

KN-401 ~~band 402~~ ASC 16820 site#
SNUG HARBOR

ACE 1369629

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. Surv.)
____ '90 ASAP Survey ____ ASAP Rec. ____ ADEC Rec. (____)
____ '90 Other Documents _____

ANADROMOUS FISH STREAMS/OILING CONDITION

PWS

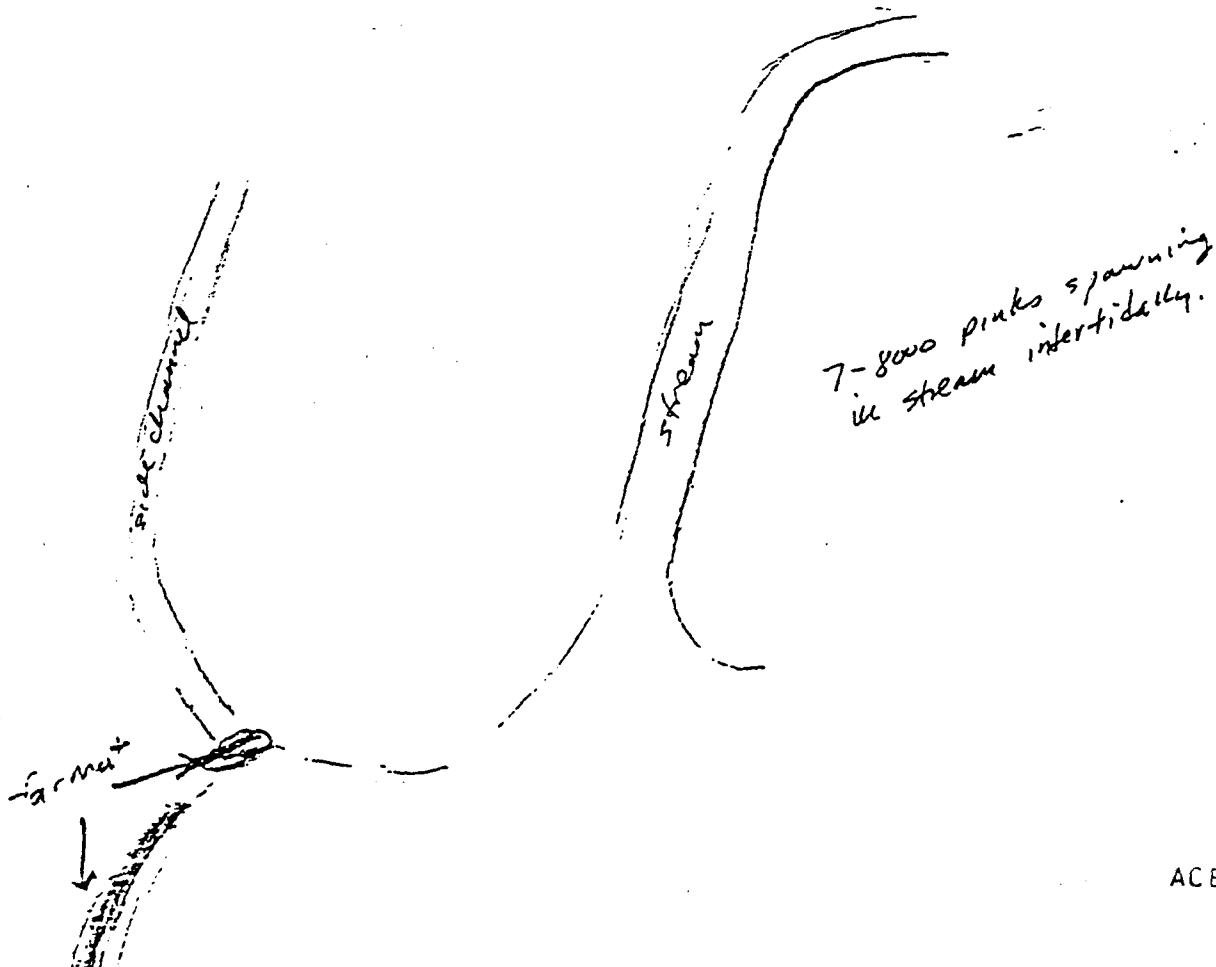
1982 192 mV

Segment # KN401 ASC# 226-30-16930 Location Snus Bar, Knappa Is.Date 8/15/90 Recorder/Observer T. Crone / R. AustinOil in streambed Yes Oil on streambanks YesOil within 50m of mouth Yes Anadromous Fish present Yes

Description of oil and comments

Primary area of oiling consists of a thin band of tar on the left bank as you look upstream. It is in the lower 1/2 of the stream but its down near the lower mouth area of the stream. Some large patches (1x1 meter) of tar are still remain near a small lower stream channel. Sloppy work was done in removal of remaining tar on strip. Suggest re-assessment spring 91

Oil Distribution Diagram



ANADROMOUS FISH STREAMS/OILING CONDITION
PWS

Segment # KN401 ASC# 226-30-16820 Location Snug Har. Knight Is.

Date 8/15/90 Recorder/Observer T. Crowe / R. Gustin

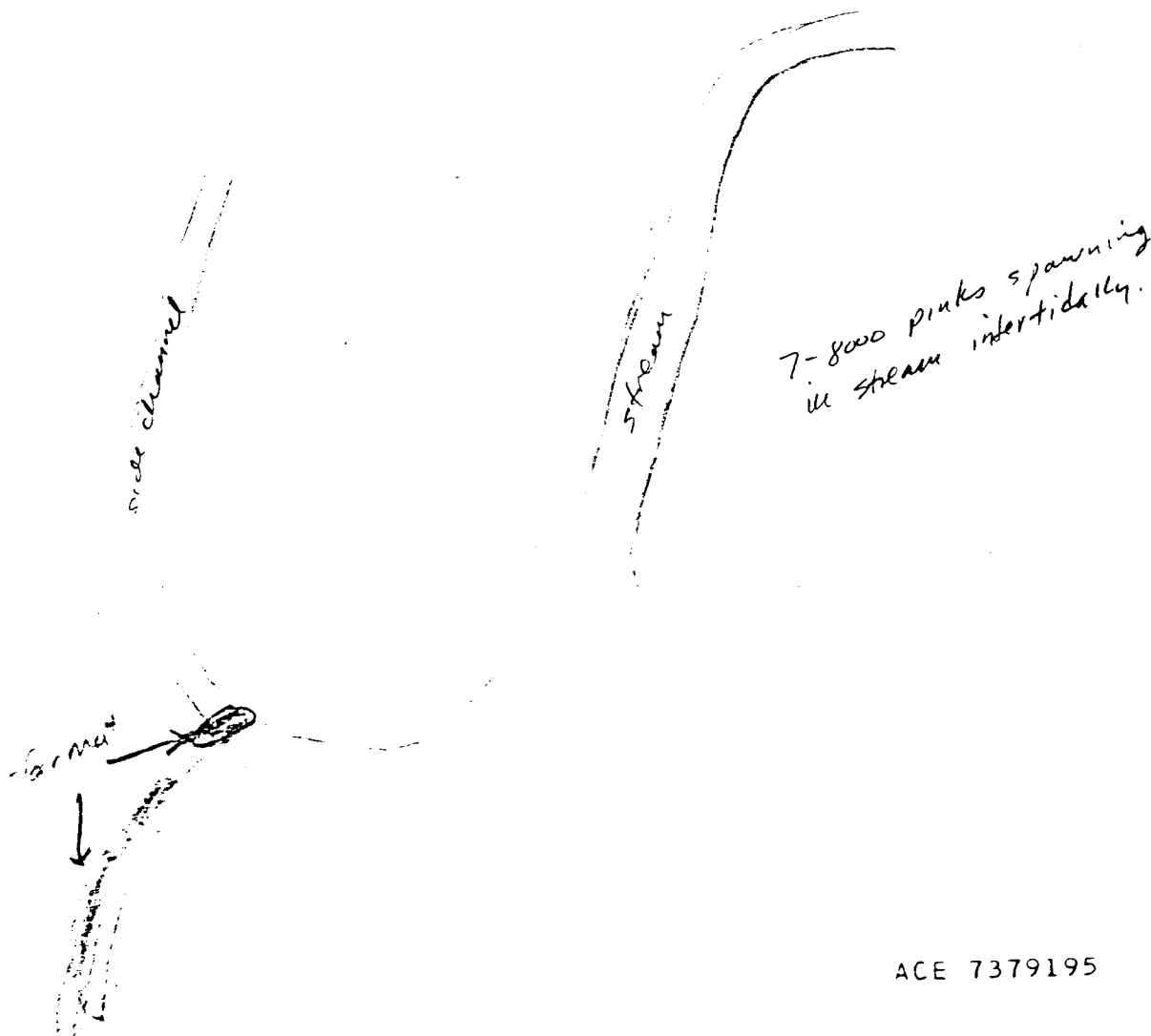
Oil in streambed Yes Oil on streambanks Yes

Oil within 50m of mouth Yes Anadromous Fish present Yes

Description of oil and comments

Primary area of oiling consists of a thin band of tar mat on the IPT bank on river floor upstream. It's in the inner ITZ, but it's down near the Low ITZ mouth area of the stream. Some large patches (1x1 meter) of tar mat still remain near & in small feeder stream channel. Sloppy work was done on removal of remaining tar mat strip. Suggest reassessment spring 91

Oil Distribution Diagram



CATALOG NUMBER: 2263016820 STREAM NAME: LOCATION: KNIGHT ISLAND, SNUG HARBOR							SEGMENT NUMBER: KN401 B SHORELINE TYPE: DATE: 04/12/90 TIME: COVE -0831		
SITE	WIDTH (m)	LENGTH (m)	AREA (sqm)	PERCENT OIL	THICKNESS (cm)	PENETRATION (cm)	SURFACE SUBSURF	OIL TYPES	COMMENTS
1							SURFACE	FL	<i>Duck Index</i> <i>No!</i> OIL SHEEN IN GRAVEL ON SOUTH SIDE OF STREAM
COMMENTS: SOME SHEEN/STICKY FILM VISIBLE. SHOVEL REMOVAL. OIL ON STREAM BANKS: YES OIL WITHIN 1 MILE OF STREAM: YES, UPPER TO MID INTERTIDAL.									

CATALOG NUMBER: 2263016820 STREAM NAME: LOCATION: KNIGHT ISLAND, SNUG HARBOR							SEGMENT NUMBER: KN401 B SHORELINE TYPE: DATE: 04/27/90 TIME: COVE -0958			<i>Should be updated version in Duck Index</i>
SITE	WIDTH (m)	LENGTH (m)	AREA (sqm)	PERCENT OIL	THICKNESS (cm)	PENETRATION (cm)	SURFACE SUBSURF	OIL TYPES	COMMENTS	
1							SURFACE	TB	<i>SOUTH SIDE, CLOSEST TO MOUTH. SAND PARALLEL TO STREAM, NOT TOUCHING BANKS.</i>	
2							SURFACE	AP-CV TB, DEBRIS		<i>SOUTH SIDE. POCKET OF OIL DEBRIS + TARPES UNDER SNOW. 1 TB to WEST</i>
COMMENTS: RECOMMENDATIONS: MANUAL REMOVAL OF TAR AT (STORM) +12 FOOT TIDE LINE AND TARMAT BAND. CHECK THE AREA NOW COVERED BY SNOW. DO NOT USE INIPOL. IF BIOREMEDIATION IS TO BE USED IN AREA 2, IT SHOULD BE IN THE FORM OF SOLID PELLETS BURIED AT STORM BERM LINE. OIL ON STREAM BANKS: NO OIL WITHIN 1 MILE OF STREAM: SEE MAP <i>NEAR SKETCH NO OIL ON NORTH SIDE OF STREAM.</i>										

CATALOG NUMBER: 2263016820 STREAM NAME: LOCATION: KNIGHT ISLAND, SNUG HARBOR							SEGMENT NUMBER: KN401 B SHORELINE TYPE: DATE: 04/26/91 TIME: COVE -1915		
SITE	WIDTH (m)	LENGTH (m)	AREA (sqm)	PERCENT OIL	THICKNESS (cm)	PENETRATION (cm)	SURFACE SUBSURF	OIL TYPES	COMMENTS
1	3	2		15	1-2		SURFACE	HSOR MS	
2	1	30		1	1		SURFACE	LSOR	
COMMENTS: STREAM AREA LOOKS IN GOOD SHAPE. THE MAJORITY OF THE 'HSOR' WAS REMOVED FROM SITE #1 DURING SURVEY. TREATMENT RECOMMENDATIONS: THE ANADROMOUS FISH STREAM PORTION OF THE SUBDIVISION REQUIRES NO FURTHER TREATMENT AT THIS TIME. HOWEVER, DUE TO THE HIGH PUBLIC USE OF THE REST OF THE SUBDIVISION FOR FISHING, TOURISM & RECREATION, THE 'AP' BAND IN AREA #2 SHOULD BE MANUALLY REMOVED. THE OIL IS LOCATED IN & JUST BELOW THE GRASSY SWASH ZONE & SHOULD RECEIVE TREATMENT BEFORE THE GRASS HIDES IT.									

Additional Information Cont'd:

ACE# 7379140, Tom W. Crowe - Gravel Sampling in Mid-Intertidal, Time: 2026. ACE# 7379141, Overview of segment showing stream & heavily oiled beach. Time: -0-, ACE# 7379142, Matt of Tar/Asphalt & Kelp at High Tide Line. Time: -0-, ACE# 7379143, Patch of mousse with Gel-Like consistency. Time: -0-, ACE# 7379144 Tom W. Crowe - Gravel Sampling in upper Intertidal, Time: 2032, ACE# 7379145 Tom W. Crowe - Sample of Vegetation with Oil for 'fingerprinting', Time: 2040 ACE# 7379146, Uncatalogued Salmon Stream, At head of 'West Arm, Pink Salmon Carcasses & R.A.T. Time: -0-, ACE# 7379147 Aerial View - Location of 'Stream Sediment Sampling Site, (Map 35) Time: -0-, ACE# 7379148, Aerial View - Location of 'Stream Sediment Sample Site. (Map 32) Time: -0-.

SUMMARY SHEET
FOR DIFFICULT-TO-COPY ITEMS

ALASKA/CIVIL EXXON

Folder ACE # 1369629

CDP BOX # 12,306

Begin ACE Number 7379132 End ACE Number 7379148 *Ben*

DOCUMENT TYPE:

____ BOOK

____ BLUEPRINT

X PHOTOS

____ VIDEO

____ SLIDES

____ AUDIO CASSETTE

____ MAP OR CHART

____ OTHER-Identify document type

____ COMPUTER PRINTOUT

MARGINALIA: YES ☒ NO ☐

AUTHOR: Rich Austin, Tom Crowe, Aimee Weseman, Ben Dulce V.

DATE OF PUBLICATION: 8/15/89

VERBATIM TITLE: _____

INFERRED TITLE: Official Photograph, ADF & Exxon

Valdez Oil Spill - Locations: Mummy Bay, Knight Island - Knight Island, Smug Har. Boc - Knight Island, Bay of Isles - Office: Valdez - Segment #'s KN 401 KN 202, KN 134, KN 05, KN 200, Station #'s 2264016820, -0-, Roll # 89RL 0002V - Frame #'s 06, 07, 08, 09, 13, 14, 15, 16, Roll # 89AW 013V, Frame #'s 09, 10, 11, Roll # 89DB 002V Frame #'s 13, 14 & 15, Roll # 89RL 0004V, Frame #'s 16, 20, 23. Evidence

ADDITIONAL INFORMATION: #s 10192, 10251 & 10198.

Reason for taking Photo: ACE # 7379132 Tom W. Crowe - Gravel Sampling in Lower Intertidal. Time: 1836,

H:\ZMCL\SUMMARY.FRM ACE # 7379133, Tom W. Crowe - Gravel Sampling in Mid Intertidal, Time: 1840 ACE # 7379134 Tom W. Crowe - Gravel Sampling in Upper Intertidal, Time 1847, ACE # 7379135 & ACE 7379136, Anachromous Fish Stream, ACE # 7379137, Anachromous Fish Stream showing fish in the stream. Time -0- ACE # 7379138, Gravel Sample collected for fingerprinting, Time: 1901, ACE # 7379139 Tom W. Crowe - Sampling in lower intertidal, Time: 2018.

ACE 7379131

over →



OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ DATE: 08/15/89 TIME: 2032

SEGMENT#: KN401 STATION#: 2263016820
LOCATION: SNUG HARBOR, KNIGHT ISLAND

REASON FOR TAKING PHOTO: TOM W. CROWE - GRAVEL SAMPLING IN UPPER INTERTIDAL.

TAKEN BY: RICK GUSTIN, TOM CROWE INITIALS: _____

ROLL #: 89RLG002V FRAME #: 15 EVIDENCE ID#: _____

OFFICIAL PHOTOGRAPH

ACE 7379144

OFFICIAL PHOTOGRAPH

ADEC

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ DATE: 08/15/89 TIME: 2040

SEGMENT#: KN401 STATION#: 2263016820
LOCATION: SNUG HARBOR, KNIGHT ISLAND

REASON FOR TAKING PHOTO: TOM W. CROWE - SAMPLE OF VEGETATION WITH OIL FOR FINGERPRINTING.

TAKEN BY: RICK GUSTIN, TOM CROWE INITIALS: _____

ROLL #: 89RLG002V FRAME #: 16 EVIDENCE ID#: _____

Frame #: _____

ACE 7379145





16

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ

DATE: 09/10/89

TIME: -0-

SEGMENT#: KN 200

STATION#: -0-

LOCATION: KNIGHT ISLAND, BAY OF ISLES

REASON FOR TAKING PHOTO: UNCATALOGUED SALMON STREAM. AT HEAD OF
WEST ARM. PINK SALMON CARCASSES AND R.A.T.

TAKEN BY: DULCE V. BEN

INITIALS: _____

ROLL #: 89DB002V

FRAME #: 16

EVIDENCE ID#: 10198

ACE 7379146



OFFICIAL PHOTOGRAPH

ADEC

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ

DATE: 08/22/89

TIME: -0-

SEGMENT#: KN401

STATION#: 2263016820

LOCATION: SNUG HARBOR, KNIGHT ISLAND

REASON FOR TAKING PHOTO: AERIAL VIEW - LOCATION OF STREAM SEDIMENT
SAMPLING SITE. (MAP 35)

TAKEN BY: RICK GUSTIN

INITIALS: _____

ROLL #: 89RLG004V FRAME #: 20

EVIDENCE ID#: 10251

Roll #: _____ Frame #: _____

ACE 7379147



Roll #: _____
Frame #: _____

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ

DATE: 08/22/89

TIME: -0-

SEGMENT#: KN602

STATION#: 2264016820

LOCATION: MUMMY BAY, KNIGHT ISLAND

REASON FOR TAKING PHOTO: AERIAL VIEW - LOCATION OF STREAM SEDIMENT
SAMPLE SITE. (MAP 32)

TAKEN BY: RICK GUSTIN

INITIALS: _____

ROLL #: 89RLG004V FRAME #: 23

EVIDENCE ID#: 10251

ADEC

OFFICIAL PHOTOGRAPH

ACE 7379148





OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ

DATE: 08/15/89

TIME: 1901

SEGMENT#: KN602

STATION#: 2264016820

LOCATION: MUMMY BAY, KNIGHT ISLAND

REASON FOR TAKING PHOTO: GRAVEL SAMPLE COLLECTED FOR
FINGERPRINTING.

TAKEN BY: RICK GUSTIN, TOM CROWE

INITIALS: _____

ROLL #: 89RLG002V FRAME #: 09

EVIDENCE ID#: _____

ADF&G

OFFICIAL PHOTOGRAPH

ACE 7379138



Frame #:

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ

DATE: 08/15/89

TIME: 2018

SEGMENT#: KN401

STATION#: 2263016820

LOCATION: SNUG HARBOR, KNIGHT ISLAND

REASON FOR TAKING PHOTO: TOM W. CROWE - GRAVEL SAMPLING IN LOWER
INTERTIDAL.

TAKEN BY: RICK GUSTIN, TOM CROWE

INITIALS: _____

ROLL #: 89RLG002V FRAME #: 13

EVIDENCE ID#: _

OFFICIAL PHOTOGRAPH

ACE 7379139



OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ

DATE: 08/15/89

TIME: 2026

SEGMENT#: KN401

STATION#: 2263016820

LOCATION: SNUG HARBOR, KNIGHT ISLAND

REASON FOR TAKING PHOTO: TOM W. CROWE - GRAVEL SAMPLING IN MID-INTERTIDAL.

TAKEN BY: RICK GUSTIN, TOM CROWE

INITIALS: _____

ROLL #: 89RLG002V FRAME #: 14

EVIDENCE ID#: _

ACE 7379140

14





OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ

DATE: 08/06/89

TIME: -0-

SEGMENT#: KN ~~401~~

STATION#: 2263016820

LOCATION: KNIGHT ISLAND, SNUG HARBOR

REASON FOR TAKING PHOTO: ANADROMOUS FISH STREAM.

TAKEN BY: AIMEE WESEMAN

INITIALS: AW *not KN 401 - outer core SNUG*

ROLL #: 89AW013V

FRAME #: 09

EVIDENCE ID#: 10192

ACE 7379135



OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ DATE: 08/06/89 TIME: -0-

SEGMENT#: ~~KN-401~~ STATION#: 2263016820
LOCATION: KNIGHT ISLAND, SNUG HARBOR

REASON FOR TAKING PHOTO: ANADROMOUS FISH STREAM.

TAKEN BY: AIMEE WESEMAN

INITIALS: AW *not KN401 - outer
cone
snug*

ROLL #: 89AW013V FRAME #: 09

EVIDENCE ID#: 10192

ACE 7379135



OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ

DATE: 08/06/89

TIME: -0-

SEGMENT#: ~~KN 401~~

STATION#: 2263016820

LOCATION: KNIGHT ISLAND, SNUG HARBOR

REASON FOR TAKING PHOTO: ANADROMOUS FISH STREAM SHOWING FISH IN THE
STREAM.

TAKEN BY: AIMEE WESEMAN

INITIALS: AW

ROLL #: 89AW013V

FRAME #: 11

EVIDENCE ID#: 10192

ACE 7379137





OFFICIAL PHOTOGRAPH

ADEC

Date: _____

EVIDENCE ID#: _____

ROLL #: 89RLG002V FRAME #: 06

INITIALS: _____

TAKEN BY: RICK GUSTIN, TOM CROWE

REASON FOR TAKING PHOTO: TOM W. CROWE - GRAVEL SAMPLING IN LOWER INTERTIDAL.

LOCATION: MUMMY BAY, KNIGHT ISLAND

SEGMENT#: KN602 STATION#: 2264016820

TIME: 1836

DATE: 08/15/89

OFFICE: VALDEZ

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

ACE 7379132



OFFICIAL PHOTOGRAPH

ADEC

ROLL #: 89RLG002V FRAME #: 07
 EVIDENCE ID#: _____
 TAKEN BY: RICK GUSTIN, TOM CROWE
 INITIALS: _____
 REASON FOR TAKING PHOTO: TOM W. CROWE - GRAVEL SAMPLING IN MID-
 INTERTIDAL.
 LOCATION: MUMMY BAY, KNIGHT ISLAND
 SEGMENT#: KN602
 STATION#: 2264016820
 OFFICE: VALDEZ
 DATE: 08/15/89
 TIME: 1840
 OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL
 Roll #: _____ Frame #: _____

ACE 7379133



OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ DATE: 08/15/89 TIME: 1847

SEGMENT#: KN602
LOCATION: MUMMY BAY, KNIGHT ISLAND

STATION#: 2264016820

REASON FOR TAKING PHOTO: TOM W. CROWE - GRAVEL SAMPLING IN UPPER
INTERTIDAL.

TAKEN BY: RICK GUSTIN, TOM CROWE

INITIALS: _____

ROLL #: 89RLG002V FRAME #: 08

EVIDENCE ID#: _____

ADEC

OFFICIAL PHOTOGRAPH

ACE 7379134

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: 4-12-90

15 HIGH TIDE TIMES: 1

21 TEAM RECORDER: R. Gustin

4 START TIME: 0821

16 HIGH TIDE HTS: 1

22 OBSERVERS: 1 pilot

5 STOP TIME: 0831

17 LOW TIDE TIMES: 1

23 AGENCY: ADF&G HAD

6 SEGMENT #: KN401/402

18 LOW TIDE HTS: 1

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: KNIGHT IS.

14 DESCRIPTION: SNUG HBR. AT BACK

Oil _____

Sediment _____

Biological _____

Water _____

EXTENT OF OIL

27 SURFACE COVERAGE

SHORELINE				STREAM			
L	W	M ²	%	L	W	M ²	%

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 Save
Lagoon Marsh

34 WAVE EXPOSURE: High Moderate Low

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

36 CATALOGED ANAD. FISH SREAM? (Y) N

37 CATALOG #: 226-30-16820 ADW

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: upper-mid. intertidal

43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION
Species Aerial Ground

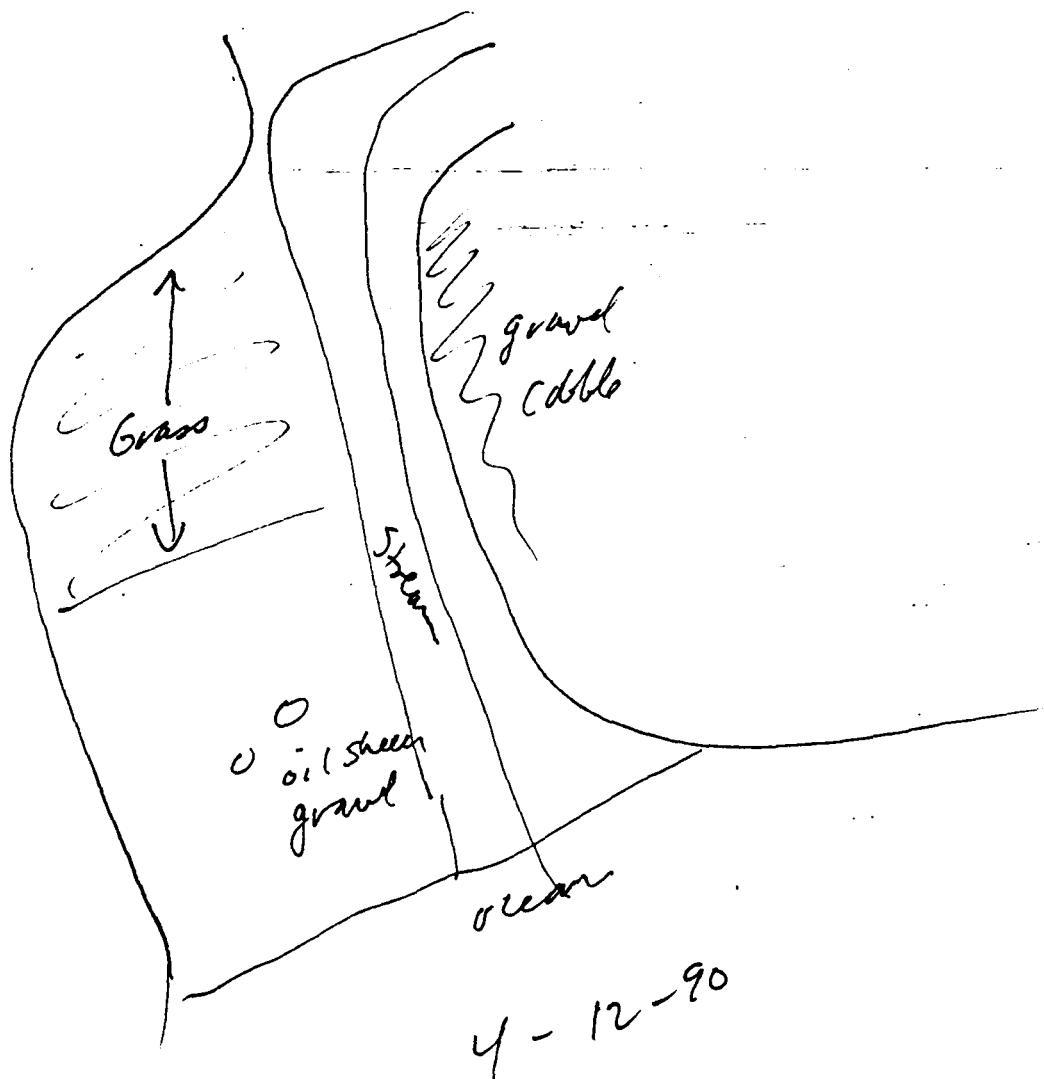
COMMENTS: Some sheen / sticky film visible

Shovel removal

ACE 7379248 +/S

DESCRIPTION

46 OIL DISTRIBUTION DIAGRAM



KN 401/402 AW

226/30/16820

ACE 7379249 -/S

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

ASC NUMBER: 226-30-16820 TEAM RECORDER:
 SURVEY TYPE: OBSERVERS:
 METHOD:
 DATE: 9/12/90 AGENCY(IES):
 START TIME: PHOTOS TAKEN?
 Roll #: Frames:
 STOP TIME: 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							FL ⁴ / ₂
SITE 2							
SITE 3							
SITE 4							
SITE 5							

OVERALL OIL IMPACT: (

OIL IN STREAM CHANNEL?

SUBSTRATE

Bedrock	Granule
Boulder	Sand
Cobble	Silt
Pebble	Veget.

OIL ON BEACH WITHIN 50M OF STREAM MOUTH?

SPECIES					
COUNT					

COMMENTS: Oil on stream banks



ANASCAT-90

#2

ADF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS SS DS TS AVS SCHA MMHS PTA2 REGION: PWS KP,CI K,APMETHOD: Aerial Ground Boat3 DATE: April 27 199015 HIGH TIDE TIMES: 121 TEAM RECORDER: TOM CROWL4 START TIME: 090016 HIGH TIDE HTS: 122 OBSERVERS: MIKE WILSON5 STOP TIME: 095817 LOW TIDE TIMES: 123 AGENCY: ADF&G ANASCAT6 SEGMENT #: KNOW/401B
ATW18 LOW TIDE HTS: 124 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: SEW B-3

Start: _____ End: _____

10 LAT: _____

11 LONG: _____

26 SAMPLES TAKEN? Y (N) Number

12 SOURCE: Map Loran

13 LOCATION: SAVING LABOR14 DESCRIPTION: KNIGHT ISLAND

Oil _____

Sediment _____

Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	W	M ²	%	L	W	M ²	%
27 SURFACE COVERAGE								
28 SURFACE THICKNESS			(SEE MAP)					
29 PENETRATION								

36 CATALOGED ANAD. FISH SREAM? (Y) N37 CATALOG #: 226-32-16320

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: SEE MAP30 OVERALL OIL IMPACT: N VL (L) M H31 OIL TYPE: Pooled Mousse (Tar) Asphalt Sticky Stain32 OILED DEBRIS? (Y) N33 SHORELINE TYPE: Headland Low-lying Rocks Beach (Cove)
Lagoon Marsh34 WAVE EXPOSURE: High Moderate (Low)35 SUBSTRATE TYPE: Bedrock _____ Boulder X Cobble X
Gravel _____ Sand _____ Mud/silt _____

43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION
Species Aerial Ground

COMMENTS: _____

ACE 7379238 +15

DESCRIPTION

RECOMMEND: MANUAL REMOVAL OF TAR AT
(STORM) +12 FT TIDE LINE AND TARMET 30.0. CHECK
THE AREA NOW COVERED BY SNOW. DO NOT USE
INITIAL. IF BIOREMEDIATION IS TO BE USED IN
AREA 2 IT SHOULD BE IN THE FORM OF SOLID
PELLETS BURIED AT STORM BERM LINE.

48 OIL DISTRIBUTION DIAGRAM

KM 401/402

SNUG HARBOR

226-30-16320

4/27/90

ANADISCAT

TWC

BAND OF TAR PIES
AT +12 FT. TIDE
LINE...SPORATIC

TAR
PIE

GRASS

POCKET OF
OIL DEBRIS
AND TAR PIES
UNDER SNOW

NO
PIT
OIL

SOLID
BAND OF TAR
AREA

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

ASC NUMBER: 226-30-1682 TEAM RECORDER:
 SURVEY TYPE: OBSERVERS:
 METHOD: AGENCY(IES):
 DATE: 4/27/90 PHOTOS TAKEN?
 START TIME: Roll #: Frames:
 STOP TIME: 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							TB
SITE 2							AP/CV
SITE 3							
SITE 4							
SITE 5							

OVERALL OIL IMPACT:

OIL IN STREAM CHANNEL?

SUBSTRATE

Bedrock Granule
 Boulder Sand
 Cobble Silt
 Pebble Veget.

OIL ON BEACH WITHIN 50M OF STREAM MOUTH?

SPECIES					
COUNT					

COMMENTS: ^{No} Oil on stream banks

Recommend: Manual removal of tar at storm surge tide line and tar mat bands. Check the area now covered by snow. Do not use incineration. IF bioremediation is to be used in Area #1 it should be in the form of solid pellets buried at storm surge line.

22/03

OG WILLIAM REID

SEGMENT ST/ KN 401, 402.

