1989-AFHS Site 1-7 Tonsina Bay - NW

ASC NUMBER: 232-10-10342 SEGMENT NUMBER: TB-03 YR CATALOGED:
LOCATION: Tonsina Bay - Head of Bay - NW portion
STREAM NAME: Tonsina NW Creek
KODIAK K-UNIT: . LOCAL STREAM #:
USGS QUADRANGLE: Seldovia B-3
SHORELINE TYPE: Beach, cove, tideflats ALL SEGMENTS:
WAVE EXPOSURE: Low
LATITUDE: 59 18 37
LONGITUDE: 150 57 06
LEGAL: S 10S 10W15

ASC NUMBER:
SURVEY TYPE: BS
METHOD: Ground
DATE: / /
START TIME:
STOP TIME:
this summary, MAP + oiling summary box is a Composite of numerous surveys.

TEAM RECORDER: Doug Hill
OBSERVERS: Lee Glenn
AGENCY(IES): ADF&G
PHOTOS TAKEN? Y
Roll #: Frames:
VIDEO TAKEN? Y Tape Number:
Counter Start:

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

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	205	9.0	1886	30	< 4	—	oil saturated sediment (Hvy) MS, TAR, CV, CT, ST, TB, TP
SITE 2	40	5.5	220	45	< 4	—	oil saturated sediment (Hvy) MS, TAR, CV, TB, TP
SITE 3	55	9.0	495	35	< 4	—	oil saturated sediment (Hvy) MS, TAR, FB, TP
SITE 4	5.0	5.0	25	—	—	—	Sheen
SITE 5	27	18	486	5	—	—	2x2m formats MS, FORMATS

OVERALL OIL IMPACT: H

Oiling Summary Box Continued on other Side ⟹

OIL IN STREAM CHANNEL? N

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Yes

SUBSTRATE

Bedrock	10	Granule	
Boulder	20	Sand	10
Cobble	20	Silt	
Pebble	50	Veget.	

SPECIES					
COUNT					

COMMENTS: Extensive cleanup occurred at this site (manual removal of oil, cold water flooding (deluge), log burning and Corstomblen and Inipol applications. MAP # 1 is the most accurate oiling map. However the oil depicted on this map does not represent the initial coat of oil. To my knowledge NO ADF&G personnel surveyed +/or recorded the degree of oiling prior to cleanup activities. Nearly all of Tonsina Bay shoreline recieved some degree of oil. the majority of oil landed on the east side of the creek. Oil was found interstitally and beneath boulders, cobbles, pebbles + granules. Oil was found right to the edge of the salmon stream on the vegetated portion of the stream shoreline (light tar-like oil + sheen)

ACE 9961720 +1S/C

TB-03
TONSINA BAY - NW Creek

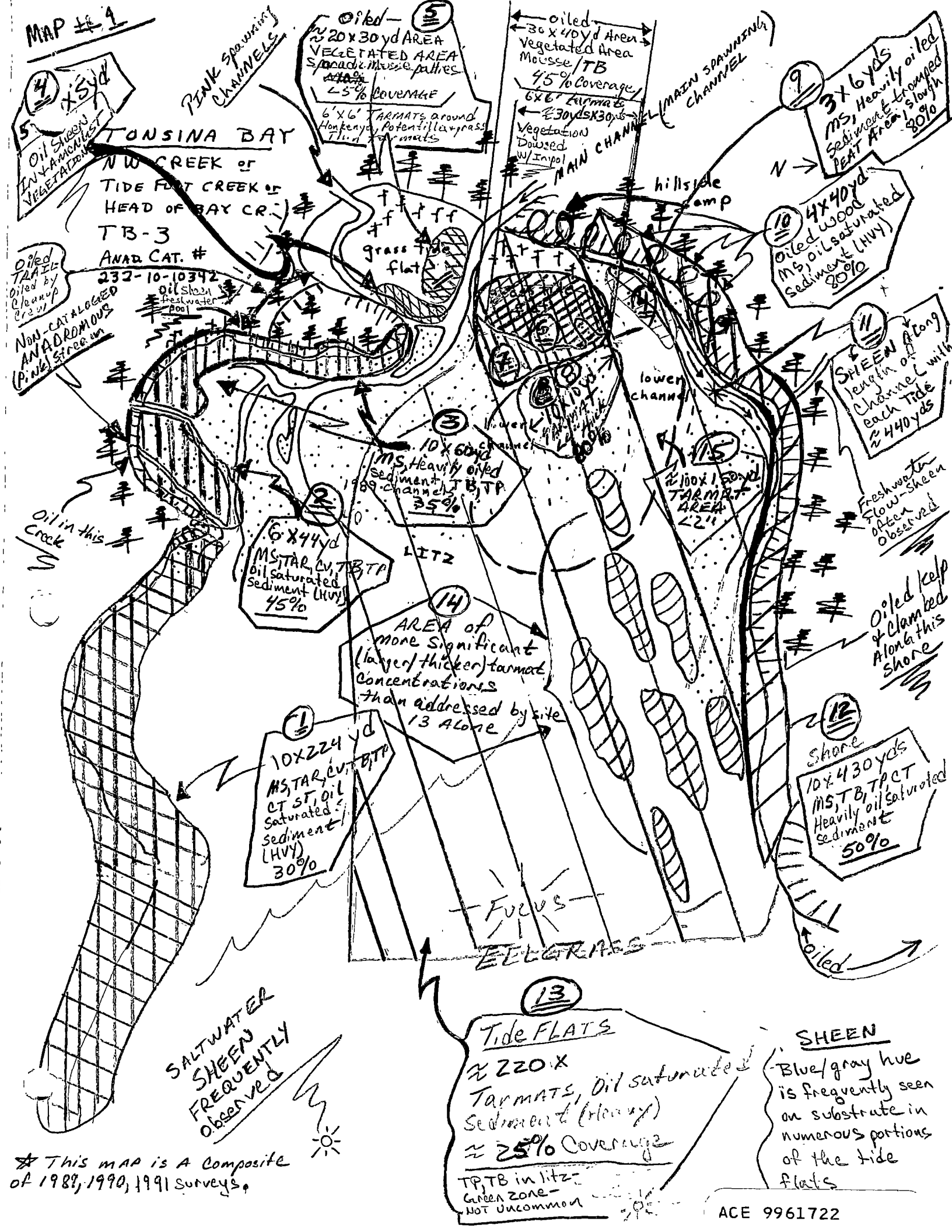
oiling Summary Continued

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 6	(Added from 8/19/89 surveys) 27	27	VEGETATION Downed w/ (Honckenya spp, Plantago spp, Silverweed)			Inipol by trailer sprayer (8/19/89)	
SITE 7	37	27	999	45	< 3	< 10	MS, TB, Tarmats
SITE 8	9.0	9.0	81	80	< 10	< 10	TARMAT
SITE 9	6.0	3.0	18	80	?	± 10	MS, Heavily oiled peat-like sediment, very wet
SITE 10	37	4.0	148	80	?	?	MS, oil saturated sediment (HVY), oiled wood (ST, CT, CV)
SITE 11	402	2.0	—	—	—	—	Periodic sheen on Channel surface
SITE 12	393	9.0	3537	40	< 10	?	MS, TB, TA, CT, Heavily oil saturated sediment
SITE 13	490	220	107,800	25	< 2	5	Tarmats, Oil saturated sediment (HVY).
SITE 14	—	—	—	—	< 10	5	TARMATS on edge of tide flats
SITE 15	137	91	12467	40	< 5	—	Tarmats

Comments Cont'd:

- The oil sample was taken 15 yds from the stream on the east side of the creek.
- Vertical bands of oil up to three ~~feet~~ wide present on dead standing trees on North shore of stream - North end of flats (Alot of oiled wood + debris in this area).

ACE 9961721


MAP # 1
TONSINA BAY
NW CREEK or
TIDE FLAT CREEK or
HEAD OF BAY CR.
TB-3
ANAD CAT. #
232-10-10342
PINK spawning CHANNELS
oiled
~20x30yd AREA
VEGETATED AREA
Sporadic Mousse patches
<5% COVERAGE
6'X6' TARMATS around Honkenya, Potentilla grass
Third Tarmats
oiled
30x40yd Area
Vegetated Area
Mousse/TB
45% Coverage
6x6' tarmats
~30yds x 30yds
Vegetation
Doused w/Inipol
MAIN CHANNEL
(MAIN SPAWNING CHANNEL)
hillside camp
grass tide flats
lower channel
Oil Sheen IN+AMONG VEGETATION
Oiled TRAIL Oiled by Cleanup Crew
NON-CATALOGED ANADROMOUS (Pink) Stream
Oil sheen freshwater pool
Oil in this Creek
LITZ
10x60yd MS, Heavily oiled sediment channels TB,TP 35%
6'x44yd MS,TAR,CV,TB,TP Oil saturated Sediment (HVY) 45%
10x10yd TARMAT Light 30%
~100x150yd TARMAT AREA <2"
3x6yds MS, Heavily oiled sediment trampled PEAT Area, slough 80%
4x40yd Oiled WOOD MS, oil saturated sediment (HVY) 80%
SHEEN Along length of Channel with each Tide ~440yds
Freshwater Slow-Sheen often observed
AREA of more Significant (layer/thicker) tarmat Concentrations than addressed by site 13 alone
10x224yd MS,TAR,CV,TB,TP CT ST, Oil Saturated Sediment (HVY) 30%
Oiled kelp & clam bed Along this shore
10x430yds MS,TB,TP,CT Heavily oil saturated sediment 50%
Fucus
EELGRASS
oiled
SALTWATER SHEEN FREQUENTLY observed
Tide FLATS
~220x Tarmats, Oil saturated Sediment (HVY)
~25% Coverage
TP,TB in litz- Green zone- NOT UNCOMMON
SHEEN
-Blue/gray hue is frequently seen on substrate in numerous portions of the tide flats
* This MAP is A Composite of 1989, 1990, 1991 surveys.
ACE 9961722

State of Alaska
Department of Fish and Game
Nomination for Waters
Important to Anadromous Fish

Year of Revision

TONSINA BAY
Anadromous Water Catalog Volume Southcentral Region

USGS Quad Seldovia B-3

1-7

Name of Waterway None Known ("Tidal Flats Creek" for NW CREEK purposes here)

Anadromous Water Catalog Number of Waterway NC

Change to _____ Atlas

_____ Catalog

_____ Both

Addition X

Deletion _____

Correction _____

Name addition:

USGS name None

Local name None

For Office Use

Nomination # _____

Regional Supervisor _____ Date _____

_____ _____

Drafted _____ Date _____

Species	Date(s) Observed	Spawning	Rearing	Migration
Pink Salmon	8/16/89, 8/19/89, 8/22/89	X		

Comments: Provide any clarifying information, including number of fish observed, location of fish survey data, etc.

400 Pink Salmon Observed

100 yards of stream surveyed-from saltwater upstream 100 yards.

Pinks observed over entire 100 yards

~~Original data on file with state EXXON VALDEZ OIL SPILL lawyers(Rite In Rain)~~

Attach a copy of a map showing location of mouth and upper points of each species, specific stream reaches identified for spawning or rearing, locations of barriers, such as falls. Attach a copy of the fish survey data, if available.

