  
7II  
ST-1

Surveyed 4/2/90 - CH009-B

CH-9

BAUD  
EAGLE  
NEST

surveyed by helicopter 4/2/90

visited briefly on foot 4/1/90

ANADROMOUS  
SILVERM  
226-20-16/82  
(Ps, CHs, 2/90)

CH-2

LOCATED IN  
CH-09-B (2 of 2)

XXXX Wide  
//// Medium

CH-9

ACE 7236452 -15

Map Key: PWS-97

RTE  
ADT



50-4  
OG WILLIAM REID  
CH009  
SEGMENT ST  
STREAM 226-2016182

# SKETCH MAP

DATE 25 / APR 90

## CHECKLIST

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

## LEGEND

1 Pit - No Subsurface Oil

2 Pit - Subsurface Oil

CT/C  
Continuous Distribution

CT/B  
Broken Distribution

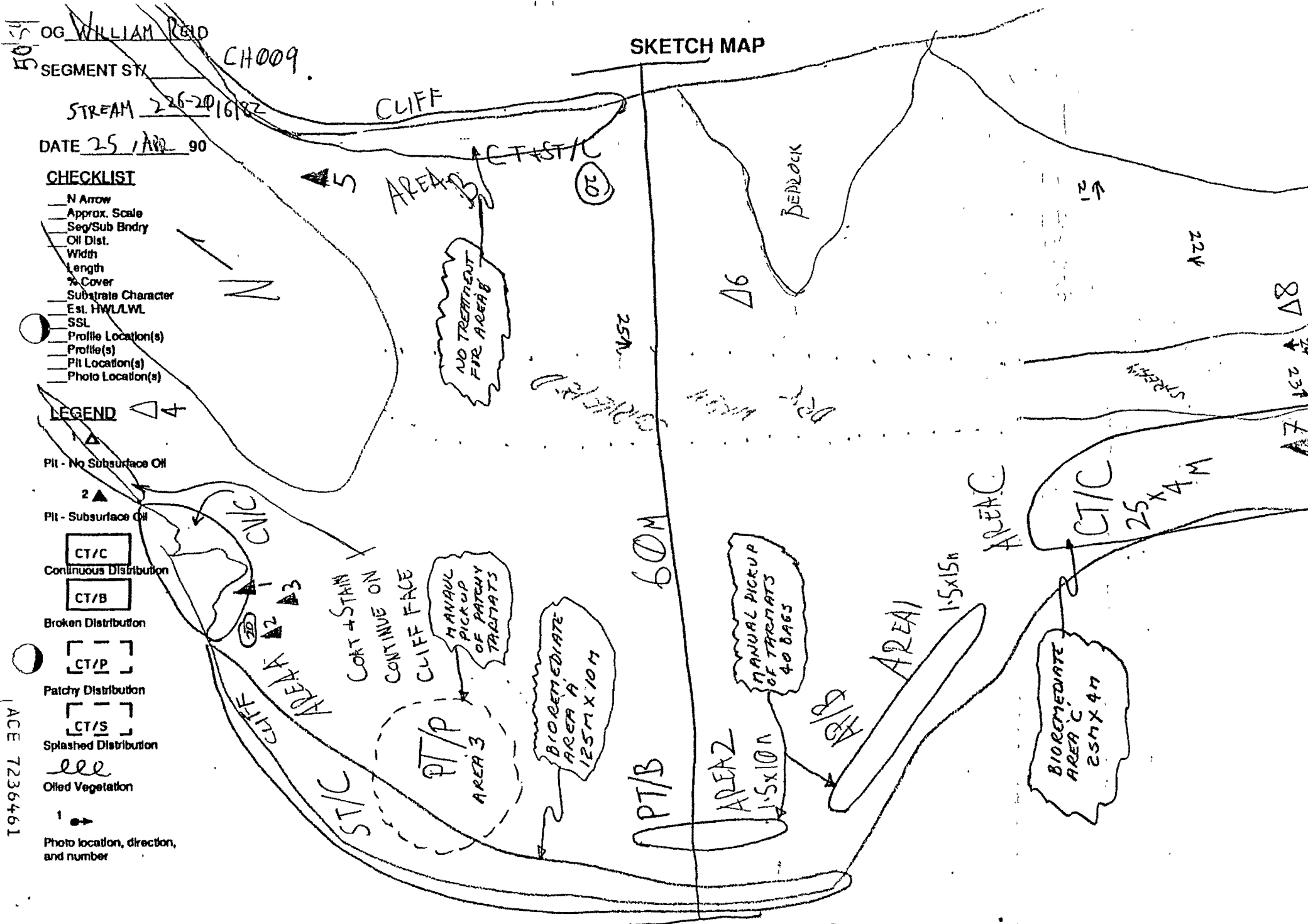
CT/P  
Patchy Distribution

CT/S  
Splashed Distribution

Oiled Vegetation

1 Photo location, direction, and number

ACE 7236461



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

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

# FIELD SHORELINE COMMENT SHEET

SEGMENT ST 124009 SUBDIVISION: 16182 DATE 4/25/90

USCG

NAME CWO McMAHON

SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED  
COMMENTS

☒ TREATMENT SUGGESTED

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

ADF 46

~~ADF 46~~

NAME Tom Crowe

SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED  
COMMENTS

☒ TREATMENT SUGGESTED

1. MANUAL REMOVAL OF TAR MATS #1 #2 #3
2. LIGHT TILLING OF AREA (A) AND/OR RECOMMENDED (SEE MAP: BIOREMEDIATION OF SAME AREA. (NO INIPOL TREATMENT))
3. RECOMMENDED BIOREMEDIATION OF AREA C (SEE MAPS) OR A/D TREATMENT.

LAND MANAGER

NAME \_\_\_\_\_

SIGNATURE \_\_\_\_\_

☐ NO TREATMENT RECOMMENDED  
COMMENTS

☐ TREATMENT SUGGESTED

ACE 7236493

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. 0

OG William Reid USCG McMAHON SEGMENT ST/ CH009 48/54  
 BIO MICHAEL FAWCETT LAND REP STRAM 26-20-16/84 OF  
 EXXON Gus Garcia ADRG Mike Wiedner TIME 07:45:00  
 TEAM NO. 15 TIDE LEVEL -3 FT DATE 25 / APR / 90  
 EST. SUBDIVISION LENGTH: 60 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock  
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo  
 SURFACE SEDIMENTS: R 2 % B 2 % C 45 % P 53 % G 0 % S 0 % M 0 % V 0  
 SLOPE: Long 70 % Hang 30 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ Hk  
 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 |   |   |   |
|------------------|--------------|---|---|----|------------------|---|---|----|----------------|---|---|---|
|                  | W            | M | N | VL | W                | M | N | VL | W              | M | N | 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 1NEAR SHORE SHEEN? (N) BR RW SL

| OILED DEBRIS | AMOUNT |    |    |
|--------------|--------|----|----|
|              | SM     | MD | LG |
| Logs         |        |    |    |
| Vegetation   |        |    |    |
| Trash        |        |    |    |
| Debris       |        |    |    |

Did You Co  
DEBRIS 6TYPE 0#BAGS 0

Photographs:

Roll No. 0Frames 0

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL | BELOW |    | OIL / FILM COLOR |              |              |              |              |              | PIT ZONE |   |   |   | A<br>N<br>A | SHEEN (Y/N) | V | SURF SUBSU SEDIM |
|---------|----------------|--------------------------|----|----|----|----|----------------|-------|----|------------------|--------------|--------------|--------------|--------------|--------------|----------|---|---|---|-------------|-------------|---|------------------|
|         |                | OF                       | OR | OL | OF | NO |                | W     | EC | <del>1</del>     | <del>2</del> | <del>3</del> | <del>4</del> | <del>5</del> | <del>6</del> | 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           | Y     |    |                  |              |              | X            |              | X            |          |   |   |   | N           |             |   | P/G              |
| 4       | 40             |                          |    |    |    | X  | .              |       |    |                  |              |              |              |              |              | X        |   |   |   | N           |             |   | P/G              |
| * 5     | 20             |                          |    |    | X  |    | 0-3            | X     |    |                  |              |              | X            |              | X            |          |   |   |   | N           |             |   | P/C              |
| 6       | 25             |                          |    |    |    | X  | .              |       |    |                  |              |              |              |              | X            |          |   |   |   | N           |             |   | P/C              |

COMMENTS \* OILED INTERVAL &lt; 5cm IN PITS 1, 2, 3, 5 AND 7 DOES NOT CONSTITUTE SUBSURFACE OIL

REVIEWED fwDATE 4-2

ACE 7236495

# SHORELINE OILING SUMMARY (PAGE 2)

4815  
REVISION 06/12/92

SEGMENT ST/ STREAM 22620-16187 (    OF    )

## SUBSURFACE OIL (CONTINUED)

| PIT NO. | PIT DEPTH (CM) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (CM) | BELOW |    | OIL / FILM COLOR |              |              |              |              | PIT ZONE |   |    |   | ANALYSIS (Y/N) | ▼  | SURFACE SUBSURFACE SEDIMENT |
|---------|----------------|--------------------------|----|----|----|----|---------------------|-------|----|------------------|--------------|--------------|--------------|--------------|----------|---|----|---|----------------|----|-----------------------------|
|         |                | OP                       | OR | OL | OF | NO |                     | UD    | UC | <del>1</del>     | <del>2</del> | <del>3</del> | <del>4</del> | <del>5</del> | BU       | U | BU | U |                |    |                             |
| * 7     | 30             |                          | X  |    |    |    | 0-30                | X     |    | X                | X            |              |              |              | X        |   |    |   | Y              | 25 | P/C/C                       |
|         |                |                          |    |    |    |    | .                   |       |    |                  |              |              |              |              |          |   |    |   |                |    |                             |
|         |                |                          |    |    |    |    | .                   |       |    |                  |              |              |              |              |          |   |    |   |                |    |                             |
|         |                |                          |    |    |    |    | .                   |       |    |                  |              |              |              |              |          |   |    |   |                |    |                             |
|         |                |                          |    |    |    |    | .                   |       |    |                  |              |              |              |              |          |   |    |   |                |    |                             |
|         |                |                          |    |    |    |    | .                   |       |    |                  |              |              |              |              |          |   |    |   |                |    |                             |
|         |                |                          |    |    |    |    | .                   |       |    |                  |              |              |              |              |          |   |    |   |                |    |                             |
|         |                |                          |    |    |    |    | .                   |       |    |                  |              |              |              |              |          |   |    |   |                |    |                             |
|         |                |                          |    |    |    |    | .                   |       |    |                  |              |              |              |              |          |   |    |   |                |    |                             |
|         |                |                          |    |    |    |    | .                   |       |    |                  |              |              |              |              |          |   |    |   |                |    |                             |
|         |                |                          |    |    |    |    | .                   |       |    |                  |              |              |              |              |          |   |    |   |                |    |                             |
|         |                |                          |    |    |    |    | .                   |       |    |                  |              |              |              |              |          |   |    |   |                |    |                             |
|         |                |                          |    |    |    |    | .                   |       |    |                  |              |              |              |              |          |   |    |   |                |    |                             |
|         |                |                          |    |    |    |    | .                   |       |    |                  |              |              |              |              |          |   |    |   |                |    |                             |
|         |                |                          |    |    |    |    | .                   |       |    |                  |              |              |              |              |          |   |    |   |                |    |                             |

COMMENTS

REVIEWED fw DATE 4-27-9

ACE 7236496



ACE 7236497

SEGMENT SIX

**SEGMENT SIX**

CH009

STREAM ~~2-26-2016~~ RZ

DATE 25 JUL 90

## CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Sex/Size/Body
- ☐ CR Dist.
- ☐ Width
- ☐ Length
- ☐ N Cover
- ☐ Substrate Character
- ☐ Est. HPLAW
- ☐ SGL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PR Location(s)
- ☐ Photo Location(s)

### LEGEND

- Fig. 1. No Subsurface Oil**

- 2 A  
PK - Subsurface (2)

CT/C  
CONFIDENTIAL

### Broken Distribution

### Frequency Distribution

**Synthesed Distribution**

### Old Vegetables

**Photo location, direction,  
and number**

## SKETCH MAP

CLIFF

AREA 13

CT-5710

# Deck

46

257.

Dr. [illegible]

BIOMEDICAL  
AREAS "A" & "C"

05

MANUALLY REMOVE  
TAR MATS

PT/B

APETZ  
15x10N

~~8/5 AREA~~

三

425C

CT/C  
25x4.5M

224

44

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

**PREVIOUS:**

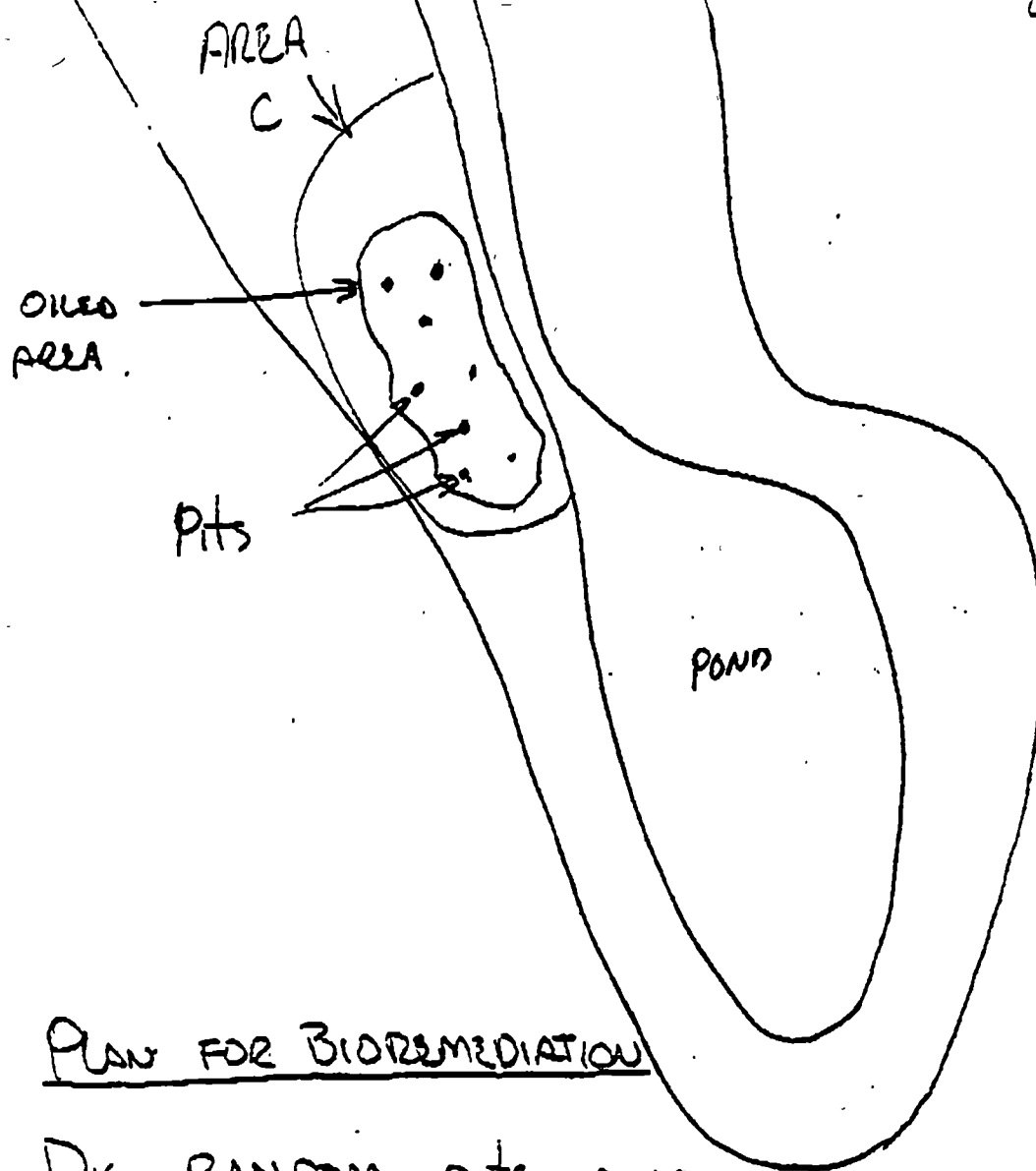
4/25

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.

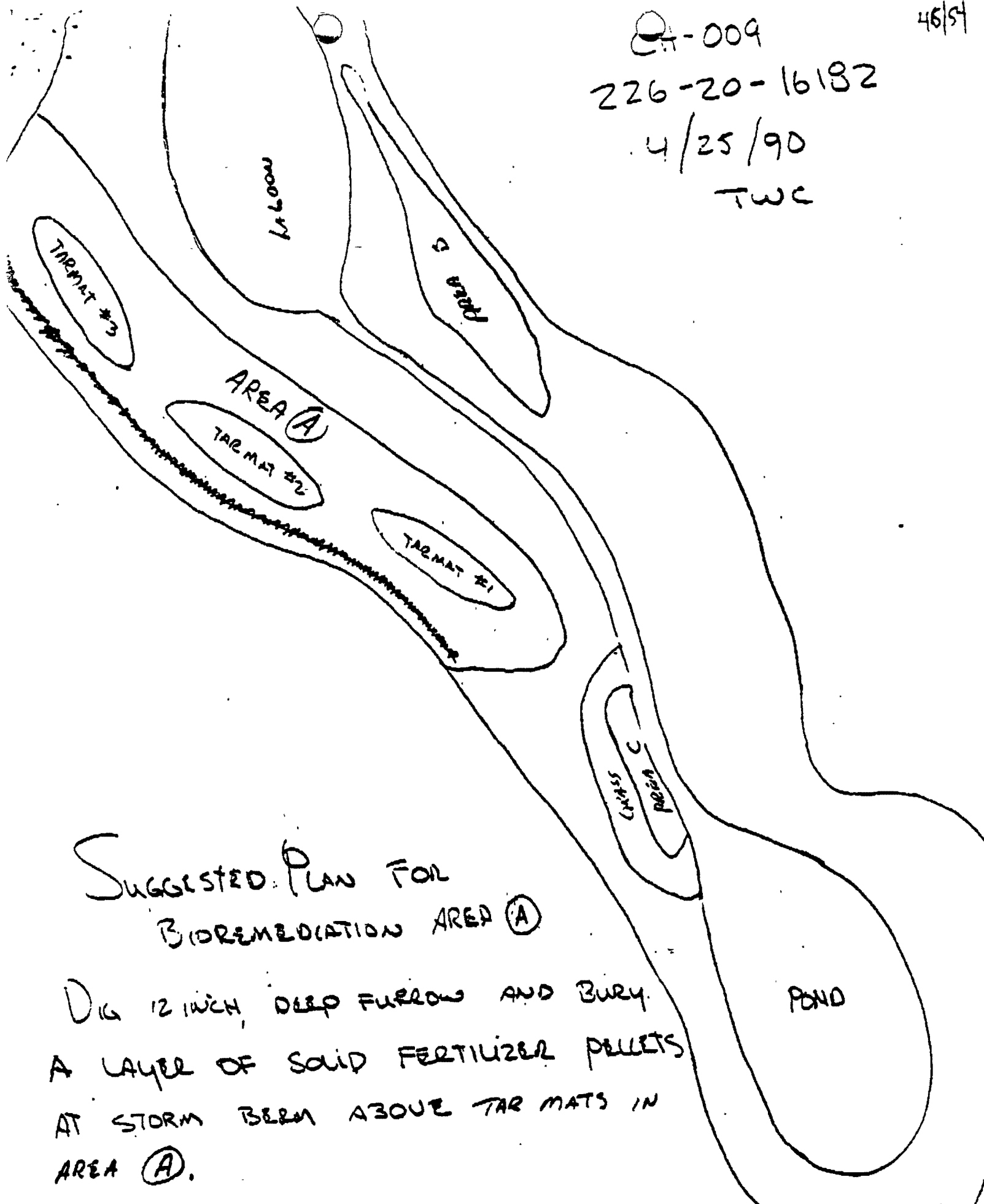
PITS SHOULD BE 8 TO 10 INCHES DEEP.