STREAM 226-30-16820

DATE 27, 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)
☐ Plt Location(s)
☐ Photo Location(s)

LEGEND

1 Δ

Plt - No Subsurface Oil

2 Δ

Plt - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

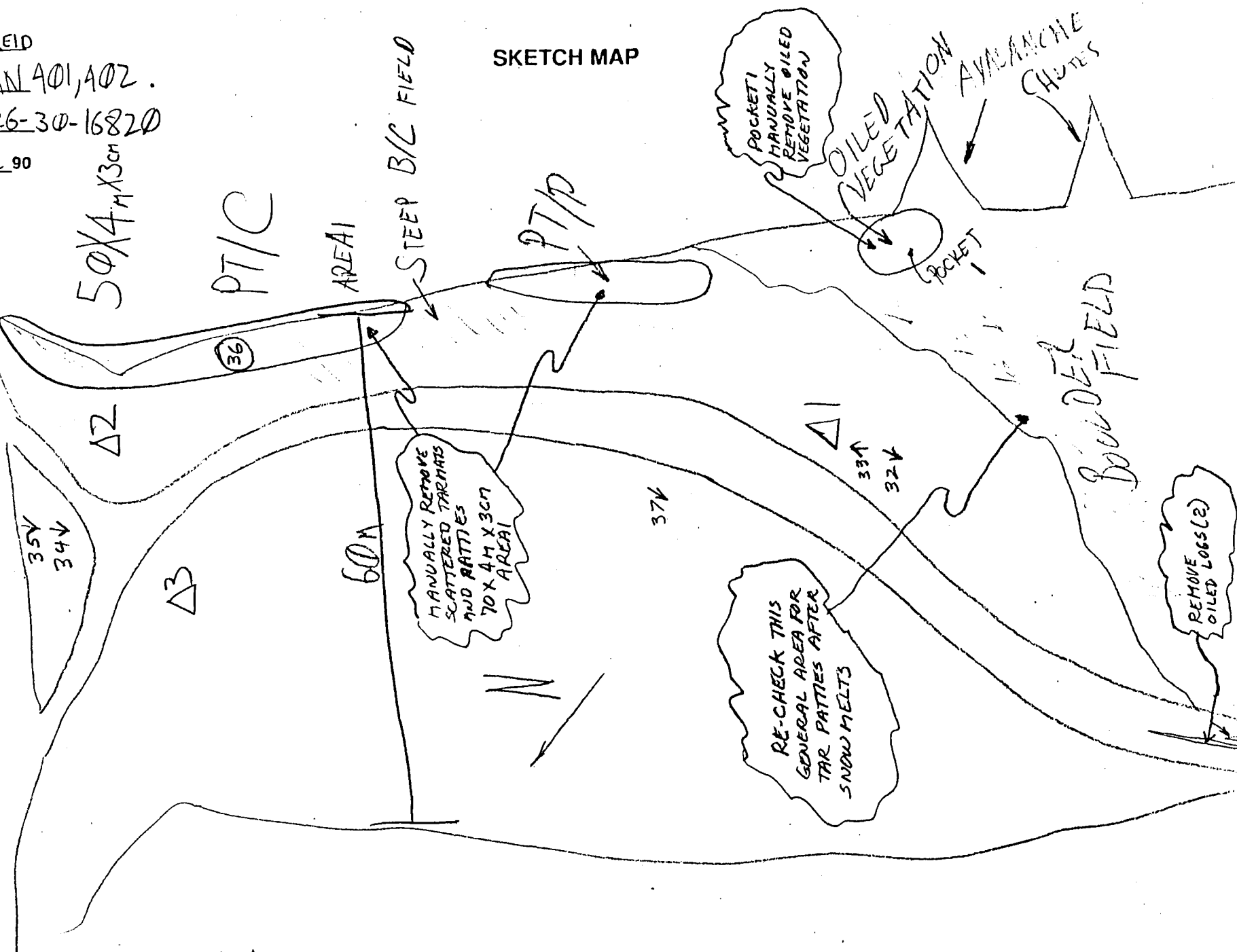
eee

Oiled Vegetation

1 ●→

Photo location, direction, and number

SKETCH MAP



ACE 7379234

Film. AS-15-6

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

REVISION: 03/24/90

FIELD SHORELINE COMMENT SHEET

18/63

SEGMENT ST 1 KN 402/401 SUBDIVISION: 16820 DATE 9/27/90

USCG

NAME CW McMAHON

SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

1. MANUAL CLEAN-UP: REMOVE MOUSSE AND TAR PATTIES
2. Bioremediate left side (looking inshore)

ADFG

ADEC

NAME TOM CROWE

SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

MANUALLY REMOVE TAR MATS AND PATTIES FROM UPPER
INTER-TIDAL ZONE. NO INIPOL SHOULD BE USED. BIOREMEDIATION
SHOULD BE IN THE FORM OF SOLID PELLET FERTILIZER THAT
IS BURIED AT +12 FT TIDE LINE. (SEE MAP)

LAND MANAGER

NAME _____

SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

AGE 7379230

25/63

KN 402/401

4/27/90

Stream 226-30-16820

Michael Fawcett

Ecological Summary

This medium-size stream passes through a large Cobble/pobble/gravel/sand flood plain with a steep bank on the south side at the seaward end. Boulders in the UTZ on the south bank have abundant barnacles and littorines. The flatter areas of the delta have a very dense infauna of clams, worms, etc., which has recently been heavily utilized by sea otters. Fucus, barnacles, and mussels are also abundant. A water ouzel foraging in the stream was twice observed catching salmon fry.

Remaining oil consists of a band of tar mats in the UTZ on the south side of the stream. There are no ecological constraints re: intertidal biota.

M Fawcett



ECOLOGICAL MAP

1A, 1B
ST (1)
6V
9EE

▲ = BALD EAGLE NEST

KN-401

KN-402

KH

3/62 RP

INTERIOR-GEOLOGICAL SURVEY, WASHINGTON, D.C. - 1963
M R-4921 458000m. E. 147°45'

ROAD CLASSIFICATION
No roads or trails in this area



SUBJECT SALMON STREAM
226-30-16820 (P, 2/90)
SEWARD (B-3), ALASKA
N6015-W14745/15X22.5

1950
MINOR REVISIONS 1963

ACE 7379227 -1/5

AWC63 05323 SEWD B-3

ANC-H

OPERATIONS FIELD NOTES

See Back for Instructions

16/63

SEGMENT ID ANRD KN-402/401
 STREAM ID # 226-30-16820
 ANNOTATED MAP INCLUDED YIN

DATE 4-27-90
 NAME GARCIA
 TEAM # 15

SURFACE OIL	Quantities in Meters			Treatment Recommendation						
	Length	Width	Area	None	Bioremediation		Tilling		Spot Hot Water	
					Y/N	% Treat	Y/N	% Treat	Y/N	% Treat
Wide Band	SPORADIC STAINS			NONE						
Medium Band	ON BOULDERS IN									
Narrow Band	AREA 1.									
Very Light										
TOTAL MANDAYS						0		0		0

SUBSURFACE OIL - NO

Other (Describe)?	

TARMATS	Quantities in Meters			Treatment Rec			# of Bags	Mandays Required	
	Length	Width	Thick(cm)	None	Breakup	Remove		Breakup	Remove
Area #1 SCATTERED	70	4	3			✓	50		20
Area #2									
Area #3									
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		✓		4	5	15		2
"Pocket" #2								
"Pocket" #3								
Random/Continuous								

OILED LOGS <u>YIN</u>	OILING <u>H/M/L</u>	QUANTITY <u>L/M/S</u>	BURN <u>YIN</u>
-----------------------	---------------------	-----------------------	-----------------

Is there Other Debris on the Beach? YIN How Many Bags? — Is it mingled with the Oiled Debris YIN

GENERAL

Wave Exposure H/M/L Snow covering 20 % of the Supratidal Zone?
 Access Limitations: NONE

Snare Boom/Pom Poms Recommended? NO

Would the production Craft have to be relocated to complete work on this subdivision? YIN # of Times —

COMMENTS:

MANUALLY REMOVE SCATTERED TARMATS, OILED VEGETATION, AND LOGS
AS NOTED ON ATTACHED MAP. RE-CHECK NOTED AREA FOR ADDITIONAL
TARMATS AND/OR TAR PATCHES AFTER SNOW MELTS. NO OTHER TREATMENT IS
RECOMMENDED. TOTAL MANDAYS REQUIRED FOR THIS STREAM IS 24.

SHORELINE OILING SUMMARY (ANAD.)

REVISION NO. 04

OG WILLIAM REID CG McMAHON SEG...IT ST/ KN401A02
 BIO MICHAEL FAWCETT LAND REP TOM CROWE ADFG STREAM 72630-16920 OF
 EXXON CUS GARCIA ADFG MIKE WIEDMER TIME 9:15 to
 TEAM NO. 15 TIDE LEVEL -3 FT DATE 27 APR 1990
 EST. SUBDIVISION LENGTH: 60 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R % B 15 % C 50 % P 30 % G 5 % S % M % V
 SLOPE: Long 80 % Hang 20 % Vert % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W m M 4 m N m VL m NO 56

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	IC	IS	IP	IS	SP RT	OR RY	GY L	OR TL	LR	SU	U	M	U
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT													
STAIN													
MOUSSE													
PATTIES	X		X					X			X		
TARBALLS													
FILM													
NO OIL													

PAVEMENT H F S sq. m by PATTIES / TARBALLS BAGNEAR SHORE SHEEN? ☒ NO BR RW SL T

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

Did you collect

DEBRIS

☐ YES ☒ NOTYPE #BAGS

Photographs:

Roll No. AS-15-6Frames 32-37

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SHEEN (Y/N)	SURFACE SUBSURFACE SEDIMENT
		OP	OR	OL	OF	NO		UO	UC	SP	BR	OR	FW	GY	S	TR	T	LR	SU	U	M			
1	35					X	.												X			N		G/P/C
2	35					X	.											X				N		G/P/C
3	35					X	.													X		N		G/P/C
							.																	
							.																	
							.																	

COMMENTS

REVIEWED DATE

ACE 7379233

ADEC DAILY SHORELINE ASSESSMENT

LOCATION: Knight Island/Sandy Harbor SEG KN401 SUBSEG B

MONITOR(S): Brian K. Fite-Simons

DATE: 9-3-90 TIME: BEGIN 0700 END 1800

TIDES: TIME: HEIGHT: WEATHER: CLOUDY RAIN FOG SUN
LOW _____ TEMP: 52 SEA COND: 1' chop
HIGH _____ WIND DIR: N-NE-E-SE-S-SW-W-NW
LOW _____ WIND SPEED (KNOTS): 0-15 16-30 30+
HIGH _____

ENVIRONMENTAL CONSTRAINTS: (SEAL HAULOUTS, EAGLE NESTS, MUSSEL BEDS, ETC.) 1A 1B 5T

WAVE EXPOSURE: LOW MED HIGH
ACROSS SHORE ZONE: SP UITZ MITZ LITZ

SURFACE SEDIMENTS: R S B D C P G S
SUBSURFACE SEDIMENTS: R S B D C P G S

OIL CHARACTERISTICS
SURFACE: POOLED - MOUSSE - TARBALL - COVER - COAT - STAIN AD
SUBSURFACE: OP OR OF

TREATMENT TECHNIQUES
MANUAL RAKING/TILLING _____ HEADER FLOOD (HOT/COLD) _____
MANUAL REMOVAL PO MS AP TB BIOREMEDIATION _____
SPOT WASHING _____ MECHANICAL _____
OTHER _____

EQUIPMENT USED: Shovels Rakes Picks Trowels Buckets
NAMES OF REPS & OTHER AGENCIES: EXXON Jan Czarniecki
USCG Dave Sylvester OTHER: Larry Smith: OOPS
WORKERS ON SITE: ORTS 10 OTHER: Bill Bale: VECO

WASTE HANDLING/DISPOSAL
ITEMS USED TO ABSORB/CONTAIN OIL Sorbents Pom Poms
OF BAGS COLLECTED: _____
OILED DEBRIS NO OIL & SEDIMENTS yes OILED VEG. yes
OILED LOGS PRESENT: Y N # OF LOGS REMOVED 0

SHORELINE OIL EVALUATIONMike Eoger (O.S.)
Datti Crank (B.S.I.)Date: 6/11/89 Time: 12:30Observer: Bob betts (Arch)Surveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/**LOCATION**LOCATION Knight Island / Snug Harbor SEGMENT NUMBER KN-401LENGTH OF SHORELINE SEGMENT: 1400 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane**SHORELINE:**

Low tide only

Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B35% / C35% / P10% / G5% / S0% / M5% / R10%Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type Driftwood
Seaweed (fucus)**OIL**Degree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 95 Width of Band: 2 m Low angleSporadic: Y/N % of Segment N/A Vert. rockEst. Oil Thickness where > 1cm: 2 cm Est. Oil Penetration: 5 cmPooled Oil: 5% "Free" Oil: <1% Coated: H0% / M20% / L20%Fresh 0% Mousse 30% Tar Formation: 25%Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L**Comments:**see attached comments and mapsconstraints! NOAA/NMFS Oil research areaPhotos 5, 6, 7 Roll T4 A/G #5

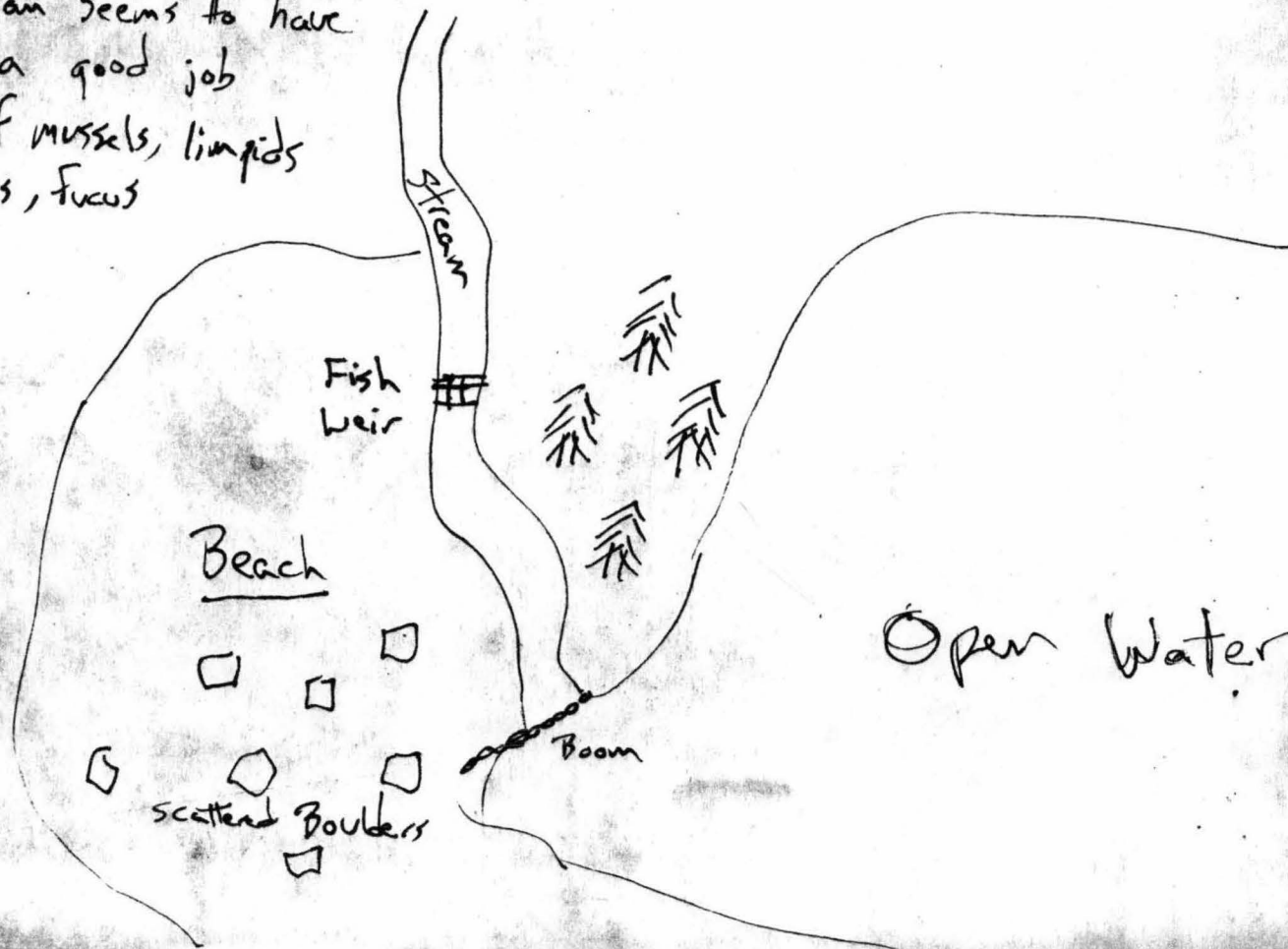
KN401/400

Ground lach survey

PROFILE 108 LOCATION Shug Harbor - Fish Weir #682 DATE 10 June '89
RECORDERS CR KP, JD PHOTOGRAPHS CR #31/18-23 TIME 12:00
TIDE STAGE low WEATHER overcast, Rain WIND SPEED _____ WIND DIRECTION _____
PROFILE ANGLE _____ WAVE HT. _____ SAMPLES TAKEN: BIO _____ CHEM _____ SED _____
SEDIMENT TYPE cobble

Ground Survey

- Some very scattered spots of Mousse on beach.
- The boom seems to have done a good job
- lots of mussels, limpets, barnacles, Fucus



SHORELINE OILING SUMMARY

INAD.)

REVISION NO. 00/11

OG WILLIAM LEID USCG McMAHON SEGMENT ST/ KN401402
 BIO MICHAEL FAWCETT LAND REP Tom CROWE ADEG STRAM 22630-1632 OF 1
 EXXON Gus GARCIA ADFG MIKE WIDMER TIME 9:15:10
 TEAM NO. 15 TIDE LEVEL -3 FT DATE 27 / 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 80 % B 15 % C 50 % P 30 % G 5 % S 0 % M 0 % V
 SLOPE: Long 80 % Hang 20 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 4 m N 0 m VL 0 m NO 56 m

SURFACE OIL

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

PAVEMENT H F S 240 sq. m by 3PATTIES / TARBALLS 50 BAGNEAR SHORE SHEEN? ☒ NO BR RW SL TL

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

Did you color
DEBRIS
☐ YES ☒ NO

TYPE 0#BAGS 0

Photographs:

Roll No. AS-15-6Frames 32-37

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SHEEN (Y/N)	T	SURFACE SUBSURFACE SEDIMENT
		OP	OR	OL	OF	NO		UC	UC	SP	BP	GP	BP	GP	BP	GP	BP	SU	U	M	U				
1	35					X	.													X			N		G/P/C
2	35					X	.												X				N		G/P/C
3	35					X	.													X			N		G/P/C
							.																		
							.																		
							.																		
							.																		

COMMENTS

REVIEWED 7WDATE 5/2/90

23/63

SSAT DATA ENTRY FORM

PAGE 1 OF 2GENERAL DATA

226-30-
 SEG ID: KN 402/401 SUBDIV: 16820 TEAM: AS-15 SURVEY DATE: 4/27/90
 PAVEMENT: CHAR AREA THICKNESS TARBALLS
 OILED: LGS SM VEG MD TRH — DBR — WAVE EXP: LW X MD — HG —
 FAX RCVD: DT: AGENCY DISAGREE:
 EST SUBDIV LGTH: 60 OIL CATEGORY: W 0 M 4 N 0 VL 0 NO 56 U 0

SURFACE DATASURFACE SEDIMENT: BRK 0 BLD 15 COB 50 PEB 30 GRN 5 SAN 0 MUD 0 VEG 0

CHAR #: 1 OIL CHAR: PT OIL DIST: CONT X BRKN — 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

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

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

ACE 7379235

24/63

SSAT DATA ENTRY FORM

SUBSURFACE DATA

PAGE 2 OF 2

SEGMENT ID: KN 402/40 SUBDIV: 226-30-16820

PIT # 1 PIT DEPTH 35 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 # 2 PIT DEPTH 35 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 # 3 PIT DEPTH 35 OIL CHARACTER — OIL INTVAL: FROM 0 TO 0
QUANT: — OIL CLR: — FLM CLR: — ZONE: SU — UI — MI — LI X
SUBSURF SEDIMENT: BRK — 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 —

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 —

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 —

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 —

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: —

25/63

KN 402/401
Stream 226-30-16820
Ecological Summary

4/27/90
Michael Fawcett

This medium-size stream passes through a large cobble/pobble/gravel/sand flood plain with a steep bank on the south side at the seaward end. Boulders in the UTZ on the south bank have abundant barnacles and littorines. The flatter areas of the delta have a very dense infauna of clams, worms, etc., which has recently been heavily utilized by sea otters. Fucus, barnacles, and mussels are also abundant. A water ouzel foraging in the stream was twice observed catching salmon fry.

Remaining oil consists of a band of tar mats in the UTZ on the south side of the stream. There are no ecological constraints re: intertidal biota.

M. Fawcett

#2

ADF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS SS DS TS AVS SCHA MMHS PTA2 REGION: PWS KP,CI K,APMETHOD: Aerial Ground Boat3 DATE: April 27 199215 HIGH TIDE TIMES: 121 TEAM RECORDER: TOM CROWL4 START TIME: 090016 HIGH TIDE HTS: 122 OBSERVERS: MIKE WEEVER5 STOP TIME: 095817 LOW TIDE TIMES: 123 AGENCY: ADF&G INADSLAT6 SEGMENT #: KNX2/401B18 LOW TIDE HTS: 124 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: SEW B-3

Start: _____ End: _____

10 LAT: _____

11 LONG: _____

26 SAMPLES TAKEN? Y (N) Number

12 SOURCE: Map Loran

Oil _____

13 LOCATION: SAUG AP-BDC

Sediment _____

14 DESCRIPTION: KNIGHT ISLAND

Biological _____

EXTENT OF OIL

Water _____

27 SURFACE COVERAGE

SHORELINE				STREAM			
L	W	M ²	%	L	W	M ²	%

36 CATALOGED ANAD. FISH SREAM? (Y) N

28 SURFACE THICKNESS

		(SEE MAP)					
--	--	-----------	--	--	--	--	--

37 CATALOG #: 226-32-16320

29 PENETRATION

38 STREAM NAME: _____

30 OVERALL OIL IMPACT: N VL (L) M H39 OIL IN STREAM BED? Y (N)31 OIL TYPE: Pooled Mousse (Tar) Asphalt Sticky Stain40 OIL ON STREAM BANKS? Y (N)32 OILED DEBRIS? (Y) N41 OIL ON BEACH ADJACENT TO MOUTH? (Y) N
(within 50 meters)33 SHORELINE TYPE: Headland Low-lying Rocks Beach (Cove)
Lagoon Marsh

42 OIL WITHIN 1 MILE OF STREAM? Y N

Where: SEE MAP34 WAVE EXPOSURE: High Moderate (Low)44 ANADROMOUS FISH OBSERVATION
Species Aerial Ground35 SUBSTRATE TYPE: Bedrock _____ Boulder X Cobble X

Gravel _____ Sand _____ Mud/silt _____

COMMENTS: _____

ACE 7379238 +15

STATE OF ALASKA

STEVE COWPER, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF PARKS AND OUTDOOR RECREATION

3601 C STREET
ANCHORAGE, ALASKA 99503
PHONE: (907) 561-2020

MAILING ADDRESS:
P.O. Box 107001
ANCHORAGE, ALASKA 99510-7001

October 19, 1990

RE: 3500-1 VOS:ADEC Winter Program
3500-1 VOS:Valdez Local Response Program

Leslie Pearson
Local Response Cleanup Program
Alaska Department of Environmental Conservation
4241 B Street, Suite 304
Anchorage, Alaska 99503

Dear Ms. Pearson:

On October 17, 1990, Amy Weseman of the Alaska Department of Fish and Game contacted this office by telephone and requested a cultural resources clearance for Anadramous Fish Stream No. 226-30-16820 on shoreline segment KN-401B of Knight Island. The request was to facilitate Type A cleanup (manual pickup of oil and oily debris) by the City of Valdez's local response program.

This letter confirms the verbal clearance to conduct Type A cleanup at Stream No. 226-30-16820 that was provided by my staff by telephone on October 17th to Ms. Weseman and Theresa Svanvara, who represents the local response program of the City of Valdez.

Review of our files indicates that Anadramous Stream No. 226-30-16820 and the area immediately surround it was examined by Exxon archaeologists during the 1990 field season. No cultural resources were observed in the area immediately surrounding the stream in question.

Cultural resources clearance is granted for manual cleanup in the immediate area of the stream only. Cleanup workers are restricted to the area of stream, where Exxon workers cleaned during the 1990 season. Cleanup crews are to stay out of the uplands. If, during the course of cleanup operations, personnel find any previously undiscovered paleontological, archaeological, or historic sites or artifacts, field operations will be suspended on that portion of the project area, and this office should be notified immediately (telephone # 762-2622).

Sincerely,

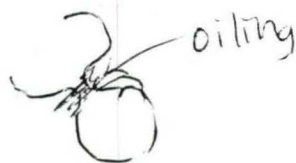


Robert Shaw
Deputy State Historic Preservation Officer

cc Al Samet, Alaska Division of Lands
✓ Amy Weserman, Alaska Department of Fish & Game
David Hall, Prince William Sound Conservation Alliance

ACE 7379149

oil on the island at the mouth of the bay. Due to its shape, oil appeared to have been stranded in an area inundated only at very high tides between 2 deep shoreline indentations.



401B
KN-~~213B~~

226-30-16830

stream at the

We observed heavy oiling in Rua Cove along the south shore, no visible oil on the delta of stream # 226-30-16830, heavy oiling along the n. shore of Snug Harbor, and along the s. shore, outer cove of Snug Harbor. The head of the bay in Snug Harbor is boomed and the delta appeared oil-free. Some oil had accumulated on the south shore just outside the boom. The ^{fish} stream in Hogan Bay is also boomed.

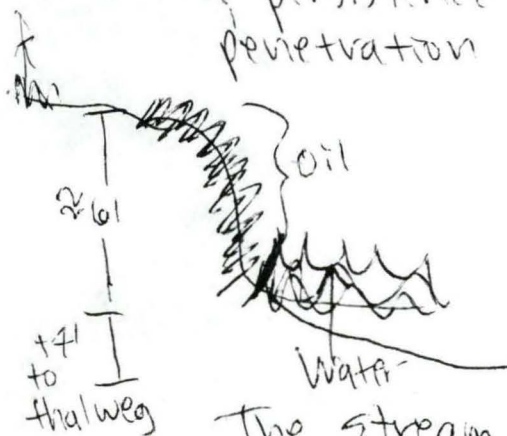
We flew directly to N. La Touche from Snug Harbor and landed at stream # 226-40-16780 in Sleepy Bay. To add to Jack Winters' observations on 6/12: width of oiled zone was 100' ~~at~~ above the high tide line. Penetration in gravels is greater than 6". We met a Woodward-Clyde team looking at oil fate & persistence at this site. They said the penetration was 1 1/2', according to them.

Banks are steep, approximately 6' high and composed of unconsolidated cobble, gravel, and fines. Oil is present along the entire surface of the banks. Oil is ^{light} ~~house~~

The stream channel is cobble and has no visible oiling.

6/17/89

Mauldin
Sigman



**ASAP Follow-Up Recommendations
TAG Recommendations - August 27, 1990**

SEGMENT

PWS

DI-69	A Site 1	Manual rake area of test pit 1 followed by bioremediation (M.P.)
IN-31	B Site 1	Manual rake 10 x 10 patch on north side of spit. Reapply bioremediation (M.P.)
IN-32	A Site 1	Reapply bioremediation and reassessment in 1991
KN-209	A Site 1	Reapply bioremediation and reassessment in 1991
KN-401	B Site 1	Recover AP remaining outside of the set-aside followed by bioremediation. Reapply bioremediation to remaining oiling conditions outside the set-aside.
KN-402	A Site 1	Manual pickup of mousse and re-bioremediation
LA-16	A Site 1	Manual pickup of accessible mousse and AP followed by reapplication of bioremediation (H.P.)
LA-17	A Site 1	Manual removal of accessible mousse and AP followed by reapplication of bioremediation (H.P.)
LA-20	A Site 1	NTR - Reassessment in 1991
LA-20	B Site 1	Reapply bioremediation and reassessment in 1991
LA-20	D Site 1	Reapply bioremediation and reassessment in 1991
LA-21	A Site 1	Manual pickup of AP - 1 x 1 m patch indicated on sketch and reapply bioremediation
NA-06	C Site 1	Manual pickup of AP patch as indicated on sketch and reapply bioremediation to all oiled areas
SP-19	A Site 1	Reapply bioremediation and reassessment in 1991
EL-106	C Site 1	NTR - Reassessment in 1991
	Site 2	NTR - Reassessment in 1991
EL-109	A Site 2	Manual till band of subsurface oil 10m x 3m and re-bioremediate
	Site 4	Reapply customblen and reassessment in 1991
BL-12	A Site 1	NTR - Reassessment in 1991
EL-54	A Site 2	NTR - Reassessment in 1991
EL-57	A Site 1	Manually rake down the storm berm where oil present and reapply bioremediation. Pickup two small patches of OP sediment in SUITZ at the southern most end of the site. (M.P.)
EL-11	A Site 1	NTR
	Site 2	Manual or mechanical relocation of oiled berm material and bioremediate
KN-500	A Site 4	Reapply bioremediation and reassessment in 1991
KN-113	B Site 1	NTR - Reassessment in 1991

KODIAK

K10-05-AS-003	A Site 1	Completed by ASAP - NTR
K10-04-AS-005	A Site 1	NTR - Reassessment in 1991
	Site 2	NTR - Reassessment in 1991
K10-02-AS-008	B Site 1	NTR - Reassessment in 1991
	Site 2	NTR - Reassessment in 1991
	Site 4	NTR - Reassessment in 1991
	Site 6	NTR - Reassessment in 1991

TAG APPROVAL DATE

Aug 27 - 90

SHPO

EXXON

ANDY TOL

ADEC

Ray Mann's

USCG

G.A. REITER

FOSC

NOAA

Burl Wescott

DATE

ACE 7379151

ASAP Follow-Up Recommendations
TAG Recommendations - August 27, 1990

SEGMENT

PWS

DI-69	A Site 1	Manual rake area of test pit 1 followed by bioremediation (M.P.)
IN-31	B Site 1	Manual rake 10 x 10 patch on north side of spit. Reapply bioremediation (M.P.)
IN-32	A Site 1	Reapply bioremediation and reassessment in 1991
KN-209	A Site 1	Reapply bioremediation and reassessment in 1991
KN-401	B Site 1	Recover AP remaining outside of the set-aside followed by bioremediation. Reapply bioremediation to remaining oiling conditions outside the set-aside.
KN-402	A Site 1	Manual pickup of mousse and re-bioremediation
LA-16	A Site 1	Manual pickup of accessible mousse and AP followed by reapplication of bioremediation (H.P.)
LA-17	A Site 1	Manual removal of accessible mousse and AP followed by reapplication of bioremediation (H.P.)
LA-20	A Site 1	NTR - Reassessment in 1991
LA-20	B Site 1	Reapply bioremediation and reassessment in 1991
LA-20	D Site 1	Reapply bioremediation and reassessment in 1991
LA-21	A Site 1	Manual pickup of AP - 1 x 1 m patch indicated on sketch and reapply bioremediation
NA-06	C Site 1	Manual pickup of AP patch as indicated on sketch and reapply bioremediation to all oiled areas
SP-19	A Site 1	Reapply bioremediation and reassessment in 1991
EL-106	C Site 1	NTR - Reassessment in 1991
	Site 2	NTR - Reassessment in 1991
EL-109	A Site 2	Manual till band of subsurface oil 10m x 3m and re-bioremediate
	Site 4	Reapply customblen and reassessment in 1991
BL-12	A Site 1	NTR - Reassessment in 1991
EL-54	A Site 2	NTR - Reassessment in 1991
EL-57	A Site 1	Manually rake down the storm berm where oil present and reapply bioremediation. Pickup two small patches of OP sediment in SUITZ at the southern most end of the site. (M.P.)
EL-11	A Site 1	NTR
	Site 2	Manual or mechanical relocation of oiled berm material and bioremediate
KN-500	A Site 4	Reapply bioremediation and reassessment in 1991
KN-113	B Site 1	NTR - Reassessment in 1991

KODIAK

K10-05-AS-003	A Site 1	Completed by ASAP - NTR
K10-04-AS-005	A Site 1	NTR - Reassessment in 1991
	Site 2	NTR - Reassessment in 1991
K10-02-AS-008	B Site 1	NTR - Reassessment in 1991
	Site 2	NTR - Reassessment in 1991
	Site 4	NTR - Reassessment in 1991
	Site 6	NTR - Reassessment in 1991

TAG APPROVAL DATE

Aug 27 - 90

SHPO

EXXON

Andy Tera

ADEC

Lou Morris

USCG

G.A. Reiter

FOSC

NOAA

Buck Wescott

DATE

ACE 7379152

ASAP TAG Evaluations/Recommendations

TAG RECOMMENDATIONS

BA-02	A	Bioremediation and Reassessment 91
BA-06	C	*Reapplication Bioremediation
BA-07	A	NTR
CH-10	C	NTR - Reassessment 91
CH-13	A	Bioremediate - Inipol 90
EB-11	A	*Bioremediation and Reassessment 91
EL-55	B	*Reapplication Bioremediation
EL-55	C	*Reapplication Bioremediation
EL-56	A	*Reapplication Bioremediation
EL-58	B	*Reapplication Bioremediation
ER-08	A	Manual pickup of tarmats site 1-low priority
ER-09	A	Bioremediate reapply - middle of site 1
ER-11	A	*Manual rake and Bioremediation
EV-03	A	*Reapplication Bioremediation
EV-54	A	*Reapplication Bioremediation
FL-01	A	NTR - Completed by field crew
FL-04	A	*Manual rake and Bioremediation
FL-04	B	*Manual rake and Bioremediation
GR-01	A 1	*Reapplication Bioremediation
GR-01	A 2	*NTR - Reassessment 91
GR-01	A 3	*Reapplication Bioremediation
GR-01	B	*Reapplication Bioremediation
GR-02	A 1-3	*NTR
GR-07	A 1-2	NTR
KN-19	A 1	*Reapplication Bioremediation
KN-400	A	*Bioremediation reapply and assessment 91
KN-401	A 1	Pickup asphalt and mousse-moderate priority
KN-401	A 2	NTR set aside
LA-39	A 1	Manual remove asphalt - low priority

TAG		DATED:	08/09/90
EXXON	Andy Ten Real		
ADEC	Ray Morris		
USCG	D. D. Rome	FOSC:	
NOAA	Burl Wescott	DATED:	11/9/90