Name of Observer (please print) Douglas D. Hill

Date: 12/13/89 Signature: Douglas D Hill

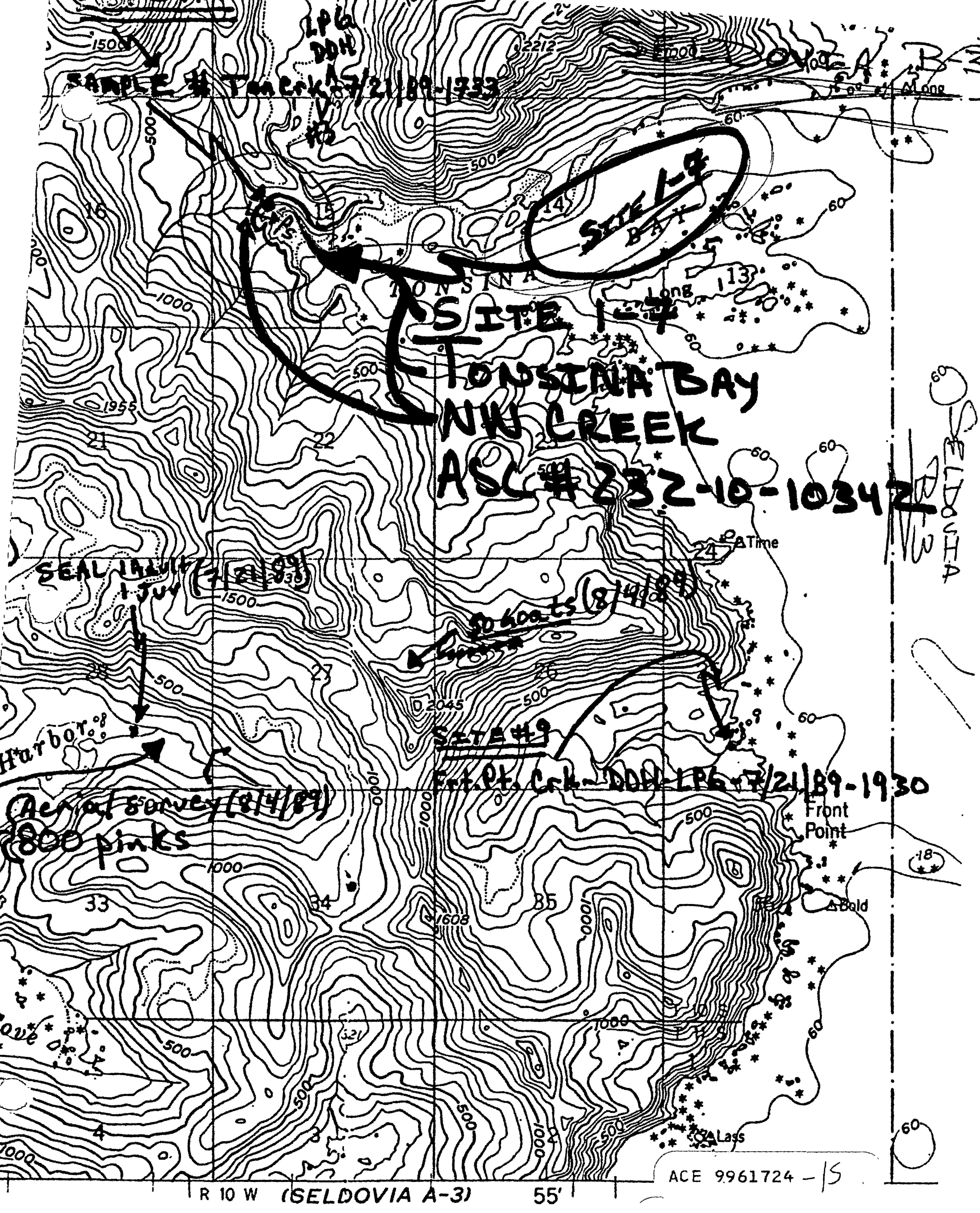
Address: Oil Spill Response Center

509 Sterling Hwy., Homer, Alaska 99603 235-5322

Signature of Area Biologist: _____

ACE 9961723

ACE 7380176



SCA: E 1:63360

ACE 7380181

2 3

1989 Site 1-7 Tonsina Bay NW Creek

ASC NUMBER: 232-22-10342 SEGMENT NUMBER: TB-03 YR CATALOGED:
LOCATION: Tonsina Bay-Head of Bay-NW Portion
STREAM NAME: Tonsina NW Creek
KODIAK K-UNIT: . LOCAL STREAM #: LATITUDE: 59 18 37
USGS QUADRANGLE: seldovia LONGITUDE: 150 57 06
SHORELINE TYPE: Beach, Cove, Tide Flats ALL SEGMENTS: LEGAL: S10S 10W15
WAVE EXPOSURE: Low

ASC NUMBER:
SURVEY TYPE: ~~BS~~ 89 - TREATMENT Monitoring
METHOD: ~~Ground~~ FOOT
DATE: 8/22/89
START TIME: ~~1140~~ 1130 DDH
STOP TIME: 1150

TEAM RECORDER:
OBSERVERS:
AGENCY(IES): DDH 10/4/91

PHOTOS TAKEN?
Roll #: 89DDH27H Frames: 10→17
VIDEO TAKEN? Tape Number: 89-RDR-001-H-V
Counter Start: 0001→0327

SAMPLES TAKEN? Yes
SAMPLE I.D. NUMBERS: 1. DDH/RDR-8/22/89-1130 2. DDH/RDR-8/22/89-1135 3. DDH/RDR-8/22/89-1140
4. 5. 6.

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

OVERALL OIL IMPACT: H

OIL IN STREAM CHANNEL? N

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Y

SUBSTRATE

Bedrock	10	Granule	
Boulder	10	Sand	10
Cobble	20	Silt	
Pebble	50	Veget.	

SPECIES	Pink SALMON				
COUNT	~~400~~				

COMMENTS: Sample # DDH/RDR-8/22/89-1130 is Potentilla ~~sp~~ that was sprayed with Inipol on 8/19/81.

Sample # DDH/RDR-8/22/89-1135 is Honckenya ~~sp~~ that was sprayed with Inipol on 8/19/89

Sample # DDH/RDR-8/22/89-1140 is Fucus that was sprayed with Inipol on 8/19/89.

Exxon officials arrive and post "Warning"-Bioremediation Fertilizer been applied here-"Avoid Contact" signs.

ACE 9961750 +/SG

OPPOSITE side of PAGE

- An ~30 yard x 30 yard vegetated area was doused with Inipol by trailer Sprayer. Numerous patches of Sulus were also doused with Inipol. The vegetation doused was within 30 feet of ANAD. stream. Neither the Exxon nor the crew supervisor monitored this operation properly, i.e., lack of time spent with crew during operation

Inipol Samples
(BEACHGREENS)

FISH HABITAT ASSESSMENT FORM

TONSINA BAY – TB-3 (Oil Reference = Site 1-7)

[1]REGION: [2]FWS (KP,CI) [4]K,AP [5]OBSERVER(S) Doug Hill, Rick Randall

[6]SITE NO. 12-1 [7]AERIAL PHOTO NO. 13,13 [8]CAT NO. NC

[9]STREAM NAME _____ [10]LAT ___°___.___' [11]LONG ___°___.___'

[12]DATE 8/22/89 [13]TIME 1130 [14]TIDE: Low slack Flood High slack Ebb

[15]CATALOGED ANADROMOUS STREAM? (Y) N [16]ANAD. FISH FOUND? (Y) N

[17]OIL FOUND IN STREAM? Y N [18]OIL FOUND NEAR STREAM (1 MI.)? Y N

[19]OIL SAMPLES TAKEN? Y N [20]ID NOS. SEE Next PAGE
Vegetation doused w/Inipol

[21]35 MM PICTURES TAKEN? (Y) N [22]ROLL NO(S). 89DDH23H
89DDH24H
89DDH27H

[23]EXPOSURE NO.	[24]DESCRIPTION
Roll #23 & #24 11,12,13	Applying Inipol to beach Greens with trailer Sprayer
18	Trailer Sprayer tracks thru vegetation (Inipoling)
Roll #27 → 12,13	Aerial of trailer sprayer through Vegetation (Inipol)

ACE 9961752 +5

[25]VIDEO FOOTAGE TAKEN? (Y) N [26]CASSETTE NO(S). 89RDR-001-H-Video

[27]DESCRIPTION: 001-026 (Aerial of Streammouth & tide flats), 0027 → 0099 (Inipoled beach Greens), 0100-0285 (Inipoled Greens being sampled) 0286-0327 (Inipoled Gravel portion of Tide flats)

ACE 7380388

ANADROMOUS FISH OBSERVATIONS

	PINK	CHUM	RED	KING	COHO	DOLLY		
28 Aerial	400							
29 Ground	100							

30 COMMENTS: 8/19/89 in Log book

Site N/U

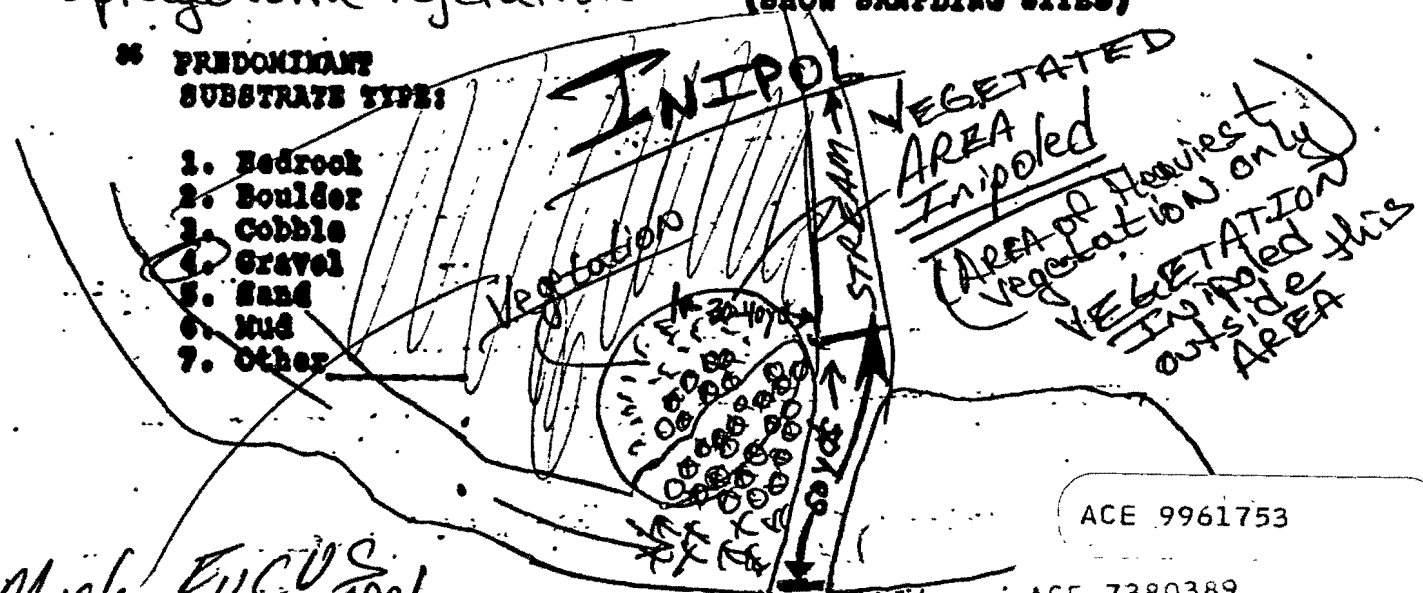
OIL OBSERVATIONS

EXTENT OF OIL:

	WITHIN STREAM	OUTSIDE STREAM
31 SURFACE COVERAGE		
32 SURFACE THICKNESS		
33 PENETRATION		

HEAVIEST VEGETATION
30 X 30 yd AREA OF VEG. Sprayed with Vegetation

34 OIL DISTRIBUTION DIAGRAM (SHOW SAMPLING SITES)

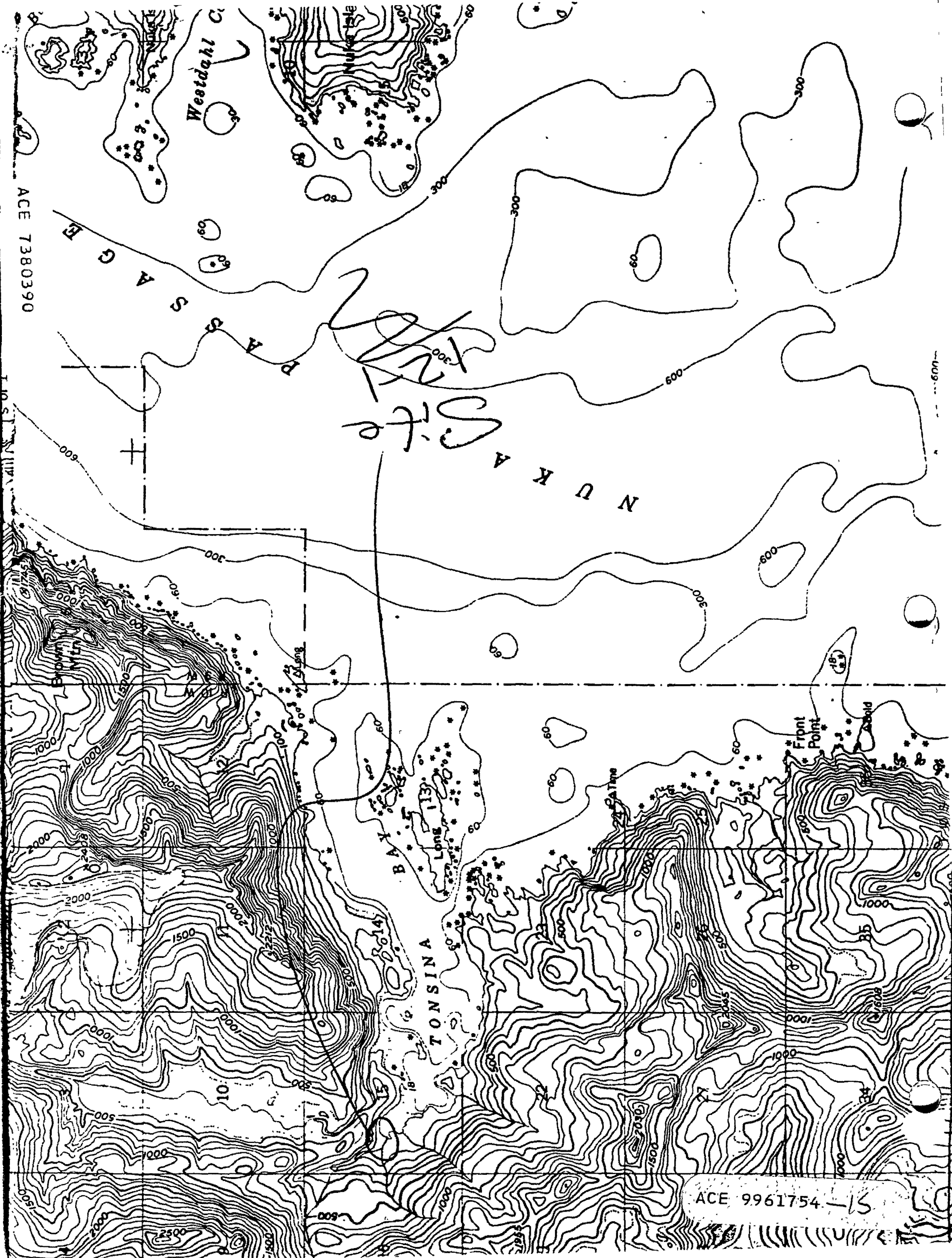


35 PREDOMINANT SUBSTRATE TYPE:

1. Bedrock
2. Boulder
3. Cobble
4. Gravel
5. Sand
6. Mud
7. Other

Much Fucus Doused w/ Inipol

36 COMMENTS: Inipol Samples: Potentilla-DDH/RDR-8/22/89-1130
Honckenya - DDH/RDR-8/22/89-1135
Fucus - DDH/RDR-8/22/89-1140



