H-Chugach Bay
ASC# 242-20-10190

CB-003A
(WORKING FILE)

MAYSAP - Chugach BAY
ANAO. Stream

ADF&G MULTI-ASSESSMENT DATA FORM

ANAO

1) SURVEY TYPE: (BS) SS
2) REGION: PWS (KP,CI) K,AP
3) METHOD: Aerial (Ground) Boat
DATE: 5/15/91
5) START TIME: 0655
6) STOP TIME: 0807
7) SEGMENT #: CB-3A
8) K-UNIT: _____
9) LAT: 59 11 6
10) LONG: 151 37-47
11) ASC #: 242-20-10190
12) STREAM NAME: Chugach Bay Creek (?)
13) LOCATION: KPOC, Chugach BAY
14) WAVE EXPOSURE: (HIGH) Moderate Low
15) SHORELINE TYPE: Headland Low-lying Rocks (Beach) Cove (Lagoon) Marsh
16) HIGH TIDE TIME: 0341/1649
17) HIGH TIDE HTS: 20.7/18.7
18) LOW TIDE TIMES: 0935/2140
19) LOW TIDE HTS: -4.7/1.5
20) TIDE HT AT SURVEY: .7/-2.6
Ebb Slack Flood Slack
21) USCG QUAD: Seldovia A-5
22) TEAM RECORDER: Doug Hill (ADF&G)
Duncan Fitzgerald (OG)
23) OBSERVERS: Lee Glenn (ADF&G)
24) AGENCY: _____
25) PHOTOS TAKEN: (Y) N
ROLL #: 9100H001H FRAMES: 18-21
26) VIDEO TAKEN: Y N
TAPE # _____
START: _____ STOP: _____
27) SAMPLES TAKEN? Y (N)
SAMPLE I.D. _____

28) EXTENT OF OIL

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	20	1	20	1	<1	—	SOR/MS
SITE 2	10	1	10	1	<1	—	CT/SOR
SITE 3	15	4	60	1	<1.5	—	CT SOR
SITE 4	20	2	40	1	—	—	CT/ST
SITE 5	25	4	100	8%+	<7.5	—	MS/AP

29) OVERALL OIL IMPACT:
H = >6m band with ≥50% oil coverage
M = >6m band with ≤ 50% oil coverage or ≥3m to ≤6m with ≥10% oil coverage
L = <3m band with >10% oil coverage
(VL) = ≤10% oil coverage regardless of band width
N = No oil observed

30) OIL IN STREAMBED: Y (N)
31) OIL ON BEACH ADJACENT TO MOUTH: (Y) N
32) SUBSTRATE TYPE (PERCENT):
Bedrock 10% Boulder ____ Gravel 60% Sand 20% Cobble 10% Mud/Silt ____

33) ANADROMOUS FISH PRESENT: (Y) N

34) WILDLIFE OBSERVATION

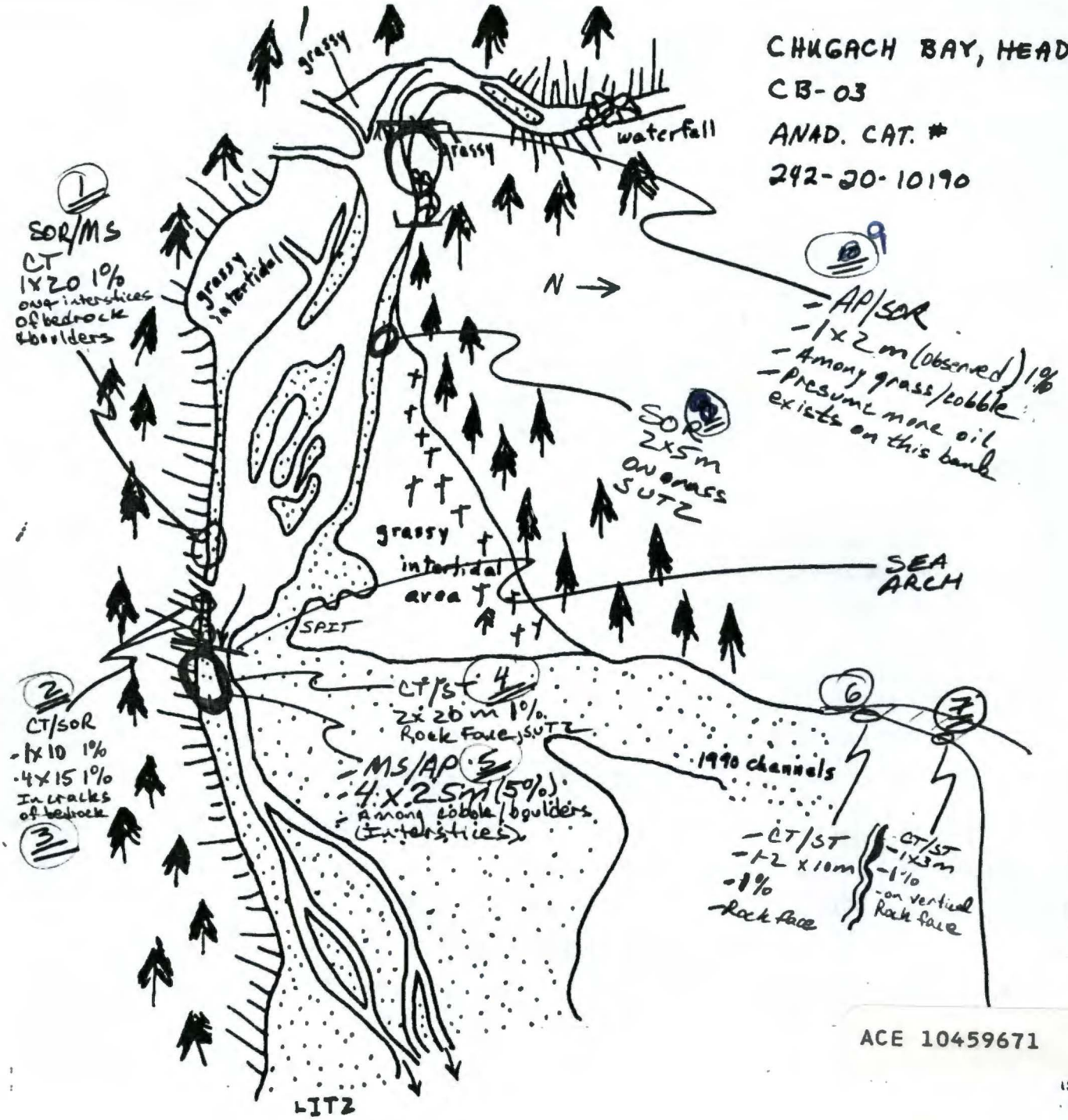
Species	Number
Harlequins	30
Pigeons	20
Mallards	20
pink Salmon Fry	100

35) COMMENTS: A good job of cleaning was done in 1990 in the area denoted 10 on the map. Im certain more oil could be found by rooting around in the grass & cobble's & boulders. The OG did not have this oil labeled on the "ASAP" survey map hence neither the USCG, Exxon or the OG bothered (wanted) to walk up to AREA 10 to see if oil has been exposed over the winter. Only ADF&G personel and Seraphim Meganick (Rod Graham) surveyed Area 10. The USCG, EXXON + OG told me that we are only surveying areas that might need work. Well you can't know if an area needs cleaning or not if you don't look at the area. Anyway, the Exxon Rep.

ACE 10459670

36) PHOTOLOG

FRAME(S)	DESCRIPTION
	See MAYSAP Photo location MAP - GARY Shigenaka of NOAA Took Photos



ACE 10459671

2

MAYSAP-Chugach BAY
CB-3A CONT'D

ADF&G MULTI-ASSESSMENT DATA FORM

1) SURVEY TYPE: BS SS
METHOD: Aerial Ground Boat

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6) SEGMENT #: _____
7) K-UNIT: _____
8) LAT: _____
9) LONG: _____
10) ASC #: _____
11) STREAM NAME: _____
12) LOCATION: _____
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14) SHORELINE TYPE: Headland Low-lying Rocks Beach
Cove Lagoon Marsh

16) HIGH TIDE TIME: _____
17) HIGH TIDE HTS: _____
18) LOW TIDE TIMES: _____
19) LOW TIDE HTS: _____
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Ebb Slack Flood Slack
21) USCG QUAD: _____

22) TEAM RECORDER: _____
23) OBSERVERS: _____
24) AGENCY: _____
25) PHOTOS TAKEN: Y N
ROLL #: _____ FRAMES: _____
26) VIDEO TAKEN: Y N
TAPE # _____
START: _____ STOP: _____
27) SAMPLES TAKEN? Y N
SAMPLE I.D. _____

28) EXTENT OF OIL

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
ITE 1	10	2	20	1	—	?	CT/ST
ITE 2	3	1	3	1	—	?	CT/ST
SITE 3	5	2	10	1	<1	?	SOR
SITE 4	2	1	2	1	<1	?	AP/SOR
SITE 5							

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Bedrock ____ Boulder ____ Gravel ____ Sand ____ Cobble ____ Mud/Silt ____

33) ANADROMOUS FISH PRESENT: Y N

34) WILDLIFE OBSERVATION

Species	Number

ACE 10459672

35) COMMENTS: he show me the USCG policy on looking at areas which are not on the ASAP map - I guess it's the "Blind leading the blind" policy. Also the USCG, Exxon & DEC got mad at Seraphim & I for finding AP in an area (w/in the segment) that they had already walked. They were in a hurry to get back to town to do paper work - I told em they might as well do lab all their surveys if they did them like they were doing this one. Anyway, the area looks good relative what it looked like in the spring of 1990

EXXON MAYSAP

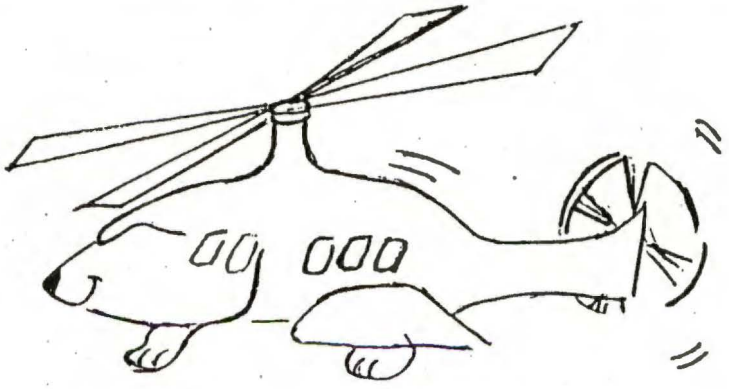
May Shoreline Assessment Program

1991

SEGMENT: CB-3

SUBDIVISION: A

DATE: 15 MAY 1991



Team # 6 Pumas

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 6 Helo SEGMENT CB-003 SUBDIVISION A DATE 5/15/91

ADEC
NAME Doug Hill - ADF&G SIGNATURE Douglas Hill*

☒ NTR A small amount of oiled sediment exists on the bank of the stream approximately 450 m upstream of the creek mouth. I presume more oil would be found by further exploration among the grass, cobbles and boulders. AP also exists among the cobbles and boulders on the south shore at the mouth of the stream. If work is carried out in adjacent segments I recommend manual removal of the AP at the creek mouth.

EXXON
NAME Rex Coulter SIGNATURE Rex R. Coulter

☑ NTR As noted, additional touchup work was done here by removal/breakup of SOR areas. Area C1 is the only location that has oiling worthy of comment. The SOR is not easily accessible, very small in area and coverage percentage is very small. Recovery would require rolling large boulders which would be very difficult. The amount of recoverable SOR would be very small. ADF&G (Lee Glenn) said that the cleanup crews had done a good job at this location. Protected areas of this beach have abundant numbers of critters.

LANDMANAGER
NAME Seraphim Megranick OF Port Graham SIGNATURE Seraphim Megranick
Chugach Bay

☐ NTR ☒ Treatment* coats and stains along CLIFF and small pocket of mousse crossed the stream and found MB/SOR 2x0 meters wide and 25 meters long also up on the upper tidal zone SOR 1x20 meters SOR and 4x15 SOR uplands 1x20 meter SOR and crossed the uplands stream 1x20 meters SOR supra tidal zone around the grassy area 2x3 meters SOR then out by the end of the segment by the rock with the hole in the cliff mousse in amount the coates and rocks and area of 2x2 meters that can be manually picked up and that is what I recommend*.

USCG/NOAA
NAME Chief Jensen / G. Shigenaka SIGNATURE Chief B. Jensen Gary Shigenaka

☒ NTR 1/2 bag removed. Very little oil of any significance was observed for any treatment on this segment. Cleanup measures would be excessively costly in view of their insignificant contribution to minimizing a threat to the public health or welfare, or the environment.

SURVEYED PORTION OF THE SEGMENT CONSISTED OF A COBBLE-PEBBLE BEACH, ROCKY SUBSTRATE AROUND ITS PERIMETER, AND AN ANADROMOUS STREAM THAT FLOWED DOWN THE SOUTH SIDE OF THE BEACH, TURNING TO THE WEST FARTHER UPSTREAM. LITTORINA SITKANA PERIWINKLES WERE ABUNDANT IN BOULDER COBBLE SUBSTRATE, PARTICULARLY ALONG THE SOUTH SIDE OF THE BEACH. THE ONLY OILING OBSERVED NORTH OF THE STREAM WAS IN THE FORM OF COAT ON ROCK FACES ABOVE THE BEACH. SOUTH OF THE STREAM, ON THE SOUTHEASTERN END OF THE SURVEYED PART OF THE SEGMENT, STAIN AND COAT WERE FOUND ON ROCK FACES, AND SOR WAS COMMONLY SIGHTED AND REMOVED (OR BROKEN UP) IN BOULDER-COBBLE SUBSTRATE. TRAVERSING TO THE SOUTHWEST ALONG STEEP, RUGGED TERRAIN ALONG THE STREAM TOOK US TO A WIDER SECTION OF THE STREAM THAT CURVED TO THE WEST. ADF&G REPS SURVEYED FARTHER UPSTREAM AND FOUND AN ISOLATED PATCH OF SOR ON THE NORTH (EAST) BANK. ANOTHER SMALL SOR HIT WAS RECORDED ON THE NORTH BANK JUST WEST OF THE BEND IN DIRECTION. A PIT WAS DUG IN A MID-STREAM BAR UPSTREAM FROM THE BEND, NO OIL WAS FOUND. PINK SALMON FRY WERE OBSERVED IN THE STREAM ADJACENT TO THE BAR.

ACE 10459674

MAYSAP SHORELINE OILING SUMMARY

TEAM NO: 6-Helo

SEGMENT CB-03

OG O. FitzGerald BIO T. Schröeder

SUBDIVISION A

ADEC Doug Hill of ADF&G LANDMANAGER S. McGranick for Port Graham

DATE 15 / MAY / 91

EXXON R. Coulter USCG/NOAA Chief Jensen / G. Shigenaka

TIME 6 : 55 to 8 : 07 TIDE LEVEL .7 ft. to -2.6 ft. ENERGY LEVEL: ☐ H ☑ M ☐ L

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

TOTAL LENGTH SHORELINE SURVEYED: 1529 m NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W ____ m M ____ m N ____ m VL 90 m NO 1439 m US — m

LOC	SURFACE OIL CHARACTER										SURFACE SEDIMENT	SHORE SLOPE	AREA WIDTH	AREA LENGTH	ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO	TYPE	V H M L	m	m	S	UI	MI	LI	
A						T	T				BR	M	1	3					VERT. bedrock face
B						T	T				BR	M	2	10					Vert. bedrock face
C_1		T		T							B-Br-C	M	3	25					Light, I/U bedrock + boulders
C_2						T	T				BR	M	2	20					Vert. bedrock face
D_1				T		T					B-C-BR	L	1	10					LIGHT, IN CRACKS of BR + clasts
D_2				T		T					B-C-BR	L	4	15					↓
E		T		T		T					BR-B-C	L	1	20					
F.				T							V-grass	L	1	2					along grassy channel bank
G.				T							V-grass	L	2	5					↓ ↓

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

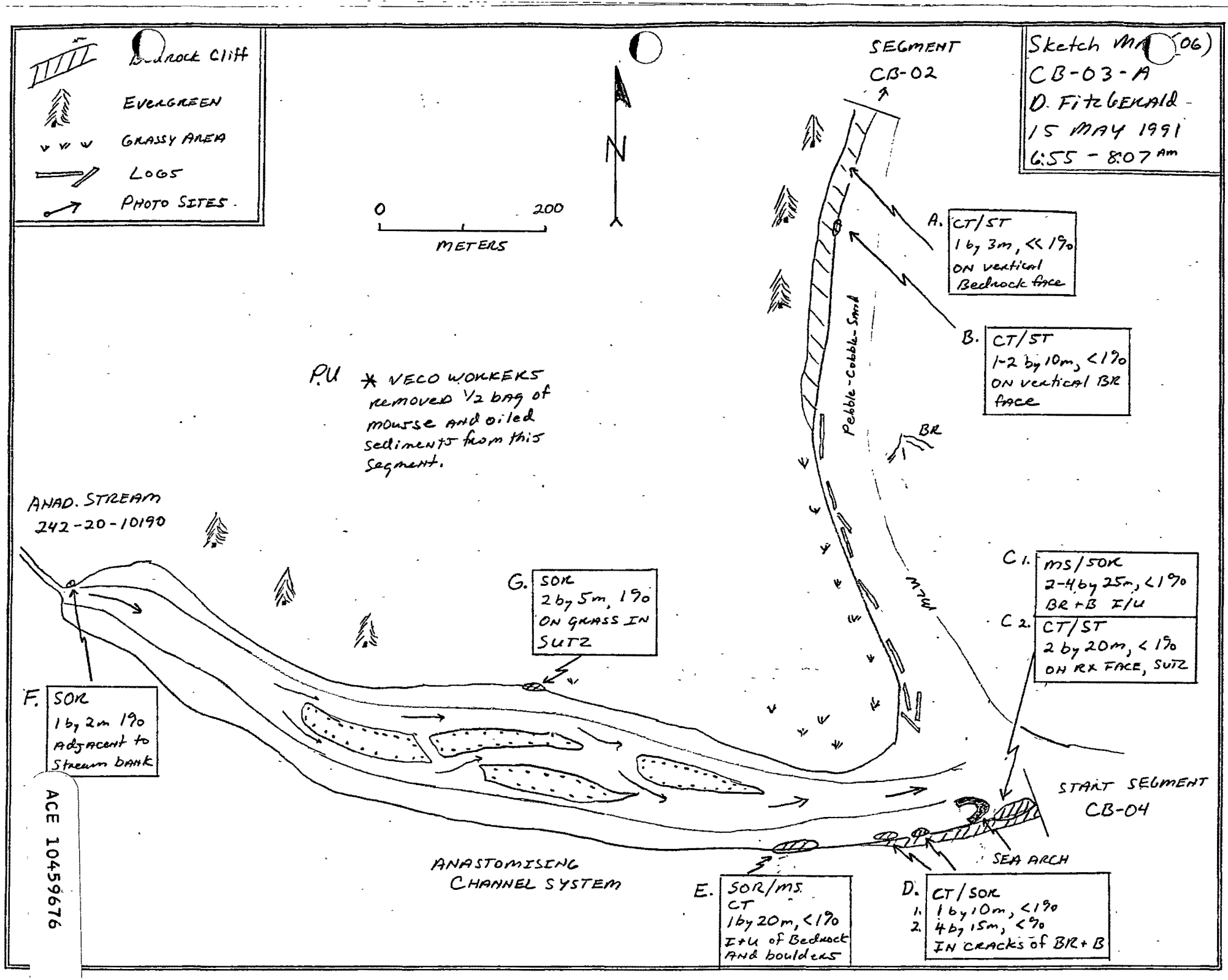
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 6 - 15 FRAMES 1-5

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

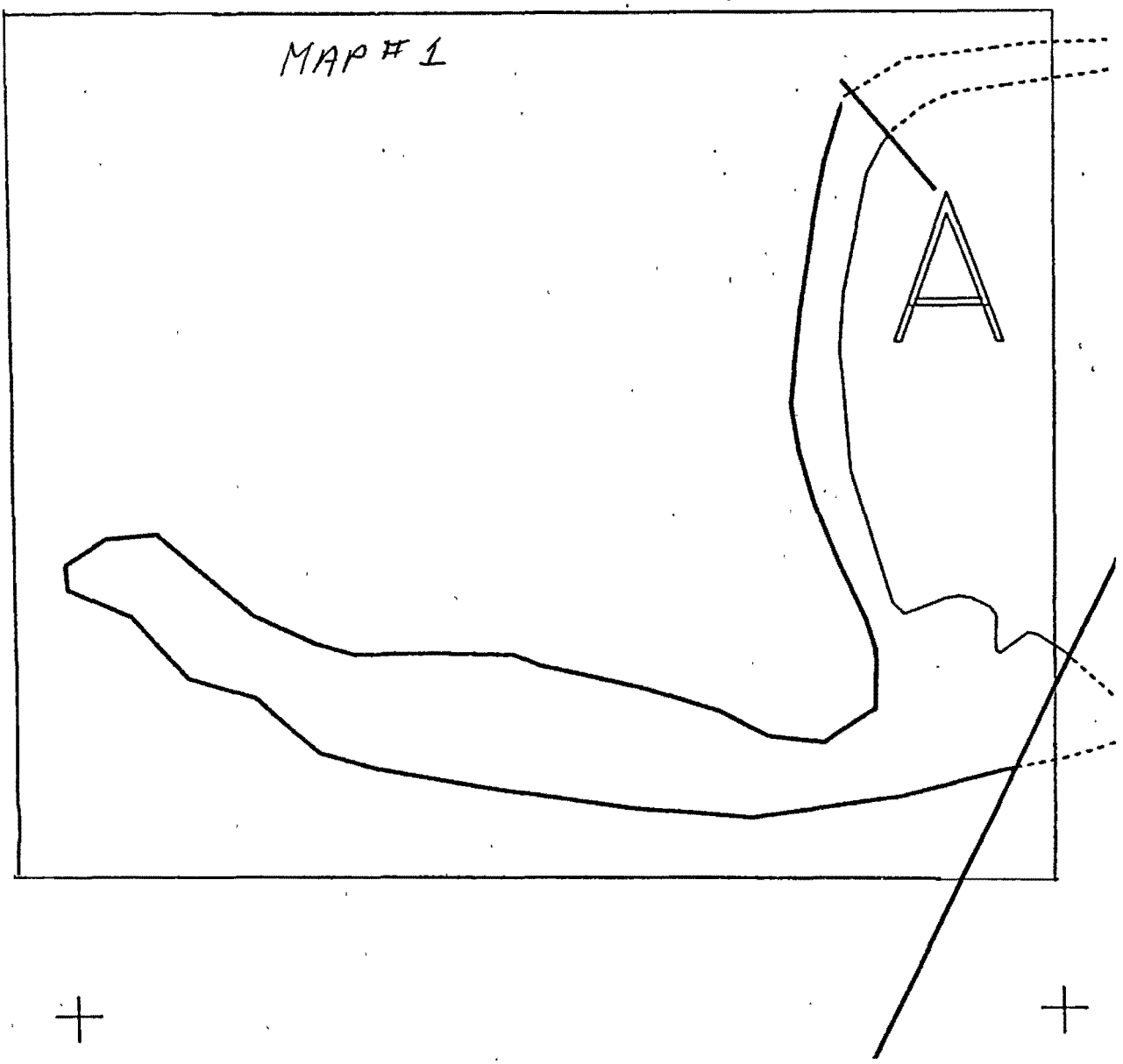
SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

OG COMMENTS: This segment consists of a Pocket Beach and ANAD. Stream at the western end and head of Chugach BAY. Trace oiling conditions were found at this site, occurring as CT and ST on bedrock outcrops at the northern end of the beach and southern end at the entrance to the stream. Also, at this location the heaviest oiling conditions occur, consisting of MS and SOR in between and under the boulders and cobbles along a 25m length of shoreline (width = 2-4m). Veco Workers removed 1/2 bag of oiled sediments and mousse from this area. Landward up the stream SOR, CT, and minor, highly weathered mousse were found along the bank in the cracks of bedrock and boulders. Large amounts of trash (cans, buoys rope etc) occur along the SUTZ of the beach

ACE 10459675



ACE 10459676



CB003 A

METERS

0 100 200

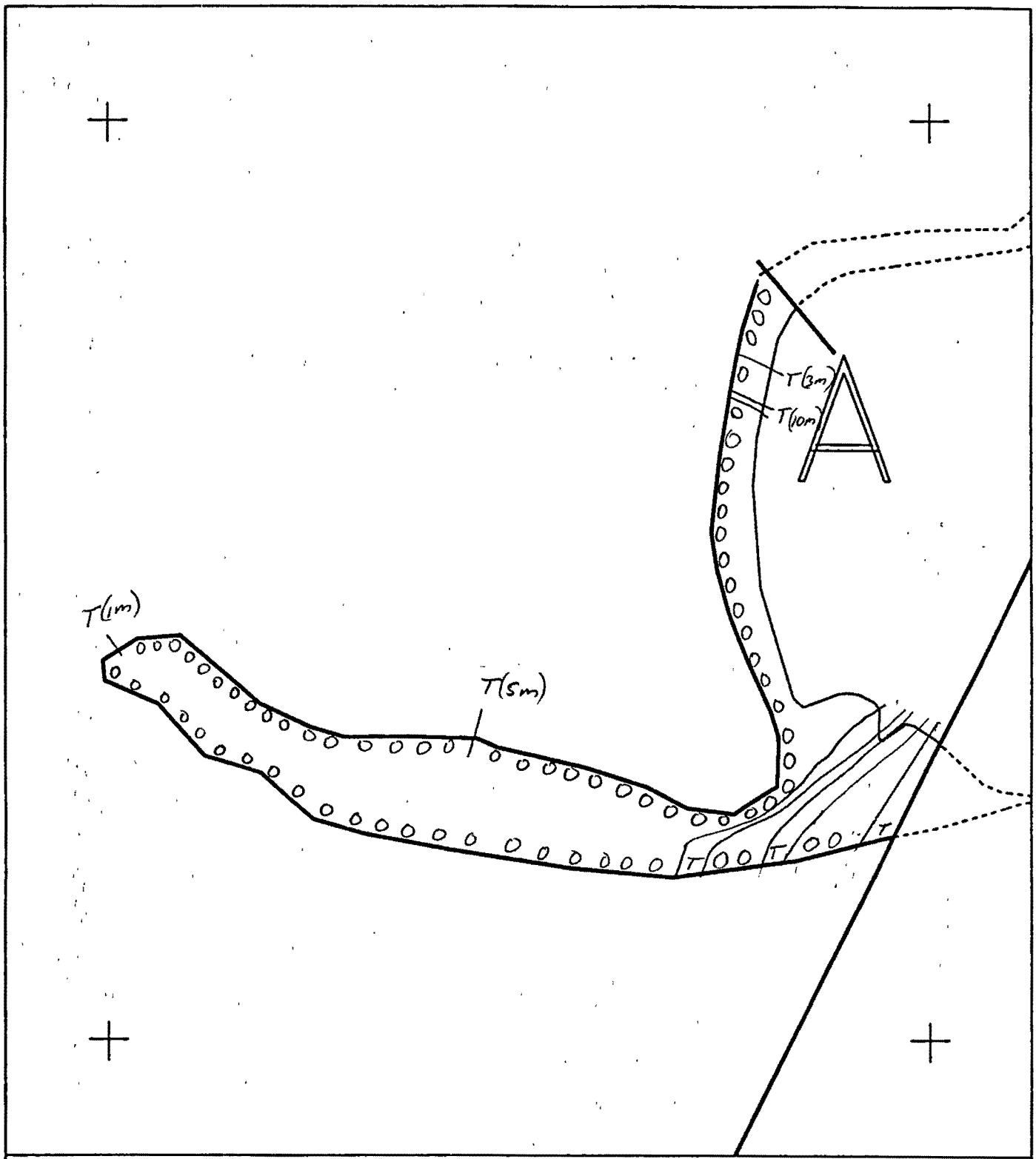
AK State Plane Zone 4

Subdivision Field Map

Map Key: KENCB003Ab

Name: D. Fitzgerald

Date: 15 May 1991



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

CB003 A

ADEC Subsegment Length: 1529m

METERS

0 100 200

AK State Plane Zone 4
ncb003a

EXXON

Subdivision Field Map
Map Key: KENCB003A
Name: D. Fitzgerald
Date: 15 May 1991
Data Entered:

ACE 10459678

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6 DATE 5/15/91

SEGMENT # CB-003 TIDAL HEIGHT(Range) 0 to -3¼ ft.

SUBDIVISION A BIOLOGIST T. R. Schroeder

SEA STATE calm WIND SPEED/DIRECTION West 5-10 mph

PHOTOGRAPHS: ROLL # FRAME #

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

(A & B) = beach north of anadromous stream is gen. high energy and is exposed to SE storms. Extensive quantities of debris (garbage) above storm berm along entire beach. Beach is very low in productivity except for a rock outcropping which was covered w/ fucus, kelp, barnacles, young mussels, sugar wrack and several other red/brown algae present. Tide pool had gammaroes, limpets, littorine snails, coralline algae and gumboot chitons present.

(C, D & E) = South shore of lagoon was covered with littorine snails. Snail egg masses were found under some flat rocks. Lagoon area had a lush, dense growth of sea lettuce with littorine snails very abundant on it. Sand fleas were abundant along entire south shore of lagoon.

(F) = Only one small patch of SOR/MS was observed but not picked up near the anadromous stream. There appear to be no effect of the oil on salmon production as fry were very plentiful in the intertidal areas of the stream. Odell Creek stream was a mixed pink salmon producer prior to the spill. Large spawning escapements have occurred since 1989 and the salmon run is healthier than at anytime since the 1964 earthquake.

WILDLIFE OBSERVATIONS

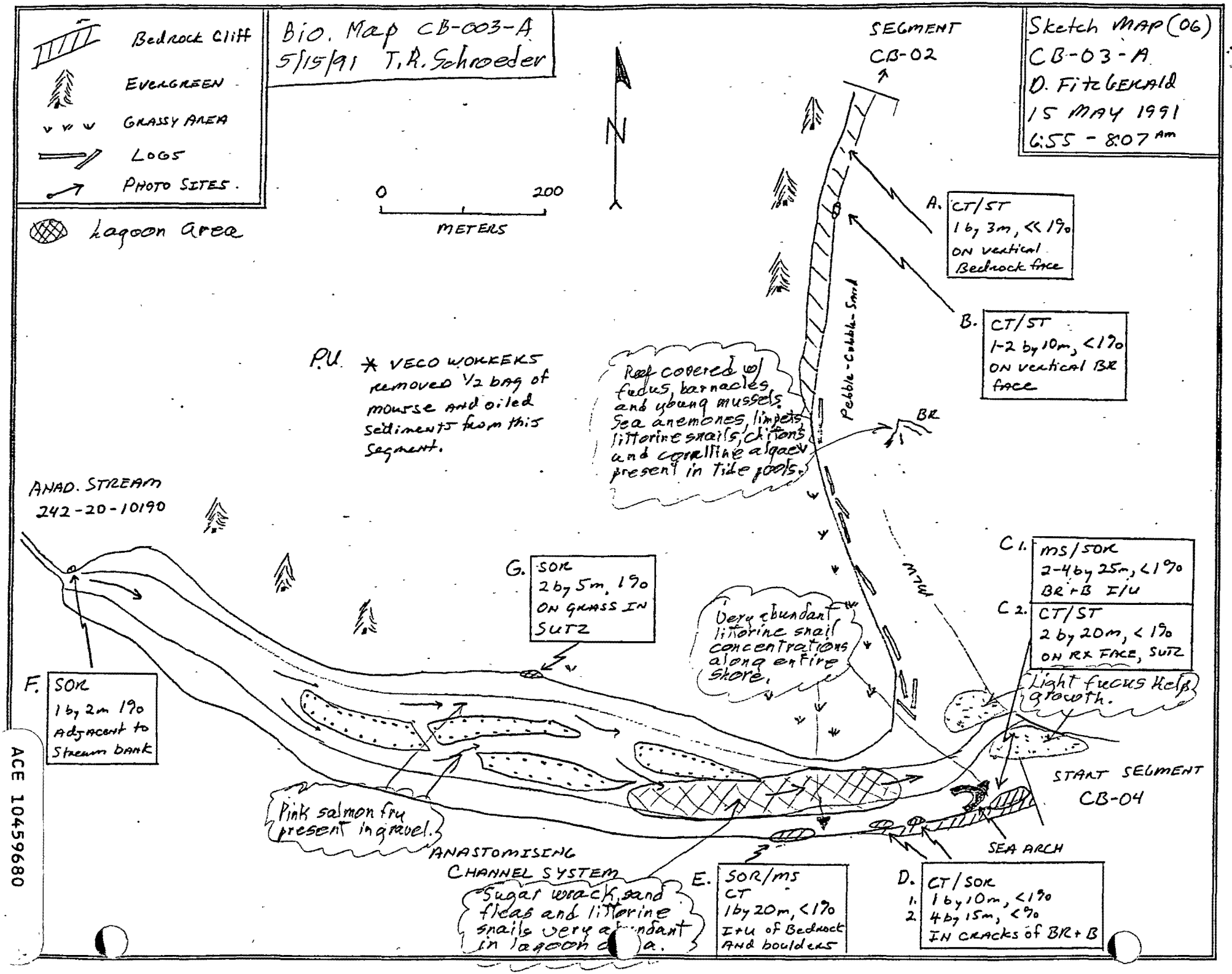
TO BE COMPLETED IN ALL SUBDIVISIONS

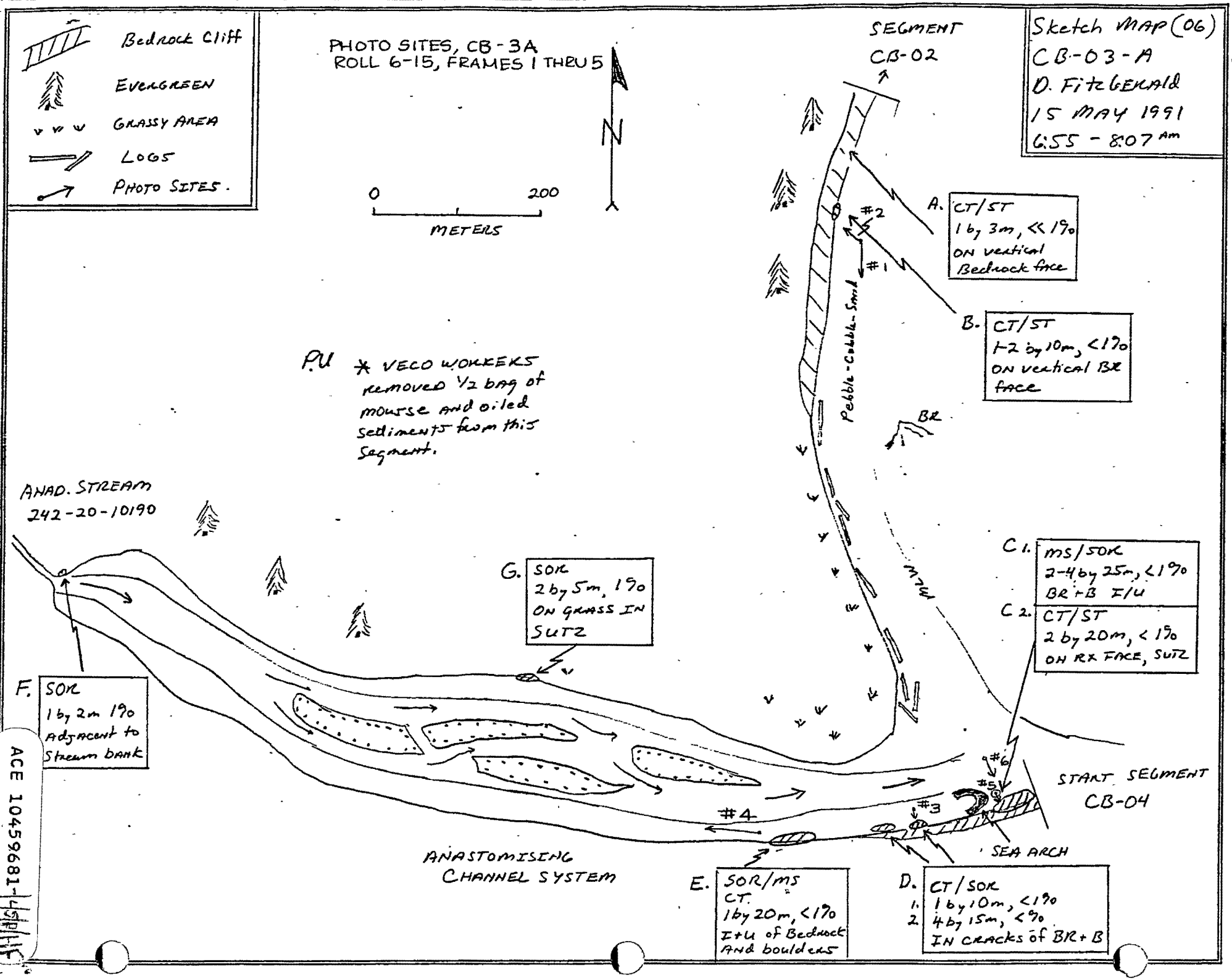
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			100+ pink salmon fry.
Seabirds			
Waterfowl	4 Harlequin, Widgeon Mallards, Merganser	60	
Gulls/kittiwakes	2 glaucous, kittiwake	16	
Shorebirds	1 sandpiper	20	
Corvids			
Other Birds			

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

ACE 10459679

Shoreline subdivision map showing important biological features attached.