NOTE: * - ALREADY SCHEDULED FOR REAPPLICATION

ACE 7379153

ASAP TAG Evaluations/Recommendations

TAG RECOMMENDATIONS

BA-02	A	Bioremediation and Reassessment 91
BA-06	C	*Reapplication Bioremediation
BA-07	A	NTR
CH-10	C	NTR - Reassessment 91
CH-13	A	Bioremediate - Inipol 90
EB-11	A	*Bioremediation and Reassessment 91
EL-55	B	*Reapplication Bioremediation
EL-55	C	*Reapplication Bioremediation
EL-56	A	*Reapplication Bioremediation
EL-58	B	*Reapplication Bioremediation
ER-08	A	Manual pickup of tarmats site 1-low priority
ER-09	A	Bioremediate reapply - middle of site 1
ER-11	A	*Manual rake and Bioremediation
EV-03	A	*Reapplication Bioremediation
EV-54	A	*Reapplication Bioremediation
FL-01	A	NTR - Completed by field crew
FL-04	A	*Manual rake and Bioremediation
FL-04	B	*Manual rake and Bioremediation
GR-01	A 1	*Reapplication Bioremediation
GR-01	A 2	*NTR - Reassessment 91
GR-01	A 3	*Reapplication Bioremediation
GR-01	B	*Reapplication Bioremediation
GR-02	A 1-3	*NTR
GR-07	A 1-2	NTR
KN-19	A 1	*Reapplication Bioremediation
KN-400	A	*Bioremediation reapply and assessment 91
KN-401	A 1	Pickup asphalt and mousse-moderate priority
KN-401	A 2	NTR set aside
LA-39	A 1	Manual remove asphalt - low priority

TAG		DATED:	08/09/90
EXXON	Andy Ten		
ADEC	Ray Morris		
USCG	D. D. Rome	FOSC:	
NOAA	Burl Wescott	DATED:	7/9/90

NOTE: * - ALREADY SCHEDULED FOR REAPPLICATION

ACE 7379154

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	

Final Anadromous Stream Treatment Information

Segment ID - Stream ID	NTR	Bio	Bio Start	Bio End	Man	Man Start	Man End
K0911-CD020 262-10-10080					X	6/28/90	6/28/90
K0911-CD020 262-10-10092					X	6/28/90	6/28/90
K0917-CC100 262-15-10040	X						
K0919-HB001 262-20-10040					X	6/12/90	6/14/90
K0919-HB004 262-20-10030	X						
K1002-AB002 262-65-655					X	7/7/90	7/8/90
K1007-PB001 262-70-10025					X	6/23/90	6/24/90
K1007-PB016 262-70-10010					X	7/10/90	7/10/90
K1009-DB008 262-75-10020	X						
KN0103 226-10-16922		X	7/7/90	9/1/90	X	7/7/90	7/7/90
KN0106 226-10-16890					X	6/30/90	6/30/90
KN0110 226-10-16928	X						
KN0120 226-10-16940	X						
KN0129 226-10-16975					X	5/30/90	5/30/90
KN0129 KN0129-UNCAT		X	6/19/90	6/19/90	X	5/30/90	5/30/90
KN0132 226-10-16982		X	6/19/90	9/11/90	X	5/26/90	5/29/90
KN0134 226-30-16865		X	6/23/90	6/23/90	X	6/23/90	6/23/90
KN0201 226-30-16872					X	6/1/90	6/1/90
KN0205 226-30-16860					X	6/1/90	6/3/90
KN0211 226-10-16875		X	7/1/90	7/9/90	X	7/1/90	7/9/90
KN0211 226-10-16880					X	7/1/90	7/1/90
KN0213 226-30-16853		X	7/1/90	7/6/90	X	7/1/90	7/6/90
KN0401 226-30-16820					X	6/30/90	6/30/90
KN0500 226-10-16992		X	7/5/90	9/11/90	X	7/5/90	7/7/90
KN0500 226-10-16996		X	7/7/90	9/11/90	X	7/5/90	7/7/90
KN0601 226-40-16855	X						
KN0602 226-40-16851	X						
KN0602 226-40-16853	X						
KN0701 226-30-16840		X	6/30/90	9/13/90	X	6/30/90	7/27/90
KN0704 226-30-16844	X						
LA015 226-40-16782		X	7/3/90	7/8/90	X	7/3/90	7/8/90
LA018 226-40-16780		X	7/3/90	8/26/90	X	6/15/90	7/4/90
LA021 226-40-16774		X	6/17/90	6/17/90	X	6/13/90	6/14/90
LA021 226-40-16776	X						
LA023 226-40-16772	X						
LA029 226-40-16788	X						
LA031 226-40-16785	X						
MA009 226-20-15044	X						
MN001 227-20-17570	X						
NA026 226-40-12950	X						
NK001 232-21-10230		X	7/3/90	7/4/90	X	7/3/90	7/4/90
PD002 242-42-10450					X	6/21/90	6/23/90
PD003 242-42-10460					X	6/21/90	6/23/90
TB002 232-10-10340					X	7/1/90	7/1/90
TB003 232-10-10342					X	6/20/90	7/1/90
WB001 242-32-10155					X	6/19/90	6/19/90
WB003 242-32-10160					X	6/19/90	6/19/90
WH003 226-40-16322		X	7/8/90	7/8/90	X	7/8/90	7/8/90

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

STEVE COWPER, GOVERNOR

333 RASPBERRY ROAD
ANCHORAGE, ALASKA 99518-1599
PHONE: (907) 344-0541

EXXON Valdez Oilspill Cleanup

Anadromous Fish Stream Authorization

Date 6/14/90

EXXON Authorized Representative _____

Shoreline Segment KN-401

Anadromous Fish Stream Number(s) 226-30-16840

Approved Cleanup Techniques are to be in accordance with the AnadScat stream work order approved by the FOSC with special emphasis on manual removal of all oil of any form within the stream channel and bottom substrate, and on the stream banks within the high water limits. Minimize removal of stream bank substrate and surface components to that required for removing oiled materials.

Approved Cleanup Period 5/15/90 to 7/10/90

Alaska Department of Fish and Game

[Signature]
Authorized Officer

[Signature]
Permittee's Signature

Approved Cleanup techniques have been reviewed and complied

with: [Signature]
EXXON Authorized Field Representative

Date 6/30/90

ACE 7379157

The Federal On Scene Coordinator (FOSC) on behalf of the Federal Government, the Commissioner of the Alaska Department of Environmental Conservation (ADEC) on behalf of the State of Alaska, and Exxon Company U.S.A. (Exxon), agree to set aside and leave untreated for up to ten years the beach sites identified on attachment "A", for the purpose of scientific study.

The FOSC, with the concurrence of the Commissioner of ADEC, will arrange for cleanup of the study sites to the extent he determines to be necessary at the conclusion of the study period or when deemed appropriate by the FOSC. Additionally, the FOSC, with the concurrence of the Commissioner of ADEC, will arrange for cleanup of any environments affected by oil which may be discharged from the study sites during the study period. The FOSC will provide Exxon the opportunity to conduct any such cleanup of study sites or affected environments and if Exxon adequately cleans up the study sites or affected environments the FOSC will not arrange for other cleanup.

In consideration for the obligations assumed hereunder and other mutual benefits to be derived herefrom, Exxon will not be required by either the Coast Guard or the State of Alaska to conduct cleanup operations at the specified set-aside sites. Exxon agrees to indemnify and hold harmless the Coast Guard and ADEC for all liability for property damage to third parties resulting from the setting aside of the specified sites. The parties agree that the \$750,000 constitutes partial consideration for this agreement and does not represent or reflect the parties' agreement as to the exact amount necessary to clean the set-aside sites or environments impacted by the set-aside sites.

-1-

This Agreement does not in any way modify or affect liability for actual damages resulting from discharge of oil onto or off of the set-aside sites. This agreement is for the sole purpose of providing for a formal setting aside of certain beaches for scientific study of the fate and effects of oil from the Exxon Valdez spill; it is not intended to have precedential effect or to constitute evidence with respect to cleanup of beaches or other areas outside the scope of this agreement.

AGREED AND ACCEPTED:

UNITED STATES OF AMERICA

DATE: 23 Jan 1990

By D. E. Ciancaglini
D.E. Ciancaglini
Federal On-Scene Coordinator
U.S. Coast Guard

AGREED AND ACCEPTED:

STATE OF ALASKA

DATE: January 11, 1990

By Dennis Keiso
Dennis Keiso
Commissioner, Department of
Environmental Conservation

AGREED AND ACCEPTED:

EXXON COMPANY, U.S.A.

DATE: Jan 23/1990

By O. R. Harrison
O. R. Harrison
General Manager

*Mark
Kaw
Coville*

ATTACHMENT A

<u>Site Name</u>	<u>Location</u>	<u>Length</u>	<u>Segment Number</u>
Knight Island Rocky West Site Herring Bay	60°28'23" 147°42'34"	100m	KN-5000
Knight Island Soft East Site Herring Bay	60°28'23" 147°42'34"	100m	KN-5000
Knight Island Rocky East Site Snug Harbor	60°15'52" 147°45'29"	100m	KN-401
Knight Island Soft West Site Snug Harbor	60°15'52" 147°45'29"	100m	KN-401
Knight Island EPA Control Snug Harbor	60°15'41" 147°43'55"	400m	KN-403
Knight Island EPA Study Site Snug Harbor	60°15'00" 147°44'32"	600m	KN-404
Knight Island Rocky and Soft Site Bay of Isles	60°23'07" 147°44'56"	100m	KN-208
Wrington Island W - E Site	59°57'58" 148°10'03"	175m	ER-07
Matouche Island	60°02'04" 174°59'31"	300m	LA-15

Not
Cul
3/1/19

Attachment 11

Kauai

Don't even on the island
let alone LA 15

If you plot this on a nautical chart
it will put you out in the western Aleutians.
⊕ If you reverse 174 to 147 its still missis latitude.

ASC # 226-30-16820

Segment KN-402/KN-401

2 Observations Tar mats and patties (ranging locally from sporadic to continuous) ring the high tide line south of the channel. No oil was observed north of the channel. No subsurface of oil was observed.

Treatment Recommendations Manually remove all tar mats and patties.

ASC # 226-40-16851

Segment KN-602

2 Observations Sporadic stains dot boulders along the high tide line. Immediately adjacent to one of the stream channels running through the upper-intertidal zone, a tar mat has penetrated several centimeters into the gravel.

Treatment Recommendations Manually remove tar mats.

ASC # 226-40-16853

Segment KN-602

Observations Sporadically stained rocks are distributed north of the channel within the upper-intertidal zone.

Treatment Recommendations No treatment is required.

W 1 ASC # 226-40-16855

Segment KN-601

Observations No surface or subsurface oil was observed.

Treatment Recommendations No treatment is required.

ASC # 227-10-17150

Segment MN-001

0 Observations Only a very light sporadic stain was observed along this broad high exposure gravel/cobble beach.

Treatment Recommendations No treatment recommended.

FIELD SHORELINE COMMENT SHEET

KN 401-1

AS # 206-10-1042

SEGMENT AS KN-401 SUBDIVISION: A SITE: 1 DATE 8-2-90

USCG/NOAA PSI Leo Bersalona, USCG Leo Bersalona

NAME ART WEINER SIGNATURE Art Weiner

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

1990 FOLLOW-UP TREATMENT SHOULD REMOVE ALL REMAINING OIL.

ADEC NAME Wesley Ghormley SIGNATURE Wesley Ghormley 

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: ADEC Monitor to determine reassessment needs upon completion of additional work.

LAND MANAGER NAME John Ebel SIGNATURE John Ebel

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

Reassessment to remove (if oil remains) all traces of oil / linear features (cobbles Relocated) at ^{this} site. Exceptionally high standards should be imposed in recreational areas, at the base of waterfalls. Also, LITZ has scoured out depression from the prop-wash of landing craft. The sub-tidal erosion / depositional effects should be observed.

EXXON NAME ROY SOTELO SIGNATURE Roy Sotelo

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

No reassessment should be necessary for '91 if work is completed and the work modification plan in '90.

ACE 7379164 +/S

FIELD SHORELINE COMMENT SHEET

SEGMENT AS/KN401 SUBDIVISION: A SITE: 2 DATE 8-2-90

USCG/NOAA PSI Leo Bersalona, USCG Leo Bersalona

NAME ART WEINER SIGNATURE Art Weiner

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

EVALUATE EFFICACY OF CUSTOMBLEND.

ADEC
NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Reassessment will be needed to determine the effectiveness of Custom blend. If no improvement appears in 1991 then additional manual work may be warranted.

LAND MANAGER
NAME John Ebel SIGNATURE John Ebel

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

To evaluate effects of Customblend, work details as needed in 91.

EXXON
NAME REY SOTERO SIGNATURE Rey Sotero

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

Recommend no reassessment in 91.

DATE: 10/15/2012

OG CYANE1 GREG

ADEC GHORMLEY WES

DATE AUG 2 1960

TOTAL EST LENGTH OF SHORELINE SURVEYED: 180 m

SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WEATHER: ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow

OIL CATEGORY LENGTH: W 14 m M 0 m N 80 m VL 10 m NO 76 m US 455 m

SURFACE OIL **SITE 1** Not Observed

SITE 2 Not Observed

SITE 3

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SU	U	M	L
ASPHALT		X	X		X	X		
S.O.R.								
POOLED								
COVER								
COAT			X			X		
STAIN								
MOUSSE		X			X			
PATTIES/T.B.								
FILM								
NO OIL							X	
EST. SITE LENGTH					130			

[illegible][illegible][illegible]

Roll No. ASAP-2
Roll = 1

Frames 21 22 23

REVIEWED
8/7/90 Y/W

ACE 7379166

COMMENTS

COMMENTS Broken mousse was observed in site 1 in the
SITE. This mousse is in tall grass and difficult
to find unless you walk through it.

REVISION NO. 7/27/88

OG G. MACDONALD

SEGMENT ST. 401

SUBDIVISION A

DATE 4/7/90

CHECKLIST

- NAME
- Approx. Size
- Approx. Shape
- CT
- Length
- W. of
- Approx. Distance
- Est. P. 1000 ft.
- Sub
- Photo Location(s)
- Photo(s)
- Photo Location(s)
- Photo Location(s)

LEGEND

1A
P. - Subdiv. C

2A
P. - Subdiv. C

CT/C
C. - Subdiv. C

CT/B

C. - Subdiv. C

CT/C

C. - Subdiv. C

CT/C

C. - Subdiv. C

C. - Subdiv. C

C. - Subdiv. C

C. - Subdiv. C

C. - Subdiv. C

SITE 2
SEE NEXT PAGE

SKETCH MAP

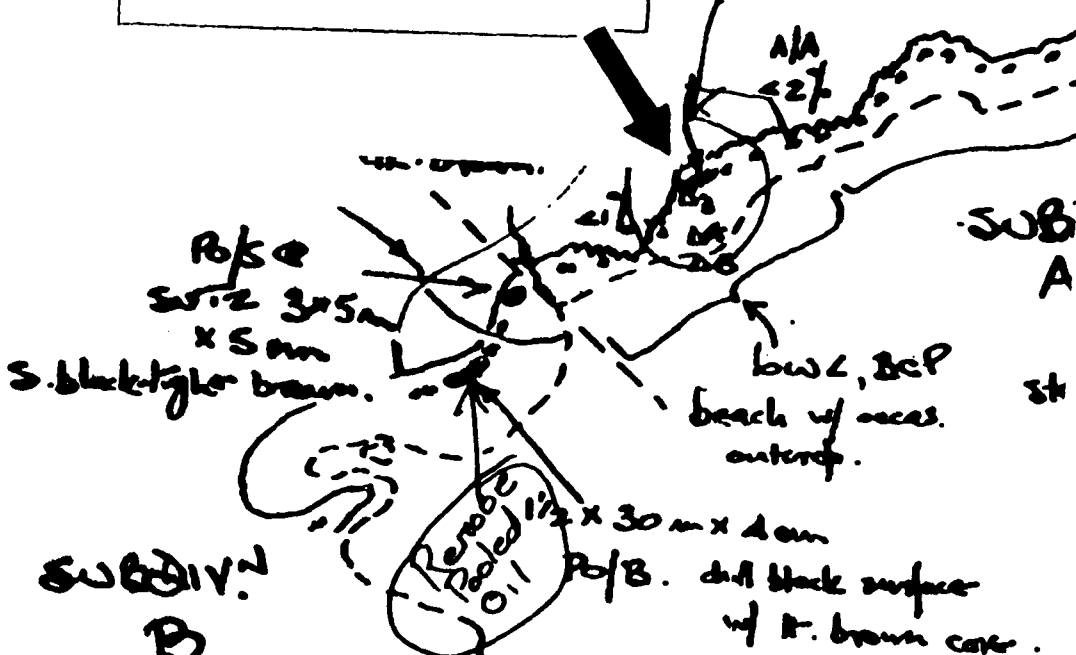
APPROXIMATE LOCATIONS
OF SET ASIDE AREAS

snow clump

#3

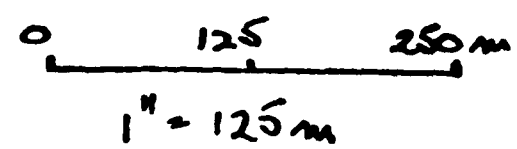
SWZ: 3x5m
e < 87°

SITE 1
SEE NEXT PAGE



ASAP CHANEY
August 2 1990
Map Adopted from
SSAT SURVEY

Scale:



ACE 7379167

ACE 7379167

REVISION 02/24/97

SEGMENT ST/ KN401

SUBDIVISION A

DATE Aug 12 90

CHECKLIST

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

LEGEND

1 Δ No Subsurface Oil
2 Δ Photo 21
Pit - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution
Oiled Vegetation

Photo location, direction, and number

SITE 1

Note: this region was poorly surveyed during SSAT due to snow.

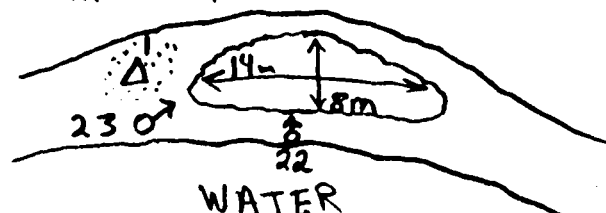
SKETCH MAP

Majority of mousse is located at the base of grass 1 to 2 feet tall.

MS/B SITZ

35m x 1 to 2 meters
Average Depth 3 to 5cm.
Maximum Depth 10cm.

Small Pocket Beach
AP/B still remains Ave Depth ~4cm
Max depth 6cm. UITZ



Custom bln was very evident in the area where work took place.

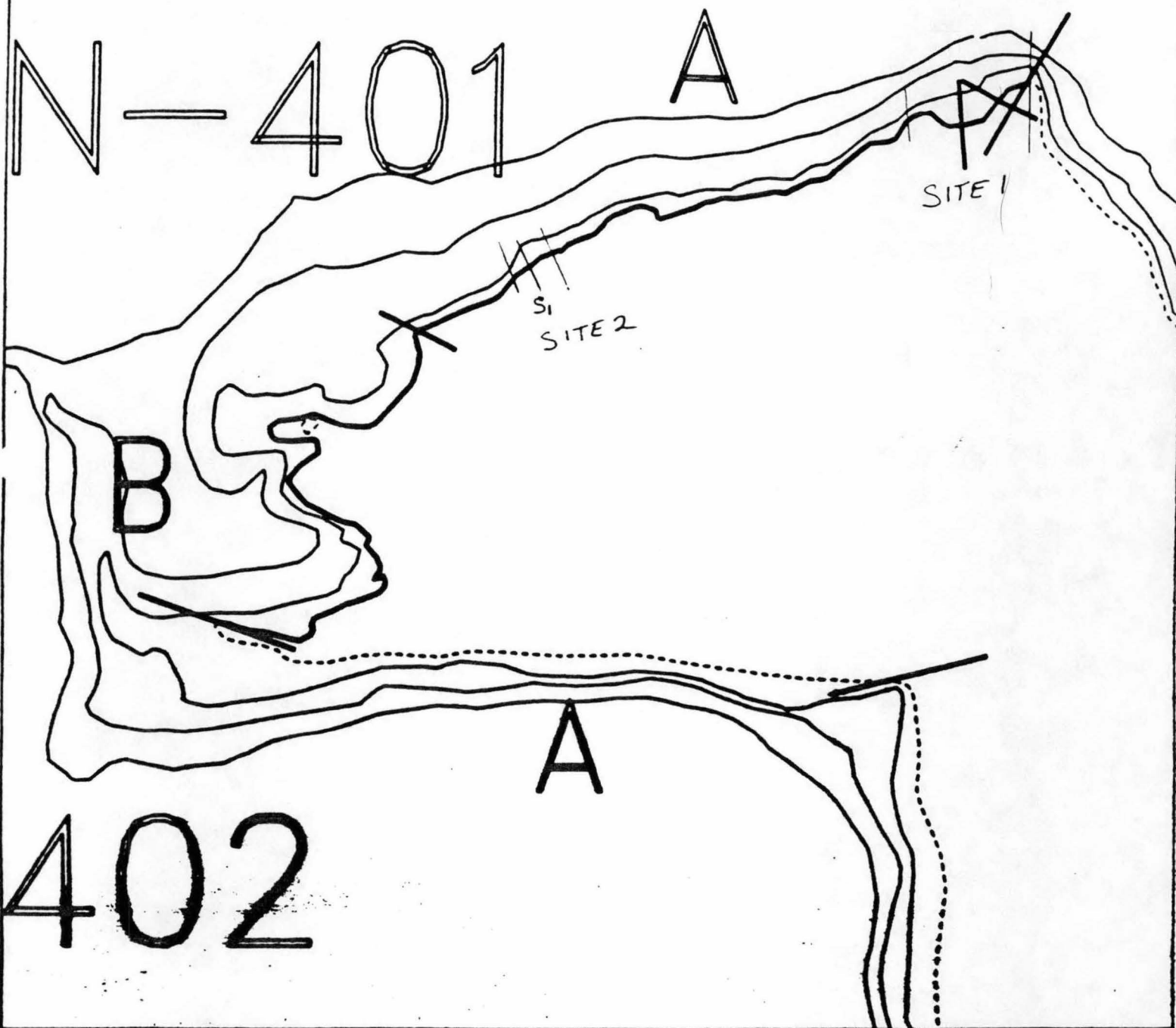
Although manual removal was conducted at this site, the oil seems to have "melted" into the remaining sediments and formed a thin broken pavement. An area of locally buried mousse was located at pit #1 in angular pebbles.

Although manual removal has taken place in UITZ, Broken Mousse was observed at the base of grass growing up to 2 ft. tall. Difficult to find unless you walk through it.

ACE 7379168

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

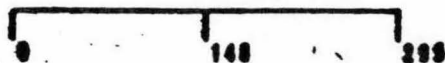
REVISION: 00/0000



SEGMENT KN-401

Segment Location Map
Map Key: KNKN-401

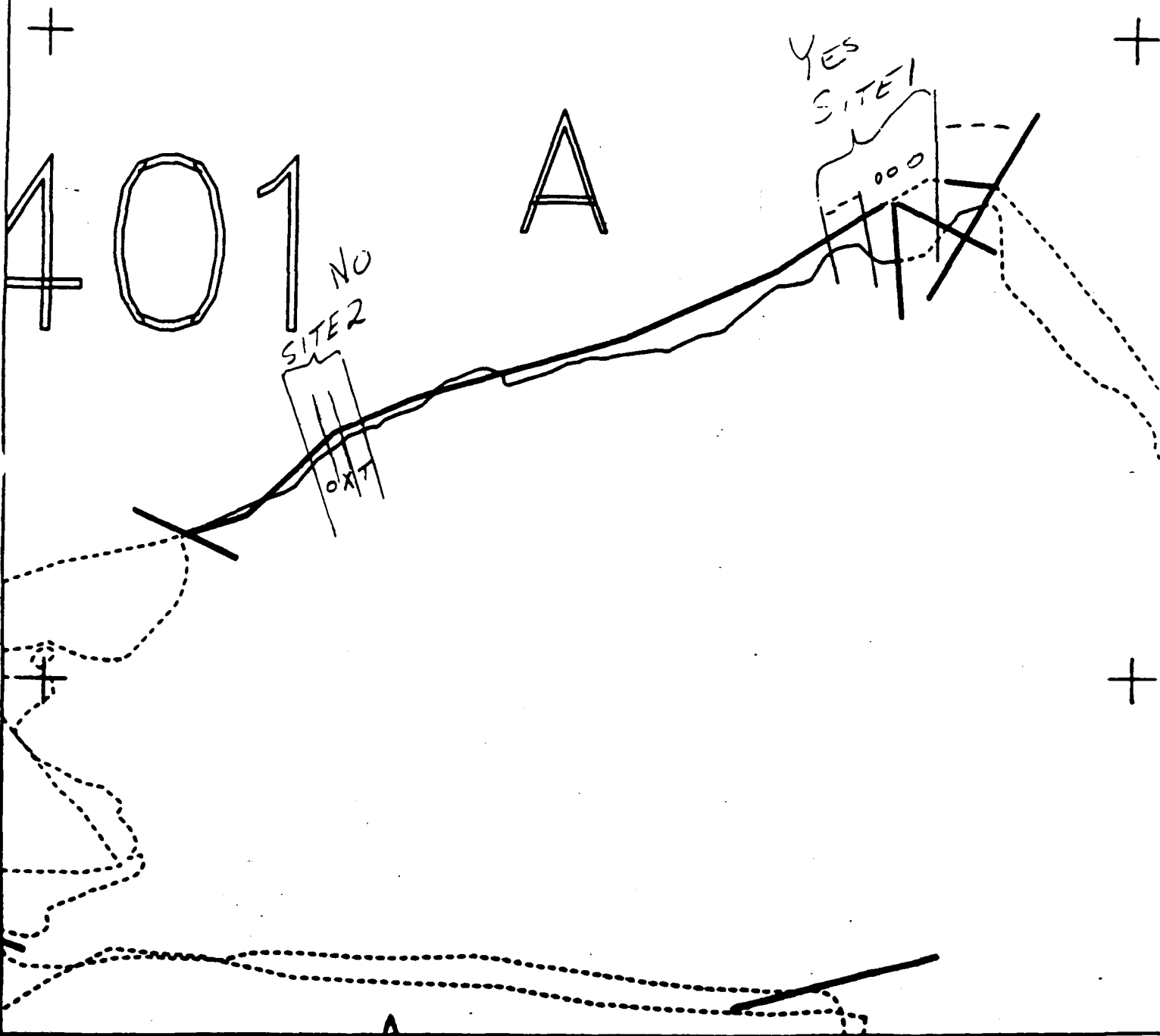
METERS



July 19, 1990

4:5817

ACE 7379169



XXXX Wide

//// Medium

---- Narrow

||||| Street Right

0000 No All

KN-401 A

ADEC Subsegment Length: 635m

METERS

0 112 224

AK State Plane Zone 6 1:6410
220-401a

Subdivision Field Map

Map Key: KNKN-401A

Name: CHANEY

Date: Aug 2 1990

Date Entered:

ACE 7379170

GENERAL DATA

SEG ID: KN401 SBOV: A SITE: 1 TEAM: 2 DATE: 8/2/77
SITE LGTH 130 OIL CATEGORIES: W 14 M N VL 10 NO 76 U 45
1991 REASSESSMENT: USCG: N ADEC: ? LDMGR: Y EXXON: N
NO PITS

SURFACE DATA

CHAR #: 1 OIL CHAR: AP OIL DIST: CONT BRKN ✓ PTCH ✓ SPLH
TIDAL ZONE: SU ✓ UI ✓ MI LI

CHAR #: 2 OIL CHAR: CT OIL DIST: CONT BRKN PTCH ✓ SPLH
TIDAL ZONE: SU UI ✓ MI LI

CHAR #: 3 OIL CHAR: MS OIL DIST: CONT BRKN ✓ PTCH SPLH
TIDAL ZONE: SU ✓ UI MI LI

CHAR #: 4 OIL CHAR: NO OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI X LI

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

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

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

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

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

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

GENERAL DATA

SEG ID: KN401 SBDV: A SITE: 2 TEAM: 2 DATE: 8/2/90
SITE LGTH 50 OIL CATEGORIES: W 14 M 80 VL 10 NO 76 U 455
1991 REASSESSMENT: USEQ: Y ADEC: Y LDMGR: Y EXXON: N
NOAA

SURFACE DATA

CHAR #: 1 OIL CHAR: SOR OIL DIST: CONT — BRKN ✓ PTCH — SPLH —
TIDAL ZONE: SU — UI ✓ MI — LI —

CHAR #: 2 OIL CHAR: NO OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU X UI — MI X LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

ASAP DATA ENTRY FORM

SUBSURFACE DATA

PAGE 1 OF 1SEGMENT ID: KN401 SUBDIV: A SITE: 2

PIT # 1 PIT DEPTH 20 OIL CHARACTER OP OIL INTVAL: FROM 1 TO 10
CLEAN BELOW: Y PIT ZONE: SU UI MI LI
SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG

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

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

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

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

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

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

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

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

ADEC EXXON VALDEZ POST-TREATMENT SURVEY REPORT

SEGMENT#: KN402

DATE: 09/30/89

LOCATION: W SNUG HARBOR, KNIGHT I.

TIME: 10:45

Survey Type: Boat, Ground
Team: J. Krieger, K. Dutcher

WEATHER AND SEA CONDITIONS

Weather: Cloudy, Rain
Sea State: Calm

Wind Direction: 0
Knots: 0

Low Tide: 20:39	Feet: -0.2	High Tide: 2:18	Feet: 11.9
Low Tide: 8:15	Feet: 0.9	High Tide: 14:22	Feet: 12.7

SHORELINE DESCRIPTION

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

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

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

Percent Segment Categorized as Oiled: 100%
Presence of Oiled Driftwood (y/n): n
Oil Types: M,SY,T
(P=pooled, M=mousse, SY=sticky, T=tar, A=asphalt, ST=stain)
Samples: KN402-1 / KN401-2 / none / none

DAMAGED OR OILED ORGANISMS

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

SOLID WASTE FOUND

Type: Other
Bags Collected: 0

Draft

Printed: 12/12/89 11:36

Walk-a-thon

ACE 7379174

ADEC EXXON VALDEZ POST-TREATMENT SURVEY REPORT

SEGMENT#: KN401

DATE: 09/30/89

LOCATION: W SNUG HARBOR, KNIGHT I.

TIME: 9:55

Survey Type: Boat, Ground

Team: J. Krieger, K. Dutcher

WEATHER AND SEA CONDITIONS

Weather: Cloudy, Rain
Sea State: Calm

Wind Direction: 0
Knots: 0

Low Tide: 20:39	Feet: -0.2	High Tide: 2:18	Feet: 11.9
Low Tide: 8:15	Feet: 0.9	High Tide: 14:22	Feet: 12.7

SHORELINE DESCRIPTION

Shoretypes: H,LR,B

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

Wave Exposure: H,M,L (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: N,VL,L,M,H

(N=none, VL=very light, L=Light, M=moderate, H=heavy)

Area of Impact: H,M

(S=supratidal, H=high intertidal, M=mid tidal, L=low intertidal)

Max. Oil Thickness: 2 mm (1 = 1 mm or less, 0 = no oil)

Max. Oil Penetration: 10 cm (35 = 35 cm or greater)

Percent Segment Categorized as Oiled: 95%

Presence of Oiled Driftwood (y/n): y

Oil Types: M,SY,T,ST

(P=pooled, M=mousse, SY=sticky, T=tar, A=asphalt, ST=stain)

Samples: KN401-1 / KN401-2 / none / none

DAMAGED OR OILED ORGANISMS

Fucus (y/n): - Barnacles (y/n): y Mussels (y/n): y

Dead Mammals: 0 Dead Birds: 0

SOLID WASTE FOUND

Type: Few localities, garbage, signs

Bags Collected: 0

Draft

Printed: 12/12/89 11:36

ACE 7379175 +/AC/RT

Walk-a-Thon

ADEC BIOREMEDIATION DAILY REPORT

DATE: 9.7.90ADEC Monitor: JEFF GINALIAS

TIDES: TIME: HEIGHT:
 Low 8:45 -1.7
 High 2:18 13.2
 Low 20:51 1.6
 High 15:15 11.7

WEATHER: Cloudy Rain Fog Sun
 TEMP: 60 SEA COND: CALM
 WIND DIR: N-NE-E-SE-S-SW-W-NW LT VARIABLE
 WIND SPEED 0-15 16-30 30+

USCG JOHN DOWDExxon Chris KatsimpalisOOPS DAVE BELLOWOther ADFEG RICK GUSTINOGS DALE PARENT (OG) TECH

Segment Sub No. Inpol Custom Comments
 sites (gal) (lbs.)

KN-400	A	1	12	6	-ASAP work order SITE #2 NO Inpol AS ASAP REPORT REFERENCED STREAM MAY BE ANADROMOUS.
		2	-	51	- LT OIL REMAINING; SHOULD WEATHER OVER WINTER
KN-401	B	1	-	2	NO Inpol applied due to large numbers of sand in area. CATASTROPHED STREAM BETWEEN KN-401, 402. FEG GUSTIN ADVISES THAT "SET ASIDE" STREAM RUNOFF IS ALSO SPREADING GROUND.
		2	-	10	
KN-402	A	1	-	38	AWAY FROM STREAM SEGMENT; LARGE #S OF PIKES IN STREAM. CUSTOMER APPLIED AWAY FROM STREAM & TILLED INTO SEDIMENTS SO THAT IT WON'T FLOAT INTO STREAM. - AREA LOW ENERGY, BUT SHOULD WEATHER
KN-404	A	1	-	541	3RD RETREAT - SEE DEMOS REPORT. PLENTY OF SUBSURFACE OIL TO GREAT DEPTHS. HIGH ENERGY COBBLE/BOULDER. SHOULD CONSIDER MECHANICAL
KN-405	A	1	-	1845	3RD RETREAT - SEE DEMOS REPORT. SAME INFO AS SHARED ABOVE FOR KN-404. OILING GETS HEAVIER AS PROCEED SOUTH ON SEGMENT

\shorelin\rowann\biorept 8/7/90

ACE 7379176

ADEC DAILY SHORELINE ASSESSMENT

LOCATION: Sung Harbor/Knight Island/PWS SEG KN401 SUBSEG A

MONITOR(S): Brian K. Fitz-Simons

DATE: 9/13/90

TIME: BEGIN 0700 END 1600

TIDES: TIME: HEIGHT:

LOW _____
HIGH _____
LOW _____
HIGH _____

WEATHER: CLOUDY RAIN FOG SUN

TEMP: 50° SEA COND: 1' CAOP

WIND DIR: N-NE-E-SE-S-SW-W-NW

WIND SPEED (KNOTS): 0-15 16-30 30+

ENVIRONMENTAL CONSTRAINTS: (SEAL HAULOUTS, EAGLE NESTS, MUSSEL BEDS, ETC.) 1A 1B 5T

WAVE EXPOSURE: LOW MED HIGH
ACROSS SHORE ZONE: SU UITZ MITZ LITZ

SURFACE SEDIMENTS: R10 B30 C P G S
SUBSURFACE SEDIMENTS: R10 B30 C P G S

OIL CHARACTERISTICS

SURFACE: POOLED - MOUSSE - TARBALL - COVER - COAT - STAIN AP
SUBSURFACE: OP - OR - OF

TREATMENT TECHNIQUES

MANUAL RAKING/TILLING

MANUAL REMOVAL PO-MS-AP-TB

SPOT WASHING

OTHER _____

HEADER FLOOD (HOT/COLD)

BIOREMEDIATION _____

MECHANICAL _____

EQUIPMENT USED: Shovels Picks Rakes Trucks Buckets

NAMES OF REPS & OTHER AGENCIES: EXXON Jon Czarnocki

USCG Dave Sylvester OTHER: Larry Smith: OOPS

WORKERS ON SITE: ORTS 10 OTHER: Bill Bale - NECA

WASTE HANDLING/DISPOSAL

ITEMS USED TO ABSORB/CONTAIN OIL Pan Poms

OF BAGS COLLECTED: _____

OILED DEBRIS NO OIL & SEDIMENTS Yes OILED VEG. Yes

OILED LOGS PRESENT: Y (N) # OF LOGS REMOVED 0

4/20/90

4 Supersacks Sediments

KN 401 4 9-3-90

Photo/Video Documentation

Photographs: Roll# 0 Frame(s): 0 Reason: 0

Video: Tape # 0 Reason 0

Comments

Problems: Enforcement Activities etc.