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.

CH-10

ECOLOGICAL  
MAP

1A, 1B  
3NP 3CQ  
17II  
ST-1

Surveyed 4/2/90 - CH009-B

CH-9

BALD  
EAGLE  
NEST

ANADROMOUS  
SILVERM  
226-20-16/82  
(Ps, CH<sub>5</sub>, 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

Date: 4/1/90

ACE 7236436  
-15  
R/F

p. 1 of 2

Segment CH 009

4/25/90

Stream 22620-16182

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 *Castaria costata*, and a lot of diatom scum. One mature bald eagle and a pair of oystercatchers were seen. ACE 7236434



P. 2 of 2 <sup>5915</sup>

Segment CH009

4/25/90

Stream 226-20-16182

Michael Fawcett

Ecological Summary

surface tar in VTZ. Manual removal is suggested, and possibly bio-remediation using pellets rather than the liquid compound, so as to avoid concentration of the fertilizer in the lagoon during falling tides. Cleanup crews and equipment should be kept away from the lower intertidal area, including the big mussel bed and all of the area below the lagoon mouth.

M Fawcett



# ADP&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: ES SS CS TS AVS SCA MMS PTA

2 REGION: PNS KP,C1 -K,AP

METHOD: Aerial Ground Boat

3 DATE: 4/25/90

15 HIGH TIDE TIMES: 1500

21 TEAM RECORDER: TOM CROWE

4 START TIME: 0746

16 HIGH TIDE HTS: 4.11 FT

22 OBSERVERS: MIKE WISNER

5 STOP TIME: 0926

17 LOW TIDE TIMES: 0830

23 AGENCY: ADP&G (ANADSCAT)

6 SEGMENT #: CH009

18 LOW TIDE HTS: -4 FT

24 PHOTOS TAKEN: Y 0

7 STATION #: \_\_\_\_\_

19 TIDE HT AT SURVEY: -2 FT

Roll #: \_\_\_\_\_ Frames: \_\_\_\_\_

8 K-UNIT: \_\_\_\_\_

Ebb Slack Flood Slack

25 VIDEO TAKEN: Y 0 TAPES: \_\_\_\_\_

9 STAT AREA: \_\_\_\_\_

20 USCG QUAD: SEW B-3

Starts: \_\_\_\_\_ Ends: \_\_\_\_\_

10 LAT: \_\_\_\_\_

11 LONG: \_\_\_\_\_

26 SAMPLES TAKEN Y 0 Number

12 SOURCE: Map Loran

OIL NONE

13 LOCATION: NORTH TIP CHENEGA ISLAND

Sediment: \_\_\_\_\_

14 DESCRIPTION: \_\_\_\_\_

Biological: \_\_\_\_\_

Water: \_\_\_\_\_

## EXTENT OF OIL

|                     | SHORELINE |    |                |    | STREAM |   |                |   |
|---------------------|-----------|----|----------------|----|--------|---|----------------|---|
|                     | L         | N  | N <sup>2</sup> | S  | L      | N | N <sup>2</sup> | S |
| 27 SURFACE COVERAGE | 150       | 50 |                | 80 | 50     | 1 |                | 0 |

36 CATALOGED ANAD. FISH SKEIN? 0 N

|                      | SURFACE THICKNESS |     |      | PENETRATION |     |      |
|----------------------|-------------------|-----|------|-------------|-----|------|
|                      | 6-16 cm           | 3cm | 30cm | 6-16cm      | 3cm | 30cm |
| 28 SURFACE THICKNESS |                   |     |      |             |     |      |
| 29 PENETRATION       |                   |     |      |             |     |      |

37 CATALOG #: 226-20-16182

38 STREAM NAME: \_\_\_\_\_

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

39 OIL IN STREAM BED? Y 0

31 OIL TYPES: Peel House Top Asphalt Sticky Stain

40 OIL ON STREAM BANK? 0 N

32 OILED DEBRIS: Y (N)

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

42 OIL WITHIN 1 MILE OF STREAM? Y N

33 SHORELINE TYPE: Headland Low-lying Rocks Beach (Cove)

Where: \_\_\_\_\_

43 ANADONOUS FISH PRESENT? Y N

34 WAVE EXPOSURE: High Moderate Low (VERY LOW)

35 SUBSTRATE TYPE: Bedrock Boulder Cobble X

44 ANADONOUS FISH OBSERVATION

| Species | Aerial | Ground |
|---------|--------|--------|
|         |        |        |
|         |        |        |
|         |        |        |
|         |        |        |

Gravel X Sand \_\_\_\_\_ Mud/silt \_\_\_\_\_

REMARKS: Area C is an area adjacent to stream bank where oil is deeply buried. This area is at the +12 FT TIDE LINE. BIODEGRADATION IN FORM OF SOLID PELLETS - BURIED SIX TO EIGHT INCHES IN INTERMITTENT PITS WITHIN THE OILED AREA. SMALL AMOUNTS SHOULD BE USED FOR PROLONGED RELEASE.

4/25/90

4/25/90

NAME(S)

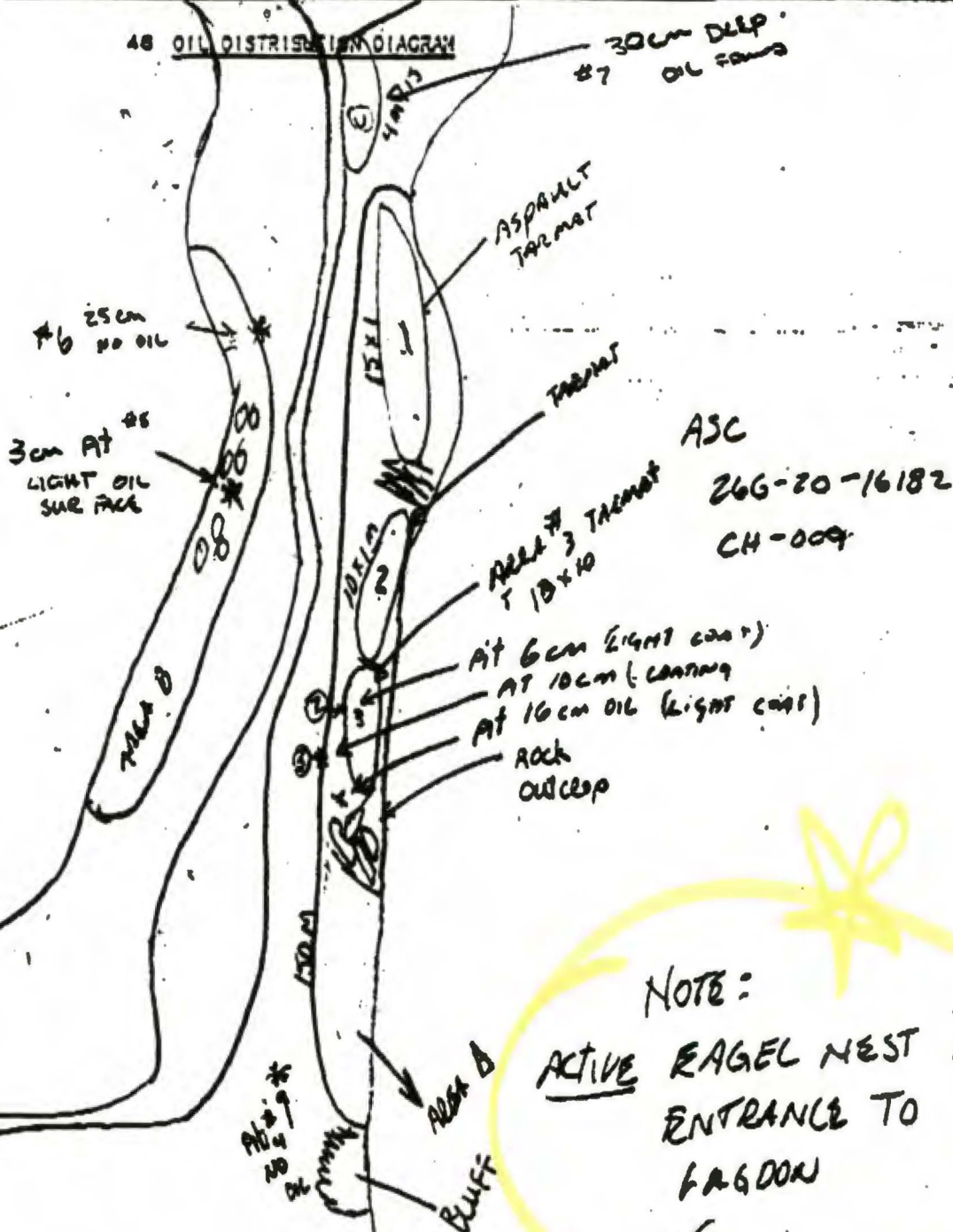
DESCRIPTION

TWC

RECOMMENDATION: REMOVE TAR MATS IN AREA 1, 2, 3  
 UPPER INTERTIDAL AREA A. NO INIPOL TO BE USED  
 IN THIS AREA. TREATMENT OF AREA A SHOULD INCLUDE  
 LIGHT TILLING OF SURFACES OF THE FLAGSTONE CORREL  
 ALSO BIOREMEDIATION IN THE FORM OF SOLID PELLETS BURIED  
 IN FAGDON AT SUPRATIDAL SHOULD BE CONSIDERED FOR  
 AREA A.

I agree with recommendations. *At 4/25/90*

## 48 OIL DISTRIBUTION DIAGRAM



ASC

26G-20-16182

CH-009

NOTE:

ACTIVE EAGLE NEST AT  
 ENTRANCE TO THIS  
 FAGDON

sample taken  
 photo frame # and  
 not direction.

Island

ACE 7236433

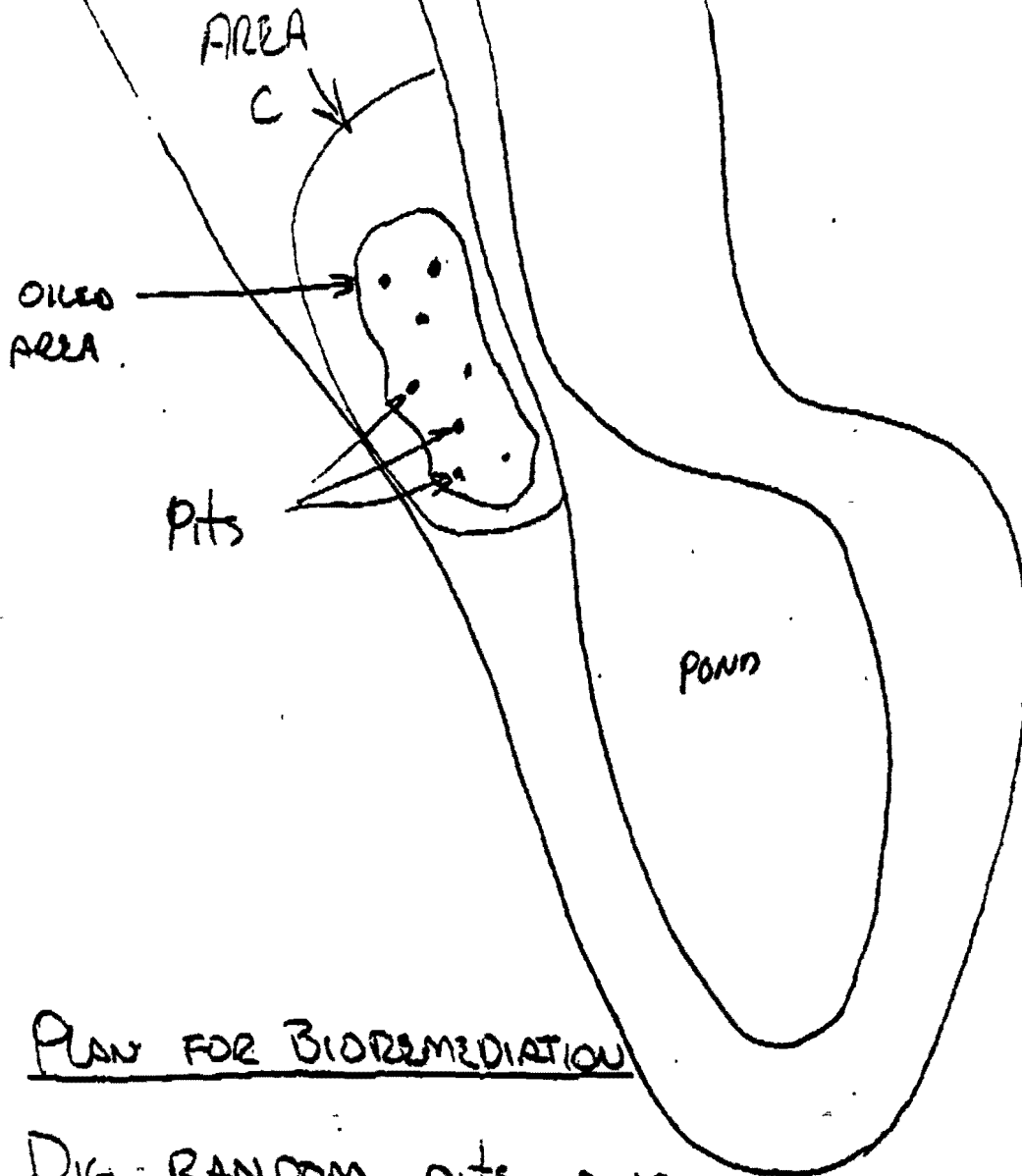
4/25/90

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.

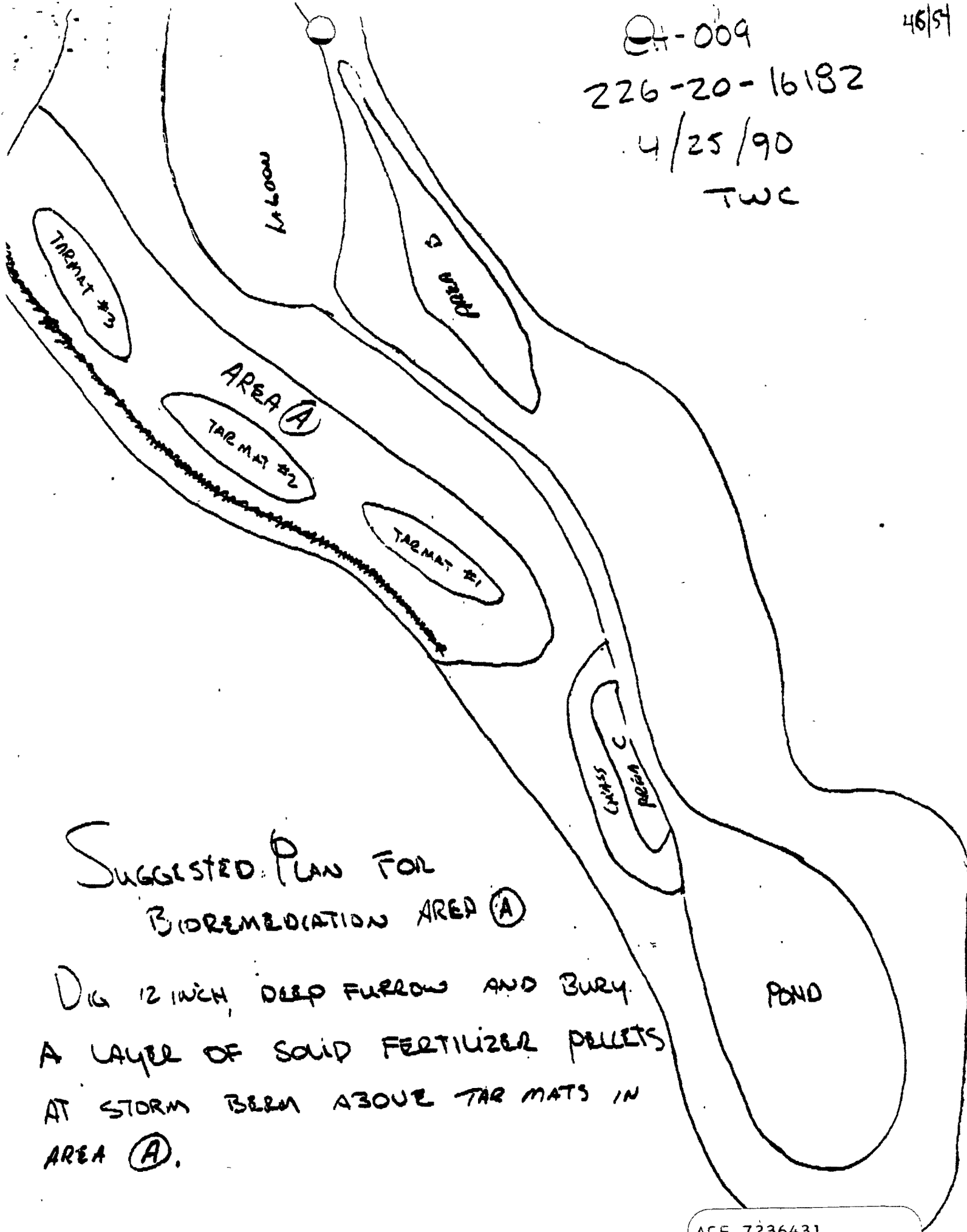
PITS SHOULD BE 8 TO 10 INCHES DEEP.