FISH HABITAT ASSESSMENT FORM

[1]REGION: [2]PWS ([3]KP,CI) [4]K,AP [5]OBSERVER(S) Hill, Randall

[6]SITE NO. 1-7 [7]AERIAL PHOTO NO. 10 [8]CAT NO. 232-22-10342

[9]STREAM NAME Tonsina NW Creek [10]LAT 59 ° 18 . 37 ' [11]LONG 150 ° 57 . 06 '

[12]DATE 8/22/89 [13]TIME 1114 [14]TIDE: Low slack Flood High slack Ebb

[15]CATALOGED ANADROMOUS STREAM? Y (N) [16]ANAD. FISH FOUND? (Y) N

[17]OIL FOUND IN STREAM? Y (N) [18]OIL FOUND NEAR STREAM (1 MI.)? (Y) N

[19]~~OIL~~ Inipoled vegetation SAMPLES TAKEN? (Y) N [20]ID NOS. DDH/RDR-8/22/89-1130 / -1135 / -1140

[21]35 mm PICTURES TAKEN? (Y) N [22]ROLL NO(S). 89DDH27H

[23]EXPOSURE NO.	[24]DESCRIPTION
10	Aerial of TB-03 Tide flats - NW Portion of Tonsina Bay
11,12,13	Aerial of TB-03 Tide flats / 4-wheeler/trailer sprayers track in vegetation and gravel visible in photo / to some degree delineates vegetated area doused with Inipol
14,15,16,17	"Warning Bioremediated Area Sign"

[25]VIDEO FOOTAGE TAKEN? (Y) N [26]CASSETTE NO(S). 89-RDR-001-H-Video/

[27]DESCRIPTION: 0001→0325 ⇒ Collection of Inipol Sprayed Vegetation - North shore of Stream
Aerial of Creek mouth / General footage of oiling + WARNING - Bioremed. Site Signs
SEE Also ⇒ 89-LPG-004-H-Video/0345-1864 ⇒ Oil found below tideline, tarballs washed up on to vegetation - Numerous puddles of oil visible among vegetation - were not as apparent when vegetation was tall; sheen kicked up from substrate below water

ACE 9961755-ISG

1989-AFHS Site 12-1 Tonsina Bay-NW Creek

ASC NUMBER: 232-10-10342 SEGMENT NUMBER: TB-03 YR CATALOGED:
LOCATION: Tonsina Bay, NW portion
STREAM NAME:
KODIAK K-UNIT: , LOCAL STREAM #:
USGS QUADRANGLE: Seldovia B-3
SHORELINE TYPE: Beach, Tide flats ALL SEGMENTS:
WAVE EXPOSURE: Low
LATITUDE: 59 18 37
LONGITUDE: 150 57 6
LEGAL: S 10S 10W 15

DRAFT 10/7/91

ASC NUMBER:
SURVEY TYPE: SS
METHOD: Foot
DATE: 8 / 22 / 89
START TIME: 1130
STOP TIME: 1150

TEAM RECORDER: Doug Hill
OBSERVERS: Rick Randall

AGENCY(IES): ADF&G

PHOTOS TAKEN? y
Roll #: 89DDH27H Frames: 10-17
VIDEO TAKEN? y Tape Number: 89RDR001-H-V
Counter Start: 001→0327

SAMPLES TAKEN? y
SAMPLE I.D. NUMBERS: 1. DDH/RDR-8/22/89-1130 2. DDH/RDR-8/22/89-1135 3. DDH/RDR-8/22/89-1140
4. 5. 6.

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

OVERALL OIL IMPACT: H

OIL IN STREAM CHANNEL? N

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? y

SUBSTRATE

Bedrock	10	Granule	
Boulder	10	Sand	10
Cobble	20	Silt	
Pebble	50	Veget.	

SPECIES	Pinks				
COUNT	400				

COMMENTS: Samples consist of vegetation ~~sprayed~~ coated with Inipol
#1 ⇒ Potentilla spp.
#2 ⇒ Honckenya spp.
#3 ⇒ Fucus.

ACE 9961756 +/S

- An ≈ 30yd x 30yd vegetated area was doused with Inipol by Trailer sprayer. ~~[illegible]~~ Numerous patches of Fucus were also doused with Inipol. The vegetation doused was within 30 feet of anadromous fish stream. Neither the Exxon nor the crew supervisor monitored this operation properly, i.e., ~~[illegible]~~ lack of time spent with crew during application.

Inipol Samples
(BEACH GREENS)

FISH HABITAT ASSESSMENT FORM

TONSINA BAY - TB-3 (Oil Reference = Site 1-7)

[1]REGION: [2]PWS (KP,CI) [4]K,AP [5]OBSERVER(S) Doug Hill, Rick Randall

[6]SITE NO. 12-1 [7]AERIAL PHOTO NO. 13,13 [8]CAT NO. NC

[9]STREAM NAME _____ [10]LAT ___°___.___' [11]LONG ___°___.___'

[12]DATE 8/22/89 [13]TIME 1130 [14]TIDE: Low slack Flood High slack Ebb

[15]CATALOGED ANADROMOUS STREAM? (Y) N [16]ANAD. FISH FOUND? (Y) N

[17]OIL FOUND IN STREAM? Y N [18]OIL FOUND NEAR STREAM (1 MI.)? Y N

[19]OIL SAMPLES TAKEN? Y N [20]ID NOS. SEE Next PAGE
Vegetation doused w/Inipol

[21]35 MM PICTURES TAKEN? (Y) N [22]ROLL NO(S). 89DDH23H
89DDH24H
89DDH27H

[23]EXPOSURE NO.	[24]DESCRIPTION
Roll #23 & #24 → 11,12,13	Applying Inipol to beach Greens with trailer Sprayer
18	Trailer Sprayer tracks thru vegetation (Inipoling)
Roll #27 → 12,13	Aerial of trailer sprayer through Vegetation (Inipol)

ACE 9961757

[25]VIDEO FOOTAGE TAKEN? (Y) N [26]CASSETTE NO(S). 89RDR-001-H-Video

[27]DESCRIPTION: 001-026 (Aerial of Streammouth & tide flats), 0027 → 0099 (Inipoled beach Greens), 0100-0285 (Inipoled Greens being sampled) 0286-0327 (Inipoled Gravel portion of Tide flats)

ACE 7380388

ANADROMOUS FISH OBSERVATIONS

	PINK	CHUM	RED	KING	COHO	DOLLY		
28 Aerial	400							
29 Ground	100							

30 COMMENTS: 8/19/89 in Log book

Site 12-1

OIL OBSERVATIONS

EXTENT OF OIL:

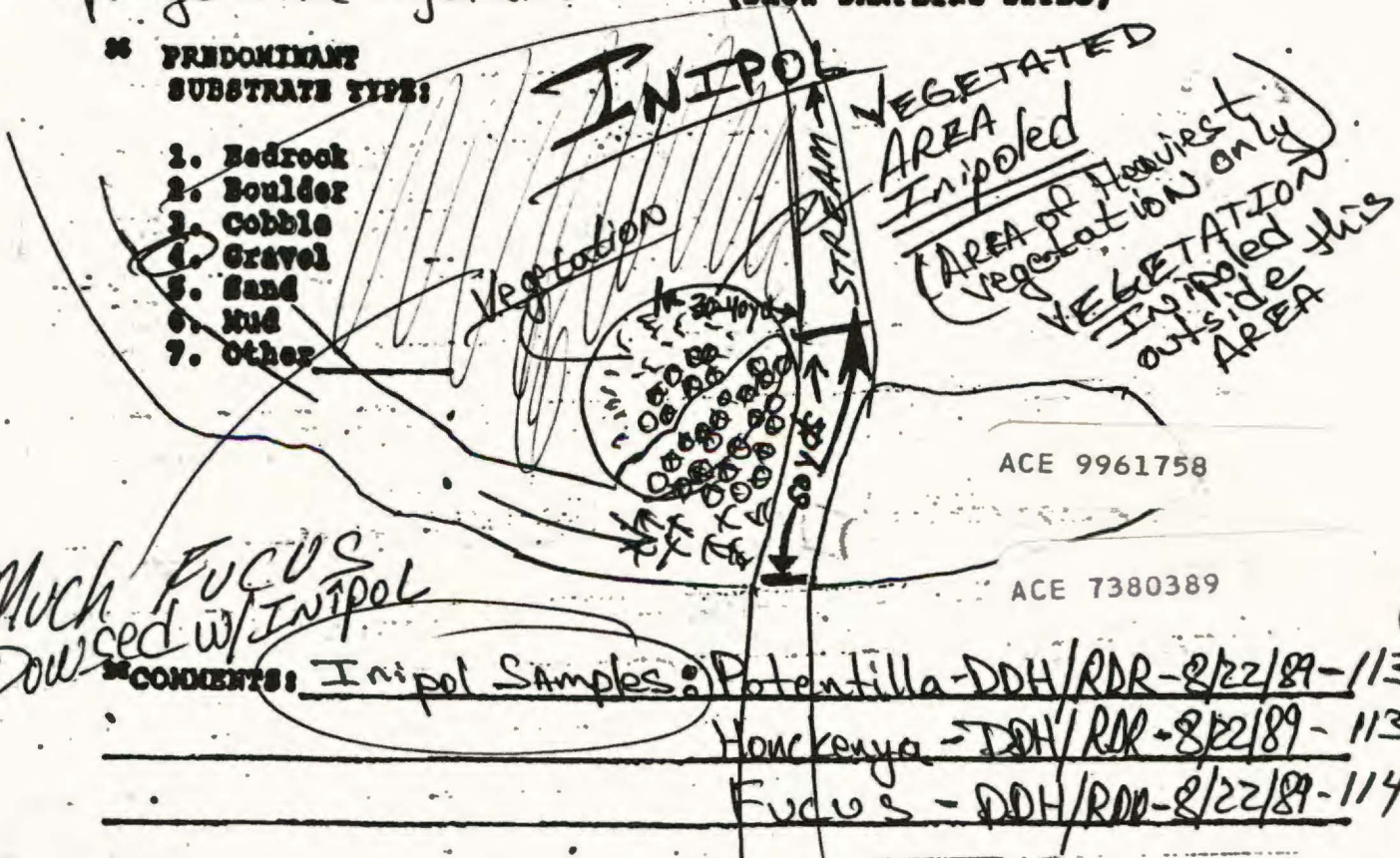
	WITHIN STREAM	OUTSIDE STREAM
31 SURFACE COVERAGE		
32 SURFACE THICKNESS		
33 PENETRATION		