NONE

Observations: Treatment Efficiency, Improvements

Standard Manual Removal

(Complete)

ACE 7379178 -/S

Signature: Brian R. Hyndman

KN 4 1E 9-3-90

Photo/Video Documentation

Photographs: Roll # 0 Frame(s): 0 Reason: 0

Video: Tape # 0 Reason 0

Comments

Problems: Enforcement Activities etc.

None

Observations: Treatment Efficiency, Improvement

Standard Manual Removal

(complete)

Signature: Brian K. Hildner

ADEC DEMOBILIZATION REPORT

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

TODAY'S DATE 9-3-90

RE: SEGMENT NUMBER KN 401 SUBSEGMENT NUMBER B

DEC REP Brian K. FitzSimons USCG REP Dave Sylvester

EXXON REP Jon Czarnacki; BOAT NAME/SQUAD NUMBER Enasco Atlas #8

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

Is there additional oil remaining? If yes then describe amount of oil remaining (type, size of area and location).

Residual Surface Oil

Date and Time of demobilization from segment 9-3-90
1130

COMPLETE THIS FORM AND FAX TO ANCHORAGE AFTER DEMOBILIZATION FROM EACH SEGMENT.

Additional Comments (keep objective)

Brian K. FitzSimons
signature

Revised 5/8/90

ACE 7379181 +/S

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

429
\$

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

Attn: John Bauer
FAX 265-4666

From: J. GUNALIAS (please print)

RE: SEGMENT NUMBER KN-401 SUBSEGMENT NUMBER 8

ADEC REP JEFF GUNALIAS

USCG REP JOHN DOWD

EXXON REP Chris Katsimpalis

ADFEK Rick Gustin
BOAT NAME/SQUAD NUMBER Arctic Salvor

CG: Dale Parent OPS: Dave Barlow

VED Freeman: Rod Reynolds

Squad # 4

Site #	Length (along shore m)	Area m ²	Inipol (gallons)	Customblen (lbs.)
--------	---------------------------	------------------------	---------------------	----------------------

1	10 x 1 @ 100%	10	-	2
---	---------------	----	---	---

2	3 x 16 @ 100%	48	-	10
---	---------------	----	---	----

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 - this is bio followup to manual treatment
per ASAP work order

Describe the amount of oil remaining (type, size of area and location). At site #1, just east of southern boundary of set aside area, ASAP manual team appears to have missed tarrest. We manually remove. Remaining oil is residual oil after tarrest removal. No penetration, 1 meter wide. As arctic stream (uncataloged) in area, no Inipol Customblen applied on 1 item packed in. (20 geobags removed)

Additional Comments (keep objective)

Site #2 had some additional manual and Customblen added.
No Inipol due to proximity of salmon streams. Customblen packed into sediments.
This site is picked pretty clean

signature _____

Date and time of demobilization from segment 9-7-90 @ 10:30

Shoremon\Demob.bio 55/30/90

125

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

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

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

RE: SEGMENT NUMBER KN-401 SUBSEGMENT NUMBER B

DEC REP JEFF GIVANAS USCG REP SCOTT RAINSFORD

EXXON REP Rick Harnelson BOAT NAME/SQUAD NUMBER Cowthran

OOPS: Ed Turner UECO SAFETY: BRAD Hopkins SQUAD 1
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

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).

LIGHT OR SUBSURFACE RESIDUAL IN AREAS OF
MANUAL CLEANUP. NO SIGNIFICANT SURFACE OIL REMAINING

-NO ENVIRONMENTAL CONSTRAINTS - OVER 100 M FROM AAD STREAM

Additional Comments (keep objective)

AREA DID NOT WARRANT INPOL. RATHER WE APPLIED CUSTOMBLEW
AND ADDITIONAL MANUAL (TOUCH UP WORK). AREA RECEIVED MANUAL
WORK 8.9.90. ADDITIONALLY, ADVISED BY OG TECH CONNOR THAT
AREA OF CUSTOMBLEW RECEIVED MANUAL TREATMENT, PLUS INPOL &
CUSTOMBLEW WHEN DON BULLOUGH CREW TREATED KN-401A AND
signature _____

Date and time of demobilization from segment _____

Shoremon/55 5-12-90

MISTAKENLY EXTENDED BOUNDARY.

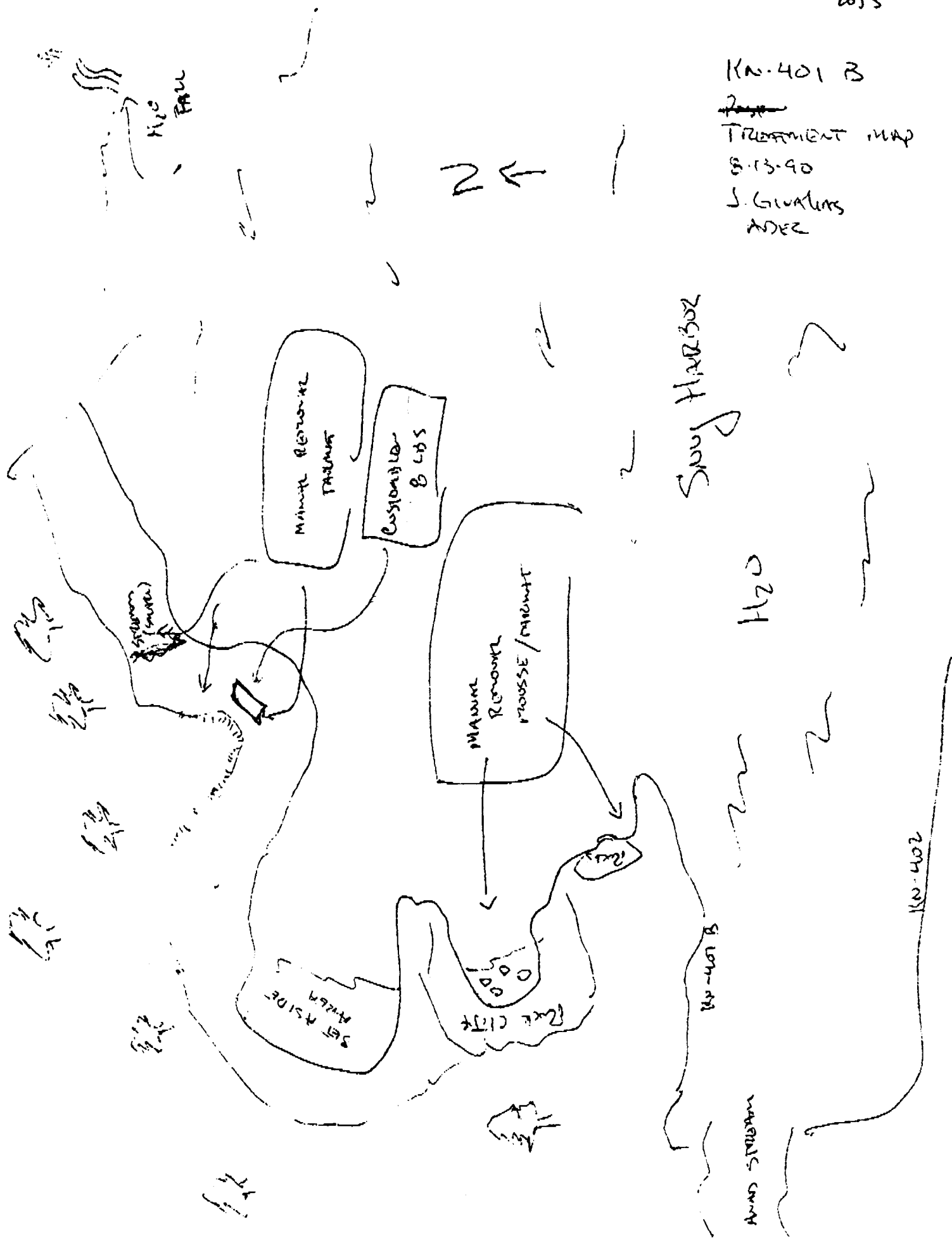
ACE 7379184

CUSTOMBLEW 3 LBS 10m x 4 m
OG: W. ENNIS, ASST. J. CONNOR

[Signature] 8-15-90 16:00

2055

KN-401 B
~~2055~~
TREATMENT MAP
8-13-90
J. Givens
ADFC



ADEC DEMOBILIZATION REPORT
FOR PHYSICAL/MECHANICAL TREATMENT AND CUSTOMER

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

Attn: John Bauer

FAX 265-4666, 265-4656

Anad stream # 226-30-16820 ON

RE: SEGMENT NUMBER KN401

SUBSEGMENT NUMBER B

DEC REP Jay Vincent

USCG REP Scott Painsford

EXXON REP Darryl Jones

BOAT NAME/SQUAD NUMBER M/V Corinthian Squad

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, with the exception that bioremediation was not applicable. See attached work plan modification recommendation

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).

Small amount of patchy OR.

Additional Comments (keep objective)

Work order requirements were met.

signature

John Bauer

Date and time of demobilization from segment 6/30/90 @ 2200

Shoremon\55 5-12-90

ADEC DAILY SHORELINE ASSESSMENT

LOCATION: Spring Harbor / Knight Island / Pals SEG K 11401 SUBSEG A

MONITOR(S): Brian K. FitzSimons

DATE: 9-2-90

TIME: BEGIN 1300 END 1930

TIDES: TIME: HEIGHT:
 LOW _____
 HIGH _____
 LOW _____
 HIGH _____

WEATHER: CLOUDY RAIN FOG SUN
 TEMP: 60 SEA COND: Calm
 WIND DIR: N-NE-E-SE-S-SW-W-NW Calm
 WIND SPEED (KNOTS): 0-15 16-30 30+ Calm

ENVIRONMENTAL CONSTRAINTS: (SEAL HAULOUTS, EAGLE NESTS, MUSSEL BEDS, ETC.) 1A 1B 5T

WAVE EXPOSURE: LOW MED HIGH
 ACROSS SHORE ZONE: SO UITZ MITZ LITZ

SURFACE SEDIMENTS: R 10 & B 30 & C 60 & P 60 & G 60 & S 60
 SUBSURFACE SEDIMENTS: R 10 & B 30 & C 60 & P 60 & G 60 & S 60

OIL CHARACTERISTICS

SURFACE: POOLED MOUSSE TARBALL - COVER - COAT - STAIN AP
 SUBSURFACE: OP OR OF

TREATMENT TECHNIQUES

MANUAL RAKING/TILLING _____
 MANUAL REMOVAL: PO-MS-AP-TB HEADER FLOOD (HOT/COLD) _____
 SPOT WASHING _____ BIOREMEDIATION _____
 OTHER _____ MECHANICAL _____

EQUIPMENT USED: Shovels Rakes Travers Pickers Buckets
 NAMES OF REPS & OTHER AGENCIES: EXXON Jon Czarnacki
 USCG Dave Sylvester OTHER: Larry Smith & OPS
 WORKERS ON SITE: ORTS 10 OTHER: Bill Bale & Veco

WASTE HANDLING/DISPOSAL

ITEMS USED TO ABSORB/CONTAIN OIL Pim Pim's
 # OF BAGS COLLECTED: _____
 OILED DEBRIS NO OIL & SEDIMENTS yes OILED VEG. yes
 OILED LOGS PRESENT: Y N # OF LOGS REMOVED 0

4/20/90

• 5 Super sacks Sediments

ACE 7379187 +15

KN '01 A 9-7-90

Photo/Video Documentation

Photographs: Roll # 0 Frame(s): 01 Reason: 0

Video: Tape # 0 Reason 0

Comments

Problems: Enforcement Activities etc.

NONE

Observations: Treatment Efficiency, Improvements
Standard Manual Removal?

Signature: Brian R. Johnson

ASAP survey 90

SEGMENT AS / KN-401 SUBDIVISION: B SITE: 1 DATE 8-19-90SCGNAME Don O'Neil, GM SIGNATURE [Signature]☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Area surveyed was a large gravel beach coming back into a tidal/peat basin with small stream running through middle. Scattered bands of oiled notes around U/I. Most notable will mounds, and asphalt patches toward back of tidal basin. In addition, small pocket beach at the left side of segment showed patchy interstitial mounds and SOR, manual treatment and some bioremediation recommendations. Reassess in 1991.

ADECNAME Bob McNearby SIGNATURE [Signature]☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Area is on Exxon Set Aside site: 35m x 3m AP with OR submerse oil. There is, however, AP, TP's, MS, and vegetation, and OR outside of the Set Aside site. ASAP/VECO crew did some work on this segment, but further manual removal is required prior to additional bioremediation treatments. Reassess in '91.

LANDMANAGER NCAA/USFSNAME DONALD CLINE SIGNATURE [Signature]☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Areas of asphalt must be removed manually. Sites containing SOR may benefit from BIO treatments. Note SOR in small pocket beach adjacent to large beach - also could use BIO treatment.

EXXONNAME Al Swook SIGNATURE [Signature]☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

CONTINUE APPLYING BIO TREATMENTS TO WORKED AREAS THROUGHOUT THIS SUMMER'S CLEANUP. VECO CREW PICKED UP OILED SEDIMENTS EAST OF TEST SITE, RAKE SOR AREAS PRIOR TO BIO. REASSESS IN 1991. LOW ENERGY BEACH FACING EAST.

TEAM NO 1 EXXON AL SNOOK SEGMENT AK401B
 JOG LINOSAY NAKASHIMA USCQ IN ORLES SUBDIVIS B
 ADEC BOB MCCREARY LAND DUNCLIFFE USA TOTAL N 1
 DATE 8/19/90 TIME 6:50 to 7:20 TIDE LEVEL -1.8 to -1.9
 TOTAL EST LENGTH OF SHORELINE SURVEYED: 637m m
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WEATHER: ☐ Sun ☐ Clouds ☐ Fog ☒ Rain ☐ Snow
 OIL CATEGORY LENGTH: W m M 35 m N 34 m VL 4 m NOS & Y m US m

SURFACE OIL

SITE 1

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SU	UI	MI	LI
ASPHALT	X					X		
S.O.R.			X			X		
POOLED								
COVER								
COAT								
STAIN				X		X		
MOUSSE			X	I		X		
PATTIES/T.B.								
FILM								
NO OIL								
EST. SITE LENGTH					637m			

SITE 2

[illegible]

SITE 3

[illegible]

SUBSURFACE OIL

[illegible]

Photographs

No.

• 2000

COMMENTS

THE NORTH END OF THE SITE CONTAINED ISOLATED PATCHES OF SURF/PS ON AN MTRAIL OF GRAVEL/PEBBLES/COBBLES. THE REM OF THE COVE HAD A PATCH OF MS (KIM) AND 2 CONTINUOUS BANDS OF HP. A SILENTLY POOR/POCKET BEACH TO THE SOUTH OF THE MAJOR COVE CONTAINED ST/SUR/MS IN BEDROCK/BOULDERS AS INTERSTITIAL-4 DEPOSITS.

ACE 7379190

B

Σ
T

Σ
T

Sig Oil Map

XXXX
////

TTTT
0000

Wide
Medium
Narrow
Very Light
No Oil

KN-401 B

ADEC Subsegment Length: 637m

METERS

0 63 126

AK State Plane Zone 4 1:2403
kkn-401b



Subdivision Field Map

Map Key: KNIKN-401B

Name: _____

Date: _____

Date Entered: _____

ACE 7379192

ASAP FOLLOWUP RECOMMENDATIONS

Project: AS/KH-401 Subd.: B Site: 1 Date: 8-19-90 1990

Conditions Observed: AT NORTH SIDE OF MOUTH OF TIDAL BASIN, THERE WERE SURFACE COATS, SOR (IN WORKING AREAS) & SMALL AMOUNT OF OILED VEGETATION, AT SUPRA & UPPER ITC. TARMAT WAS CONTINUOUS AT SUPRA & UPPER ITC BETWEEN "SET ASIDE" SIGNS. A 20M X 2M TARMAT WAS OBSERVED ON SOUTHERN SHORELINE OF TIDAL BASIN OUTSIDE OF "SET ASIDE" SIGNS.

Followup Recommendations: SEE COMMENTS BELOW:

Completed by Pickup Crew: (MANUAL ONLY) ☒ YES ☐ NO

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

ADEC

Bob McCreedy
(name)

Robert M. McCreedy
(signature)

Comments: Further manual treatment in the general AP SOR OR areas to be assessed. Follow-up manual removal, bio-treatment all treatment areas and areas with residual oil.

Exxon

Al Snook
(name)

Al Snook
(signature)

Comments: CONTINUE BIO TREATMENTS THRU THIS SUMMER. UECO CREW REMOVED OILED VEGETATION & 20M X 2M TARMAT OUTSIDE OF "SET ASIDE" SIGNS IN TIDAL BASIN. REASSESS IN 1991.

USCG

Don Davis
(name)

Don Davis
(signature)

Comments: UECO CREW REMOVED SOME DEBRIS WASTE. FURTHER MANUAL REMOVAL OF ASPHALT WASTE AND SOR DEBRIS REQUIRED. SOME BIOREMEDIATION MAY BE NECESSARY FOR REMAINING PATCHES.

Land Rep.

DONALD CLINE
(name)

Donald Cline
(signature)

Comments: Manual removal of AP is required. Bio-treatment for SOR areas is advised.

A.S.A.P.

KN 402-anad
site 1

August 19, 1990

ADEC recommends the following treatment:

- 1) Manually remove remaining AP, AP residual/SOR, as well as all OP and OR subsurface oil.
- 2) Bioremediate all treatment areas and areas with residual oil using Inipol and Customblen. Bioremediation should only be carried out with ADF&G approval.

ANADROMOUS FISH STREAMS/OILING CONDITION
PWS

Segment # KN401 ASC# 226-30-16820 Location Snug Har. Knight Is.

Date 8/15/90 Recorder/Observer T. Crane / R. Gustin

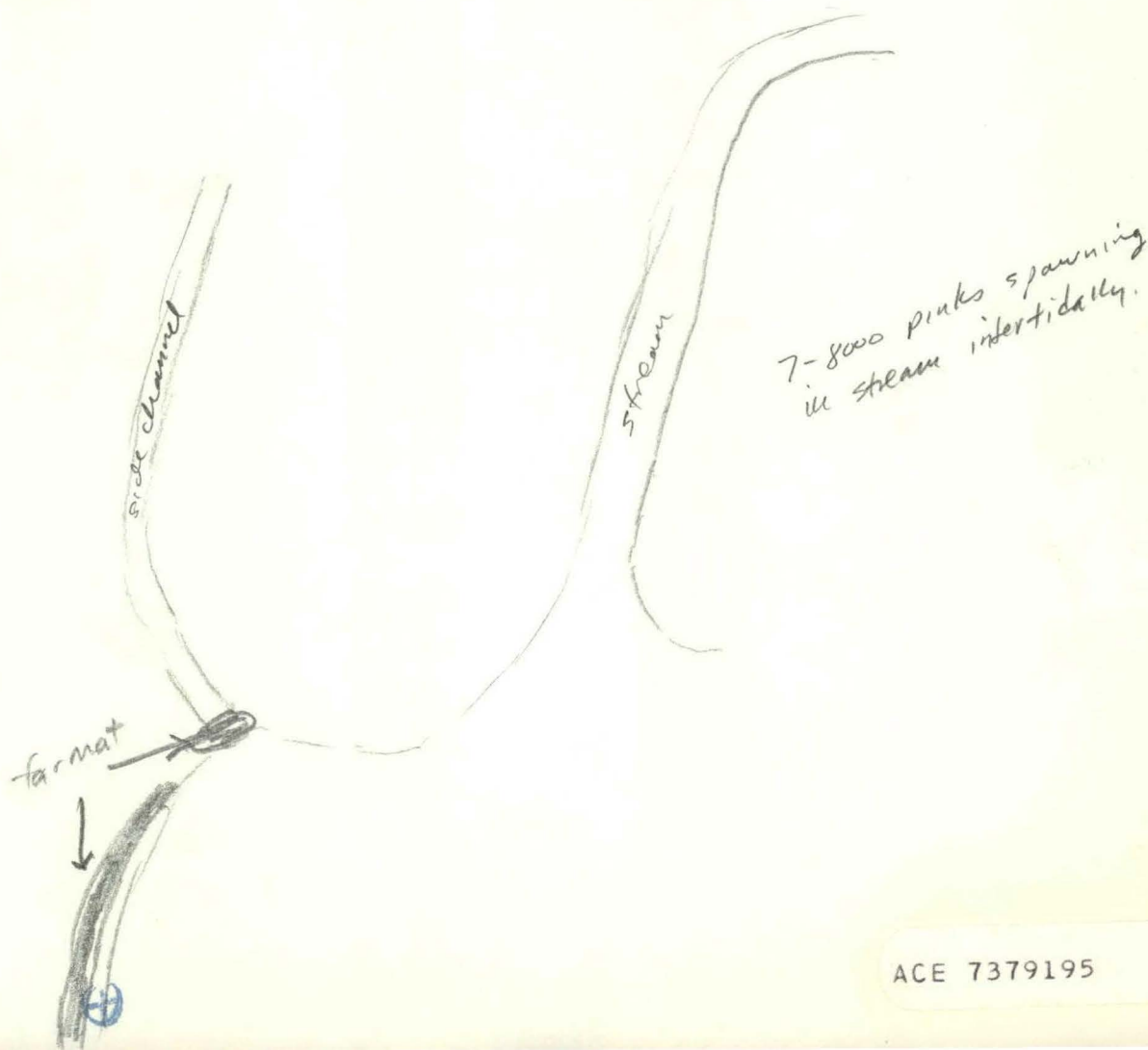
Oil in streambed Yes Oil on streambanks Yes

Oil within 50m of mouth Yes Anadromous Fish present Yes

Description of oil and comments

Primary area of oiling consists of a thin band of tar mat on the left bank as you face upstream. It's in the upper ITZ, but it's down near the lower ITZ mouth area of the stream. Some large patches 1x1 meter of tar mat still remain near & in small feeder stream channel. Sloppy work was done on removal of remaining tar mat strip. Suggest reassessment spring 91.

Oil Distribution Diagram



TO: Dale Gardner
ADEC OSRC
M/V Corinthian

FROM: Jeff Ginalias
ADEC OSRC
M/V Corinthian

DATE: 30 July 1990

RE: Knight Island, Snug Harbor; Segments KN-401,402

At 16:00 hours this day I reviewed the above-referenced segments with Rick Gustin, ADF&G. My area of review was isolated to KN-402. I observed recoverable oil in the form of tar patties and tarballs, occasional mousse patches and a few small tarmats. The oil was found mainly in the UITZ, along and just above and below the areas where manual cleanup occurred in the segment on or about 1 July 1990. Oil was not continuous, but was fairly constant and readily observable. It extended in a band running at least 100 meters and was more concentrated near the southwest corner of the segment. The bands width was no more than six meters.

The remaining oil may be a result of sloppy treatment, but contributing factors could also be oil dripping and gathering from overturned cobbles tossed up the bank as well as oil bleeding to the surface from the areas of tarmat removal. I saw no evidence of subsurface oil.

The tarmats referenced are few and not large, perhaps one foot by one foot. As the area is an anadromous stream and critical habitat, it may justify additional treatment. Treatment would consist of manual pickup which should not take a small crew more than a few hours. Inipol should only be applied with ADF&G consent.

Based on the above I would recommend the area to the ASAF program for review.

cc: Rick Gustin, ADF&G

STREAM TREATMENT REPORT
Alaska Department of Fish and Game
Tom Crowe

June 30, 1990

ASC # 226-30-16820

Segment KN-401B

Observations This is a well-protected stream site in the western most end of Snug Harbor. This well protected stream mouth is fairly large but V shaped. During a high tide a large grassy area with a small pond are flooded. Most of the oil is visible at the ULTZ and is on the south side of this beach area. A small cove in this area collected the major portion of this tar matted area. The ULTZ of this cove was also heavily oiled with thick tarmat occurring the cobble stream bank. The ADF&G recommendation for treatment is simple manual removal. This stream support a very large population of pink salmon.

0800 Crews began work on this ANAD stream segment. I arrived at around 0830 and met with the DEC monitor Jay Vincent, EXXON's representative OOPS employee Ed Turner and VECO crew boss Rodney Renolds. We all walked around to the different areas and I showed them where the oiling was that we identified on the ANADSCAT. At this time the crew was working in these areas and things seemed to be progressing rather nicely. It appeared that the DEC and EXXON would comply to our request to remove the tarmat. 0930 I then returned to the CORINTHIAN to meet with the helicopter and travel to Sleepy Bay where Rick had requested help in dealing with the tilling of the stream site at LA018.

After visiting several stream sites during the day I returned to the CORINTHIAN. 2000 I skiffed over to this stream site and reviewed the work that had occurred. At this time the crews had been demobed and the DEC monitor had signed off the segment. Fortunately the tide was high and what I could see of the work area looked OK. Also there were several thousand pink salmon that could be seen milling at the mouth and in the stream area during high tide.

GRADE C+

8-15-90

Rick Gustin and I returned to this stream to re-evaluate oiling here and conduct a post assessment. We then noticed that tarmat was reforming in all the worked areas. Our conclusion was that the crews had not dug deep enough to remove enough of the OP oil contamination and it was reforming on the surface forming new tarmat. Our recommendation was for further manual treatment and for reassessment next spring.

ACE 7379197

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

STEVE COWPER, GOVERNOR

333 RASPBERRY ROAD
ANCHORAGE, ALASKA 99518-1599
PHONE: (907) 344-0541

EXXON Valdez Oilspill Cleanup Anadromous Fish Stream Authorization

Date 6/14/90

EXXON Authorized Representative _____

Shoreline Segment KN-401

Anadromous Fish Stream Number(s) 226-30-16840

Approved Cleanup Techniques are to be in accordance with the AnadScat stream work order approved by the FOSC with special emphasis on manual removal of all oil of any form within the stream channel and bottom substrate, and on the stream banks within the high water limits. Minimize removal of stream bank substrate and surface components to that required for removing oiled materials.

Approved Cleanup Period 5/15/90 to 7/10/90

Alaska Department of Fish and Game

[Signature]
Authorized Officer

[Signature]
Permittee's Signature

Approved Cleanup techniques have been reviewed and complied with: _____
EXXON Authorized Field Representative

Date _____

ACE 7379198

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE June 13, 1989

SHORELINE SEGMENT KN-401

LOCATION: (see enclosed map) Southeast Knight Island-Snug Harbor

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/11/89

Recommended Cleanup Activity(ies):

Manually remove contaminated drift material.
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:

Contact ADF&G and RAT prior to beginning cleanup activities on beach 8.
Class 2: heavy oil.
Class A: resources present.
Medium recreational use.

Ecological Constraints (from site survey):

Bald eagle nest with eaglets on beach 1. Avoid disturbance in area of nest. Beach 6 is a NOAA research project. Do not disturb intertidal. Contact NOAA for information. Salmon stream located at beach 8.
Take appropriate measures to protect uncontaminated eel grass beds.

Archeological Constraints (from site survey):

Archaeological monitor required during cleanup of pilings area and after historic debris in intertidal zone in western portion of the cove. Cleanup crews should be restricted from forest zone. 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. H. Dineen
State Historic Preservation Officer *

Date: June 13, 1989

EXXON: _____

Date: _____

FOSC: _____

Date: _____

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

The shore zone consists of rocky headlands with cobble / boulder beaches, Moss on the beaches and the boulders along the rocky headlands are exposed only at low tide. Shore Zone 7 is a cove with a low angle gravel / coarse / mud beach (map 2)

There is fairly dense oil coverage throughout the shore zone with the exception of shore zone 4 and shore zone 5. The oiling is heavy and ranges from the upper inter-tidal to the supra inter-tidal zone. A discontinuous band of light oiling ranges from the low inter-tidal to the mid inter-tidal zones. The width of the band is 2 meters on vertical rocky headlands / boulders to 10 meters on pocket-beaches.

The shore zone has a low wave exposure and is heavily oiled. therefore the whole shore zone should be cleaned with exception to shore zone 6 (a NOAA / NMFS oil research beach) and shore zone 1, which has an eagles nest.

Moderate to high pressure hot water should be used for Rock / Boulder / cobble areas (map 1). Pooled oil should be removed manually or by any other approved methods which are appropriate. Pebble / Gravel areas should use approved methods which are deemed appropriate. Manually remove contaminated drifted material.

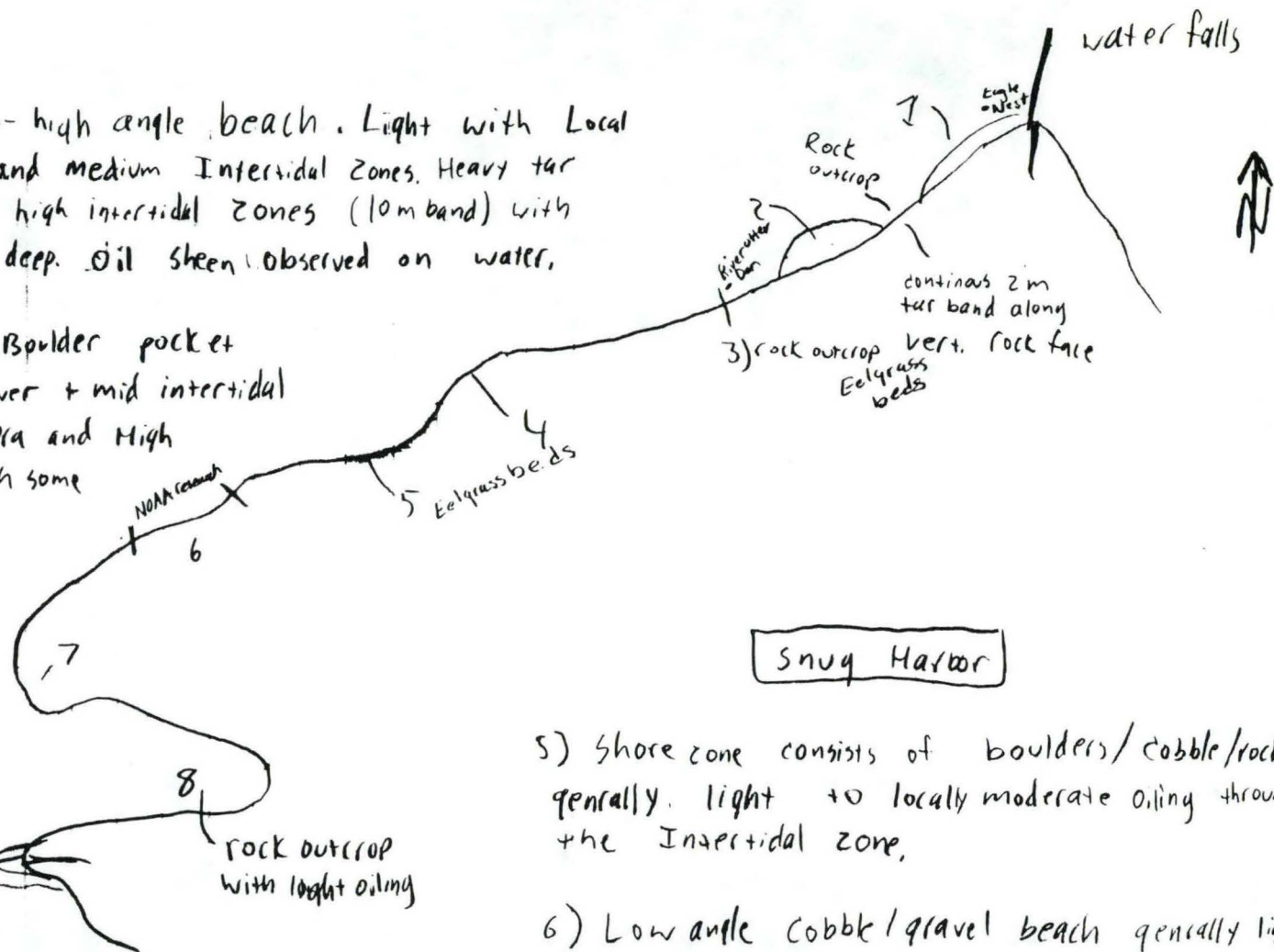
6/11/89

KN-401

Mike Foget

Map 1

- 4) Rock / Boulder / Cobble shore zone with small pocket cobble / gravel beach. heavy oiling in the supra and High ITZ with oiled fucus (seaweed) and Pooling among Boulders. Light to Localized moderate Oiling in the mid to Low Intertidal Zone.