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).

## Alaska Department of Fish and Game

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

25 April 1990

ASC # 226-20-16182Segment 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 # 226-20-16200Segment 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.



# FIELD SHORELINE COMMENT SHEET

SEGMENT ST 24009 SUBDIVISION: 16182 DATE 4/25/90

**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' & DES FLUSHED AGENT OUT TO STRAIN]. SUGGEST treatment again.

**ADF 46**

**82ES**

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 RECOMMEND (SEE MAPS, BIOREMEDIATION OF SAME AREA. (NO INIPOL TREATMENT))
3. RECOMMENDED BIOREMEDIATION OF AREA C (SEE MAPS) OR AIO TREATMENT.

**LAND MANAGER**

NAME \_\_\_\_\_

SIGNATURE \_\_\_\_\_

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS



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 unholed 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: Tidal Pool, rich organism popul. - protect

TAG APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_

EXXON \_\_\_\_\_

NOAA \_\_\_\_\_

USCG \_\_\_\_\_

FOSC: \_\_\_\_\_ DATE: \_\_\_\_\_

RECEIVED  
MAY 07 1990

DEPT. OF  
ENVIRONMENTAL CONSERVATION

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: CH-09

STREAM NO: 226-20-16182

where is Pt 7?

~~Bio of custom blend only.~~

manually remove asphalt

Pits 1, 2, 3, 7 are > 5 cm. Should be  
raked or tilled before bio.

Rake area A

John

THIS IS THE AREA WE SAW AND VIDEOED  
LAST SUMMER WHERE INIPOL HAD COLLECTED IN A  
LAGOON/TIDE POOL ALMOST ONE MONTH AFTER ITS APPLICATION.

THIS IS A SPOT WHERE BURIED SOLID FERTILIZER PELLETS  
WOULD BE THE MOST DESIRABLE CHOICE FOR BIOREMEDIATION.

INIPOL SHOULD NOT BE USED IN THIS AREA, BECAUSE WE  
HAVE ALREADY PROVEN THAT IT HAS BEEN HARMFUL.

THE EXXON BIOLOGIST HAS EVEN WRITTEN IN HIS RECOM-  
MENDATION TO USE BURIED SOLID FERTILIZER. ALSO

HAND TILLING WITH SHOVELS & PICKS WILL GREATLY

ACCELERATE PROCESS OF DEGRADATION OF THE OIL BY  
BIOREMEDIATION

NOTE: SEE HIGHLIGHTED COMMENTS

ACE 7236422



CH009

### SKETCH MAP

STREAM ~~226-2016/82~~

DATE 25 / APR 90

### CHECKLIST

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

**LEGEND**

- Plt - No Subsurface Oil

- PII - 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

ACE 723642B

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

REVISION: 03/24/90

# 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: [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

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:

54/54  
P. 2 of 3

SEGMENT ST/ CH-001

STREAM 226-20-16280

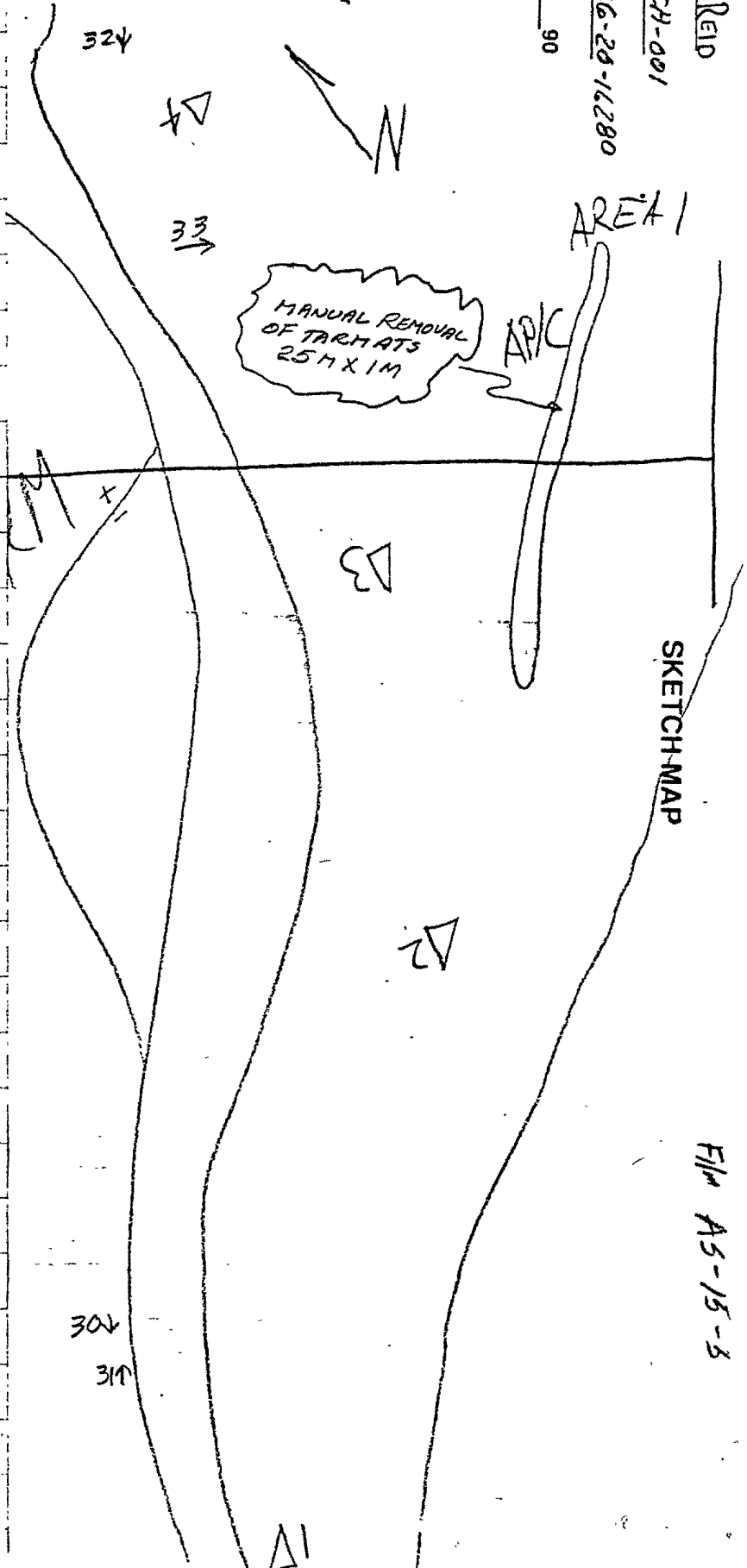
DATE / / 90

CHECKLIST

- N Arrow
- Approx. Scale
- Seq/Sub Bdry
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. F/M/L/W/L
- SSL
- Profile Location(s)
- Pit Location(s)
- Photo Location(s)

LEGEND

- 1 ▲ Pit - No Subsurface Oil
- 2 ▲ Pit - Subsurface Oil



SKETCH MAP

FILE A5-15-3

ACE 7236465 -15

4/25/90  
Michael Fawcett

Manual removal is bio-remediation using a liquid compound, so that the fertilizer falling tides. Cleanup should be kept away from area, including all of the area north.

M Fawcett

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.

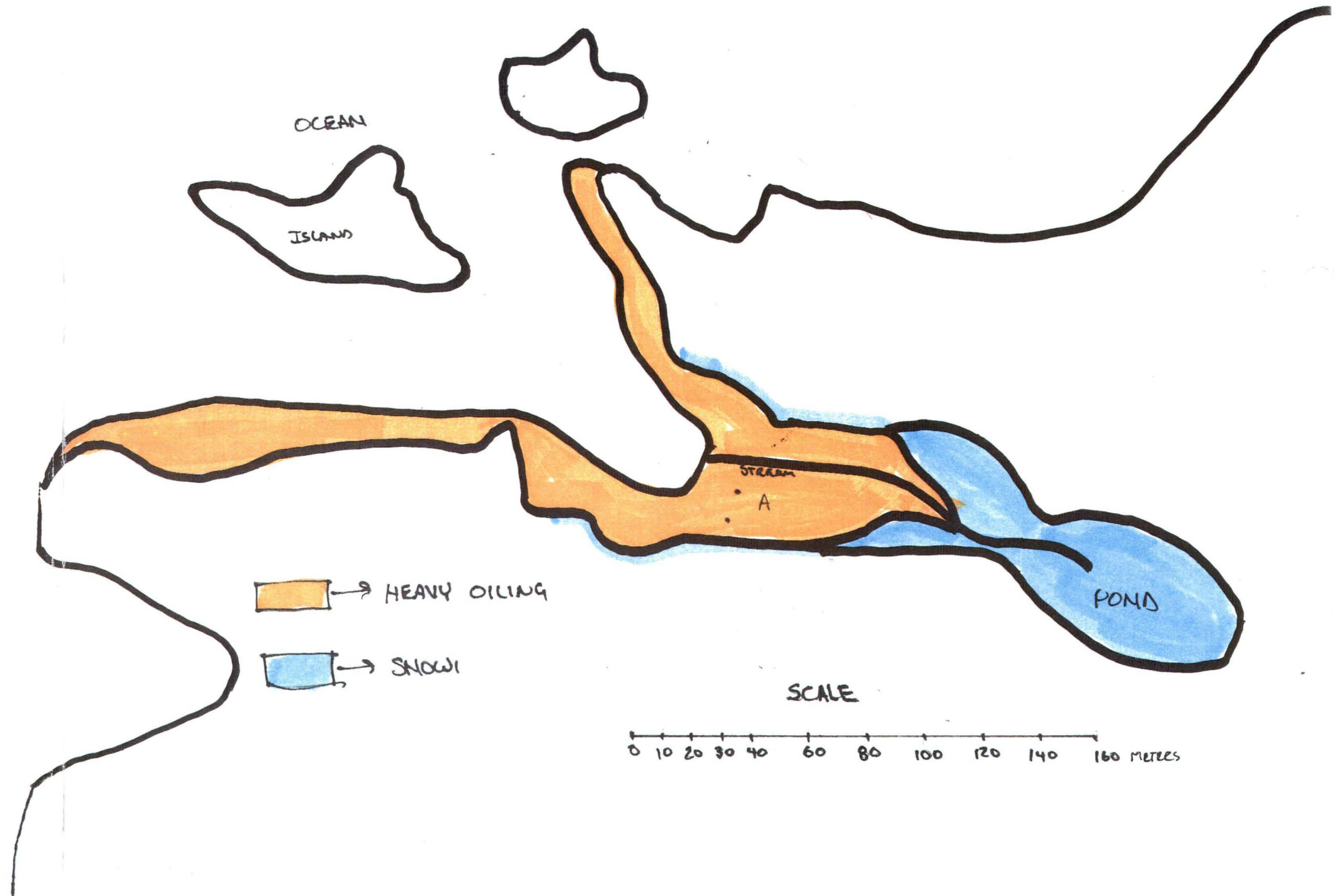
ACE 7236384+15



CH-9  
CHENEGA  
1-5-90  
TIME 1346

TAPE # WTC01UH3  
FRAME # 1380

ASC 16182



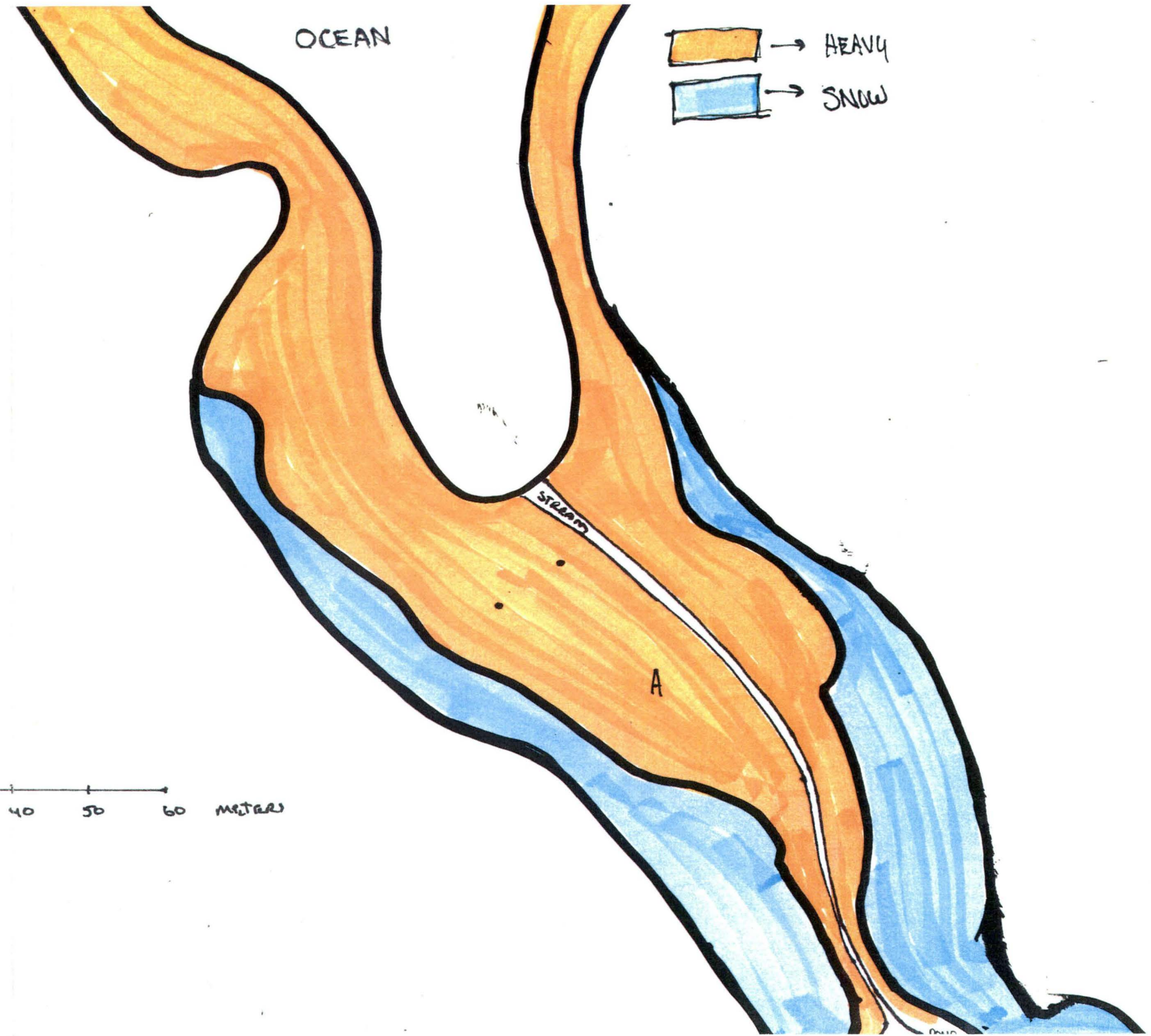
CH-9  
CHENEGA  
1-5-90  
TIME 1346  
ASC 16182

TAPE # WTC01VH5  
FRAME # 1380  
# 1403

SCALE



ACE 7236516



(version 6/14/89)

SHORELINE CLEANUP PROGRAM

March

DATE 7/08/89

SHORELINE SEGMENT CH-9

LOCATION: (see enclosed map) CHENEGA ISLAND-NORTHEAST SIDE

ADEC NO. \_\_\_\_\_ SHORELINE ASSESSMENT DATE: 7/04/89

Recommended Cleanup Activity(ies):

- Manually remove contaminated drift material (fucus) and free oil.

Flood/flush with warm to hot water (up to 140 F) on low angle beaches.

Use moderate to high pressure washing on rock.

Use other approved methods as appropriate.

Priorities Considerations:

Class 2: Heavy oil.

Class A: Resources present.

Minimize stress to stream line.