HEAVIEST VEGETATION
30 X 30yd AREA of VEG. Sprayed with Vegetation

34 OIL DISTRIBUTION DIAGRAM (SHOW SAMPLING SITES)

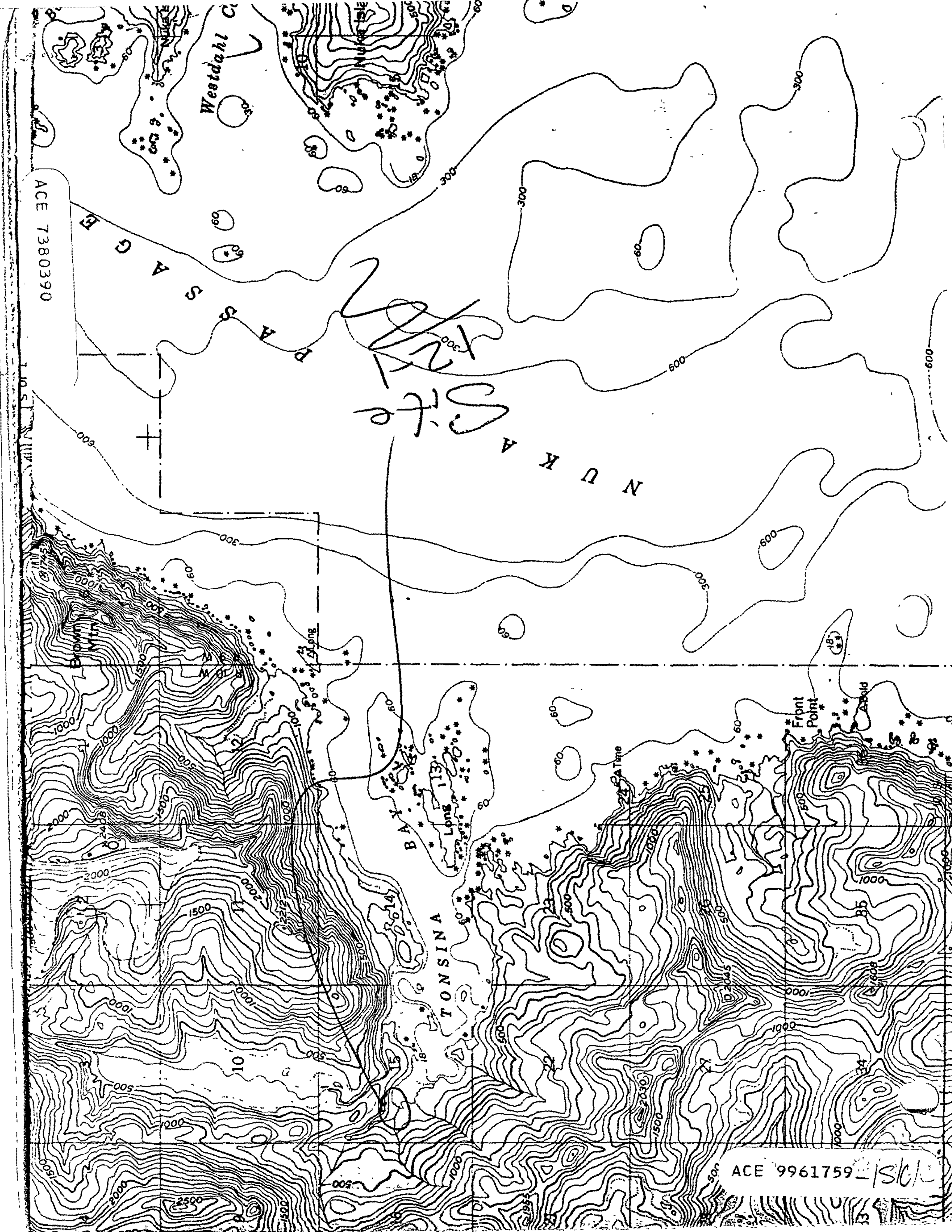
35 PREDOMINANT SUBSTRATE TYPE:

1. Bedrock
2. Boulder
3. Cobble
4. Gravel
5. Sand
6. Mud
7. Other



Much FUCUS Dowsed w/INIPOL

36 COMMENTS: Inipol Samples: Potentilla-DDH/RDR-8/22/89-1130
Honckenya - DDH/RDR-8/22/89-1135
Fucus - DDH/RDR-8/22/89-1140


ACE 7380390
N U K A K A
P A S S A G E
Westdahl
TONSINA
BAY
Long
Front Point
Brown Mtn
300
600
60
ACE 9961759-1S/C

1989-AFHS Site 1-7 Tonsina Bay-NW Creek

ASC NUMBER: 232-10-10432 SEGMENT NUMBER: TB-03 YR CATALOGED:
LOCATION: Tonsina Bay-Head of Bay-NW Portion
STREAM NAME: Tonsina NW Creek LATITUDE: 54 18 37
KODIAK K-UNIT: . LOCAL STREAM #: LONGITUDE: 150 57 06
USGS QUADRANGLE: Seldovia B-3 LEGAL:
SHORELINE TYPE: Beach, Cove, Tide flats ALL SEGMENTS:
WAVE EXPOSURE: Low

DNR 10/4/91

ASC NUMBER:
SURVEY TYPE: BS Ground
METHOD:
DATE: 8/19/89
START TIME: 1630
STOP TIME: 2030

TEAM RECORDER: Doug Hill (ADF&G)
OBSERVERS: Claire Crosby (ADEC), Herb Oettler (USCG)
AGENCY(IES):

PHOTOS TAKEN?
Roll #: 89DDH023 Frames: 7 → 14
VIDEO TAKEN? Tape Number: 3 → SEE Roll # 89DDH24H ALso for photos Concerning the Inipol applic.
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	27	27	729	90	VEGETATED Area sprayed with Inipol.		
SITE 2							
SITE 3							
SITE 4							
SITE 5							

OVERALL OIL IMPACT: H

OIL IN STREAM CHANNEL? NO

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Yes

SUBSTRATE

Bedrock	10	Granule	
Boulder	10	Sand	10
Cobble	20	Silt	
Pebble	50	Veget.	

SPECIES	3-400				
COUNT	Pink salmon				

COMMENTS: Site #1 ⇒ ≈27 x 27m vegetated area was sprayed with Inipol using trailer sprayer towed by 4-wheeler (plants doused with Inipol were: Honckenya, plantago, vetch, silverweed & grasses).

— Fucus in the LITZ was also sprayed with inipol - the beachworkers told me they had sprayed fucus on other beaches as well.

— See 8/19/89 field notes for further info concerning this Application of Inipol to the TB-03 tide flats/ANADROMOUS Segment.
The tide flats are utilized by bear, land & sea otter, mink, weasel, waterfowl, shorebirds and of course salmon - to name a few of the major creatures identified in this area.

ACE 9961714 +1S/P

— See Photo Roll # 89DDH024H also for more photos concerning the application of Inipol to the TB-03 tide flats (frames 10 → 25)

Bioremed

FISH HABITAT ASSESSMENT FORM

Tonsina - NW creek

[1]REGION: [2]PWS [3]KP,CI [4]K,AP [5]OBSERVER(S)_____

[6]SITE NO._____ [7]AERIAL PHOTO NO._____ [8]CAT NO._____

[9]STREAM NAME_____ [10]LAT ___°___.___' [11]LONG ___°___.___'

[12]DATE 8/19/89 [13]TIME_____ [14]TIDE: Low slack Flood High slack Ebb

[15]CATALOGED ANADROMOUS STREAM? Y N [16]ANAD. FISH FOUND? Y N

[17]OIL FOUND IN STREAM? Y N [18]OIL FOUND NEAR STREAM (1 MI.)? Y N

[19]OIL SAMPLES TAKEN? Y N [20]ID NOS._____

[21]35 mm PICTURES TAKEN? Y N [22]ROLL NO(S).____

[23]EXPOSURE NO.	[24]DESCRIPTION
7	Bioremed. - Inipol being applied to vegetation/Not an isolated occurrence
8	Bioremed - Overview of beach - portion of vegetated Area sprayed w/ Inipol
9	Bioremed - Inipol applied to Asphalt patch - Patch not scarified/tilled prior to Application
10	Bioremed - trailer sprayer applying Inipol to LITZ - Tongue depressor = location photo 9 → Fucus sprayed
11	Bioremed - trailer sprayer applying Inipol - Vegetation Inipoled at mouth of stream
12, 13	Bioremed - Vegetation Sprayed w/ Inipol / 3-400 salmon in stream
	Bioremed - refilling 100 gallon tank of trailer sprayer w/ Inipol
24 →	Sample # DDH-8/20/89-1255
10, 11, 12	Bioremed - Fucus doused w/ Inipol. Distinct boundary line between area sprayed with Inipol & Area not sprayed w/ Inipol.
13	↓ Inipol in foreground, None in background
14, 15, 16, 17	↓ Inipol leaking off & out of trailer sprayer
18	↓ Inipoled Vegetation - tracks left by Inipol spraying equipment / Mashed Vegetation
19, 25	↓ Inipoled vegetation → Sample of → Sample # DDH 8/20/89-1250
20, 21	↓ Overview of tideflats, dark Spot in Photo 21 is remant of log burning
22, 23	↓ oiled portion of beach NOT sprayed w/ Inipol - trailer sprayer could not operate through such obstacles

89DDH0234

89DDH0244

ACE 9961715 S

1989-AFHS Site 1-7 Tonsina Bay-NW Creek

ASC NUMBER: 232-10-10432 SEGMENT NUMBER: YR CATALOGED:
LOCATION: Tonsina Bay-Head of Bay-NW Portion
STREAM NAME: Tonsina NW Creek
LATITUDE: 54 18 37
LONGITUDE: 150 57 06
[illegible]IAK K-UNIT: . LOCAL STREAM #:
USGS QUADRANGLE: Seldovia B-3
LEGAL:
SHORELINE TYPE: Beach, Cov, tide flats ALL SEGMENTS:
WAVE EXPOSURE: Low

ASC NUMBER:
SURVEY TYPE: BS
METHOD: Ground
DATE: 7/21/89
START TIME: 1733
STOP TIME: 1834

TEAM RECORDER: Doug Hill
OBSERVERS: Lee Glenn
DDH 10/4/91
AGENCY(IES): ADF&G

PHOTOS TAKEN?
Roll #: 89DDH07H → 33,34,35,36
89DDH08H → Frames: → 2
VIDEO TAKEN? / Tape Number:
Counter Start:

SAMPLES TAKEN? 89LPG005H
SAMPLE I.D. NUMBERS: 1. LPG/DDH-7/21/89-1733 2. 3.
4. 5. 6.

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	5	5	25	—	—	—	Sheen
SITE 2	27	18	486	5	?	?	MS, TB, Tarmat
SITE 3	37	27	999	45	<3	<10	MS, TB
SITE 4	37	4.0	148	80	?	?	Saturated Sediment (HVY), oiled wood LT, CV, ST
SITE 5							

OVERALL OIL IMPACT: H

OIL IN STREAM CHANNEL? N

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Y

SUBSTRATE

Bedrock	Granule
Boulder	Sand
Cobble	Silt
Pebble	Veget.

SPECIES					
COUNT					

COMMENTS: Site 4 Heavily oiled logs, wood debris, trash & other organic matter present west and northwest shore of tide flats. Site 2 6'x6' tarmats in vegetated area at mouth of creek (Approx. 100' downstream of treeline). Vegetation with oil is vetch, plantago, potentilla, Elymus. Site 1-2&3 Oil sheen & massee among vegetation on both shores of stream. Oil observed penetrating substrate to 8" depth.

ACE 9961716+15

ANADROMOUS FISH OBSERVATIONS

	PINK	CHUM	RED	KING	COHO	DOLLY		
28 Aerial								
29 Ground								

10.5

0930 2.5
1200 - 9
1300 - 9
2100 -

30 COMMENTS: No Fish Observed on this DATE
Fish Observed on 8/16/89 Photo-Following
~~Photo~~ page

OIL OBSERVATIONS-

Site 1-7

✓ Extensive Cleanup has occurred in this Area
✓ Oil pick up - Flooding and burning

EXTENT OF OIL: - NEARLY ALL of Tonsina BAY was oiled

	WITHIN STREAM	OUTSIDE STREAM
31 SURFACE COVERAGE	150yds x 15yds	Shoreline for 100 yds plus on either side of stream. oil from treeline downstream 80yds plus
32 SURFACE THICKNESS	20yds x 30yds	film to 1"
33 PENETRATION		0-8"

4 - live trees
⊗ - oiled vegetation
1 - DEAD standing trees
⊛ - vegetation

✱ oil sample taken ≈ 15 yds from stream on EAST shore
✱ MAJORITY of oil on EAST shore

34 OIL DISTRIBUTION DIAGRAM (SHOW SAMPLING SITES)

35 PREDOMINANT SUBSTRATE TYPE:

1. Bedrock
2. Boulder
3. Cobble
4. Gravel (circled)
5. Sand
6. Mud
7. Other

36 COMMENTS: MAJOR oil Along Shoreline BANK. Roughly an 100 x 150 yd of tidal flat Area lightly to Moderately oiled. Oil Found right to edge of SALMON stream - Amongst vegetation.