- 6) Low angle Cobble/gravel beach generally light to locally moderate oil/ter in the low and mid ITZ. Heavy oiling with pooling in the high and supra ITZ. Note: NOAA/NMFS research beach 800 ft zone. AUKA BAY Lab

ACE 7379202

ACE 7379201

- 7) Low angle gravel / cobble / mud core. Heavy oiling 8 m bu

ECOLOGICAL EVALUATION

LOCATION: SE Knight Island SITE: Snug Harbor OBSERVER: Patty Crank (Bio)
Mike Foget (O.G.)
Bob Betts (Arche)

LOCATION PREFIX: KN SEG. NO.: KN 401 LENGTH: 400 (M)

DATE: 6/11/89 TIME (HHMM): 1230 TIDE HT.: mid-low (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

Patchy on boulders - extensive intercobble/gravel moderate mussel beds

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: Eelgrass beds

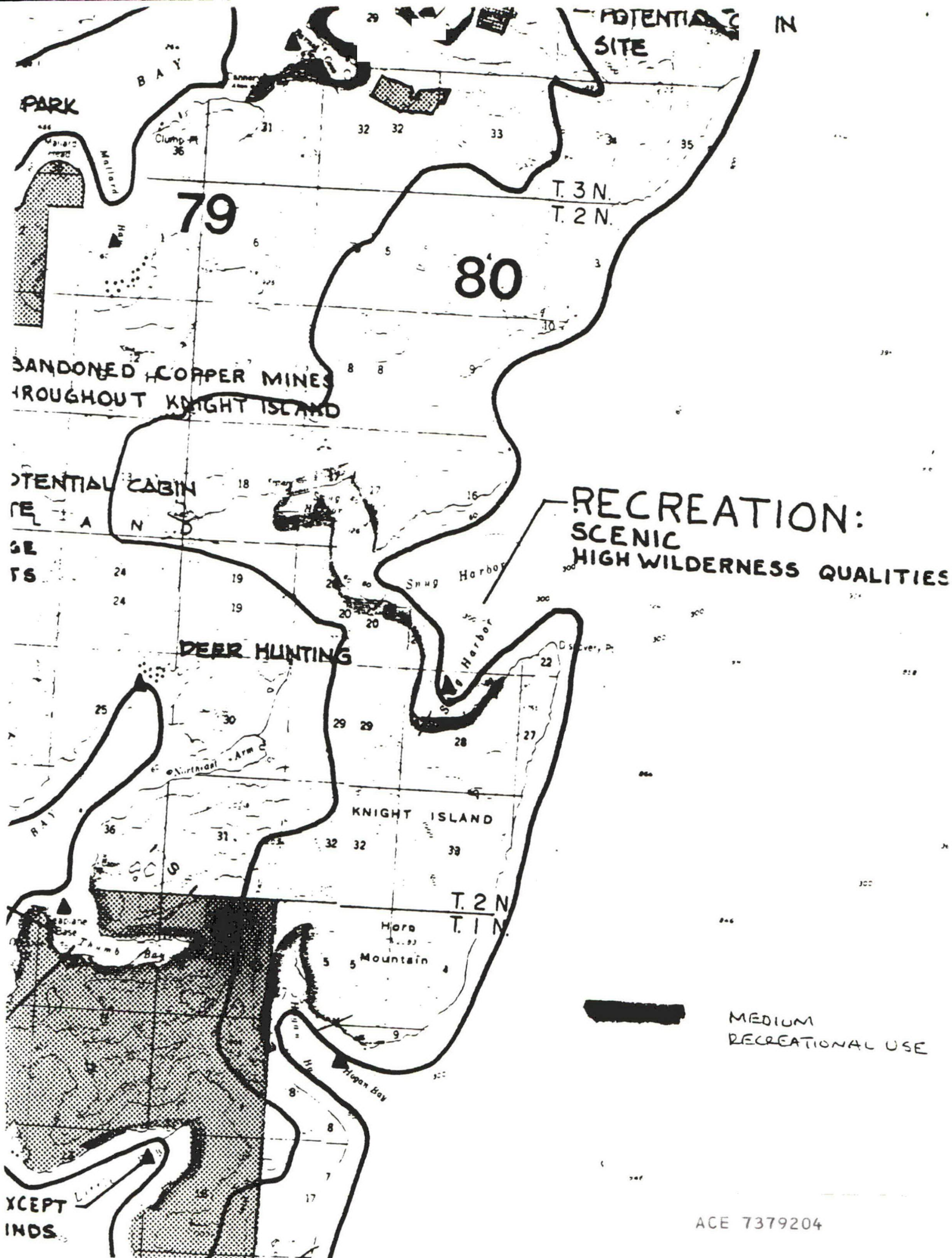
CLEANUP PRECAUTIONS: Eagle Nest^{with eaglets}, NOAA research project, Salmon Stream

see map for location - contact AK Fish & Game and NOAA before cleaning beach.
Use precautions to avoid oiling uncontaminated eelgrass beds. Crews should avoid stream re-
and mud

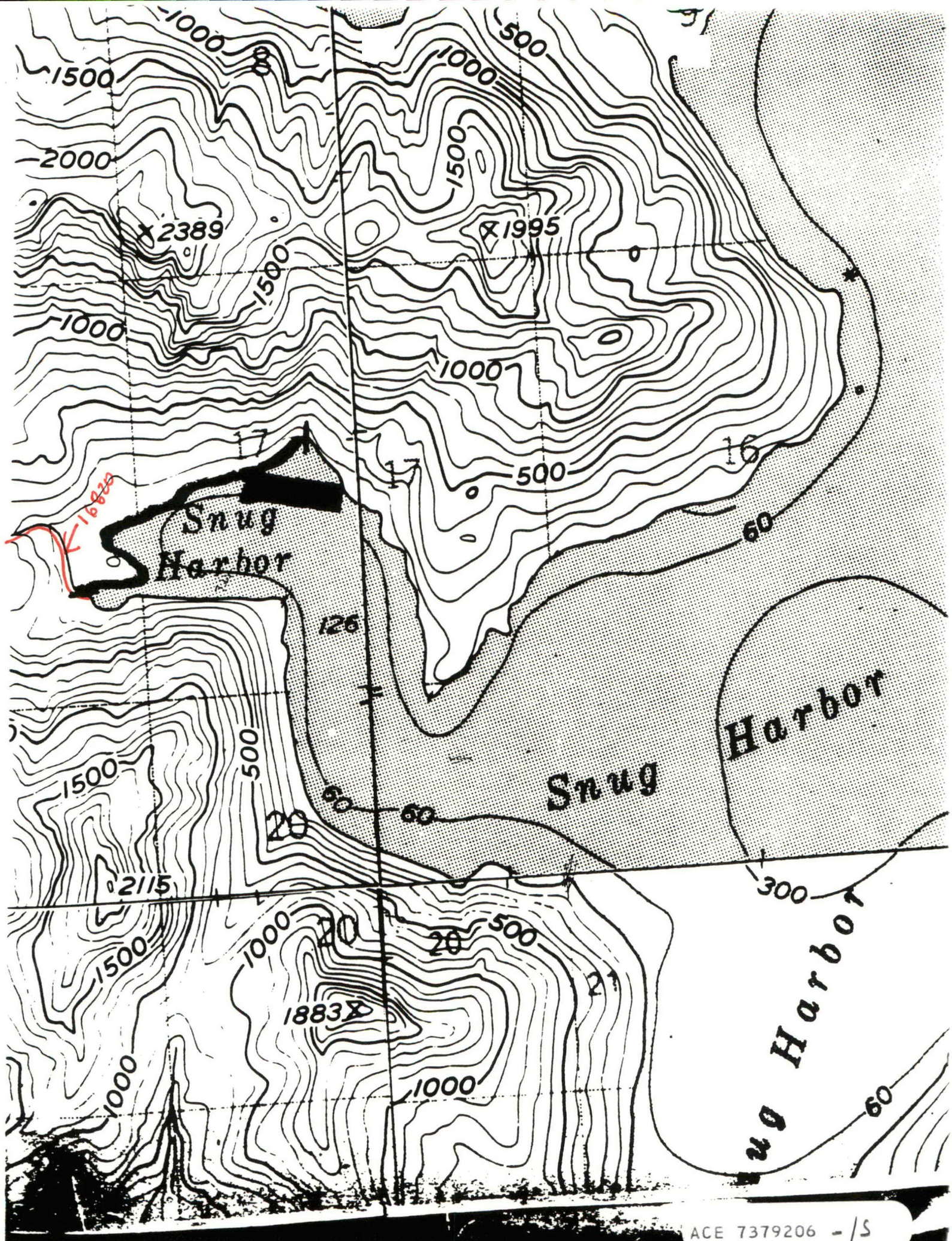
MAMMALS: Otters Den Harbor Seals 2 Sea Lions — Whales —
other

BIRDS: Bald Eagle nest with eaglets, terns, gulls, Pigeon Guillemots

GENERAL OBSERVATIONS: _____



ACE 7379204



19/63
#2

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: April 27 1990

15 HIGH TIDE TIMES: /

21 TEAM RECORDER: TOM CROWL

4 START TIME: 0900

16 HIGH TIDE HTS: /

22 OBSERVERS: MIKE WIEDMER

5 STOP TIME: 0958

17 LOW TIDE TIMES: /

23 AGENCY: ADF+G (WASDECAT)

6 SEGMENT #: KN402/407

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: SEW B-3

Start: End:

10 LAT:

11 LONG:

26 SAMPLES TAKEN? Y (N) Number

12 SOURCE: Map Loran

Oil

13 LOCATION: SNUG HARBOR

Sediment

14 DESCRIPTION: KNIGHT ISLAND

Biological

Water

EXTENT OF OIL

	SHORELINE				STREAM			
	L	W	M ²	%	L	W	M ²	%
27 SURFACE COVERAGE								
28 SURFACE THICKNESS			(SEE MAP)					
29 PENETRATION								

36 CATALOGED ANAD. FISH SREAM? (Y) N

37 CATALOG #: 226-30-16820

38 STREAM NAME:

39 OIL IN STREAM BED? Y (N)

40 OIL ON STREAM BANKS? Y (N)

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

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

Where: SEE MAP

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

43 ANADROMOUS FISH PRESENT? Y N

34 WAVE EXPOSURE: High Moderate (Low)

44 ANADROMOUS FISH OBSERVATION
Species Aerial Ground

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

Species	Aerial	Ground

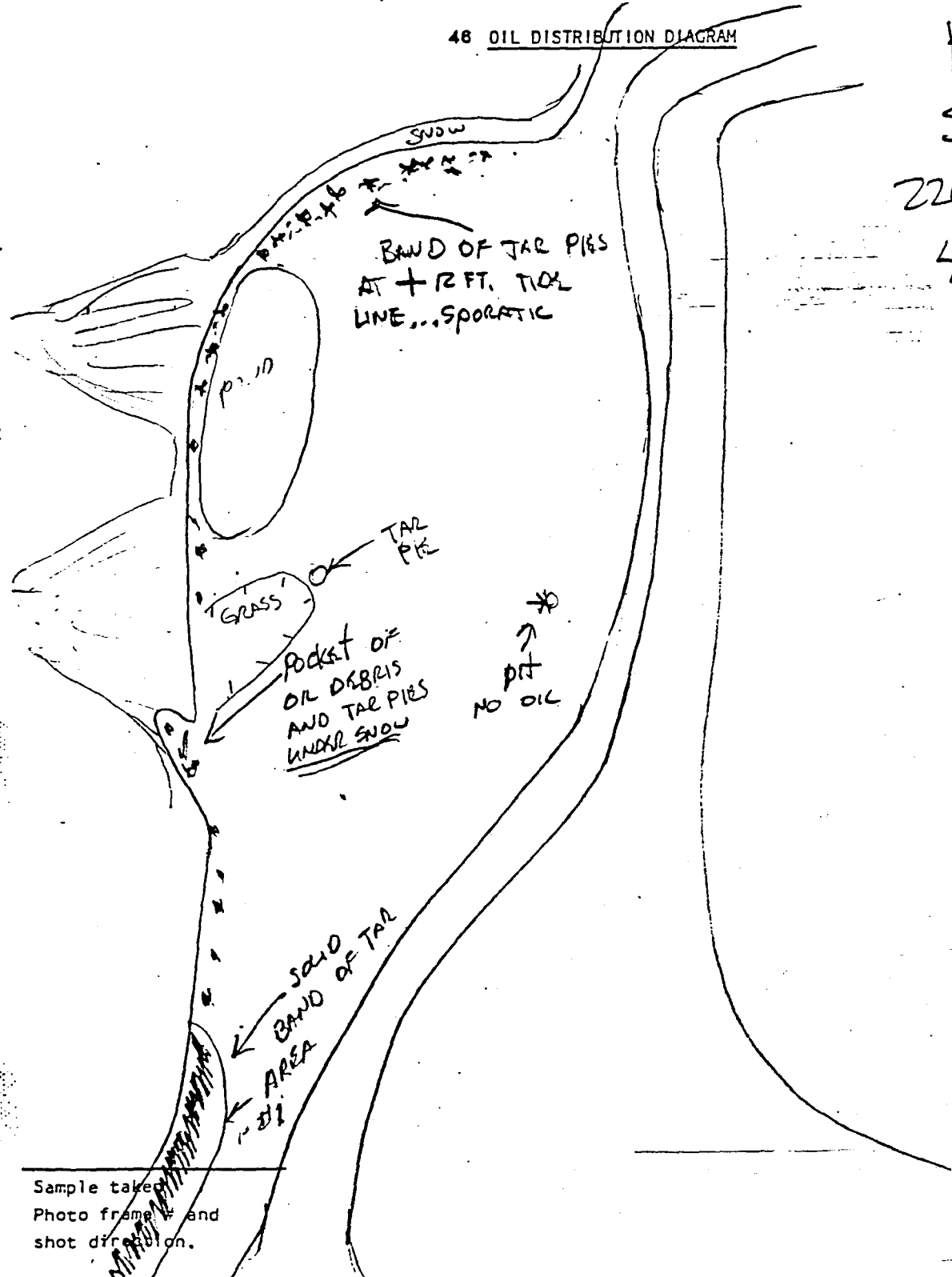
COMMENTS:

ACE 7379231

20/63

FRAME(S)	DESCRIPTION
	RECOMMEND: MANUAL REMOVAL OF TAR AT (STORM) +12 FT TIDE LINE AND TAR MAT RAISED. CHECK THE AREA NOW COVERED IN SNOW. DO NOT USE INIPOL. IF BIOREMEDIATION IS TO BE USED IN AREA 2 IT SHOULD BE IN THE FORM OF SOLID PELLETS BURIED AT STORM BERM LINE.
	I agree with recommendations. W.H. Fawcett

48 OIL DISTRIBUTION DIAGRAM



KN 401/402
SNUG HARBOR
226-30-16820
4/27/90
ANADSCAT
TWC

Sample taken
Photo frame and
shot direction.

ACE 7379232

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-30-16820

SEGMENT KN-401 SUBDIVISION B

WORK WINDOW

* Manual Pickup
Tarmat Removal

OPEN*

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

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

*Set Aside Sites - EXON DO NOT REMOVE STAKES FROM BACK OF INTERTIDAL ZONE.

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-30-16820) is in Subdivision B. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup and tarmat removal.

5T Bald Eagle Nest

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

OTHER ECOLOGICAL CONSIDERATIONS

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

SEE SUBDIVISION CONSTRAINT ADDENDUM KN-401B
FOR ADDITIONAL CONSTRAINT INFORMATION.

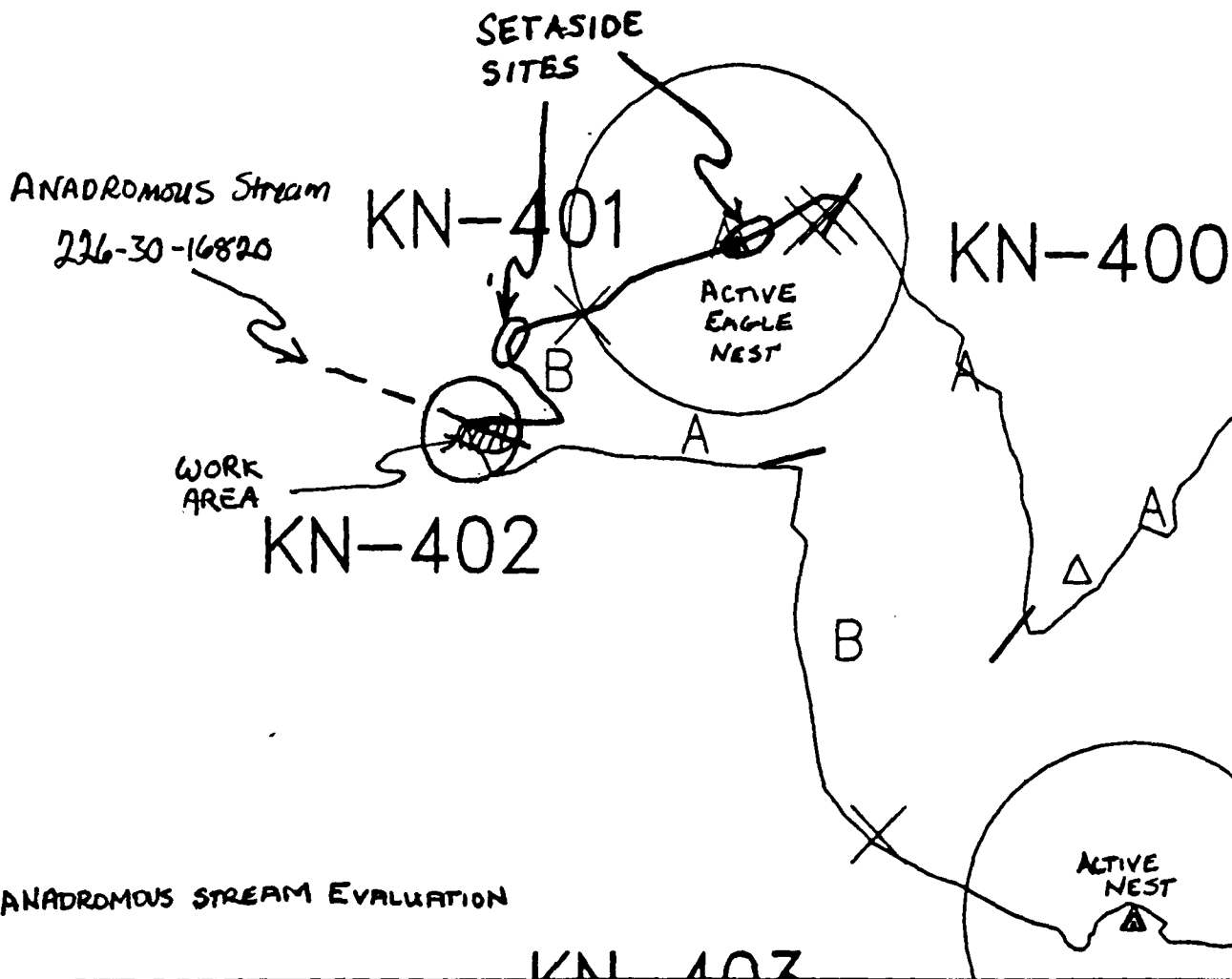
FOSC

Prepared by

Date

Date

ACE 7379207 +/5



Exxon Company, USA

Map Key: PMS-KN-401

June 05, 1990

ACE 7379208

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-401B STREAM NO: 226-30-16820 DATE 4/27/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

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

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

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

9EE Other: Set aside

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Subject stream exists at boundary of KN-401B and KN-402A (subdivision 2 of 2 and 1 of 2, respectively). No additional ecological constraints.

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

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

SHPO SIGNATURE: Rachel Jean Dore DATE: 5/22/90

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

☐ No Treatment Recommended

☒ Treatment Recommended

☒ Manual Pickup

☒ Bioremediation

☒ Tarmat Removal

☐ Snare/Absorbent Booms

☐ Oil Snares (pom poms)

☐ Absorbents (pads, rolls, etc)

☐ Spot Washing: _____ Wands

☐ Beach Cleaner

☐ Other (see comments)

COMMENTS: Recommend manual removal of pavement, patties and oil vegetation. 2) Set aside site No.'s 3 and 4 are located in KN-401 and are closed to work. Identify these sites prior to work. Work from 6/2 to 7/9 with approval of USFWS regarding eagle nest.

SEE CONSTRAINTS ADDENDUM dated 6/12/90

TAG COMMENTS: Bioremediation (CUSTOMER) AS REQUIRED FOLLOWING TARMAT

Removal

MONITORING TO ASSESS SUITZ

TAG APPROVAL DATE: 5/18/90

ADEC ART WEINER Art Weiner

EXXON ALAN BARN Alan

NOAA GARY PETRAE Gary Petrae

USCG GAT HEITER GAT Heiter

FOSC: [Signature]

DATE: MAY 14 1990

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-401/401 STREAM NO: 226-30-16820 DATE 4/27/90

B

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
5T-1 All Bald Eagle nests (3/1 to 6/1)
6V Recreation: Anchorages (6/1 to 9/15)
9EE Other: Set aside

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Subject stream exists at boundary of KN-401B and KN-402A (subdivision 2 of 2 and 1 of 2, respectively). No additional ecological constraints.

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

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

SHPO SIGNATURE: Rachel Don Dore DATE: 5/22/90

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: Recommend manual removal of pavement, patties and oil vegetation. 2) Set aside site No.'s 3 and 4 are located in KN-401 and are closed to work. Identify these sites prior to work. Work from 6/2 to 7/9 with approval of USFWS regarding eagle nest.

TAG COMMENTS: Bioremediation (Customblend) as required following Tarmat removal
monitors to assess suitz

TAG APPROVAL DATE: 5/18/90

ADEC Art Weiner Art Weiner

EXXON Andy Bahr Andy Bahr

NOAA Gary Petrac Gary Petrac

USCG G.A. Heiter G.A. Heiter

FOSC: [Signature]

DATE: MAY 25 1990

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-401/401 STREAM NO: 226-30-16820 DATE 4/27/90

B

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

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

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

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

9EE Other: Set aside

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Subject stream exists at boundary of KN-401B and KN-402A (subdivision 2 of 2 and 1 of 2, respectively). No additional ecological constraints.

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

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

SHPO SIGNATURE: Rachel Don Ore DATE: 5/22/90

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: Recommend manual removal of pavement, patties and oil vegetation. 2) Set aside site No.'s 3 and 4 are located in KN-401 and are closed to work. Identify these sites prior to work. Work from 6/2 to 7/9 with approval of USFWS regarding eagle nest.

TAG COMMENTS: Bioremediation (CUSTOMER) AS REQUIRED FOLLOWING TARMAT
REMOVAL
MONITORING TO ASSESS SUIZ

TAG APPROVAL DATE: 5/18/90

ADEC ART WEINER Art Weiner

EXXON ALAN BISH Alan Bish

NOAA GARY PETRAE Gary Petrae

USCG G.A. BEITER G.A. Beiter

FOSC: [Signature]

DATE: MAY 25 1990

20/6

48 PHOTOLOG

FRAME(S)

DESCRIPTION

RECOMMEND: MANUAL REMOVAL OF TAR AT
(STORM) +12 FT TIDE LINE AND TAR MAT SAND. CHECK
THE AREA NOW COVERED BY SNOW. DO NOT USE
ANIPOL. IF BIOREMEDIATION IS TO BE USED IN
AREA 2 IT SHOULD BE IN THE FORM OF SOLID
PELLETS BURIED AT STORM BEACH LINE.
I agree with recommendations. ~~W. Fox~~

48 OIL DISTRIBUTION DIAGRAM

KN 401/402

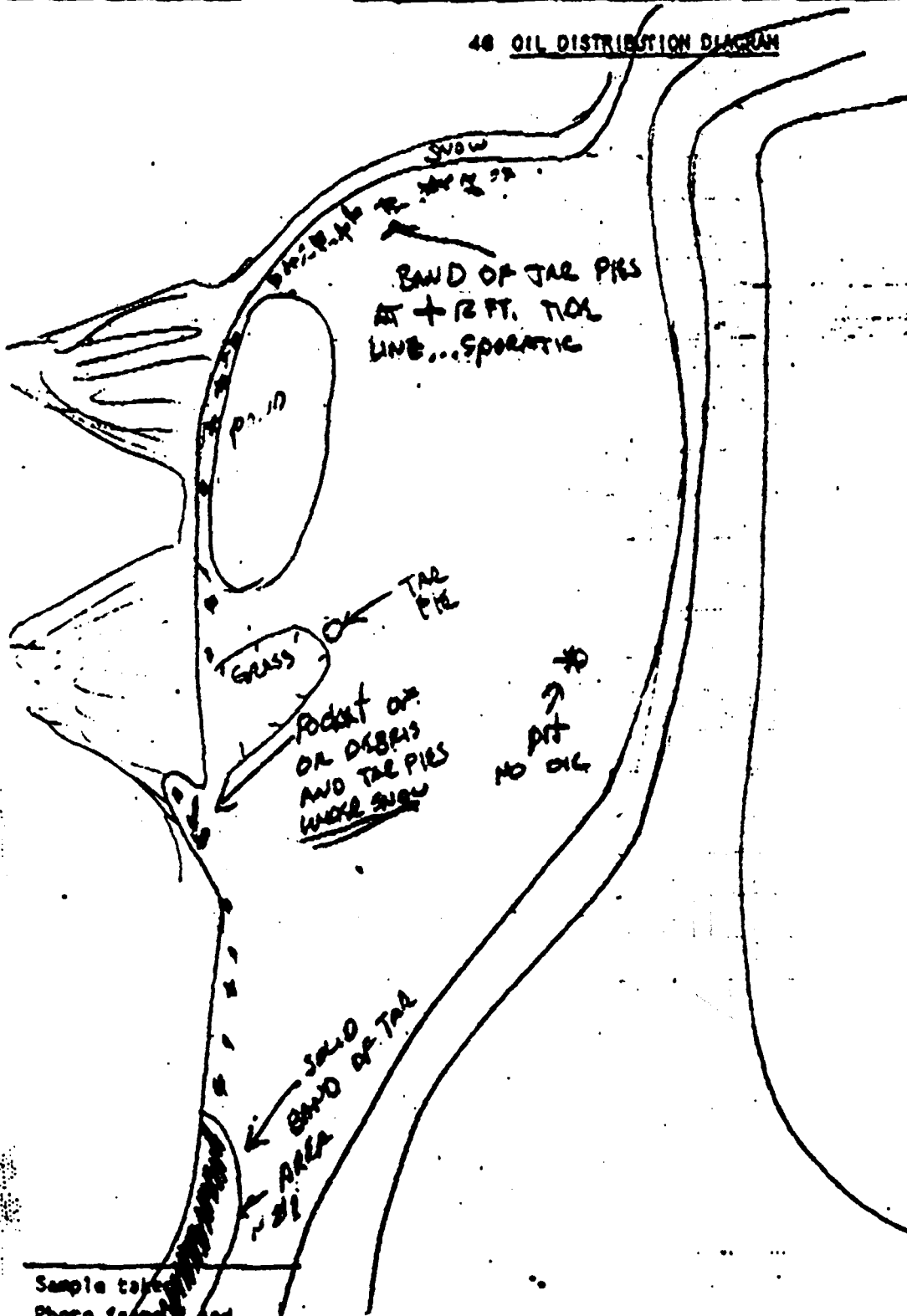
SNUG HARBO

226-30-1682C

4/27/90

ANADSCAT

TWC



ACE 7379212

Sample taken
Photo frame

20/6

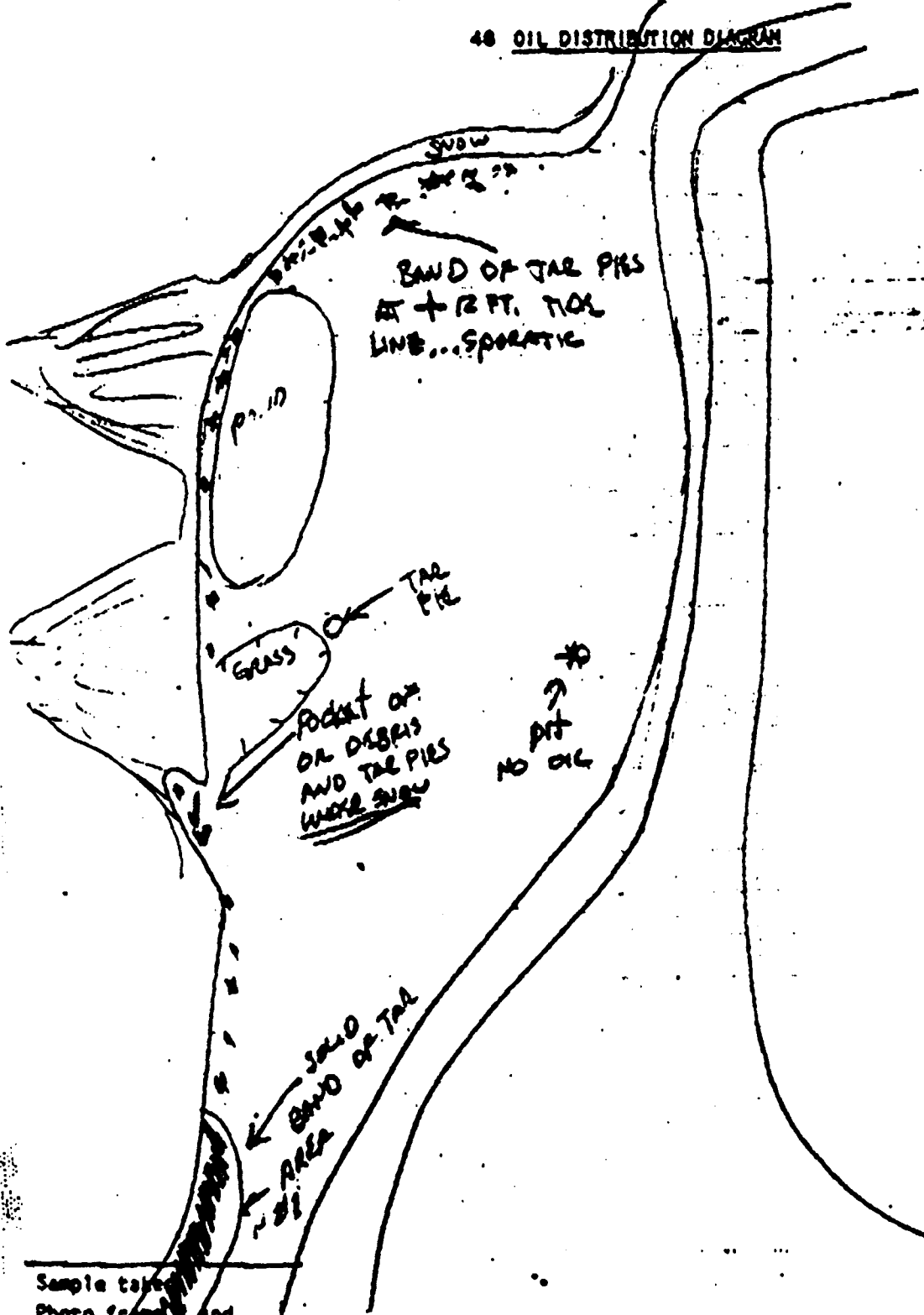
48 PHOTOLOG

FRAME(S)

DESCRIPTION

RECOMMEND: MANUAL REMOVAL OF TAR AT
(STORM) +12 FT TIDE LINE AND TIDE MAT SAND. CHECK
THE AREA NOW COVERED BY SNOW. DO NOT USE
INTEL. IF BIOREMEDIATION IS TO BE USED IN
AREA 2 IT SHOULD BE IN THE FORM OF SOLID
PELLETS BURIED AT STORM BERM LINE.
I agree with recommendations. ~~MS~~ Fawcett

48 OIL DISTRIBUTION DIAGRAM



KN 401/402

SNUG HARBO

226-30-16826

4/27/90

ANADSCAT

TUC

ACE 7379213

Sample taken
Photo frame

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-401/401 STREAM NO: 226-30-16820 DATE 4/27/90

B

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

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

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

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

9EE Other: Set aside

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Subject stream exists at boundary of KN-401B and KN-402A (subdivision 2 of 2 and 1 of 2, respectively). No additional ecological constraints.

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

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

SHPO SIGNATURE: Rachel Jean Doe DATE: 5/22/90

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

 No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

X Tarmat Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

 Spot Washing: _____ Wands

 Beach Cleaner

 Other (see comments)

COMMENTS: Recommend manual removal of pavement, patties and oil
vegetation. 2) Set aside site No.'s 3 and 4 are located in KN-401 and
are closed to work. Identify these sites prior to work. Work from 6/2
to 7/9 with approval of USFWS regarding eagle nest.