Ecological Constraints (from site survey): Work at mid tide + or take appropriate measures to protect lower intertidal zone. Restrict access to grassy knolls. Avoid walking on inter-gravel mussel beds in northern portion of segment (lagoon and marsh areas). Use appropriate measures to protect lagoon *(becoming off during cleanup and restricting cleanup to handpicking of oily debris)*

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Charles E. Holmes

State Historic Preservation Officer \*

Date: July 8, 1989

ISCC: ✓

Date: 7/12/89

EXXON: \_\_\_\_\_

Date: \_\_\_\_\_

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

\* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

ACE 7236507+15

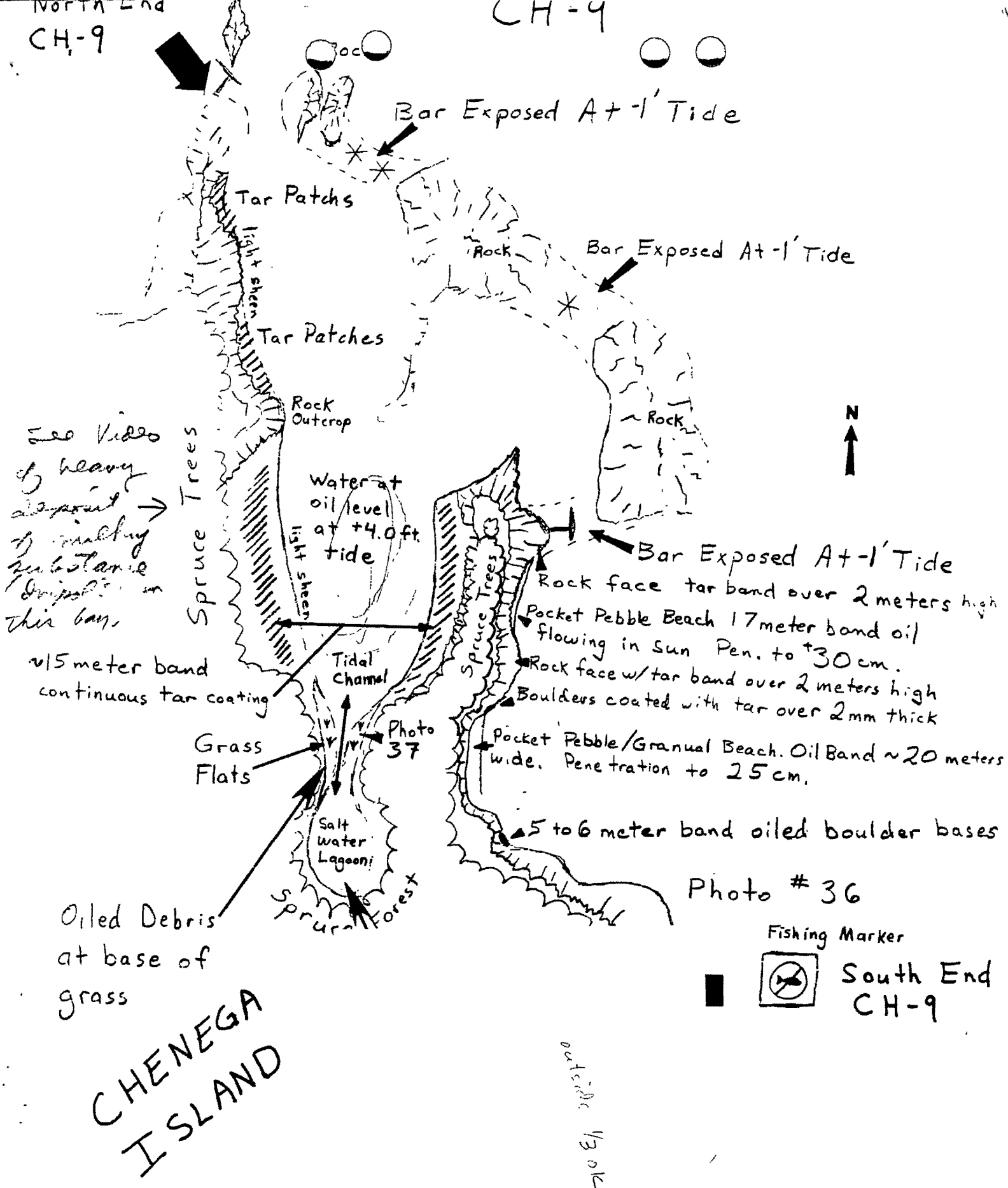
CLEANUP SHORELINE OIL EVALUATIONDate: July 4 89 Time: 10:30 AMObserver: Greg ChaneySurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/FogLOCATIONLOCATION N.W. Chenega Island SEGMENT NUMBER CH 9LENGTH OF SHORELINE SEGMENT: 940 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane } Fair weather  
High tideSHORELINE:Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B 25% / C 25% / P 10% / G 3% / S 2% / M 10% / R 25%Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type SeaweedOILDegree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 60% Width of Band: up to 20 mSporadic: Y/N % of Segment 40%Est. Oil Thickness where > 1cm: — cm Est. Oil Penetration: 30 cmPooled Oil: —% "Free" Oil: 5% Coated: H 30% / M 40% / L 30%Fresh 10% Mousse —% Tar Formation: 90%Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L

## Comments:

Very sheltered Cove with rocks covering entrance.  
Should be scouted to see if barges and boats can  
get inside. Although salt marsh is oiled, access should  
be restricted. Extensive mussel beds are not oiled in lower  
inter tidal zone, special care should be taken not to oil these  
mussels. Salt marsh should be boomed off to prevent  
contamination during cleanup activities.

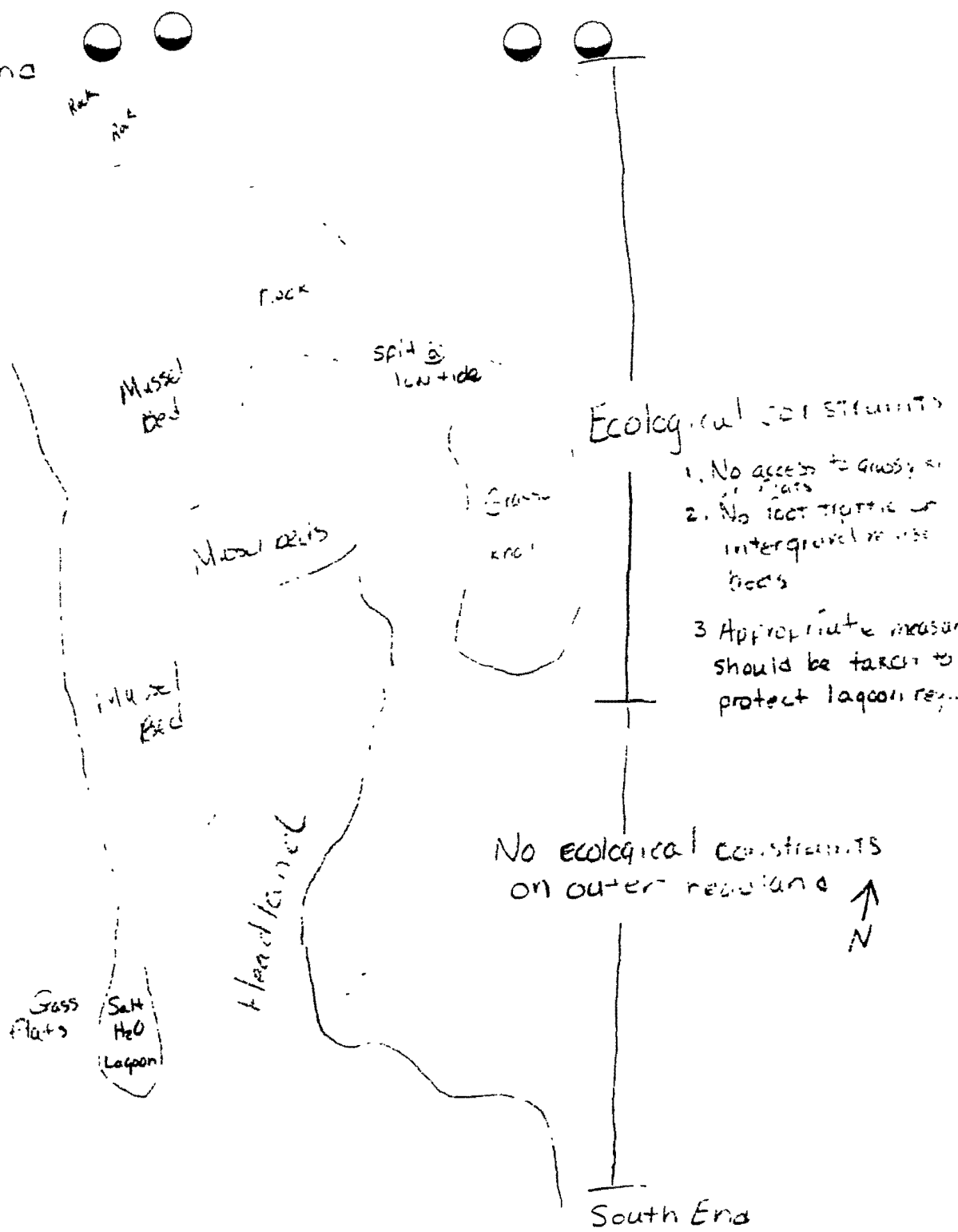
NORTH End  
CH-9

CH-9



ACE 7236509





CH 9  
Map 2  
Ecological Constraints

# ECOLOGICAL EVALUATION

LOCATION: Chenega Island SITE: Number 2/3 at end of Island Barrier OBSERVER: Crack  
 LOCATION PREFIX: CH SEG. NO.: 9 LENGTH: 940 m (M)  
 DATE: 07/04/89 TIME (HHMM): 1120 TIDE HT.: +3 ft (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

## LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

5-10 m intergravel mussel beds forming spit between beach and island barriers

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

## Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: "Lagoon" with 1/2 sal. water, rocky bottom, 1/2 m deep  
Grass with Marsh Grass barriers, Fieldgrass Bed

CLEANUP PRECAUTIONS: Restrict foot traffic on intergravel mussel beds; Glassy knoll  
Work at Mid-tide taking appropriate measures to protect Lower I.T.Z

MAMMALS: Otters — Harbor Seals 1 Sea Lions — Whales —  
 Other —

BIRDS: Hummingbird

GENERAL OBSERVATIONS: —

# ECOLOGICAL EVALUATION

LOCATION: Chenega Island SITE: Southern 1/2 of section upto Island Barrier OBSERVER: Frank  
 LOCATION PREFIX: CH SEG. NO.: 9 LENGTH: 940 (M)  
 DATE: 07/04/89 TIME (HHMM): 1015 TIDE HT.: -1 (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

Rocky headlands interspersed with sand and gravel

## LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Partly dense on headlands Patchy on rocks

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/

Several small patches creating a discontinuous band on headlands

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/

Cont. and dense on headlands Patchy on rocks Sparse on rocks

## Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: \_\_\_\_\_

CLEANUP PRECAUTIONS: Due to the extent of contamination of this portion of section CH9 at this time + no ecological restrictions are suggested.

MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 Other \_\_\_\_\_

BIRDS: Hummingbird

GENERAL OBSERVATIONS: \_\_\_\_\_

(version of 6/27/89)

~~NOAA-CHEMUR~~ CULTURAL RESOURCE EVALUATION

Date July 4 '89 Location Chenega Is Site east coast

Location Prefix CH Segment # 9 Length \_\_\_\_\_

Survey Method:

Air \_\_\_\_\_ (A - indicate on map) Boat \_\_\_\_\_ (A - indicate on map)

Ground ✓ (G - indicate on map)

Known cultural resources (AHRS #) none Data Source —

Oil conditions/beach visibility heavy

Width of beach zone surveyed 60 m Tree fringe surveyed 10m

Cultural resources observed in beach zone (AHRS code) Ø

Cultural resources observed in tree fringe (AHRS code) CMT's

General observations justifying survey method and segment's site probability:

Shore Profile long, narrow, low energy cove with rocky headlands to both sides

Fresh Water Sources pond

Sea Exposure mouth of cove exposed to Knight Island Passage

Access/Safety easy access

Probability of undiscovered sites in beach zone (circle one) 1 (2) 3 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # — Frames —

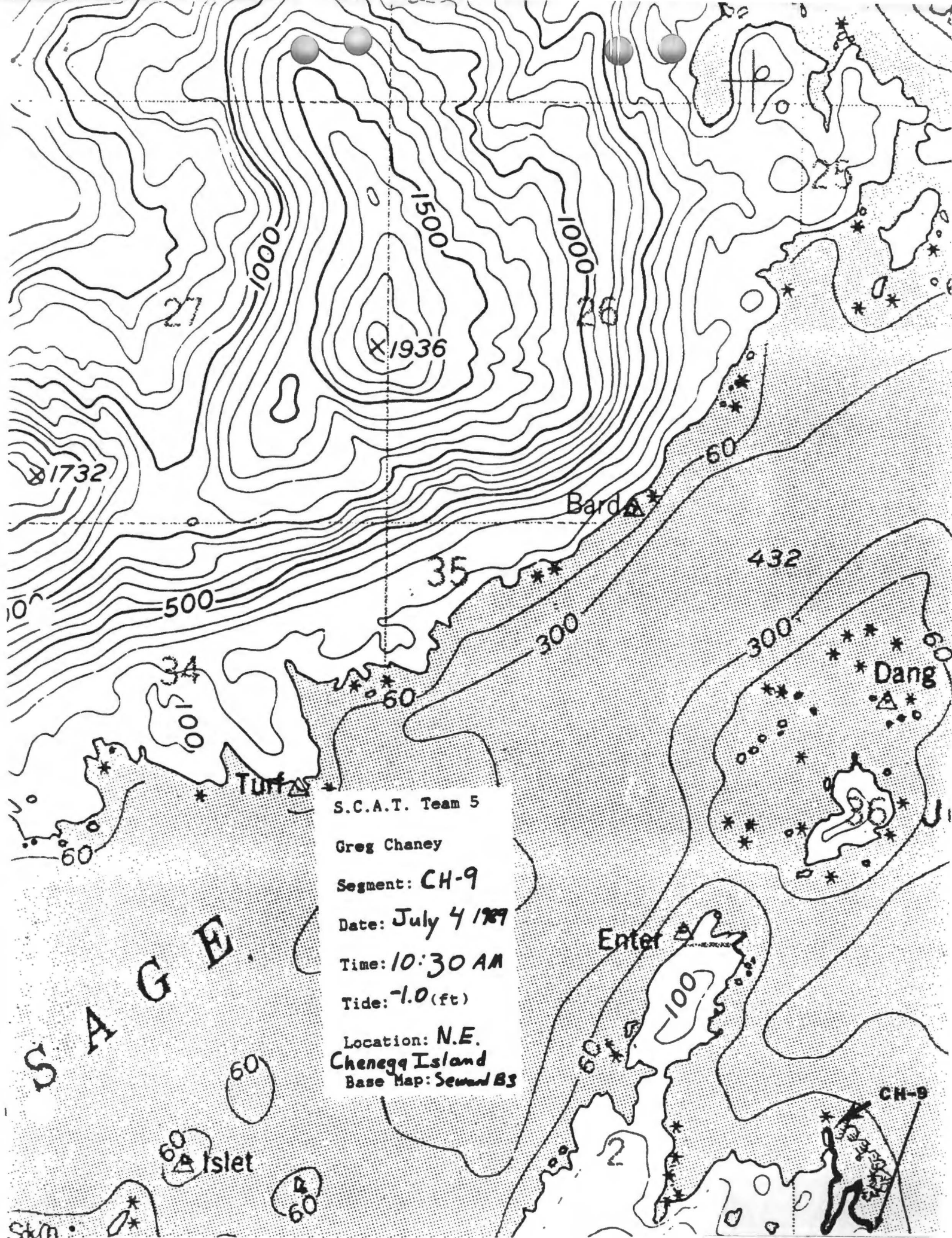
B/W Roll # SL-5 Frames 21

Observer(s) Ludwig

Time survey started 1020 Time survey ended 1210

Cultural resource considerations/restraints:

usual constraints



S.C.A.T. Team 5  
Greg Chaney  
Segment: CH-9  
Date: July 4/1979  
Time: 10:30 AM  
Tide: -1.0 (ft)  
Location: N.E.  
Chenega Island  
Base Map: Seward BS



**ADF&G WINTER STREAM SURVEY FORM**

Shoreline Segment No: CH-9 Stream Catalog No: ASC 16182  
Geographic Location: NORTH EAST END OF CHENESEA ISLAND

Date: 1-5-96 Start Time: 1301 End Time: 1353  
Observers: TOM CROWE, VINCE MATHEWS (DNR)

Low Tide: (time and height) 1357  
High Tide: 2030

**SHORELINE DIMENSIONS AT STREAM SITE**

Intertidal Zone: 45 METERS

Area to Right of Stream: 15 METERS

Area to Left of Stream: 25 METERS

Wave Exposure: HIGH ☐ MEDIUM ☐ LOW ☐ EXTRA LOW ☒

**SHORELINE TYPE**

Steep Bedrock ☐ Low Angle Bedrock ☐ Gravel (0.1 to 2 inch  
dia) ☒ Cobble (2 to 10 inch) ☐ Boulder (>10 inches) ☐  
Other FLAT SLOPED GRAVEL

**STREAM CHARACTERISTICS**

Length through Intertidal Zone: 85 METERS

Average Width: 1 METER

Channel/Bed Configuration:

Single Channel ☒ Multiple Channels ☐ Number ☐

Note: (see diagram attached)

**BIOLOGICAL OBSERVATIONS**

STREAMS ORIGIN IS FROM A SMALL FRESH WATER  
POND.

# CHARACTERISTICS OF OIL DEPOSITS

## DEPOSIT A

Distance from Stream ADJACENT  
 Surface Area \_\_\_\_\_  
 Thickness 16-18"  
 Penetration Depth 6-12"  
 Tar X Asphalt X  
 Mousse \_\_\_\_\_ Stain \_\_\_\_\_  
 % Coverage of Deposit \_\_\_\_\_  
 Tidal Zone UPPER MID + LOWER  
 Comments: HEAVILY OILED

## DEPOSIT B

Distance from Stream \_\_\_\_\_  
 Surface Area \_\_\_\_\_  
 Thickness \_\_\_\_\_  
 Penetration Depth \_\_\_\_\_  
 Tar \_\_\_\_\_ Asphalt \_\_\_\_\_  
 Mousse \_\_\_\_\_ Stain \_\_\_\_\_  
 % Coverage of Deposit \_\_\_\_\_  
 Tidal Zone \_\_\_\_\_  
 Comments: \_\_\_\_\_

## DEPOSIT C

Distance from Stream \_\_\_\_\_  
 Surface Area \_\_\_\_\_  
 Thickness \_\_\_\_\_  
 Penetration Depth \_\_\_\_\_  
 Tar \_\_\_\_\_ Asphalt \_\_\_\_\_  
 Mousse \_\_\_\_\_ Stain \_\_\_\_\_  
 % Coverage of Deposit \_\_\_\_\_  
 Tidal Zone \_\_\_\_\_  
 Comments: \_\_\_\_\_

## DEPOSIT D

Distance from Stream \_\_\_\_\_  
 Surface Area \_\_\_\_\_  
 Thickness \_\_\_\_\_  
 Penetration Depth \_\_\_\_\_  
 Tar \_\_\_\_\_ Asphalt \_\_\_\_\_  
 Mousse \_\_\_\_\_ Stain \_\_\_\_\_  
 % Coverage of Deposit \_\_\_\_\_  
 Tidal Zone \_\_\_\_\_  
 Comments: \_\_\_\_\_

## DEPOSIT E

Distance from Stream \_\_\_\_\_  
 Surface Area \_\_\_\_\_  
 Thickness \_\_\_\_\_  
 Penetration Depth \_\_\_\_\_  
 Tar \_\_\_\_\_ Asphalt \_\_\_\_\_  
 Mousse \_\_\_\_\_ Stain \_\_\_\_\_  
 % Coverage of Deposit \_\_\_\_\_  
 Tidal Zone \_\_\_\_\_  
 Comments: \_\_\_\_\_

## DEPOSIT F

Distance from Stream \_\_\_\_\_  
 Surface Area \_\_\_\_\_  
 Thickness \_\_\_\_\_  
 Penetration Depth \_\_\_\_\_  
 Tar \_\_\_\_\_ Asphalt \_\_\_\_\_  
 Mousse \_\_\_\_\_ Stain \_\_\_\_\_  
 % Coverage of Deposit \_\_\_\_\_  
 Tidal Zone \_\_\_\_\_  
 Comments: \_\_\_\_\_