Corrected Copy 6/26/91 DDH

FISH HABITAT ASSESSMENT FORM

TONSINA BAY - NW-most Creek (TB-3)

[1]REGION: [2]PWS (3)KP,CI [4]K,AP [5]OBSERVER(S) Doug Hill, Lee Glenn

2.32-10-10342

[6]SITE NO. 1-7 [7]AERIAL PHOTO NO. 35,36 [8]CAT NO. ~~XC~~

[9]STREAM NAME TB-3 [10]LAT 59° · 18' · ~~38~~ 37", [11]LONG 150° · ~~59~~ 57' · ~~30~~ 06",

[12]DATE 7/21/89 [13]TIME 1733 [14]TIDE: Low slack Flood (High slack) Ebb

[15]CATALOGED ANADROMOUS STREAM? Y (N) [16]ANAD. FISH FOUND? (Y) N SEE page 8/16/89 Survey form - Follow

[17]OIL FOUND IN STREAM? Y (N) * Depends on water level [18]OIL FOUND NEAR STREAM (1 MI.)? (Y) N

[19]OIL SAMPLES TAKEN? (Y) N [20]ID NOS. Tons Crk #3-LAG/DDH-7/21/89-1733

[21]35 mm PICTURES TAKEN? (Y) N [22]ROLL NO(S). 89-DDH-007

[23]EXPOSURE NO.	[24]DESCRIPTION
34	Mousse sheen on Water Amongst Potentilla, Hookery a grass
35	Aerial Tons Crk #3 - Mouth and Intertidal looking upstreame
36	Aerial " " " " = Oil on all shores in photo
33	Lee Glenn Collecting Oil Samples From beneath logs, and rocks at high Water line
02	Aerial of Stream mouth

ROLL # 89DDH007

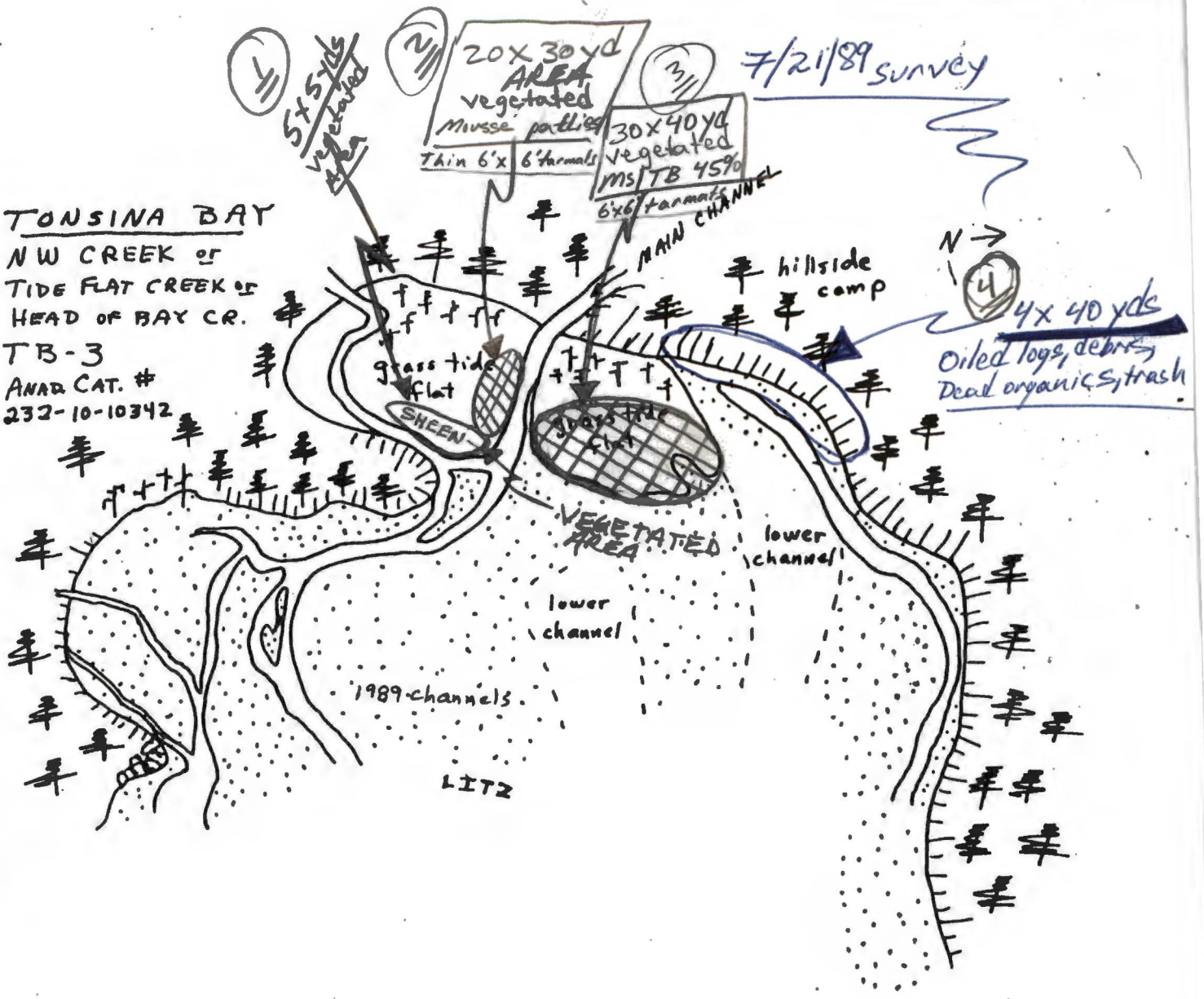
ROLL # 89DDH08H

[25]VIDEO FOOTAGE TAKEN? Y N [26]CASSETTE NO(S). _____

[27]DESCRIPTION: _____

ACE 9961718

ACE 7380177



ACE 9961719—IS/P

ASC NUMBER: 232-10-10342 SEGMENT NUMBER: TB-03 YR CATALOGED:
LOCATION: KP, OL, Tonsina Bay, Northwest Creek
STREAM NAME: LATITUDE: 59 18 37
KODIAK K-UNIT: . LOCAL STREAM #: LONGITUDE: 150 57 6
USGS QUADRANGLE: Seldovia B-3 LEGAL:
SHORELINE TYPE: Beach, Cove, Marsh ALL SEGMENTS:
WAVE EXPOSURE: Low

ASC NUMBER:
SURVEY TYPE: Pre-screening
METHOD: foot
DATE: 4/8/90
START TIME: 1003
STOP TIME: 1127

TEAM RECORDER: Doug Hill
OBSERVERS: Lee Glenn, Susan McLane

AGENCY(IES): ADF&G

PHOTOS TAKEN? Yes → 21-25
Roll #: ~~90DDH001+002H~~ Frames: → 1-7
VIDEO TAKEN? Tape Number:
Counter Start:

SAMPLES TAKEN? Yes
SAMPLE I.D. NUMBERS: 1. DDH-4/8/90-1110-2 2. 3.
4. 5. 6.

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	400	200	80,000	10	< 4.5	< 7.0	OR, TB, AP, MS, OP
SITE 2	1000	"	"	"	—	—	ST, CT, CV
SITE 3							
SITE 4							
SITE 5							

OVERALL OIL IMPACT: M/H

OIL IN STREAM CHANNEL? N

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Y

SUBSTRATE

Bedrock	10	Granule	70
Boulder	10	Sand	10
Cobble	20	Silt	
Pebble		Veget.	

SPECIES					
COUNT					

COMMENTS: - The TB-3 tidal flats are a mess. A significant quantity of oil remains on this biologically sensitive & productive area. Numerous portions of the flats can be described as "gravel that has been ~~obwsed~~ doused! with fuel oil."

ACE 9961762 HS

- Observed TB, PT, MS, CT, CV, ST = HOR-LOR
- Walked approx. 150 yds of the North shore from the grassy area south → observed tarmats up to 4 cm thick over the entire distance (50' wide swath ≈ 20-30% coverage)
- Oil patches (PT, AP, OR) found sporadically throughout flats area to lower intertidal zone.
- While walking through water at LITZ oil sheen frequently rises to surface - sheen rises to surface easily when substrate is agitated.
- Oil in LITZ is in the vegetation zone. Significant sheens were created on the surface of the water by disturbing the substrate in this zone (LITZ zone)
- Oil patties found among vegetation at stream side (EAST shore)
- Oiling continues along the shore out of both ends of this segment into the adjacent segments.
- Oil (OP, OR, MS) can easily be found beneath cobbles/boulders on shoreline - especially on the west shore of this segment. AP patches & MS PT's are easily found on east shore.

& see
& site 1-7 of AFHA ~~& See 1990 field log for further Info~~

Pre-Screening
TB-03

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: 4/8/90
4 START TIME: 1003
5 STOP TIME: 1127
6 SEGMENT #: TB-03
7 STATION #:
8 K-UNIT:
9 STAT AREA: 232-10
10 LAT: 59 18 37
11 LONG: 150 57 6
12 SOURCE: Map Loran
13 LOCATION: KP, OC, Tonsina Bay
14 DESCRIPTION: Northwestern Creek

15 HIGH TIDE TIMES: 0133 / 1352
16 HIGH TIDE HTS: 12.3 / 11.6
17 LOW TIDE TIMES: 0940 / 1940
18 LOW TIDE HTS: 0.3 / 0.6
19 TIDE HT AT SURVEY:
Ebb Slack (Flood) Slack

20 USCG QUAD: Seldovia B-3

21 TEAM RECORDER: Doug Hill
22 OBSERVERS: Lee Glenn, Susan/Melane
23 AGENCY: ADF&G
24 PHOTOS TAKEN: (Y) N
Roll #: 9000H001H 002H Frame: 21-24 1-7
25 VIDEO TAKEN: Y (N) TAPE#:
Start: End:
26 SAMPLES TAKEN? (Y) N Number
DOH - 4/2/90 - 1110
Sediment
Biological
Water

Well, How About entering the identical data under 2 separate heading - NC or 232-10-10342?

ACE 9961763

EXTENT OF OIL

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

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

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

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 5 Boulder 10 5 Cobble 20
Gravel 70 Sand 10 Mud/silt

GED ANAD. FISH SREAM? (Y) N
G #: 232-10-10342
NAME:
STREAM BED? Y (N)
STREAM BANKS? (Y) N
BEACH ADJACENT TO MOUTH? (Y) N (within 50 meters)
...HIN 1 MILE OF STREAM? (Y) N
Where: Beach Adjacent Stream, Nearly all of Tonsina Bay
43 ANADROMOUS FISH PRESENT? Y (N)

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

[redacted] Two Anad streams exist in this segment (Pink Salmon). One stream is a Non-cataloged stream

↓ Does this survey include the Non-cat stream? (If so) need 2-L MAD forms.

ACE 9961764 — 15

see [illegible] 4/17/90 Survey for MMDS + dimensions

Pre-Screening
TB-03

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: 4/8/90
4 START TIME: 1003
5 STOP TIME: 1127
6 SEGMENT #: TB-03
7 STATION #:
8 K-UNIT:
9 STAT AREA: 232-10
10 LAT: 59 18 37
11 LONG: 150 57 6
12 SOURCE: Map Loran
13 LOCATION: KP, OC, Tonsina Bay
14 DESCRIPTION: Northwestern Creek

15 HIGH TIDE TIMES: 0133 / 1352
16 HIGH TIDE HTS: 12.3 / 11.6
17 LOW TIDE TIMES: 0940 / 1940
18 LOW TIDE HTS: 0.3 / 0.6
19 TIDE HT AT SURVEY:
Ebb Slack (Flood) Slack

20 USCG QUAD: Seldovia B-3

21 TEAM RECORDER: Doug Hill
22 OBSERVERS: Lee Glenn Susan/Melanie
23 AGENCY: ADF&G
24 PHOTOS TAKEN: (Y) N
Roll #: 900DH001H 002H Frame: 21-24 1-7
25 VIDEO TAKEN: Y (N) TAPE#:
Start: End:
26 SAMPLES TAKEN? (Y) N Number
(Oil) DOH-4/8/90-1110
Sediment
Biological
Water

EXTENT OF OIL

	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 M (H)

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

32 OILED DEBRIS? (Y) N

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

34 WAVE EXPOSURE: High Moderate (Low)

35 SUBSTRATE TYPE: Bedrock 10 Boulder 10 Cobble 20 Gravel 70 Sand 10 Mud/silt

36 CATALOGED ANAD. FISH SREAM? (Y) N
37 CATALOG #: 232-10-10342
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: Beach Adjacent Stream, Nearly all of Tonsina Bay
43 ANADROMOUS FISH PRESENT? Y (N)

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

[redacted] Two Anad streams exist in this segment (Pink Salmon). One stream is a Non-cataloged stream

↓ Does this survey include the Non-cat stream? (If so) need 2-d MAD forms.

See 1989 [redacted] 4/17/90 Survey for maps + dimensions

ACE 9961764 — 15

ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

STREAM#: 2321010342
SEGMENT: TB003

PAGE 6 DATE PRINTED: 06/21/91

LOCATION: TONSINA BAY, NORTHWESTERN SHORE

SURVEY TYPE: 90 PRE SCREEN - SS - second pre-screen? yes METHOD: GROUND

DATE: 04/17/90 TEAM RECORDER: HILL

START TIME: 1235 OBSERVERS: MCLANE
END TIME: 1405

AGENCY: FG

OG/HAB DISCREPANCIES: -

PHOTOS TAKEN: Y

STATION: 2321010342 ROLL#: 90DDH006H
FRAME: 11-14

we have only 4/9/90 1110 for Tonsina R.

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

SAMPLES TAKEN: Y

SAMPLE NUMBERS: ?? cannot locate sample -0-
→DDH/LPG-4/7/90-1110 -0- -0-
-0- -0-

OIL IN STREAM BED: Y

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

WAVE EXPOSURE: LOW SHORELINE TYPE: LOW-LYING ROCKS BEACH COV

SUBSTRATE TYPE: BEDROCK 10 BOULDER 10 COBBLE 20 VEGETAT -0-
GRAVEL 50 SAND 10 MUD/SILT -0- GRANULE -0-

ANADROMOUS FISH PRESENT: N

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

ACE 9961765 +15

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

DATE PRINTED: 06/21/91

STREAM# : 2321010342
SEGMENT#: TB003

SURVEY TYPE : 90 PRE SCREEN - SS
DATE: 04/17/90
TIMES: 1235 - 1405

LOCATION: TONSINA BAY, NORTHWESTERN SHORE
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-	400	200	80,000 -0-	25	<4	<30	MS OR AP TB

AP ST

COMMENTS:
THIS AREA IS A MESS. IT CONTAINS OIL IN ABOUT EVERY WEATHERED STATE. THE OIL SAMPLE WAS TAKEN ON 4/7/90. NEARLY THE ENTIRE SHORELINE OF TONSINA BAY WAS OILED. OIL CONTINUES BEYOND THE 200 X 400M AREA NOTED ABOVE - INTO AND THROUGH ADJACENT BEACH SEGMENTS THE TB-3 TIDE FLATS PROVIDE HABITAT AND RESOURCES FOR NUMEROUS SPECIES. EXTENSIVE TARMATS SPAN THE INTZ; ROCK FACES & SNAGS HAVE COATINGS OF OIL. SHEENING OCCURS IN THE STREAM CHANNEL AT MITZ & LITZ WHEN THE SUBSTRATE IS DISTURBED. SHEENING OCCURS ALONG EAST SIDE SHORE WHEN TIDE COMES IN AND WHEN SUBSTRATE DISTURBED. ITS AS IF MOTOR OIL WAS POURED OVER THE AREA. TAR PATTIES FOUND IN VEGATATION ON BOTH SIDES OF THE MAIN SPAWNING CHANNEL. 'AP' FOUND IN VEGETATION ON EAST SIDE OF MAIN SPAWNING CHANNEL. OIL HAS SEEP THROUGH SOME VEGETATION AND INTO SUBSTRATE BELOW. OIL 'ST/CT' LOGS ON NORTH SHORE OF FLATS. THIS AREA WAS INIPOLED IN 1989 - CERTAINLY DIDN'T HELP! INIPOL WOULD WORK GREAT ON A GARAGE FLOOR. SITE #1 ALSO HAS THE FOLLOWING OIL TYPES - CT, ST, F.
OIL ON STREAM BANKS: YES
OIL WITHIN 1 MILE OF STREAM: YES, EVERYWHERE

Pen: need range(s) to narrow down values.