TAG COMMENTS: Bioremediation (Custom Blew) as required following Tarmat
Removal
Monitors to Assess Suitz

TAG APPROVAL DATE: 5/18/90

ADEC Art Weiner Art Weiner

EXXON Andy Blair Andy Blair

NOAA Gary Petrac Gary Petrac

USCG G.A. Heiter G.A. Heiter

FOSC: [Signature]

DATE: MAY 25 1990

20/6

48 PHOTOLOG

FRAME(S)

DESCRIPTION

RECOMMEND: MANUAL REMOVAL OF TAR AT
(STORM) +12 FT. TIDE LINE AND TAR MAT SAND. CHECK
THE AREA NOW COVERED BY SNOW. DO NOT USE
INTEL. IF BIOREMEDIATION IS TO BE USED IN
AREA 2 IT SHOULD BE IN THE FORM OF SOLID
PELLETS BURIED AT STORM BERM LINE.
I AGREE WITH RECOMMENDATIONS. ~~AS FOLLOWS~~

48 OIL DISTRIBUTION DIAGRAM

KN 401/402

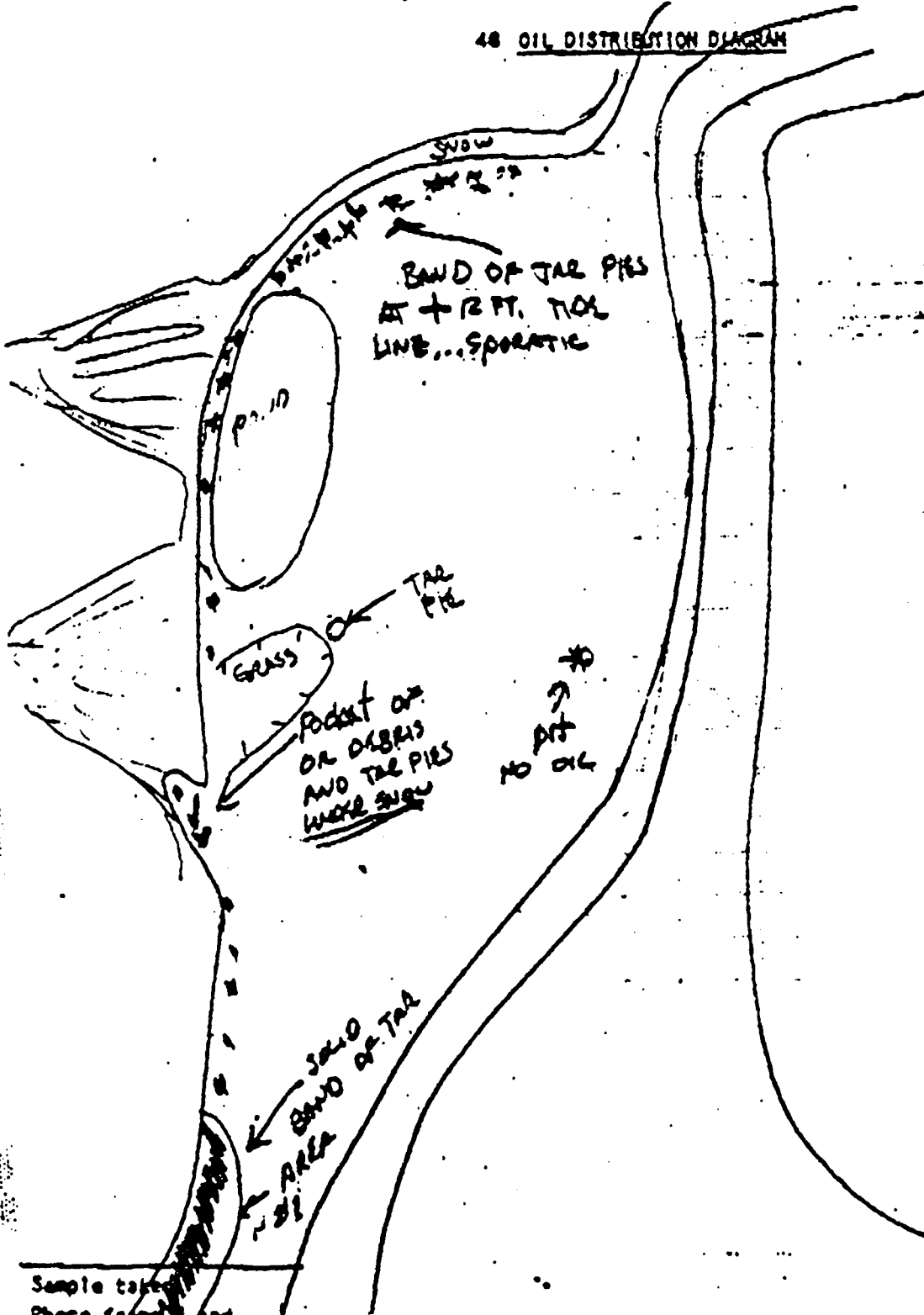
SNUG HARBOR

226-30-16826

4/27/90

ANADSCAT

TUX



ACE 7379215

20/6

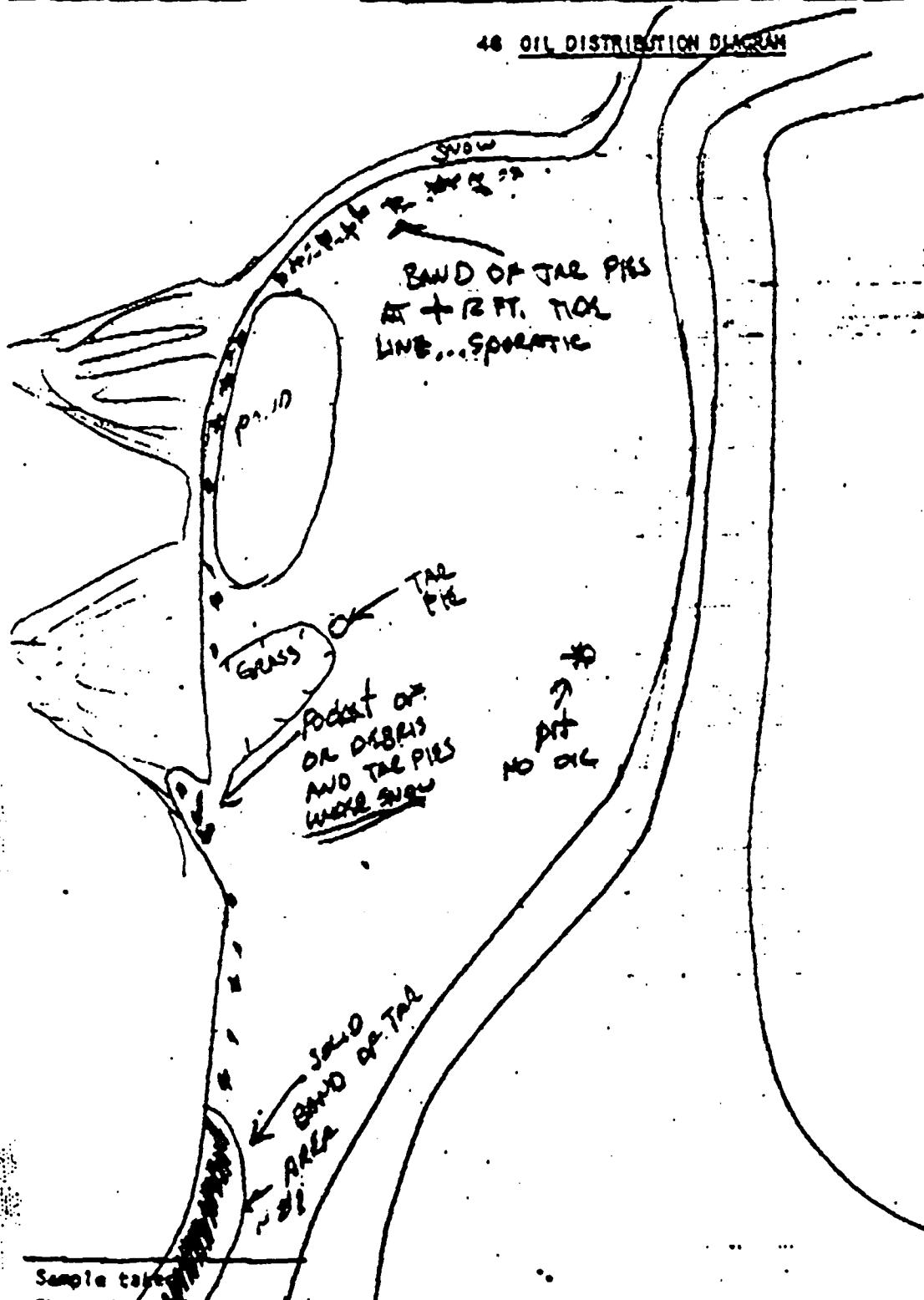
48 PHOTOLOG

FRAME(S)

DESCRIPTION

RECOMMEND: MANUAL REMOVAL OF TAR AT
(STORM) +12 FT TIDE LINE AND TARMAT SAND. CHECK
THE AREA NOW COVERED BY SNOW. DO NOT USE
INTEL. IF BIOREMEDIATION IS TO BE USED IN
AREA 2 IT SHOULD BE IN THE FORM OF SOLID
PELLETS BURIED AT STORM BERM LINE.
I AGREE WITH RECOMMENDATIONS. ~~THE~~ ~~FORCED~~

48 OIL DISTRIBUTION DIAGRAM



KN 401/402

SNUG HARBO

226-30-16826

4/27/90

ANADSCAT

TUX

ACE 7379216 -/S

10/3/90

RECEIVED
MAY 15 1993

DEPT. OF
ENVIRONMENTAL CONSERVATION

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-402/401

401 B

SUBDIVISION: A

STREAM NO: 226-30-16820

Concur

ACE 7379217 +/S

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-402/401 STREAM NO: 226-30-16820 DATE 4/27/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

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

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

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

9EE Other: Set aside

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Subject stream exists at boundary of KN-401B and KN-402A (subdivision 2 of 2 and 1 of 2, respectively). No additional ecological constraints.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

☐ No Treatment Recommended

☒ Treatment Recommended

☒ Manual Pickup

☐ Bioremediation

☒ Tarmat Removal

☐ Snare/Absorbent Booms

☐ Oil Snares (pom poms)

☐ Absorbents (pads, rolls, etc)

☐ Spot Washing: _____ Wands

☐ Beach Cleaner

☐ Other (see comments)

COMMENTS: Recommend manual removal of pavement, patties and oil
vegetation. 2) Set aside site No.'s 3 and 4 are located in KN-401 and
are closed to work. Identify these sites prior to work. Work from 6/2
to 7/9 with approval of USFWS regarding eagle nest.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND TOMER ECOLOGICAL CONSTRAINTS

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

ACE 7379219

FIELD SHORELINE COMMENT SHEET

SEGMENT ST KN 402/401 SUBDIVISION: 16820 DATE 4/27/90

USCG
NAME CW MCMAHON SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

1. MANUAL CLEAN-UP: REMOVE MOUSSE AND TAR PATCHES
2. Bioremediate ~~left~~ side (Looking inshore)

ADP46
ADEC
NAME TOM CROWE SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

MANUALLY REMOVE TAR MATS AND PATCHES FROM UPPER
INTERIOR ZONE. NO INIPOL SHOULD BE USED. BIOREMEDIA
SHOULD BE IN THE FORM OF SOLID PELLET FERTILIZER THAT
IS BURIED AT +12 FT TIDE LINE. (SEE MAP)

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

3/63

ASC # 226-30-16820

Segment KN-402/KN-401

Observations Tar mats and patties (ranging locally from sporadic to continuous) ring the high tide line south of the channel. No oil was observed north of the channel. No subsurface of oil was observed.

Treatment Recommendations Manually remove all tar mats and patties.

ASC # 226-40-16851

Segment KN-602

Observations Sporadic stains dot boulders along the high tide line. Immediately adjacent to one of the stream channels running through the upper-intertidal zone, a tar mat has penetrated several centimeters into the gravel.

Treatment Recommendations Manually remove tar mats.

ASC # 226-40-16853

Segment KN-602

Observations Sporadically stained rocks are distributed north of the channel within the upper-intertidal zone.

Treatment Recommendations No treatment is required.

ASC # 226-40-16855

Segment KN-601

Observations No surface or subsurface oil was observed.

Treatment Recommendations No treatment is required.

17/63

SEGMENT ST/ KN 401, 402

STREAM 226-30-16820

DATE 27, APR 90

CHECKLIST

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

LEGEND

1 Δ
 PII - No Subsurface Oil

2 ▲
Pit - Subsurface Oil

CT/C
Continuous Distribution

CT/B

Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oil Vegetation

1 ●→
Photo location, direction,
and number

ACE 7379229

SKETCH MAP

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

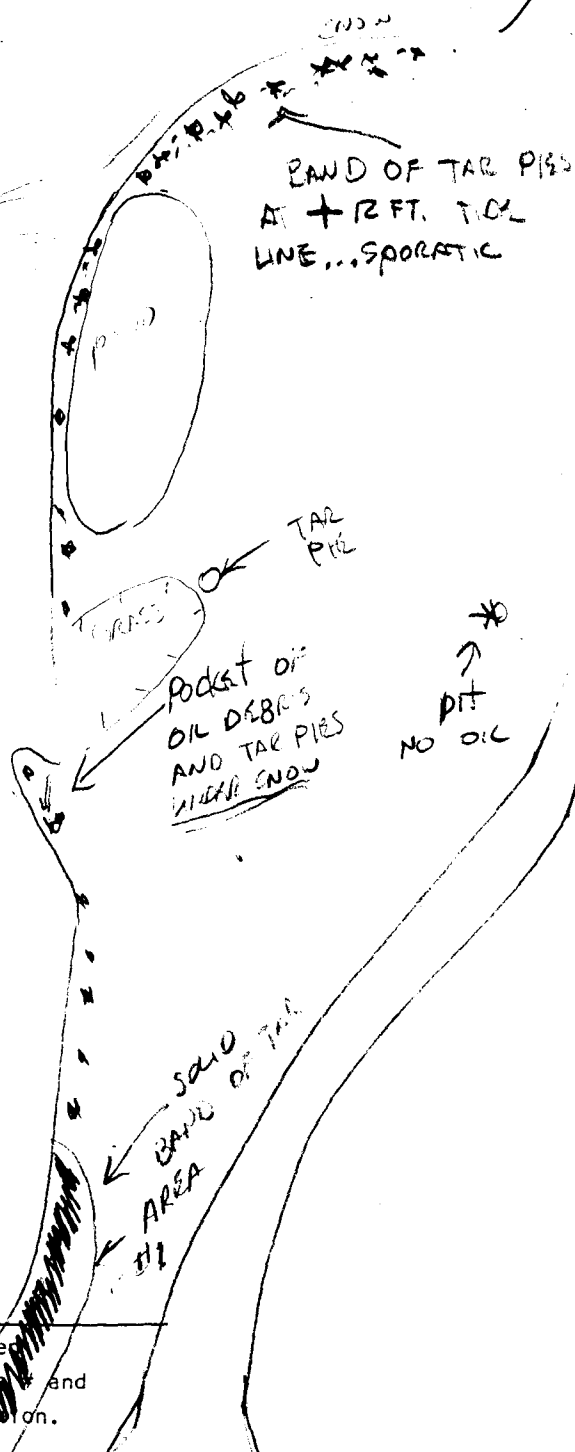
REVISION: 01/24/00

FRAME(S)

DESCRIPTION

RECOMMEND: MANUAL REMOVAL OF TAR AT
(STORM) +12 FT. TIDE LINE AND TAR MAT UNDO. CHECK
THE AREA NOW COVERED BY SNOW. DO NOT USE
INIPOL. IF BIOREMEDIATION IS TO BE USED IN
AREA 1 IT SHOULD BE IN THE FORM OF SOLID
PELLETS BURIED AT STORM BERM LINE.

46 OIL DISTRIBUTION DIAGRAM



KN 401/402

SNUG HARBOR

226-30-16820

4/27/90

ANALYST

TWC

ACE 7379239 -15

*Received
+119.*

RECEIVED
APR 17 1990

DEPT. OF
ENVIRONMENTAL CONSERVATION

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-402

SUBDIVISIONS: A (1 OF 1)

Concurrence

*Concur
J.A.M.*

ACE 7379240 +/5

SI ELINE EVALUATION

SEGMENT ST/ KN-402 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G catalogue no. 226-30-16820

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

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 418 m: No Oil 478 m
Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: Recommend removal of patties/tarmats. Work should be
conducted between 5/16 and 7/9 or after 8/31 due to above listed
constraints.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

FIELD HORELINE COMMENT SH T

SEGMENT ST/ KN-402 SUBDIVISION: A DATE 4-7-90USCG
NAME SCOTT RAINSFORD SIGNATURE Scott Rainford MSTI☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTEDADEC
NAME Wesley Ghormley SIGNATURE Wesley Ghormley☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Due to a sensitive area being in this segment (anadromous stream). I recommend manual removal of mousse patties. A small crew using shovels & trowels could pick up patties in a short period of time. IF mousse patties are left in place I believe once the weather warms up they could become mobile & cause a threat to the anadromous stream.

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 000000

OG G. MACDONALD USCG S. RAINSFORD SEGMENT ST/ KN-402
 BIO MA. SCOTT LAND REP — NFS SUBDIVISION A (1041)
 EXXON J. BUTLER ADEC W. GHORMLEY TIME 09:00 to 09:30
 TEAM NO.: 3 TIDE LEVEL: +4 1/2 to +5 1/2 FT DATE 4/7 /90
 EST. SUBDIVISION LENGTH: 695 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 20 % B 30 % C 20 % P 5 % G 10 % S 10 % M 5 % V — %
 SLOPE: Long 20 % Hang 70 % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 370 m NO 325 m

SURFACE OIL

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

PAVEMENT: H F S 2 sq. m by 0 cm

PATTIES TARBALLS 2 BAGS

NEAR SHORE SHEEN? ☒ NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NO

TYPE 0

#BAGS 0

Photographs:

Roll No. SI-3-2

Frames —

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	BL UP	BL FM	BY UP	BY FM	BL TL	BL LM	BU	U	M	L				
1	15					X	.									X				Z	BGS		
2	30					X	.											X		Z	GSM		
3	30					X	.									X				Z	CSG		
4	20					X	.								X					Z	BGSM		
							.																
							.																

COMMENTS Shore rocky shore & cove w/ anadromous stream. Surface oil as CT/S & PT/S @ HRTZ only. No oil in stream channel sedts. or stream banks.

ACE 7379243

SHORE IE ECOLOGICAL SUMMARY

REVISION: 03/23/90

Segment ST/ 402 Subdivision A Date (mo / day / yr) 4/7/92Time (24 hr) 100-930 Biologist MA SEXTON

(A) Substrate type and % of segments:

(1) Bedrock 20 (2) Boulder 30 (3) Cobble 20 (4) Pebble 15 (5) Sand 10 (6) Silt 5(B) Overall % cover of biota (% of segment): Dense — Moderate 40 Low 60

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

Photographs:

Roll No. —Frames —

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

2 bald eagles
6 goldeneyes
2 sea otters

- no visible oil in vicinity of stream
- observation of roach (eastern part of segment) by boat
- mussels in cobbles ~10-20% mortality

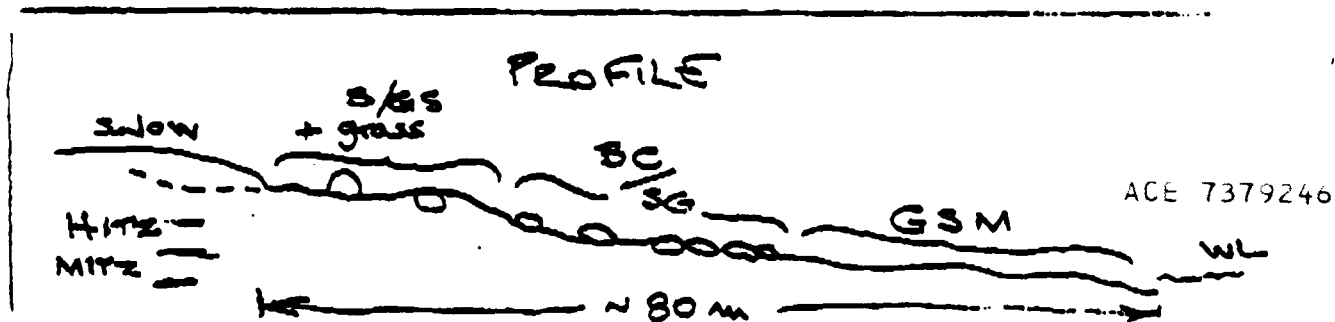
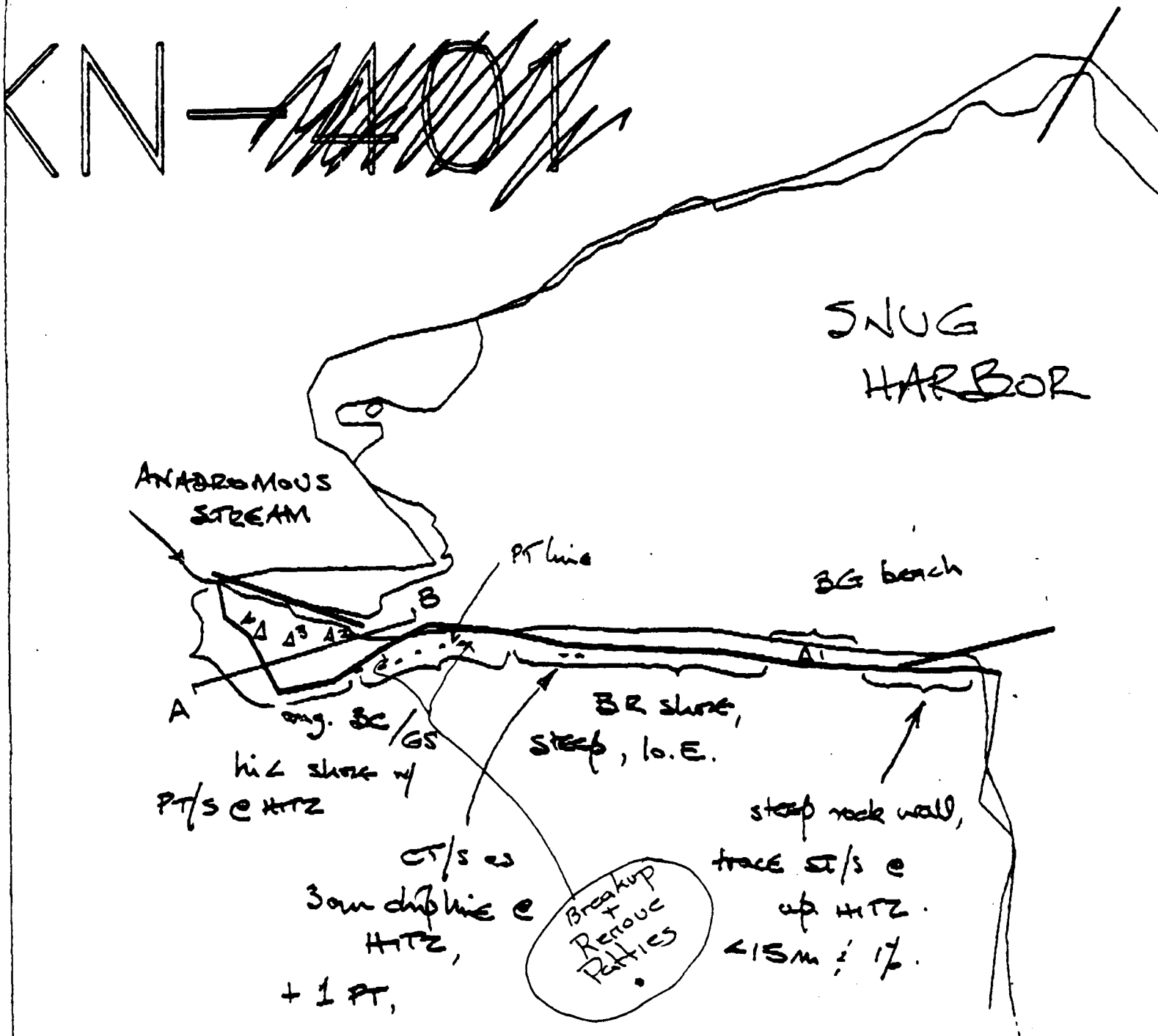
Ecological Considerations:

- anadromous stream at western edge of segment
- mussels in cobble matrix between boulders

PWS ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
- 1D Esther Hatchery release (4/15 to 6/1)
- 1E Main Bay Hatchery release (4/20 to 5/10)
- 1F Sawmill Bay Hatchery release (4/20 to 5/10)
- 1G Cannery Creek Hatchery release (4/21 to 6/1)
- 1H Remote release site
- 1I Gill net area (6/7 to 8/31)
- 1J Purse seine area (7/21 to 9/30)
- 1K Purse seine hook-off (7/20 to 9/30)
- 1L Set net sites (6/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (6/1 to 9/15)
- 6V Anchorages (6/1 to 9/15)
- 6W Forest Service cabins (6/1 to 9/15)
- 6X Lodge (6/1 to 9/15)
- 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
- 7HH Finfish harvesting
- 7II Deer harvesting (8/15 to 2/28)
- 7JJ Invertebrate harvesting
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

ACE 7379245



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-402

Exxon 693m
ADEC Segment Length: 897m



Map Key: PWS-354

Name: G. MARDONALI

Date: 4/7/90

Date Entered:

KN-~~401~~



KN-402

CT-370 , PT-100 , Lo-325

ACE 7379247 -/S

4

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-402

ADEC Segment Length: 897m

Exxon " " : 698



Map Key: PWS-354

Name: G. Macdonald

Date: 4/7/90

Data Entered:

ADF&G MULTI-ASSESSMENT DATA FORM

ATW
KNIGHT-90

1 SURVEY TYPE: BS SS DS TS AVS SCHA MMS PTA

2 REGION: PWS KP,CI K,AP

METHOD: Aerial Ground Boat

3 DATE: 4-12-90

15 HIGH TIDE TIMES: 1

21 TEAM RECORDER: R. Gustin

4 START TIME: 0821

16 HIGH TIDE HTS: 1

22 OBSERVERS: 1 pilot

5 STOP TIME: 0831

17 LOW TIDE TIMES: 1

23 AGENCY: ADFG HAB

6 SEGMENT #: KN401/402

18 LOW TIDE HTS: 1

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: KNIGHT IS.

14 DESCRIPTION: SNUG HBR. AT BACK

Oil _____

Sediment _____

Biological _____

Water _____

EXTENT OF OIL

27 SURFACE COVERAGE

SHORELINE				STREAM			
L	W	M ²	%	L	W	M ²	%

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 Save
Lagoon Marsh

34 WAVE EXPOSURE: High Moderate Low

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

36 CATALOGED ANAD. FISH SREAM? (Y) N

37 CATALOG #: 226-30-16820 ATW

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: upper-mid. intertidal

43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION
Species Aerial Ground

COMMENTS: Some green / sticky film visible

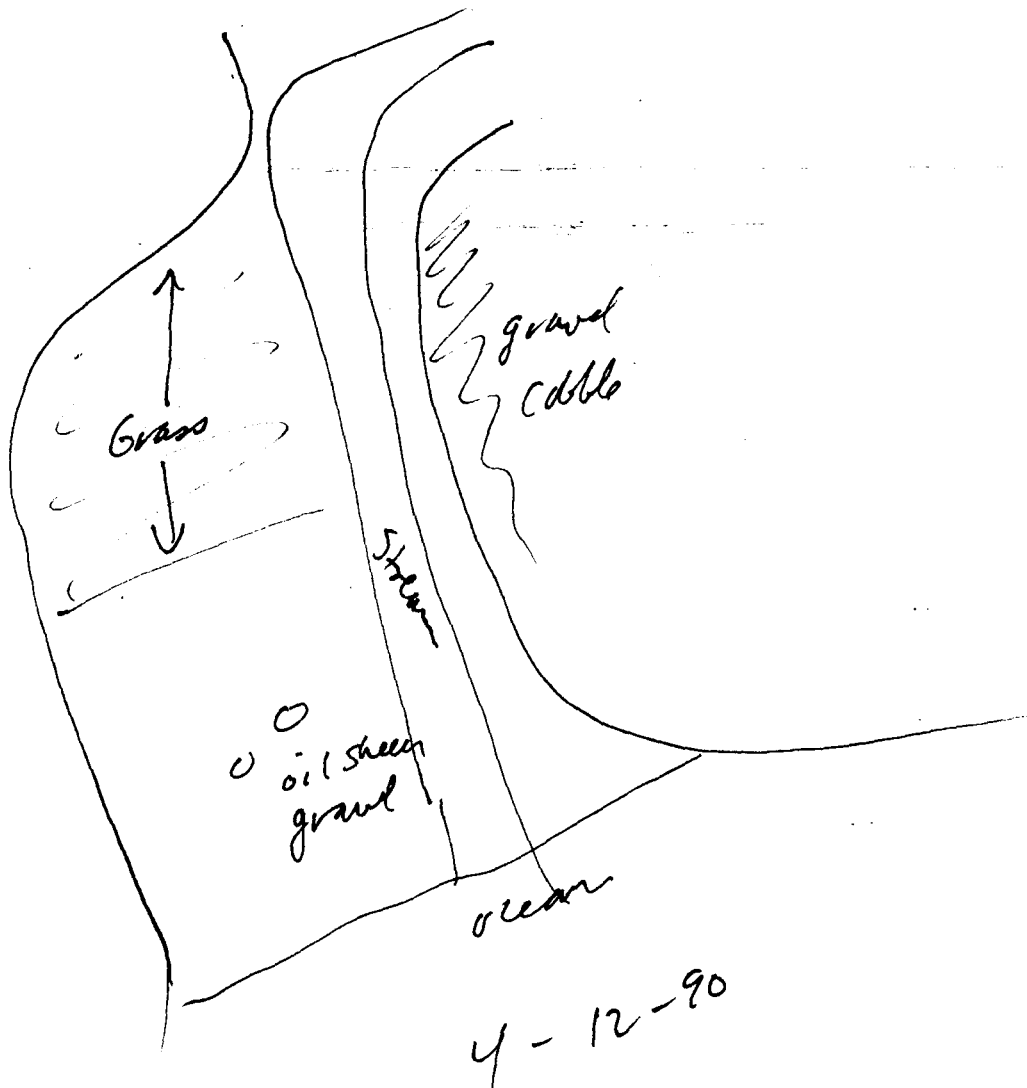
shovel removal

ACE 7379248 +/S

FRAME(S)

DESCRIPTION

46 OIL DISTRIBUTION DIAGRAM



KN 401/408 AW

226/30/16820

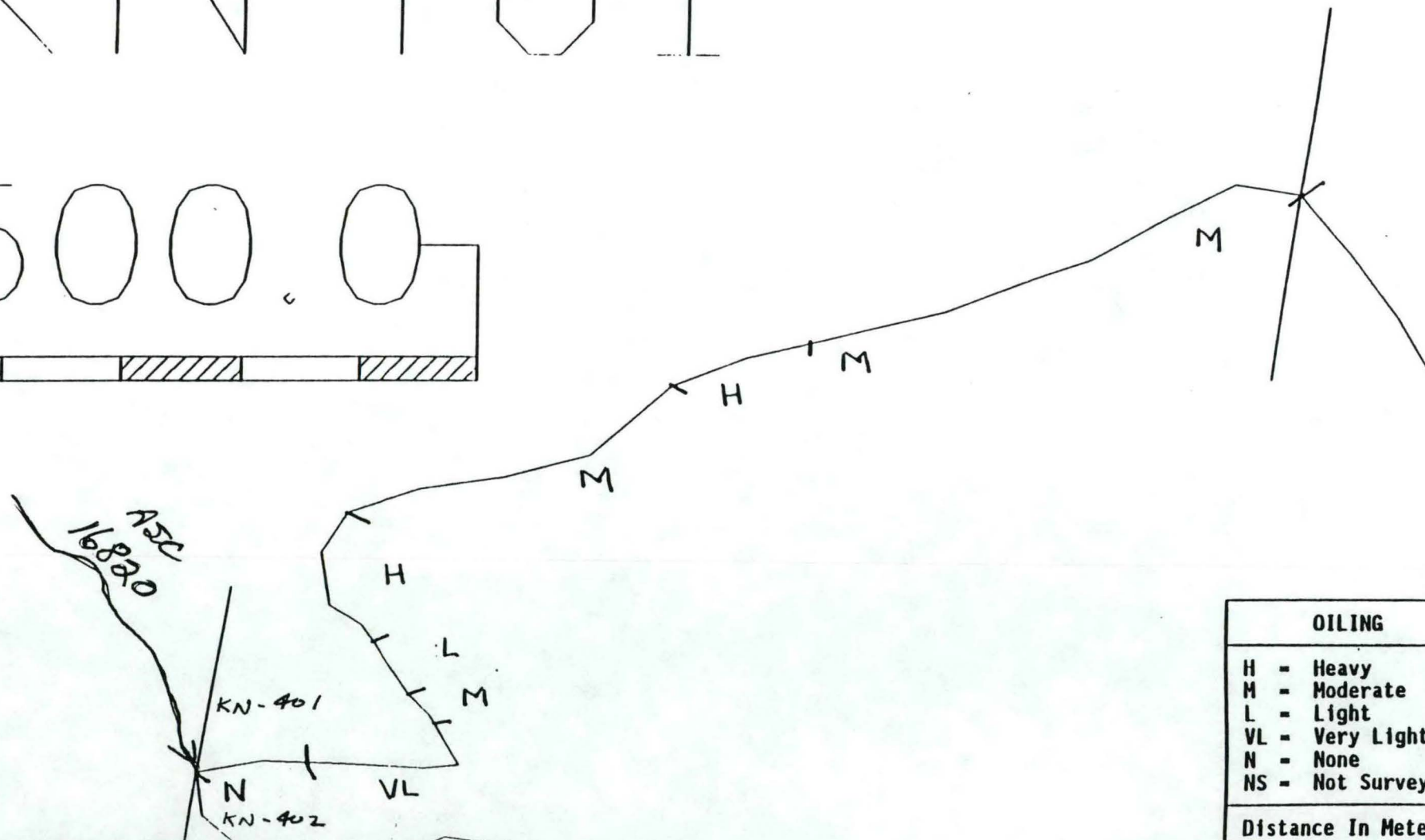
ACE 7379249 -15

DATE ?