# PHOTOGRAPHIC EVIDENCE

## VIDEO

Cassette No. WTC01VHS  
 Beginning Footage 976

Photographer TOM CROWE  
 Ending Footage 1454

## 35 MM

Roll Number \_\_\_\_\_  
 Frame Numbers \_\_\_\_\_

Photographer \_\_\_\_\_

## Polaroid

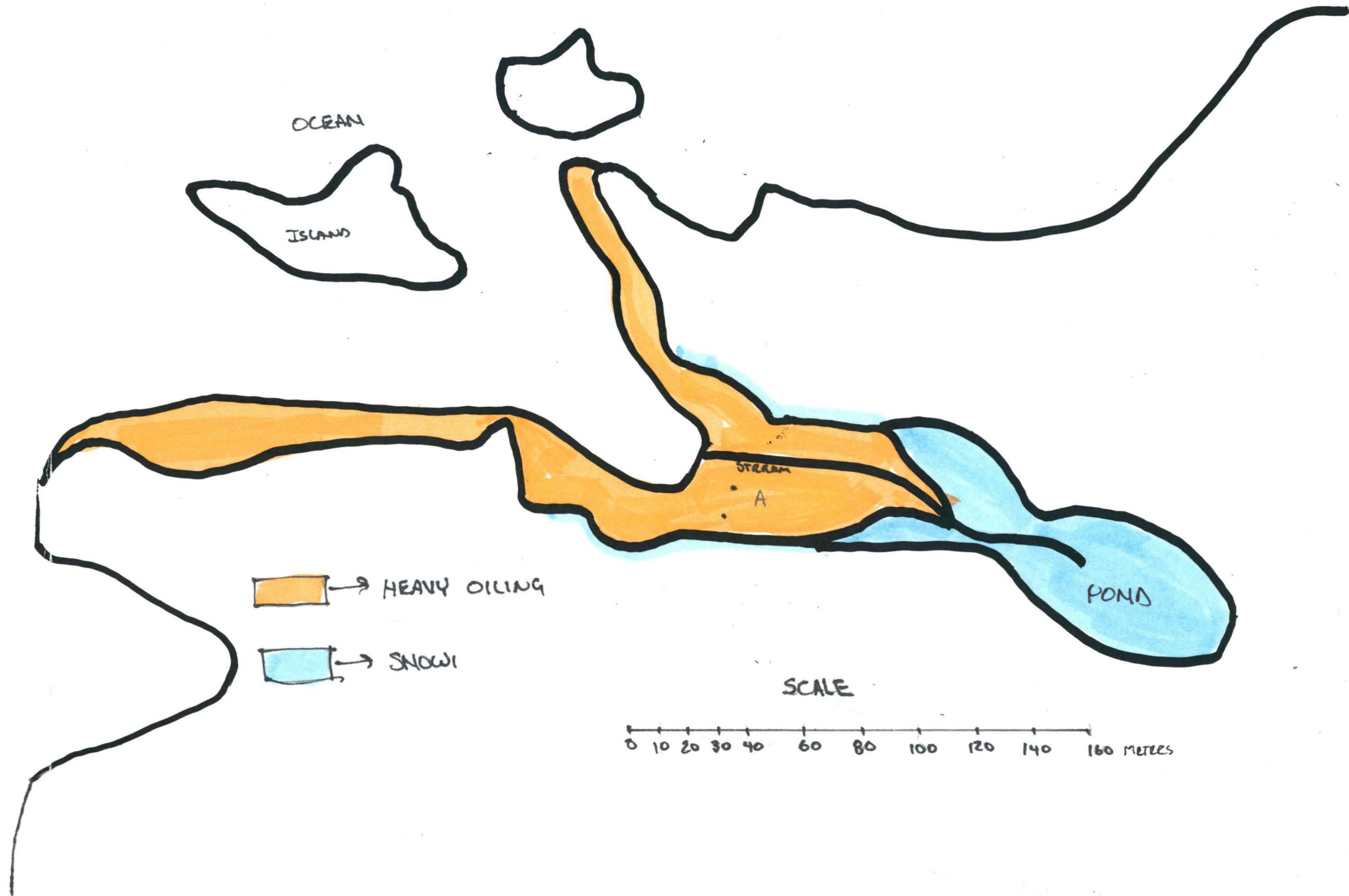
Number of Prints \_\_\_\_\_

Photographer \_\_\_\_\_

CH-9  
CHENEGA  
1-5-90  
TIME 1346

TAPE # WTC01UHS  
FRAME # 1380

ASC 16182

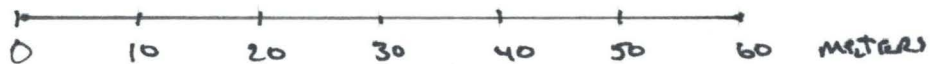


ACE 7236518

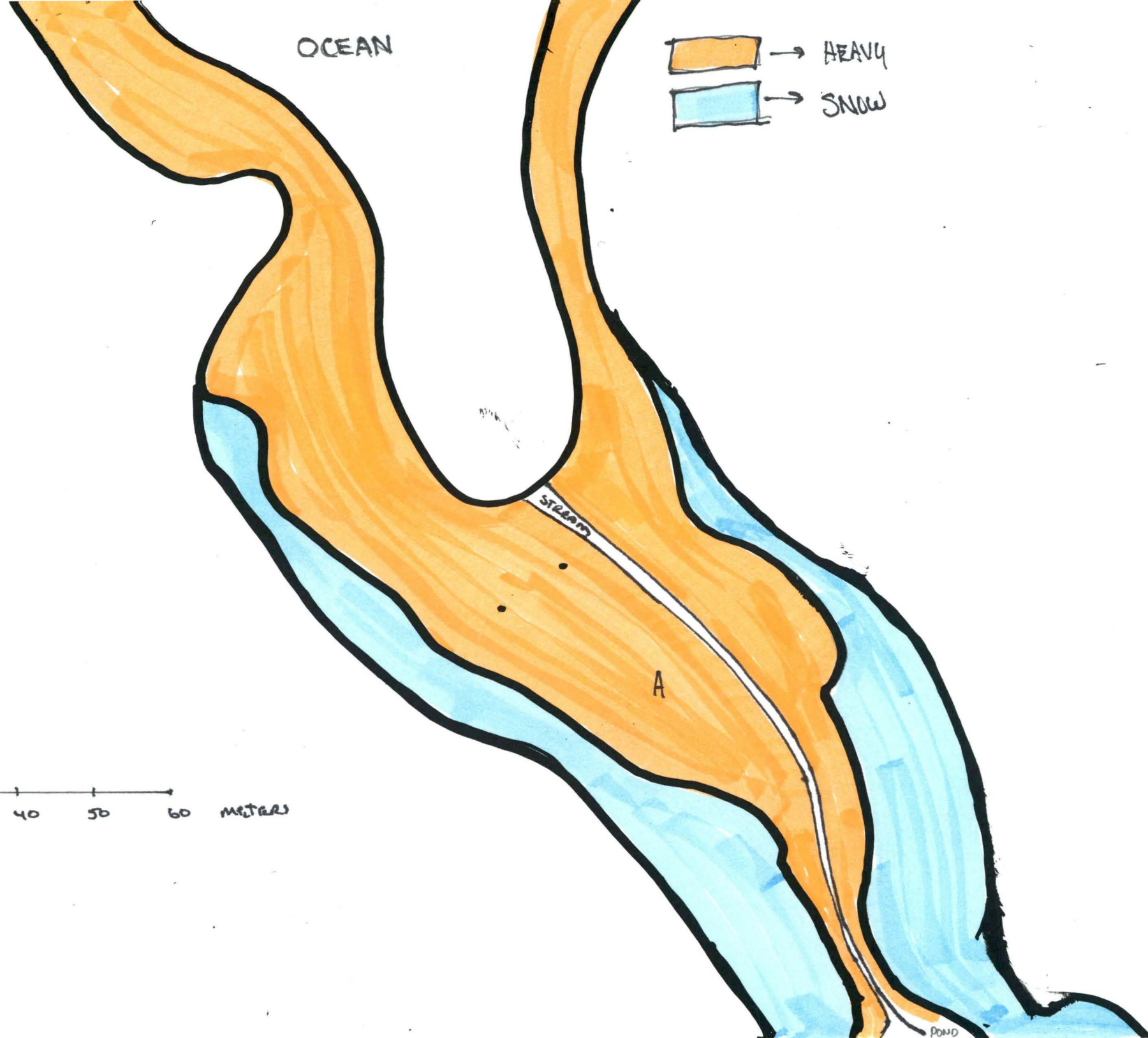
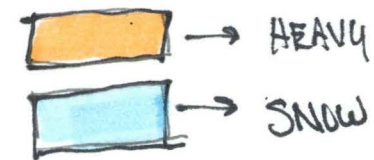
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CHENEGA  
1-5-90  
TIME 1346  
ASC 16182

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FRAME # 1380  
# 1403

SCALE



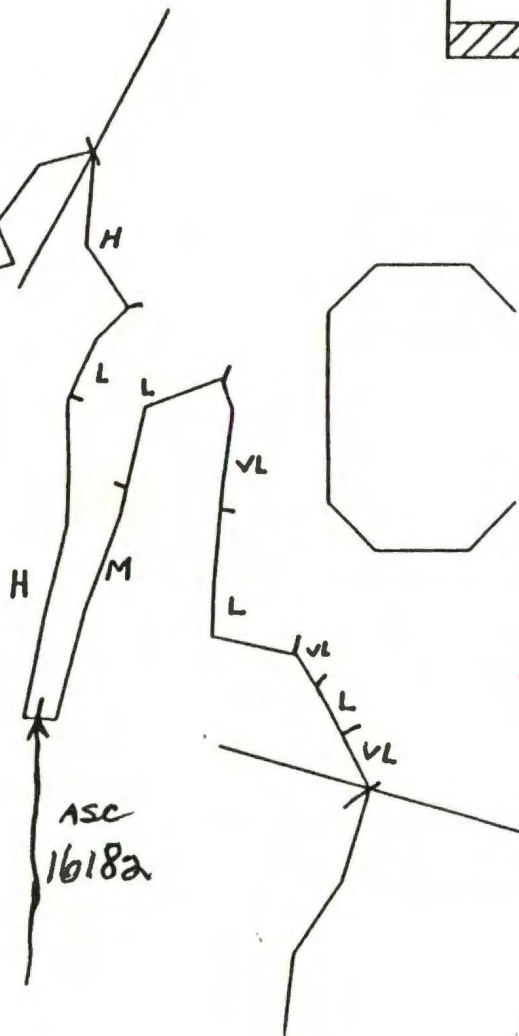
OCEAN



500.0

CH009

*very heavy*



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



- 1) SURVEY TYPE: BS SS 2) REGION: PWS KP, CI K, AP
- 3) METHOD: Aerial Ground Boat
- 4) DATE: 5/5/91 16) HIGH TIDE TIME: \_\_\_\_\_ 22) TEAM RECORDER: Tom Crowe
- 5) START TIME: 1115 17) HIGH TIDE HTS: \_\_\_\_\_ 23) OBSERVERS: AMES WESEMAN
- 6) STOP TIME: 1247 18) LOW TIDE TIMES: 1230 24) AGENCY: ADF&G
- 7) SEGMENT #: CH009 19) LOW TIDE HTS: +1.6 25) PHOTOS TAKEN: Y N
- 8) K-UNIT: \_\_\_\_\_ 20) TIDE HT AT SURVEY: +2.3 to +1.8 ROLL #: \_\_\_\_\_ FRAMES: \_\_\_\_\_
- 9) LAT: \_\_\_\_\_ Ebb Slack Flood Slack 26) VIDEO TAKEN: Y N
- 10) LONG: \_\_\_\_\_ 21) USCG QUAD: \_\_\_\_\_ TAPE #: \_\_\_\_\_
- 11) ASC #: 226-20-16182 START: \_\_\_\_\_ STOP: \_\_\_\_\_
- 12) STREAM NAME: NONE 27) SAMPLES TAKEN? Y N
- 13) LOCATION: N. CHENEGA ISLAND SAMPLE I.D. \_\_\_\_\_
- 14) WAVE EXPOSURE: High Moderate Low
- 15) SHORELINE TYPE: Headland Low-lying Rocks Beach
- Cove Lagoon Marsh

## 28) EXTENT OF OIL

|        | LENGTH m | WIDTH m | M2  | %  | THICK cm | PEN cm | OIL TYPE |
|--------|----------|---------|-----|----|----------|--------|----------|
| SITE 1 | 75 M     | 10 M    | 750 | 15 | 5cm      | 10 cm  | HSOR/mor |
| SITE 2 | 20 M     | 10 M    | 200 |    | 12cm     | 12 cm  | HOR/     |
| SITE 3 |          |         |     |    |          |        |          |
| SITE 4 |          |         |     |    |          |        |          |
| SITE 5 |          |         |     |    |          |        |          |

## 29) OVERALL OIL IMPACT:

33) ANADROMOUS FISH PRESENT: Y N

H = &gt;6m band with ≥50% oil coverage

M = >6m band with <50% oil coverage or ≥3m to <6m with ≥10% oil coverage

L = &lt;3m band with &gt;10% oil coverage

VL = ≤10% oil coverage regardless of band width

N = No oil observed

30) OIL IN STREAMBED: Y N31) OIL ON BEACH ADJACENT TO MOUTH: Y N,

## 32) SUBSTRATE TYPE (PERCENT):

Bedrock \_\_\_\_\_ Boulder 5% Gravel 90% Sand \_\_\_\_\_ Cobble 5% Mud/Silt \_\_\_\_\_

35) COMMENTS: MINOR PICK UP NEEDED OF HSOR SEDIMENTS AND A MAXIMUM EFFORT PUT FORTH INTO MANUAL TILLING. POCKET BEACH SOUTH OF STREAM REVEALED HOR SEDIMENTS BURIED 12cm-20cm DEEP 12cm TO 20cm THICK, BORDERLINE OP. SEDIMENTS. THE ONLY SOLUTION TO OIL REMOVAL AT SITE #2 WOULD BE MANUAL TILLING.

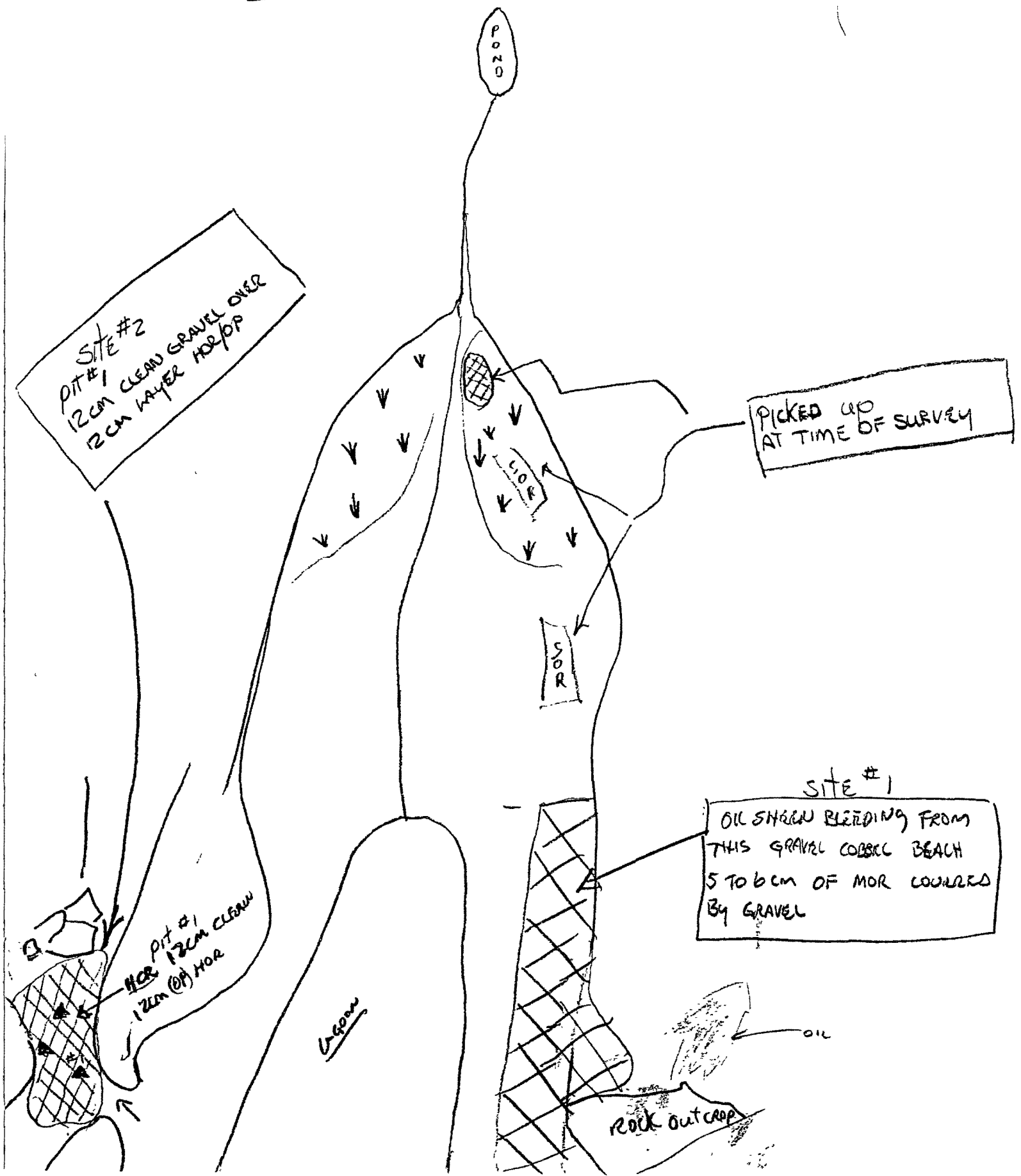
## 34) WILDLIFE OBSERVATION

| Species        | Number |
|----------------|--------|
| Rock Blennies  | 12     |
| Sandpipers     | 14     |
| Oyster catcher | 2      |
| Bald Eagles    | 3      |