Doug: I'd like to avoid "c" in the oiling let's talk about this, KS 6/26/91

ASC NUMBER: 232-10-10342 SEGMENT NUMBER: TB-3 YR CATALOGED:
LOCATION: KP, OC, Tonsina Bay, Northwest portion
STREAM NAME: LATITUDE: 59 18 37
KODIAK K-UNIT: . LOCAL STREAM #: LONGITUDE: 150 57 6
USGS QUADRANGLE: Seldovia B-3 LEGAL:
SHORELINE TYPE: Beach, Cove, low lying Rocks ALL SEGMENTS:
WAVE EXPOSURE: Low

ASC NUMBER:
SURVEY TYPE: Prescreening 2nd prescreen? yes
METHOD: FOOT
DATE: 4/17/90
START TIME: 1235
STOP TIME: 1405

TEAM RECORDER: Doug Hill
OBSERVERS: Susan McLane

AGENCY(IES): ADF&G

PHOTOS TAKEN? Yes
Roll #: 9000H006H Frames: 11-14
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	400	200		25	<4	<30	MS, OA, AR, TB, PT, CN, LT, ST, F
SITE 2							
SITE 3							
SITE 4							
SITE 5							

OVERALL OIL IMPACT: H

OIL IN STREAM CHANNEL? Yes

SUBSTRATE

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

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Yes

SPECIES					
COUNT					

COMMENTS: SEE: 1990 MMAD Form Field log SEAT ASAP

This area is a mess? It contains oil in about every weathered state. The oil sample was taken on 4/7/90.

ACE 9961767 +1SG

Nearly the entire shoreline of Tonsina Bay was oiled. Oil continues beyond the 200 x 400m area noted above—into and through adjacent beach segments. The TB-3 tide flats provide habitat and resources for numerous species.

Extensive barnacles span the INTZ; rock faces + snags have coatings of oil. Sheening occurs in the stream channel at MITZ + LITZ when the substrate is disturbed. Sheening occurs along east side shore when tide comes in + when substrate disturbed. Its as if motor oil was poured over the area.

Patties found in vegetation on both sides of the main spawning channel. AP found in vegetation on east side of main spawning channel. Oil has seep through some vegetation and into substrate below.

Oil SST/CTe logs on north shore of flats.

This area was Inipoled in 1989 - Certainly didn't help! → Inipol would work great on a garage floor.

Site C-7 of 1989 AEHA

Group A — Prescreening

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 — Cordova Adjusted

3 DATE: 4-17-90 — 15 HIGH TIDE TIMES: 10551 — 21 TEAM RECORDER: Doug Hill

4 START TIME: 1235 — 16 HIGH TIDE HTS: 10.4 — 22 OBSERVERS: Susan McLane

5 STOP TIME: 1405 — 17 LOW TIDE TIMES: 1328 — 23 AGENCY: ADF&G

6 SEGMENT #: TB-3 — 18 LOW TIDE HTS: 2.0 — 24 PHOTOS TAKEN: (Y) N 90-DDH-806-H

7 STATION #: — 19 TIDE HT AT SURVEY: — Roll #: DD6 Frame: 11-14

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

9 STAT AREA: 232-10 — 20 USCG QUAD: Seldovia A-3 — Start: End:

10 LAT: 59° 25' 0 — 11 LONG: 151° 19' 0 — 26 SAMPLES TAKEN? Y N Number

~~*DDH/APC-4/7/90-1110~~ — cannot locate sample info: COC?

12 SOURCE: Map (Loran) — Oil 1

13 LOCATION: Tonsina Bay – N.W head of bay — Sediment

14 DESCRIPTION: head of Tonsina Bay/NW Corner — Biological

EXTENT OF OIL — Water

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

36 CATALOGED ANAD. FISH SREAM? Y (N)

37 CATALOG #: NC

38 STREAM NAME: N.W 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)

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

32 OILED DEBRIS? (Y) N — Where: Everywhere

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)

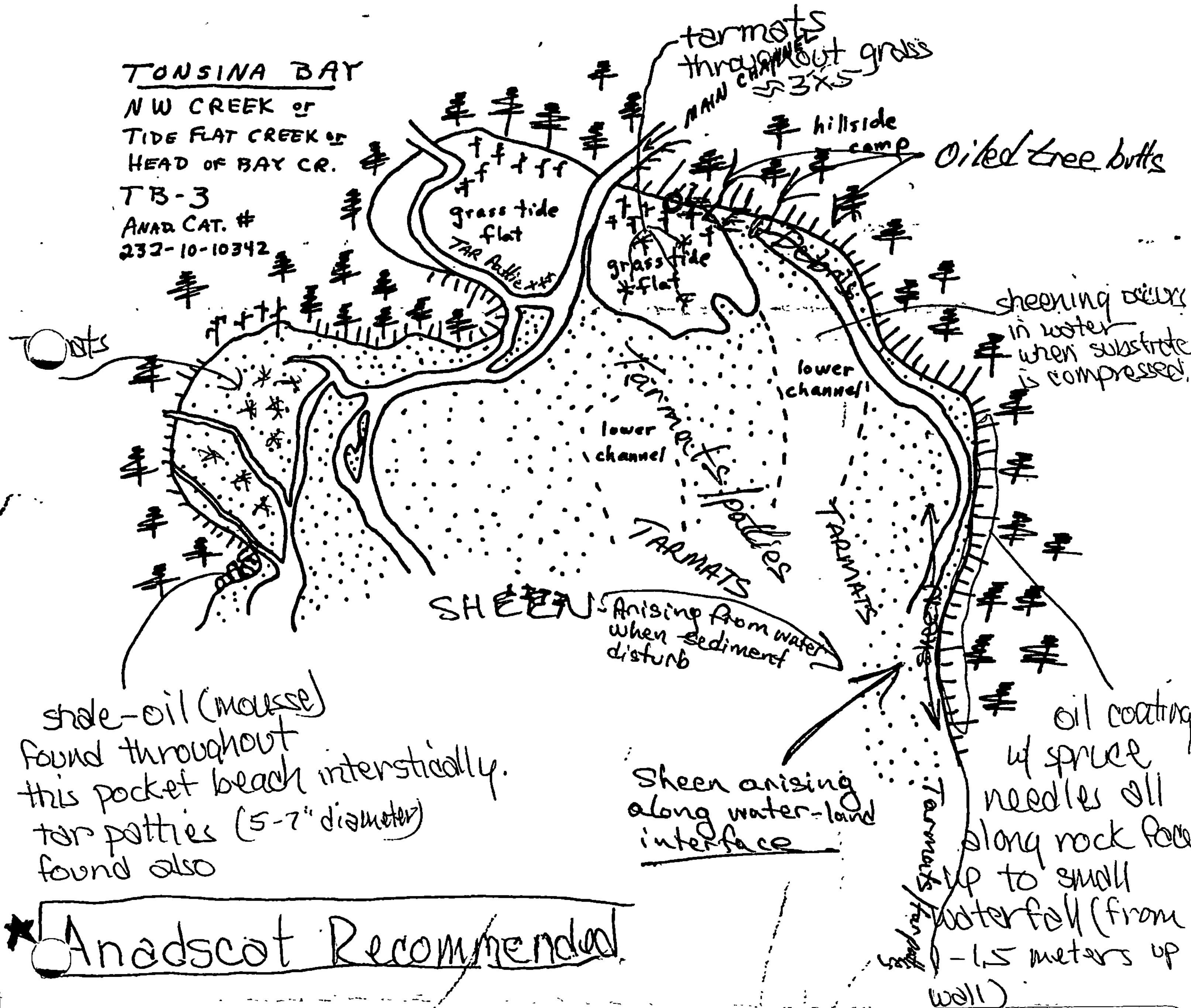
35 SUBSTRATE TYPE: Bedrock 10% Boulder 10% Cobble 20% Gravel 50% Sand 10% Mud/silt

ACE 9961768+15

COMMENTS: * oil sample was taken on 4-7-90. This area is a mess! It contains oil in every weathered state. Extensive tarmats span the INTZ; rock faces & snags have coatings of oil. Sheening occurs in the stream channel at MITZ when walked in. Sheening occurs at the edge of the channels at the LITZ as the tide comes in.

ACE 1955678

FRAME(S)	DESCRIPTION
#11	oil (mousse) found ~~[struck out]~~ in interstitial spaces
#12	sheen at edge of stream - eggs nearby (probably snail)
#13	tar mat saturated into vegetation
#14	aerial view of N.W Tonsina Stream



★ Anadscot Recommended

= Sample taken
= Photo frame # and shot direction.

ACE 9961769 — 15/SG

ACE 1955679

ASC NUMBER: 232-10-10342 SEGMENT NUMBER: TB-3 YR CATALOGED:
LOCATION: KP, OC, Tonsina Bay, Northwest portion
STREAM NAME: LATITUDE: 59 18 37
KODIAK K-UNIT: . LOCAL STREAM #: LONGITUDE: 150 57 6
USGS QUADRANGLE: Seldovia B-3 LEGAL:
SHORELINE TYPE: Beach, Cove, Low lying Rocks ALL SEGMENTS:
WAVE EXPOSURE: Low

ASC NUMBER:
SURVEY TYPE: Prescreening
METHOD: Foot
DATE: 4/17/90
START TIME: 1235
STOP TIME: 1405

TEAM RECORDER: Doug Hill
OBSERVERS: Susan McLane

AGENCY(IES): ADF&G

PHOTOS TAKEN? Yes
Roll #: 9000H006M Frames: 11-14
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	400	200		25	<4	<30	MS, OA, AP, TB, AT, CV, LT, ST, E
SITE 2							
SITE 3							
SITE 4							
SITE 5							

OVERALL OIL IMPACT: H

OIL IN STREAM CHANNEL? Yes

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Yes

SUBSTRATE

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

SPECIES					
COUNT					

COMMENTS: SEE: 1990 MAD Form, Field log, SSAT, ASAP

This area is a mess? It contains oil in about every weathered state. The oil sample was taken on 4/7/90.

ACE 9961770

Nearly the entire shoreline of Tonsina Bay was oiled. Oil continues beyond the 200 x 400m area noted above - into and through adjacent beach segments. The TB-3 tide flats provide habitat and resources for numerous species.

Extensive tarmats span the INTZ; rock faces + snags have coatings of oil. Sheening occurs in the stream channel at MITZ & LITZ when the substrate is disturbed. Sheening occurs along east side shore when tide comes in + when substrate disturbed. Its as if motor oil was poured over the area. Tar patties found in vegetation on both sides of the main spawning channel. AP found in vegetation on east side of main spawning channel. Oil has seep through some vegetation and into substrate below. Oil: ST/CTE logs on north shore of flats.

This area was Inipol'd in 1989 - certainly didn't help! → Inipol would work great on a garage floor.