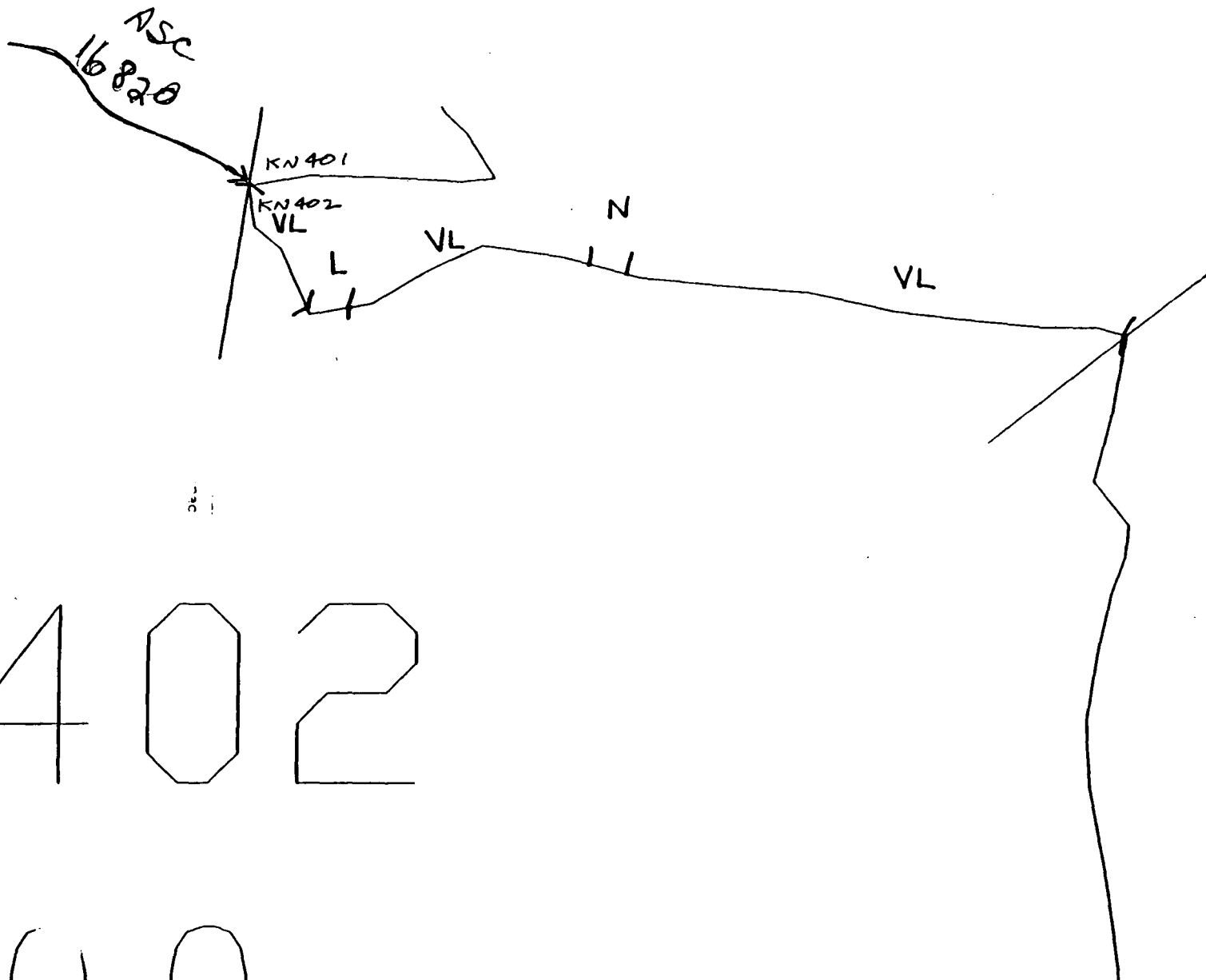
KN 401

500.0

ACE 7379250



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



KN402

500.0

ACE 7379251

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

N

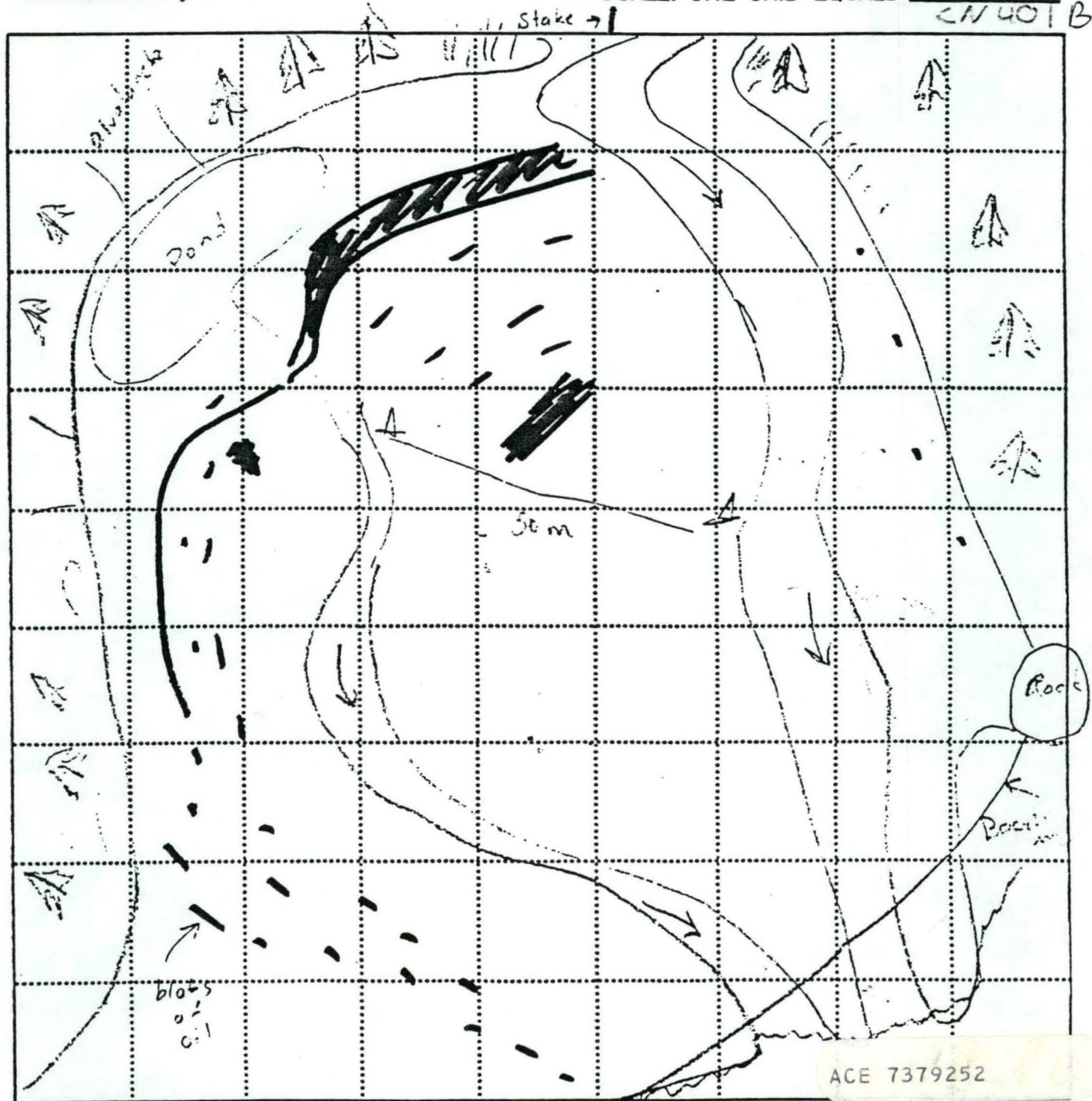
ASSESSMENT OF INTERTIDAL SPAWNING AREAS AFFECTED BY THE PRINCE WILLIAM SOUND OIL SPILL

COLLECTORS: DR + SM

NO OIL
SHEEN
MOUSSE
BLACK OIL

SCALE: ONE GRID EQUALS

KN ~~402~~
 CN 401 B



ACE 7379252

COLOR CODE: 1) NO OIL - BLANK 2) SHEEN - GREEN 3) MOUSSE - BROWN 4) BLACK OIL - BLACK

COMMENTS:

6-10 ft band of soil on grass at high tide mark
1 ft x 1 ft - 3-4 inches deep

RICK GUSTIN LOG BOOK FROM 098-12-89 TO 09-21-89 PRE OIL SPILL CATALOGED STREAMS

#	Box	Map	ASC #	Quad #	Location	Segment #	Sample #	Date	Footage	Page #	Condition of Oiling
1.	[1]	21	16280	Sew-B3	Chenega Is.	CH-001	89RLG006	08-13-89		4	Heavy
2.	[1]	18	16180	Sew-B3	Chenega Is.	CH-002	89RLG009	08-13-89		4	Heavy
3.	[1]	20	16260	Sew-B3	Kake Cove	CH-017	89RLG007	08-13-89		6	Light
4.	[2]	44	16940	Sew-B3	Herring Bay	KN-132	89RLG025	08-14-89		11	Very heavy
5.	[2]	3	16932	Sew-B3	Herring Bay	KN-129	89RLG032	08-14-89		12	Heavy to Moderate
6.	[3]	33	16797	Sew-A3	Thumb Bay	KN-605	89TWC034	08-15-89		13	Light
7.	[3]	15	16851	Sew-A3	Main Bay	KN-602	89TWC039	08-15-89		14	Heavy
8.	[3]	34	16810	Sew-A3	Hogan Bay	KN-411	89TWC042	08-15-89		15	Light
9.	[3]	35	16820	Sew-B3	Snug Harbor	KN-402	89TWC046	08-15-89		15	Heavy to Moderate
10.	[3]	37	16840	Sew-B2	Marsha Bay	KN-701	89TWC050	08-16-89		17	Heavy to Moderate
11.	[3]	39	16850	Sew-B2	Marsha Bay	KN-704	89TWC054	08-16-89		18	Moderate
12.	[3]	33	16844	Sew-B2	Marsha Bay	KN-704	89TWC058	08-16-89		19	Moderate
13.	[3]	40	16865	Sew-B2	SA Bay of Isles	KN-134	89TWC062	08-16-89		20	Heavy
14.	[5]	41	16868	Sew-B3	Bay of Isles	KN-201	89RLG066	08-18-89		21	Moderate (this stream does not exist?)
15.	[6]	36	16830	Sew-B2	Knight Is. S.E.	KN-705	89RLG069	08-18-89		23	Moderate

THE NUMERALS IN THE MAP COLUMN ARE FOR REFERENCE TO 'DOCUMENTED OILED ANADROMOUS STREAMS IN PRINCE WILLIAM SOUND' RANDOMIZED LIST FOR STREAM SURVEYS, 2 AUGUST 1989.

NUMERALS IN THE BOX COLUMN INDICATE THE NUMBER CODE PRINTED ON THE SAMPLE BOXES.

ASSESSMENT OF INTERTIDAL SPAWNING AREAS AFFECTED
BY THE PRINCE WILLIAM SOUND OIL SPILL

NAME: Knight I Mummy Bay
USGS MAP: Seward A-3
MAP #:
DATE: 4-26-89
TIME OF SURVEY: 825
LOW TIDE .7 TIME 1139
COLLECTORS: DEI SM

KN 401-402

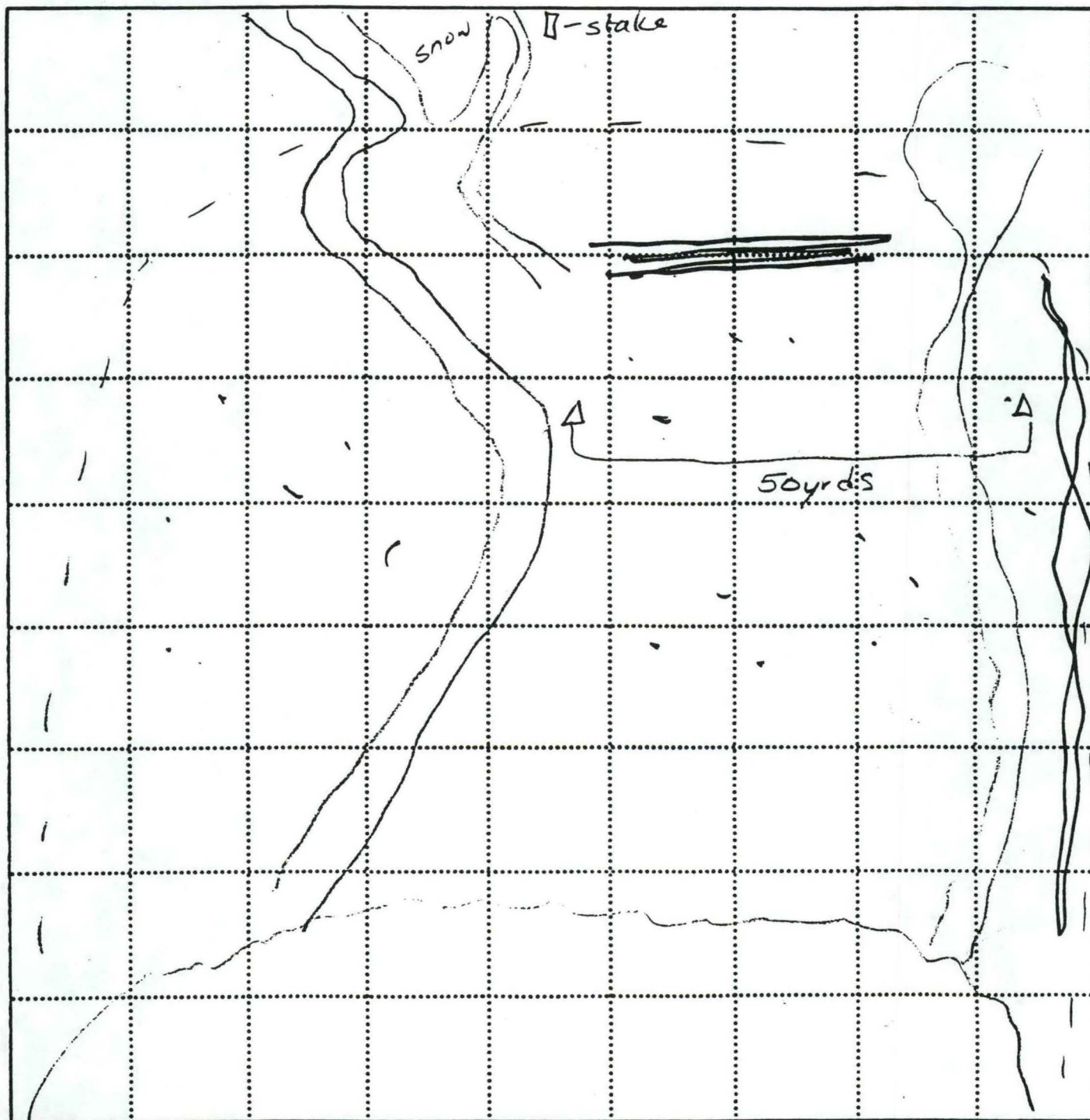
NO OIL
SHEEN
MOUSSE
BLACK OIL

OIL TYPES PRESENT (1 2 3 4)

PHOTO #: 20 + 21 + 22 Rott 14

STREAM CATALOG #: 16820

SCALE: ONE GRID EQUALS KN 401-402



COLOR CODE: 1) NO OIL - BLANK 2) SHEEN - GREEN 3) MOUSSE - BROWN 4) BLACK OIL - BLACK

COMMENTS:

ACE 7379254

AD 46-Spo / Com Fish Survey - Spring 89

ASSESSMENT OF INTERTIDAL SPAWNING AREAS AFFECTED BY THE PRINCE WILLIAM SOUND OIL SPILL

NAME: Knight I. Snug Harbor

USGS MAP: Seward B-3

MAP #:

DATE: 4-26-89

TIME OF SURVEY: 1115

LOW TIDE: 4 TIME: 1139

COLLECTORS: DR + SM

ASC# 226-30-16820

NO OIL
SHEEN
MOUSSE
BLACK OIL

OIL TYPES PRESENT (1 2 3 4)

PHOTO #: 35-36 Roll #14 + 29-34 ground shots

STREAM CATALOG #: 16820

SCALE: ONE GRID EQUALS

KN 401B



COLOR CODE: 1) NO OIL - BLANK 2) SHEEN - GREEN 3) MOUSSE - BROWN 4) BLACK OIL - BLACK

COMMENTS:

6-10ft band of oil on grass at high tide mark
1 pool of oil 1ft x 1ft - 3-5 inches deep
Boat present

oil
sheen
of grass

ACE 7379255
-1/14/RT/1ff

1991 MAYSAP EVALUATION

SEGMENT: KN 401 SUB: B REGION: PWS SURVEY DATE: 4/26/91

ENVIRONMENTAL SENSITIVITIES:

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

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

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

SHPO Signature: [Signature] Date: 5/9/91

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

COMMENTS:

INITIAL: Manual pickup and Customblen locations F, G, J.

** Avoid Set-Aside Site Locations C, D, H **

TAG: MANUAL PICKUP BIO/CUSTOMBLEN

FOSC: WTR TREATMENT REQUIRED

TAG APPROVAL DATE: MAY 9 1991

FOSC APPROVAL DATE: 5/13/91

ADEC [Signature]

FOSC [Signature]
E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC

EXXON [Signature]

USCG [Signature]

NOAA [Signature]

ADF&G OIL SPILL RESPONSE MONITORING

ASC# 226-30-16820

Date: 5/28/91

Stream Name: _____

Observer: A. Weseman

Segment-Sub Unit KN 401B

Location: Shug Harbor

Anad. Stream Permit Issued? ☒ N

Date: 5/28/91

Work Order Issued: ☒ N

Date: 5/13/91

Demob Date: 5/28/91

Oil Characteristics (circle appropriate ones)

Surface: ☒ AP, MS, TB, ☒ SOR, CV, CT, ST, FL, DB, None
 Subsurface: OP, HOR, MOR, LOR, OF, TR, None

Treatment Techniques:

Manual Removal ☒
 Manual Raking ☒
 Spot Wash
 Other

☒ Bioremediation & Type 101b custom blend
 Mechanical Tilling
 Header Flood (Hot/Cold)

Crew Size: 4 - same as agency Reps - no RECCO workers

Lbs. or Bags of Oil/Sediment Removed 7 bags

Other Agency Reps, and Names:

Bob Jensen/USCG
Scott Newman, Randy Boyer/Exxon

<u>Photos</u>	Y ☒ N	<u>Roll #</u>	<u>Frames</u>
		_____	_____
		_____	_____

<u>Video</u>	<u>Tape #</u>	<u>Start</u>	<u>End</u>
	<u>NO</u>	_____	_____
	_____	_____	_____

Sediment/Oil Samples (Y-☒ N) Collection Number

Purpose of Trip * treatment

* Form designed primarily for cleanup inspection trips, but should be used for any field trips, i.e., to check on bird rookeries, seal haulouts, special habitat areas, etc.

Describe extent of remaining oil (any comments on expected completion of cleanup).

Some bit to L-SOR sediments remain from the tar mat/mousse that was removed from F, G, & J

AP sediments remain in "set-aside" area

near stream - some ms/oiled vegetation remains in location A1 & L-SOR in location B.

Comments: (Are work order procedures being followed?, etc.)

Yes - work order completed.

Area addressed on work order quite a distance from catalogued stream & not a threat to stream

Oil remaining near stream relatively insignificant but it's presence and condition should be assessed by ADF & G in Aug 91

A:OPRESP
April 2, 1991

KN-401-A



xx Bedrock
 ↓ Vegetation

KN 401 B 4/26/91
 OG map D.I. Little
 1815 - 2030

0 20 100
 meters

subdivision boundary

stream
 (F) 2 x 5 40% AP
 (K) APC 1% 1 x 5
 PCV

(G) 2 x 30 1% AP

(E) PU 1 x 10 5% AP
 "wall" working N. end of set aside

(H) 5 Δ NO 50% 0.1 x 1 50%
 GSV

stream
 set aside
 (D) 2 x 4 AP 30%

(C) 1 x 35 AP 25%

set aside #4 sign

Unsurveyed

NO OIL

NO Δ4
 P, G

NO Δ3
 NO PG

NO Δ1
 P, G

Avalanche

Avalanche

KN 402 A

subdivision boundary

PC

1 x 20 (B) 50R (light) 1%

PU

(A1) 2 x 13 m MS 5% 50R (heavy) grass
 (A2) 2 x 1 CV on boulders

area addressed by work order '91

ANADROMOUS STREAM

EXXON Valdez Oilspill Cleanup

Anadromous Fish Stream Authorization

Date 5/28/91

EXXON Authorized Representative Scott Naumea

Shoreline Segment KN401B

Anadromous Fish Stream Number(s) 226-30-16820

Approved Cleanup Techniques manual removal, raking
& custom blend

Approved Cleanup Period May 15 - July 10, 1991

Alaska Department of Fish and Game

Aimee Weeseman
Authorized Officer

Scott Naumea
Permittee's Signature

EXXON Valdez Oilspill Cleanup

Anadromous Fish Stream Authorization

Date 5/28/91

EXXON Authorized Representative Scott Nauman

Shoreline Segment KN401B

Anadromous Fish Stream Number(s) 226-30-16820

Approved Cleanup Techniques manual removal, raking
& custom blend

Approved Cleanup Period May 15 - July 10, 1991

Alaska Department of Fish and Game

Aimee Weisman
Authorized Officer

[Signature]
Permittee's Signature

EXXON Valdez Oilspill Cleanup

Anadromous Fish Stream Authorization

Date

5/28/91

EXXON Authorized Representative

Scott W. Jordan

Shoreline Segment

KN401B

Anadromous Fish Stream Number(s)

10-30-16820

Approved Cleanup Techniques

oil removal, skimming

oil spill absorbent

Approved Cleanup Period

May 15 - July 10, 1991

Alaska Department of Fish and Game

Amee W. Jordan

Authorized Officer

Permittee's Signature

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: 4-26-91 16) HIGH TIDE TIME: _____ 22) TEAM RECORDER: Aimee Weseman
- 5) START TIME: 1835 17) HIGH TIDE HTS: _____ 23) OBSERVERS: Tom Crow
- 6) STOP TIME: 1915 18) LOW TIDE TIMES: 1830 24) AGENCY: ADF&G
- 7) SEGMENT #: KN401B 19) LOW TIDE HTS: +1 25) PHOTOS TAKEN: Y (N)
- 8) K-UNIT: _____ 20) TIDE HT AT SURVEY: +1 to 1.2 ROLL #: _____ FRAMES: _____
- 9) LAT: _____ Ebb (Slack) Flood Slack 26) VIDEO TAKEN: Y (N)
- 10) LONG: _____ 21) USCG QUAD: _____ TAPE # _____
- 11) ASC #: 226-30-16820 START: _____ STOP: _____
- 12) STREAM NAME: _____ 27) SAMPLES TAKEN? Y (N)
- 13) LOCATION: SNUG Harbor KN I 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	<u>2</u>	<u>3</u>		<u>15</u>	<u>1-2cm</u>		<u>HSOR/MS</u>
SITE 2	<u>30</u>	<u>1</u>		<u>1</u>	<u>1cm</u>		<u>LSOR</u>
SITE 3							
SITE 4							
SITE 5							

- 29) OVERALL OIL IMPACT: 33) ANADROMOUS FISH PRESENT: Y N
- H = >6m band with $\geq 50\%$ oil coverage
- M = >6m band with $\leq 50\%$ oil coverage or $\geq 3m$ to $\leq 6m$ with $\geq 10\%$ oil coverage
- L = <3m band with $> 10\%$ oil coverage
- (VI) = $\leq 10\%$ oil coverage regardless of band width
- N = No oil observed
- 30) OIL IN STREAMBED: Y (N) 34) WILDLIFE OBSERVATION
- 31) OIL ON BEACH ADJACENT TO MOUTH: (Y) N
- 32) SUBSTRATE TYPE (PERCENT):
- Bedrock _____ Boulder _____ Gravel _____ Sand _____ Cobble _____ Mud/Silt _____
- Species _____ Number _____
- Bald Eagle 1

35) COMMENTS: _____

Stream area looks in good shape

The majority of the HSOR was removed from site #1

during survey.

36) PHOTOLOG

FRAME(S)

DESCRIPTION

KN 401B

ASC# 226-30-16820

May sap 1991

ADFYG

site # 1
HSOR/ms
2x3m

site # 2
1x30m
LSOR



Treatment Recommendation:

The Anadromous fish Stream portion of the subdivision requires no further treatment at this time. However due to the high public use of the fest of the subdivision for fishing, tourism & recreation, the AP band in area 2 should be manually removed. The oil is located in & just below the grassy swash zone & should receive treatment before the grass hides it.

PAGE 1 OF 1

0.6

DAVID LITTLE

BIO TOM SCHROEDER

SEGMENT KN 401

ADEC TOM CROWE (ADFEG)

~~LANDMANAGER~~ AIMEE WESEMAN for ADF+G

SUBDIVISION B

EXXON SCOTT NAUMAN

USCG/NOAA CWO SPURR / REBECCA HOFF

DATE 04 / 26 / 91

TIME 18:15 to 20:30

TIDE LEVEL 1 ft. to 4 ft.

ENERGY LEVEL: ☐ H ☐ M ☒ L

SURVEYED FROM: ☒ FOOT ☐ BOAT ☒ HELO

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

TOTAL LENGTH SHORELINE SURVEYED: 430 m NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W — m M — m N 50 m VL 70 m NO 310 m US 160 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

SCOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 6 - 01 FRAMES 10-14

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

Generally there was no oil in the southern portion near the Anadromous stream, except for a narrow band of 1% light SOR and a MS/SOR(H) 5% cover in meadow grass sittings near pond. Most of latter picked up. No sheens downshore of these observed oil deposits were seen. (Both in fact are in KN-402-A.) In the set-aside portion of the site, some patches of AP remain in U1T2. Only one very small light SOR patch was seen in lower shore. Northern end of subdivision had some AP formed in fibrous root mat of U1T2/SUT2 (Helo L/Z), probably not very visible once beach grass has grown in summer. The latter location is not in Set-aside site. Could not reach central portion (see maps).

KN-401-A

xx Bedrock
↑ ↓ Vegetation

KN 401 B 4/26/91
OG map D.I. Little
1815 - 2030

0 50 100
meters

stream
(F) 2x5
40% AP
(K) APC 10%
1x5
PCV

subdivision boundary

(G) 2x30
c% AP

(E) PU
1x10
5% AP

"wall"
marking N. end
of set aside

(H) 5 Δ NO
50R
0.1x1
50%
GSV

Unsurveyed

stream
set aside
(D) 2x4
AP 30%

(C) 1x35 AP
25%

set aside #4
sign

NO OIL

subdivision boundary

KN 402 A

1x20 (B)
50R (light)
1%

PU

(A1) 2x13m MS
5% 50R (heavy) grass
(A2) 2x1 CV on boulders

PC

NO Δ 3

NO Δ 4

P.G

NO Δ 2

NO Δ 1

PAVIA

Avalanche

Avalanche

ANADROMOUS
STREAM

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6
 SEGMENT # KN 401
 SUBDIVISION B
 SEA STATE
 PHOTOGRAPHS: ROLL #
 DATE 4/26/91
 TIDAL HEIGHT (Range) +1½ to +2½
 BIOLOGIST T.A. Schroeder
 WIND SPEED/DIRECTION Calm
 FRAME # 202 6:10pm to 8:30pm

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

(A+B) = Intertidal area is very productive area. Fucus help bed and greenwater. Driftwood provides numerous tidal pools and cover for juvenile salmon fry.

(C-E) = Back "retards" basin mixture of gravel, peat and decaying organic. Some sheering but appears to be from organic matter.

(F+G) = Extensive fucus help bed and mussel bed located in LITZ below asphalt. Presence of oil in grass does not appear to be affecting biological communities. Numerous small worms found under gravel and small rocks in asphalt.

* If manual pickup pursued, should be done in 7-10 days before grass grows up through oil and obscures location. Boat and human traffic should be kept to minimum to prevent damage to mussel & fucus help beds. Recommend close to high tide pickup.

Again unable to locate eagle nests.

WILDLIFE OBSERVATIONS

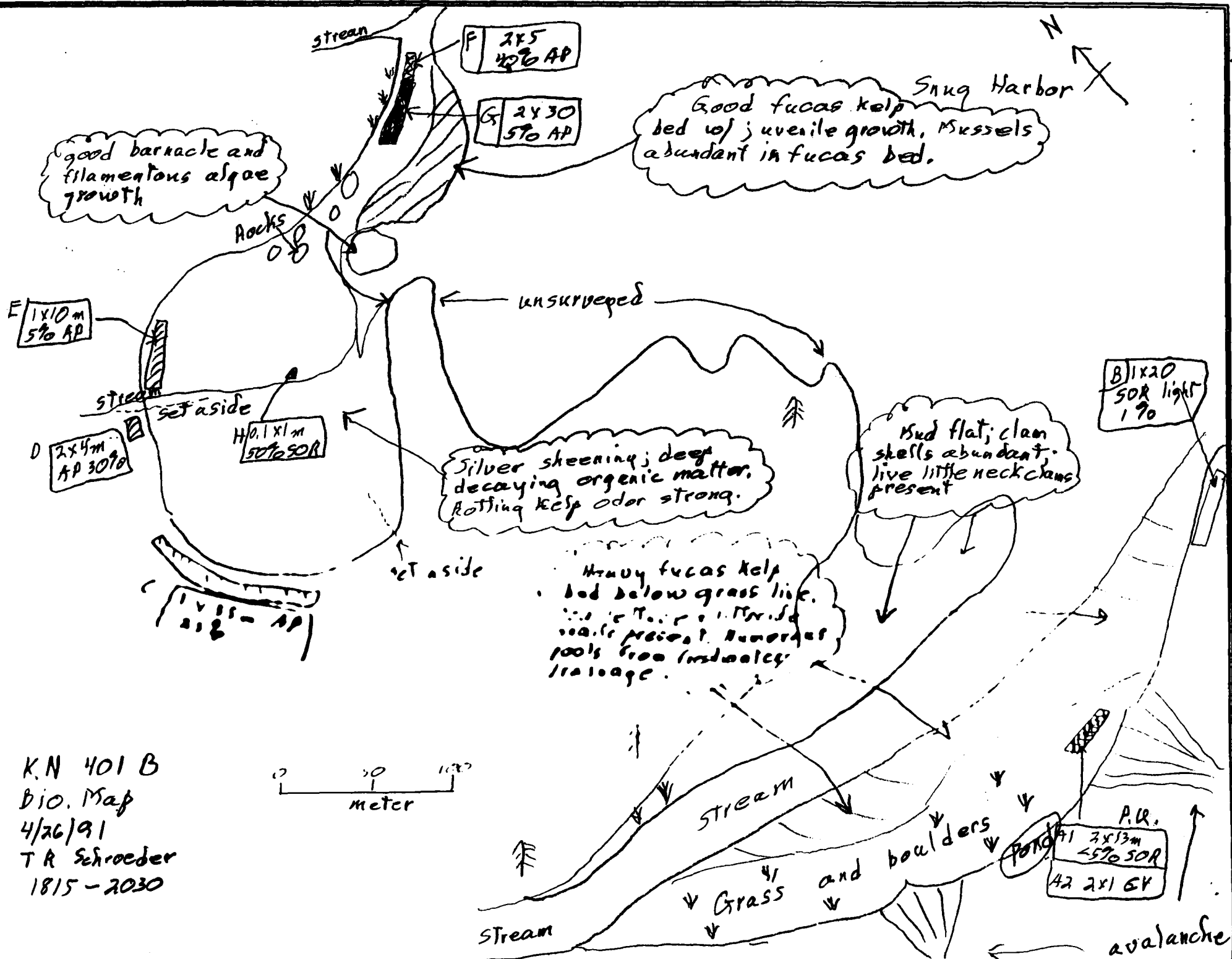
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	none
Seabirds			
Waterfowl	1	4	
Gulls/Kittiwakes	1	2	
Shorebirds			
Corvids			
Other Birds			

LAND MAMMALS

MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters		none	
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.



KN 401 B
 Bio. Map
 4/26/91
 T R Schroeder
 1815 - 2030

Segment No KN401 Subdivision B
Date 4/26/91 Log Frame No 10
Photographer Rebecca Hoff
Location _____
Comments Looking across stream to
rocky outcrop

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No KN401 Subdivision B
Date 4/26/91 Log Frame No 12
Photographer Rebecca Hoff
Location _____
Comments WCD workers digging out pit
in upper intertidal (same spot as #11)
(looking towards 401A)

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No KN401 Subdivision B
Date 4/26/91 Log Frame No 14
Photographer Rebecca Hoff
Location _____
Comments Pit dug thru pavement in
upper intertidal (right below marsh
grass in NOAA set aside

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No _____ Subdivision _____
Date _____ Log Frame No _____
Photographer _____
Location _____
Comments _____

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No _____ Subdivision _____
Date _____ Log Frame No _____
Photographer _____
Location _____
Comments _____

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No KN401 Subdivision B
Date 4/26/91 Log Frame No 11
Photographer Rebecca Hoff
Location _____
Comments Surface and roadside in grass
in upper intertidal (in area where
VCD workers dug out pit) (401A)

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No KN401 Subdivision B
Date 4/26/91 Log Frame No 13
Photographer _____
Location View over to NOAA set aside
Comments from the rocky point

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No _____ Subdivision _____
Date _____ Log Frame No _____
Photographer _____
Location _____
Comments _____

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No _____ Subdivision _____
Date _____ Log Frame No _____
Photographer _____
Location _____
Comments _____

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No _____ Subdivision _____
Date _____ Log Frame No _____
Photographer _____
Location _____
Comments _____

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Subdivision Field Map
Map Key: KN1KN0401B
Name: Town Creek
Date: 4/20/02
Date Entered:

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 6 SEGMENT KN-401 SUBDIVISION B DATE 04/26/91

ADEC ACTING FOR ADEC AND USFS

NAME TOM CROWE

SIGNATURE [Signature]

☐ NTR ☒ TREATMENT RECOMMENDED

AP IN UPPER INTERTIDAL AREA AND MID INTERTIDAL IS WELL DEFINED, AND EASILY PICKED UP. TREATMENT SHOULD INCLUDE PICKUP AND REMOVAL OF ALL AP AND MOSC SEGMENTS. AREAS TREATED SHOULD THEN BE MANUALLY ROLLED WITH PICKS + RAKES. CARE SHOULD BE TAKEN TO LOCATE SPOTTED RP DEPOSITS IN UPPER INTERTIDAL IN GRASSY AREAS. UNSURVEYED AREA OF THIS SEGMENT SHOULD BE SURVEYED BY ADEC IN THE NEAR FUTURE AS PAST MAPS SHOW SIGNIFICANT OILING.

EXXON

NAME Scott A. Nauman

SIGNATURE [Signature]

☐ NTR

Stream area looked very good - rich growth in the intertidal zone. Northern section of the subdivision had small patch of scattered asphalt (see F and G on sketch). These could be picked up with a small crew, but will be hard to locate once surrounding grass begins to grow. Overall, stream and subdivision are in good shape.

LANDMANAGER ADFG

NAME Aimee Weseman OF ADFG

SIGNATURE [Signature]

☐ NTR ☒ treatment recommended

The Anadromous fish stream portion of the subdivision requires no further treatment at this time. However, due to the high public use of the rest of the subdivision for fishing, tourism & anchorage, the well defined AP band in Northern Portion of the subdivision should be manually removed. The oil is located in & just below grassy swash zone & should receive treatment before the grass grows up & hides it.