ACE 10459681-4/15/91

MAYSAP - Chugach BAY
ANAO. Stream

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ANAO

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3) METHOD: Aerial (Ground) Boat

4) DATE: 5/15/91

5) START TIME: 0655

6) STOP TIME: 0807

7) SEGMENT #: CB-3A B

8) K-UNIT: _____

9) LAT: 59 11 6

10) LONG: 151 37-47

11) ASC #: 242-20-10190

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13) LOCATION: KPOC, Chugach BAY

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Cove (Lagoon) Marsh

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22) TEAM RECORDER: Doug Hill (ADF&G)

23) OBSERVERS: Lee Glenn (ADF&G)
Duncan Fitzgerald (OG)

24) AGENCY: _____

25) PHOTOS TAKEN: (Y) N
ROLL #: 9100H001H FRAMES: 18-21

26) VIDEO TAKEN: Y (N)
TAPE # _____
START: _____ STOP: _____

27) SAMPLES TAKEN? Y (N)
SAMPLE I.D. _____

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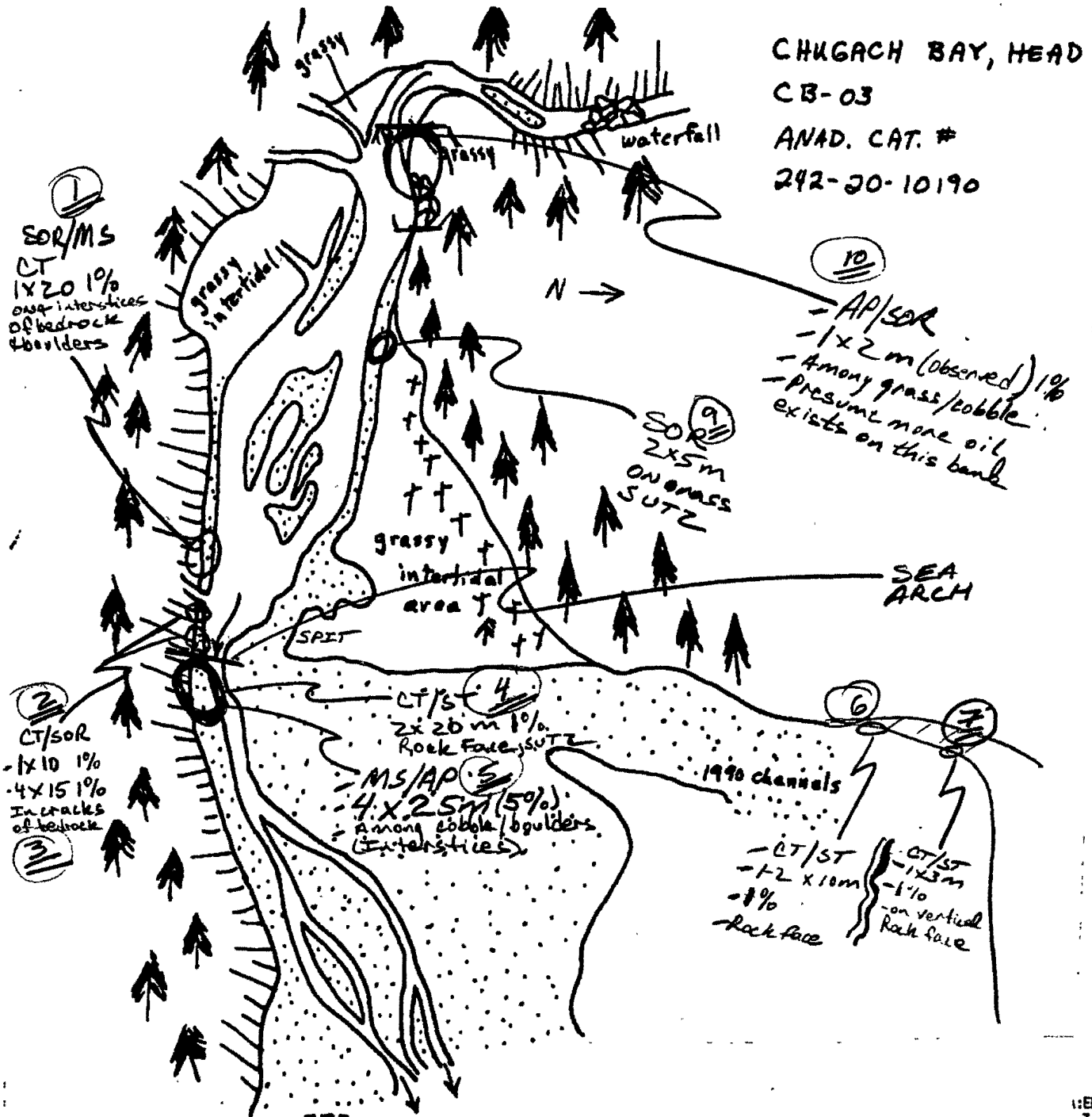

MAYSAP-Chugach BAY
CB-3A CONT'D

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METHOD: Aerial Ground Boat

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Ebb Slack Flood Slack
21) USCG QUAD: _____

22) TEAM RECORDER: _____
23) OBSERVERS: _____
24) AGENCY: _____
25) PHOTOS TAKEN: Y N
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ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

STREAM#: 2422010190
SEGMENT: CB003 B

PAGE 5 DATE PRINTED: 07/29/91

LOCATION: CHUGACH BAY

SURVEY TYPE: 91 MAYSAP - ~~49~~ SS METHOD: ~~GROUND~~ FOOT

DATE: 05/15/91 TEAM RECORDER: HILL FITZGERALD

START TIME: 0655 OBSERVERS: GLENN
END TIME: 0807

TIDES: ~~.7/-2.6~~ Ebb AGENCY: FG
OG/HAB DISCREPANCIES: -

PHOTOS TAKEN: Y

STATION: 2422010190 ROLL#: 91DDH001H
FRAME: 18-21

VIDEO TAKEN: ~~N~~ N TAPE#: -0-
START: -0- END: -0-

SAMPLES TAKEN: N

SAMPLE NUMBERS: -0- -0-

-0- -0-

-0- -0-

OIL IN STREAM BED: ~~N~~ OK N

OVERALL OIL IMPACT: VL OIL ON BEACH BY MOUTH: Y

WAVE EXPOSURE: HIGH SHORELINE TYPE: BEACH LAGOON

SUBSTRATE TYPE: BEDROCK 10 BOULDER -0- COBBLE 10 VEGETAT -0-

GRAVEL 60 SAND 20 MUD/SILT -0- GRANULE -0-

ANADROMOUS FISH PRESENT: Y

SPECIES:		COUNT:
	HARLEQUINS	30
	WIDGEONS	20
	MALLARDS	20
	PINK SALMON FRY	100
	-0-	-0-

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

PAGE 5 DATE PRINTED: 07/29/91

STREAM# : 2422010190
SEGMENT#: CB003B

SURVEY TYPE : 91 MAYSAP - ~~BS~~SS LOCATION: CHUGACH BAY
DATE: 05/15/91
TIMES: 0655 - 0807 TEAM RECORDER: HILL FITZGERALD

-- OILING EXTENT --

SITE#	SITE TYPE	DEPTH (cm)	LENGTH (m)	WIDTH (m)	AREA (m)	%	THICK (cm)	PEN (cm)	OIL TYPE CODES
1	-0-	-0-	20	1	20	1	<1	-0-	SOR MS
1	-0-	-0-	20	1	20	1	<1	-0-	SOR MS
2	-0-	-0-	10	1	10	1	<1	-0-	CT SOR
2	-0-	-0-	10	1	10	1	<1	-0-	CT SOR
3	-0-	-0-	15	4	60	1	<1.5	-0-	CT SOR
3	-0-	-0-	15	4	60	1	<1.5	-0-	CT SOR
4	-0-	-0-	20	2	40	1	-0-	-0-	CT ST
4	-0-	-0-	20	2	40	1	-0-	-0-	CT ST
5	-0-	-0-	25	4	100	8+	<7.5	-0-	MS AP
5	-0-	-0-	25	4	100	8+	<7.5	-0-	MS AP
6	-0-	-0-	10	2	20	1	-0-	-0-	CT ST
7	-0-	-0-	3	1	3	1	-0-	-0-	CT ST
8	-0-	-0-	5	2	10	1	<1	-0-	SOR
9	-0-	-0-	2	1	2	1	<1	-0-	AP SOR

fixed in my MOD + OIL. Got form twice

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

PAGE 6 DATE PRINTED: 07/29/91

COMMENTS:
A GOOD JOB OF CLEANING WAS DONE IN 1990 IN THE AREA DENOTED '10' ON THE MAP. I'M CERTAIN MORE OIL COULD BE FOUND BY ROOTING AROUND IN THE GRASS, COBBLES & BOULDERS. THE OG DID NOT HAVE THIS OIL LABELED ON THE 'ASAP' SURVEY MAP HENCE NEITHER THE USCG, EXXON OR THE OG BOTHERED (WANTED) TO WALK UP TO AREA '10' TO SEE IF OIL HAS BEEN EXPOSED OVER THE WINTER. ONLY ADF&G PERSONNEL AND SERAPHIM MEGANICK (PORT GRAHAM) SURVEYED AREA 10. THE USCG, EXXON AND OG TOLD ME THAT WE ARE ONLY SURVEYING AREAS THAT MIGHT NEED WORK. WELL YOU CAN'T KNOW IF AN AREA NEEDS CLEANING OR NOT IF YOU DON'T LOOK AT THE AREA. ANYWAY, THE EXXON REP TRIED TO TELL ME I WAS OUT EXPLORING. WHILE THE USCG TOLD ME HE'D SHOW ME THE USCG POLICY ON LOOKING AT AREAS WHICH ARE NOT ON THE ASAP MAP - I GUESS IT'S THE "BLIND LEADING THE BLIND" POLICY. ALSO THE USCG, EXXON & OG [illegible] AT SERAPHIM & I FOR FINDING 'AP' IN AN AREA WITHIN THE SEGMENT THAT THEY HAD ALREADY WALKED. THEY WERE IN A HURRY TO GET BACK TO TOWN TO DO PAPER WORK. I TOLD THEM THEY MIGHT AS WELL DRY LAB ALL THEIR SURVEYS IF THEY DID THEM LIKE THEY WERE DOING THIS ONE. ANYWAY, THE AREA LOOKS GOOD RELATIVE TO WHAT IT LOOKED LIKE IN THE SPRING OF 1990.

REGARDLESS,

ASC # 242-20-10190

1991 MAYSAP EVALUATION

SEGMENT: CB 003 **SUB:** A **REGION:** KEN **SURVEY DATE:** 5/15/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) **RESTRICTED 7/10 - 9/15**

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

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

SHPO Signature:_____ Date:_____

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

COMMENTS:
INITIAL: NTR

TAG: NTR 5/24/91

FOSC:

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

ADEC_____ FOSC _____

EXXON_____

USCG_____

NOAA_____

ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

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

TEAM NO. 6 Helo SEGMENT CB-003 242-20-10190 SUBDIVISION A DATE 5/15/91

ADEC

NAME Doug Hill - ADF&G SIGNATURE Douglas N. Hill *

☒ NTR (SEE Below) A small amount of oiled sediment exists on the bank of the stream approximately 450 m upstream of the creek mouth. I presume more oil would be found by further exploration among the grass, cobbles and boulders. AP also exists among the cobbles and boulders on the south shore at the mouth of the stream. If work is carried out in adjacent segments I recommend manual removal of the AP at the creek mouth.

N

EXXON

NAME Rex Coulter SIGNATURE Rex R. Coulter

☑ NTR AS NOTED, ADDITIONAL TOUCHUP WORK WAS DONE HERE BY REMOVAL/BREAK UP OF SOR AREAS. AREA C1 IS THE ONLY LOCATION THAT HAS OILING WORTHY OF COMMENT. THE SOR IS NOT EASILY ACCESSIBLE, VERY SMALL IN AREA AND COVERAGE PERCENTAGE IS VERY SMALL. RECOVERY WOULD REQUIRE ROLLING LARGE BOULDERS WHICH WOULD BE VERY DIFFICULT. THE AMOUNT OF RECOVERABLE SOR WOULD BE VERY SMALL. ADF&G (LEE GLENN) SAID THAT THE CLEANUP CREWS HAD DONE A GOOD JOB AT THIS LOCATION. PROTECTED AREAS OF THIS BEACH HAVE ABUNDANT NUMBERS OF CRITTERS.

N

LANDMANAGER

NAME Seraphim Meganack OF Port Graham SIGNATURE Seraphim Meganack Chugach Bay

Y

☐ NTR ☒ TREATMENT Coats and stains along cliff and small pocket of mousse crossed the stream and found MS/SOR 2x0 meters wide and 25 meters long. Also up on the upper tidal zone SOR 1x20 meters SOR and 4x15 SOR uplands 1x20 meter SOR and crossed the uplands stream 1x20 meters SOR. Supra tidal zone around the grassy area 2x3 meter SOR then out by the end of the segment by the rock with the hole in the cliff. mousse in among the cracks and rocks AND AREA and area of 2 + 2A 2x22 meters that can be manually picked up and that is what I recommend.

USCG/NOAA

NAME Chief Jensen / G. Shigenaka SIGNATURE Coby B. Jensen Gary Shigenaka

N

☒ NTR 1/2 bag removed. Very little oil of any significance was observed for any treatment on this segment. Cleanup measures would be excessively costly in view of their insignificant contribution to minimizing a threat to the public health or welfare, or the environment.

SURVEYED PORTION OF THE SEGMENT CONSISTED OF A COBBLE-PEBBLE BEACH, ROCKY SUBSTRATE AROUND ITS PERIMETER, AND AN ANADROMOUS STREAM THAT FLOWED DOWN THE SOUTH SIDE OF THE BEACH, TURNING TO THE WEST FARTHER UPSTREAM. LITTORINA SITKANA PERIWINKLES WERE ABUNDANT IN BOULDER COBBLE SUBSTRATE, PARTICULARLY ALONG THE SOUTH SIDE OF THE BEACH. THE ONLY OILING OBSERVED NORTH OF THE STREAM WAS IN THE FORM OF COAT ON ROCK FACES ABOVE THE BEACH. SOUTH OF THE STREAM, ON THE SOUTHEASTERN END OF THE SURVEYED PART OF THE SEGMENT, STAIN AND COAT WERE FOUND ON ROCK FACES, AND SOR WAS COMMONLY SIGHTED AND REMOVED (OR BROKEN UP) IN BOULDER-COBBLE SUBSTRATE. TRAVERSING TO THE SOUTHWEST ALONG STEEP, RUGGED TERRAIN ALONG THE STREAM TOOK US TO A WIDER SECTION OF THE STREAM THAT CURVED TO THE WEST. ADF&G REPS SURVEYED FARTHER UPSTREAM AND FOUND AN ISOLATED PATCH OF SOR ON THE NORTH (EAST) BANK. ANOTHER SMALL SOR HIT WAS RECORDED ON THE NORTH BANK JUST WEST OF THE BEND IN DIRECTION. A PIT WAS DUG IN A MID-STREAM BAR UPSTREAM FROM THE BEND, NO OIL WAS FOUND. PINK SALMON FRY WERE OBSERVED IN THE STREAM ADJACENT TO THE BAR.

OG O. FitzGerald BIO T Schröeder SEGMENT CB-03

ADEC Doug Hill of AOF6 LANDMANAGER S. McGranick for Port Graham SUBDIVISION A

EXXON R. Coulter USCG/NOAA Chief Jensen / G. Shigenaka DATE 15 / MAY / 91

TIME 6 : 55 to 8 : 07 TIDE LEVEL .7 ft. to 2.6 ft. ENERGY LEVEL: ☐ H ☑ M ☐ L

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

TOTAL LENGTH SHORELINE SURVEYED: 1529 m NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W — m M — m N — m VL 90 m NO 1439 m US — m

LOC	SURFACE OIL CHARACTER										SURFACE SEDIMENT	SHORE SLOPE	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO	TYPE	V H M L	WIDTH m	LENGTH m	S	UI	MI	LI	
A						T	T				BR	M	1	3					VERT. bedrock face
B						T	T				BR	M	2	10					Vert. bedrock face
C_1		T		T							B-Br-C	M	3	25					Light, I/U bedrock + boulders
C_2						T	T				BR	M	2	20					Vert. bedrock face
D_1				T		T					B-C-BR	L	1	10					LIGHT, IN CRACKS of BR + C/C
D_2				T		T					B-C-BR	L	4	15					↓ ↓
E		T		T		T					BR-B-C	L	1	20					↓
F.				T							V-grass	L	1	2					along grassy channel
G.				T							V-grass	L	2	5					↓ ↓

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- 6 - 15 FRAMES 1-5

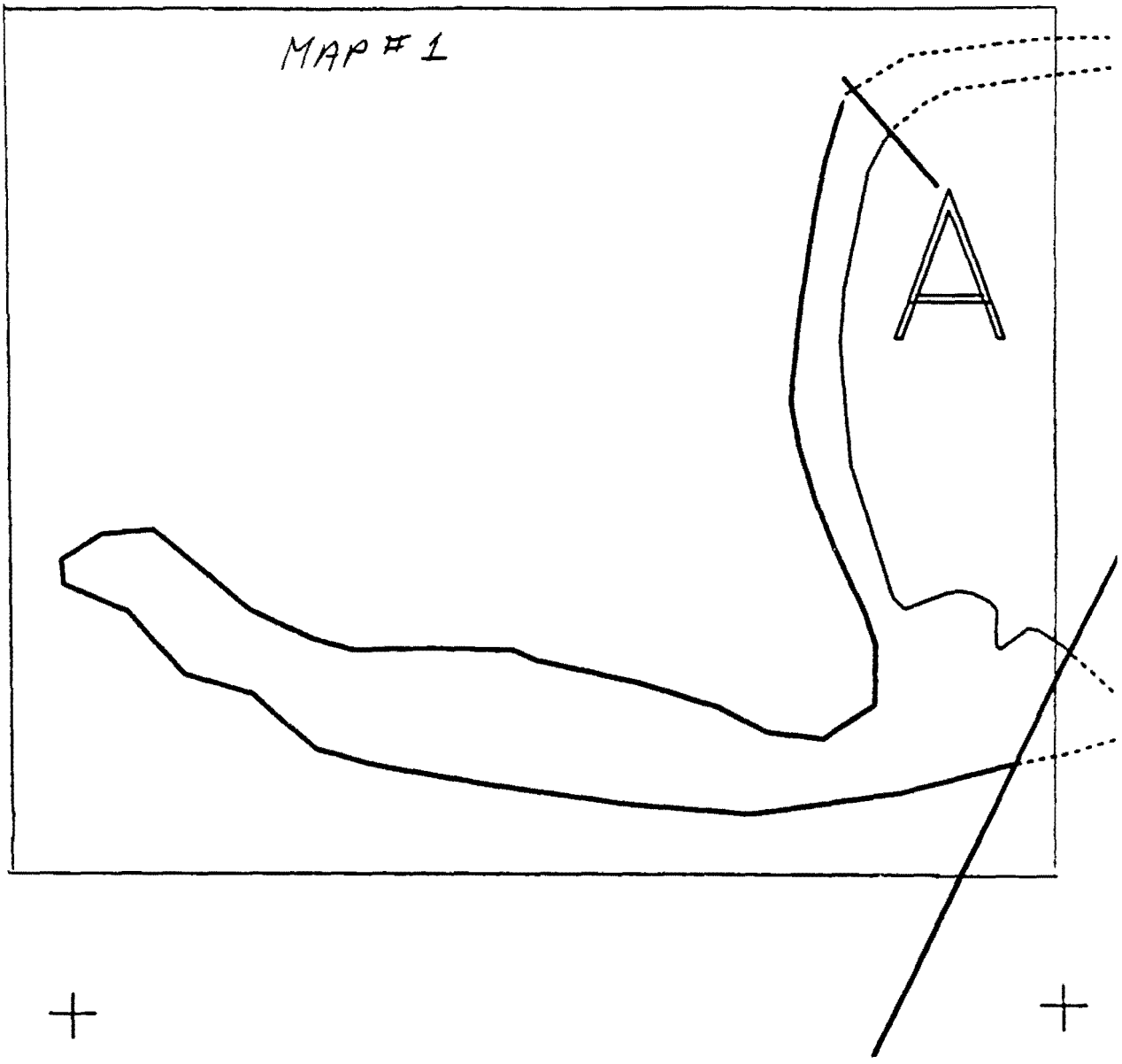
PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
									-									
									-									
									-									
									-									
								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

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

OG COMMENTS: This segment consists of a Pocket Beach and ANAD. Stream at the western end and head of Chugach Bay. Trace oiling conditions were found at this site, occurring as CT and ST on bedrock outcrops at the northern end of the beach and southern end at the entrance to the stream. Also, at this location the heaviest oiling conditions occur, consisting of MS and SOR in between and under the boulders and cobbles along a 25m length of shoreline (width = 2-4m). Veco Workers removed 1/2 bag of oiled sediments and mousse from this area. Landward up the stream SOR, CT, and minor, highly weathered mousse were found along the bank in the cracks of bedrock and boulders. Large amounts of trash (cans, buoys rope etc) occur along the SUTZ of the beach

reviewed 5.17.91 9y
EC reviewed 5/17

MAP # 1



N

EXXON

CB003 A

METERS

0 100 200

AK State Plane Zone 4

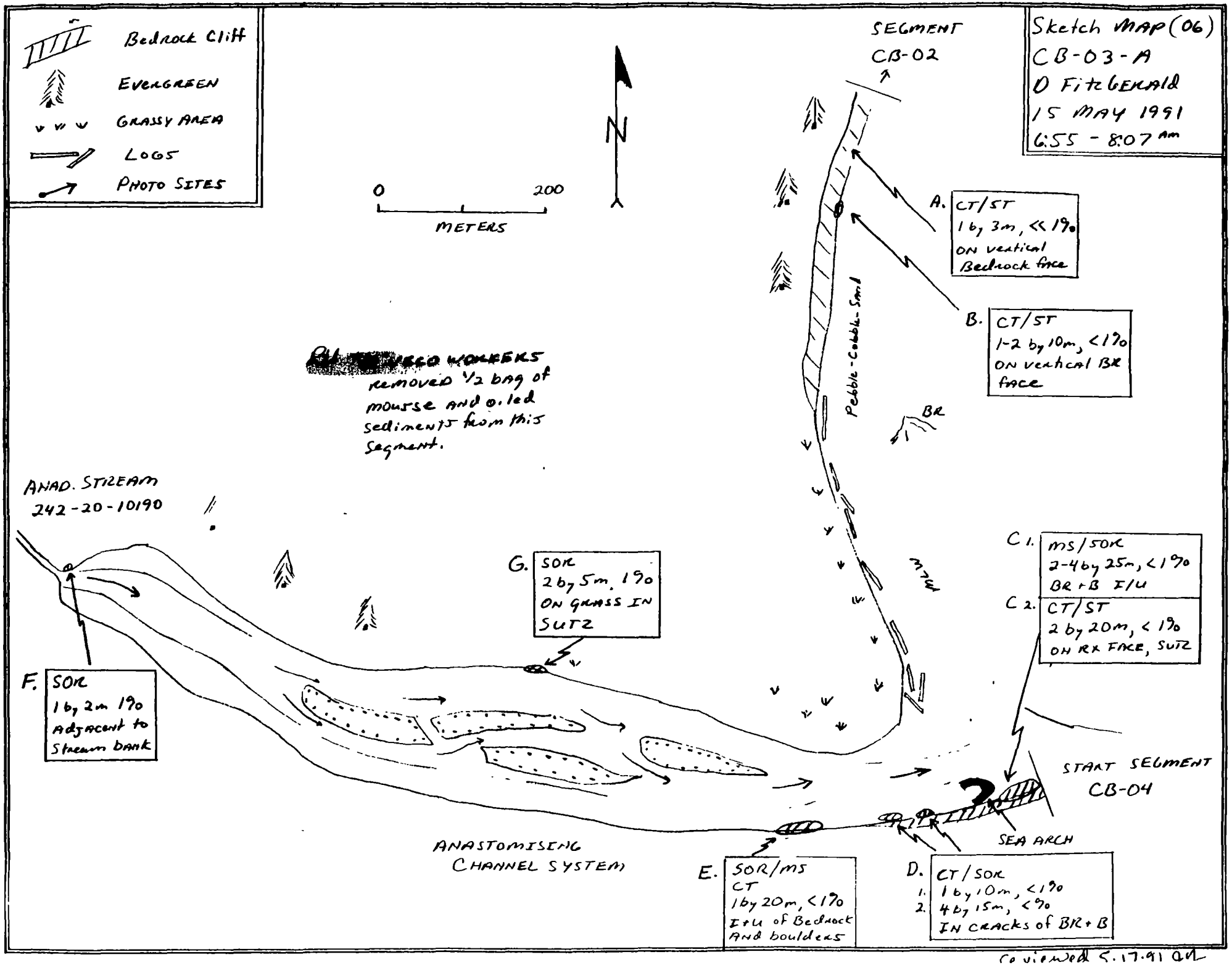
Subdivision Field Map

Map Key: KRNCB003Ab

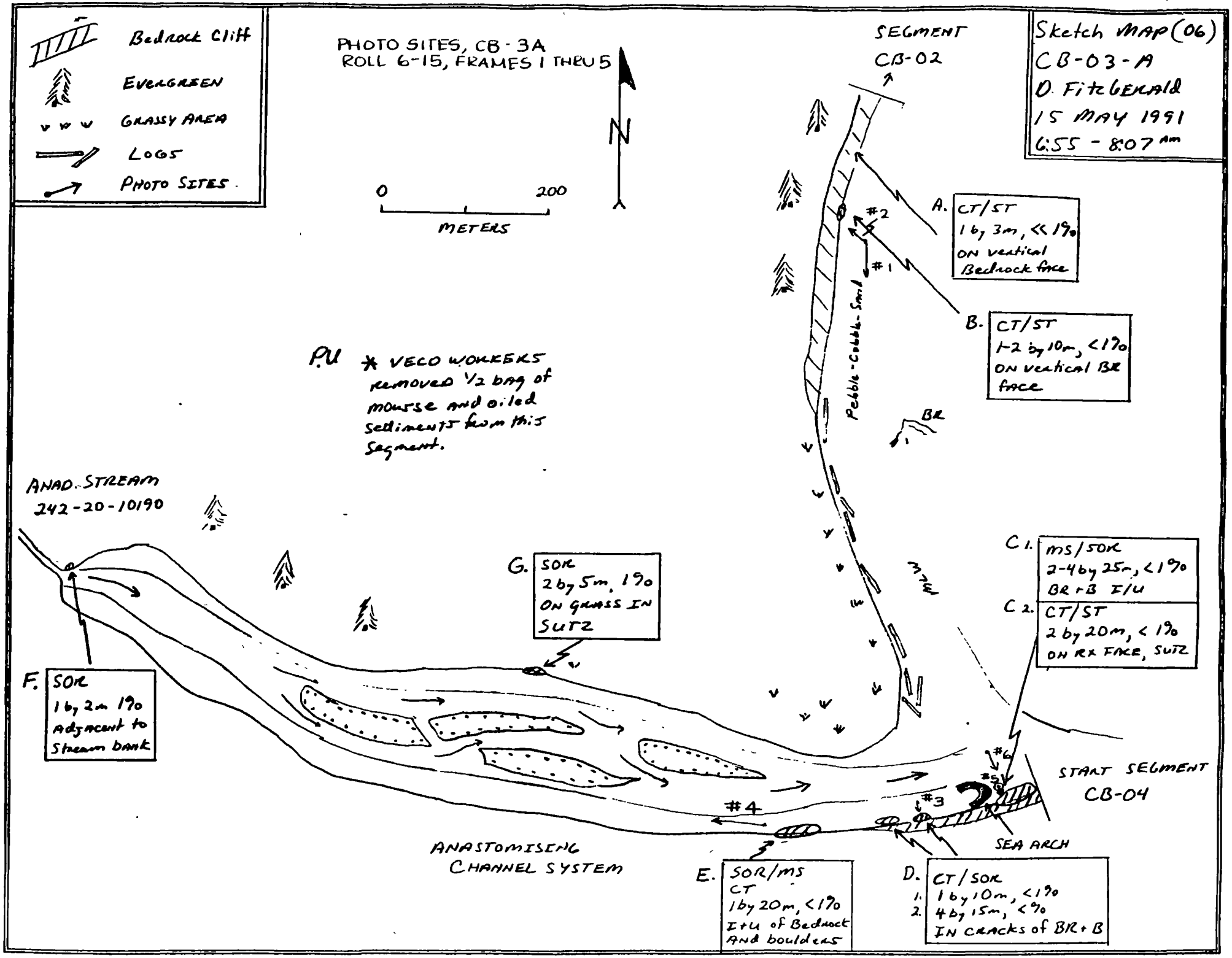
Name: D. FitzGerald

Date: 15 MAY 1991

reviewed 5.17.91 gf
EG reviewed 5/17



reviewed 5.17.91 QR


Bedrock Cliff
Evergreen
Grassy Area
Logs
Photo Sites
PHOTO SITES, CB-3A
ROLL 6-15, FRAMES 1 THRU 5
N
0
200
METERS
SEGMENT
CB-02
Sketch MAP (06)
CB-03-A
D. FitzGerald
15 MAY 1991
6:55 - 8:07 AM
A. CT/ST
1 by 3m, << 1%
ON vertical
Bedrock face
B. CT/ST
1-2 by 10m, <1%
ON vertical BR
face
#1
#2
Pebble-Cobble-Sand
BR
PU * VECO WORKERS removed 1/2 bag of mousse and oiled sediments from this Segment.
ANAD. STREAM
242-20-10190
G. SOR
2 by 5m, 1%
ON GRASS IN
SUTZ
C 1. MS/SOR
2-4 by 25m, <1%
BR+B I/U
C 2. CT/ST
2 by 20m, <1%
ON RX FACE, SUTZ
F. SOR
1 by 2m 1%
Adjacent to
Stream bank
#6
#5
#3
#4
START SEGMENT
CB-04
SEA ARCH
ANASTOMISING
CHANNEL SYSTEM
E. SOR/MS
CT
1 by 20m, <1%
I+U of Bedrock
AND boulders
D. CT/SOR
1. 1 by 10m, <1%
2. 4 by 15m, <1%
IN CRACKS of BR+B

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #	6	**DATE**	5/15/91
SEGMENT #	CB-003	**TIDAL HEIGHT(Range)**	0 to -3¼ ft.
SUBDIVISION	A	**BIOLOGIST**	T. R. Schroeder
SEA STATE	calm	**WIND SPEED/DIRECTION**	West 5-10 mph
PHOTOGRAPHS: ROLL #		**FRAME #**	

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

(A & B) = Beach north of anadromous stream is very high energy and is exposed to SE storms. Extensive quantities of debris (garbage) above storm berm along entire beach. Beach is very low in productivity except for a rock outcropping which was covered w/ fucus kelp, barnacles, young mussels, sugar wrack and several other red/brown algae present. Tide pool had anemones, limpets, littorina snail, coralline algae and gumboot chitons present.

(C, D & E) = South shore of lagoon was covered with littorina snails. Snail egg masses were found under some of the rocks. Lagoon area had a lush dense growth of sea lettuce with littorina snails very abundant on algae. Sand fleas were abundant along entire south shore of lagoon.

(F) = Only one small patch of SOR/MS was observed but not picked up near the anadromous stream. There appears to be no effect of the oil on salmon production as fry were very plentiful in the intertidal gravels of the stream. While this stream was a minor pink salmon producer prior to the spill, large spawning escapements have occurred since 1989 and the salmon run is healthier than at anytime since the 1964 earthquake.

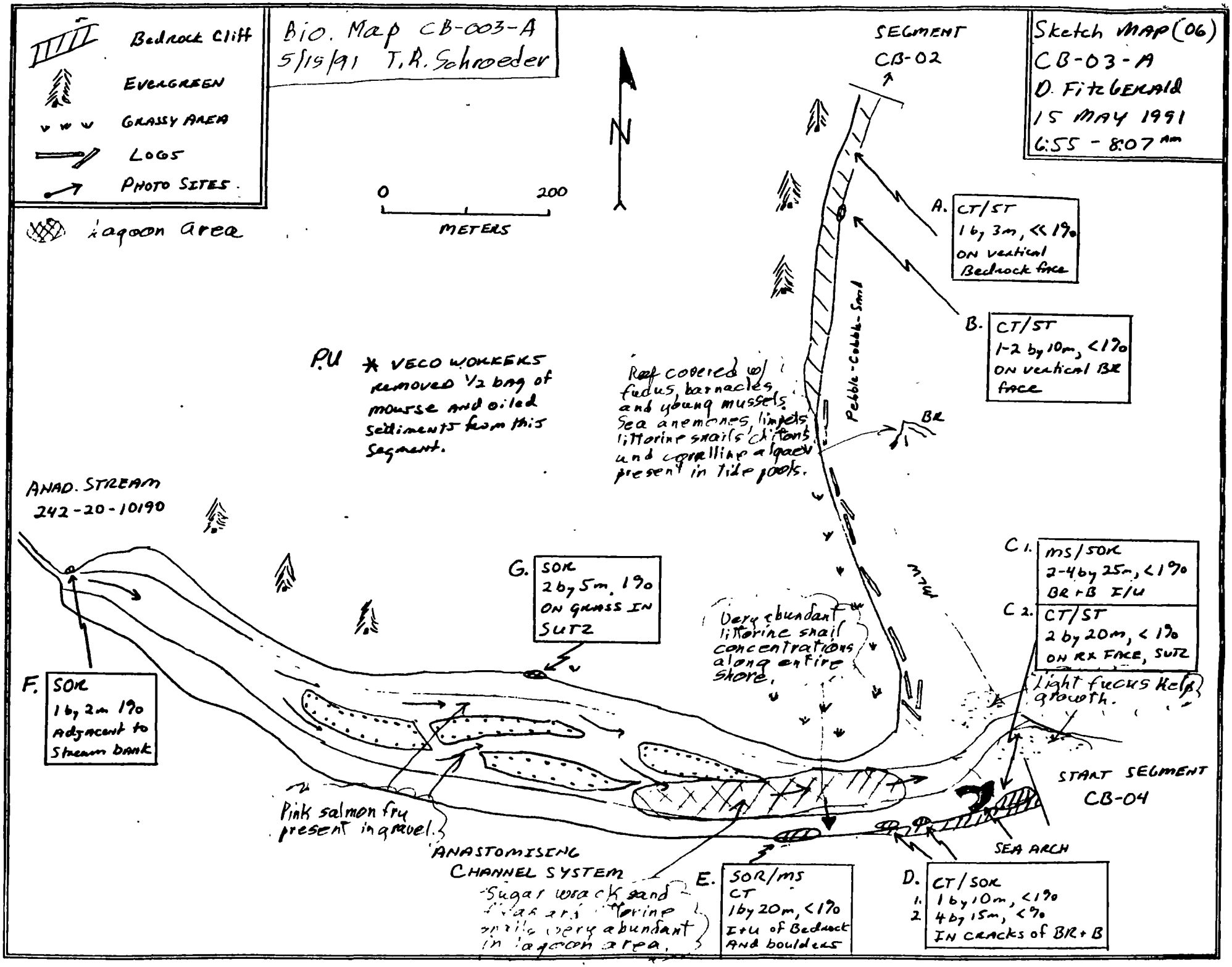
WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			100+ pink salmon
Seabirds			fry.
Waterfowl	4 Harlequin, widgeon, Mallards, merganser	60	
Gulls/Kittiwakes	2 glaucous, kittiwake	16	
Shorebirds	1 sandpiper	20	
Corvids			
Other Birds			

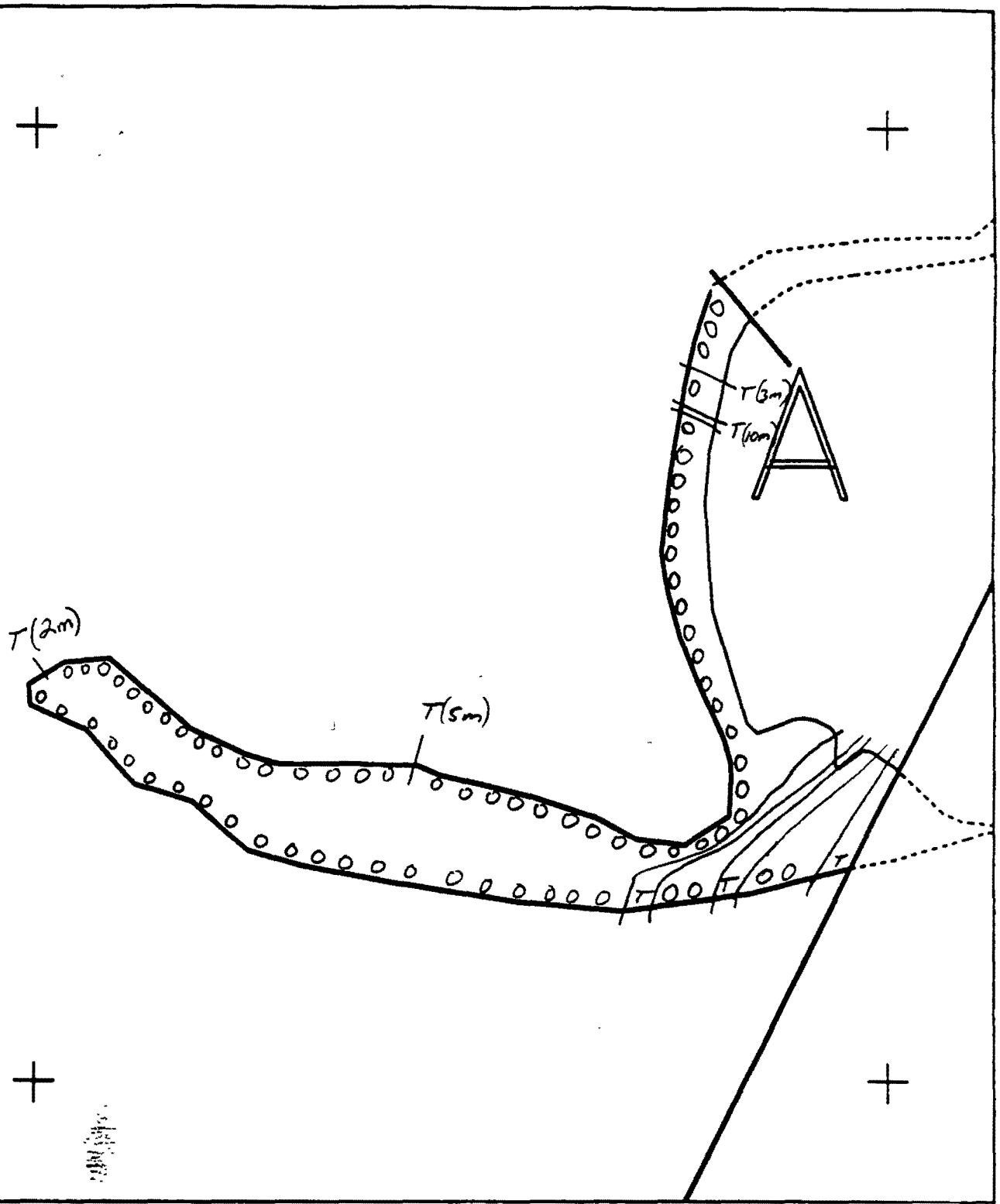
MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds(specify)			
Whales(specify)			

Shoreline subdivision map showing important biological features attached.

Reviewed M.B. 5/17/91



Reviewed R.B. 5/17/91



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

CB003 A

ADEC Subsegment Length: 1520m

METERS

0 100 200

AK State Plane Zone 4
nsb003a

EXXON

Subdivision Field Map
Map Key: KENCB003A
Name: D. Fitzgerald
Date: 15 May 1991
Date Entered:

revised 5.17.91 dj
ES reviewed 5/17

Date: 5/15/91 No. 902

Title: CB003A

Segment No CB-3 Subdivision A
Date 5/15/91 Log Frame No 2
Photographer GARY SHIGENAKA
Location CHUGACH BAY
Comments SHOT FROM SAME LOCATION AS #1 BUT PIVOTED 90° CLOCKWISE (SOUTHWESTERN ORIENTATION) TO SHOW ROCK FACE WHERE COAT WAS RECORDED IN CRACKS.

Roll No MAYSAP-6-15 Neg. No 1
Control No 902 (Office Use Only)

Segment No CB-3 Subdivision A
Date 5/15/91 Log Frame No 4
Photographer GARY SHIGENAKA
Location CHUGACH BAY
Comments VIEW UPSTREAM TO THE WEST TOWARD THE PORTION OF THE UPPER STREAMBED WHEN SOR WAS FOUND.

Roll No MAYSAP-6-15 Neg. No 3
Control No 902 (Office Use Only)

Segment No CB-3 Subdivision A
Date 5/15/91 Log Frame No 1
Photographer GARY SHIGENAKA
Location CHUGACH BAY
Comments VIEW DOWN BEACH OF SURVEYED PORTION OF SEGMENT, FROM NORTHWESTERN TERMINUS FACING SOUTHEAST.

Roll No MAYSAP-6-15 Neg. No 0
Control No 902 (Office Use Only)

Segment No CB-3 Subdivision A
Date 5/15/91 Log Frame No 3
Photographer GARY SHIGENAKA
Location CHUGACH BAY
Comments SOR IN BOULDER-COBBLE SUBSTRATE ALONG SOUTHERN SHORELINE OF BEACH. WAS SUBSEQUENTLY BROKEN UP / REMOVED.

Roll No MAYSAP-6-15 Neg. No 2
Control No 902 (Office Use Only)

Date: 5/15/91 No. 902

Title: CB003A

Segment No CB-3 Subdivision A
Date 5/15/91 Log Frame No 6
Photographer GARY SHIGENAKA
Location CHUGACH BAY
Comments VIEW OF BOULDER-COBBLE SUBSTRATE WHERE MOUSSE IN #5 WAS REMOVED; ORIENTATION TO THE SOUTHEAST

Roll No MAYSAP-6-15 Neg. No 5
Control No 902 (Office Use Only)

Segment No CB-3 Subdivision A
Date 5/15/91 Log Frame No 5
Photographer GARY SHIGENAKA
Location CHUGACH BAY
Comments MOUSSE (MS/SOR) IN COBBLE; MATERIAL WAS OF A SOMEWHAT SOFTER CONSISTENCY, FOUND IN UPPER INTERTIDAL; REMOVED BY VECO

Roll No MAYSAP-6-15 Neg. No 4
Control No 902 (Office Use Only)

1991 STREAM FILE LOG
HABITAT

STREAM CATALOG # : 242-20-10190
STREAM NAME : Chugach Bay

LOCATION : Homer
SEGMENT : CB-003a

DATE	NAME	ACTIVITY	REASON/STATUS

MAYSAP

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

KENAI

SEGMENT: CB003 **SUBDIVISION:** A **SITE:**
anadromous fish stream

RECOMMENDED TREATMENT:
No treatment recommended at this time.