CH009

5/5/91

ASC 226-20-16182



PAGE 1 OF 2

DATE 05 / 05 / 91

ENERGY LEVEL: ☐ H ☒ M ☐ L

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

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

EST. OIL CATEGORY LENGTH: W\_\_\_\_\_m M\_\_\_\_\_m N\_\_\_\_\_m VL\_\_\_\_\_m NO\_\_\_\_\_m US\_\_\_\_\_m

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

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

PHOTO ROLL # MAYSAP-

## FRAMES

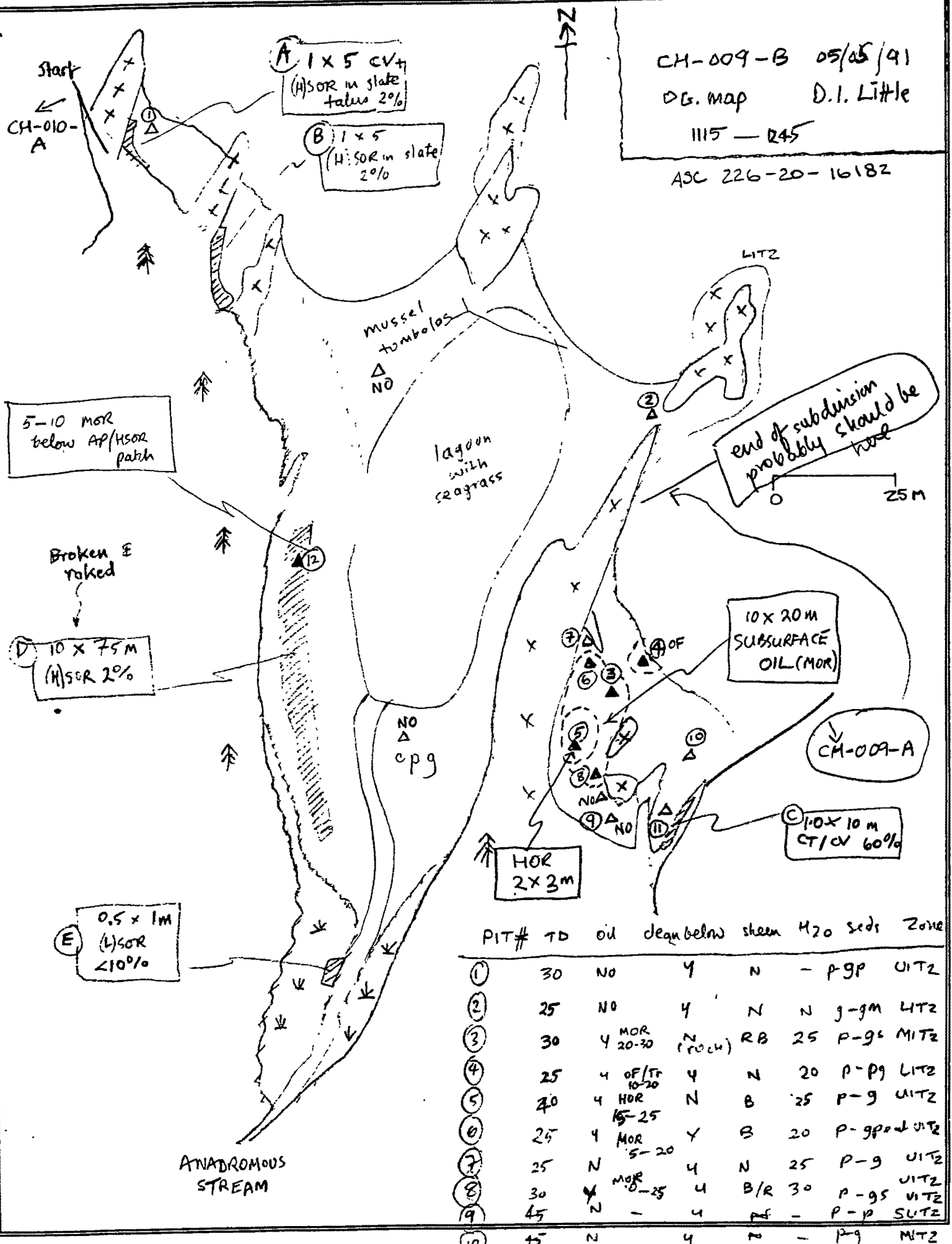
**SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE**

Surface oil was limited on slate 'talus' debris to the extreme NW of the subdisin (HSOR). Inside the lagoon oil was found as a 75m long  $\left\{ \begin{smallmatrix} \text{OITZ} \\ \text{MITZ} \end{smallmatrix} \right\}$  band which was previously AP, now HSOR at only 2% cover, though sporadically distributed. Also near stream (HSOR) 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 in behind some bedrock ridges, as an area of OF, MOR and a small patch of HOR (2x3m).

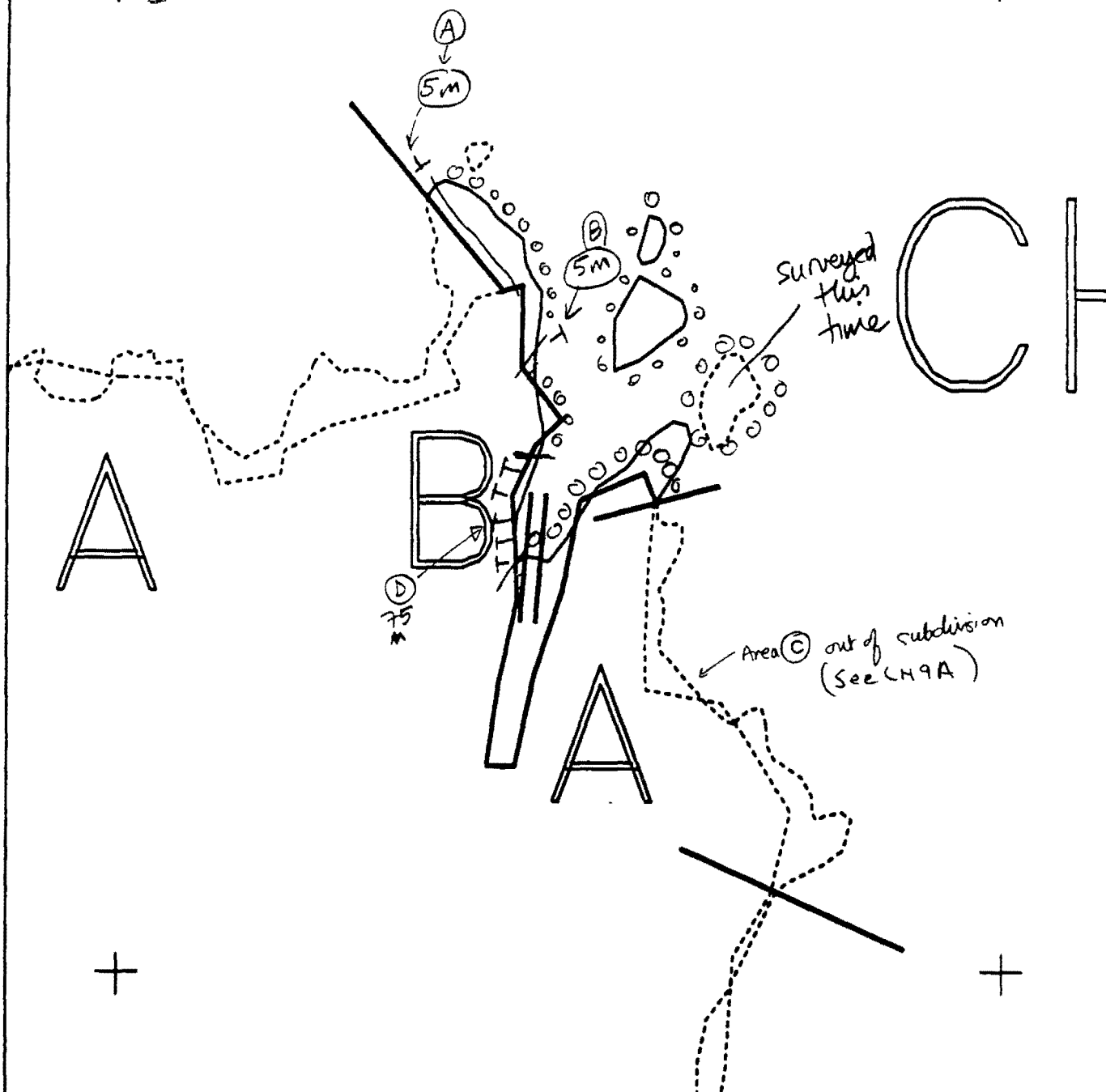
DATE 05 / 05 / 91

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

reviewed 5/11/91 KC







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  
 pch009b

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

reviewed 5/10/91  
 Notation 5/15/91 wgc

# 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 help clamp 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 area could be extremely important in supporting rearing salmonids from other more productive streams.

(C) = The subsurface oil on the beach near this location is 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 over time. Again no adverse effects of the oil could be seen on this already 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

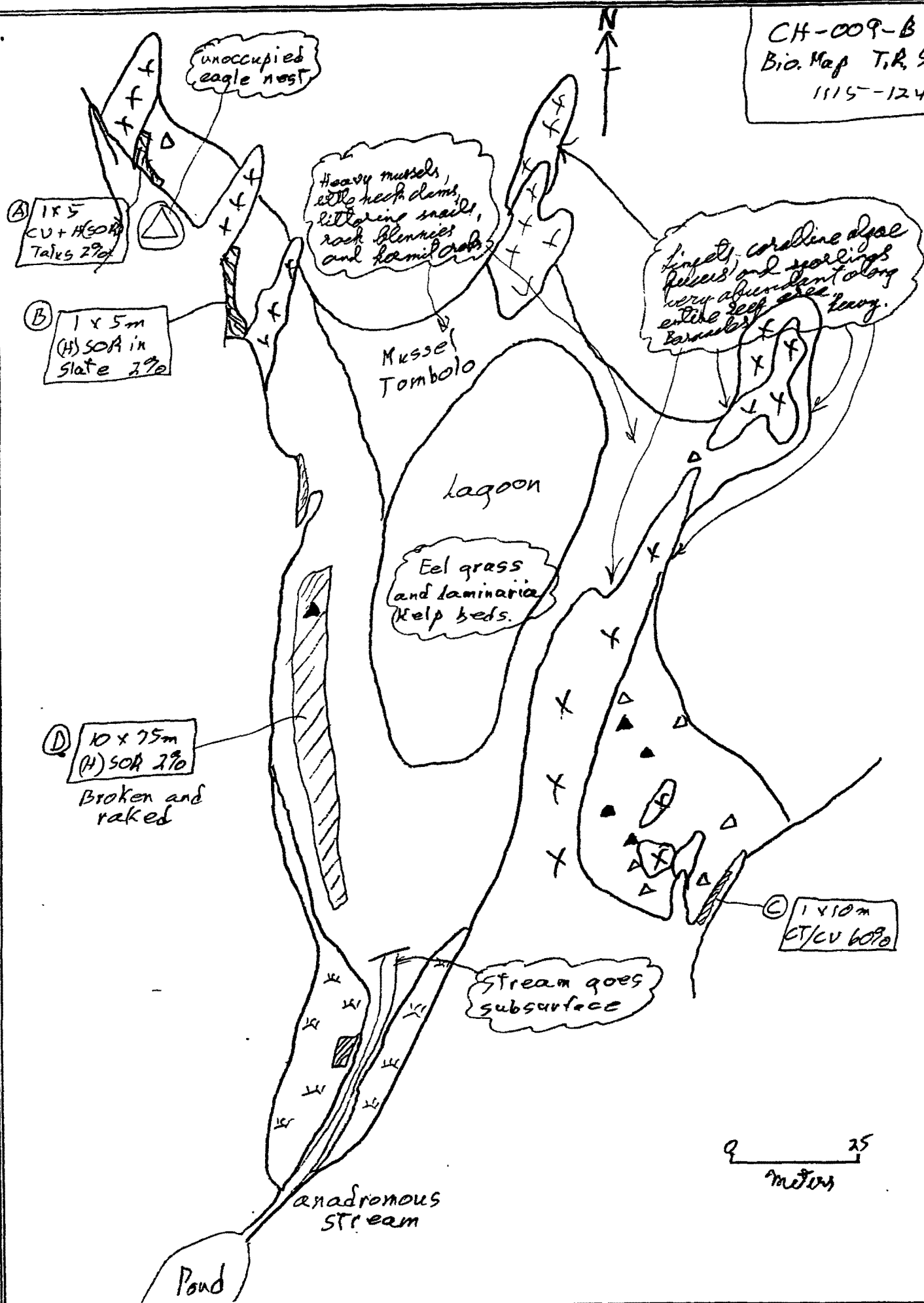
| BIRDS            | # OF SPECIES | TOTAL BIRDS                        | FISH OBSERVED SPECIES PRESENT |
|------------------|--------------|------------------------------------|-------------------------------|
| Eagles           | 1            | 3 (2 adults, 1 juv)                | 13 Rock Blennies              |
| Seabirds         |              |                                    |                               |
| Waterfowl        |              |                                    |                               |
| Gulls/Kittiwakes | 1 gulls      | 2                                  |                               |
| Shorebirds       | 2            | 14 rock blennies, 2 eel grass beds |                               |
| Corvids          |              |                                    |                               |
| Other Birds      |              |                                    |                               |

## LAND MAMMALS

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

Shoreline subdivision map showing important biological features attached.

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

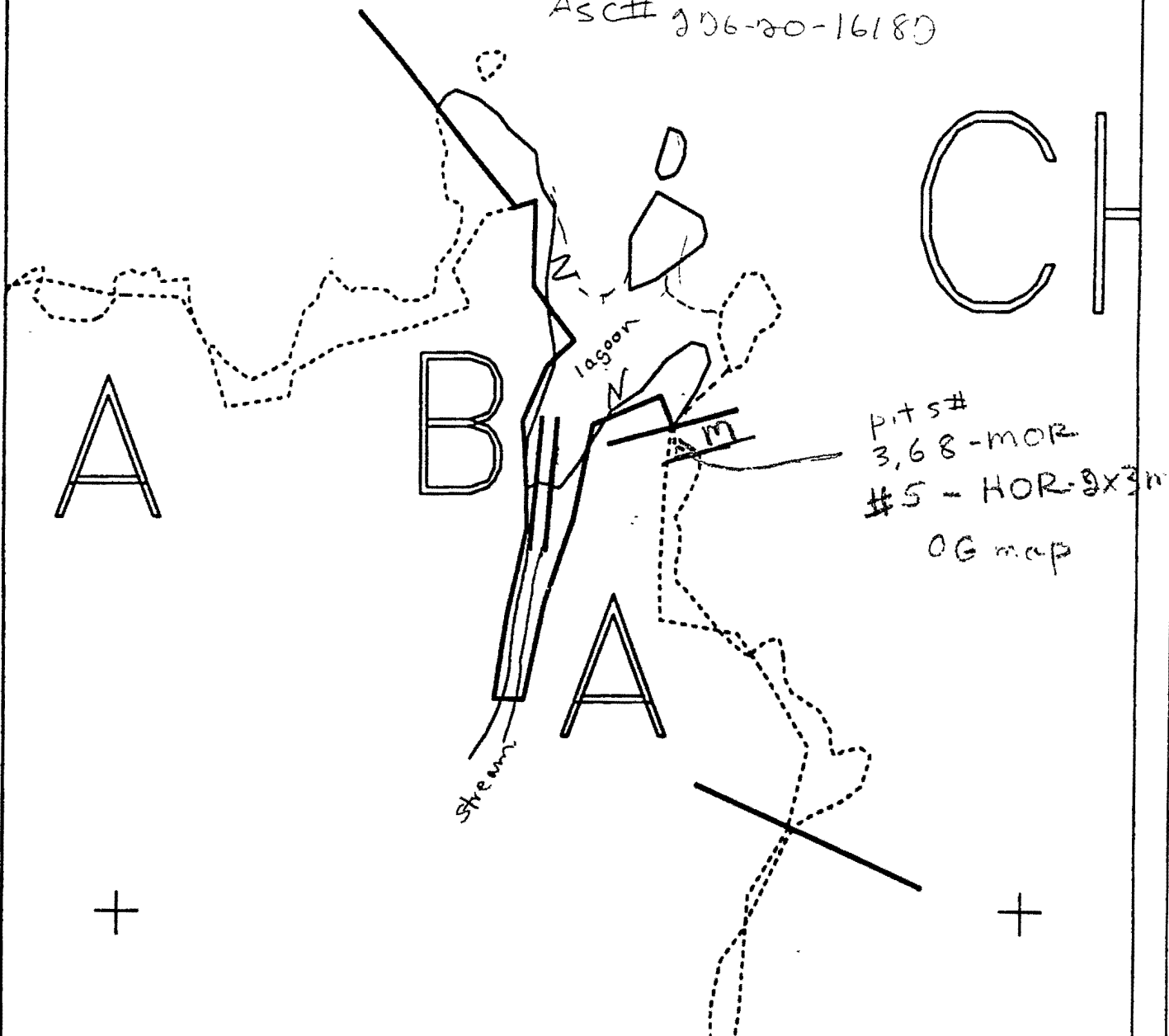


# ADEC Comments cont...

MAYSAP

Anadromous Fish Stream

ASC# 906-20-16180



Pit 5#  
3,68-mor  
#5 - HOR-9x3m  
OG map

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  
psh000b



Subdivision Field Map

Map Key: PWSCH0008

Name: A. Weseman

Date: 5/5/91

Date Entered:

# 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 Anad portion

of subsegment - manually till MSOR sediments in areas B+E 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 biological communities. The subsurface oil was also far from the productive stream.



# 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:

5/13/4 Discrepancy comments KZ CH009

CH009

226-20-16182

- AGREE

HAB

Site 1

10 \* 75

15%

H SUR, MOR

10 cm penetr.

- AGREE -

Site 2

20 \* 10 m

no %'s

12 cm penetr.

HUR

- AGREE -

OG

Site D

10 \* 75

2%

H SUR

pit 12: 5-10 cm penetr.