USCG/NOAA

NAME CWO RSPURR/REBECCA HOFF

SIGNATURE [Signature] [Signature]

☐ NTR

Area surrounding stream is inundated with freshwater runoff. Extensive mussel + clam shells in lower intertidal + live mussels heavy algal growth. Oil in upper intertidal grassy area does not appear to be affecting marine community. Set aside: extensive asphalt pavement in upper intertidal just below grass. Extensive growth of filamentous green + brown algae throughout runoff area. Small asphalt chunks could be picked up but wouldn't rec. special trip.

Concur with Exxon comments - Asphalt should be removed early during clean up phase to prevent overgrowth of grass.

ADF&G OIL SPILL RESPONSE MONITORING

ASC# 226-30-16820

Date: 5/28/91

Stream Name: _____

Observer: A. Weseman

Segment-Sub Unit KN 401B

Location: Shug Harbor

Anad. Stream Permit Issued? ☒ Y N

Date: 5/28/91

Work Order Issued: ☒ Y N

Date: 5/13/91

Demob Date: 5/28/91

Oil Characteristics (circle appropriate ones)

Surface: ☒ AP, MS, TB, ☒ SOR, CV, CT, ST, FL, DB, None
Subsurface: OP, HOR, MOR, LOR, OF, TR, None

Treatment Techniques:

Manual Removal ☒ X
Manual Raking ☒ X
Spot Wash
Other

☒ Bioremediation & Type 101b custom blend
Mechanical Tilling
Header Flood (Hot/Cold)

Crew Size: 4 - same as agency reps - no RECCO workers

Lbs. or Bags of Oil/Sediment Removed 7 bags

Other Agency Reps, and Names:

Bob Jensen / USCG
Scott Nauman, Randy Boyer / Exxon

Photos	Y ☒ N	Roll #	Frames
		_____	_____
		_____	_____

Video	Tape #	Start	End
	<u>NO</u>	_____	_____
	_____	_____	_____

Sediment/Oil Samples (Y ☒ N) Collection Number

Purpose of Trip * treatment

* Form designed primarily for cleanup inspection trips, but should be used for any field trips, i.e., to check on bird rookeries, seal haulouts, special habitat areas, etc.

Describe extent of remaining oil (any comments on expected completion of cleanup).

Some mto L-SOR sediments remain from the tarmat/mousse that was removed from F, G, & J

AP sediments remain in "set-aside" area

near stream - some ms/oiled vegetation remains in location A1 & L-SOR in location B.

Comments: (Are work order procedures being followed?, etc.)

Yes - work order completed.

Area addressed on work order quite a distance from catalogued stream & not a threat to stream

Oil remaining near stream relatively in-significant but it's presence and condition should be assessed by AKFYG in Aug 91

A:OPRESP
April 2, 1991

KN-401-A



xx Bedrock
 ㄗ Vegetation

KN 401 B 4/26/91
 OG map D.L. Little
 1815 - 2030

0 20 100
 meters

subdivision boundary

(K) APC 1%
 1x5

stream

(F) 2x5
 40% AP

(G) 2x30
 2% AP

(E) PU
 1x10
 5% AP

"wall" working N. end of set aside

(H) 5 NO
 50P
 0.1x1
 50%

Unsurveyed

(D) 2x4
 AP 30%

(C) 1x35 AP
 25%

set aside #4 sign

subdivision boundary

KN 402 A

(B) 1x20
 50R (light)
 1%

PU

(A1) 2x13m MS
 5% SOR (heavy grass)
 (A2) 2x1 CV on boulders

area addressed by
 work order '91

ANABROMOUS
 STREAM

Avalanche

Avalanche

NO OIL

NO Δ4

P, G

NO Δ3

NO PG

Δ2

NO Δ1

NO Δ1

NO Δ1

NO Δ1

NO Δ1

NO Δ1

NO Δ1

NO Δ1

NO Δ1

MAYSAF
12000

1991 MAYSAP EVALUATION

SEGMENT: KN 401 SUB: B REGION: PWS SURVEY DATE: 4/26/91ENVIRONMENTAL SENSITIVITIES:Work Window(s) OPEN 5/1 - 7/10 (EXCEPT STREAM BED), RESTRICTED
7/10 - 9/15Ecological/Constraints (see page two for details) Anadromous
stream

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

SHPO Signature: Charles Z. H. Dineen Date: 5/9/91RECOMMENDATIONS:

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

COMMENTS:INITIAL: Manual pickup and Customblen locations F, G, J.** Avoid Set-Aside Site Locations C, D, H **TAG: MANUAL PICKUP, BIO/CUSTOMBLENFOSC: NO TREATMENT REQUIREDTAG APPROVAL DATE: MAY 9 1991FOSC APPROVAL DATE: 5/13/91

ADEC

FOSC

EXXON

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

USCG

NOAA

MAYSAP
stream

226-30-16820

1991 MAYSAP EVALUATION

SEGMENT: KN 401 SUB: B REGION: PWS SURVEY DATE: 4/26/91ENVIRONMENTAL SENSITIVITIES:Work Window(s) OPEN 5/1 - 7/10 (EXCEPT STREAM BED), RESTRICTED
7/10 - 9/15Ecological/Constraints (see page two for details) Anadromous
stream

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

SHPO Signature: Charles Z. H. D. M. J. Date: 5/9/91RECOMMENDATIONS:

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

COMMENTS:INITIAL: Manual pickup and Customblen locations F, G, J.** Avoid Set-Aside Site Locations C, D, H **TAG: MANUAL PICKUP, BIO/CUSTOMBLENFOSC: ATP TREATMENT REQUIREDTAG APPROVAL DATE: MAY 9 1991FOSC APPROVAL DATE: 5/13/91

ADEC

FOSC

EXXON

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

USCG

NOAA

1991 MAYSAP EVALUATION

SEGMENT: KN 401 **SUB:** B **REGION:** PWS **SURVEY DATE:** 4/26/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

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

COMMENTS:

INITIAL: Manual pickup and Customblen locations F, G, J.

**** Avoid Set-Aside Site Locations C, D, H ****

5/6
TAG: Project

5/7
FOSC: _____

TAG APPROVAL DATE: _____ **FOSC APPROVAL DATE:** _____

ADEC _____ FOSC _____

EXXON _____

USCG _____

NOAA _____

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



PRINCE WILLIAM SOUND

SEGMENT: KN0401
ANADROMOUS STREAM.

SUBDIVISION: B

SITE:

RECOMMENDED TREATMENT:

IN LOCATIONS F , G, J:

-MANUAL PICKUP.

AVOID SET-ASIDE SITE LOCATIONS C, D, H.

ENVIRONMENTAL SENSITIVITIES:

ANADROMOUS STREAM.

WORK WINDOW: 05/01/91 - 07/10/91

CLEANUP PLAN AND COST ESTIMATE DUE:

DATE SUBMITTED: 05/09/91

STATE ON SCENE COORDINATOR:

 for E. Piper

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

PRINCE WILLIAM SOUND

SEGMENT: KN0401
ANADROMOUS STREAM.

SUBDIVISION: B

SITE:

RECOMMENDED TREATMENT:

IN LOCATIONS F , G, J:

-MANUAL PICKUP.

AVOID SET-ASIDE SITE LOCATIONS C, D, H.

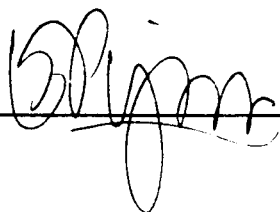
ENVIRONMENTAL SENSITIVITIES:
ANADROMOUS STREAM.

WORK WINDOW: 05/01/91 - 07/10/91

CLEANUP PLAN AND COST ESTIMATE DUE:

DATE SUBMITTED: 05/07/91

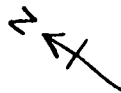
STATE ON SCENE COORDINATOR:



**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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.

KN-401-A

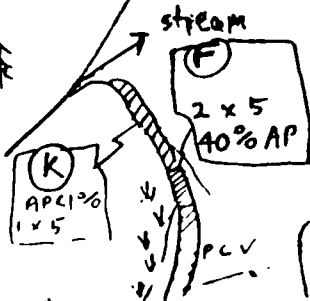


xx Bedrock
 ⚡ Vegetation

KN 401 B 4/26/91
 OG map D.I. Little
 1815 - 2030

0 50 100
 meters

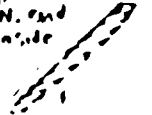
subdivision boundary



(G) 2x30
 1% AP

(E) PU
 1x10
 5% AP

"wall" marking N. end of set aside



Unsurveyed

(D) 2x4
 AP 30%

(C) 1x35 AP
 25%

set aside #4 sign

subdivision boundary

KN 402 A

1x20 (B)
 90R (light)
 1%

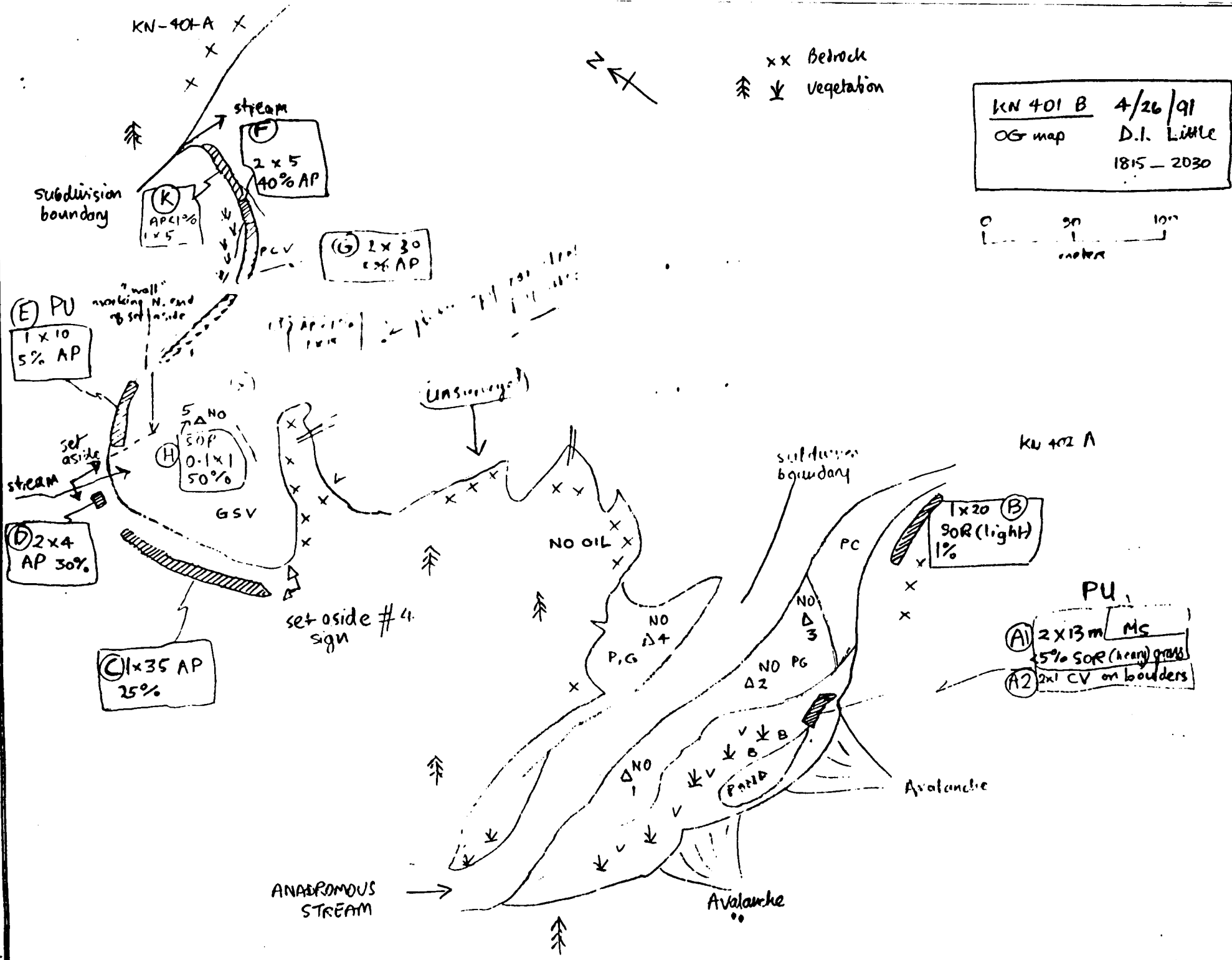
PU

(A1) 2x13m MS
 25% SOP (heavy grass)
 (A2) 2x1 CV on boulders

ANABROMOUS STREAM

Avalanche

Avalanche



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: 4-26-91 16) HIGH TIDE TIME: _____ 22) TEAM RECORDER: Aimee Wesen
- 5) START TIME: 1835 17) HIGH TIDE HTS: _____ 23) OBSERVERS: Tom Crow
- 6) STOP TIME: 1915 18) LOW TIDE TIMES: 1830 24) AGENCY: ADF&G
- 7) SEGMENT #: KN401B 19) LOW TIDE HTS: +1 25) PHOTOS TAKEN: Y (N)
- 8) K-UNIT: _____ 20) TIDE HT AT SURVEY: 2.5^{+1.0} to 7.2 ROLL #: _____ FRAMES: _____
- 9) LAT: _____ Ebb (Slack) Flood Slack 26) VIDEO TAKEN: Y (N)
- 10) LONG: _____ 21) USCG QUAD: _____ TAPE #: _____
- 11) ASC #: 226-30-16800 START: _____ STOP: _____
- 12) STREAM NAME: _____ 27) SAMPLES TAKEN? Y (N)
- 13) LOCATION: SNUG Harbor KN I 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	<u>2</u>	<u>3</u>		<u>15</u>	<u>1-2cm</u>		<u>HSOR/MS</u>
SITE 2	<u>30</u>	<u>1</u>		<u>1</u>	<u>1cm</u>		<u>LSOR</u>
SITE 3							
SITE 4							
SITE 5							

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

35) COMMENTS: _____

Stream area looks in good shape

The majority of the HSOR was removed from site #1

during survey.

KN 401B

ASC# 226-30-16820

May sap 1991

ADF+G

site #1
HSOR/ms
2x3m

site #2
1x30m
LSOR



Treatment Recommendation:

The Anadromous fish Stream portion of the subdivision requires no further treatment at this time. However due to the high public use of the rest of the subdivision for fishing, tourism & recreation, the AP band in area 2 should be manually removed. The oil is located in & just below the grassy swash zone & should receive treatment before the grass hides it.

TEAM NO. 6

NATIONAL OIL SPILL RESPONSE SUMMARY

PAGE 1 OF 1OG DAVID LITTLEBIO TOM SCHROEDERSEGMENT KN 401ADEC TOM CROWE (ADFEG)LANDMANAGER AIMEE WESEMAN for ADF+GSUBDIVISION 3EXXON SCOTT NAUMANUSCG/NOAA CWO SPURR / REBECCA HOFFDATE 04 / 26 / 91TIME 18:5 to 20:30TIDE LEVEL 1 ft. to 4 ft.ENERGY LEVEL: ☐ H ☐ M ☒ LSURVEYED FROM: ☒ FOOT ☐ BOAT ☒ HELOWEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☒ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 430 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONEEST. OIL CATEGORY LENGTH: W — m M — m N 50 m VL 70 m NO 310 m US 160 m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA		ZONE				NOTES	
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI		
A2					S						VBP	L	2	1	X					Light sor } N KN-402 (A)
B				S							CP	M	1	20		X				
C	P										GPB	L	1	35		X				
D	P										GPC	M	2	4		X				sheen m, water table.
E	S										VPG	L	1	10	X					PU picked up
F	B										VGP	L	2	5		X				Visible due to veg. dieback
G	S										VGP	L	2	30		X				" " " "
H				P							GPC	L	0.1	1				X		Light sor
J	T										GPC	L	1	15		X				very intermittent
K	T										PCG	L	1	5		X				" "
																				</

ORIGINAL COPY

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

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

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER								OILED ZONE	CLEAN BELOW	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE- SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO	cm-cm					S	UI	MI	LI		
1	20							X	—	Y	20	—				X		GP - GSP	
2	35							X	—	Y	35	—					X	PG - SG	
3	20							X	—	Y	20	—					X	PG - SG	
4	20							X	—	Y	20	—					X	PG - SG	
5	15							X	—	Y	15	—					X	GP - GSP	

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

OG COMMENTS:

Generally there was no oil in the southern portion near the Anadromous stream, except for a narrow band of 1% light sor and a MS/SOR(H) 5% cover in meadow grass sittings near pond. Most of latter picked up. No sheens downshore of these observed oil deposits were seen. (Both in fact are in KN-402-A.) In the set-aside portion of the site, some patches of AP remain in U1TZ. Only one very small light sor patch was seen in lower shore. Northern end of subdivision had some AP formed in fibrous root mat of U1TZ/SUTZ (Helo L/z), probably not very visible once beach grass has grown in summer. The latter location is not in set-aside site. Could not reach central portion (see maps).

AP 11/9/91

KN-401

B

SET
ASIDE
#4

UNSURVEYED

A

402

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

KN0401 B

ADEC Subsegment Length: 637m

METERS

0 100 200

AK State Plane Zone 4
 660401b



Subdivision Field Map

Map Key: KNKN0401B

Name: DAVID LITTLE

Date: 4/26/91

Date Entered:

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 6 SEGMENT KN-401 SUBDIVISION B DATE 04/26/91

ADEC ACTING FOR ADEC AND USFS

NAME TOM CROWE

SIGNATURE [Signature]

☐ NTR ☒ TREATMENT RECOMMENDED

AP IN UPPER INTERTIDAL AREA AND MID INTERTIDAL IS WELL DEFINED, AND EASILY PICKED UP. TREATMENT SHOULD INCLUDE PICKUP AND REMOVAL OF ALL AP AND MOSK SEGMENTS. AREAS TREATED SHOULD THEN BE MANUALLY TILLED WITH PICKS + RAKES. CARE SHOULD BE TAKEN TO LOCATE SPOTTED RP DEPOSITS IN UPPER INTERTIDAL IN GRASSY AREAS. UNSURVEYED AREA OF THIS SEGMENT SHOULD BE SURVEYED BY ADEC IN THE NEAR FUTURE AS PAST MAPS SHOW SIGNIFICANT OILING.

EXXON

NAME Scott A. Nauman

SIGNATURE [Signature]

☐ NTR

Stream area looked very good - rich growth in the intertidal zone. Northern section of the subdivision had small patch of scattered asphalt (see E and G on sketch). These could be picked up with a small crew, but will be hard to locate once surrounding grass begins to grow. Overall, stream and subdivision are in good shape.

LANDMANAGER ADEFG

NAME Aimee Weseman OF ADEFG

SIGNATURE [Signature]

☐ NTR ☒ treatment recommended

The Anadromous fish stream portion of the subdivision requires no further treatment at this time. However, due to the high public use of the rest of the subdivision for fishing, tourism & anchorage, the well defined AP band in Northern portion of the subdivision should be manually removed. The oil is located in & just below grassy swash zone & should receive treatment before the grass grows up & hides it.

USCG/NOAA

NAME LWO RSPUR/REBECCA HOFF

SIGNATURE [Signature] Rebecca Hoff

☐ NTR

Area surrounding stream is inundated with freshwater runoff. Extensive mussel - clam shells in lower intertidal + live mussels. Heavy algal growth. Oil in upper intertidal grassy area does not appear to be affecting marine community. Set aside - stream asphalt pavement in upper intertidal just below grass. Extensive growth of plantations green + brown algae throughout runoff area. Small asphalt chunks could be picked up but wouldn't rec. special trip.

Concur with Exxon comments - Asphalt should be removed early during clean up phase to prevent overgrowth of grass.

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6
 DATE 4/26/91
 SEGMENT # KN 401
 TIDAL HEIGHT(Range) +1½ to +2½
 SUBDIVISION B
 BIOLOGIST T.A. Schroeder
 SEA STATE
 WIND SPEED/DIRECTION Calm
 PHOTOGRAPHS: ROLL #
 FRAME #

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

(A+B) = Intertidal area is very productive area. Fucus help bed and freshwater drainage provide numerous tidal pools and cause for juvenile salmon fry.

(C-E) = Back "retards" basin mixture of gravel, pebbles decaying organic. Some sheering but appear to be from organic matter.

(F+G) = Extensive fucus help bed and mussel bed located in LITZ below asphalt. Presence of oil in grass does not appear to be affecting biological communities. Numerous small crabs found under gravel and small rocks in asphalt.

* If manual pickup pursued, should be done in 7-10 days before grass grows up through oil and obscures location. Boat and barge traffic should be kept to minimum to prevent damage to mussel & fucus help beds. Recommend close to high-tide pickup.

Again unable to locate eagle nests.

WILDLIFE OBSERVATIONS

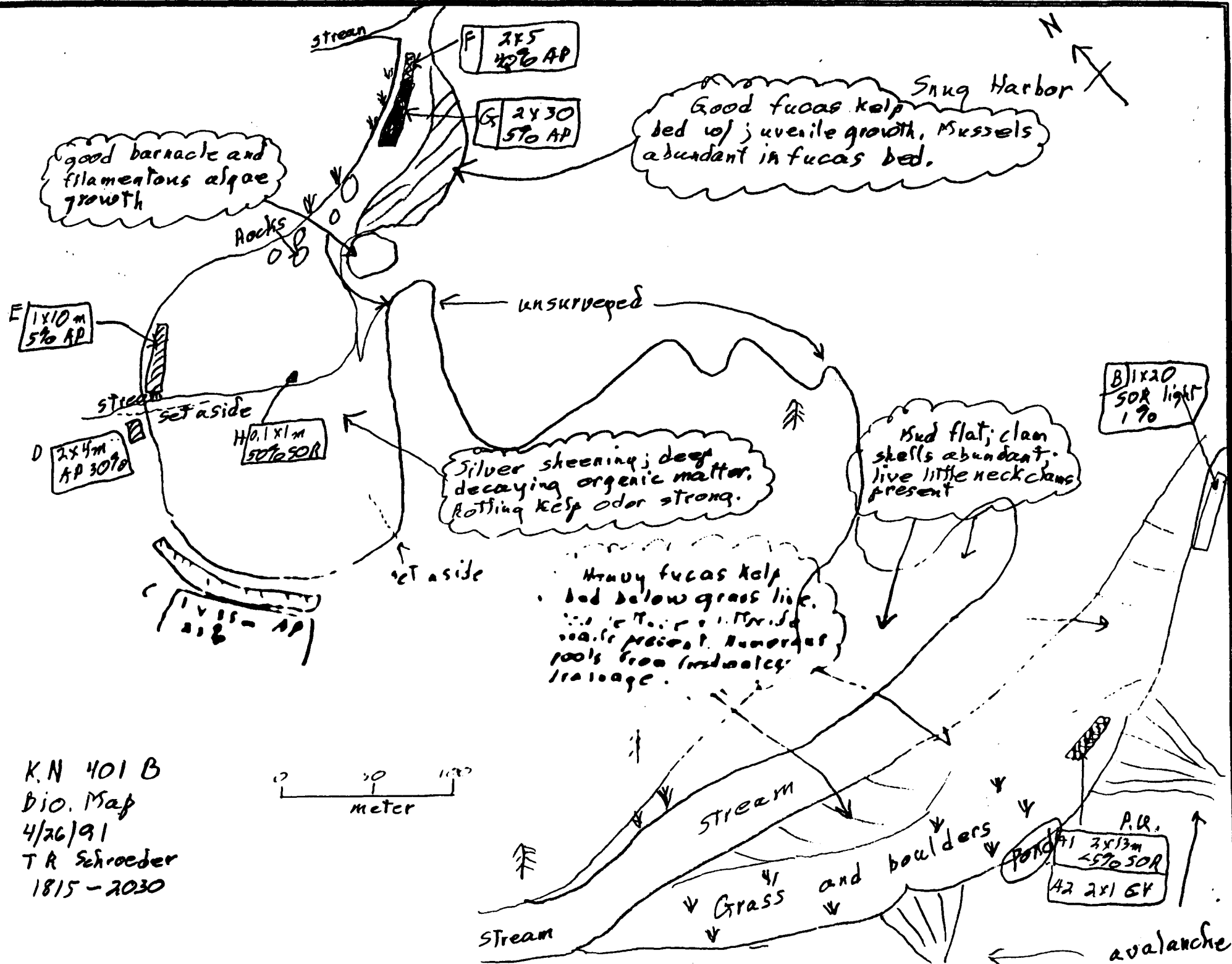
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	none
Seabirds			
Waterfowl	1	4	
Gulls/Kittiwakes	1	2	
Shorebirds			
Corvids			
Other Birds			

LAND MAMMALS

MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters		none	
Pinnipeds(specify)			
Whales(specify)			

Shoreline subdivision map showing important biological features attached.



KN 401 B
Bio. Map
4/26/91
TR Schroeder
1815-2030

Segment No KN401 Subdivision B
Date 4/26/91 Log Frame No 10
Photographer Rebecca Hoff
Location _____
Comments Looking across stream to
rocky outcrop

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No KN401 Subdivision B
Date 4/26/91 Log Frame No 12
Photographer Rebecca Hoff
Location _____
Comments Vico workers digging out oil
in upper intertidal (dam report as #11)
(looking towards 401A)

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No KN401 Subdivision B
Date 4/26/91 Log Frame No 14
Photographer Rebecca Hoff
Location _____
Comments Pit dug thru pavement in
upper intertidal (right below marsh
grass in NOAA set aside

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No _____ Subdivision _____
Date _____ Log Frame No _____
Photographer _____
Location _____
Comments _____

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No _____ Subdivision _____
Date _____ Log Frame No _____
Photographer _____
Location _____
Comments _____

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No KN401 Subdivision B
Date 4/26/91 Log Frame No 11
Photographer Rebecca Hoff
Location _____
Comments Surface oil residue in grass
in upper intertidal (in area where
Vico workers dug out oil) (401A)

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No KN401 Subdivision B
Date 4/26/91 Log Frame No 13
Photographer _____
Location View over to NOAA set aside
Comments from the rocky point

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No _____ Subdivision _____
Date _____ Log Frame No _____
Photographer _____
Location _____
Comments _____

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No _____ Subdivision _____
Date _____ Log Frame No _____
Photographer _____
Location _____
Comments _____

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

Segment No _____ Subdivision _____
Date _____ Log Frame No _____
Photographer _____
Location _____
Comments _____

Roll No MAYSAP- Neg. No _____
Control No _____ (Office Use Only)

5/13/91 Discrepancy comments

KZ

KN401 B 226-30-16820

Review

HAB

OG

Site 1

2*3 m

15% H_{SOR}, MS

-Δ-

-Δ-

Site 2

1*30 m

L_{SOR}

10%

~ OK ~

Sites A1, A2

2*13 m, 2*1 m

<5% SOR, CV on Boulders

Site B

1*20 m

L_{SOR}

10%

1991 STREAM FILE LOG HABITAT

STREAM CATALOG # : 226-30-16820
STREAM NAME : Knight Island

LOCATION : P.W.S.
SEGMENT : KN-401B

[illegible]



Segment No KN0401 Subdivision B
Date 4/26/91 Log Frame No 10
Photographer REBECCA HOFF
Location KNIGHT ISLAND
Comments LOOKING ACROSS STREAM TO
ROCKY OUTCROP

Roll No MAYSAP-6-01 Neg. No 8
Control No 814 (Office Use Only)



Segment No KN0401 Subdivision B
 Date 4/26/91 Log Frame No 11
 Photographer REBECCA HOFF
 Location KNIGHT ISLAND
 Comments SOR IN GRASS IN UPPER INTER-
TIDAL (AN AREA WHERE VECO WORKERS
DUG OUT OIL) (401-A)

Roll No MAYSAP-6-01 Neg. No 9
 Control No 814 (Office Use Only)



Segment No KN0401 Subdivision B
 Date 4/26/91 Log Frame No 12
 Photographer REBECCA HOFF
 Location KNIGHT ISLAND
 Comments VECO WORKERS DIGGING OUT OIL
IN UPPER INTERTIDAL SAME SPOT AS #1
LOOKING TOWARDS 401-A)

Roll No MAYSAP-6-01 Neg. No 10
 Control No 814 (Office Use Only)



Segment No KN0401 Subdivision B
 Date 4/26/91 Log Frame No 13
 Photographer REBECCA HOFF
 Location KNIGHT ISLAND
 Comments VIEW OVER TO NOAA SET-ASIDE
FROM THE ROCKY POINT

Roll No MAYSAP-6-01 Neg. No 11
 Control No 814 (Office Use Only)



Segment No KN0401 Subdivision B
 Date 4/26/91 Log Frame No 14
 Photographer REBECCA HOFF
 Location KNIGHT ISLAND
 Comments PIT DUG THRU PAVEMENT IN
UPPER INTERTIDAL (RIGHT BELOW MARSH
GRASS IN NOAA SET ASIDE)

Roll No MAYSAP-6-01 Neg. No 12
 Control No 814 (Office Use Only)

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: 4-26-91 16) HIGH TIDE TIME: _____ 22) TEAM RECORDER: Aimee Wesen
- 5) START TIME: 1835 17) HIGH TIDE HTS: _____ 23) OBSERVERS: Tom Crowe
- 6) STOP TIME: 1915 18) LOW TIDE TIMES: 1830 24) AGENCY: ADF+G
- 7) SEGMENT #: KN401B 19) LOW TIDE HTS: +1 25) PHOTOS TAKEN: Y (N)
- 8) K-UNIT: _____ 20) TIDE HT AT SURVEY: +1 to 1.2 ROLL #: _____ FRAMES: _____
- 9) LAT: _____ Ebb (Slack) Flood Slack 26) VIDEO TAKEN: Y (N)
- 10) LONG: _____ 21) USCG QUAD: _____ TAPE #: _____
- 11) ASC #: 226-30-16820 START: _____ STOP: _____
- 12) STREAM NAME: _____ 27) SAMPLES TAKEN? Y (N)
- 13) LOCATION: Snug Harbor, KN I 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	<u>2</u>	<u>3</u>		<u>15</u>	<u>1-2cm</u>		<u>HSOR/MS</u>
SITE 2	<u>30</u>	<u>1</u>		<u>1</u>	<u>1cm</u>		<u>LSOR</u>
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 $\geq 3m$ to $\leq 6m$ with $\geq 10\%$ oil coverage
- L = <3m band with $> 10\%$ oil coverage
- (VI) = $\leq 10\%$ oil coverage regardless of band width
- N = No oil observed

33) ANADROMOUS FISH PRESENT: Y N

34) WILDLIFE OBSERVATION

Species	Number
<u>Bald Eagle</u>	<u>1</u>
_____	_____
_____	_____
_____	_____

30) OIL IN STREAMBED: Y (N)

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

32) SUBSTRATE TYPE (PERCENT):

Bedrock 15 Boulder 5 Gravel 35 Sand 5 Cobble 40 Mud/Silt _____

35) COMMENTS:

Stream area looks in good shape
The majority of the HSOR was removed from site #1
during survey.

KN 401 B

ASC# 226-30-16820

May sap 1991

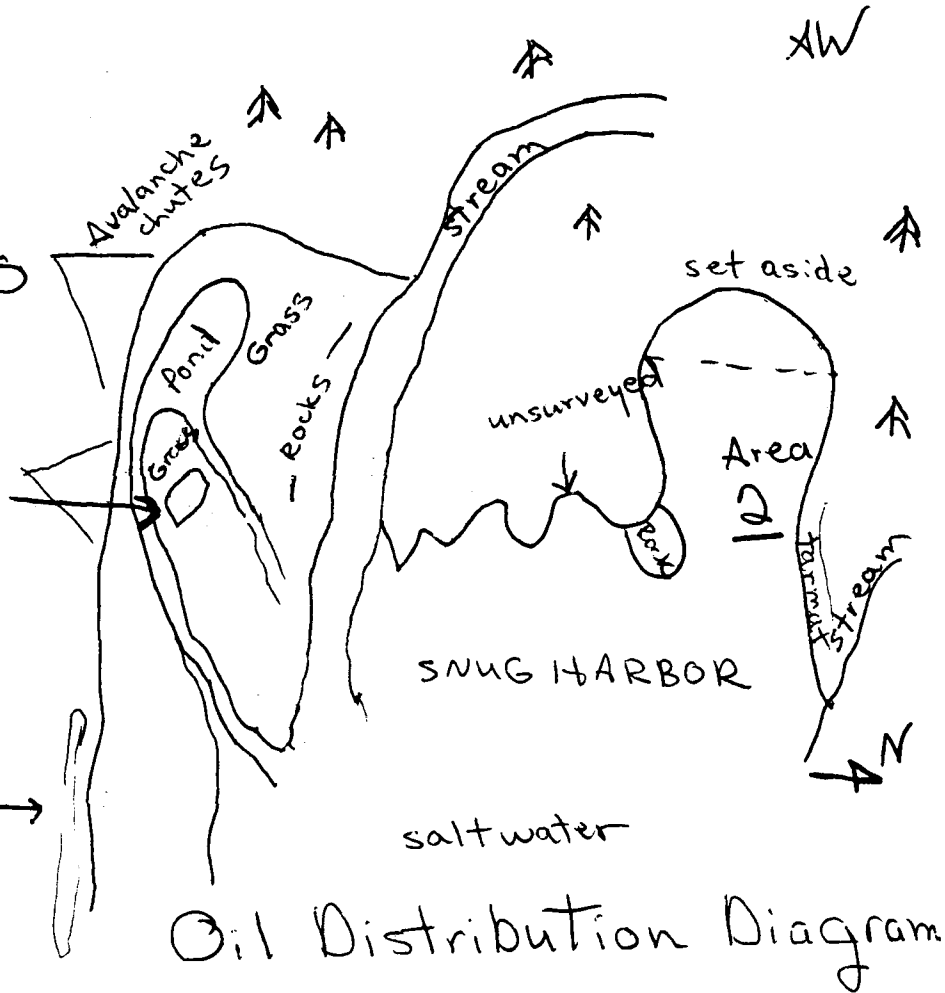
ADFYG

site # 1

HSOR/ms
2x3m

site # 2

1x30m
LSOR



Treatment Recommendation:

The Anadromous fish Stream portion of the subdivision requires no further treatment at this time. However due to the high public use of the rest of the subdivision for fishing, tourism & recreation, the AP band in area 2 should be manually removed. The oil is located in & just below the grassy swash zone & should receive treatment before the grass hides it.

DAVIS
RECEIVED

pus