ENVIRONMENTAL SENSITIVITIES:

WORK WINDOW: -

CLEANUP PLAN AND COST ESTIMATE DUE:

DATE SUBMITTED: 05/24/91

STATE ON SCENE COORDINATOR: for E. Piper

MAYSAP - Chugach BAY
ANIAO. Stream

ADF&G MULTI-ASSESSMENT DATA FORM

ANIAO

1) SURVEY TYPE: (BS) SS
2) REGION: PWS (KP,CI) K,AP
3) METHOD: Aerial (Ground) Boat
4) DATE: 5/15/91
5) START TIME: 0655
6) STOP TIME: 0807
7) SEGMENT #: CB-3A
8) K-UNIT: _____
9) LAT: 59 11 6
10) LONG: 151 37-47
11) ASC #: 242-20-10190
12) STREAM NAME: Chugach Bay Creek (?)
13) LOCATION: KPOC, Chugach BAY
14) WAVE EXPOSURE: (High) Moderate Low
15) SHORELINE TYPE: Headland Low-lying Rocks (Beach) Cove (Lagoon) Marsh
16) HIGH TIDE TIME: 0341 / 1649
17) HIGH TIDE HTS: 20.7 / 18.7
18) LOW TIDE TIMES: 0935 / 2140
19) LOW TIDE HTS: -4.7 / 1.5
20) TIDE HT AT SURVEY: .7 / -2.6
Ebb Slack Flood Slack
21) USCG QUAD: Seldovia A-5
22) TEAM RECORDER: Doug Hill (ADF&G) Duncan Fitzgerald (OG)
23) OBSERVERS: Lee Glenn (ADF&G)
24) AGENCY: _____
25) PHOTOS TAKEN: (Y) N
ROLL #: 9100H001H FRAMES: 18-21
26) VIDEO TAKEN: Y N
TAPE # _____
START: _____ STOP: _____
27) SAMPLES TAKEN? Y (N)
SAMPLE I.D. _____

28) EXTENT OF OIL

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	20	1	20	1	<1	—	SOR/MS
SITE 2	10	1	10	1	<1	—	CT/SOR
SITE 3	15	4	60	1	<1.5	—	CT SOR
SITE 4	20	2	40	1	—	—	CT/ST
SITE 5	25	4	100	8%+	<7.5	—	MS/AP

29) OVERALL OIL IMPACT:
- H = >6m band with ≥50% oil coverage
- M = >6m band with ≤ 50% oil coverage or ≥3m to ≤6m with ≥10% oil coverage
- L = <3m band with >10% oil coverage
- (VL) = ≤10% oil coverage regardless of band width
- N = No oil observed

30) OIL IN STREAMBED: Y (N)
31) OIL ON BEACH ADJACENT TO MOUTH: (Y) N
32) SUBSTRATE TYPE (PERCENT):
Bedrock 10% Boulder ____ Gravel 60% Sand 20% Cobble 10% Mud/Silt ____

33) ANADROMOUS FISH PRESENT: (Y) N

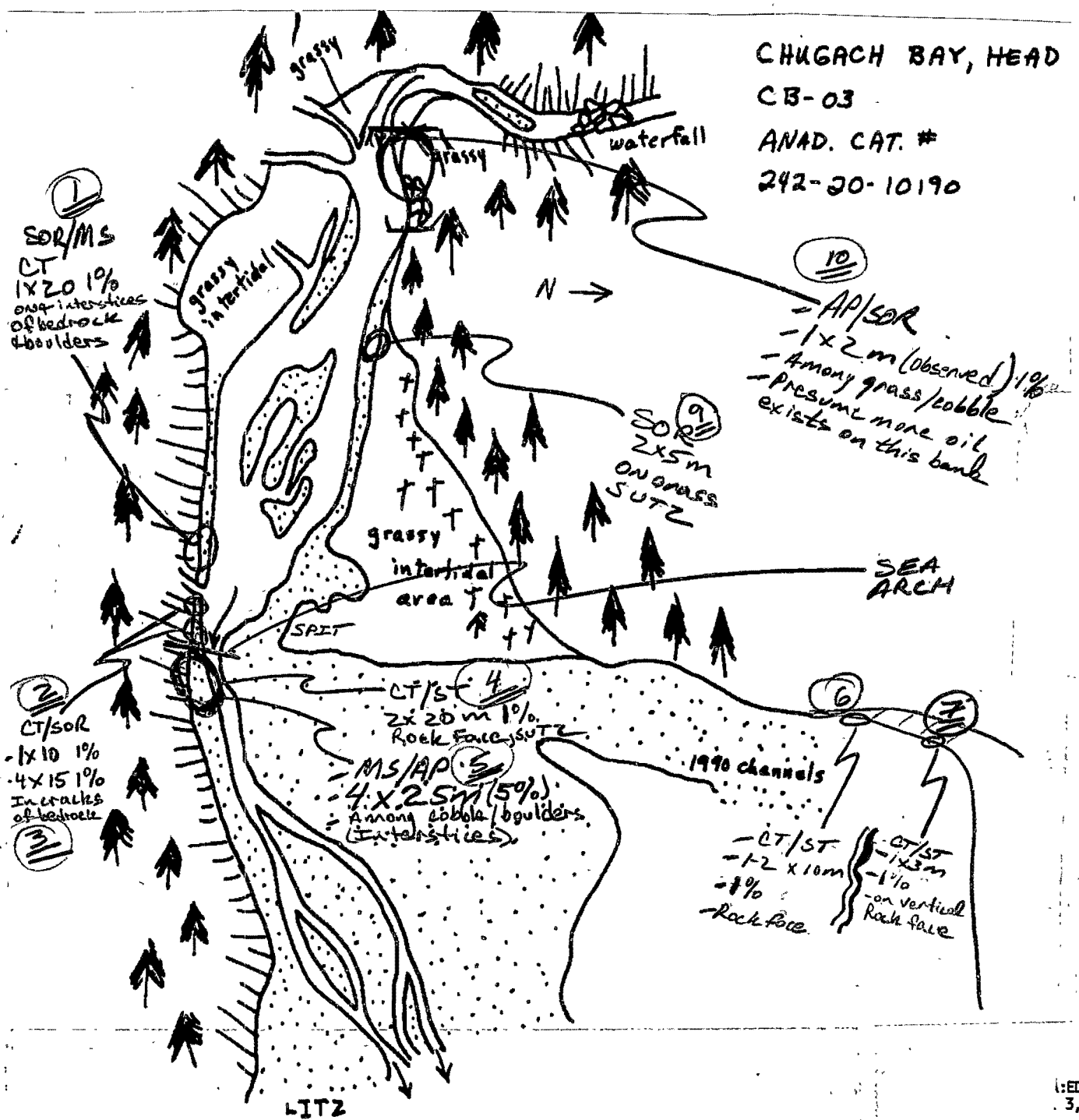
34) WILDLIFE OBSERVATION

Species	Number
Harlequins	30
Wigeons	20
Mallards	20
pink Salmon Fry	100

35) COMMENTS: A good job of cleaning was done in 1990 in the area denoted 10 on the map. Tim contacted me and oil could be found by rooting around in the grass & cobble's & boulders. The OG did not have this oil labeled on the "ASAP" survey map hence neither the USCG, Exxon or the OG bothered (wanted) to walk up to area 10 to see if oil has been exposed over the winter. Only ADF&G personel and Seraphim Megawick (Port Graham) surveyed Area 10. The USCG, EXXON & OG told me that we are only surveying areas that might need work. Well you can't know if an area needs cleaning or not if you don't look at the area. Anyway, the Exxon Rep. tried to tell me I was out exploring. While the USCG told me (Next page)

36) PHOTOLOG

FRAME(S)	DESCRIPTION
	See MAYSAP Photo location MAP - GARY Shigenaka of NOAA Took Photos



2

EDDATFO
3, 1991

MAYSAP-Chugach BAY
CB-3A CONT'D

ADF&G MULTI-ASSESSMENT DATA FORM

1) SURVEY TYPE: BS SS

METHOD: Aerial Ground Boat

3) REGION: PWS KP,CI K,AP

4) DATE: ______

5) START TIME: ______

6) STOP TIME: ______

7) SEGMENT #: ______

8) K-UNIT: ______

9) LAT: ______

10) LONG: ______

11) ASC #: ______

12) STREAM NAME: ______

13) LOCATION: ______

14) WAVE EXPOSURE: High Moderate Low

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

16) HIGH TIDE TIME: ______

17) HIGH TIDE HTS: ______

18) LOW TIDE TIMES: ______

19) LOW TIDE HTS: ______

20) TIDE HT AT SURVEY: ______

Ebb Slack Flood Slack

21) USCG QUAD: ______

22) TEAM RECORDER: ______

23) OBSERVERS: ______

24) AGENCY: ______

25) PHOTOS TAKEN: Y N

ROLL #: ______ FRAMES: ______

26) VIDEO TAKEN: Y N

TAPE # ______

START: ______ STOP: ______

27) SAMPLES TAKEN? Y N

SAMPLE I.D. ______

28) EXTENT OF OIL

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	10	2	20	1	—	?	CT/ST
SITE 2	3	1	3	1	—	?	CT/ST
SITE 3	5	2	10	1	<1	?	SOR
SITE 4	2	1	2	1	<1	?	AP/SOR
SITE 5							

29) OVERALL OIL IMPACT:

- H = >6m band with ≥50% oil coverage
- M = >6m band with ≤ 50% oil coverage or ≥3m to ≤6m with ≥10% oil coverage
- L = <3m band with >10% oil coverage
- VL = ≤10% oil coverage regardless of band width
- N = No oil observed

30) OIL IN STREAMBED: Y N

31) OIL ON BEACH ADJACENT TO MOUTH: Y N

32) SUBSTRATE TYPE (PERCENT):

Bedrock ____ Boulder ____ Gravel ____ Sand ____ Cobble ____ Mud/Silt ____

33) ANADROMOUS FISH PRESENT: Y N

34) WILDLIFE OBSERVATION

Species	Number

35) COMMENTS: he show me the USCG policy on looking at areas which are not on the ASAP map - I guess it's the "Blind leading the blind" policy. Also the USCG, Exxon & DG got mad at Seraphim & I for finding AP in an area (w/in the segment) that they had already walked. They were in a hurry to get back to town to do paper work - I told em they might as well dry lab all their surveys if they did them like they were doing this one. Anyway, the area looks good relative what it looked like in the spring of 1990

ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

STREAM#: 2422010190
SEGMENT: CB003

PAGE 21 DATE PRINTED: 06/21/91

LOCATION: CHUGACH BAY

SURVEY TYPE: 90 PRE SCREEN - SS METHOD: GROUND

DATE: 04/16/90 TEAM RECORDER: HILL

START TIME: 1348 OBSERVERS: MCLANE
END TIME: 1510

AGENCY: FG

OG/HAB DISCREPANCIES: -

PHOTOS TAKEN: Y

STATION: 2422010190 ROLL#: 90DDH005H 006H
FRAME: 22-25 1-7

VIDEO TAKEN: N TAPE#: -0-
START: -0- END: -0-

SAMPLES TAKEN: Y

SAMPLE NUMBERS: ?? - not in checklists -0- SM/DDH-4/16/90-1400
SM/DDH-4/16/90-1405
?? -0-
-0- -0-

OIL IN STREAM BED: Y

OVERALL OIL IMPACT: M/H OIL ON BEACH BY MOUTH: Y

WAVE EXPOSURE: MOD SHORELINE TYPE: -0-

SUBSTRATE TYPE: BEDROCK 10 BOULDER -0- COBBLE 10 VEGETAT -0-
GRAVEL 60 SAND 20 MUD/SILT -0- GRANULE -0-

ANADROMOUS FISH PRESENT: N

SPECIES:	COUNT:
-0-	-0-
-0-	-0-
-0-	-0-
-0-	-0-
-0-	-0-

ACE 10459590 HS

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

DATE PRINTED: 06/21/91

STREAM# : 2422010190
SEGMENT#: CB003

SURVEY TYPE : 90 PRE SCREEN - SS LOCATION: CHUGACH BAY
DATE: 04/16/90
TIMES: 1348 - 1510 TEAM RECORDER: HILL

-- OILING EXTENT --

SITE#	SITE TYPE	DEPTH (cm)	LENGTH (m)	WIDTH (m)	AREA (m)	%	THICK (cm)	PEN (cm)	OIL TYPE CODES
1	-0-	-0-	229	5	-0- 1145	40	2.5	7.8	AP TB CV CT
2	-0-	-0-	214	5	-0- 1070	50	2.5	7.0	AP M TP
3	-0-	-0-	137	1	-0- 137	80	2.5	5.0	AP TB OR MS
4	-0-	-0-	64	3	-0- 192	.05	5.0	2.5	AP TB OR
5	-0-	-0-	3	.7	-0- 2.1	100	5.0	2.5	AP F
-0	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-

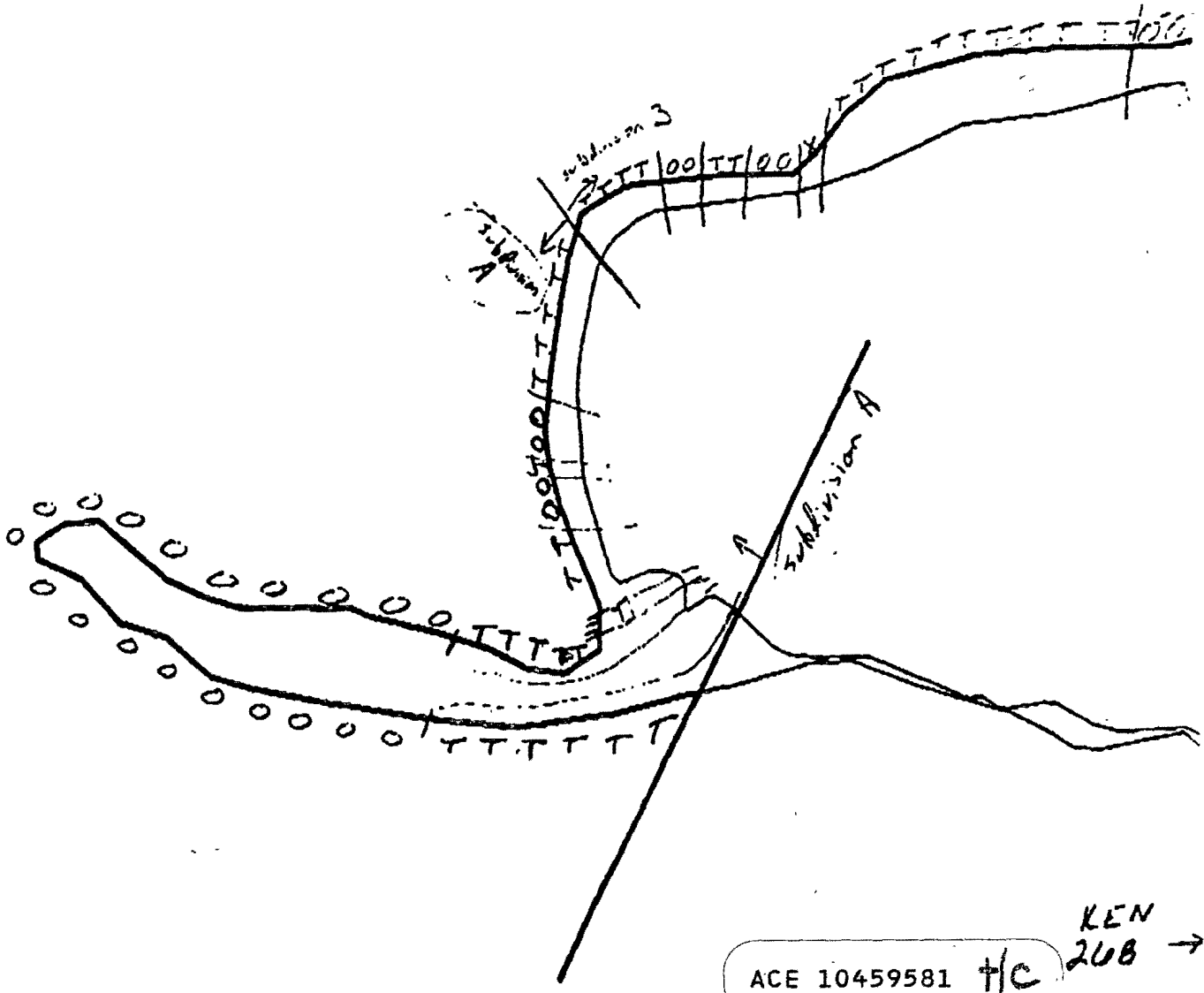
site 1 contains also ST, F, OR

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

PAGE 24 DATE PRINTED: 06/21/91

COMMENTS:
THE SOUTH SIDE OF THE MOUTH OF CHUGACH STREAM HAS SIGNIFICANT TARMATS. THIS SIDE OF THE STREAM ALSO CONTAINED TAR PATTIES W/ALGAE GROWING ON THEM. (~~THIS WAS OCCURRING~~ observed AT BLACK LAGOON ALSO) THE NORTH SIDE OF THE STREAM HAD SMALL TARMATS AND A BROKEN BAND OF OILED GRASSES UPSTREAM ALMOST TO THE WATERFALL. ANADSCAT RECOMMENDED. CHOCOLATE BROWN MOUSSE FOUND BENEATH WEATHERED CRUST WITH ALGAE GROWING ON IT. SITE 1B-1 OF 1989 AFHA. ~~SITE #1 ALSO HAS THE FOLLOWING OIL TYPE: OR~~
OIL ON STREAM BANKS: YES
OIL WITHIN 1 MILE OF STREAM: YES

ACE 10459592 -15



KEN 208 →

ACE 10459581 T/C

ACE 1941136

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

CB-3

ADEC Segment Length: 4347m

0 100 200 300

N

Map Key: KEN-26a
Name: Randy Singel
Date: 29 Mar 90
Date Entered:

SHORELINE EVALUATION

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

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to unoiled biota and substrate.

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

SHPO SIGNATURE: Charles Holmes DATE: April 12, 1990

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

RECOMMENDATIONS:

____No Treatment Recommended	____Snare/Absorbent Booms
X Treatment Recommended	____Oil Snares (pom poms)
X Manual Pickup	____Absorbents (pads,rolls,etc)
____Bioremediation	____Spot Washing: ____Wands
____Tarmat: ____Breakup	____ Beach Cleaner
____Removal	____Other (see comments)

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

TAG COMMENTS:

TAG APPROVAL DATE: 4/12/90
ADEC JOHN BAUER
EXXON ANDY TEAL
NOAA Burl Wescott
USCG M. J. HALL
FOSC: DATE: 5-8-90

ACE 10459582

ACE 1941134

ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

STREAM#: 2422010190
SEGMENT: CB003

PAGE 20 DATE PRINTED: 06/21/91

LOCATION: CHUGACH BAY

SURVEY TYPE: 90 PRE SCREEN - SS METHOD: GROUND

DATE: 04/07/90 OK 4/7/90. (7/29/91) KS TEAM RECORDER: HILL

START TIME: 1020 OBSERVERS: GLENN
END TIME: 1115

AGENCY: FG

OG/HAB DISCREPANCIES: -

PHOTOS TAKEN: Y

STATION: 2422010190 ROLL#: 90DDH001H
FRAME: 18-20

VIDEO TAKEN: - TAPE#: -0-
START: -0- END: -0-

SAMPLES TAKEN: N

SAMPLE NUMBERS: -0- -0-

-0- -0-

-0- -0-

OIL IN STREAM BED: Y

OVERALL OIL IMPACT: M/H OIL ON BEACH BY MOUTH: Y

WAVE EXPOSURE: HIGH SHORELINE TYPE: -0-

SUBSTRATE TYPE: BEDROCK 10 BOULDER -0- COBBLE 10 VEGETAT -0-

GRAVEL 60 SAND 20 MUD/SILT -0- GRANULE -0-

ANADROMOUS FISH PRESENT: -

SPECIES:	COUNT:
-0-	-0-
-0-	-0-
-0-	-0-
-0-	-0-
-0-	-0-

ACE 10459583 +S

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

DATE PRINTED: 06/21/91

STREAM# : 2422010190
SEGMENT#: CB003

SURVEY TYPE : 90 PRE SCREEN - SS LOCATION: CHUGACH BAY
DATE: 04/07/91
TIMES: 1020 - 1115 TEAM RECORDER: HILL

-- OILING EXTENT --

SITE#	SITE TYPE	DEPTH (cm)	LENGTH (m)	WIDTH (m)	AREA (m)	%	THICK (cm)	PEN (cm)	OIL TYPE CODES
1	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	NO AVAIL

COMMENTS:
OIL OBSERVED FROM STREAM OUTLET TO A POINT APPROX 280 METER UPSTREAM (TO THE 90 DEGREE BEND BELOW THE FALLS). OIL WAS OBSERVED BENEATH LAST YEARS BROWNED/DEAD GRASS ON THE CREEKS NORTH SHORE (SPORADIC PATTIES APPROX 30M ABOVE THE BEACH BERM AT THE STREAM MOUTH) AND ON THE PATCH OF GRASS FLATS ON THE NORTH SHORE JUST BELOW THE 90 DEGREE CREEK BEND BELOW THE FALLS. OIL OBSERVED ON STREAM NORTH BANK AMONG COBBLES & BOULDERS BEGINNING APPROX 100 YARDS ABOVE STREAM MOUTH TO A POINT APPROX 150 YARDS DOWNSTREAM OF THE FALLS. OIL PATTIES OBSERVED IN GRASS FLATS AND ON BAR APPROX 250-350 METERS UPSTREAM OF BERM AT STREAM MOUTH. NO SIGNIFICANT OIL OBSERVED ON COBBLE SALT WATER BEACH EXTENDING NORTH FROM STREAM MOUTH. SITE 1B-1 OF 1989 AFHA.
OIL ON STREAM BANKS: YES
OIL WITHIN 1 MILE OF STREAM: YES, ON BEACHES ADJACENT STREAM MOUTH

ASC NUMBER: 242-20-10190 SEGMENT NUMBER: CB-3 YR CATALOGED:
LOCATION: KP, OC, Chugach Bay
STREAM NAME: Chugach Bay Crk. LATITUDE: 59 11 6
KODIAK K-UNIT: LOCAL STREAM #: LONGITUDE: 151 37 47
USGS QUADRANGLE: Seldovia A-5 LEGAL:
SHORELINE TYPE: Beach ALL SEGMENTS:
WAVE EXPOSURE: Moderate

ASC NUMBER:
SURVEY TYPE: Pre-screening
METHOD: Foot
DATE: 4/7/90
START TIME: 1020
STOP TIME: 1115

TEAM RECORDER: Doug Hill
OBSERVERS: Lee Glenn

AGENCY(IES): ADF&G

PHOTOS TAKEN? ~~Y~~ NO
Roll #: ~~[illegible]~~ Frames: ~~[illegible]~~
VIDEO TAKEN? N Tape Number:
Counter Start:

SAMPLES TAKEN? ~~Y~~ No
SAMPLE I.D. NUMBERS: 1. 2. 3.
4. 5. 6.

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

SEE 4/16/90 pre-screening Survey for oiling table

OVERALL OIL IMPACT: M/H

OIL IN STREAM CHANNEL? Y

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Y

SUBSTRATE

Bedrock	10	Granule	60
Boulder		Sand	20
Cobble	10	Silt	
Pebble		Veget.	

SPECIES					
COUNT					

COMMENTS: -Oil observed from stream outlet to a point approx. 480 meter upstream (To the 90° bend below the falls)

- Oil was observed beneath last years browned/dead grass on the creeks north shore (sporadic patties approx. 30 m above the the beach berm at the stream mouth) and on the patch of grass flats on the North shore just below the 90° creek bend below the falls. Oil observed on stream north bank among cobbles & boulders beginning approx. 100 yds above stream mouth to a points approx 150 yds downstream of the falls.
- oil patties observed in grass flats and on bar approx. 250-350 meters upstream of berm at stream mouth.

ACE 10459585 #5

No significant oil observed on cobble saltwater beach extending North from stream mouth.

* Site 1B-1 of 1989 AFHA ~~See field log for further 1990 info~~

Group A

Pre-Screening

ADF&G MULTI-ASSESSMENT DATA FORM

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

METHOD: Aerial (Ground) Boat

3 DATE: 4/7/90 15 HIGH TIDE TIMES: 0102 / 1310 21 TEAM RECORDER: Doug Hill

4 START TIME: 1020 16 HIGH TIDE HTS: 11.8 / 11.5 22 OBSERVERS: Lee Glenn

5 STOP TIME: 1115 17 LOW TIDE TIMES: 0702 / 1915 23 AGENCY: ADF&G

6 SEGMENT #: 18 LOW TIDE HTS: 1.3 / 0.5 24 PHOTOS TAKEN: (Y) N

7 STATION #: 19 TIDE HT AT SURVEY: Roll #: 90DDH001H Frame: 18,19,20

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

9 STAT AREA: 20 USCG QUAD: Seldovia A-5 Start: End:

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

12 SOURCE: Map Loran Oil

13 LOCATION: KP, Or, Chugach Bay Sediment

14 DESCRIPTION: Head of Bay, Saltwater lagoon Biological

EXTENT OF OIL Water

	SHORELINE L	W	M²	%	STREAM L	W	M²	%
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION								

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

31 OIL TYPE: Pooled (Mousse) Tar Asphalt Sticky Stain

32 OILED DEBRIS? Y N

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

34 WAVE EXPOSURE: (High) Moderate Low

35 SUBSTRATE TYPE: Bedrock 10 Boulder Cobble 10 Gravel 60 Sand 20 Mud/silt

36 CATALOGED ANAD. FISH SREAM? (Y) N

37 CATALOG #: 242-20-10190

38 STREAM NAME: Chugach Bay Crk.

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: On beaches Adjacent stream mouth.

43 ANADROMOUS FISH PRESENT? Y ? (N) ?

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS:

ACE 10459586 15

ASC NUMBER: 242-20-10190 SEGMENT NUMBER: CB-3 YR CATALOGED:
LOCATION: KPJOC, Chugach Bay
STREAM NAME: Chugach Bay Crk. LATITUDE: 59 11 6
DIAK K-UNIT: LOCAL STREAM #: LONGITUDE: 151 37 47
USGS QUADRANGLE: Seldovia A-5 LEGAL:
SHORELINE TYPE: Beach ALL SEGMENTS:
WAVE EXPOSURE: High

ASC NUMBER:
SURVEY TYPE: Pre-screening
METHOD: Foot
DATE: 4/7/90
START TIME: 1020
STOP TIME: 1115

TEAM RECORDER: Doug Hill
OBSERVERS: Lee Glenn

AGENCY(IES): ADF&G

PHOTOS TAKEN? Y
Roll #: Frames:
VIDEO TAKEN? Tape Number:
Counter Start:

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

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1							
SITE 2	See 4/16/90 pre-screening Survey						
SITE 3							
SITE 4							
SITE 5							

OVERALL OIL IMPACT: M/H

OIL IN STREAM CHANNEL? Y

SUBSTRATE

Bedrock 10	Granule 60
Boulder	Sand 20
Cobble 10	Silt
Pebble	Veget.

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Y

SPECIES					
COUNT					

COMMENTS: - oil observed from stream outlet to a point approx. 480 meter upstream (To the 90° bend below the falls)

- Oil was observed beneath last years brouwned/dead grass on the creeks north shore (sporadic patties approx. 30 m above the the beach berm at the stream mouth) and on the patch of grass flats on the North shore just below the 90° creek bend below the falls. Oil observed on stream's north bank among cobbles & boulders beginning approx. 100 yds above stream mouth to a points approx 150 yds downstream of the falls.

- oil patties observed in grass flats and on bar approx. 250-350 meters upstream of berm at stream mouth.

ACE 10459587 #5

- No significant oil observed on cobble saltwater beach extending North from stream mouth.

* Site 1B-1 of 1989 AFHA / * see field log for further 1990 info

Group A

Pre-Screening

ADF&G MULTI-ASSESSMENT DATA FORM

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

METHOD: Aerial (Ground) Boat

3 DATE: 4/7/90 15 HIGH TIDE TIMES: 0102 / 1330 21 TEAM RECORDER: Doug Hill

4 START TIME: 1020 16 HIGH TIDE HTS: 11.8 / 11.5 22 OBSERVERS: Lee Glenn

5 STOP TIME: 1115 17 LOW TIDE TIMES: 0702 / 1915 23 AGENCY: ADF&G

6 SEGMENT #: 18 LOW TIDE HTS: 1.3 / 0.5 24 PHOTOS TAKEN: (Y) N

7 STATION #: 19 TIDE HT AT SURVEY: Roll #: 9000H001H Frame: 18,19,20

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

9 STAT AREA: 20 USCG QUAD: Seldovia A-5 Start: End:

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

12 SOURCE: Map Loran Oil

13 LOCATION: KP, Or, Chugach Bay Sediment

14 DESCRIPTION: Head of Bay, Saltwater lagoon Biological

Water

EXTENT OF OIL

	SHORELINE L	W	M²	%	STREAM L	W	M²	%
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION								

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

31 OIL TYPE: Pooled (Mousse) Tar (Asphalt) (Sticky) (Stain)

32 OILED DEBRIS? Y N

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

34 WAVE EXPOSURE: (High) Moderate Low

35 SUBSTRATE TYPE: Bedrock 10 Boulder Cobble 10 Gravel 60 Sand 20 Mud/silt

36 CATALOGED ANAD. FISH SREAM? (Y) N

37 CATALOG #: 242-20-10190

38 STREAM NAME: Chugach Bay Crk.

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: On beaches Adjacent stream mouth.

43 ANADROMOUS FISH PRESENT? Y ? N ?

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS:

ACE 10459588 →

45 PHOTOLOG

FRAME(S)	DESCRIPTION

46 OIL DISTRIBUTION DIAGRAM

= Sample taken

= Photo frame # and shot direction.

ASC NUMBER: 242-20-10190 SEGMENT NUMBER: CB-3 YR CATALOGED:
LOCATION: OC, KP, Chugach Bay
STREAM NAME: Chugach Bay Crk LATITUDE: 59 11 6
KODIAK K-UNIT: . LOCAL STREAM #: LONGITUDE: 151 37 47
USGS QUADRANGLE: Seldovia A-5 LEGAL:
SHORELINE TYPE: Beach, Lagoon ALL SEGMENTS:
WAVE EXPOSURE: Moderate

ASC NUMBER: 242-20-10190
SURVEY TYPE: Prescreening
METHOD: Foot
DATE: 4/16/90
START TIME: 1348
STOP TIME: 1510

TEAM RECORDER: Doug Hill
OBSERVERS: Susan McLane

AGENCY(IES): ADF&G

PHOTOS TAKEN? Y
Roll #: 90DDH005H 90DDH006H Frames: 22 → 25
VIDEO TAKEN? Tape Number: 1 → 7
Counter Start:

SAMPLES TAKEN? Y
SAMPLE I.D. NUMBERS: 1. SM/DDH-4/16/90-1400 2. SM/DDH-4/16/90-1405 3.
4. 5. 6.

— cannot find these samples.

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	229	5		40	2.5	7.8	AP, TB, CH, CT, ST, F, OR
SITE 2	214	5		50	2.5	7.0	AP, M, TP
SITE 3	137	1		80	2.5	5.0	AP, TB, OR, MS
SITE 4	64	3		.05	5.0	2.5	AP, TB, OR
SITE 5	3	.7		100	5.0	2.5	AP, F

OVERALL OIL IMPACT: M/H

OIL IN STREAM CHANNEL? Y

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Y

SUBSTRATE

Bedrock	10	Granule	
Boulder		Sand	20
Cobble	10	Silt	
Pebble	60	Veget.	

SPECIES					
COUNT					

COMMENTS: See 1990: MAD form & Field Log SSAT ASAP

1) MAD comments (following page)

2) ⇒ Chocolate brown mousse found beneath weathered crust with Algae growing on it

Site / CB-1 of 1989 AFHA

ACE 10459593 +S/SG

Group A

ADF&G MULTI-ASSESSMENT DATA FORM

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

METHOD: Aerial (Ground) Boat — Cordova

3 DATE: 4-16-90 — 15 HIGH TIDE TIMES: 0513 / — 21 TEAM RECORDER: Doug Hill

4 START TIME: 1348 — 16 HIGH TIDE HTS: 11.2 / — 22 OBSERVERS: Suzan McKone

5 STOP TIME: 1510 — 17 LOW TIDE TIMES: 1229 / — 23 AGENCY: ADF&G

6 SEGMENT #: CB-3 — 18 LOW TIDE HTS: 1.5 / — 24 PHOTOS TAKEN: (Y) N

7 STATION #: — 19 TIDE HT AT SURVEY: low — Roll #: 90-DDH-005-H Frame:
90-DDH-006-H

8 K-UNIT: — Ebb Slack (Flood) Slack — 25 VIDEO TAKEN: Y (N) TAPE#:

9 STAT AREA: 242-20 — 20 USCG QUAD: Seldovia A-5 — Start: End:

10 LAT: 59° 11' 10 — 11 LONG: 151° 38' 00 — 26 SAMPLES TAKEN? (Y) N Number

12 SOURCE: Map (Loran) — Oil 2
sm/DDH-4/16/90-1400
sm/DDH-4/16/90-1405

13 LOCATION: AFS 242-20-10190 Chugach Cr. — Sediment

14 DESCRIPTION: S.W head of Chugach Bay — Biological

EXTENT OF OIL — Water

	SHORELINE L	W	M²	%	STREAM L	W	M²	%
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION								

30 OVERALL OIL IMPACT: N VL L M H

31 OIL TYPE: Pooled (Mousse) (Tar) Asphalt Sticky (Stain)

32 OILED DEBRIS? (Y) N

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

34 WAVE EXPOSURE: High (Moderate) Low

35 SUBSTRATE TYPE: Bedrock 10% Boulder — Cobble 20%
Gravel 60% Sand 20% Mud/silt

36 CATALOGED ANAD. FISH STREAM? (Y) N

37 CATALOG #: 242-20-10190

38 STREAM NAME: Chugach Cr.

39 OIL IN STREAM BED? (Y) N

40 OIL ON STREAM BANKS? (Y) N

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

42 OIL WITHIN 1 MILE OF STREAM? (Y) N
Where:

43 ANADROMOUS FISH PRESENT? Y (N)

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

ACE 10459594 -/S

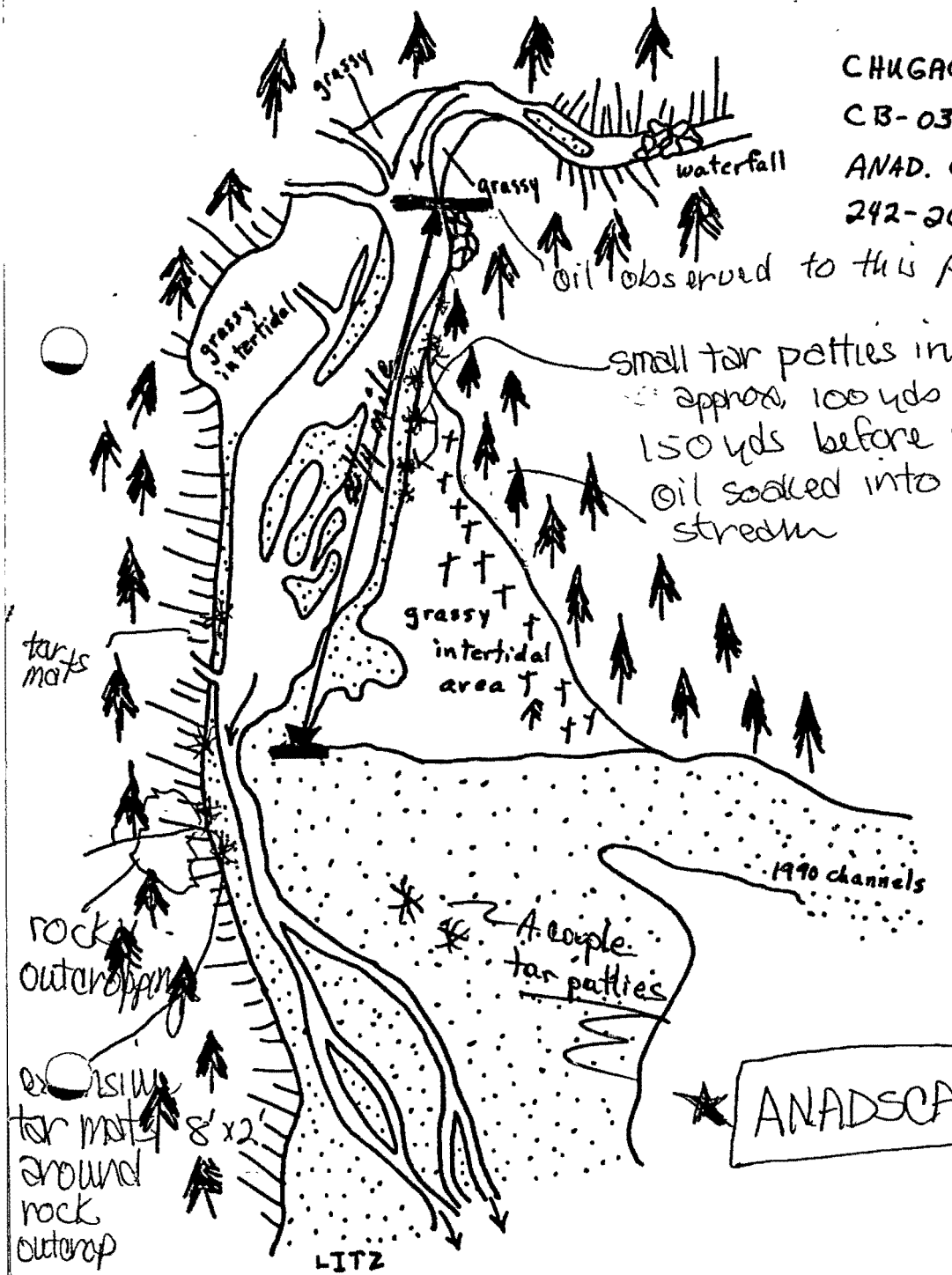
COMMENTS: The south side of the mouth of Chugach Stream has significant tar mats. This side of the stream also contained tar patties w/ algae growing on them. (This was occurring at Black Lagoon also). The north side of the stream had small tar mats and a broken band of oiled grasses upstream almost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

ACE 1955672

7721

45 PHOTOLOG

FRAME(S)	DESCRIPTION
2 ~~1,2,3~~ 3 ROLL 005	Aerials of Chugach Bay Creek mouth + Lagoon
2,3,24	South shore - mouth / Tar mat, < 2" thick
1	Mousse found beneath crusty outer layer (15' from Current H2O level) IN Stream channel
2,3,4	Algae growing on Tar mat - break surface + find mousse
5	Algae growing on black crusty layer of oil
6,7	Aerials of Chugach Bay Creek Mouth



CHUGACH BAY, HEAD

CB-03

ANAD. CAT. #

242-20: 10190

Oil observed to this point

small tar patties in broken line beginning approx. 100 yds from mouth and ending 150 yds before waterfall

Oil soaked into grasses along edge of stream

★ ANADSCAT RECOMMENDED

ACE 10459595 - 159

ACE 1955673

ASC NUMBER: 242-20-10190 SEGMENT NUMBER: CB-3 YR CATALOGED:
LOCATION: OC, KP, Chugach Bay
STREAM NAME: Chugach Bay Crk LATITUDE: 59 11 6
DIAK K-UNIT: . LOCAL STREAM #: LONGITUDE: 151 37 47
USGS QUADRANGLE: Seldovia A-5 LEGAL:
SHORELINE TYPE: BEACH, Lagoon ALL SEGMENTS:
WAVE EXPOSURE: Moderate

ASC NUMBER: 242-20-10190
SURVEY TYPE: Prescreening
METHOD: FOOT
DATE: 4/16/90
START TIME: 1348
STOP TIME: 1510

TEAM RECORDER: Doug Hill
OBSERVERS: Susan McLane

AGENCY(IES): ADF&G

PHOTOS TAKEN? Y
Roll #: 90DDH005H 90DDH006H Frames: 22 → 25
VIDEO TAKEN? Tape Number: 1 → 7
Counter Start:

SAMPLES TAKEN? Y
SAMPLE I.D. NUMBERS: 1. SM/ODH-4/16/90-1400 2. SM/DDH-4/16/90-1405 3.
4. 5. 6.

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	229	5		40	2.5	7.8	AP, TB, CV, CT, ST, F, OR
SITE 2	214	5		50	2.5	7.0	AP, M, TP
SITE 3	137	1		80	2.5	5.0	AP, TB, OR, MS
SITE 4	64	3		.05	5.0	2.5	AP, TB, OR
SITE 5	3	.7		100	5.0	2.5	AP, F

OVERALL OIL IMPACT: M/H

OIL IN STREAM CHANNEL? Y

SUBSTRATE			
Bedrock	10	Granule	
Boulder		Sand	20
Cobble	10	Silt	
Pebble	60	Veget.	

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Y

SPECIES					
COUNT					

COMMENTS: SEE 1990: MAD Form
Field Log
SSAT
ASAP.