Site C (sub-set of site 2)

1 \* 10 m

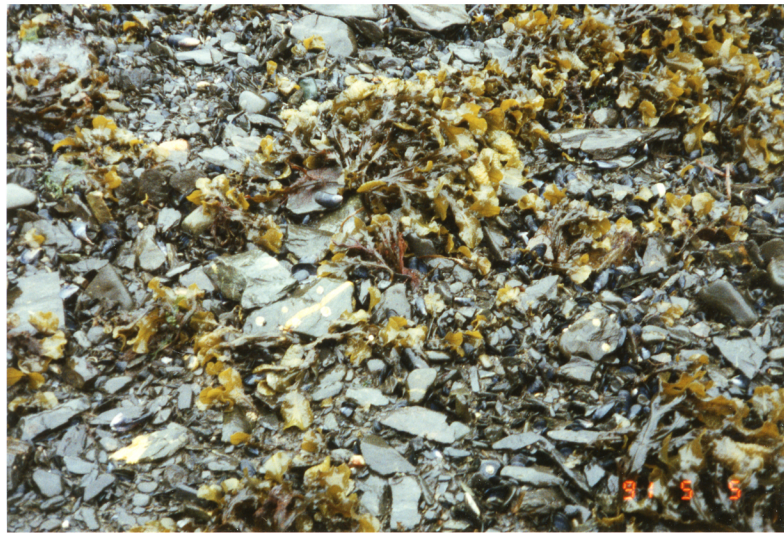
60%

5-30 cm penetration

CV, CT

→ total area of 10 \* 20, not called a "site" per se, is noted on OG map around numerous pits showing subsurface oil.





Date: 5/5/91 No. 883

Title: CH009B







Segment No CH009 Subdivision B

Date 5/5/91 Log Frame No 9

Photographer Rebecca Hoff

Location \_\_\_\_\_

Comments View of lagoon from rocky outcrop at eastern end of segment

Roll No MAYSAP- 607 Neg. No 8

Control No 983 (Office Use Only)

Blank frame at #11





Segment No CH009 Subdivision B  
Date 5/5/91 Log Frame No 7  
Photographer Rebecca Hoff  
Location \_\_\_\_\_  
Comments Close up of extensive  
mussel beds along lagoon  
\_\_\_\_\_  
\_\_\_\_\_  
Roll No MAYSAP- 6-07 Neg. No 6  
Control No 883 (Office Use Only)





Segment No CH009 Subdivision B  
Date 5/5/91 Log Frame No 10  
Photographer Rebecca Hoff  
Location \_\_\_\_\_  
Comments Looking upstream from upper  
intertidal (where marsh grass begins).  
\_\_\_\_\_  
\_\_\_\_\_  
Roll No MAYSAP- 6-07 Neg. No 9  
Control No 883 (Office Use Only)





Segment No C4009 Subdivision B

Date 5/5/91 Log Frame No 8

Photographer Rebecca Hoff

Location \_\_\_\_\_

Comments Close-up of surface oil residue  
in slate in upper intertidal (area B)

Roll No MAYSAP- 607 Neg. No 7

Control No 883 (Office Use Only)



## 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: Rache Jan Dale Date: 5/21/91

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

NNN

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

**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: \_\_\_\_\_ 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:**

5/20 INITIAL: manually 1-7 areas S & E M50R, H50R  
NTC

5/21

**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  
stream



1991 STATE WORK ORDER  
EXXON VALDEZ OIL SPILL PROJECT  
STATE OF ALASKA

PRINCE WILLIAM SOUND

226-20-16182

SEGMENT: CH009 SUBDIVISION: B SITE:  
anadromous fish stream, commercial fishing area, recreation  
area, subsistence use area, commercial tourism area

RECOMMENDED TREATMENT:

No treatment recommended at this time.

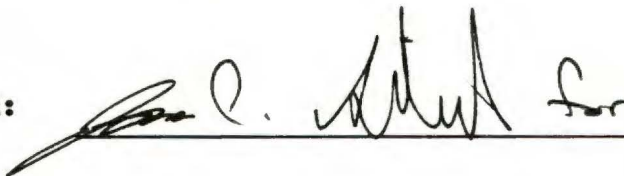
ENVIRONMENTAL SENSITIVITIES:

WORK WINDOW: -

CLEANUP PLAN AND COST ESTIMATE DUE:

DATE SUBMITTED: 05/21/91

STATE ON SCENE COORDINATOR:

 E. Piper



## 1991 STREAM FILE LOG HABITAT

STREAM CATALOG # : 226-20-16182  
STREAM NAME : Chienega floodland

LOCATION : P.W.S.  
SEGMENT : CH-009B

[illegible]

PAGE 1 OF 3

SEGMENT CH009

SUBDIVISION B

DATE 8 / 22 / 91

ENERGY LEVEL: ☐ H ☒ M ☐ L

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

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

EST. OIL CATEGORY LENGTH: W\_\_\_\_\_m M\_\_\_\_\_m N\_\_\_\_\_m VL\_\_\_\_\_m NO\_\_\_\_\_m US\_\_\_\_\_m

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

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

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

Although this stream was not treated in 1991, recommend reassessment in 1992 due to substantial subsurface oiling. HOR does appear stable with cobble armor. The most efficient treatment method would be mechanical tilling.

this survey focused on oiling documented during MAYSEP.

DATE 8 / 22 / 91

ASC# 226-20-16182

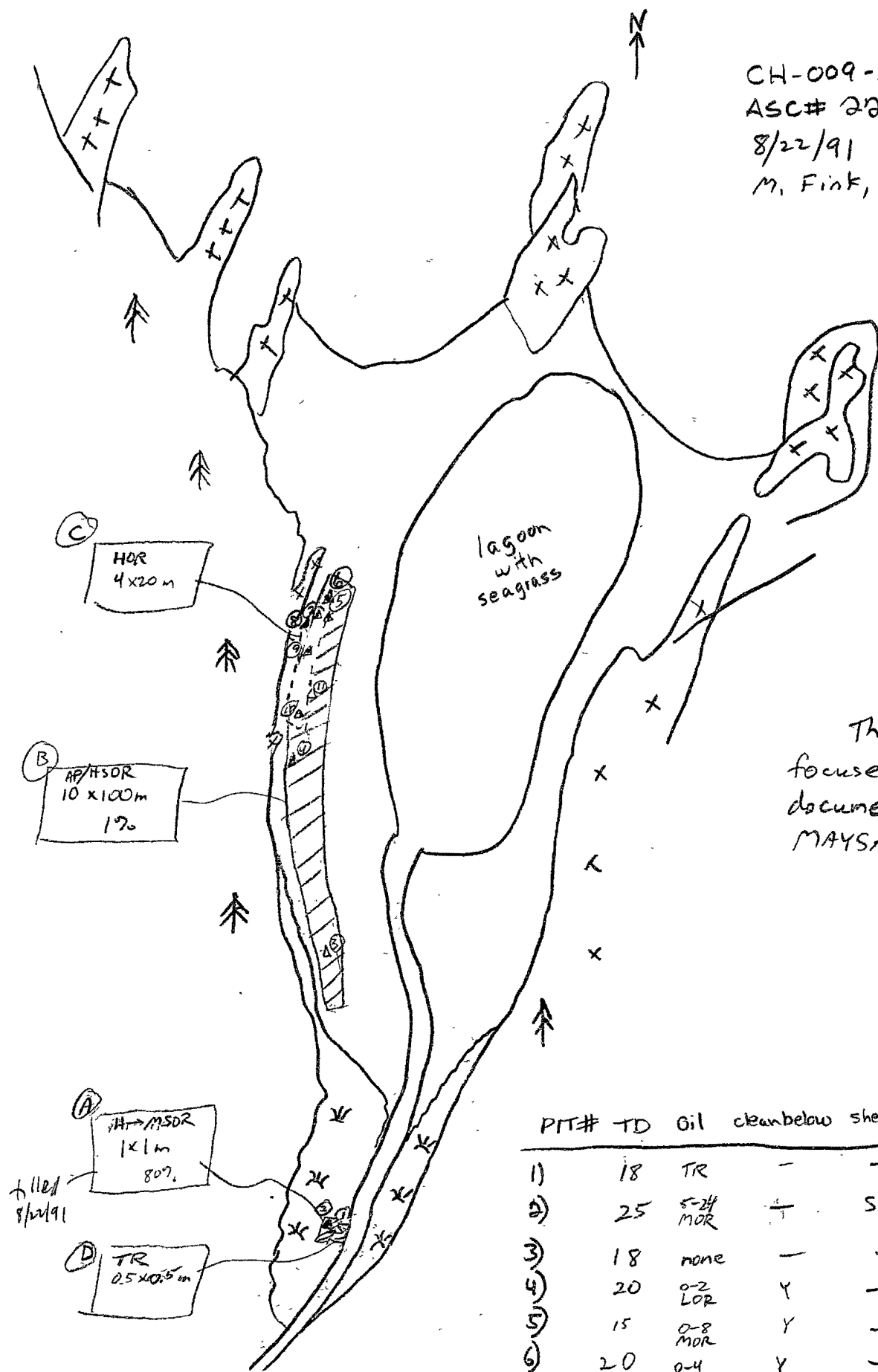
[illegible]

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

**OG COMMENTS:**

CH-009-B  
 ASC# 226-20-16182  
 8/22/91  
 M. Fink, ADF+G

This survey  
 focused on oiling  
 documented during  
 MAYSAP.



| PIT# | TD | Oil       | clean below | sheen | w/t | seeds         | Zone |
|------|----|-----------|-------------|-------|-----|---------------|------|
| 1)   | 18 | TR        | -           | -     | 13  | P.S.G         | UFTZ |
| 2)   | 25 | 5-24 MOR  | +           | S     | 24  | P.S.G organic | UFTZ |
| 3)   | 18 | none      | -           | -     | -   | G.S.P         | UFTZ |
| 4)   | 20 | 0-2 LOR   | Y           | -     | -   | G.S.P.C       | UFTZ |
| 5)   | 15 | 0-8 MOR   | Y           | -     | -   | S.G.P         | U "  |
| 6)   | 20 | 0-4 LOR   | Y           | -     | -   | G.S.P.C       | U "  |
| 7)   | 30 | 0-20 HOR  | Y           | -     | -   | G.S.P         | U "  |
| 8)   | 40 | 0-40 HOR  | N           | -     | -   | S.G.C         | U "  |
| 9)   | 35 | 0-35, HOR | N           | -     | -   | S.G.C         | U "  |
| 10)  | 20 | 5-13 MOR  | Y           | -     | -   | G.S.P         | U "  |

ANADROMOUS  
 FISH STREAM.

| PIT#  | TD | Oil     | clean below | sheen | w/t | seeds | Zone |
|-------|----|---------|-------------|-------|-----|-------|------|
| 1-11) | 15 | 0-1, AP | Y           | N     | N   | S.G.P | U    |

ADF&G MULTI-ASSESSMENT DATA FORM

- 1) SURVEY TYPE: BS SS 2) REGION: PWS KP, CI K, AP
- 3) METHOD: Aerial Ground Boat
- 4) DATE: 8/22/91 16) HIGH TIDE TIME: 1:05 pm 22) TEAM RECORDER: M. Fink
- 5) START TIME: 8:15 AM 17) HIGH TIDE HTS: 9.1 ft 23) OBSERVERS: Weseman, Sundet
- 6) STOP TIME: 10:15 AM 18) LOW TIDE TIMES: 6:30 AM 24) AGENCY: F#G
- 7) SEGMENT #: CH009B 19) LOW TIDE HTS: 0.7 ft 25) PHOTOS TAKEN: Y (N)
- 8) K-UNIT: — 20) TIDE HT AT SURVEY: +2 - +5 ft. ROLL #: — FRAMES: —
- 9) LAT: — Ebb Slack Flood Slack 26) VIDEO TAKEN: Y (N)
- 10) LONG: — 21) USCG QUAD: — TAPE # —
- 11) ASC #: 226-20-16182 START: — STOP: —
- 12) STREAM NAME: — 27) SAMPLES TAKEN? Y (N)
- 13) LOCATION: NW end of Chenega Island SAMPLE I.D. —
- 14) WAVE EXPOSURE: High Moderate Low —
- 15) SHORELINE TYPE: Headland Low-lying Rocks Beach —
- Cove Lagoon Marsh —

28) EXTENT OF OIL

|                | LENGTH m   | WIDTH m    | M2          | %         | THICK cm | PEN cm   | OIL TYPE       |
|----------------|------------|------------|-------------|-----------|----------|----------|----------------|
| SITE <u>XA</u> | <u>1</u>   | <u>1</u>   | <u>1</u>    | <u>80</u> | <u>5</u> | <u>—</u> | <u>H→MSOR</u>  |
| SITE <u>2B</u> | <u>100</u> | <u>10</u>  | <u>1000</u> | <u>1</u>  | <u>—</u> | <u>—</u> | <u>AP/HSOR</u> |
| SITE <u>3</u>  | <u>—</u>   | <u>—</u>   | <u>—</u>    | <u>—</u>  | <u>—</u> | <u>—</u> | <u>—</u>       |
| SITE <u>AC</u> | <u>120</u> | <u>4</u>   | <u>80</u>   | <u>—</u>  | <u>—</u> | <u>—</u> | <u>HOR</u>     |
| SITE <u>5D</u> | <u>0.5</u> | <u>0.5</u> | <u>0.25</u> | <u>—</u>  | <u>—</u> | <u>—</u> | <u>TR</u>      |

- 29) OVERALL OIL IMPACT: 33) ANADROMOUS FISH PRESENT: Y N
- H = >6m band with ≥50% oil coverage
- M = >6m band with ≤ 50% oil coverage or ≥3m to ≤6m with ≥10% oil coverage
- L = <3m band with >10% oil coverage
- VL = ≤10% oil coverage regardless of band width
- N = No oil observed
- 30) OIL IN STREAMBED: Y (N)
- 31) OIL ON BEACH ADJACENT TO MOUTH: (Y) N
- 32) SUBSTRATE TYPE (PERCENT):
- Bedrock ✓ Boulder — Gravel ✓ Sand ✓ Cobble ✓ Mud/Silt —
- 34) WILDLIFE OBSERVATION
- Species — Number —
- 
- 
- 

35) COMMENTS: Small silver sheen in upper stream, determined to be organic.  
Area A, H to MSOR mixed with vegetation, approximately 5 cm in thickness.  
Area B, AP/HSOR scattered, approximately 1-3 cm in thickness.  
Subsurface, area C, HOR at northwest end of area B, under cobble armor.  
Subsurface area D, trace adjacent to stream. Although this stream  
was not treated in 1991, we recommend reassessment in 1992 due to  
the substantial subsurface oiling. The HOR does appear relatively stable  
under a cobble armor. The most efficient treatment method would  
be mechanical tilling.



36) PHOTOLOG

FRAME(S)

DESCRIPTION

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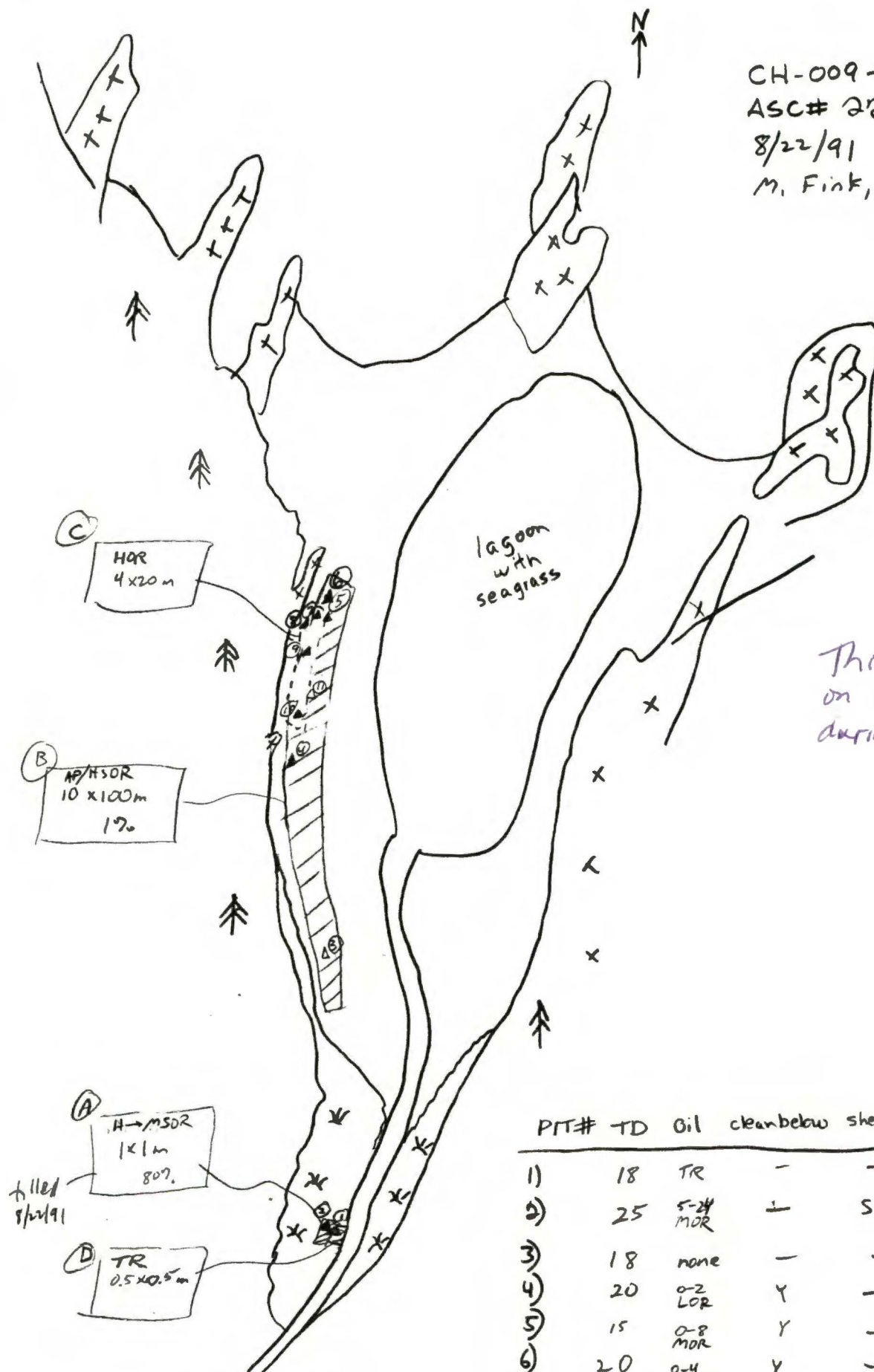
Δ = Sample Taken  
2/ = Photo Frame # and  
Shot Direction

A:EDDATFO  
April 3, 1991

CH-009-B  
ASC# 226-20-16182  
8/22/91  
M. Fink, ADF+G

This survey focused  
on oiling documented  
during MAYSAF.

(74)



ANADROMOUS  
FISH STREAM.