Group A

Faxed Anch. 4/20/90 Prescreening

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 Adjusted

3 DATE: 4-17-90

4 START TIME: 1235

5 STOP TIME: 1405

6 SEGMENT #: TB-3

7 STATION #:

8 K-UNIT:

9 STAT AREA: 232-10

10 LAT: 59° 25' 0

11 LONG: 151° 19' 0

12 SOURCE: Map (Loran)

13 LOCATION: Tonsina Bay - N.W head of bay

14 DESCRIPTION: head of Tonsina Bay/NW Corner

15 HIGH TIDE TIMES: 1055

16 HIGH TIDE HTS: 16.4

17 LOW TIDE TIMES: 1321

18 LOW TIDE HTS: 2.0

19 TIDE HT AT SURVEY:

(Ebb) (Slack) Flood Slack

20 USCG QUAD: Seldovia A-3

21 TEAM RECORDER: Doug Hill

22 OBSERVERS: Susan McLane

23 AGENCY: ADF&G

24 PHOTOS TAKEN: (Y) N

90-DDH-806-H

Roll #: DD6 Frame: 11-14

25 VIDEO TAKEN: Y (N) TAPE#:

Start: End:

26 SAMPLES TAKEN? Y N Number

* DDH/LPG - 4/7/90 - 1110

Oil 1

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 10% Cobble 20%

Gravel 50% Sand 10% Mud/silt

36 CATALOGED ANAD. FISH STREAM? Y (N)

37 CATALOG #: ~~NC~~ 232-10-10342

38 STREAM NAME: N.W 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: Everywhere

43 ANADROMOUS FISH PRESENT? Y (N)

44 ANADROMOUS FISH OBSERVATION

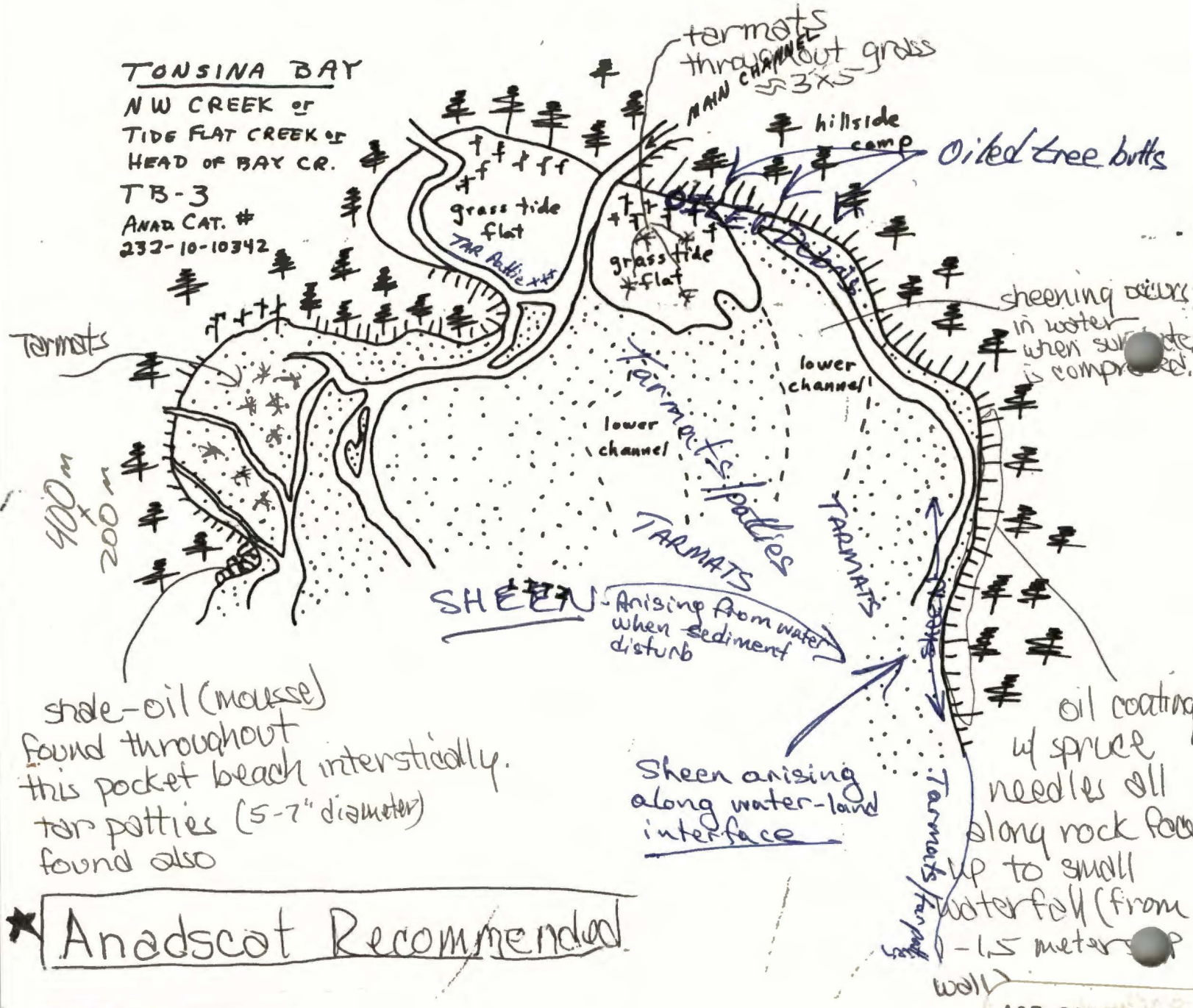
Species	Aerial	Ground

ACE 9961771

COMMENTS: * oil sample was taken on 4-7-90. This area is a mess! It contains oil in every weathered state. Extensive tarmats span the INTZ; rock faces & snags have coatings of oil. Sheening occurs in the stream channel at MITZ when walked in. Sheening occurs at the edge of the channel at the LITZ as the tide comes in.

ACE 1940715

FRAME(S)	DESCRIPTION
#11	oil (mousse) found ~~[illegible]~~ in interstitial spa
#12	sheen at edge of stream - eggs nearby (probably snail
#13	tar mat saturated into vegetation
#14	aerial view of N.W Tonsina Stream



★ Anadscot Recommended

= Sample taken
= Photo frame # and shot direction.

ACE 9961772

ACE 1940716

TB-003

EXXON COMMAND CENTER (HOMER)
P.O Box 105
4014 Lake St.
Homer, AK 99603
Tel: 235-6444
Fax: 235-5963

April 30, 1990

The attached is a copy of SSAT TB-003 plus comments from ADF&G. This should be used for AMAD TB-003 Stream #232-10-10342. Refer to SSAT TB-003 file for operations notes.

Darryl Yoes 4/30/90

DY/mo

ACE 9961773+S

ACE 1940721 +/S

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / TB-003 SUBDIVISION: _____ DATE 4/30/90

USCG

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

ADF&G
~~ADEC~~

NAME Doug Hill SIGNATURE Douglas W. Hill

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS Recommend Manual pickup and removal of tarmats and tarballs on both Southwest and Northeast banks of the tide flats area (see attached ADF&G maps). Manual pickup and removal of tarballs, patties and mats from the tide flats area - both in the gravel and vegetated oiled area - oil found to mid-intertidal zone. (Sediment Saturated with oil film at MITZ)
- Pickup & removal recommend to prevent oil from entering the two spawning channels.

*VEGETATION at upper intertidal will eventually obscure a portion of the oil. CLEANUP ASAP

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

ACE 9961774

ACE 1940722

JN NO. 03/21/90

Group A TB-003 Prescreening

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 Adjstn

3 DATE: 4-17-90 — 15 HIGH TIDE TIMES: 1055 — 21 TEAM RECORDER: Doug Hill

4 START TIME: 1235 — 16 HIGH TIDE HTS: 10.4 / — 22 OBSERVERS: Susan McLane

5 STOP TIME: 1405 — 17 LOW TIDE TIMES: 1328 / — 23 AGENCY: ADF&G

6 SEGMENT #: TB-3 — 18 LOW TIDE HTS: 2.0 / — 24 PHOTOS TAKEN: (Y) N — 90-DDH-806-H

7 STATION #: — 19 TIDE HT AT SURVEY: — Roll #: DD6 Frame: 1R-14

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

9 STAT AREA: 232-10 — 20 USCG QUAD: Soldovia A-3 — Start: End:

10 LAT: 59° 25' 0 — 11 LONG: 151° 19' 0 — 26 SAMPLES TAKEN? Y N Number

12 SOURCE: Map (Loran) — *DDH/LP6-4/7/90-1110 — Oil 1

13 LOCATION: Tonsina Bay - N.W head of bay — Sediment

14 DESCRIPTION: head of Tonsina Bay/NW Corner — Biological

EXTENT OF OIL — Water

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

36 CATALOGED ANAD. FISH STREAM? Y (N)

37 CATALOG #: ~~NC~~ 232-10-10342

38 STREAM NAME: N.W 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)

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

32 OILED DEBRIS? (Y) N — Where: Everywhere

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

43 ANADROMOUS FISH PRESENT? Y (N)

34 WAVE EXPOSURE: High Moderate (Low)

35 SUBSTRATE TYPE: Bedrock 10% Boulder 10% Cobble 20%

Gravel 50% Sand 10% Mud/silt

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

ACE 9961775

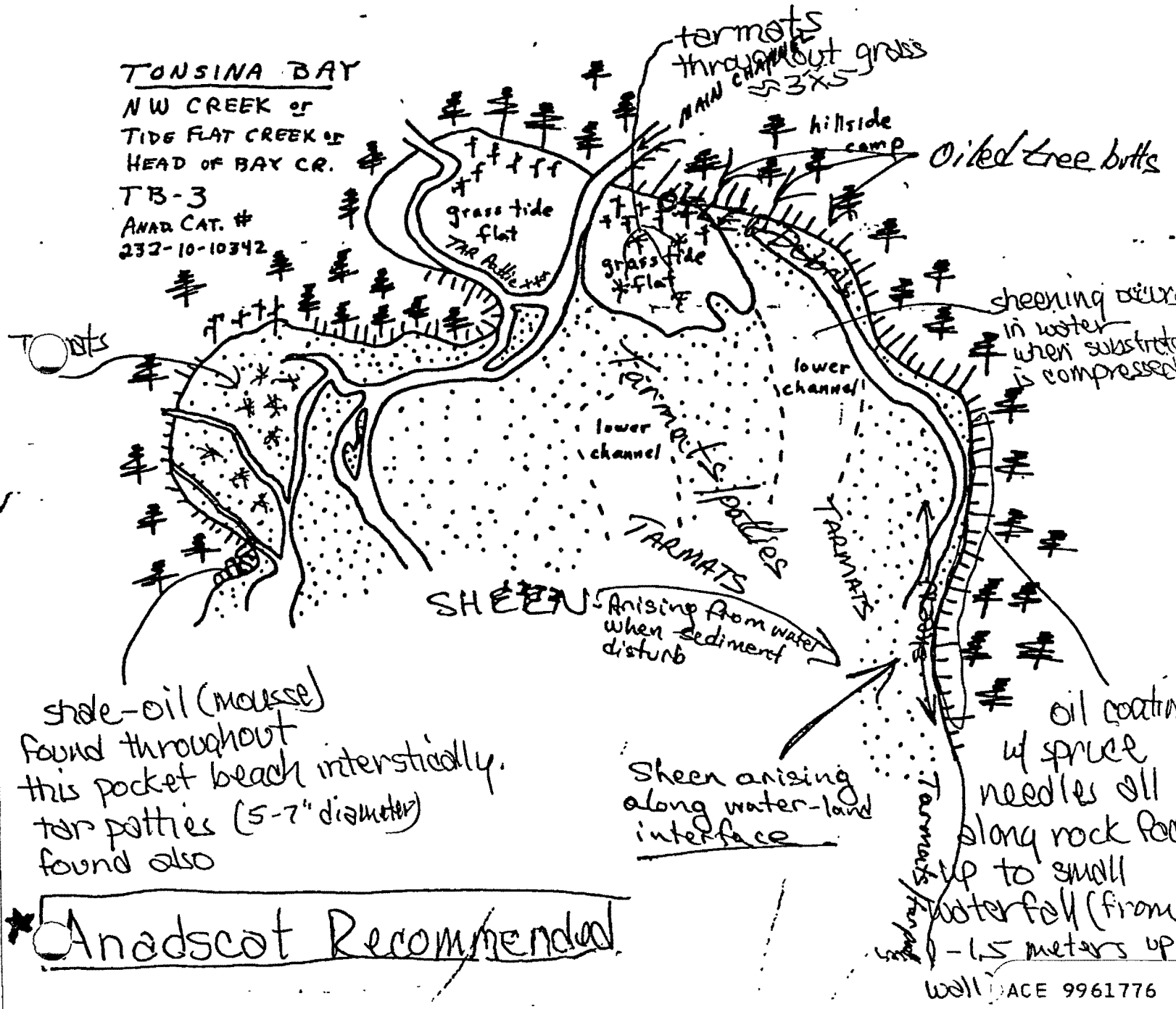
COMMENTS: * oil sample was taken on 4-7-90. This area is a mess! It contains oil in every weathered state. Extensive tarmats span the INTZ; rock faces & snags have coatings of oil. Sheening occurs in the streams channel at MITZ when walked in. Sheening occurs at the edge of the channel at the LITZ as the tide comes in.

ACE 1940723

45 PHOTOLOG

TB-003

FRAME(S)	DESCRIPTION
#11	oil (mousse) found ~~[illegible]~~ in interstitial sands
#12	sheen at edge of stream - eggs nearby (probably snail)
#13	tar mat saturated into vegetation
#14	aerial view of N.W Tonsina Stream



Anadscot Recommended

= Sample taken
= Photo frame # and shot direction.