1) MAD Comments (following page)

2) ⇒ Chocolate brown mousse found beneath weathered crust with Algae growing on it

ACE 10459596 4/9/90

Group A

ADF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS (SS) DS TS AVS SCHA NMHS PTA ..... 2 REGION: PWS (KP,CI) K,AP .....

METHOD: Aerial (Ground) Boat Cordova

3 DATE: 4-16-90 | 15 HIGH TIDE TIMES: 0513 | 21 TEAM RECORDER: Doug Hill

4 START TIME: 1348 | 16 HIGH TIDE HTS: 11.2 ' | 22 OBSERVERS: Susan McKone

5 STOP TIME: 1510 | 17 LOW TIDE TIMES: 1229 ' | 23 AGENCY: ADF&G

6 SEGMENT #: CB-3 | 18 LOW TIDE HTS: 1.5 ' | 24 PHOTOS TAKEN: (Y) N

7 STATION #: _____ | 19 TIDE HT AT SURVEY: low | Roll #: 90-DDH-005-H Frames: _____ 90-DDH-006-H

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

9 STAT AREA: 242-20 | 20 USCG QUAD: Seldovia A-5 | Start: _____ End: _____

10 LAT: 59° 11' 10 | 11 LONG: 151° 38' 00 | 26 SAMPLES TAKEN? (Y) N Number

12 SOURCE: Map (Loran)

13 LOCATION: AFS 242-20-10190 Chugach Cr.

14 DESCRIPTION: S.W head of Chugach Bay

Oil: sm (DDH-4/16/90-1400) 2
Sediment: sm (DDH-4/16/90-1405)
Biological _____
Water _____

EXTENT OF OIL

	SHORELINE L	W	M²	%	STREAM L	W	M²	%
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION								

30 OVERALL OIL IMPACT: N VL L M H

31 OIL TYPE: Pooled (Mousse) (Tar) Asphalt Sticky (Stain)

32 OILED DEBRIS? (Y) N

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

34 WAVE EXPOSURE: High (Moderate) Low

35 SUBSTRATE TYPE: Bedrock 10% Boulder _____ Cobble 20%
Gravel 60% Sand 20% Mud/silt _____

36 CATALOGED ANAD. FISH STREAM? (Y) N

37 CATALOG #: 242-20-10190

38 STREAM NAME: Chugach Cr.

39 OIL IN STREAM BED? (Y) N

40 OIL ON STREAM BANKS? (Y) N

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

42 OIL WITHIN 1 MILE OF STREAM? (Y) N

Where: _____

43 ANADROMOUS FISH PRESENT? Y (N)

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

ACE 10459597

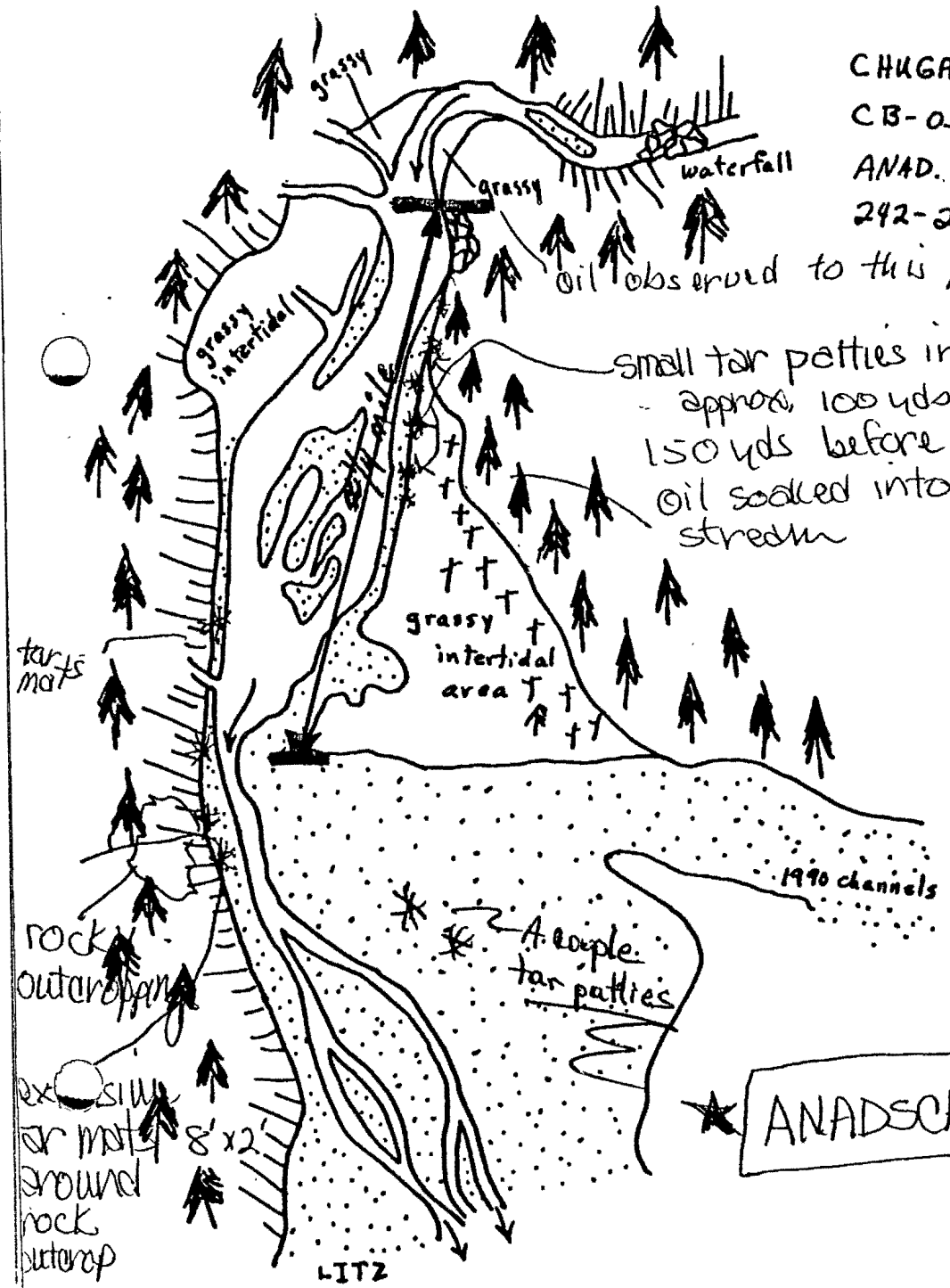
COMMENTS: The south side of the mouth of Chugach Stream has significant tar mats. This side of the stream also contained tar patties w/ algae growing on them. (This was occurring at Block Lagoon also). The north side of the stream had small tar mats and a broken band of oiled grasses upstream almost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

ACE 1955672

7721

46 PHOTOLOG

FRAME(S)	DESCRIPTION
2 ~~1,2~~ 3 ROLL 005	Aerials of Chugach Bay Creek mouth & lagoon
2, 3, 24	South shore - mouth / Tar mat, < 2" thick
1	Mousse found beneath crusty outer layer - (15' from Current H2O level) IN Stream channel
2, 3, 4	Algae growing on tar mat - break surface & find mousse
4/6 5	Algae growing on black crusty layer of oil
6, 7	Aerials of Chugach Bay Creek Mouth



CHUGACH BAY, HEAD

CB-03

ANAD. CAT. #

242-20: 10190

oil observed to this point

small tar patties in broken line beginning approx. 100 yds from mouth and ending 150 yds before waterfall

oil soaked into grasses along edge of stream

★ ANADSCAT RECOMMENDED

ACE 10459598 -15

ACE 1955673

Group A

FAIRCL Anch - 4/20/90

ADF&G MULTI-ASSESSMENT DATA FORM

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

METHOD: Aerial (Ground) Boat Cordova

3 DATE: 4-16-90 15 HIGH TIDE TIMES: 0513/ 21 TEAM RECORDER: Doug Hill

4 START TIME: 1348 16 HIGH TIDE HTS: 11.2 / 22 OBSERVERS: Susan McLane

5 STOP TIME: 1510 17 LOW TIDE TIMES: 1229/ 23 AGENCY: ADF&G

6 SEGMENT #: CB-3 18 LOW TIDE HTS: 1.5 / 24 PHOTOS TAKEN: (Y) N

7 STATION #: 19 TIDE HT AT SURVEY: low Roll #: 90-DDH-005-H 90-DDH-006-H Frame:

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

9 STAT AREA: 242-20 20 USCG QUAD: Seldovia A-5 Start: End:

10 LAT: 59° 11' 10 11 LONG: 151° 38' 00 26 SAMPLES TAKEN? (Y) N Number

12 SOURCE: Map (Loran) Oil 2

13 LOCATION: AFS 242-20-10190 Chugach Cr. Sediment sm/DDH-4/16/90-1400 sm/DDH-4/16/90-1405

14 DESCRIPTION: S.W head of Chugach Bay Biological

Water

EXTENT OF OIL

	SHORELINE L	W	M²	%	STREAM L	W	M²	%
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION								

30 OVERALL OIL IMPACT: N VL L M H

31 OIL TYPE: Pooled (Mousse) (Tar) Asphalt Sticky (Stain)

32 OILED DEBRIS? (Y) N

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

34 WAVE EXPOSURE: High (Moderate) Low

35 SUBSTRATE TYPE: Bedrock 10% Boulder Cobble 20%

Gravel 60% Sand 20% Mud/silt

36 CATALOGED ANAD. FISH STREAM? (Y) N

37 CATALOG #: 242-20-10190

38 STREAM NAME: Chugach Cr.

39 OIL IN STREAM BED? (Y) N

40 OIL ON STREAM BANKS? (Y) N

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

42 OIL WITHIN 1 MILE OF STREAM? (Y) N

Where:

43 ANADROMOUS FISH PRESENT? Y (N)

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

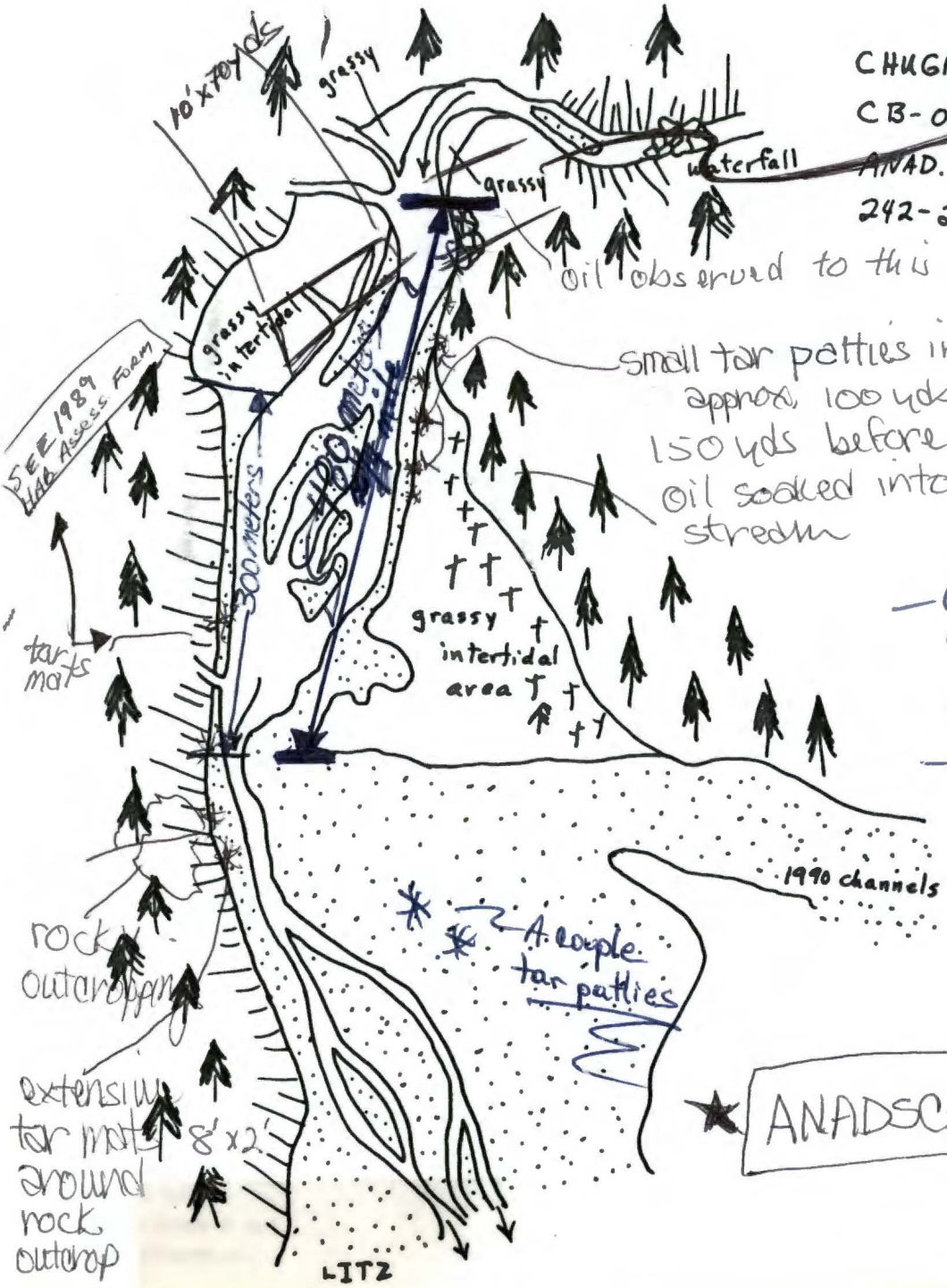
ACE 10459599 →

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

ACE 1941121 +/S

45 PHOTOLOG

FRAME(S)	DESCRIPTION
21, 22, ~~23, 24~~ } ROLL 005	Aerials of Chugach Bay Creek mouth + lagoon
23, 24	South shore - mouth / Tar mat, < 2" thick
1	Mousse found beneath crusty outer layer - (15' from current H_2O level) IN Stream channel
2, 3, 4	Algae growing on tar mat - break surface + find mousse
5	Algae growing on black crusty layer of oil
6, 7	Aerials of Chugach Bay Creek Mouth



CHUGACH BAY HEAD
CB-03
ANAD. CAT. #
242-20-10190

~~50' x 3'~~ wide oil in grasses

Oil observed to this point

small tar patties in broken line beginning approx. 100 yds from mouth and ending 150 yds before waterfall
oil soaked into grasses along edge of stream

- Oil found 480 meters upstream from mouth on North BANK
- Oil found 300 meters upstream from mouth on South BANK

★ ANADSCAT RECOMMENDED

ACE 10459600 - 156

ACE 1941122

ANADROMOUS FISH STREAM EVALUATION

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

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
5T-1 All bald eagle nests (3/1 to 6/1)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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

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

Subsurface Oil Observed: Yes_____ No X Maximum Depth_____

RECOMMENDATIONS:

_____No Treatment Recommended	_____Snare/Absorbent Booms
X Treatment Recommended	_____Oil Snares (pom poms)
X Manual Pickup	_____Absorbents (pads,rolls,etc)
X Bioremediation	X Spot Washing: X Wands
X Tarmat Removal	_____Beach Cleaner
	_____Other (see comments) + TARBALLS

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

TAG COMMENTS: BIOREMEDIATE (CUSTOMARY) IF REQUIRED FOLLOWING TARMAT REMOVAL

MANUAL REMOVAL OR SPOT WASH OF CONTINUOUS COVER AS INDICATED ON SKETCH

TAG APPROVAL DATE: 5/18/90.
ADEC Art Weiner Art Weiner
EXXON Andy Tan
NOAA Gary Petrae Gary Petrae
USCG G.A. REITER G.A. Reiter

FOSC: _____ DATE: 6 Jun 90

ACE 10459601 +S

ACE 1941106 +S

ANADROMOUS FISH STREAM ASSESSMENT

REGION: KENAI

SEGMENT: CB003

SUBDIVISION: A

STREAM NO: 242-20-10190

Pick up Tributaries and patches
clear rock outcrop

Group A

FAXed Arch - 7/20/90

ADF&G MULTI-ASSESSMENT DATA FORM

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

METHOD: Aerial (Ground) Boat Cordova

3 DATE: 4-16-90 16 HIGH TIDE TIMES: 0513/ 21 TEAM RECORDER: Doug Hill

4 START TIME: 1348 16 HIGH TIDE HTS: 11.2 / 22 OBSERVERS: Susan McLane

5 STOP TIME: 1510 17 LOW TIDE TIMES: 1229 / 23 AGENCY: ADF&G

6 SEGMENT #: CB-3 18 LOW TIDE HTS: 1.5 / 24 PHOTOS TAKEN: (Y) N

7 STATION #: _____ 19 TIDE HT AT SURVEY: low Roll #: 90-ACH405-H Frame: _____ 90-SMH-CCG-H

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

9 STAT AREA: 242-20 20 USCG QUAD: Seldovia A-5 Start: _____ End: _____

10 LAT: 59° 11' 10 11 LONG: 151° 38' 00 26 SAMPLES TAKEN? (Y) N Number

12 SOURCE: Map (Loran) Oil SM/DDH-4/16/90-1400 2

13 LOCATION: AFS 242-20-10190 Chugach Cr Sediment SM/DDH-4/16/90-1405

14 DESCRIPTION: S.W head of Chugach Bay Biological _____

EXTENT OF OIL Water _____

	SHORELINE L	W	M²	%	STREAM L	W	M²	%
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION								

30 OVERALL OIL IMPACT: N VL L M H

31 OIL TYPE: Pooled (Mousse) (Tar) Asphalt Sticky (Stain)

32 OILED DEBRIS? (Y) N

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

34 WAVE EXPOSURE: High (Moderate) Low

35 SUBSTRATE TYPE: Bedrock 10% Boulder _____ Cobble 20%
Gravel 40% Sand 20% Mud/silt _____

36 CATALOGED ANAD. FISH STREAM? (Y) N

37 CATALOG #: 242-20-10190

38 STREAM NAME: Chugach Cr.

39 OIL IN STREAM BED? (Y) N

40 OIL ON STREAM BANKS? (Y) N

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

42 OIL WITHIN 1 MILE OF STREAM? (Y) N

Where: _____

43 ANADROMOUS FISH PRESENT? Y (N)

44 ANADROMOUS FISH OBSERVATION

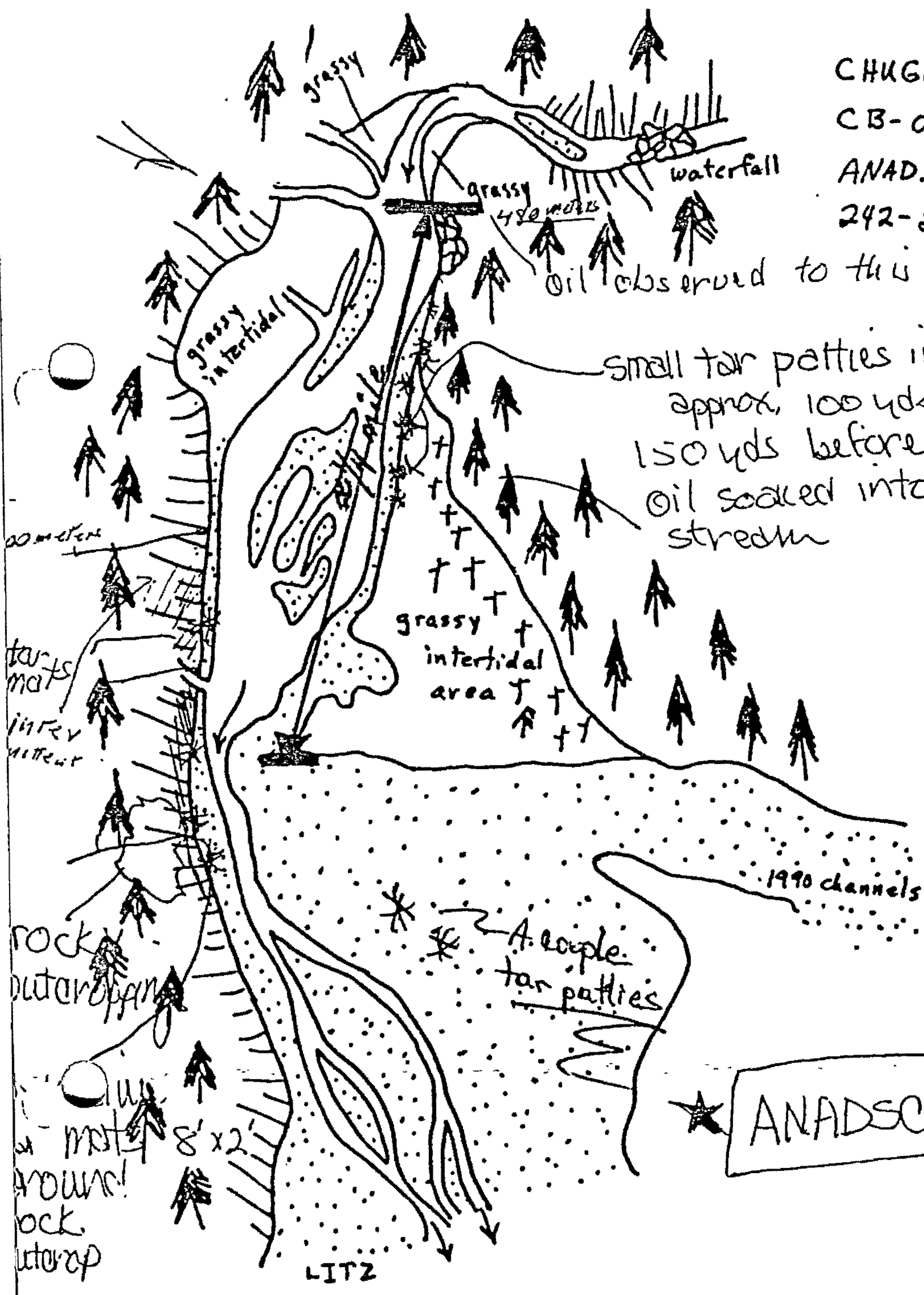
Species	Aerial	Ground

ACE 10459603

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

ACE 1941108

FRAME(S)	DESCRIPTION
ROLL 005	Aerials of Chugach Bay Creek mouth & Lagoon
24	South shore - mouth / Tar mat, < 2" thick
1	Mousse found beneath crusty outer layer - (15' from current H_2O level) In Stream ch.
2,3,4	Algae growing on tar mat - break surface & find mousse
5	Algae growing on black crusty layer of oil
6,7	Aerials of Chugach Bay Creek Mouth



CHUGACH BAY, HEAD
CB-03
ANAD. CAT. #
242-20-10190

Oil observed to this point

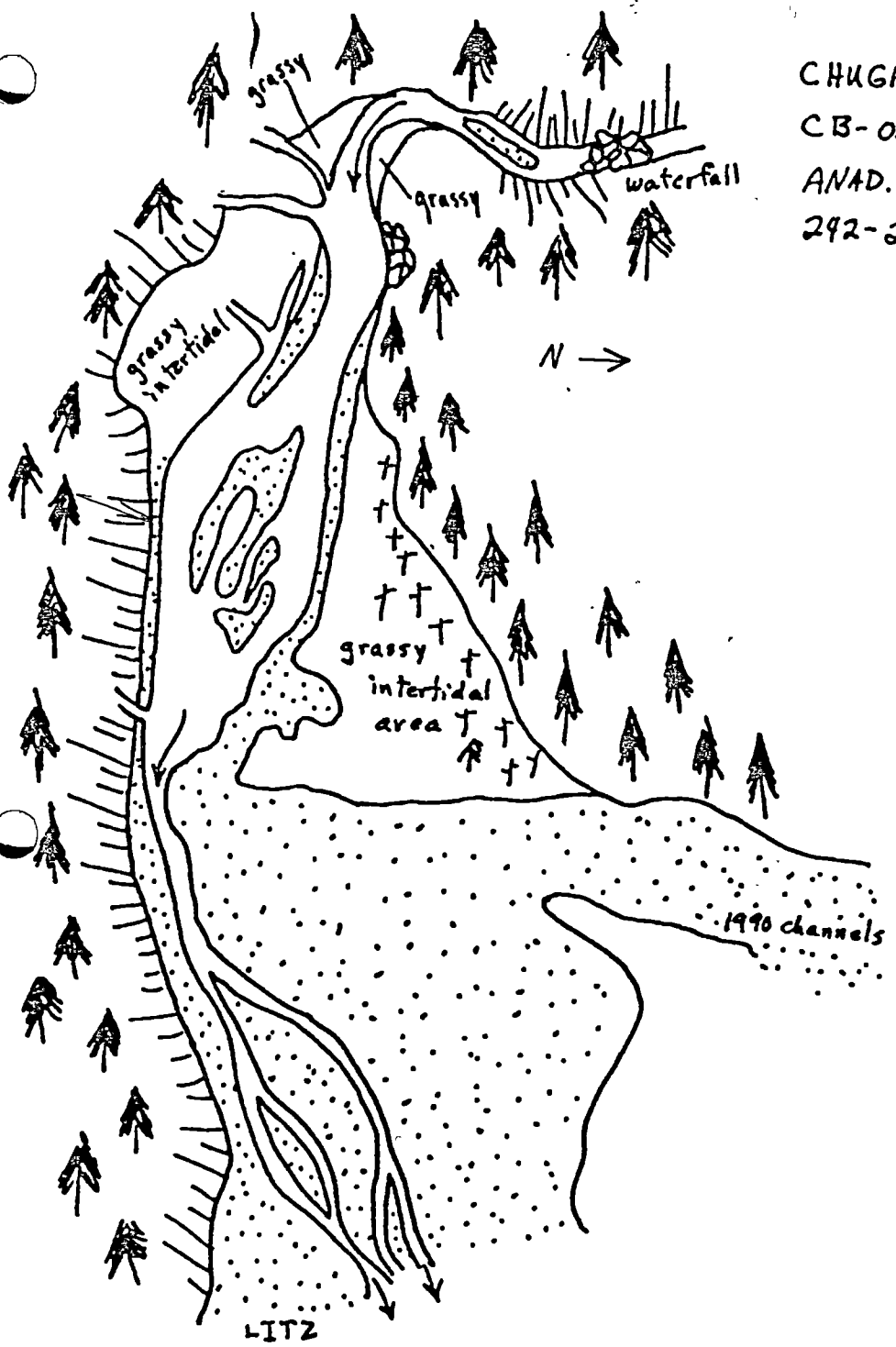
small tar patties in broken line beginning approx. 100 yds from mouth and ending 150 yds before waterfall

oil soaked into grasses along edge of stream

ANADSCAT RECOMMENDED

ACE 10459604

ACE 1941109



CHUGACH BAY, HEAD
CB-03
ANAD. CAT. #
292-20-10190

ACE 10459605

ACE 1941110

OG CAL LARSON

SEGMENT ST/ 003

STREAM ZA2-20-10190

DATE 4 / 29 90

CHECKLIST

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

LEGEND

1 △ Pit - No Subsurface Oil

2 ▲ Pit - Subsurface Oil

CT/C Continuous Distribution

CT/B Broken Distribution

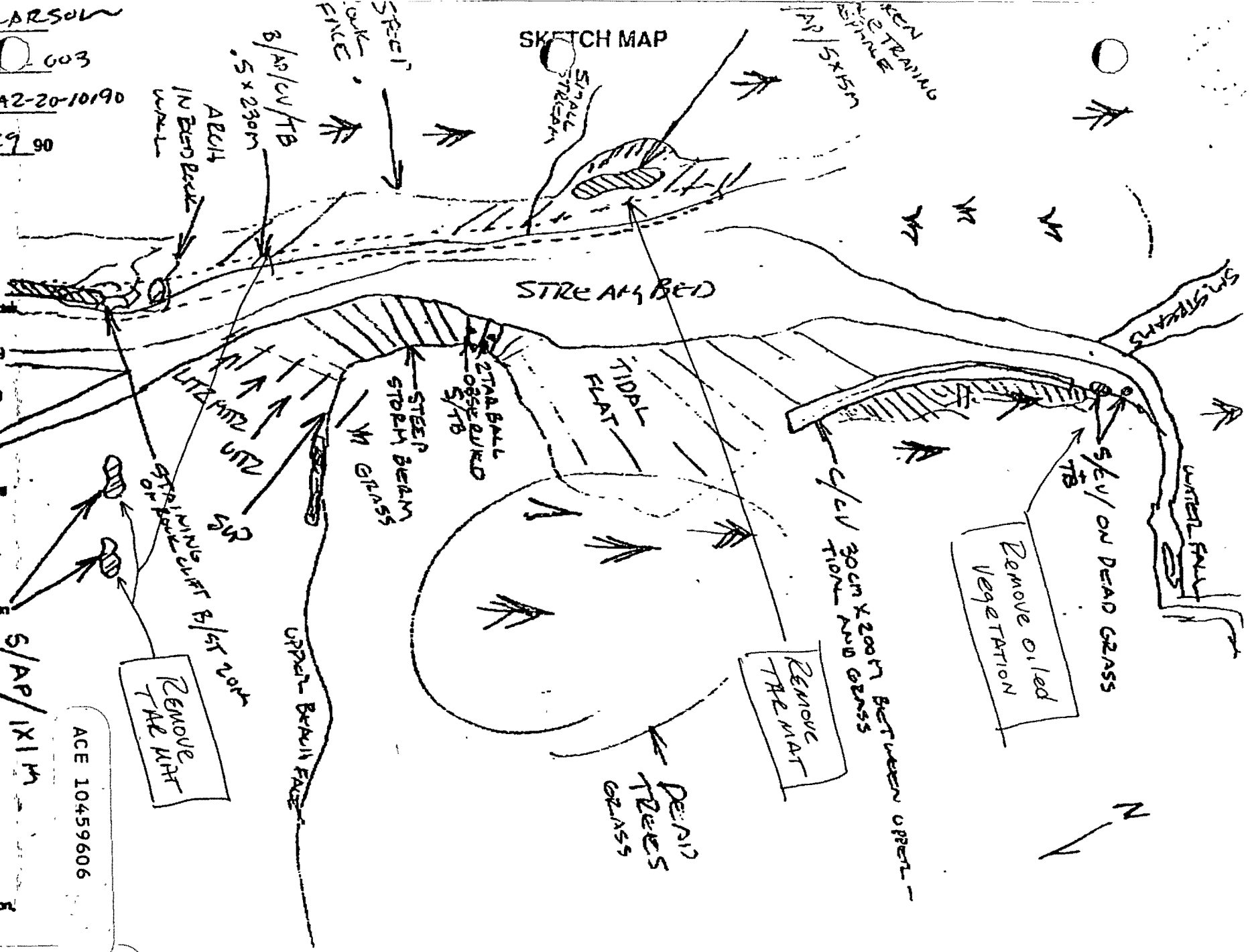
CT/P Patchy Distribution

CT/S Splashed Distribution

Oiled Vegetation

1 ●→ Photo location, direction, and number

SKETCH MAP

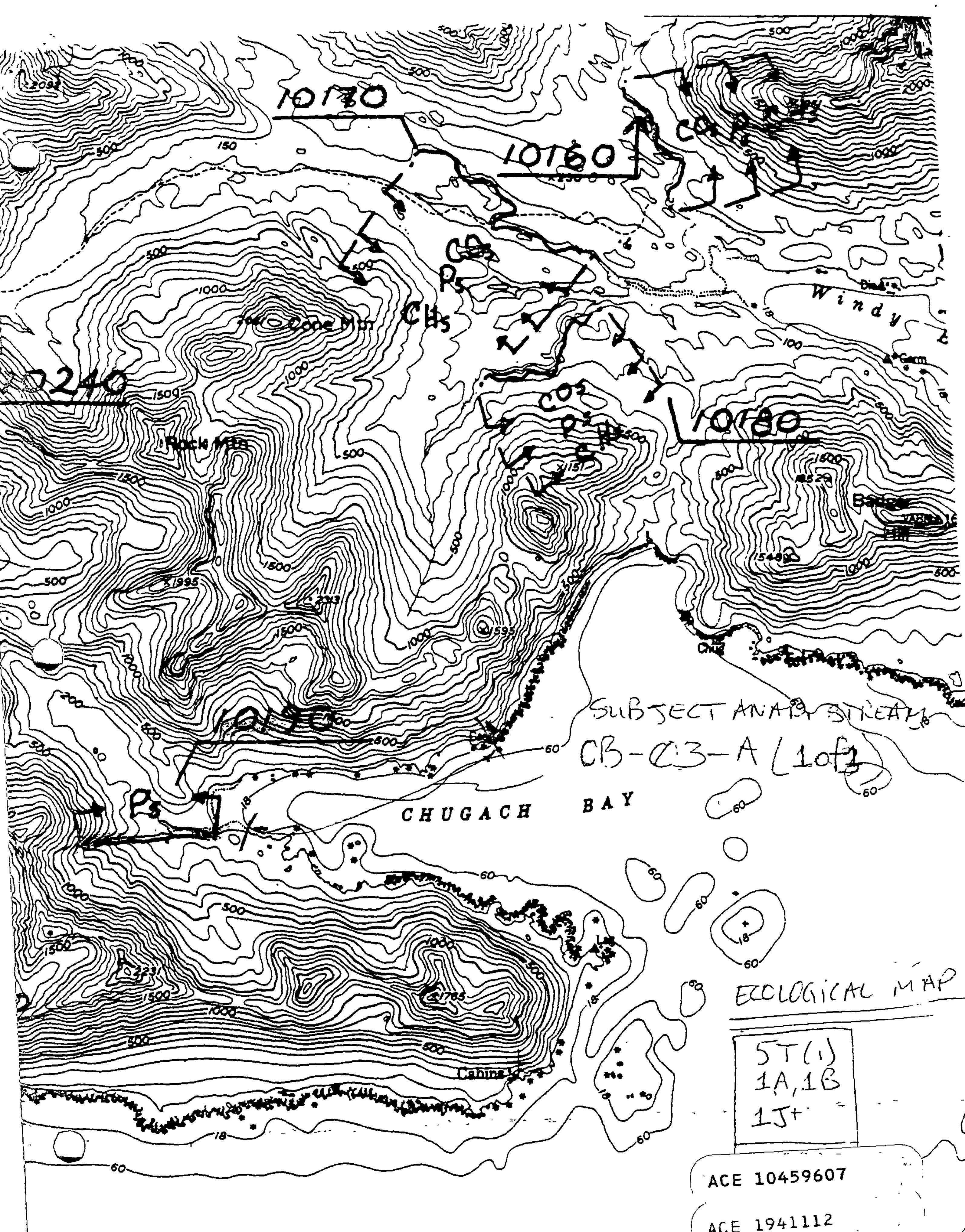


ACE 10459606

ACE 1941111

Oil Character Length (m): AP 20 PO ____ CV 200 CT ____ ST 20 MS ____ PT ____ TB 100 FL ____ NO ____

REVISION 03/24/89


10170
10160
10240
10180
10190
CO
P5
CH5
Cone Mtn
Rock Mtn
Windy
Badger
CHUGACH BAY
Cabins
SUBJECT ANADR STREAM
CB-03-A (1 of 1)
ECOLOGICAL MAP
5T(1)
1A, 1B
1J+
ACE 10459607
ACE 1941112

FIELD SHORELINE COMMENT SHEET

ASC#
SEGMENT ST / CE-003 SUBDIVISION: 242-20-10190 DATE 29 APR 90

USCG
NAME Kerwin L. Drcher SIGNATURE cwo K. L. Drcher

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Type A manual removal.

~~ADEC~~ → ADF&G
NAME LEE GLENN SIGNATURE Lee Glenn

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Type A - manual removal

1. Pick up patties and tarballs scattered 480 meters up the north side of the stream and 300 meters up the south side.
2. Remove tarmats located in the intertidal area below the storm berm
3. Remove oil from the rock outcropping along the south side of the stream near the mouth in the intertidal area.
4. Contact Lee Glenn prior to work so an A.D.F&G observer can be placed on site

~~LAND MANAGER~~ → NONE
NAME SIGNATURE

The attached A.D.F&G assessment completed on 4/16, has not changed from the 4-21-90 Anadscat survey

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

ACE 10459608

ACE 1941113

REVISION NO. 03/21/90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / SE-003 SUBDIVISION: ASC# 242-20-10190 DATE 29 APR 90

~~USCG~~

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

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Type A manual removal.

~~ADEC~~ > ADF&G

NAME LEE GLENN SIGNATURE [signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Type A · manual removal

1. Pick up patties and tarballs scattered 480 meters up the north side of the stream and 300 meters up the south side.
2. Remove tarmats located in the intertidal area below the storm berm
3. Remove oil from the rock outcropping along the south side of the stream near the mouth in the intertidal area.
4. Contact Lee Glenn prior to work so an A.D.F.&G. observer can be placed on site. The attached A.D.F.&G. assessment completed ... has not changed from the 4-29-90 Anadscat survey

~~LAND MANAGER~~ > NONE

NAME ______ SIGNATURE ______

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

ACE 10459609

ACE 1941114

REVISION NO. 03.21.90

OPERATIONS FIELD NOTES

See Back for Instructions

SEGMENT ID ANAD CB-03 (CHUGACH BAY)
STREAM ID # 242-20-101901
ANNOTATED MAP INCLUDED (Y)/N

DATE 4-29-90
NAME DARRIL [illegible]
TEAM # 14

SURFACE OIL	Quantities in Meters			Treatment Recommendation						
					Bioremediation		Tilling		Spot Hot Water	
	Length	Width	Area	None	Y/N	% Treat	Y/N	% Treat	Y/N	% Tre
Wide Band										
Medium Band	200	30 CM	60	✓						
Narrow Band				←	C/I/S					
Very Light										
		TOTAL MANDAYS								

SUBSURFACE OIL

Other (Describe)?

TARMATS	Quantities in Meters			Treatment Rec			# of	Mandays Required	
	Length	Width	Thick(cm)	None	Breakup	Remove	Bags	Breakup	Remove
Area #1	1	1	2			✓	5		1
Area #2	230	.5	115			✓	5		1
Area #3									
Area #4									
Sporadic Mats									

MANUAL PICKUP	Type of Debris			In Meters		# of	Pickup	Manday
	~~Mousse~~ Tarballs	Oiled Veget	Cleanup Debris	Length	Width	Bags	Y/N	Estimate
"Pocket" #1	✓					20	Y	1
"Pocket" #2	✓	✓				15	Y	1
"Pocket" #3								
Random/Continuous								

OILED LOGS Y/(N)	OILING H/M/L	QUANTITY L/M/S	BURN Y/N	

Is there Other Debris on the Beach? (Y)/N How Many Bags? LOGS Is it mingled with the Oiled Debris Y/(N)
& UNOILED VEGITATION

GENERAL

Snow covering 0 % of the Supratidal Zone?