PIT# TD Oil clean below stream w/ sed zone  
11) 15 0-1 AP Y N N S, P U

| PIT# | TD | Oil       | clean below | stream | w/ sed | zone                |
|------|----|-----------|-------------|--------|--------|---------------------|
| 1)   | 18 | TR        | -           | -      | 13     | P, S, G U12         |
| 2)   | 25 | 5-24 MOR  | +           | S      | 24     | P, S, G organic U12 |
| 3)   | 18 | none      | -           | -      | -      | G, S, P U12         |
| 4)   | 20 | 0-2 LOR   | Y           | -      | -      | G, S, P, C U12      |
| 5)   | 15 | 0-8 MOR   | Y           | -      | -      | S, G, P U "         |
| 6)   | 20 | 0-4 LOR   | Y           | -      | -      | G, S, P, C U "      |
| 7)   | 30 | 0-20 HQR  | Y           | -      | -      | G, S, P U "         |
| 8)   | 40 | 0-40 HQR  | N           | -      | -      | S, G, C U "         |
| 9)   | 35 | 0-35, HQR | N           | -      | -      | S, G, C U "         |
| 10)  | 20 | 0-12 HQR  | Y           | -      | -      | G, S, P U "         |

ADFEG MULTI-ASSESSMENT DATA FORM

- 1) SURVEY TYPE: BS SS 2) REGION: PWS KP, CI K, AP
- 3) METHOD: Aerial Ground Boat
- 4) DATE: 5/5/91 16) HIGH TIDE TIME: \_\_\_\_\_ 22) TEAM RECORDER: Tom Crowe
- 5) START TIME: 1115 17) HIGH TIDE HTS: \_\_\_\_\_ 23) OBSERVERS: AMES WISEMAN
- 6) STOP TIME: 1247 18) LOW TIDE TIMES: 1230 24) AGENCY: ADFEG
- 7) SEGMENT #: CH009 19) LOW TIDE HTS: +1.6 25) PHOTOS TAKEN: Y N
- 8) K-UNIT: \_\_\_\_\_ 20) TIDE HT AT SURVEY: +2.3 to +1.8 ROLL #: \_\_\_\_\_ FRAMES: \_\_\_\_\_
- 9) LAT: \_\_\_\_\_ Ebb: Slack Flood Slack 26) VIDEO TAKEN: Y N
- 10) LONG: \_\_\_\_\_ 21) USCG QUAD: \_\_\_\_\_ TAPE # \_\_\_\_\_
- 11) ASC #: 226-20-16182 START: \_\_\_\_\_ STOP: \_\_\_\_\_
- 12) STREAM NAME: NONE 27) SAMPLES TAKEN? Y N
- 13) LOCATION: N. CHENEGA ISLAND SAMPLE I.D. \_\_\_\_\_
- 14) WAVE EXPOSURE: High Moderate Low
- 15) SHORELINE TYPE: Headland Low-lying Rocks Beach
- Cove Lagoon Marsh

28) EXTENT OF OIL

|        | LENGTH m | WIDTH m | M2  | %  | THICK cm | PEN cm | OIL TYPE |
|--------|----------|---------|-----|----|----------|--------|----------|
| SITE 1 | 75 M     | 10 M    | 750 | 15 | 5cm      | 10 cm  | H502/MOR |
| SITE 2 | 20 M     | 10 M    | 200 |    | 12cm     | 12 cm  | HOR/     |
| SITE 3 |          |         |     |    |          |        |          |
| SITE 4 |          |         |     |    |          |        |          |
| SITE 5 |          |         |     |    |          |        |          |

29) OVERALL OIL IMPACT:

33) ANADROMOUS FISH PRESENT: Y N

H = >6m band with ≥50% oil coverage

M = >6m band with ≤50% oil coverage or ≥3m to <6m with ≥10% oil coverage

L = <3m band with ≥10% oil coverage

VL = ≤10% oil coverage regardless of band width

N = No oil observed

30) OIL IN STREAMBED: (Y) N

31) OIL ON BEACH ADJACENT TO MOUTH: (Y) N

32) SUBSTRATE TYPE (PERCENT):

Bedrock \_\_\_\_\_ Boulder 5% Gravel 90% Sand \_\_\_\_\_ Cobble 5% Mud/Silt \_\_\_\_\_

35) COMMENTS: MINOR PICKING NEEDED OF H502 SEDIMENTS AND A MAXIMUM EFFORT PUT FORTH INTO MANUAL TILLING. POCKET BEACH SOUTH OF STREAM REVEALED HOR SEDIMENTS BURIED 12cm-20cm DEEP 12cm TO 20cm THICK. BORDERLINE OP. SEDIMENTS. THE ONLY SOLUTION TO OIL REMOVAL AT SITE #2 WOULD BE MANUAL TILLING.

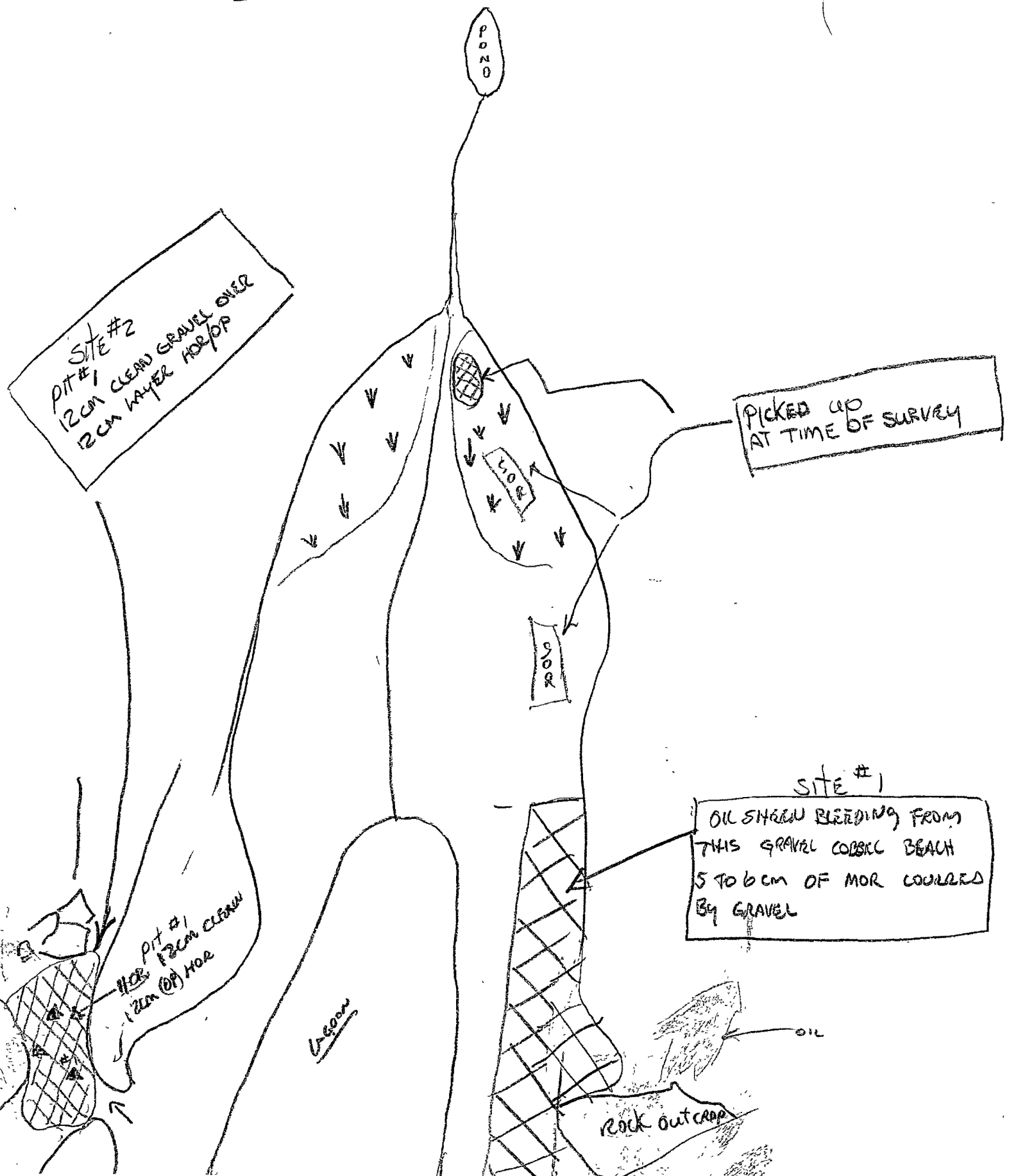
34) WILDLIFE OBSERVATION

| Species        | Number |
|----------------|--------|
| sandpipers     | 14     |
| oystercatchers | 2      |
| Rock Blenoxill | 12     |

CH009

5/5/91

ASC 226-20-16182







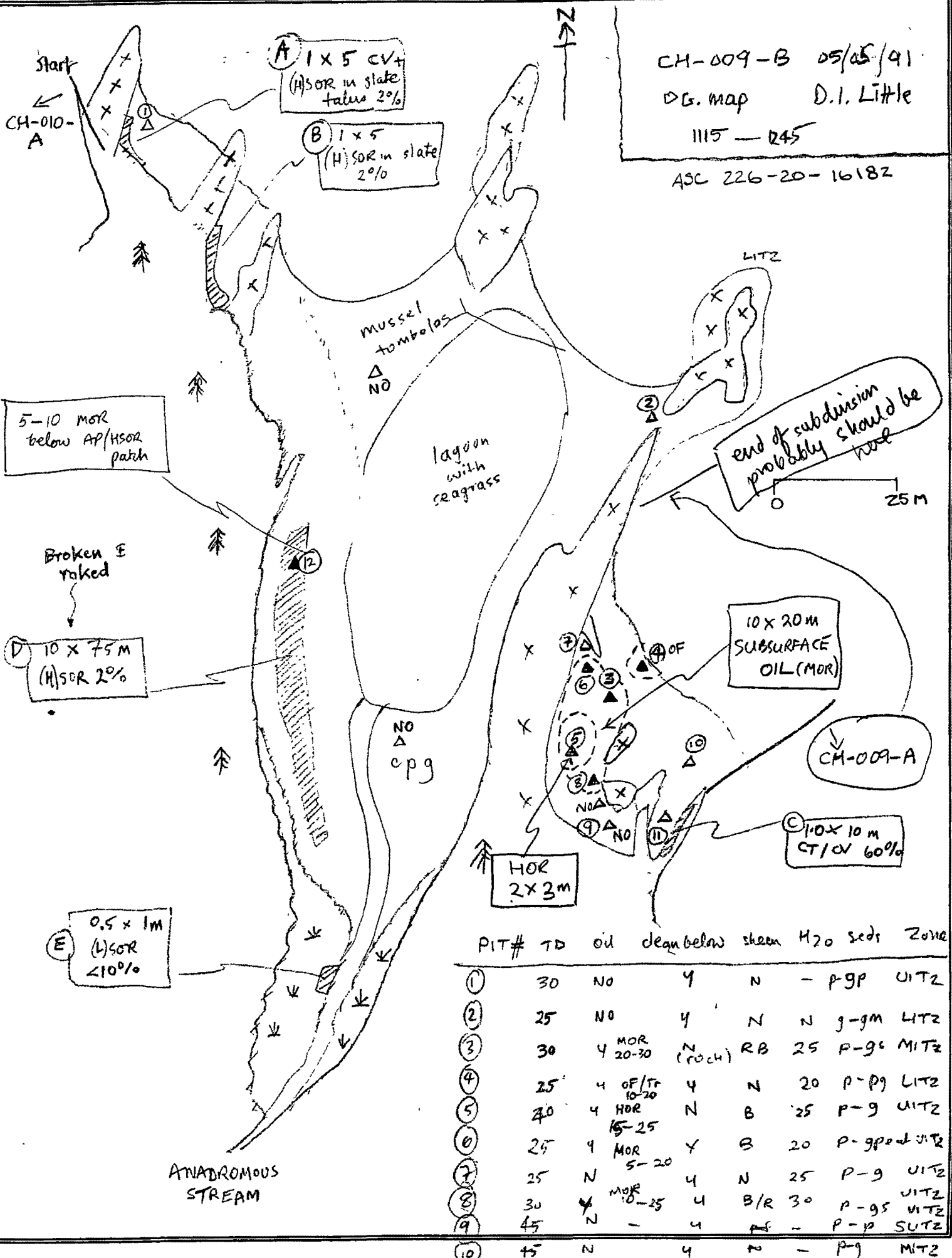
PAGE 2 OF 2

DATE 05 / 05 / 91

[illegible]

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

**OG COMMENTS:**



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

ASC 226-20-16182

end of subdivision  
probably should be  
here

10x20m  
SUBSURFACE  
OIL (MOR)

CH-009-A

10x10m  
CT/CV 60%

HOR  
2x3m

5-10 MOR  
below AP/Hsor  
patch

10x75m  
(H)SOR 20%

Broken E  
raked

0.5x1m  
(L)SOR  
<10%

A 1x5 CV+  
(H)SOR in slate  
talus 20%

B 1x5  
(H)SOR in slate  
20%

mussel  
tomolos  
Δ NO

lagoon  
with  
seagrass

NO  
Δ cpg

NO  
Δ NO

NO  
Δ NO

NO  
Δ NO

NO  
Δ NO

NO  
Δ NO

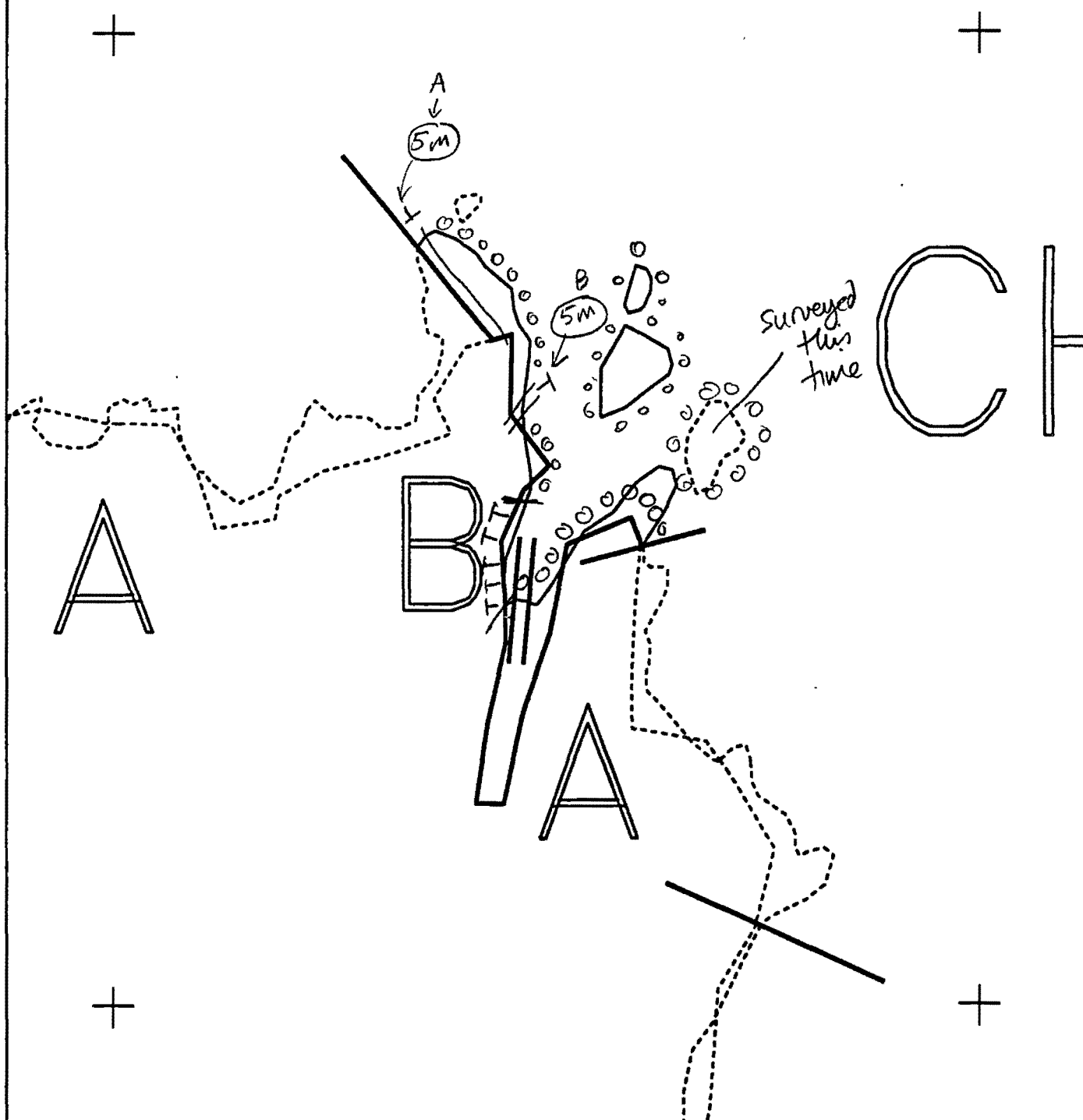
NO  
Δ NO

NO  
Δ NO

NO  
Δ NO

| PIT# | TD | oil              | deqn below | shem | H2o | sed  | Zone |
|------|----|------------------|------------|------|-----|------|------|
| ①    | 30 | NO               | 4          | N    | -   | P-gp | UITZ |
| ②    | 25 | NO               | 4          | N    | N   | g-gm | LITZ |
| ③    | 30 | 4 MOR<br>20-30   | (roch)     | RB   | 25  | P-g  | MITZ |
| ④    | 25 | 4 OF/TF<br>10-20 | 4          | N    | 20  | P-Pg | LITZ |
| ⑤    | 40 | 4 HOR<br>15-25   | N          | B    | 25  | P-g  | UITZ |
| ⑥    | 25 | 4 MOR<br>5-20    | Y          | B    | 20  | P-gp | UITZ |
| ⑦    | 25 | N                | 4          | N    | 25  | P-g  | UITZ |
| ⑧    | 30 | 4 MOR<br>10-25   | 4          | B/R  | 30  | P-gs | UITZ |
| ⑨    | 45 | N                | 4          | N    | -   | P-p  | SUTZ |
| ⑩    | 45 | N                | 4          | N    | -   | P-g  | MITZ |

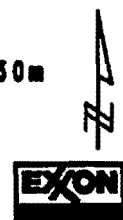
ANADROMOUS  
STREAM



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

CH009 B  
 ADEC Subsegment Length: 630m  
 METERS

AK State Plane Zone 4  
 pc4000b



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