Wave Exposure (H)/(M)/(L) Access Limitations: 200+ YDS FROM BAY - LONG HAUL FOR BAGS

Snare Boom/Pom Poms Recommended? NO

Would the production Craft have to be relocated to complete work on this subdivision? (Y)/N, # of Times 1

COMMENTS: ALL WORK SHOULD BE PLANNED FOR PERIOD 5-15 --> 7-10
NOTIFY ADF&G BEFORE STARTING WORK

ACE 10459610

ACE 1941115

ANAD

SSAT DATA ENTRY FORM

GENERAL DATA

SEG ID: CB-003 SUBDIV: 242-20 10190 TEAM: 14 SURVEY DATE: 4/29/90

PAVEMENT: CHAR H AREA 35 THICKNESS 2 TARBALLS X

OILED: LGS SM VEG MD TRH — DBR MD WAVE EXP: LW X MD — HG —

FAX RCVD: ______ DT: ______ AGENCY DISAGREE: ______

EST SUBDIV LGTH: 430 OIL CATEGORY: W — M — N 430 VL — NO — U —

SURFACE DATA

SURFACE SEDIMENT: BRK 10 BLD 10 COB 10 PEB 20 GRN 20 SAN 30 MUD — VEG —

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

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

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

CHAR #: 4 OIL CHAR: PT OIL DIST: CONT — BRKN — PTCH — SPLH X
OIL CLR: DBL DBR FILM CLR: RW TL TIDAL ZONE: SU — UI X MI — LI —

CHAR #: 5 OIL CHAR: TB OIL DIST: CONT — BRKN X PTCH X SPLH X
OIL CLR: SBL FILM CLR: BR 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 ____

No Pits Dug

ANAD

SSAT DATA ENTRY FORM

SUBSURFACE DATA

SEGMENT ID: CB-003 SUBDIV: 242-20 10190

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___

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:______________________________

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

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

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

ACE 10459613

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

ACE 1941118

K R Critchlow

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

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

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

ACE 1941119

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

ACE 10459614

K R Critchlow

SHORELINE OILING SUMMARY (ANAD)

REVISION NO. 04/13/90

OG CAL LARSON USCG DREHER, CWE SEGMENT ST/ CB-03
BIO KEN CRITCHLOW LAND REP _____ STREAM ZAZ-20-10190 (OF)
EXXON DARRYL YOES ADFG LEE GLEN TIME 1:30 to 2:55
TEAM NO. 14 TIDE LEVEL -1.5 DATE 4 / 29 / 90
EST. SUBDIVISION LENGTH: 430 m ☐ Sun ☑ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☑ Grass ☑ Forest ☑ Rock _____
SURVEYED FROM: ☑ Foot ☐ Boat ☐ Helo
SURFACE SEDIMENTS: R 10 % B 10 % C 10 % P 20 % G 20 % S 30 % M ____ % V ____ %
SLOPE : Lang 33 % Hang 33 % Vert 33 % WAVE EXPOSURE: ☑ Low ☑ Med ☑ High
OIL CATEGORY LENGTH: W ____ m M ____ m N 430 m VL ____ m NO ____ m

SURFACE OIL

CHARACTER	DISTRIBUTION /C	/B	/P	/S	OIL / FILM COLOR SBL BR	DBL RW	GY SL	DBR TL	LBR	IMPACTED ZONES SU	UI	MI	LI
ASPHALT PAVEMENT		✓		✓		✓				✓	✓	✓	
POOLED													
COVER	✓	✓		✓		✓				✓	✓		
COAT													
STAIN	✓	✓				✓				✓	✓		
MOUSSE													
PATTIES				✓		✓		✓			✓		
TARBALLS		✓	✓	✓	✓						✓		
FILM													
NO OIL													✓

PAVEMENT (H) F S 35 sq. m by .2 cm

PATTIES / TARBALLS 20 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

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

Did you collect DEBRIS ☐ YES ☑ NO

TYPE _____

#BAGS _____

Photographs:

Roll No. _____

Frames _____

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER OP	OR	OL	OF	NO	OILED INTERVAL (CM-CM)	BELOW UO	UC	OIL / FILM COLOR SBL BR	DBL RW	GY SL	DBR TL	LBR	PIT ZONE SU	UI	MI	LI	ANA	SHEEN (Y/N)	▼	SURFACE - SUBSURFACE SEDIMENTS
							-															
							-															
							-															
							-															
							-															
							-															

COMMENTS NO PIT DUG DUE TO LACK OF SUBSURFACE OIL. ASPHALT CAUGHT IN CRACKS OF SHALE BED ROCK ON WEST SIDE OF STREAM. ON EAST SIDE THIN CONTINOUS COVER ON GLASS/SUBSTRAT IN UTZ. 30cm AT ITS WIDEST POINT.

ACE 1941120 -/S

REVIEWED _____ DATE _____

ACE 10459615 -/S

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CB-3 SUBDIVISION A (1 of 3)

WORK WINDOW	
Manual Pickup	**OPEN**

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B	**Salmon Stream**	ADF&G catalogued anadromous stream (242-20-10190) is present in Subdivision A. No constraint to Manual Pickup.
1J	**Purse Seine Area**	No constraint to Manual Pickup.
7JJ	**Subsistence: Invertebrate Harvesting**	No constraint to Manual Pickup.

OTHER ECOLOGICAL CONSTRAINTS

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

ACE 10459616

TAG APPROVAL DATE 5/18/90
ADEC Art Weiner Art Weiner
EXXON Andy Teas
NOAA Joseph Talbott
USCG C.A. Reiter

FOSC _____ DATE 5-18-90

ACE 1941135

Prepared by: Andrea Meyer WRK Date: 5/17/90

ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

DRAFT 10/9/91

OK

STREAM#: 2422010190
SEGMENT: CB003

PAGE 36 DATE PRINTED: 08/14/91

LOCATION: CHUGACH BAY

SURVEY TYPE: 90 CLEANUP MONITORING -~~BS~~SS METHOD: ~~GROUND~~ FOOT

DATE: 05/19/90 TEAM RECORDER: HILL

START TIME: 1022 OBSERVERS: GLENN CARLSON
END TIME: 1545

TIDES: EBB - Flood AGENCY: FG DNR
OG/HAB DISCREPANCIES:

PHOTOS TAKEN: Y

STATION: 2422010190 ROLL#: 90DDH009H 90DDH010H
FRAME: 12-36 01-15

VIDEO TAKEN: Y TAPE#: 90LPG023H
START: 1673 END: 2480

SAMPLES TAKEN: N

SAMPLE NUMBERS:

OIL IN STREAM BED: Y

OVERALL OIL IMPACT: H/M OIL ON BEACH BY MOUTH: Y

WAVE EXPOSURE: ~~HIGH~~ LOW (see comments D3-8) SHORELINE TYPE: BEACH LAGOON

SUBSTRATE TYPE: BEDROCK 10 BOULDER COBBLE 10 VEGETAT

GRAVEL 30 SAND 20 MUD/SILT GRANULE 30

ANADROMOUS FISH PRESENT: N

SPECIES: GREEN WINGED TEALS COUNT: 5
DIPPER 1

ACE 10459617 +/S

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

DATE PRINTED: 08/14/91

STREAM# : 2422010190
SEGMENT#: CB003

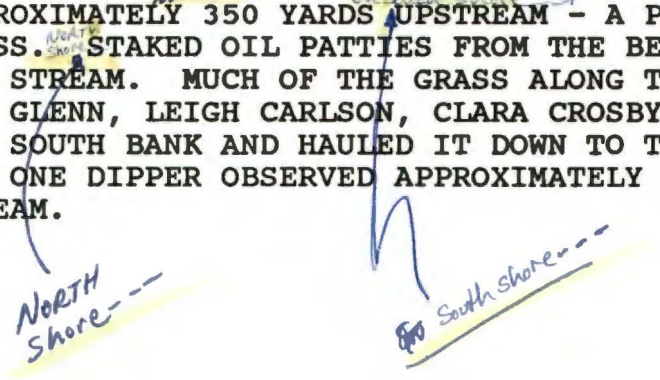
OE

SURVEY TYPE : 90 CLEANUP MONITORING LOCATION: CHUGACH BAY
DATE: 05/19/90
TIMES: 1022 - 1545 TEAM RECORDER: HILL

-- OILING EXTENT --

SITE#	SITE TYPE	DEPTH (cm)	LENGTH (m)	WIDTH (m)	AREA (m)	%	THICK (cm)	PEN (cm)	OIL TYPE CODES
1									MS TP AP ST

COMMENTS:
ALTHOUGH WAVE EXPOSURE IS HIGH ON THE BEACH ADJACENT CREEK MOUTH, THE OILED PORTION OF THE STREAM IS LOW ENERGY IN TERMS OF WAVE EXPOSURE. LCM SKILAK, F/V YUKON RIVER (BERTHING VESSEL), AND 2 INFLATABLE SKIFFS. CLEANUP CREW PICKING UP OIL ON SOUTH SHORE OF ANADROMOUS FISH STREAM - BEND AT MOUTH OF STREAM. 8 VECO WORKERS, 1 VECO SUPERVISOR, AND 1 OOPS MAN. TOOLS IN USE: SHOVELS, GARDEN RAKES, MASONARY TROWELS, PICK MATTOCKS, GLOVED HANDS (TO PICK UP OIL), FLAT STONE TO SCRAPE UP OIL (THIS WAS USED BY THE VECO SUPERVISOR). SOME OF THE CREW ARE ON HANDS AND KNEES SCOOPING THE OIL SATURATED SEDIMENT/GRAVEL/WATER WITH THEIR GLOVED HANDS. THEY ARE EVEN PICKING UP SHEENED/FILMED SEDIMENT. A FEW OF THE CREW MEMBERS ARE SWINGING PICKS TO GET AT OIL POOLED IN THE FRACTURED FACE OF THE BEDROCK. THE CREW IS MOVING AND LIFTING LARGE BOULDERS (PROBABLY UP TO 100 LBS) TO GET AT OIL POOLED BENEATH AND AROUND THE PERIMETER OF THESE ROCKS. RAKES ARE BEING USED TO RAKE UP OILED SEDIMENT. GOOD WORK. STAKED AND FLAGGED ALL THE OIL THEY FOUND. ON LOCATED OIL FROM THE MOUTH TO A POINT APPROXIMATELY 350 YARDS UPSTREAM - A PORTION OF THIS OIL WAS FOUND IN THE GRASS. STAKED OIL PATTIES FROM THE BEND BELOW THE FALLS TO THE MOUTH OF THE STREAM. MUCH OF THE GRASS ALONG THE STREAM HAS BEEN GRAZED BY BEARS. LEE GLENN, LEIGH CARLSON, CLARA CROSBY AND I PICKED UP THE REMAINING OIL ON THE SOUTH BANK AND HAULED IT DOWN TO TIDEWATER. FIVE GREEN WINGED TEALS AND ONE DIPPER OBSERVED APPROXIMATELY 300 YARDS ABOVE THE MOUTH OF THE STREAM.



Chugach Bay Creek Cleanup monitoring -BS

ADF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: (MS) SS DS TS AVS SCHA MMIS PTA 2 REGION: PWS (KP,CI) K,AP

METHOD: Aerial (Ground) Boat

3 DATE: 5/19/90 16 HIGH TIDE TIMES: 0957 / 1024 21 TEAM RECORDER: Doug Hill (ADF&G) Lee Glenn (ADF&G)

4 START TIME: 1022 16 HIGH TIDE HTS: 9.3 / 11.3 22 OBSERVERS: Leigh Carlson (ADNR)

5 STOP TIME: 1545 17 LOW TIDE TIMES: 0341 / 1552 23 AGENCY:

6 SEGMENT #: CB-3A 16 LOW TIDE HTS: 3.2 / 1.8 24 PHOTOS TAKEN: (Y) N

7 STATION #: 19 TIDE HT AT SURVEY: Roll #: 9000H09H 9000H10H Frame: 12→36 / 1→15

8 K-UNIT: (Ebb) (Slack) Flood Slack 25 VIDEO TAKEN: (Y) N TAPE#: 90LP6023H

9 STAT AREA: 20 USCG QUAD: Seldovia A-5 Start: 1673 End: 2480

10 LAT: 59 11 6 11 LONG: 151 37 47 26 SAMPLES TAKEN? Y N Number

12 SOURCE: Map Loran Oil

13 LOCATION: Chugach Bay, Head of Bay Sediment

14 DESCRIPTION: Stream, intertidal lagoon Biological

EXTENT OF OIL Water

	SHORELINE L	W	M²	%	STREAM L	W	M²	%
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION								

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

31 OIL TYPE: Pooled (Mousse Tar Asphalt Sticky Stain)

32 OILED DEBRIS? Y N (MS TR AP ST SOR)

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

34 WAVE EXPOSURE: (High) Moderate (Low) pls enter Low.

35 SUBSTRATE TYPE: Bedrock 10 Boulder Cobble 10 Gravel 60 Sand 20 Mud/silt

35 CATALOGED ANAD. FISH STREAM? (Y) N

37 CATALOG #: 242-20-10190

38 STREAM NAME: Chugach Bay Crk

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: CB-3B&C & CB-4

43 ANADROMOUS FISH PRESENT? Y ? (N)

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS: Although wave exposure is high on the beach adjacent creek mouth. The oiled portions of the stream is low-Energy in terms of wave exposure.

See attatched field report OVER

PLEASE CONDENSE PERTINENT INFO INTO COMMENTS. WE ARE NOT QUALIFIED TO INTERPRET.

ACE 10459619 HS

48 PHOTOLOG

FRAME(S)	DESCRIPTION
	Roll 9000H10H
1, 2, 3	Flagging oil ≈ 300 yds upstream 100ft, Exxon + ADF&G
4, 5	oil patties ≈ 200 yds " of mouth
6	picking/scraping oil up with hot rocks - they say it's best method Avail. etc.
7	Removing oil from furthest upstream / carry buckets + shovels
8, 9, 10 (11)	Removing oil from stream ≈ 100 yds below falls. (Bucket loaded 5 or 6 long trudge downstream
12	Oil Removal ≈ 250 yds Above stream outlet/saltwater
13	ADF&G + ADEC Reps picking oil up.
14	one crew member returning upstream - buckets in hand
15	Aerial of CB-3 crane's berthing vessel (M/V Yukon River)

48 PHOTOLOG

FRAME(S)	DESCRIPTION
	Roll 9000H09H
12, 13, 14	Cleanup Crew + CCM Skiff
15, 16, 17, 18, 19, 20, 21	Manual Pickup on South shore of stream
22, 23, 24	Manual Pickup S shore stream; Gloved hands to pick up oil - he says it's best method Available
25, 26, 27, 28, 29	" " " " " , using pick to bust rocks to get at oil pocked in cracks / crevasses
30, 31	" " " " " , hands + knees loading buckets w/ oiled material
32, 33	" " " " " , Closeup of material being removed, Some Algae or mousse
34, 35	" " " " " , Exxon Rep. Supers flagging oil ≈ 200 yds upstream
36	" " " " " , ADF&G, ADNR + ADEC Reps removing mousse patties from stream area.

Sample taken
Photo frame # and
shot direction.

ACE 10459620

MEMORANDUM **STATE OF ALASKA**

To: Lee Glenn
Habitat Biologist III
Oil Response Center
Homer

From: Doug Hill
FT III
Oil Response Center
Homer

SUBJECT: Trip Report---Port Dick Overflight, Perl and Elizabeth Island Sea Lion Haulout Overflight and Stream Cleanup Monitoring at Chugach Bay.

Trip Date: May 19,1990
Crew: Lee Glenn,Doug Hill (ADF&G) and Leigh Carlson (ADNR)
Vehicle: Kenai Helicopter 678KA---Ken Deyer-Pilot
Start: 0900 hrs.
Stop: 1650 hrs.

Cordova Tide Table Correction
High Tide Times: 0957/1024
High Tide HTS: 09.3/11.3
Low Tide Times: 0341/1552
Low Tide HTS: 03.2/01.8

Map-USCG Quad: Seldovia A-5 and B-4

Date---5/19/90-0900hrs. arrive ERA Helos Homer.

0924 hrs. depart ERA Helos Homer.

0943 hrs. Overflight of south shore of Port Dick at high tide to see if any sheen is leaching from oiled beaches. We flew to Pike Point and then headed for Perl Island. We observed no sheen coming off beaches.

1005 hrs. Overflight of Perl Island sea lion haulout. 25 sea lions were observed. We observed no sea lions hauled out on the oiled portion of the haulout area.

1011 hrs. Overflight of the Elizabeth Island sea lion haulout area. We observed 35-40 individuals hauled out.

1022 hrs. Arrive at Chugach Bay 003 A---anadromous fish stream. As usual we landed on the lagoon side of the spit at the mouth of the creek. Vessels present in Chugach Bay are as follows: LCM Skilak, F/V Yukon River (berthing vessel), and 2 inflatable skiffs. Cleanup crew picking up oil on south shore of anadromous fish stream---bend at mouth of stream.
Individuals working include: 8 VECO workers, 1 VECO supervisor, and

1 OOPS man. The EXXON supervisor came on to the beach approximately 1.5 hours after we arrived. The EXXON supervisor (Tom Tomvlin) supervised and located oil. The OOPS man (Larry Smith) operated the skiff, picked up oil and located oil.
Tools in use: Shovels, garden rakes, masonary trowels, pick-mattocks, gloved hands (to pick up oil), flat stone to scrape up oil (this was used by the VECO supervisor).Oil was loaded into plastic bags, buckets and super sacks. The buckets were used to load the super sacks.

An inflatable skiff is used to haul the buckets and plastic bags full of oiled debris to the LCM Skilak. The oiled debris is then loaded into the super sacks. Larry Smith would like to have the LCM nosed up to the beach, then the crew could load the super sacks directly instead of having to shuttle the oiled debris to the Skilak via the skiff. The Skilak is equipped with a crane. However, the skipper of the Skilak will not pull up to the beach for fear of punching a hole in the LCM. So what is the use of having a landing craft if you can't land the damn thing. This discrepancy is causing alot of unnecessary man handling of oiled debris---Innefficiency. Super sacks can hold up to 4000 pds.
Meanwhile the LCM Smolt, which will nose up to the shore ran out of Chugach Bay a few days ago to sit out some weather. According to Larry Smith the Smolt is now so low on fuel it can not make it back to Chugach Bay. Who knows where the Smolt is ?

The cleanup crew is currently working at the mouth of the creek on the south shore bend. The crew is doing a thorough job of picking up the majority of the oil. Some of the crew are on hands and knees scooping the oil saturated sediment/gravel/water with their gloved hands. They are even picking up sheened/filmed sediment.
A few of the crew members are swinging picks to get at oil pooled in the fractured face of the bedrock (horizontal bedrock not rock faces). The crew is moving and lifting large boulders (Probably up to 100 pds.) to get at oil pooled beneath and around the perimeter of these rocks. Rakes are being used to rake up oiled sediment. Good work.

Lee asked Tom Tomvlin if he would like to take a tour of the extent of oiling above the mouth of the creek. Tom declined, saying he has a real oil hound (Larry Smith), they'll make the tour on their own. Tom and Larry walked both sides of the stream up to the bend below the waterfalls. They staked and flagged all the oil they found. On the south shore they located oil from the mouth to a point approximately 350 yds upstream---a portion of this oil was found in the grass. Larry and Tom also staked oil patties from the bend below the falls to the mouth of the stream. Tom and Larry did a fine job of locating the oil. I presume the crew will find more oil while they are working the upstream.

Much of the grass along the stream has been grazed by bears.

1500 hrs. Two of the crew members are now picking up oil approximately 300 yds. above the stream mouth on the north bank.

They are using a shovel and a trowel and loading the oiled sediment and vegetation and vegetation overlying the oil patties into buckets. They have four buckets and are hand carrying the buckets down to the mouth of the stream.
These two crew members picked up a portion of the oil upstream of the rock face on the south bank. For some reason Tom Tomvlin told them not to worry about the south bank oil and to work on the north bank at the bend below the falls. Lee Glenn, Leigh Carlson, Clara Crosby and I picked up the remaining oil on the south bank and hauled it down to tidewater.

1530 hrs. Four crew members are now on hands and knees picking up oil from the below the rock face on the south shore.

Five green winged teals and one dipper observed approximately 300 yds. above the mouth of the stream.

The cleanup crew members make: $8.00/hr. guaranteed
$12.00/hr when working
2 weeks on and One week off

Clara Crosby (ADEC) has been working with the crew picking up oil. Larry Smith says the crew is "green". He says they are passing up alot of oil and that he has to direct them again and again as to what to pick up. Nonetheless the crew is doing a fine and thorough job.

1545 hrs. Depart Chugach Bay

1557 hrs. Arrive Windy Bay-Land on helo deck of Arctic Salvor) Drop Leigh Carlson off and pick up Lynn Martin (ADEC cleanup monitor).

Vessels in Windy Bay: Arctic Salvor, Ensco Atlas, LCM Constructor, and the M/V Sourdough (EXXON archaeological vessel).

EXXON supervisor on Arctic Salvor-Al Snook
" " " " " -John Czarknecki

One crew observed working at this time---working on Net Beach-WB-002.

Windy Bay crews according to Lynn Martin (ADEC cleanup monitor):
2 crews of 8 cleanup workers
2 VECO supervisors-Lynn says this supervisor does little cleanup work.
2 EXXON supervisors
2 skiff operators-Lynn says it is rare for the skiff operator to do any cleanup work.

1625-Depart Windy Bay
1650-Arrive ERA Helos Homer

Chugach Bay Creek
Cleanup monitoring

DDMT 10/9/91

ADF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: (IS) SS DS TS AVS SCHA MHHS PTA 2 REGION: PWS (KP,CI) K,AP

METHOD: Aerial (Ground) Boat

3 DATE: 5/19/90 16 HIGH TIDE TIMES: 0957 / 1024 21 TEAM RECORDER: Doug Hill (ADF&G) Lee Glenn (ADF&G)

4 START TIME: 1022 16 HIGH TIDE HTS: 9.3 / 11.3 22 OBSERVERS: Leigh Carlson (ADNR)

5 STOP TIME: 1545 17 LOW TIDE TIMES: 0341 / 1552 23 AGENCY:

6 SEGMENT #: CB-3A 18 LOW TIDE HTS: 3.2 / 1.8 24 PHOTOS TAKEN: (Y) N

7 STATION #: 19 TIDE HT AT SURVEY: Roll #: 9000H09H 9000H10H Frame: 12→36 1→15

8 K-UNIT: (Ebb) (Slack) Flood Slack 25 VIDEO TAKEN: (Y) N TAPE#: 90LA6023H

9 STAT AREA: 20 USCG QUAD: Seldovia A-5 Start: 1673 End: 2480

10 LAT: 59 11 6 11 LONG: 151 37 47 26 SAMPLES TAKEN? Y N Number

12 SOURCE: Map Loran Oil

13 LOCATION: Chugach Bay, Head of Bay Sediment

14 DESCRIPTION: Stream, intertidal lagoon Biological

EXTENT OF OIL Water

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

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

31 OIL TYPE: Pooled (Mousse Tar Asphalt Sticky Stain)

32 OILED DEBRIS? Y N

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

34 WAVE EXPOSURE: (High) Moderate (Low)

35 SUBSTRATE TYPE: Bedrock 10 Boulder Cobble 10 Gravel 30 Sand 20 Mud/silt Granule 30

36 CATALOGED ANAD. FISH STREAM? (Y) N

37 CATALOG #: 242-20-10190

38 STREAM NAME: Chugach Bay Crk

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: CB-3B&C & CB-4

43 ANADROMOUS FISH PRESENT? Y ? N

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS: Although wave exposure is high on the beach adjacent Creek mouth. The oiled portions of the stream is low Energy in terms of wave exposure.

See attatched field report ~~over~~

ACE 10459624 +S

46 PHOTOLOG

FRAME(S)	DESCRIPTION
	ROLL 9000H10H
1, 2, 3	Flooding oil ≈ 300 yds upstream. (OPS, Exxon & ADF&G)
4, 5	oil "patties" ≈ 200 yds " " of mouth
6	picking/scraping oil up off of rocks - they say it's best method Avail. etc.
7	Removing oil from furthest upstream / carry buckets & shovels
8, 9, 10 (11)	Removing oil from approx. ≈ 100 yds below falls. (Bucket loaded for long trudge downstream)
12	Oil Removal ≈ 250 yds Above stream outlet/southern
13	ADF&G & ADEC Reps picking oil up.
14	lone crew member returning upstream - buckets in hand
15	Aerial of CB-3 area b/s berthing vessel (MV Yukon River)

46 PHOTOLOG

FRAME(S)	ROLL 9000H09H DESCRIPTION
12, 13, 14	Cleanup Crew & LCM Skilak
15, 16, 17, 18, 19, 20, 21	Manual Pickup on South shore of stream
22, 23, 24	Manual Pickup S shore stream; Gloved hands to pick up oil - he says it's best method Available
25, 26, 27, 28, 29	" " " " " , using pick to bust rocks to get at oil packed in cracks/crevasses
30, 31	" " " " " , hands & knees loading buckets w/oiled material
32, 33	" " " " " , Closeup of material being removed, Some Algae and mousse crust
34, 35	" " " " " , Exxon Rep. Supers flagging oil ≈ 200 yds upstream
36	" " " " " , ADF&G, ADNR & ADEC Reps removing mousse patties from stream area.

Sample taken
Photo frame # and shot direction.

ACE 10459625

MEMORANDUM **STATE OF ALASKA**

To: Lee Glenn
Habitat Biologist III
Oil Response Center
Homer

From: Doug Hill
FT III
Oil Response Center
Homer

SUBJECT: Trip Report---Port Dick Overflight, Perl and Elizabeth Island Sea Lion Haulout Overflight and Stream Cleanup Monitoring at Chugach Bay.

Trip Date: May 19,1990
Crew: Lee Glenn,Doug Hill (ADF&G) and Leigh Carlson (ADNR)
Vehicle: Kenai Helicopter 678KA---Ken Deyer-Pilot
Start: 0900 hrs.
Stop: 1650 hrs.

Cordova Tide Table Correction
High Tide Times: 0957/1024
High Tide HTS: 09.3/11.3
Low Tide Times: 0341/1552
Low Tide HTS: 03.2/01.8

Map-USCG Quad: Seldovia A-5 and B-4

Date---5/19/90-0900hrs. arrive ERA Helos Homer.

0924 hrs. depart ERA Helos Homer.

0943 hrs. Overflight of south shore of Port Dick at high tide to see if any sheen is leaching from oiled beaches. We flew to Pike Point and then headed for Perl Island. We observed no sheen coming off beaches.

1005 hrs. Overflight of Perl Island sea lion haulout. 25 sea lions were observed. We observed no sea lions hauled out on the oiled portion of the haulout area.

1011 hrs. Overflight of the Elizabeth Island sea lion haulout area. We observed 35-40 individuals hauled out.

1022 hrs. Arrive at Chugach Bay 003 A---anadromous fish stream. As usual we landed on the lagoon side of the spit at the mouth of the creek. Vessels present in Chugach Bay are as follows: LCM Skilak, F/V Yukon River (berthing vessel), and 2 inflatable skiffs. Cleanup crew picking up oil on south shore of anadromous fish stream---bend at mouth of stream.
Individuals working include: 8 VECO workers, 1 VECO supervisor, and

1 OOPS man. The EXXON supervisor came on to the beach approximately 1.5 hours after we arrived. The EXXON supervisor (Tom Tomvlin) supervised and located oil. The OOPS man (Larry Smith) operated the skiff, picked up oil and located oil.
Tools in use: Shovels, garden rakes, masonary trowels, pick-mattocks, gloved hands (to pick up oil), flat stone to scrape up oil (this was used by the VECO supervisor).Oil was loaded into plastic bags, buckets and super sacks. The buckets were used to load the super sacks.

An inflatable skiff is used to haul the buckets and plastic bags full of oiled debris to the LCM Skilak. The oiled debris is then loaded into the super sacks. Larry Smith would like to have the LCM nosed up to the beach, then the crew could load the super sacks directly instead of having to shuttle the oiled debris to the Skilak via the skiff. The Skilak is equipped with a crane. However, the skipper of the Skilak will not pull up to the beach for fear of punching a hole in the LCM. So what is the use of having a landing craft if you can't land the damn thing. This discrepancy is causing alot of unnecessary man handling of oiled debris---Innefficiency. Super sacks can hold up to 4000 pds.
Meanwhile the LCM Smolt, which will nose up to the shore ran out of Chugach Bay a few days ago to sit out some weather. According to Larry Smith the Smolt is now so low on fuel it can not make it back to Chugach Bay. Who knows where the Smolt is ?

The cleanup crew is currently working at the mouth of the creek on the south shore bend. The crew is doing a thorough job of picking up the majority of the oil. Some of the crew are on hands and knees scooping the oil saturated sediment/gravel/water with their gloved hands. They are even picking up sheened/filmed sediment.
A few of the crew members are swinging picks to get at oil pooled in the fractured face of the bedrock (horizontal bedrock not rock faces). The crew is moving and lifting large boulders (Probably up to 100 pds.) to get at oil pooled beneath and around the perimeter of these rocks. Rakes are being used to rake up oiled sediment. Good work.

Lee asked Tom Tomvlin if he would like to take a tour of the extent of oiling above the mouth of the creek. Tom declined, saying he has a real oil hound (Larry Smith), they'll make the tour on their own. Tom and Larry walked both sides of the stream up to the bend below the waterfalls. They staked and flagged all the oil they found. On the south shore they located oil from the mouth to a point approximately 350 yds upstream---a portion of this oil was found in the grass. Larry and Tom also staked oil patties from the bend below the falls to the mouth of the stream. Tom and Larry did a fine job of locating the oil. I presume the crew will find more oil while they are working the upstream.

Much of the grass along the stream has been grazed by bears.

1500 hrs. Two of the crew members are now picking up oil approximately 300 yds. above the stream mouth on the north bank.

They are using a shovel and a trowel and loading the oiled sediment and vegetation and vegetation overlying the oil patties into buckets. They have four buckets and are hand carrying the buckets down to the mouth of the stream.
These two crew members picked up a portion of the oil upstream of the rock face on the south bank. For some reason Tom Tomvlin told them not to worry about the south bank oil and to work on the north bank at the bend below the falls. Lee Glenn, Leigh Carlson, Clara Crosby and I picked up the remaining oil on the south bank and hauled it down to tidewater.

1530 hrs. Four crew members are now on hands and knees picking up oil from the below the rock face on the south shore.

Five green winged teals and one dipper observed approximately 300 yds. above the mouth of the stream.

The cleanup crew members make: $8.00/hr. guaranteed
$12.00/hr when working
2 weeks on and One week off

Clara Crosby (ADEC) has been working with the crew picking up oil. Larry Smith says the crew is "green". He says they are passing up alot of oil and that he has to direct them again and again as to what to pick up. Nonetheless the crew is doing a fine and thorough job.

1545 hrs. Depart Chugach Bay

1557 hrs. Arrive Windy Bay-Land on helo deck of Arctic Salvor) Drop Leigh Carlson off and pick up Lynn Martin (ADEC cleanup monitor).

Vessels in Windy Bay: Arctic Salvor, Ensco Atlas, LCM Constructor, and the M/V Sourdough (EXXON archaeological vessel).

EXXON supervisor on Arctic Salvor-Al Snook
" " " " " -John Czarknecki

One crew observed working at this time---working on Net Beach-WB-002.

Windy Bay crews according to Lynn Martin (ADEC cleanup monitor):
2 crews of 8 cleanup workers
2 VECO supervisors-Lynn says this supervisor does little cleanup work.
2 EXXON supervisors
2 skiff operators-Lynn says it is rare for the skiff operator to do any cleanup work.

1625-Depart Windy Bay
1650-Arrive ERA Helos Homer

ADEC DEMOBILIZATION REPORT
FOR PHYSICAL/MECHCANICAL TREATMENT AND CUSTOMBLEN

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

RE: SEGMENT NUMBER CB003 SUBSEGMENT NUMBER A

DEC REP Clara Crosby USCG REP Ross Haldy

EXXON REP Tommy Tomblin BOAT NAME/SQUAD NUMBER Yukon River/#7

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. manual removal of oiled Sediment. considerably more oil was recovered in this segment than was reported within SCAT Survey.

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

yes - Stream Banks were walked many times by myself Coast guard, Exxon, & ADF&G - w/ each trip in - new areas of oiling (mousse patties, oiled Sediments, TB) were observed - sporadic distribution - all areas were removed when obs-

Describe the amount of oil remaining (type, size of area and location). Oil remaining in Slate Cracks, (CT/CV -splash -) & on the sides of B/C armor - Removal (manual) would be difficult if not impossible - picks were used to break up Slate & these Sediments removed - this method also proved non-effective & time Consuming - considering oil recovered.

Additional Comments (keep objective) Do not believe Spot washing would not prove effective in cleaning Slate - without flush - recovery would be difficult/minimal.

signature Clara S. Crosby
Date and time of demobilization from segment 05/20/90 15:50
Shoremon\55 5-12-90

ACE 10459629 #5
ACE 1941137 #5

ADEC DAILY SHORELINE ASSESSMENT

LOCATION: Chugach Bay (Head of Bay) SEG CB03 SUBSEG A
MONITOR(S): Clara Crosby
DATE: 05/20/90 TIME: BEGIN 0740 END 1550 cc

TIDES:	TIME:	HEIGHT:
LOW	0432	1.7
HIGH	1043	9.7
LOW	1632	1.9
HIGH	2256	12.3

WEATHER: CLOUDY RAIN FOG SUN
TEMP: 45° SEA COND: Calm 2/3 swells
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.) Anadromous fish Stream - 1A. 1B. Subsistence Area 7JJ

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

SURFACE SEDIMENTS: R 5 % B 10 % C 30 % P 30 % G 15 % S 10 %
SUBSURFACE SEDIMENTS: R 10 % B ___ % C ___ % P 30 % G 30 % S 30 %

OIL CHARACTERISTICS

SURFACE: POOLED - MOUSSE - TARBALL - COVER - COAT - STAIN
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: pompons rakes Shovels, trawls, picks
NAMES OF REPS & OTHER AGENCIES: EXXON Tommy Tomblin
USCG Ross Haldy OTHER: OPPS - Larry Smith
WORKERS ON SITE: ORTS 8 & 9 OTHER:

WASTE HANDLING/DISPOSAL

ITEMS USED TO ABSORB/CONTAIN OIL pom poms, 5 gal. buckets,
OF BAGS COLLECTED:
OILED DEBRIS 33 OIL & SEDIMENTS 6 OILED VEG. —
OILED LOGS PRESENT: (Y) N # OF LOGS REMOVED —

ST/s -

ACE 10459630

4/20/90

ACE 1941138

PHOTO/VIDEO DOCUMENTATION

PHOTOGRAPHS: ROLL # 0 FRAME(S): _____ REASON: _____

VIDEO: TAPE # — REASON: _____

COMMENTS

PROBLEMS: ENFORCEMENT ACTIVITIES, UPLAND CONT., ETC.
(PLEASE NOTE IF PROBLEM WAS DISCUSSED WITH PROPER AUTHORITY, AND SUBSEQUENT RESPONSE.)

OBSERVATIONS: TREATMENT EFFICIENCY, POSSIBLE IMPROVEMENTS, ETC.

Area at mouth stream mouth on South side was heavily excavated - remaining oil was in between talus cracks - This oil ~~was~~ attempted recovery of this oil was conducted by breaking up rock and bagging sediments - minimal recovery with this method - Do not believe spot wash would be efficient w/o flush -

Area along stream bank was walked several times - Oiling is sporadic in form of mousse balls/patties & areas of mousse saturated sediment - Due to distribution of oil - new mats were found w/ each walk through - Heavy concentrations were removed -

SIGNATURE Clara L Crosby

ACE 10459631

ACE 1941139

ADEC DAILY SHORELINE ASSESSMENT

LOCATION: Chugach Bay (streambed located in SEG CB003 SUBSEG A
MONITOR(S): Clara S. Crosby
DATE: 05/19/90 TIME: BEGIN 0900 END 2050

TIDES: TIME: HEIGHT:
LOW 0321 3.2
HIGH 0937 9.3
LOW 1532 1.0
HIGH 1014 11.3

WEATHER: (CLOUDY) RAIN FOG SUN
TEMP: 42° SEA COND: Calm 2 ft swell
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.) ANADROMOUS FISH STREAM - 1B - 1A Subsistence Area 7JJ.

WAVE EXPOSURE: (LOW) MED HIGH Low wave exposure in streambed -
ACROSS SHORE ZONE: (SU) (UITZ) (MITZ) (LITZ)

SURFACE SEDIMENTS: R 5 % B 20 % C 20 % P 20 % G 30 % S 35 % cc
SUBSURFACE SEDIMENTS: R 10 % B ___ % C ___ % P 30 % G 30 % S 30 %

OIL CHARACTERISTICS Sporadic to moderate coverage of AP/MS/TB -

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

TREATMENT TECHNIQUES manual removal

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

EQUIPMENT USED: rakes, shovels, trowls
NAMES OF REPS & OTHER AGENCIES: EXXON Tommy Tomblin
USCG Ross Haldy OTHER: OPPS: Larry Smith : ADNR Leigh Carlson
WORKERS ON SITE: ORTS 9 OTHER: ADF&G: LEE GLENN & DOUG HILL

WASTE HANDLING/DISPOSAL

ITEMS USED TO ABSORB/CONTAIN OIL pom poms, plastic bags → placed in mud bags - in DOT containers on SKILAK -
\# OF BAGS COLLECTED: cc
OILED DEBRIS 4 OIL & SEDIMENTS 7 Bags OILED VEG. ___
OILED LOGS PRESENT: Y (N) # OF LOGS REMOVED 0

ACE 10459632

-4/20/90

ACE 1941140

PHOTO/VIDEO DOCUMENTATION

PHOTOGRAPHS: ROLL # — FRAME(S): — REASON: —

VIDEO: TAPE # — REASON: —

COMMENTS:

PROBLEMS: ENFORCEMENT ACTIVITIES, UPLAND CONT., ETC.
(PLEASE NOTE IF PROBLEM WAS DISCUSSED WITH PROPER AUTHORITY, AND SUBSEQUENT RESPONSE.)

NOTE- Last 2 bags ~~were~~ (mud bags 4000lb compacity) were filled with plastic bags full of oiled sediments (of the 7) The 7 bags of oiled debris were containment bags used to transport oiled sediments from the beach - The bags were emptied into mud bags (oiled sediment) & disposed of in other mud Bags -

OBSERVATIONS: TREATMENT EFFICIENCY, POSSIBLE IMPROVEMENTS, ETC.

Today was the 1st full day for this particular crew on the beach - they still lack full vessel support - debris was staged to the LCM Skilak for storage due to the Smolt being unavailable for half the day & unable to gain access to the beach (surf) - This caused debris to be handled more than necessary -

SIGNATURE Clara S. Crosby

ACE 1941141 ACE 10459633

ADEC DAILY SHORELINE ASSESSMENT

LOCATION: Chugach Bay (Head of) SEG CB003 SUBSEG A
MONITOR(S): Clara S. Crosby
DATE: 05/16/90 TIME: BEGIN 1000 END 1340
CORDOVA uncorrected -

TIDES: TIME: HEIGHT:
LOW ... ...
HIGH 0535 10.4'
LOW 1240 0.9
HIGH 1944 9.2

WEATHER: CLOUDY (RAIN) (FOG) SUN
TEMP: 40 SEA COND: 2 ft swells
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.) Anadromous fish stream -1A -, Subsistence Area 7JJ, Salmon Stream Mouth 1B, (Archeologist on site -)

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

SURFACE SEDIMENTS: R 5 % B 10 % C 30 % P 30 % G 15 % S 10 % Willow cc
SUBSURFACE SEDIMENTS: R 10 % B ___ % C ___ % P 30 % G 30 % S 30 %

OIL CHARACTERISTICS

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

TREATMENT TECHNIQUES

MANUAL RAKING/TILLING
MANUAL REMOVAL: PO MS AP IB
SPOT WASHING
OTHER

HEADER FLOOD (HOT/COLD)
BIOREMEDIATION
MECHANICAL

EQUIPMENT USED: Rakes, Shovels, Hand trawls - 5 gal Buckets - pompons.
NAMES OF REPS & OTHER AGENCIES: EXXON Tommy Tomblin
USCG Ross Halpy OTHER: Archeologist: Rick Reanier & Stefanie Ludwig
WORKERS ON SITE: ORTS cc 9 OTHER: LOOP: LARRY SMITH

WASTE HANDLING/DISPOSAL: Bagged - Oiled sediments are shoveled into 5 gal Buckets carried to Bluff & Placed into 1g Bag -
ITEMS USED TO ABSORB/CONTAIN OIL: 34 x 36 x 88 inch Bags (4000lbs)
OF BAGS COLLECTED: 5 Bags
OILED DEBRIS ___ OIL & SEDIMENTS ~5 OILED VEG. ___
OILED LOGS PRESENT: (Y) N # OF LOGS REMOVED 0
~ stained

ACE 10459634 -S
ACE 1941142 -S

-4/20/90

ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

STREAM#: 2422010190
SEGMENT: CB003

PAGE 37 DATE PRINTED: 08/14/91

LOCATION: CHUGACH BAY

SURVEY TYPE: 90 POST CLEANUP MONITORING ok SS METHOD: ~~GROUND~~ FOOT

DATE: 05/21/90 TEAM RECORDER: HILL

START TIME: 1405 OBSERVERS: GLENN
END TIME: 1515

TIDES: Ebb AGENCY: FG
OG/HAB DISCREPANCIES:

PHOTOS TAKEN: Y

STATION: 2422010190 ROLL#: 90DDH010H
FRAME: 20-21

VIDEO TAKEN: N TAPE#:
START: END:

SAMPLES TAKEN: N

SAMPLE NUMBERS:

OIL IN STREAM BED: Y

OVERALL OIL IMPACT: VL OIL ON BEACH BY MOUTH: Y

WAVE EXPOSURE: LOW SHORELINE TYPE: BEACH LAGOON

(see comments, DDH)

SUBSTRATE TYPE: BEDROCK 10 BOULDER COBBLE 10 VEGETAT

GRAVEL 30 SAND 20 MUD/SILT GRANULE 30

ANADROMOUS FISH PRESENT: N

SPECIES: COUNT:

ACE 10459635 +LS

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

DATE PRINTED: 08/14/91

STREAM# : 2422010190
SEGMENT#: CB003

SURVEY TYPE : 90 POST CLEANUP MONITO LOCATION: CHUGACH BAY
DATE: 05/21/90
TIMES: 1405 - 1515 TEAM RECORDER: HILL

-- OILING EXTENT --

SITE#	SITE TYPE	DEPTH (cm)	LENGTH (m)	WIDTH (m)	AREA (m)	%	THICK (cm)	PEN (cm)	OIL TYPE CODES
1									MS TP ST

COMMENTS:
ALTHOUGH WAVE EXPOSURE IS HIGH ON THE BEACH ADJACENT TO THE CREEK MOUTH, THE OILED PORTION OF THE STREAM IS LOW ENERGY IN TERMS OF WAVE EXPOSURE. SURVEYED FROM MOUTH OF STREAM TO ARCH AT MOUTH OF STREAM. CREW PICKED UP TAR PATTIES DISTRIBUTED THROUGH COBBLE BOULDER AREA. A FEW SMALL PATTIES REMAIN AS WELL AS A HANDFUL OF BROWN MOUSSE/SEDIMENT FOUND BENEATH ROCKS. SOUTH SHORE OF CREEK BEND AT MOUTH - THIS PORTION OF BEACH LOOKS GREAT RELATIVE ? ? ?. AT ~~THIS TIME LITTLE~~ (the time of this survey) SHEEN WAS OBSERVED ON ~~THE~~ PORTIONS OF BEACH WHERE WATER IS RUNNING AND/OR POOLED. THE CREW HAS OBVIOUSLY REMOVED A SUBSTANTIAL PORTION OF THE OIL ~~(SHEEN AND FILM)~~ SATURATED SEDIMENT. SOUTH SHORE - BEND AT MOUTH TO GRASS FLATS: CREW THROUGHLY SCOURED THE ROCK WALL AREA FOR OIL. OBSERVED ONLY OIL STAIN ON ROCKS. THE OIL IN THE GRASS FLATS WAS PICKED UP PRIMARILY BY ADFG, ADEC, AND ADNR STAFF ON 5/19/89. I DO NOT DOUBT HOWEVER, THAT OIL STILL REMAINS SCATTERED THROUGHOUT THE AREA - ON THE GRAVEL BARS AND BENEATH THE VEGETATION. NORTH BANK : PRIMARILY CLEANUP OCCURRED FROM THE BEND BELOW THE FALLS TO A POINT APPROXIMATELY 200 YARDS DOWNSTREAM (THE DOWNSTREAM END OF THE ROCKY OUTCROPPING). THE CREW HAS DONE AN EXCELLENT JOB OF CLEANING THIS SECTION OF THE STREAM BANK. CONSIDERABLY MORE OIL EXISTED HERE THAN WE OR THE SSAT TEAM HAD PREVIOUSLY OBSERVED. OIL WAS PICKED UP FROM THE WATER BANK INTERFACE TO A LINE APPROXIMATELY 10' ABOVE THE STREAMBED. THE CREW REMOVED VEGETATION (STEMS AND ROOTS) TO GET AT THE OIL PRESENT. TAR PATTIES WERE FOUND TO BE MUCH LARGER AT THE BASE OF THE VEGETATION THAN ANTICIPATED. NUMEROUS AREAS DENUDED OF VEGETATION NOW EXIST DUE TO THE CLEANUP EFFORT. THE CREW ALSO MOVED COBBLE AND LARGE BOULDERS TO GET AT THE OIL PRESENT AROUND THE ROCK BASES AND IN THE FRACTURES. PICKAXS WERE USED TO BUST ROCK IN ORDER TO GET AT THE OIL POOLED IN THE FRACTURES. IT WAS A GOOD FEELING TO RECOGNIZE THAT THE EXXON CREW TOOK THE INITIATIVE TO "SEEK AND FIND" OIL. AUBREY BROWN (1989 EXXON HOMER ZONE WORK SUPERVISOR) TOLD THE BEACH WORK SUPERVISORS THAT THEIR JOB WAS NOT TO "SEEK AND FIND" OIL. HE TOLD THEM IF THEY FIND IT PICK IT UP, BUT DO NOT SEEK TO FIND OIL.

to ~~prior~~ the Yukon River's crew efforts.

To what it did prior to the Yukon River crew's cleanup efforts.
DDH 8/29/91

ACE 10459636

Post Cleanup monitoring - 88
Chugach Bay-3A

ADF&G MULTI-ASSESSMENT DATA FORM

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

METHOD: Aerial (Ground) Boat

3 DATE: 5/21/90   15 HIGH TIDE TIMES: 1202 / 2359   21 TEAM RECORDER: Doug Hill

4 START TIME: 1405   16 HIGH TIDE HTS: 10.2 / 13.4   22 OBSERVERS: Lee Glenn

5 STOP TIME: 1515   17 LOW TIDE TIMES: 0550 / 1756   23 AGENCY: ADF&G

6 SEGMENT #: CB-3A   18 LOW TIDE HTS: 0.0 / 1.9   24 PHOTOS TAKEN: (Y) N

7 STATION #: ____   19 TIDE HT AT SURVEY: ____   Roll #: 900HIOH Frame: 20, 21

8 K-UNIT: ____   (Ebb) Slack Flood Slack   25 VIDEO TAKEN: Y (N) TAPE#: ____

9 STAT AREA: ____   20 USCG QUAD: Seldovia A-5   Start: ____ End: ____

10 LAT: 59 11 6   11 LONG: 151 37 47   26 SAMPLES TAKEN? Y (N) Number

12 SOURCE: Map Loran   Oil ____

13 LOCATION: Chugach Bay, Head of Bay   Sediment ____

14 DESCRIPTION: Stream intertidal Lagoon   Biological ____

EXTENT OF OIL   Water ____

	SHORELINE L	SHORELINE W	SHORELINE M²	SHORELINE %	STREAM L	STREAM W	STREAM M²	STREAM %
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION								

36 CATALOGED ANAD. FISH SREAM? (Y) N

37 CATALOG #: 242-20-10190

38 STREAM NAME: Chugach Bay Crk

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)   MS TP ST

42 OIL WITHIN 1 MILE OF STREAM? (Y) N

32 OILED DEBRIS? Y (N)   Where: CB 3A, B, C; CB-4?

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

43 ANADROMOUS FISH PRESENT? Y (N)

34 WAVE EXPOSURE: (High) ~~(Moderate)~~ [Low]   KS 7/30/91.

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

35 SUBSTRATE TYPE: Bedrock 10 Boulder ____ Cobble 10
Gravel 60 Sand 20 Mud/silt ____

COMMENTS: ~~[illegible]~~

(see attached field report → CB-3A section)

ACE 10459637

Although wave exposure is high on the beach adjacent to the creek mouth, the oiled portion of the stream is low energy in terms of wave exposure

(Data entry note: pls enter low exposure, since MAP survey focusing on stream)

MEMORANDUM **STATE OF ALASKA**

To: Lee Glenn
Habitat Biologist III
Oil Response Center
Homer

From: Doug Hill
FT III
Oil Response Center
Homer

SUBJECT: Trip Report---Chugach Bay (Post-stream cleanup survey). Windy Bay (Net Beach and Oysercatcher Island survey) and Port Dick (WB-04) pre-fisheries scan survey.

Trip Date: May 21,1990.
Crew: Lee Glenn,Doug Hill (ADF&G).
Vehicle: Kenai Helicopter 678KA---Lynn Beckhorn Pilot.
Start: 1316 hrs.
Stop: 1755 hrs.

Cordova Tide Table Correction
High Tide Times: ~~1204~~/~~0001~~ 1202/2359
High Tide HTS: 10.2/13.4
Low Tide Times: 0550/~~1750~~/~~1756~~ 1756
Low Tide HTS: 00.0/01.9

Map-USCG Quad: Seldovia A-5 and B-4

1316-Depart ERA Helos Homer.

1324-Arrive Glacier Spit. Dropped food off with a Junior High class stranded due to heavy seas.

1354-Circling above Chugach Bay trying to make contact with EXXON Anchorage
1405-Finally made radio contact with Anchorage-had to climb to 3500' once again. Arrive Chugach Bay 03-A.

Crew of nine and LCM Smolt on CB-04 pocket beach-approximately 100 yds. east of stream mouth. Crew is manually removing mousse and oiled sediment according to Clara Crosby (ADEC).

The Yukon River cleanup crew has recently been working the stream and stream mouth area of CB003-A. Lee and I are here to inspect their work.
Surveyed from mouth of stream to arch at mouth of stream. Crew picked up tar patties distributed through cobble boulder area. A few small patties remain as well as a handful of brown mousse/sediment found beneath rocks. The crew moved boulders and cobble to get at the oil. We found one pom pom beneath the arch.

South Shore of Creek-Bend at Mouth---This portion of beach looks great relative to what it looked like prior to the Yukon River crew's efforts. The crew moved alot of the cobble over and large boulders to get at the underlying and surrounding. At this time little sheen was observed on the portions of beach where water is running and/or pooled. The crew has obviously removed a substantial portion of the oil(sheen and film) saturated sediment. Unlike the 1990 Nuka-1 cleanup where the beach presented a greater threat to wildlife after cleanup than it did prior to cleanup. Mousse and sheen ran down the beach at Nuka-1 after the crew left the area. It will be interesting to see what happens to both of these area on a warm sunny day.

South Shore---Bend at Mouth to Grass Flats. Crew throughly scoured the rock wall area for oil. Lee and I observed only oil stain on rocks. The oil in the grass flats was picked up primarily by ADF&G, ADEC, and ADNR staff on 5/19/89. This section looks good. I do not doubt however, that oil still remains scattered throughout the area-on the gravel bars and beneath the vegetation.

North Bank---Primary cleanup occurred from the bend below the falls to a point approximately 200 yds. downstream (the downstream end of the rocky outcropping). The crew has done an excellent job of cleaning this section of the streambank. Considerably more oil existed here than we or the SSAT team had previously observed. Oil was picked up from the water bank interface to a line approximately 10' above the stream bed. The crew removed vegetation (stems and roots) to get at the oil present. Tar patties were found to be much larger at the base of the vegetation than anticipated. Numerous areas denuded of vegetation now exist due to the cleanup effort. These areas exist primarily upstream of the rocky outcropping.
The crew also moved cobble and large boulders to get at the oil present around the rock bases and in the fractures. Picks were used to bust rock in order to get at the oil pooled in the fractures. It was a good feeling to recognize that the EXXON crew took the initiative to "seek and find oil". Aubrey Brown (1989 EXXON Homer Zone work supervisor) told the beach work supervisors that their job was not to "seek and find" oil. He told them if they find it pick it up, but do not seek to find oil.

CB-03B---We walked to CB-03B. A substantial amount of oil remains in the form of tar patties, tarmats and saturated sediment. We found oil buried beneath 1" of sand/gravel.Numerous splashes of oil are still very visible on the rock face about the waterfall. We dug about 12 holes in the vicinity of the waterfall. We were unable to find the lens of oil Russel Kinube (ADEC) told us we would find.

1604 hrs.-Depart Chugach Bay.

1610 hrs.-Arrive Windy Bay. Landed at small creek immediately to west of Net Beach (WB-02). Helo dropped us off and moved

Post Cleanup monitoring
Chugach BAY-3A

ADF&G MULTI-ASSESSMENT DATA FORM

ADN 10/9/91

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

METHOD: Aerial (Ground) Boat

3 DATE: 5/21/90
4 START TIME: 1405
5 STOP TIME: 1515
6 SEGMENT #: CB-3A
7 STATION #:
8 K-UNIT:
9 STAT AREA:
10 LAT: 59 11 6
11 LONG: 151 37 47
12 SOURCE: Map Loran
13 LOCATION: Chugach Bay, Head of Bay
14 DESCRIPTION: Stream intertidal lagoon

15 HIGH TIDE TIMES: 1202 / 2359
16 HIGH TIDE HTS: 10.2 / 13.4
17 LOW TIDE TIMES: 0550 / 1756
18 LOW TIDE HTS: 0.0 / 1.9
19 TIDE HT AT SURVEY:
(Ebb) Slack Flood Slack
20 USCG QUAD: Seldovia A-5

21 TEAM RECORDER: Doug Hill
22 OBSERVERS: Lee Glenn
23 AGENCY: ADF&G
24 PHOTOS TAKEN: (Y) N
Roll #: 90CH10H Frame: 20, 21
25 VIDEO TAKEN: Y (N) TAPE#:
Start: End:
26 SAMPLES TAKEN? Y (N) Number
Oil
Sediment
Biological
Water

EXTENT OF OIL

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

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

36 CATALOGED ANAD. FISH SREAM? (Y) N
37 CATALOG #: 242-20-10190
38 STREAM NAME: Chugach Bay Crk.
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: CB3.3A, B, C; CB-4;
43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS:

(See ~~attached~~ field report CB-3A section)

ACE 10459640 #5

46 PHOTOLOG

FRAME(S)	DESCRIPTION

46 OIL DISTRIBUTION DIAGRAM

= Sample taken
= Photo frame # and shot direction.

NOT A STREAM

WINDY BAY => NET BEACH

ADF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: (BS) SS DS TS AVS SCHA MMHS PTA

2 REGION: PWS (KP,CI) K,AP

METHOD: Aerial (Ground) Boat

3 DATE: 5/21/90

4 START TIME: 1610

5 STOP TIME: 1645

6 SEGMENT #: WB-2E

7 STATION #:

8 K-UNIT:

9 STAT AREA:

10 LAT:

11 LONG:

12 SOURCE: Map Loran

13 LOCATION: Windy Bay North Shore

14 DESCRIPTION:

15 HIGH TIDE TIMES: 1202 / 2359

16 HIGH TIDE HTS: 10.2 / 13.4

17 LOW TIDE TIMES: 0550 / 1756

18 LOW TIDE HTS: 0.0 / 1.9

19 TIDE HT AT SURVEY:

(Ebb) Slack Flood Slack

20 USCG QUAD: Seldovia A-5

21 TEAM RECORDER: Doug Hill

22 OBSERVERS: Lee Glenn

23 AGENCY: ADF&G

24 PHOTOS TAKEN: Y (N)

Roll #: Frame:

25 VIDEO TAKEN: Y (N) TAPE#:

Start: End:

26 SAMPLES TAKEN? Y (N) Number

Oil

Sediment

Biological

Water

EXTENT OF OIL

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

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

31 OIL TYPE: Pooled (Mousse) Tar (Asphalt) (Sticky) (Stain)

32 OILED DEBRIS? (Y) N

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

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 #:

38 ~~STREAM NAME~~: NET BEACH

39 OIL IN STREAM BED? Y N

40 OIL ON STREAM BANKS? Y N

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

42 OIL WITHIN 1 MILE OF STREAM? Y N

Where:

43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS:

ACE 10459641

Conducted brief preliminary survey considering what implications observed oil might have for a potential 1990 commercial salmon fishery. (Continued => see attached field report WB-2E section

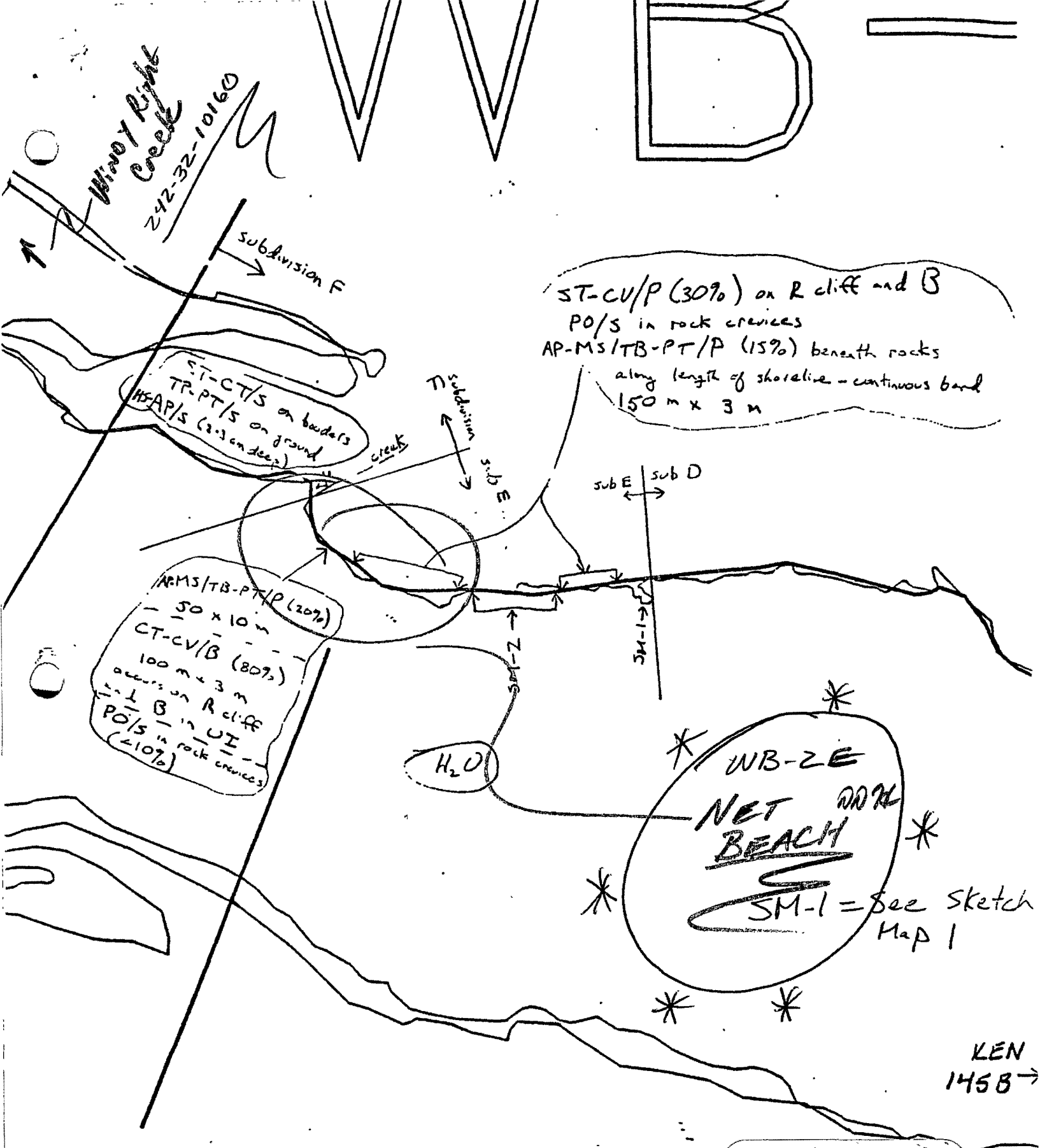
see attached map of WB-2E location

46 PHOTOLOG

FRAME(S)	DESCRIPTION

46 OIL DISTRIBUTION DIAGRAM

= Sample taken
= Photo frame # and shot direction.



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

WB-2

ADEC Segment Length: 2232m

0 100 200 300
METERS

ACE 10459642

Map Key: KEN-145a
Name: Rocky Beach
Date: 4/4/10
Data Entered:

Oystercatcher Island

WINDY BAY

ADF&G MULTI-ASSESSMENT DATA FORM

prelim. Fisheries survey

1 SURVEY TYPE: (BS) SS DS TS AVS SCHA HMHS PTA — 2 REGION: PWS (KP,CI) K,AP

METHOD: Aerial (Ground) Boat

3 DATE: 5/21/90 — 16 HIGH TIDE TIMES: 1202 / 2359 — 21 TEAM RECORDER: Doug Hill

4 START TIME: 1650 — 16 HIGH TIDE HTS: 10.2 / 13.4 — 22 OBSERVERS: Lee Glenn

5 STOP TIME: 1705 — 17 LOW TIDE TIMES: 0550 / 1756 — 23 AGENCY: ADF+G

6 SEGMENT #: WB-09 — 18 LOW TIDE HTS: 0.0 / 1.9 — 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: Seldovia A-5 — Start: _____ End: _____

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

12 SOURCE: Map Loran — Oil _____

13 LOCATION: Windy Bay, Oystercatcher Island — Sediment _____

14 DESCRIPTION: West Beach of Eastern Island — Biological _____

EXTENT OF OIL — Water _____

	SHORELINE L	SHORELINE W	SHORELINE M²	SHORELINE %	STREAM L	STREAM W	STREAM M²	STREAM %
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION								

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

31 OIL TYPE: (Pooled) (Mousse) (Tar) Asphalt (Sticky) (Stain)

32 OILED DEBRIS? Y (N)

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

34 WAVE EXPOSURE: High Moderate (Low)

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

36 CATALOGED ANAD. ~~FISH STREAM~~? Y N

37 CATALOG #: _____

38 STREAM NAME: _____

39 OIL IN STREAM BED? Y N

40 OIL ON STREAM BANKS? Y N

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

42 OIL WITHIN 1 MILE OF STREAM? Y N

Where: _____

43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS: Conducted a brief preliminary survey considering what implications observed oil might have for a potential 1990 Windy Bay Commercial Salmon fishery.

Continued => see attached field report WB-09 section

ACE 10459643

45 PHOTOLOG

FRAME(S)	DESCRIPTION

46 OIL DISTRIBUTION DIAGRAM

= Sample taken

= Photo frame # and shot direction.

Port Dick – PD-04
prelim. fisheries survey

ADF&G MULTI-ASSESSMENT DATA FORM

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

METHOD: Aerial (Ground) Boat

3 DATE: 5/21/90 16 HIGH TIDE TIMES: 1202 2359 21 TEAM RECORDER: Doug Hill

4 START TIME: 1710 16 HIGH TIDE HTS: 10.2 13.4 22 OBSERVERS: Lee Glenn

5 STOP TIME: 1736 17 LOW TIDE TIMES: 0550 1756 23 AGENCY: ADF&G

6 SEGMENT #: PD-04 18 LOW TIDE HTS: 0.0 1.9 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: Seldovia B-4 Start: _____ End: _____

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

12 SOURCE: Map Loran Oil _____

13 LOCATION: West Arm Port Dick – South shore – ADF&G Cabin Sediment _____

14 ~~DESCRIPTION~~: to seastack ≈ ¼ mile to east. Biological _____

Water _____

EXTENT OF OIL

	SHORELINE L	W	H²	%	STREAM L	W	H²	%
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION								

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

31 OIL TYPE: Pooled Mousse (Tar) (Asphalt) Sticky (Stain)

32 OILED DEBRIS? Y (N)

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

34 WAVE EXPOSURE: High (Moderate) (Low)

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

36 CATALOGED ANAD. FISH STREAM? Y N

37 CATALOG #: _____

38 STREAM NAME: _____

39 OIL IN STREAM BED? Y N

40 OIL ON STREAM BANKS? Y N

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

42 OIL WITHIN 1 MILE OF STREAM? Y N

Where: _____

43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS: Conducted a brief, preliminary survey considering what implications observed oil might have for a potential 1990 Port Dick Commercial fishery.

Continued ⇒ see attached field report PD-04 section

ACE 10459644

45 PHOTOLOG

FRAME(S)	DESCRIPTION

46 OIL DISTRIBUTION DIAGRAM

= Sample taken

= Photo frame # and shot direction.

[redacted]

MEMORANDUM **STATE OF ALASKA**

To: Lee Glenn
Habitat Biologist III
Oil Response Center
Homer

From: Doug Hill
FT III
Oil Response Center
Homer

SUBJECT: Trip Report---Chugach Bay (Post-stream cleanup survey). Windy Bay (Net Beach and Oysercatcher Island survey) and Port Dick (WB-04) pre-fisheries scan survey.

Trip Date: May 21,1990.
Crew: Lee Glenn,Doug Hill (ADF&G).
Vehicle: Kenai Helicopter 678KA---Lynn Beckhorn Pilot.
Start: 1316 hrs.
Stop: 1755 hrs.

Cordova Tide Table Correction
High Tide Times: ~~1204~~/~~0001~~ 1202/2359
High Tide HTS: 10.2/13.4
Low Tide Times: 0550/~~1750~~/~~1756~~ 1756
Low Tide HTS: 00.0/01.9

Map-USCG Quad: Seldovia A-5 and B-4

1316-Depart ERA Helos Homer.

1324-Arrive Glacier Spit. Dropped food off with a Junior High class stranded due to heavy seas.

1354-Circling above Chugach Bay trying to make contact with EXXON Anchorage
1405-Finally made radio contact with Anchorage-had to climb to 3500' once again. Arrive Chugach Bay 03-A.

Crew of nine and LCM Smolt on CB-04 pocket beach-approximately 100 yds. east of stream mouth. Crew is manually removing mousse and oiled sediment according to Clara Crosby (ADEC).

The Yukon River cleanup crew has recently been working the stream and stream mouth area of CB003-A. Lee and I are here to inspect their work.
Surveyed from mouth of stream to arch at mouth of stream. Crew picked up tar patties distributed through cobble boulder area. A few small patties remain as well as a handful of brown mousse/sediment found beneath rocks. The crew moved boulders and cobble to get at the oil. We found one pom pom beneath the arch.

South Shore of Creek-Bend at Mouth---This portion of beach looks great relative to what it looked like prior to the Yukon River crew's efforts. The crew moved alot of the cobble over and large boulders to get at the underlying and surrounding. At this time little sheen was observed on the portions of beach where water is running and/or pooled. The crew has obviously removed a substantial portion of the oil(sheen and film) saturated sediment. Unlike the 1990 Nuka-1 cleanup where the beach presented a greater threat to wildlife after cleanup than it did prior to cleanup. Mousse and sheen ran down the beach at Nuka-1 after the crew left the area. It will be interesting to see what happens to both of these area on a warm sunny day.

South Shore---Bend at Mouth to Grass Flats. Crew throughly scoured the rock wall area for oil. Lee and I observed only oil stain on rocks. The oil in the grass flats was picked up primarily by ADF&G, ADEC, and ADNR staff on 5/19/89. This section looks good. I do not doubt however, that oil still remains scattered throughout the area-on the gravel bars and beneath the vegetation.

North Bank---Primary cleanup occurred from the bend below the falls to a point approximately 200 yds. downstream (the downstream end of the rocky outcropping). The crew has done an excellent job of cleaning this section of the streambank. Considerably more oil existed here than we or the SSAT team had previously observed. Oil was picked up from the water bank interface to a line approximately 10' above the stream bed. The crew removed vegetation (stems and roots) to get at the oil present. Tar patties were found to be much larger at the base of the vegetation than anticipated. Numerous areas denuded of vegetation now exist due to the cleanup effort. These areas exist primarily upstream of the rocky outcropping.
The crew also moved cobble and large boulders to get at the oil present around the rock bases and in the fractures. Picks were used to bust rock in order to get at the oil pooled in the fractures. It was a good feeling to recognize that the EXXON crew took the initiative to "seek and find oil". Aubrey Brown (1989 EXXON Homer Zone work supervisor) told the beach work supervisors that their job was not to "seek and find" oil. He told them if they find it pick it up, but do not seek to find oil.

CB-03B---We walked to CB-03B. A substantial amount of oil remains in the form of tar patties, tarmats and saturated sediment. We found oil buried beneath 1" of sand/gravel.Numerous splashes of oil are still very visible on the rock face about the waterfall. We dug about 12 holes in the vicinity of the waterfall. We were unable to find the lens of oil Russel Kinube (ADEC) told us we would find.

1604 hrs.-Depart Chugach Bay.

1610 hrs.-Arrive Windy Bay. Landed at small creek immediately to west of Net Beach (WB-02). Helo dropped us off and moved

to location above high tide line. Surveyed Net Beach with an up and coming fisheries survey in mind. The crew moved a large volume of material. Numerous boulders have been moved to get at the oil beneath and around the perimeter of the boulders---large quantities of cobble have also been moved. Numerous patches of dense sediment have been surface scraped to remove the upper and most dense layer of oil. All remaining sediment wreaks of oil (OP, HOR, MOR) & Small pockets of pooled mousse remain. Lee found a healthy patch of 3" mousse (approximately 2' x 2'). A bit of oil mobilization is occurring here on this blustery cool day. It will be of interest to see what happens here on a warm sunny day. more work remains for the cleanup crews.

1645-Depart WB-02.

1650-Arrive WB-09 (Oystercatcher Island).
Surveyed heavily oiled west facing beach. This beach recieves little storm energy. Hence, to my memory there is no noticeable change in degree of oiling since last fall. Oil is readily visible in the form of tarmats, tar patties, and heavily saturated sediment. Observed tar patches up to 4" thick. The majority of this beach is oiled with heavily oil saturated sediment. The oystercatchers are present as usual.

1710-Arrive Port Dick---PD-04. Walked PD-04 to the seastack approximately 1/4 mile from the ADF&G cabin. We observed numerous tar patties and small tarmats. All of which could easily be picked up in about a half a day. About 2 weeks ago the crew was here and did not have work orders to pick up the tar patties. However, since they were here they decided to pick some of the oil up. To their dismay the USCG monitor told them they would have to cease until they recieved a workorder. How foolish, Even the Exxon Supervisor wanted to pick the stuff up.

1736-Depart Port Dick.

1755-Arrive ERA Helos Homer.

ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

STREAM#: 2422010190
SEGMENT: CB003

DATE PRINTED: 07/25/91

LOCATION: CHUGACH BAY

SURVEY TYPE: 90 POST TREATMENT - SS

METHOD: ~~GROUND~~ FOOT

DATE: 06/18/90

TEAM RECORDER: HILL

START TIME: 1301
END TIME: 1334

OBSERVERS: STANLEY CROSBY FENSKE FERGUSON

TIDES: EBB

AGENCY: FG NOAA ADEC

OG/HAB DISCREPANCIES: -

PHOTOS TAKEN: N

STATION: 2422010190

ROLL#: -0-
FRAME: -0-

VIDEO TAKEN: N TAPE#: -0-
START: -0- END: -0-

SAMPLES TAKEN: N

SAMPLE NUMBERS: -0- -0-

-0- -0-

-0- -0-

OIL IN STREAM BED: N Y

OVERALL OIL IMPACT: VL

OIL ON BEACH BY MOUTH: N Y

WAVE EXPOSURE: MOD

SHORELINE TYPE: BEACH LAGOON

SUBSTRATE TYPE: BEDROCK 10 BOULDER -0- COBBLE 10 VEGETAT -0-

GRAVEL 60 SAND 20 MUD/SILT -0- GRANULE -0-

ANADROMOUS FISH PRESENT: - N

SPECIES:	COUNT:
-0-	-0-
-0-	-0-
-0-	-0-
-0-	-0-
-0-	-0-

ACE 10459648 +/S

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

DATE PRINTED: 07/26/91

STREAM# : 2422010190
SEGMENT#: CB003B

SURVEY TYPE : 90 STREAM SURVEY
DATE: 06/18/90
TIMES: 1301 - 1334

LOCATION: CHUGACH BAY
TEAM RECORDER: HILL

-- OILING EXTENT --

SITE#	SITE TYPE	DEPTH (cm)	LENGTH (m)	WIDTH (m)	AREA (m)	%	THICK (cm)	PEN (cm)	OIL TYPE CODES
1	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	TP AP ST SOR

COMMENTS:
LANDED AT CB003B TO EXCHANGE JOHN FENSKE FOR STEVE FERGUSON (ADEC ON BOARD THE YUKON RIVER). WHILE WAITING FOR FERGUSON I RESURVEYED THE OILED AREAS IN THE VICINITY OF THE CB003B SALMON STREAM. I WANTED TO SEE THE AREA AFTER THE WEATHER (RAIN & TIDES) HAD A CHANCE TO WORK THE AREA OVER (AFTER THE WEATHER HAS A WAY OF EXPOSING OIL IN AREAS THAT HAVE BEEN WORKED AND/OR SURVEYED). SURVEYED FROM THE ARCH AT THE STREAM MOUTH (SOUTH SHORE) TO THE GRASS FLATS (APPROX 80 YARDS BELOW THE FALLS - BOTH BANKS). THE AREAS MANUALLY CLEANED A FEW WEEKS AGO LOOK GREAT. @ SOUTH SHORE, MOUTH BEND - NO SIGNS OF LEACHING OIL WERE OBSERVED. SHEENS WERE NOT OBSERVED ON POOLS OF WATER IN THESE AREAS. OIL WAS SHEENING PRIOR TO THE CLEANUP (1990). THE BEND AT THE MOUTH - SW BANK LOOKS GREAT. THE AREAS IS LOOKING "DRY" OF OIL. A FEW PATCHES OF OIL IN 8" X 8" RANGE WERE OBSERVED, PERHAPS THE TIDE & RAIN UNCOVERED THESE PATTIES. I OBSERVED NEXT TO NO OIL IN THE UPPER REACHES OF THE OILED PORTION OF THE STREAM (FROM A POINT APPROX 80 YARDS BELOW THE FALLS TO THE 90° BEND JUST BELOW THE FALLS). PATCHES OF VEGETATION (GRASSES ETC.) HAVE BEEN DUG UP LEAVING EARTH EXPOSED WHERE OIL WAS REMOVED. PERHAPS ABOUT 50 YARDS X <1 METER OF VEGETATION REMOVED.

POST TREATMENT 1990

- CB-3 ANAD. Post treatment resurvey while waiting for ADEC monitor.

OK

ADF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: (ES) (SS) DS TS AVS SCHA MMHS PTA

2 REGION: PWS (KP,CI) K,AP

METHOD: Aerial (Ground) Boat

3 DATE: 6/18/90

15 HIGH TIDE TIMES: 1039 / 2234

21 TEAM RECORDER: Doug Hill (ADF&G)

4 START TIME: 1301

16 HIGH TIDE HTS: 8.8 / 12.8

22 OBSERVERS: Bud Stuhley (NOAA) Clara Crosby, John Fenske, Steve Ferguson (ADEC)

5 STOP TIME: 1334

17 LOW TIDE TIMES: 0420 / 1602

23 AGENCY:

6 SEGMENT #: CB-3B

18 LOW TIDE HTS: 1.0 / 3.0

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: Seldovia A-5

Start: End:

10 LAT: 59 11 6

11 LONG: 151 37 47

26 SAMPLES TAKEN? Y (N) Number

12 SOURCE: Map Loran

Oil

13 LOCATION: Chugach Bay, Head of Bay, Lagoon/stream

Sediment

14 DESCRIPTION:

Biological

Water

EXTENT OF OIL

	Shoreline L	Shoreline W	Shoreline M²	Shoreline %	Stream L	Stream W	Stream M²	Stream %
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION								

36 CATALOGED ANAD. FISH SREAM? (Y) N

37 CATALOG #: 242-20-10190

38 STREAM NAME: Chugach Bay Creek

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)
TB AP ST SOR

42 OIL WITHIN 1 MILE OF STREAM? (Y) N

32 OILED DEBRIS? Y (N)

Where: ~~North~~ South Shore of Bay

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

43 ANADROMOUS FISH PRESENT? Y (N)

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

34 WAVE EXPOSURE: High (Moderate) Low

35 SUBSTRATE TYPE: Bedrock 10 Boulder ____ Cobble 10
Gravel 60 Sand 20 Mud/silt ____

ACE 10459650

COMMENTS: Landed at CB-3B to exchange John Fenske for Steve Ferguson/ADEC on board the Yukon River. While waiting for Ferguson I re-surveyed the oiled areas in the vicinity of the CB-3B salmon stream.* Surveyed from the Arch at the stream mouth (south shore) to the grass flats (≈ 80 yds. below the falls - both banks). The areas manually cleaned a few weeks ago look great. (At south shore/mouth BEND) No signs of leaching oil were observed. Sheens were not observed on pools of water in these areas.

*I wanted to see the area after the weather (rain + tides) had had a chance to work the area over → (often the weather has a way of exposing oil in areas that have been work &/or surveyed).

over contd.

46 PHOTOLOG

FRAME(S)	DESCRIPTION

46 OIL DISTRIBUTION DIAGRAM

Comments cont'd:

Oil was sheening prior to the cleanup (1990). The bend at the mouth-sw bank looks great. The area is looking "dry" of oil. A few patches of oil in 8" x 8" range were observed → perhaps the tide + rain uncovered these patties. I observed next to no oil in the upper reaches of the oiled portion of the stream (from a point ≈ 80 yds below the falls to the 90° bend just below the falls).

Patches of vegetation (grasses etc) have been dug up leaving earth exposed where oil was removed (perhaps about 50 yards x < 1 meter of vegetation removed.

= Sample taken
= Photo frame # and shot direction.

ACE 10459651

POST TREATMENT 1990 - CB-3 ANAD. Post treatment resurvey while waiting for ADEC monitor.

DRAFT 10/9/91

ADF&G MULTI-ASSESSMENT DATA FORM

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

METHOD: Aerial (Ground) Boat

3 DATE: 6/18/90
4 START TIME: 1301
5 STOP TIME: 1334
6 SEGMENT #: CB-3B
7 STATION #:
8 K-UNIT:
9 STAT AREA:
10 LAT: 59 11 6
11 LONG: 151 37 47
12 SOURCE: Map Loran
13 LOCATION: Chugach Bay, Head of Bay, lagoon/stream
14 DESCRIPTION:

15 HIGH TIDE TIMES: 1039 1223 4
16 HIGH TIDE HTS: 8.8 / 12.8
17 LOW TIDE TIMES: 0420 / 1602
18 LOW TIDE HTS: 1.0 / 13.0
19 TIDE HT AT SURVEY:
(Ebb) Slack Flood Slack

20 USCG QUAD: Seldovia A-5

21 TEAM RECORDER: Doug Hill (ADF&G)
22 OBSERVERS: Clara Crosby, John Fenske, Steve Ferguson (ADEC) & Bud Stuckley (NOAA)
23 AGENCY:
24 PHOTOS TAKEN: Y (N)
Roll #: Frame:
25 VIDEO TAKEN: Y (N) TAPE#:
Start: End:
26 SAMPLES TAKEN? Y (N) Number
Oil
Sediment
Biological
Water

EXTENT OF OIL

	SHORELINE L	W	M²	%	STREAM L	W	M²	%
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION								

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

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

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

ACE 10459652

I wanted to see the area after the weather (rain + tides) had had a chance to work the area over (often the weather has a way of exposing oil in areas that have been worked + / or surveyed).

COMMENTS: Landed at CB-3B to exchange John Fenske for Steve Ferguson/ADEC on board the Yukon River, while waiting for Ferguson I re-surveyed the oiled areas in the vicinity of the CB-3B Salmon stream.* Surveyed from the Arch at the stream mouth (south shore) to the grass flats (± 80 yds. below the falls - both banks). The areas manually cleaned a few weeks ago look great. No signs of leaching oil were observed. Sheens were not observed on pools of water in these areas. over cont.

* At south shore mouth BEND

45 PHOTOLOG

FRAME(S)	DESCRIPTION

46 OIL DISTRIBUTION DIAGRAM

Comments cont'd:

Oil was sheening prior to the cleanup (1990). The bend at the mouth-sw bank looks great. The area is looking "dry" of oil. A few patches of oil in 8" x 8" range were observed ⇒ perhaps the tide + rain uncovered these patties. I observed next to no oil in the upper reaches of the oiled portion of the stream (from a point ≈ 80 yds below the falls to the 90° bend just below the falls).

Patches of vegetation (grasses etc) have been dug up leaving earth exposed where oil was removed (perhaps a bouts 50 yards x < 1 meter of vegetation removed.

= Sample taken
= Photo frame # and shot direction.

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 242-20-10190

SEGMENT CB-003 SUBDIVISION A

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

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B	**Salmon Stream**	ADF&G catalogued anadromous stream (242-20-10190) is in Subdivision A. This subdivision is closed to bioremediation and spot washing less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation and spot washing are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation and spot washing more than 100m from stream. No constraint to manual pickup and tarmat removal.
5T	**Bald Eagle Nest**	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.

OTHER ECOLOGICAL CONSIDERATIONS

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

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

FOSC _____ Date 6-19-90

ACE 10459654

ACE 1941104

SEGMENT CB-003 SUBDIVISION A DATED 6/25/90

Anadromous Stream # 242-20-10190

MODIFICATION

1. REASON FOR MODIFICATION Request by ADFG that no Customblen be applied anywhere that may percolate into stream banks.

2. SUGGESTED ADJUSTMENT TO WORK PLAN No bioremediation or further work required for Anadromous stream work order.

3. TIMING ISSUES N/A

ADEC Michael J. Ediel

EXXON [illegible]

USCG [illegible]

LAND MANAGER * (If field rep is on scene)

* ADFG was notified by radio and no monitor was required on this anadromous stream site through authorization by Russell Kunbe ADEC 6/25/90.

ACE 10459655

ACE 1941105

ADEC DAILY SHORELINE ASSESSMENT

LOCATION: Chugach Bay SEG CB3 SUBSEG C

MONITOR(S): E.P. Egan

DATE: 7/19/1990 TIME: BEGIN 1046 END 1345
1105 1905

TIDES:	TIME:	HEIGHT:
LOW	0551	-1.0
HIGH	1234	9.7
LOW	1739	4.2
HIGH	2346	13.7

WEATHER: (CLOUDY) RAIN (FOG) SUN
TEMP: [illegible] ECA COND: [illegible]
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.) None

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

SURFACE SEDIMENTS: R 15 % B 35 % C 25 % P 10 % G 10 % S 5 %
SUBSURFACE SEDIMENTS: R ___ % B ___ % C ___ % P ___ % G ___ % S ___ %

OIL CHARACTERISTICS

SURFACE: (POOLED) - (MOUSSE) - (TARBALL) - (COVER) - (COAT) - (STAIN)
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, trowels, bags, pan/pans
NAMES OF REPS & OTHER AGENCIES: EXXON Tim Turner
USCG R.D. Peters OTHER: Veco Mike Reavis
WORKERS ON SITE: ORTS 10 (12 hr shift) OTHER:

WASTE HANDLING/DISPOSAL

ITEMS USED TO ABSORB/CONTAIN OIL Supersacks
OF BAGS COLLECTED: 2
OILED DEBRIS 1 OIL & SEDIMENTS 1 OILED VEG. —
OILED LOGS PRESENT: (Y) N # OF LOGS REMOVED —
stained.

4/20/90

ACE 10459656 +/S
ACE 1941156 +/S

CRSC Chugach Bay E.P. Egan 7/19/90 Pg 2

PHOTO/VIDEO DOCUMENTATION

PHOTOGRAPHS: ROLL #— FRAME(S): — REASON: —

VIDEO: TAPE #— REASON: —

COMMENTS

PROBLEMS: ENFORCEMENT ACTIVITIES, UPLAND CONT., ETC.
(PLEASE NOTE IF PROBLEM WAS DISCUSSED WITH PROPER AUTHORITY, AND SUBSEQUENT RESPONSE.)

None

OBSERVATIONS: TREATMENT EFFICIENCY, POSSIBLE IMPROVEMENTS, ETC.

The outer Kenai Peninsula Area could use more work crews to complete oil recovery & I within the time constraints.

The management and crews of equal 7 off the Yukon River are thorough and efficient.

SIGNATURE E. Patrick Egan

ACE 10459657

ACE 1941157

CB3C Chugach Bay E.P. Egan 7/19/90 Pg 3

Area worked 7/19/1990

CB-03

B

A

WORK AREAS

242-20-10190
Anadromous Stream

CB-04

EXXON

Exxon Company, USA
Map Key: KEN-CB-3

ECOLOGY MAP
SEGMENT CB-3
SUBDIVISION C (3 of 3)
METERS

★ Seabird Colony
▲ Eagle Nest

ACE 1941158 -/S

ACE 10459658 -/S

FIELD SHORELINE COMMENT SHEET ASAP

SEGMENT AS/ CB-3A SUBDIVISION: A SITE: 01 DATE 8/9/90

USCG

NAME AEC Vandepels SIGNATURE AEC Vandepels

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Found some MS in area on cobble/boulders at mouth of stream. Reassess in 91.

ADEC

NAME Clara S Crosby SIGNATURE Clara S. Crosby.

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Anadromous Stream → Crew did an exemplary job of cleanup within the stream area & beach @ mouth. My concern is with the possibility of MS/TB Balls/Patties floating into area from other beaches that have been cleaned within bay. Catchment area. Also the long gravel beach * N. of stream was biked extensively but in such high energy. see attached →

LAND MANAGER

NAME Patrick Norman SIGNATURE Patrick Norman

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: The ~~south~~ end of this segment still has mousse patties along the upper beach area across the stream, this could become exposed over the winter.

EXXON

NAME JON CZARNECKI SIGNATURE Jon Czarnecki

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

due to the streams in the area.

ACE 10459659 +/S

ACE 1941143 +/S

REVISION NO. 7/26/90

of Stream: residual oil/AP/I remains on Bedrock - some sheen was observed here. At this time, it should be reassessed due to stream.

ACE 10459660

ACE 1941144

TEAM NO 04 EXXON J. Czarnecki SEGMENT AS CB-03
R. Marty USCG AEC Vandapeld SUBDIVISION A
REC C. Crosby LAND REP P. Norman TOTAL NO. SITES 1
DATE 09 / Aug. / 90 TIME 08 :40 to 09 :05 TIDE LEVEL 0' to -0.5'
TOTAL EST LENGTH OF SHORELINE SURVEYED: 1529 m
SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WEATHER: ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
OIL CATEGORY LENGTH: W — m M — m N 85 m VL 216 m NO 1228 m US — m

SURFACE OIL

CHARACTER	SITE 1 DISTRIBUTION /C	/B	/P	/S	SITE 1 OILED ZONES SU	UI	MI	LI	SITE 2 DISTRIBUTION /C	/B	/P	/S	SITE 2 OILED ZONES SU	UI	MI	LI	SITE 3 DISTRIBUTION /C	/B	/P	/S	SITE 3 OILED ZONES SU	UI	MI	LI
ASPHALT																								
S.O.R.				X		X																		
POOLED																								
COVER																								
COAT																								
STAIN																								
MOUSSE			I	I		I																		
PATTIES/T.B.				X		X																		
FILM																								
NO OIL					X		X	X																
EST. SITE LENGTH					1529																			

SUBSURFACE OIL

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

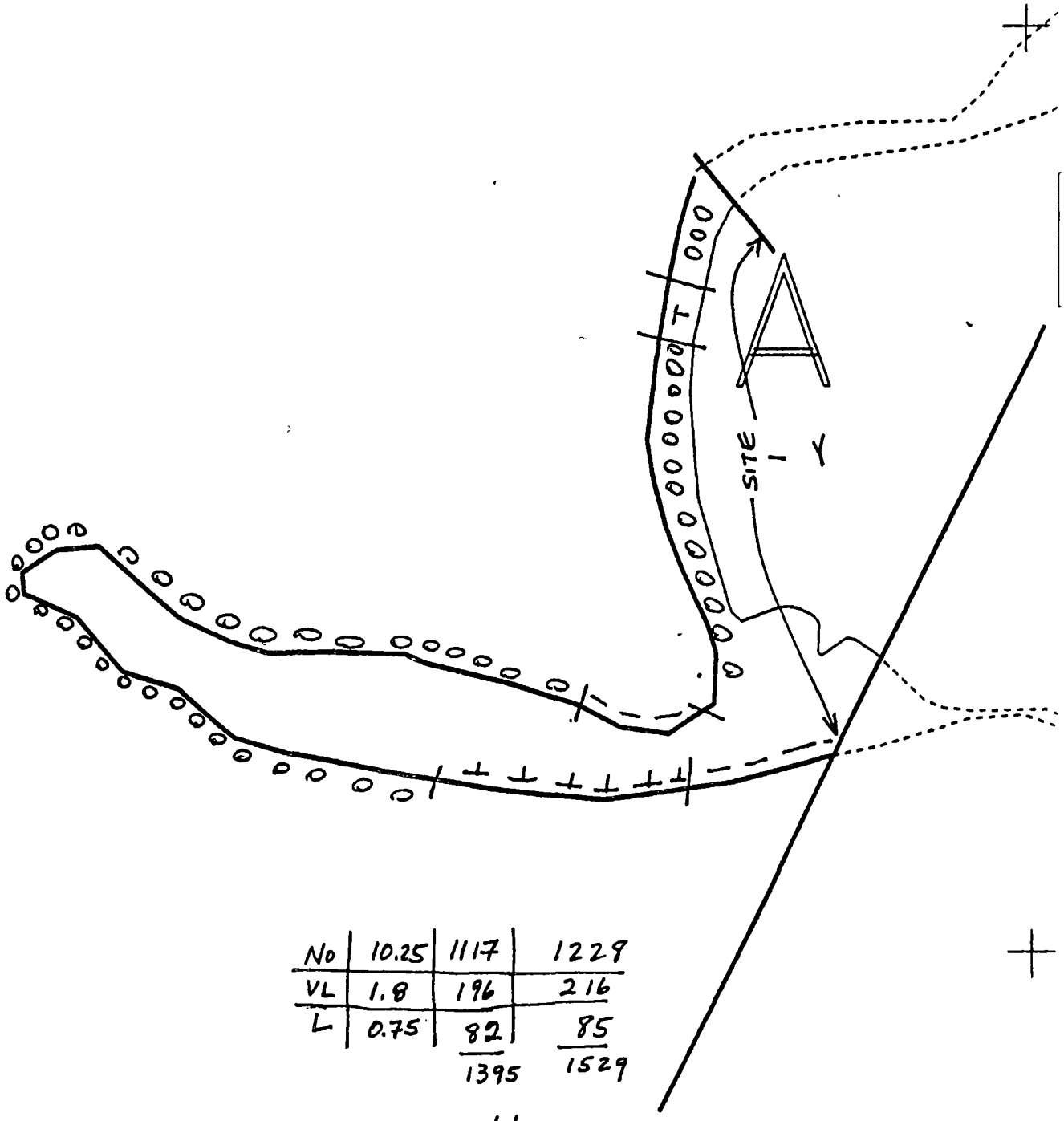
Photographs:
Roll No. ASAP-04-
Frames

COMMENTS On sketch map.

ACE 10459661

REVISION NO. 7/27/90

ACE 1941145



No	10.25	1117	1229
VL	1.8	196	216
L	0.75	82	85
		1395	1529

1.1

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

CB-3 A

ADEC Subsegment Length: 1529m

METERS

0 109 218

AK State Plane Zone 4 1:4294

ncb-3a

EXXON

Subdivision Field Map

Map Key: KENCB-3A

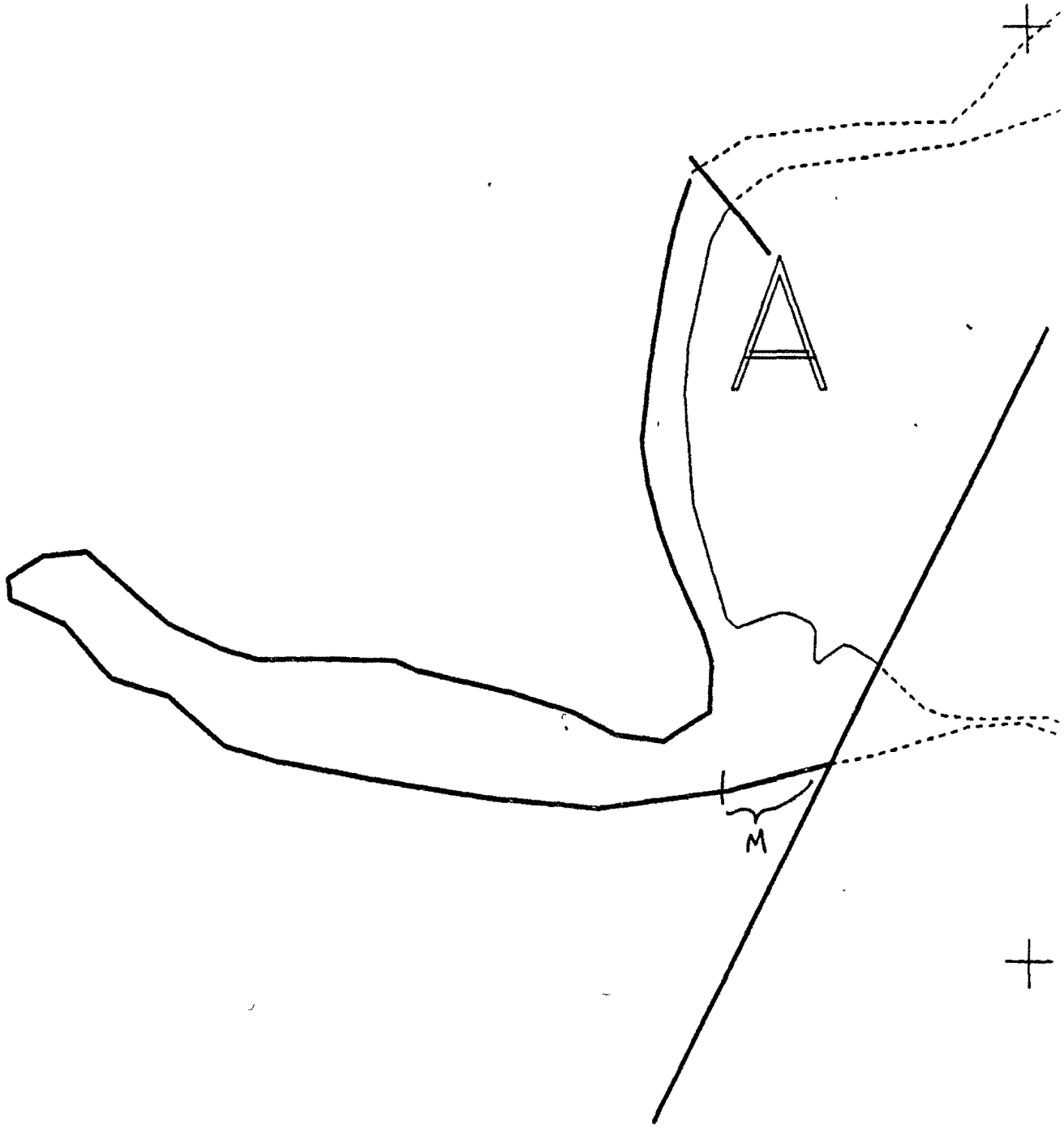
Name: R. Marty

Date: 8/11/90

Data Entered:

ACE 10459662

ACE 1941146



"SIGNIFICANT OILING"

XXXX	Wide	CB-3 A
/////	Medium	ADEC Subsegment Length: 1529m
----	Narrow	METERS
TTTT	Very Light	0 100 210
0000	No Oil	AK State Plane Zone 4 1:4294
		ncb-3a

N

EXXON

Subdivision Field Map
Map Key: KENCB-3A
Name: R. Marty
Date: 8/11/90
Data Entered:

ACE 10459663

ACE 1941147

SKETCH MAP

OG Rudy Siegel

SEGMENT ST/CB003

SUBDIVISION A

DATE 3 / 29 90

CHECKLIST

- ___N Arrow
- ___Approx. Scale
- ___Seg/Sub Bndry
- ___Oil Dist.
  - Width
  - Length
  - % Cover
- ___Substrate Character
- ___Est. HWL/LWL
- ___SSL
- ___Profile Location(s)
- ___Profile(s)
- ___Pit Location(s)

LEGEND

1 △ Pit - No Subsurface Oil

2 ▲ Pit - Subsurface Oil

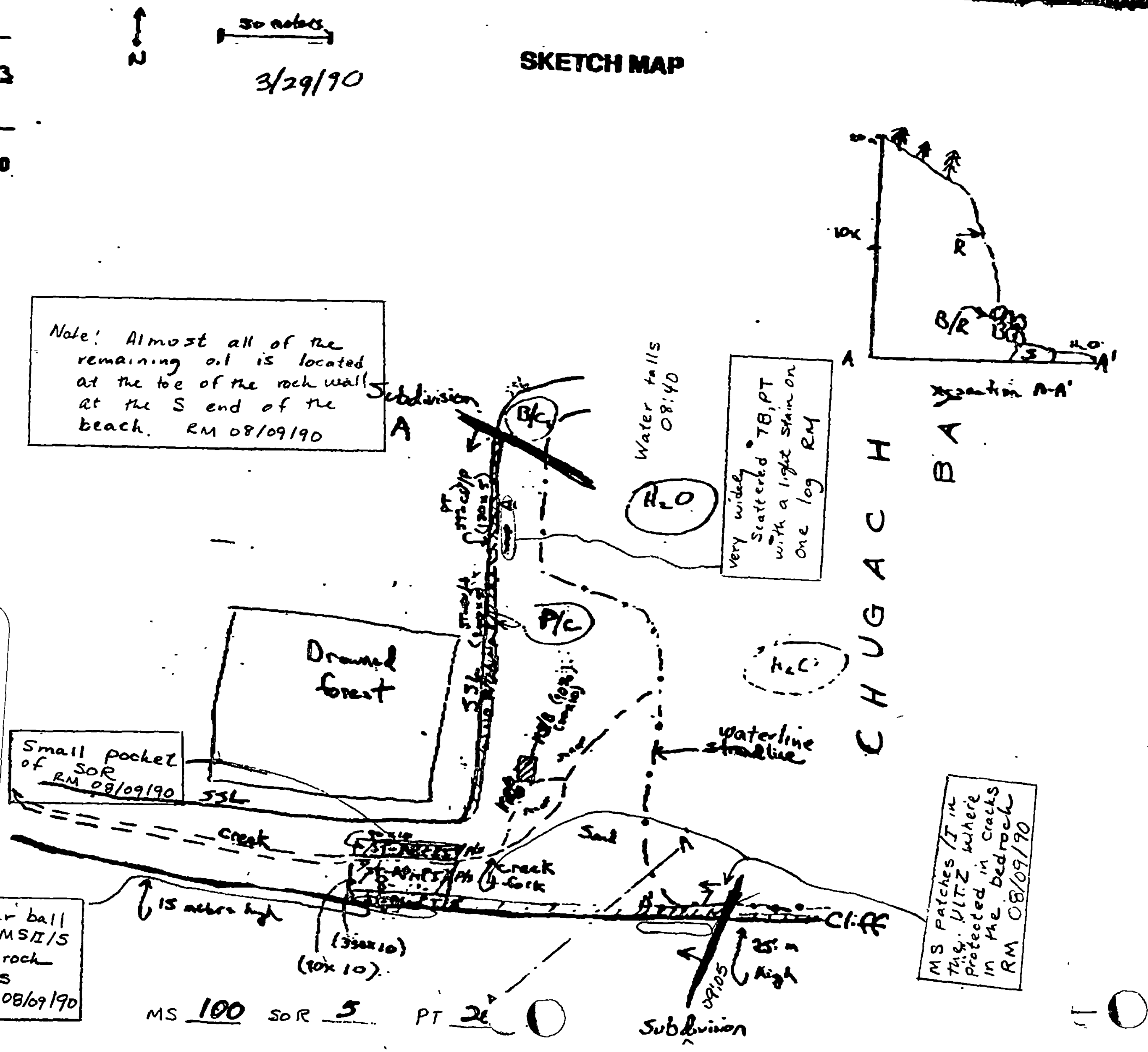
CT/C Continuous Distribution

CT/B Broken Distribution

CT/P Patchy Distribution

CT/S Splashed Distribution

Oiled Vegetation



N
50 meters
3/29/90
Note! Almost all of the remaining oil is located at the toe of the rock wall at the S end of the beach. RM 08/09/90
Subdivision A
B/C
Water falls 08:40
H₂O
Very widely scattered TB, PT with a light stain on one log RM
10x
R
B/R
S
H₂O
A
A'
Cross-section A-A'
CHUGACH BAY
P/C
H₂O
Drowned forest
SSL
waterline strandline
Small pocket of SOR RM 08/09/90
SSL
Creek
Sand
Creek fork
15 meters high
(330x10)
(10x 10)
Cliff
25 m high
09105
MS patches / I in the UITZ where protected in cracks in the bedrock RM 08/09/90
One tar ball Some MS/I/S in bedrock cracks RM 08/09/90
MS 100 SOR 5 PT 2
Subdivision

FIELD SHORELINE COMMENT SHEET ASAP

SEGMENT AS/ CB-3 SUBDIVISION: B SITE: 01 DATE 8/9/90

USCG

NAME AEC Vandepeek SIGNATURE AEC Vandepeek

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Found some small MS patties scattered. Crew picked them up. Wds inpoled next day. No more work or reassessment required.

ADEC

NAME Clara S. Crosby SIGNATURE Clara S Crosby.

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Crews did a fairly good job rolling C/B. & recovering MS mat @ this site. Bioremediated - reassess to observe effects & possible mats which need removal. MS was observed @ Bedrock BC area at Central Western end of Beach. Subsurface was manually removed from an overburden of 19" of g/c. There is still subsurface remaining.

LAND MANAGER

NAME Patrick Norman SIGNATURE Patrick Norman

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Remaining exposed mousse and subsurface mousse concentrations should be Assessed in 1991 spring survey. subsistence harvesting area., bidarkis, clams,

EXXON

NAME Tom Garnecki SIGNATURE Tom Garnecki

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Because of subsistance, salmon, use of this area. a spring reassessment is necessary.

ACE 10459665 +/S

ACE 1941149 +/S

REVISION NO. 7/26/90

ASAP SHORELINE OILING SUMMARY

TEAM NO. 04 EXXON J. Czarnecki SEGMENT AS CB-03
OG R. Marty USCG AEC Vandepelt SUBDIVISION B
ADEC C. Crosby LAND REP P. Norman TOTAL NO. SITES 2
DATE 09 / Aug. / 90 TIME 07:55 to 08:30 TIDE LEVEL 1' to 0'
TOTAL EST LENGTH OF SHORELINE SURVEYED: 319 m
SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WEATHER: ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
OIL CATEGORY LENGTH: W — m M 34 m N 151 m VL 134 m NO — m US — m

SURFACE OIL

CHARACTER	SITE 1 DISTRIBUTION /C	/B	/P	/S	SITE 1 OILED ZONES SU	UI	MI	LI	SITE 2 DISTRIBUTION /C	/B	/P	/S	SITE 2 OILED ZONES SU	UI	MI	LI	SITE 3 DISTRIBUTION /C	/B	/P	/S	SITE 3 OILED ZONES SU	UI	MI	LI
ASPHALT			1 U				1 U																	
S.O.R.			X				X		—		1 U	—	—	1 U	1 U	—								
POOLED																								
COVER									—		X	—	—	X	—	—								
COAT			X	X		X	X																	
STAIN																								
MOUSSE			3	1 U			1 U		—		1 U	X	3	1 X	1 U	—								
PATTIES/T.B.																								
FILM																								
NO OIL					X			X					X	—	—	X								
EST. SITE LENGTH					177m								142m											

SUBSURFACE OIL

SITE NO.	PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER OP	OR	OF	NO	OILED INTERVAL (CM-CM)	CLEAN BELOW (Y/N)	PIT ZONE SU	UI	MI	LI	SURFACE-SUBSURFACE SEDIMENTS
1	1	56	X	—	—	—	50-55	Y	X	—	—	—	CP/CP
							-						
							-						
							-						
							-						
							-						
							-						
							-						
							-						
							-						
							-						
							-						
							-						

Photographs:
Roll No. ASAP-04-
Frames

COMMENTS On sketch map.

ACE 10459666

ACE 1941150

REVISION NO. 7/27/90

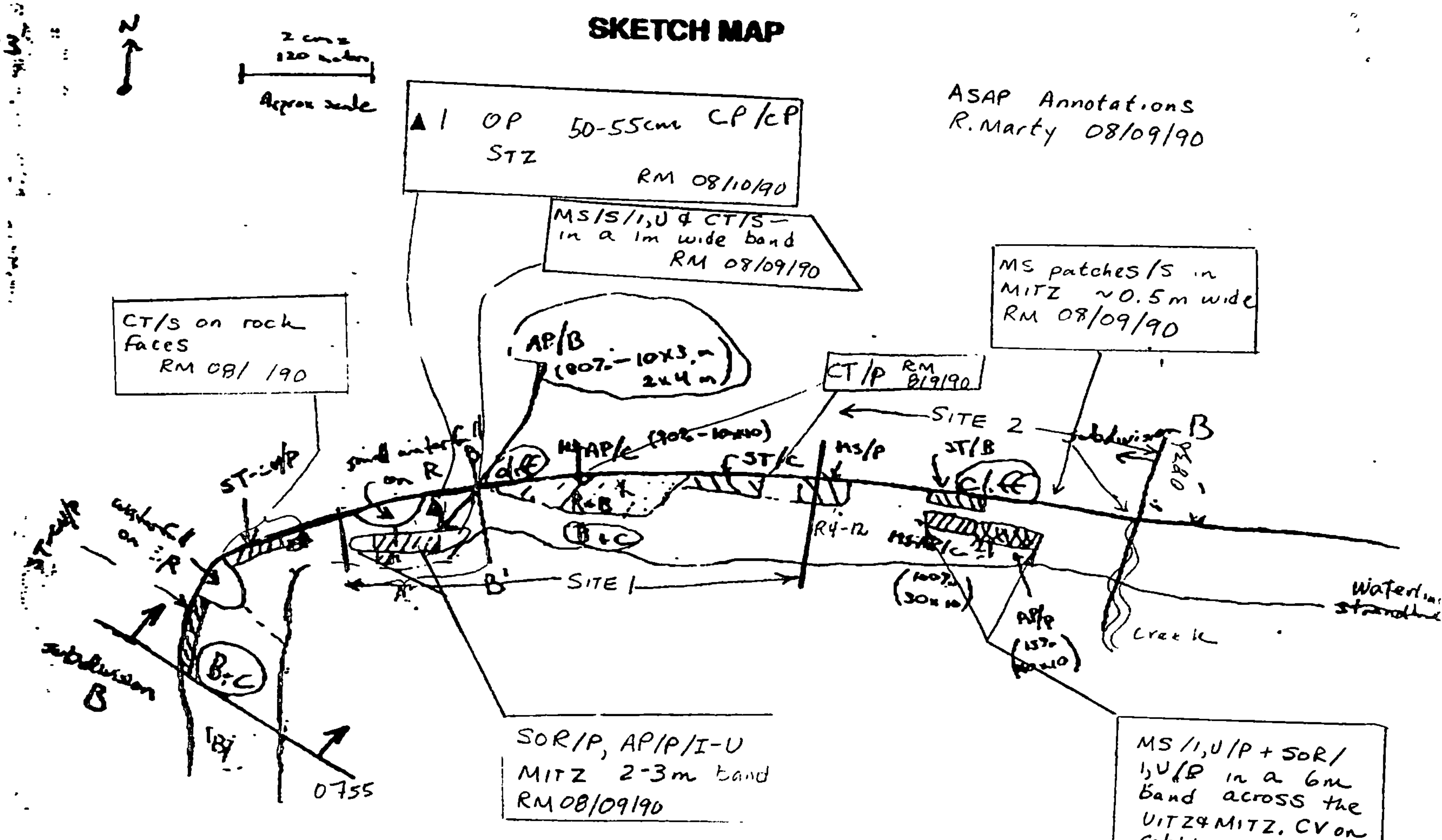
LOG Randy Siegel

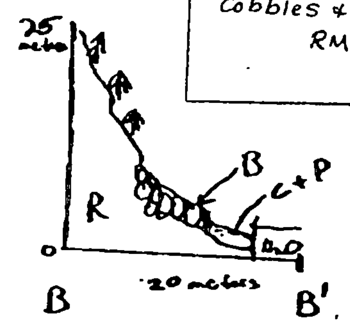
SEGMENT BTI CB-003

SUBDIVISION B

DATE 3/29/90

SKETCH MAP





CHECKLIST

LEGEND

CT/C

CT/B

CT/P

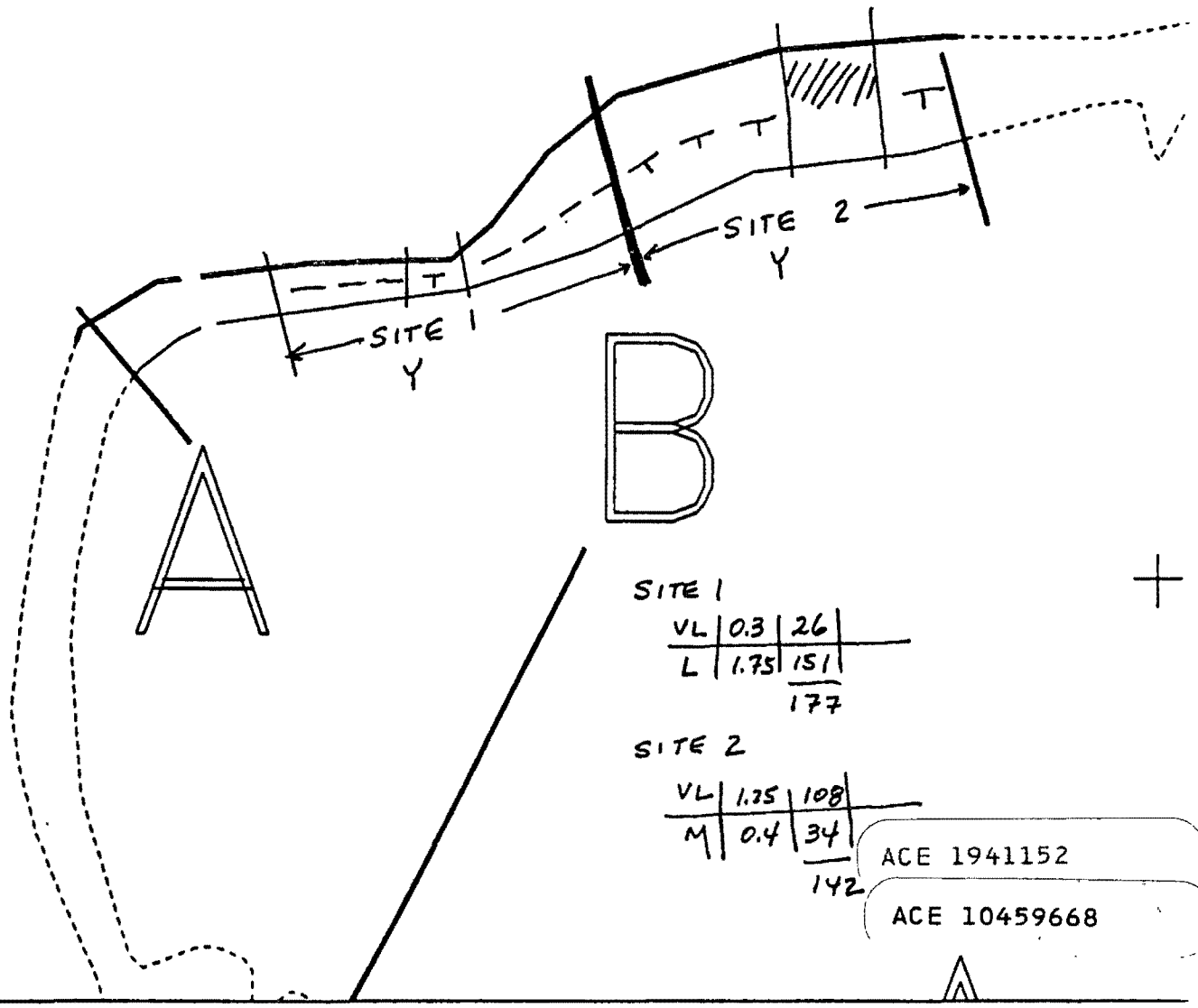
CT/B

Oiled Vegetation

CV — CT — SOR — AP — MS —

ACE 1941151

ACE 10459667



SITE 1

VL	0.3	26
L	1.75	151
		177

SITE 2

VL	1.75	108
M	0.4	34
		142

ACE 1941152

ACE 10459668

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

CB-3 B

ADEC Subsegment Length: 480m

METERS

0 88 173

AK State Plane Zone 4 1:3405

ncb-3b

EXXON

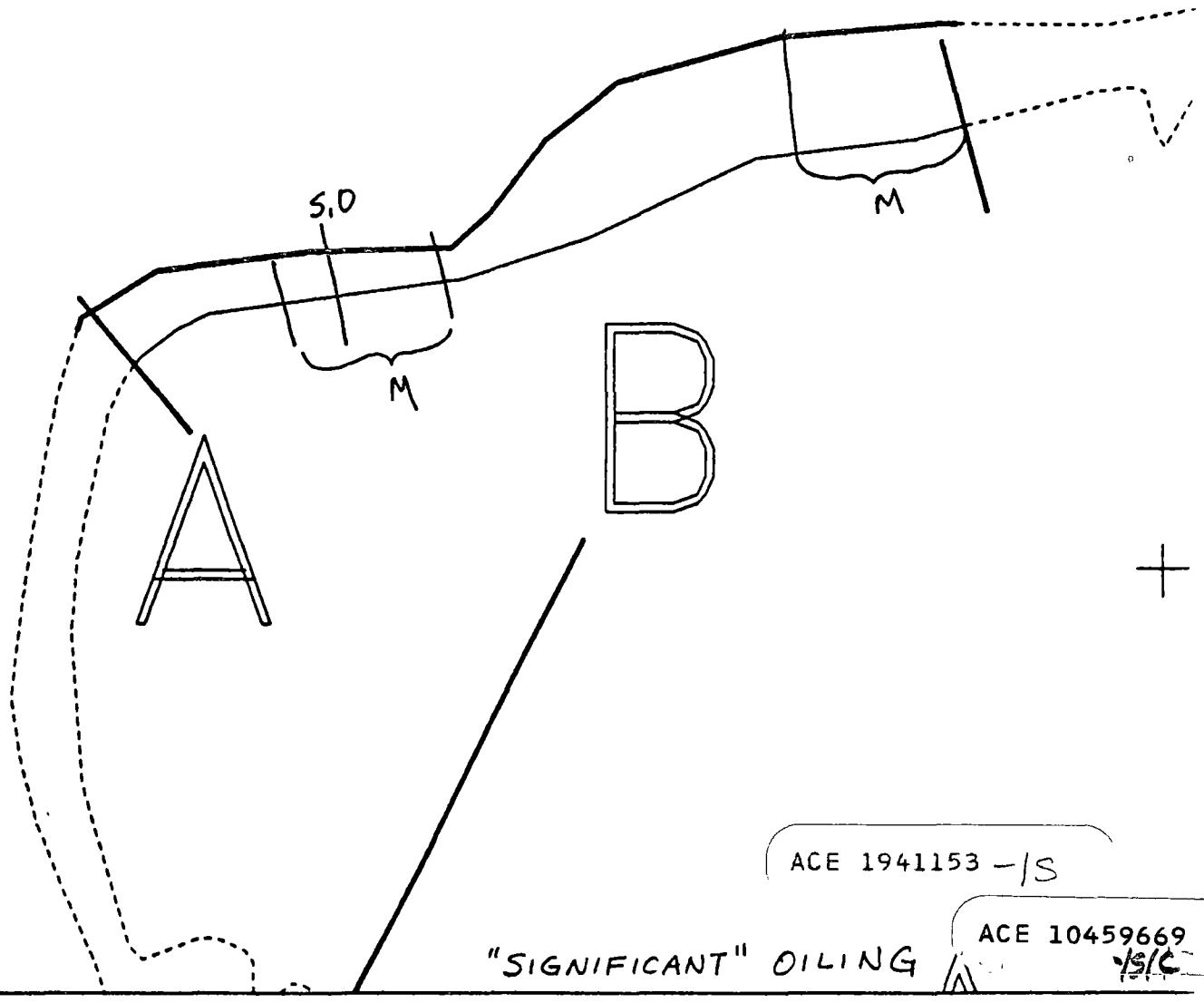
Subdivision Field Map

Map Key: KENCB-3B

Name: R. Marty

Date: 11 Aug 1990

Data Entered:



ACE 1941153 - 1S

ACE 10459669
1S/C

"SIGNIFICANT" OILING

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

CB-3 B

ADEC Subsegment Length: 480m

METERS

0 86 173

AK State Plane Zone 4 1:3405

ncb-3b

EXXON

Subdivision Field Map

Map Key: KENCB-3B

Name: R. Marty

Date: 11 Aug 1990

Date Entered:

ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

STREAM#: 2422010190
SEGMENT: CB003

DFH 10/2/91

OK

 DATE PRINTED: 08/14/91

LOCATION: CHUGACH BAY

SURVEY TYPE: 89 AFHS - ~~AS~~ SS

METHOD: ~~GROUND~~ FOOT

DATE: 07/03/89

TEAM RECORDER: HILL

START TIME: 1030
END TIME: 1230

OBSERVERS: ~~CHESNIK~~ Clusnik

TIDES: Flood

AGENCY: FG USCG

OG/HAB DISCREPANCIES:

PHOTOS TAKEN: N

STATION: 2422010190

ROLL#:
FRAME:

VIDEO TAKEN: N TAPE#:
START: END:

SAMPLES TAKEN: Y

SAMPLE NUMBERS: 89DDH005H

89DDH004H

OIL IN STREAM BED: Y

OVERALL OIL IMPACT: H

OIL ON BEACH BY MOUTH: Y

WAVE EXPOSURE: MOD

SHORELINE TYPE: BEACH LAGOON

SUBSTRATE TYPE: BEDROCK 10 BOULDER COBBLE 10 VEGETAT

GRAVEL 30 SAND 20 MUD/SILT GRANULE 30

ANADROMOUS FISH PRESENT: ~~N~~ Y

SPECIES: Pink

COUNT: 10

ACE 10459556 F/S/P

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

DATE PRINTED: 08/14/91

STREAM# : 2422010190
SEGMENT#: CB003

SURVEY TYPE : 89 AFHS - ~~88~~ 89
DATE: 07/03/89
TIMES: 1030 - 1230

LOCATION: CHUGACH BAY

TEAM RECORDER: HILL

-- OILING EXTENT --

SITE#	SITE TYPE	DEPTH (cm)	LENGTH (m)	WIDTH (m)	AREA (m)	%	THICK (cm)	PEN (cm)	OIL TYPE CODES
1A			9.2	1.8	16.6	70	2.5		MS TP HOR
1B			18.3	5.5	1..07	70	2.5		MS TP HOR
1C			18.3	4.6	84.2	70	2.5		MS TP HOR
1D			137.2	1.8	247.0	50	2.5		MS TP HOR
1E			45.7	1.8	82.3	15	2.5		MS
2			13.7	4.6	63.5	25	<5.0		MS TP TB OR
3			137.2	1.0	137.2	40	<3.5		MS TP TB OR
4			64	3.0	192.	5	2.5		TP TB
5			2.4	.6	1.44	100	<5.0	TP TB	
6			54.9	18.3	1005		2.5		MS TP TB

242010190

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

 DATE PRINTED: 08/14/91

COMMENTS:
SITE 1B-1. SURVEY DATES 7/3/89 1030-1230 AND 7/5/89 1200-1330. THE OILED PORTION OF THIS STREAM DOES NOT RECEIVE THE HIGH WAVE ENERGY THAT THE BEACH ADJACENT TO THE STREAM MOUTH RECEIVES. THE OIL IS SHELTERED FROM MUCH OF THE WAVE ENERGY BY A BLUFF AND BY BEING UPSTREAM OF A LARGE BERM. ALTHOUGH CLEANUP WORK WAS REQUESTED, ONLY A TOKEN EFFORT OCCURRED IN 1989. TB AND TP WERE FOUND SPORADICALLY FROM THE STREAM MOUTH OT THE 90° BEND BELOW THE FALLS - 480 METERS ABOVE THE STREAM MOUTH ON THE NORTH SHORE AND APPROX 465 METERS ABOVE THE MOUTH ON THE SOUTH SHORE. TARBALLS WERE FOUND ON THE BARS IN THE STREAM CHANNEL ALSO. THE OILING DIMENSIONS IN THE BOX REPRESENT CONSOLIDATED OILED AREAS AND NOT THE SPORADIC TARBALLS MENTIONED ABOVE. THE GRASS ON THE FLATS HAS BEEN GRAZED ON BY A BEAR. DUCKS (MALLARDS AND TEAL) AREA FREQUENTLY ON THE LAGOON. 1 OF THE PINK SALMON FRY OBSERVED WAS SCOLIOTIC.

1989-AFHS ★ Site 1B-1 Chugach Bay Creek

ASC NUMBER: 242-20-10190 SEGMENT NUMBER: CB-B1 YR CATALOGED:
LOCATION: Chugach Bay, Head of Bay
STREAM NAME: Chugach Bay Creek
KODIAK K-UNIT: LOCAL STREAM #: LATITUDE:
USGS QUADRANGLE: Seldovia A-5 LONGITUDE:
SHORELINE TYPE: Beach, Lagoon LEGAL:
WAVE EXPOSURE: Moderate ALL SEGMENTS:

ASC NUMBER:
SURVEY TYPE: BS
METHOD: Ground
DATE: ~~7~~ 7/3&5/89
START TIME: 1030 1230
STOP TIME: ~~1200~~ ~~1330~~

TEAM RECORDER: Doug Hill
OBSERVERS: 7/3/89 Frank ~~Clusnik~~ (USCG) Clusnik.
AGENCY(IES): ADF&G
PHOTOS TAKEN? N ← saw nothing w. 7/3 or 7/5.
Roll #: Frames:
VIDEO TAKEN? N Tape Number:
Counter Start:

SAMPLES TAKEN?
SAMPLE I.D. NUMBERS: 1. CBCRK-DDH-7/3/89-A (89DDH005H) 2. CBCRK-DDH-7/3/89-B (89DDH004H) 3.
4. 5. 6.

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	See opposite side of Page					—	
SITE 2	13.7	4.6	63.5	25	<5.0	—	MS, TP, TB, OR
SITE 3	137.2	1.0	137.2	40	<3.5	—	MS, TP, TB, OR
SITE 4	64	3.0	192.0	5	2.5	—	TP, TB
SITE 5	2.4	.6	1.44	100	<5.0	—	TP, TB
Site 6	54.9	12.3	1005		2.5	—	MS, TP, TB

OVERALL OIL IMPACT: H

OIL IN STREAM CHANNEL? Yes

SUBSTRATE

Bedrock	10	Granule	30
Boulder		Sand	20
Cobble	10	Silt	
Pebble	30	Veget.	

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? y

SPECIES	Pink Salmon Fry (ok)				
COUNT	10 scoliotic(1)	comments: 1 of 10 was	pink salmon fry scoliotic.		

Survey dates: 7/3/89 1030-1230 and 7/5/89 1200-1330

COMMENTS: The oiled portion of this stream does not recieve the high wave energy that beach adjacent the stream mouth recieves. The oil is ~~sheltered~~ from much of the wave energy by a bluff and by being upstream of a large berm. Although cleanup work was requested only a 'token' effort occurred in 1989.

★★ TB, TP ~~were~~ were found sporadically from the stream mouth to the 90° degree bend below the falls - 480 meters above the stream mouth on the north shore and approx. 465 above the mouth on the South Shore. Tarballs were found on the bars in the stream Channel also. the oiling dimensions in the box represent consolidated oiled areas and not the sporadic Tarballs mentioned above.

The grass on the flats has been grazed on by a bear. Ducks (mallards and teal are frequently on the lagoons)

ACE 10459559 HS

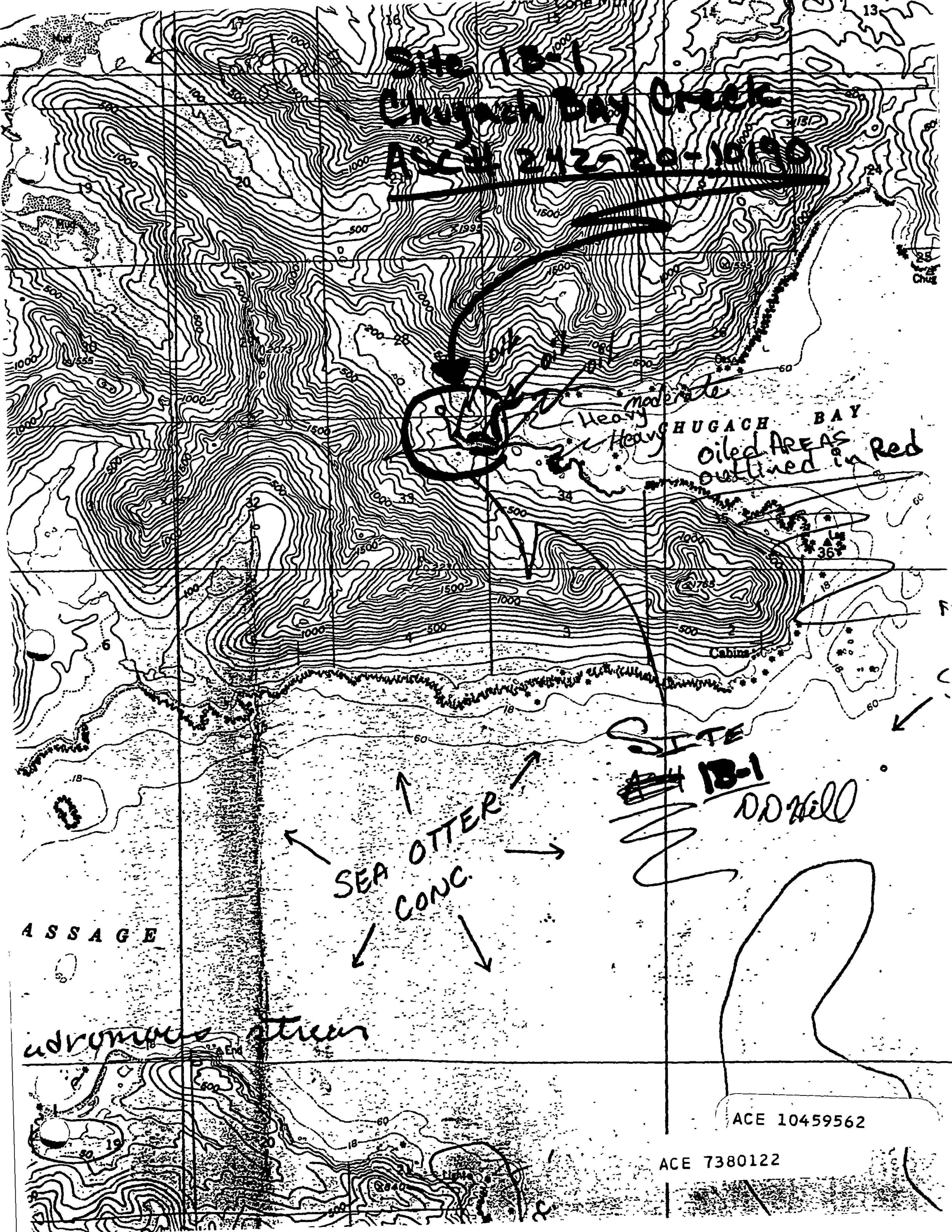
ok

Oil Coverage

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1 A	9.2	1.8	16.6	70	2.5	—	MS, TP, HOR
SITE 1 B	18.3	5.5	100.7	70	2.5	—	MS, TP, HOR
SITE 1 C	18.3	4.6	84.2	70	2.5	—	MS, TP, HOR
SITE 1 D	137.2	1.8	247.0	50	2.5	—	MS, TP, HOR
SITE 1 E	45.7	1.8	82.3	15%	2.5	—	MS

ok

FALLS
Soil Sample #
CB Crk-DDH-7/3/89-1220
A
Soil paddies - Amongst Grass
(Mousse patties)
(1' x 1' to 5' x 3' paddies)
(½" to 2" thick)
TBPT
(1990)
Size Range
2" x 2" to 20" x 20"
½" to 2" thick
Approx 100-150 patches
Scattered Patches of mousse
Photo 12 Clean Season
Photo #2 LPA-002
Photo LPA-001
CHUGACH BAY
Bathhouse
To Chugach Bay
Trail through grass/weed
Photo LPA-001
BEACH
Bar
Elymus
≈ 20 yds
SALTGRASS
≈ 60 yds
GRASS
BLUFF
Cobble
15 yds
3'
Flow
GRAVEL BAR
Elevation Above Creek bottom
RIPPLES
Flow
Tarballs Pole Lights
Tarballs pulled
20 yds
Mousse Band ≈ 6' wide
Mousse ≈ 25' wide Band
Mousse ≈ 15' wide
6' Wide Band sporadic mousse blobs
Photo 11 Clean season
20' Blue Band of Mousse
≈ 1" spotty mousse
≈ 1" diameter
Blue Band
Trail Blue
Tar Mat 2' x 8'
spr 10 yds
spr 20 yds
spr 50 yds
spr 150 yds
Average 15' spr
Soil Sample #
CB Crk-DDH-7/3/89-1130
Taken 5' above Creek
Scree Area below bluff
Numerous dime sized splotches encountered
1 pink FRY
(7/3/89)
Spineless Scoliotic erratically swimming fry
like sand eel
10 FRY
ACE 7380121
ACE 10459561



SITE 1B-1

DATE	By	ROLL #	EXPOSURE #	Chugach Bay Creek - Head of Bay Beach
5/15/89	Glenn Seaman		14	Beach at head of Chugach - heavily oiled
"	"		15	heavily Oiled upper tide line head of Chugach
"	"		16	moderately heavily Oiled Rocks head of Chugach
"	"		17	Closer shot of (16)
"	"		18	Oiled boulder
"	"		19	oil - hi tide line
"	"		20	Oiled organic debris at hi tide line
"	"		21	oil - is at upper berm
"	"		22	" " " " "
6/4/89	Lee Glenn	LP6-001	21	Mousse patties washed in w/kelp
"	"	"	22	Bundle of material (collection bags) which appeared as having been left by previous workers
"	"	"	23	Beach workers picking up mousse
"	"	"	24	looking forward mouth of stream - kelp mixed with oil.
"	"	"	12	Oiled after storm.
"	"	"	13	Oiled beach Workers arrive after several days
"	"	"	14	Heavy sheen in saltwater
"	"	"	15	Cleanup workers on beach
"	"	"	17	Dead Beach on heavily oiled beach Bags hit by hi tide
"	"	"	18	Bags of oil left from previous days -
"	"	"	00	4 wheeler running over beach berm
"	"	"	01	4 wheeler ruts
"	"	"	19	light portion of Photo - heavily oiled upstream of
"	"	LP6-002	02	Oil picked up from grass in foreground - above berm
"	"	"	03	4 wheeler damage to beach berm
"	"	"	04	Road created by wheeler
"	"	"	05	" " " "
"	"	"	06	Bag collection site - mouth of stream
"	"	"	07	Chugach Main beach mouth of stream in backgrd
"	6/07/89	"	15	Aerial - Mouth of Chugach - Booms

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 3:22 pm
Location: Chugach Stream- Bay
Address: Kenai P. AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxum
Description: Sheen on edge of Chugach Stream 50 yds (approx) upstream

ACE 7380128

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 3:22 pm
Location: Chugach Bay- stream
Address: Kenai P. AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxum
Description: Sheen on edge of Chugach Stream (50 yds) upstream

ACE 7380127

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 3:30pm
Location: Head of Chugach Bay
Address: Kenai P. AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxum
Description: cut near edge of Chugach stream created by 4 wheeler carrying oily debris

ACE 7380126

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 3:55pm
Location: Head of Chugach Bay
Address: Kenai P. AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxum
Description: hole dug 10-12" deep upper tide zone (saturated w/ mousse)

ACE 7380125

Site 1B-1

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 3:31pm
Location: Head of Chugach Bay
Address: Kenai P AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxum
Description: Trail worn through beach grass by cleanup workers

ACE 7380124

ACE 10459564

OFFICIAL PHOTOGRAPH
Date: 6-29-89 Time: 3.16 pm
Location: Chugach Stream
Address: Kenai Penn. AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxim
Description: mousse patty along side Chugach Stream up to 120 yds upstream

ACE 7380129

Site B-1

OFFICIAL PHOTOGRAPH
Date: 6-29-89 Time: 3.30 pm
Location: Chugach Rock - stream
Address: Kenai Penn. Ak
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxim
Description: mousse patty along edge of Chugach Stream Lee Glenn holding oil upstream

ACE 7380131

OFFICIAL PHOTOGRAPH
Date: 6-29-89 Time: 3.10 pm
Location: Chugach Stream
Address: Kenai Penn. AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxim
Description: mousse patty in stream channel Chugach Creek 120 yds upstream

ACE 7380132

OFFICIAL PHOTOGRAPH
Date: 6-29-89 Time: 3.15 pm
Location: Chugach Stream
Address: Kenai Penn. AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxim
Description: mousse patty near edge of Chugach Stream 25' upstream

ACE 7380130

ACE 10459565

ACE 7380133

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 4:00pm

Location: Head of Chuqach Bay

Address: Kenai P AK

Taken by: Susan McLane

Film: Fuji 100

Camera: Minolta Maxum

Description: oiled logs and pebbles Mid of Chuqach Bay head

ACE 7380134

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 2:40pm

Location: Chuqach Bay (head)

Address: Kenai Penn.

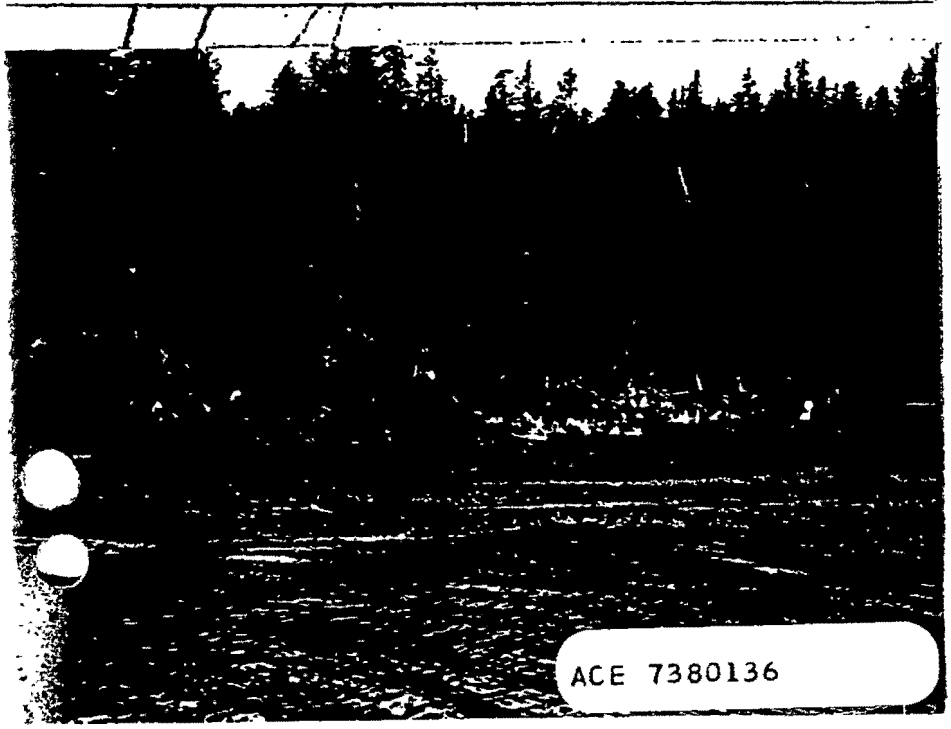
Taken by: Susan McLane

Film: Fuji 100

Camera: Minolta Maxim

Description: oily debris containment area

ACE 7380135



ACE 7380136

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 3:pm

Location: Chuqach Streams

Address: Kenai Penn AK

Taken by: Susan McLane

Film: Fuji 100

Camera: Minolta Maxim

Description: Lee Glenn holding oil sample taken from mid stream Chuqach 100 yds upstream

ACE 7380137

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 2:55pm

Location: Chuqach Stream

Address: Kenai Penn AK

Taken by: Susan McLane

Film: Fuji 100

Camera: Minolta Maxim

Description: oil sample from mid stream 100 yds up-stream from mouth

ACE 7380138

ACE 10459566

OFFICIAL PHOTOGRAPH
Date: 6-29-89 Time: 4:20pm
Location: Chugach Bay
Address: Kenai P AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxim
Description: 30 ft band Kelp (oiled) slorg upper tidal zone head of Chugach Bay

ACE 7380139

OFFICIAL PHOTOGRAPH
Date: 6-29-89 Time: 4:20 pm
Location: Chugach Bay
Address: Kenai P AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxim
Description: Beach cleanup workers on west side of head of Chugach Bay

ACE 7380140

1-81
27.5

OFFICIAL PHOTOGRAPH
Date: 6-29-89 Time: 4:10 pm
Location: Head Chugach Bay
Address: Kenai P AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxum
Description: oiled log upper tide line

ACE 7380141

OFFICIAL PHOTOGRAPH
Date: 6-29-89 Time: 2:30pm
Location: Head of Chugach Bay
Address: Kenai P AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta SLR Maxim
Description: 4-wheeler tracks near river stream mouth scurvy oily debris

ACE 7380143

ACE 10459567

L.P. Glenn
Chugach Bay
c.

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 06/29/89 TIME: pm

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Chugach Bay

REASON FOR TAKING PHOTO: Cleaning rocks on south side of stream at mouth.

TAKEN BY: Lee Glenn INITIALS: _____

ROLL #: LPG-005 FRAME #: 02

ACE 7380144

6-29-89 p.m. Chugach Bay stream
L.P. Glenn
Collecting point on right side of stream for bags of oily debris. Photo taken at low tide.

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 06/29/89 TIME: pm

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Chugach Bay

REASON FOR TAKING PHOTO: Collection point on right side of stream for bags of oily debris. Photo taken at low tide.

TAKEN BY: Lee Glenn INITIALS: _____

ROLL #: LPG-005 FRAME #: 03

ACE 7380147

6-29-89 pm. Chugach Bay stream
L.P. Glenn
c.

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 06/29/89 TIME: pm

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Chugach Bay

REASON FOR TAKING PHOTO: Cleaning rocks on south side of stream.

TAKEN BY: Lee Glenn INITIALS: _____

ROLL #: LPG-005 FRAME #: 04

ACE 7380145

1-27
24.5

L.P. Glenn pm.
6-29-89
Aerial view Chugach
Rai
Exx

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 06/29/89 TIME: pm

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Chugach Bay

REASON FOR TAKING PHOTO: Aerial view of Chugach Bay and workers.

TAKEN BY: Lee Glenn INITIALS: _____

ROLL #: LPG-005 FRAME #: 07

ACE 7380146

L.P. Glenn pm.
6-29-89
Aerial view Chugach Bay
Ra
Exx

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 06/29/89 TIME: pm

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Chugach Bay

REASON FOR TAKING PHOTO: Aerial view of Chugach Bay.

TAKEN BY: Lee Glenn INITIALS: _____

ROLL #: LPG-005 FRAME #: 08

ACE 7380148

ACE 10459568

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 07/01/89 TIME: PM

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Head of Chugach Bay, Chugach Creek

REASON FOR TAKING PHOTO:Out house and trail that EXXON employee's usedto cary bags of oiled debris to beach from tide flats.

TAKEN BY: Rick Randall INITIALS: RDR

ROLL #: RDR-1 FRAME #: 02

ACE 7380149

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 07/01/89 TIME: PM

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Beach, Head of Chugach Bay, Chugach Creek

REASON FOR TAKING PHOTO:ADF&G chartered helicopter, Rick Farish, Alaska helicopters pilot, and Doug Hill, ADF&G employee.

TAKEN BY: Rick Randall INITIALS: RDR

ROLL #: RDR-1 FRAME #: 01

ACE 7380152

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 07/01/89 TIME: PM

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Head of Chugach Bay, Chugach Creek

N FOR TAKING PHOTO:EXXON clean-up crew loading bags of oiled debris onto barge.

TAKEN BY: Rick Randall INITIALS: RDR

ROLL #: RDR-1 FRAME #: 03

ACE 7380150

1-81 DIS

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 07/01/89 TIME: PM

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Head of Chugach Bay, Chugach Creek

REASON FOR TAKING PHOTO:ADF&G employee Doug Hill and EXXON clean-up crew.

TAKEN BY: Rick Randall INITIALS: RDR

ROLL #: RDR-1 FRAME #: 05

ACE 7380153

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 07/01/89 TIME: PM

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Head of Chugach Bay, Chugach Creek

EASON FOR TAKING PHOTO:Area where oiled grass on tide flats was removved by EXXON clean-up crews.

BY: Rick Randall INITIALS: RDR

ROLL #: RDR-1 FRAME #: 04

ACE 7380151

ACE 10459569 1/5

1989-AFHS | Site 1B-1 | Chugach Bay Creek

ASC NUMBER: 242-20-10190 SEGMENT NUMBER: CB-31 YR CATALOGED:
LOCATION: Chugach Bay, Head of Bay
STREAM NAME: Chugach Bay Creek
KODIAK K-UNIT: LOCAL STREAM #: LATITUDE:
USGS QUADRANGLE: Seldovia A-5 LONGITUDE:
SHORELINE TYPE: Beach, Lagoon LEGAL:
WAVE EXPOSURE: Moderate ALL SEGMENTS:

DATA 10/2/91

ASC NUMBER:
SURVEY TYPE: ~~BS~~ SS
METHOD: ~~Ground~~ FOOT
DATE: ~~7/3~~ 7/3-5/89
START TIME: 1030 1230
STOP TIME: 1200 1330

TEAM RECORDER: Doug Hill
OBSERVERS: 7/3/89 Frank Chesnik (USCG)
AGENCY(IES): ADF&G
PHOTOS TAKEN?
Roll #: Frames:
VIDEO TAKEN? Tape Number:
Counter Start:

SAMPLES TAKEN?
SAMPLE I.D. NUMBERS: 1. CBCRK-DDH-7/3/89-A 2. CBCRK-DDH-7/3/89-B 3.
4. 5. 6.

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	See opposite side of Page					—	
SITE 2	13.7	4.6	63.5	25	<5.0	—	MS, TP, TB, OR
SITE 3	137.2	1.0	137.2	40	<3.5	—	MS, TP, TB, OR
SITE 4	64	3.0	192.0	5	2.5	—	TP, TB
SITE 5	2.4	.6	1.44	100	<5.0	—	TP, TB
Site 6	54.9	12.3	1005		2.5	—	MS, TP, TB

OVERALL OIL IMPACT: H

OIL IN STREAM CHANNEL? Yes

SUBSTRATE

Bedrock	10	Granule	30
Boulder		Sand	20
Cobble	10	Silt	
Pebble	30	Veget.	

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? y

SPECIES	Pink Salmon Fry				
COUNT	10 scoliotic(1)				

COMMENTS: The oiled portion of this stream does not recieve the high wave energy that beach adjacent the stream mouth recieves. The oil is ~~sheltered~~ from much of the wave energy by a bluff and by being upstream of a large berm. Although cleanup work was requested only a 'token' effort occurred in 1989.

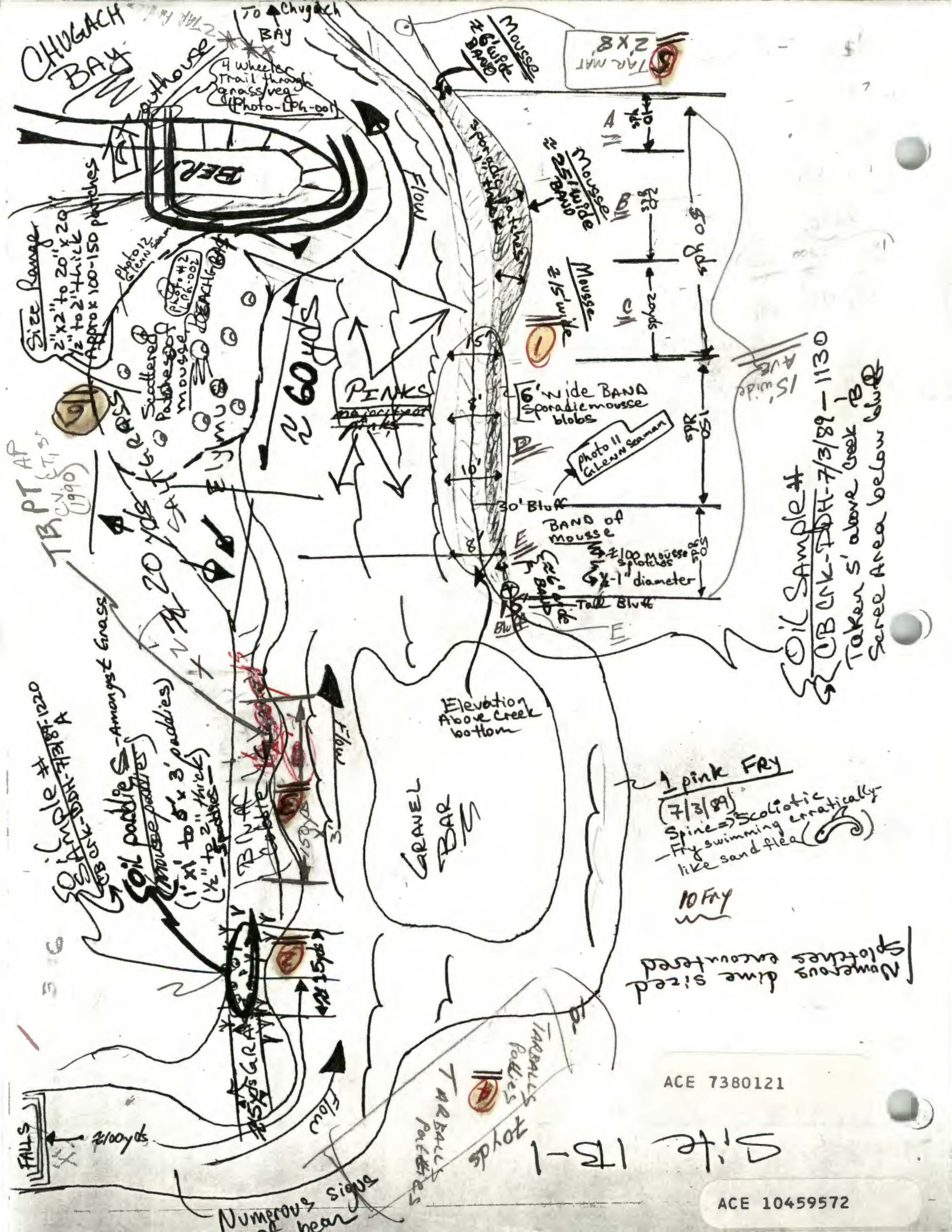
** TB, TP were found sporadically from the stream mouth to the 90° degree bend below the falls - 480 meters above the stream mouth on the north shore and approx. 465 above the mouth on the South Shore. Tarballs were found on the bars in the stream channel also. The oiling dimensions in the box represent consolidated oiled areas and not the sporadic Tarballs mentioned above.

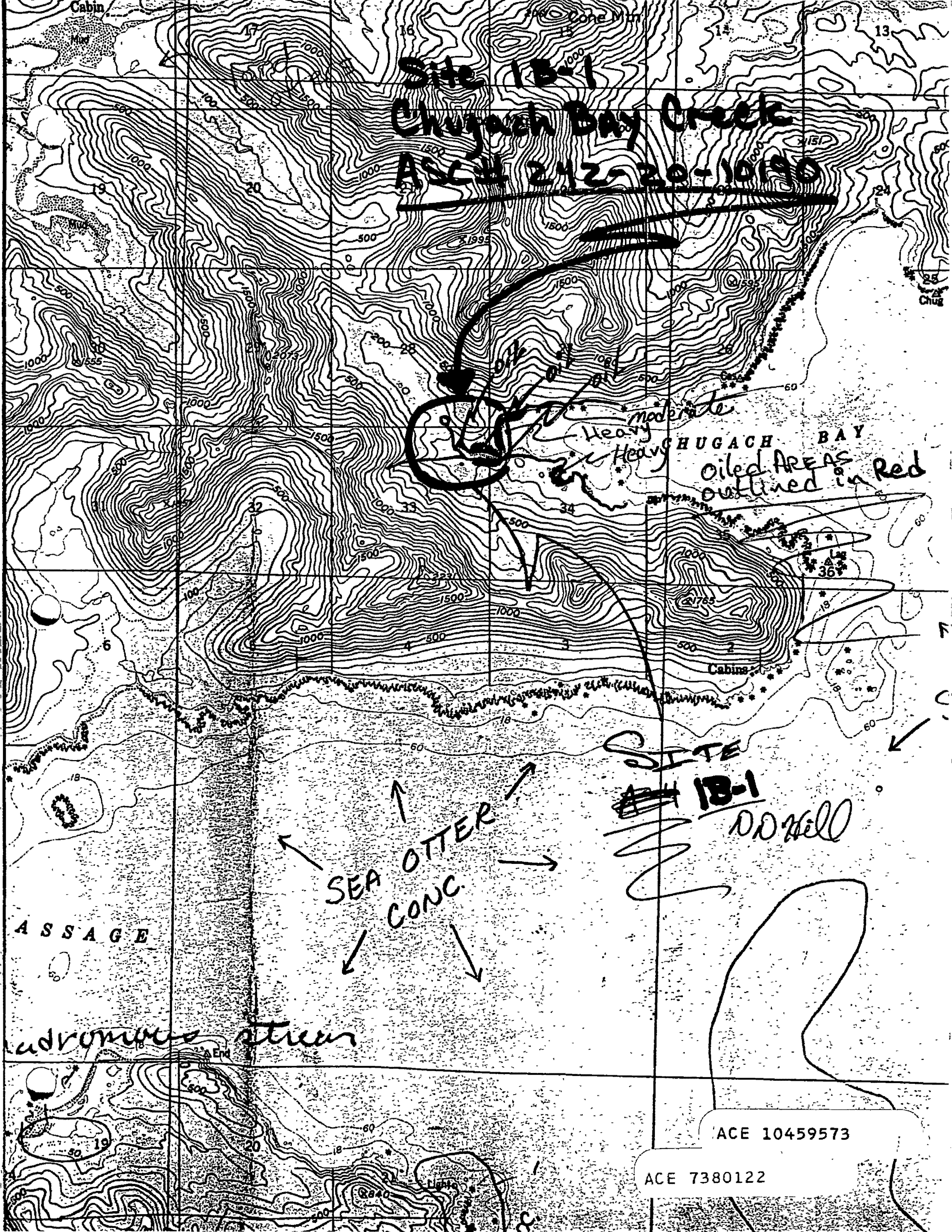
The grass on the flats has been grazed on by a bear. Ducks (mallards and teal) are frequently on the lagoons.

ACE 10459570 +S

Oil Coverage

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1 A	9.2	1.8	16.6	70	2.5	—	MS, TP, HOR
SITE 1 B	18.3	5.5	100.7	70	2.5	—	MS; TP, HOR
SITE 1 C	18.3	4.6	84.2	70	2.5	—	MS, TP, HOR
SITE 1 D	137.2	1.8	247.0	50	2.5	—	MS; TP, HOR
SITE 1 E	45.7	1.8	82.3	15%	2.5	—	MS


CHUGACH BAY
To Chugach BAY
4 Wheeler Trail through grass/veg (Photo-LPh-001)
Outhouse
BEACH
Size Range 2"x2" to 20"x20"x2" thick Approx 100-150 particles
Photo 12 Glenn Seaman
Photo #2 (LPh-002)
Scattered Patches of mousse
BEACH
FLOW
~60 yds
PINKS
Mousse #6' wide BAND
Sporadic patches
Mousse ~25' wide BAND
Mousse ~15' wide
6' wide BAND sporadic mousse blobs
Photo 11 Glenn Seaman
30' Bluff
BAND of mousse
~100 mousse splotches ½-1" diameter
Tall Bluff
Oil Sample # CB ENK-LPH-7/3/89-1130
Taken 5' above creek in Scree Area below cliff
TB PT AP (1990)
~20 yds
Soil Sample # CB ENK-LPH-7/3/89-1220
Soil paddies (1'x1' to 5'x3' paddies) (½" to 2" thick)
Amongst Grass
Elevation Above Creek bottom
GRAVEL BAR
1 pink FRY (7/3/89) Spine => Scoliotic - Fry swimming erratically like sand flea
10 Fry
Numerous dime sized splotches encountered
FALLS
~100 yds
Numerous sign
~70 yds
HAIRBALL patches
ACE 7380121
ACE 10459572



Site 1B-1

DATE	By	ROLL #	Exposure #	Chugach Bay Creek - Head of Bay Beach
5/15/89	Glenn Seaman		14	Beach at head of Chugach - heavily oiled
"	"		15	heavily Oiled upper tide line head of Chugach
"	"		16	moderately heavily Oiled Rocks head of Chugach
"	"		17	Closer shot of (16)
"	"		18	Oiled boulder
"	"		19	oil - hi tide Line
"	"		20	Oiled organic debris at hi tide line
"	"		21	oil - is at upper berm
"	"		22	" " " " "
6/4/89	Lee Glenn	LPG-001	21	Mousse patties washed in w/kelp
"	"	"	22	Bundle of Material Collection bags which appeared as having been left by previous workers
"	"	"	23	Beach workers picking up mousse
"	"	"	24	looking forward mouth of stream - kelp mixed with oil.
"	"	"	12	Reoiled after storm.
"	"	"	13	Reoiled beach Workers arrive after several days
"	"	"	14	Heavy sheen in saltwater
"	"	"	15	Cleanup workers on beach
"	"	"	17	Dead Beach on heavily oiled beach
"	"	"	18	Bags of oil left from previous days - Bags hit by hi tide
"	"	"	00	4 wheeler running over beach berm
"	"	"	01	4 wheeler ruts
"	"	"	19	light portion of Photo - heavily oiled
"	"	LPG-002	02	Oil picked up from grass in foreground - upstream of berm
"	"	"	03	4 wheeler damage to beach berm
"	"	"	04	Road created by wheeler
"	"	"	05	" " " "
"	"	"	06	Bag collection site - mouth of stream
"	"	"	07	Chugach Main beach mouth of stream in backgrd
"	6/07/89	"	15	Aerial - Mouth of Chugach - Booms

ACE 10459574

ACE 7380123

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 3:22 pm
Location: Chugach Stream- Bay
Address: Kenai P. AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxum
Description: Sheen on edge of Chugach Stream 50 yds (approx) upstream

ACE 7380128

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 3:55pm
Location: Head of Chugach Bay
Address: Kenai P. AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxum
Description: hole dug 10-12" deep upper tide zone (saturated w/ Mousse)

ACE 7380125

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 3:22 pm
Location: Chugach Bay- stream
Address: Kenai P. AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxum
Description: Sheen on edge of Chugach Stream (50 yds) upstream

ACE 7380127

Site 1B-1

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 3:30pm
Location: Head of Chugach Bay
Address: Kenai P. AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxum
Description: cut near edge of Chugach stream created by 4 wheeler carrying oily debris

ACE 7380126

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 3:31pm
Location: Head of Chugach Bay
Address: Kenai P. AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxum
Description: Trail worn through Beachgrass by cleanup workers

ACE 7380124

ACE 10459575

OFFICIAL PHOTOGRAPH
Date: 6-29-89 Time: 3:16 pm
Location: Chugach Stream
Address: Kenai Penn, AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxim
Description: moose patty along side Chugach Stream 120 yds upstream

ACE 7380129

OFFICIAL PHOTOGRAPH
Date: 6-29-89 Time: 3:10 pm
Location: Chugach Stream
Address: Kenai Penn. AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxim
Description: moose patty in stream channel Chugach Creek 120 yds upstream

ACE 7380132

OFFICIAL PHOTOGRAPH
Date: 6-29-89 Time: 3:15 pm
Location: Chugach Stream
Address: Kenai Penn. AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxim
Description: moose patty near edge of Chugach Stream 25 yds upstream

ACE 7380130

OFFICIAL PHOTOGRAPH
Date: 6-29-89 Time: 3:10 pm
Location: Chugach Stream
Address: Kenai Penn. AK.
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxim.
Description: Lee Glenn holding pit same (taken as evidence) Chugach Stream

ACE 10459576

ACE 7380133

Site 1B-1

OFFICIAL PHOTOGRAPH
Date: 6-29-89 Time: 3:30 pm
Location: Chugach Bay - stream
Address: Kenai Penn. Ak
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxim
Description: moose patty along side of Chugach Bay (Lee Glenn's Island) looking upstream

ACE 7380131

OFFICIAL PHOTOGRAPH
Date: 6-29-89 Time: 4:00pm
Location: Head of Chugach Bay
Kenai P AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxum
Description: oiled logs and pebbles mid of Chugach Bay head

ACE 7380134

OFFICIAL PHOTOGRAPH
Date: 6-29-89 Time: 3:pm
Location: Chugach Streams
Address: Kenai Penn AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxima
Description: Lee Glenn holding oil sample taken from mid stream (Chugach) 100 yds upstream

ACE 7380137

OFFICIAL PHOTOGRAPH
Date: 6-29-89 Time: 2:40pm
Location: Chugach Bay (head)
Address: Kenai Penn.
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxima
Description: city debris containment area

ACE 7380135

1-81
2:15

ACE 7380136

OFFICIAL PHOTOGRAPH
Date: 6-29-89 Time: 2:55pm
Location: Chugach Stream
Address: Kenai Penn AK
Taken by: Susan McLane
Film: Fuji 100
Camera: Minolta Maxima
Description: oil sample from mid stream 100 yds up-stream from mouth

ACE 7380138

ACE 10459577

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 4:20pm

Location: Chugach Bay

Address: Kenai P AK

Taken by: Susan McLane

Film: Fuji 100

Camera: Minolta Maxum

Description: 30 ft band Kelp (oiled) along upper tidal zone head of Chugach Bay

ACE 7380139

ACE 7380142

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 4:20pm

Location: Chugach Bay

Address: Kenai P. AK

Taken by: Susan McLane

Film: Fuji 100

Camera: Minolta Maxim

Description: Beach cleanup workers on west side of head of Chugach Bay

ACE 7380140

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 4:10 pm

Location: Head Chugach Bay

Address: Kenai P AK

Taken by: Susan McLane

Film: Fuji 100

Camera: Minolta Maxum

Description: oiled log upper tide line

ACE 7380141

OFFICIAL PHOTOGRAPH

Date: 6-29-89 Time: 2:30pm

Location: Head of Chugach Bay

Address: Kenai P AK

Taken by: Susan McLane

Film: Fuji 100

Camera: Minolta SLR Maxim

Description: 4-wheeler tracks made near stream mouth carrying oily debris

ACE 7380143

ACE 10459578

6-29-89
L.P. Glenn
Chugach Bay

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 06/29/89 TIME: pm

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Chugach Bay

REASON FOR TAKING PHOTO: Cleaning rocks on south side of stream at mouth.

TAKEN BY: Lee Glenn INITIALS: _____

ROLL #: LPG-005 FRAME #: 02

ACE 7380144

6-29-89 p.m. Chugach Bay stream
L.P. Glenn
Collecting point on river -

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 06/29/89 TIME: pm

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Chugach Bay

REASON FOR TAKING PHOTO: Collection point on right side of stream for bags of oily debris. Photo taken at low tide.

TAKEN BY: Lee Glenn INITIALS: _____

ROLL #: LPG-005 FRAME #: 03

ACE 7380147

6-29-89 pm. Chugach Bay stream
L.P. Glenn

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 06/29/89 TIME: pm

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Chugach Bay

REASON FOR TAKING PHOTO: Cleaning rocks on south side of stream.

TAKEN BY: Lee Glenn INITIALS: _____

ROLL #: LPG-005 FRAME #: 04

ACE 7380145

L.P. Glenn pm.
6-29-89
Aerial view Chugach B
Roll
Fram

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 06/29/89 TIME: pm

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Chugach Bay

REASON FOR TAKING PHOTO: Aerial view of Chugach Bay and workers.

TAKEN BY: Lee Glenn INITIALS: _____

ROLL #: LPG-005 FRAME #: 07

ACE 7380146

L.P. Glenn pm.
6-29-89
Aerial view Chugach Bay
Roll
Frame

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 06/29/89 TIME: pm

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Chugach Bay

REASON FOR TAKING PHOTO: Aerial view of Chugach Bay.

TAKEN BY: Lee Glenn INITIALS: _____

ROLL #: LPG-005 FRAME #: 08

ACE 7380148

ACE 10459579

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 07/01/89 TIME: PM

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Head of Chugach Bay, Chugach Creek

REASON FOR TAKING PHOTO:Out house and trail that EXXON employee's usedto cary bags of oiled debris to beach from tide flats.

TAKEN BY: Rick Randall INITIALS: RDR

ROLL #: RDR-1 FRAME #: 02

ACE 7380149

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 07/01/89 TIME: PM

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Beach, Head of Chugach Bay, Chugach Creek

REASON FOR TAKING PHOTO:ADF&G chartered helicopter, Rick Farish, Alaska helicopters pilot, and Doug Hill, ADF&G employee.

TAKEN BY: Rick Randall INITIALS: RDR

ROLL #: RDR-1 FRAME #: 01

ACE 7380152

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 07/01/89 TIME: PM

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Head of Chugach Bay, Chugach Creek

N FOR TAKING PHOTO:EXXON clean-up crew loading bags of oiled debris onto barge.

TAKEN BY: Rick Randall INITIALS: RDR

ROLL #: RDR-1 FRAME #: 03

ACE 7380150

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 07/01/89 TIME: PM

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Head of Chugach Bay, Chugach Creek

REASON FOR TAKING PHOTO:ADF&G employee Doug Hill and EXXON clean-up crew.

TAKEN BY: Rick Randall INITIALS: RDR

ROLL #: RDR-1 FRAME #: 05

ACE 7380153

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: HOMER DATE: 07/01/89 TIME: PM

SEGMENT#: CB-3 STATION#: -0-
LOCATION: Head of Chugach Bay, Chugach Creek

REASON FOR TAKING PHOTO:Area where oiled grass on tide flats was removved by EXXON clean-up crews.

BY: Rick Randall INITIALS: RDR

ROLL #: RDR-1 FRAME #: 04

ACE 7380151

ACE 10459580 - 15-D