ACE 9961776

ACE 1940724

SHORELINE OILING SUMMARY

REVISION NO. 04/13/90

T. Sawyer NOAA ~~USCG~~ D. MacDonald SEGMENT ST/ TB003
M. Carr LAND REP J. Johnson SUBDIVISION A (1 OF 1)
EXXON R. Boyer ADEC R. Reed TIME 12:00 to 16:30
TEAM NO. 18 TIDE LEVEL +6 to +2.5 DATE Apr 1 19 90
EST. SUBDIVISION LENGTH: 2523 m ☐ Sun ☑ Clouds ☐ Fog ☑ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☑ Forest ☑ Rock
SURVEYED FROM: ☑ Foot ☑ Boat ☐ Helo WORKING DIRECTION: S to N
SURFACE SEDIMENTS: R 60 % B 10 % C 10 % P 15 % G 0 % S 5 % M 0 % V 0 %
SLOPE : Lang 40 % Hang 0 % Vert 60 % WAVE EXPOSURE: ☑ Low ☐ Med ☐ High
OIL CATEGORY LENGTH: W 350 m M 650 m N 1300 m VL 130 m NO 93 m

SURFACE OIL

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

PAVEMENT H (F) (S) 1194 sq. m by → 8 cm (→ 850)

PATTIES / TARBALLS 0 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 buoy; plastic tr

#BAGS 1

Photographs:

Roll No. ST-18-7

Frames 1 thru 17

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR						PIT ZONE				ANA	SHEEN (Y/N)	▼	SURFACE · SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	VC	SBL/BR	DBL/RW	GY/SL	DBR/TL	LBR		SU	UI	MI	LI				
1	15		/				0-5		/	/							/						C-S
2	15		/				0-10		/		/							/					b-C,V
3	20		/				0-5		/		/							/					P-G,S
4	25		/		V		0-8		/		/	V					/				Y	20	C-P,G,S
5	25		/		V		0-5		/		/	V					/	/			Y	20	P-G,S
6	15		/				0-5		/		/							/					C-S,V

COMMENTS ST/TB003: Comprises mostly bedrock cliffs with several small beaches and a few larger, low angle, pebble and cobble beaches. The North side the anadromous stream has heavy oiling.

ACE 9961777

TB-3

ACE 1940725

REVIEWED _____ DATE _____

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04/12/90

SEGMENT ST/ TB003 SUBDIVISION A (1 OF 1)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm-cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SHEEN (Y/N)	▼	SURFACE · SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SBL/BR	DBL/BW	DY/RL	DBR/TL	LBR	BU	UI	MI	LI				
7	15		/				0 - 8		/		/					/						P-S
8	15		/				0 - 8		/		/					/						P-G,V
9	30					/	—	—	—	—	—	—	—	—		/						G-P
10	15		/				0 - 12		/		/					/						B-G.
11	30					/	—	—	—	—	—	—	—	—			/					P-G,S
12	20		/				0 - 5		/		/					/						P-G,S
13	25		/		V		0 - 25	/		V						/						B-B,P
14	20		/				0 - 15		/	/						/						B-P,G,S
15	20		/				0 - 10		/		/					/						C-P,G,S
16	25					/	—	—	—	—	—	—	—	—		/						P-G,S
17	15		/				0 - 8		/		/					/						C-P,S

COMMENTS Pit 13: A sheen of shiny black ("fresh") covered the water in the pit.

ACE 9961778

ACE 1940726

REVIEWED_____ DATE_____

SG *Sawyer*

SEGMENT ST/ *TBO53*

SUBDIVISION *A*

DATE *Apr 1 19* 90

SKETCH MAP – *A*

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

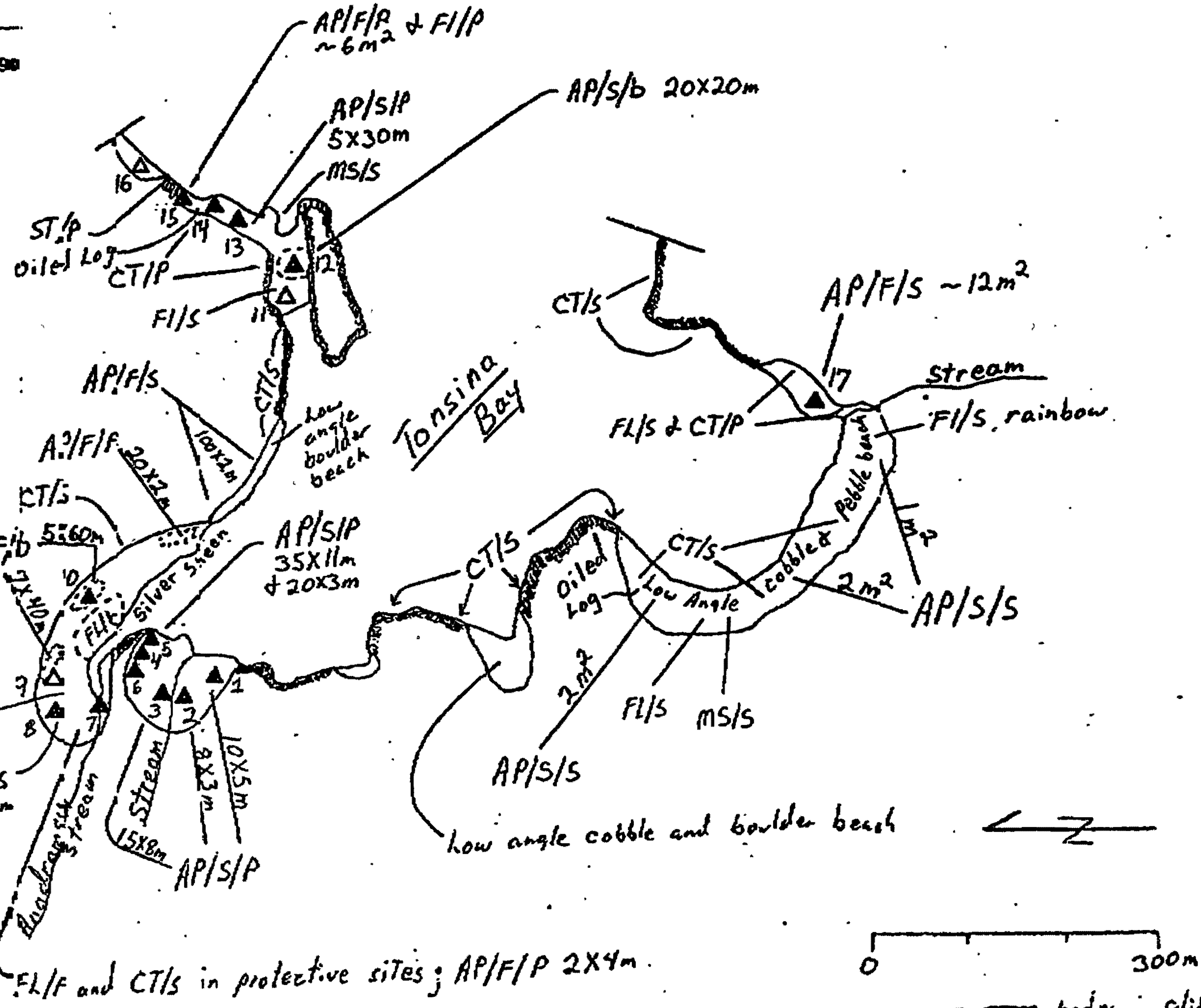
CT/B Broken Distribution

CT/P Patchy Distribution

CT/S Splashed Distribution *8X1m*

ℓℓℓ Oiled Vegetation

1 •→ Photo location, direction, and number



FL/F and CT/S in protective sites; AP/F/P 2X4m

Oil Character Length (m): AP *370* PO *0* CV *0* CT *900* ST *30* MS *2* PT *0* TB *0* FL *300* NO *100*

REVISION 03/24/89

OG_____

SEGMENT ST/_____

SUBDIVISION_____

DATE_____/_____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

lle
Oiled Vegetation

1 ⟶ 12 vertical direction
Photo location, direction, and number

ACE 1940728

→ See Sketch Map-A

Oil Character Length (m): AP_____ PO_____ CV_____ CT_____ ST_____ MS_____ PT_____ TB_____ FL_____ NO_____

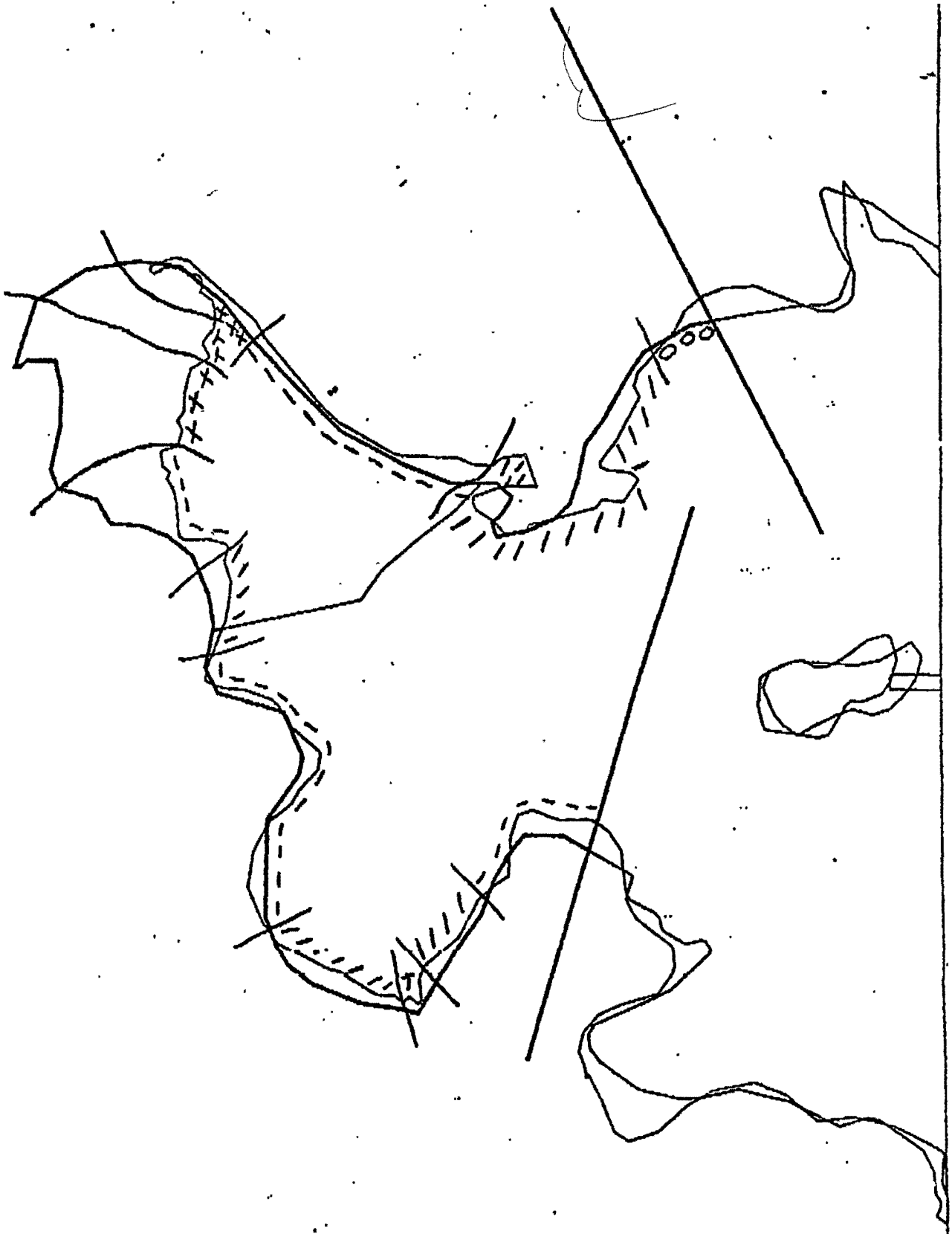
ACE 9961780

SKETCH MAP—B

Photo Location

ST-18-7-1 to 17

REVISION: 09/24/90



ACE 9961781

XXXX Wide
/'// Medium
-- Narrow
[TTT Very Light
)000 No Oil

TB-3

ADEC Segment Length: 2371m

0 100 200 300
METERS

Map Key: KEN-122
Name: T. Sawyer
Date: Apr. 19, 90
Data Entered:

ACE 1940729

SHORELINE ECOLOGICAL SUMMARY

Segment ST / TB-3 Subdivision A (1 OF 1) Date (mo / day / yr) 4-19-90

Time (24 hr) 1220 Biologist M. CARR

(A) Substrate type and % of ~~segment~~ SUBDIVISION:
(1) Bedrock 60 (2) Boulder 10 (3) Cobble 10 (4) Pebble 15 (5) Sand 5 (6) Silt —

(B) Overall % cover of biota (% of ~~segment~~ SUBDIVISION): Dense 30 Moderate 30 Low 40

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

Photographs: Roll No. SF-16-7
Frames 1 - 17

BARNACLES

	Dense			Moderate			Sparse			Rare		
	1U	1M	1L			1L	1U		1L	1U	1M	1L
BOULD	2	2	2			2	2		2	2	2	2
COBBLE	3	3	3			3	3		X	X	3	3
PEBB	4	4	4			4	4		4	X	X	X
SAND	5	5	5			5	5		5	5	5	5
	6	6	6			6	6		6	6	6	6

NOT PRESENT

NOT PRESENT AT ANY ZONE

MYTILUS

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

NOT PRESENT IN UPPER INTERTIDAL ZONE.

NOT PRESENT

GASTROPODS

	Dense			Moderate			Sparse			Rare		
	1U	1M	1L	1U	1M	1L				1U	1M	1L
BOULD	2	2	2	2		2		2		2	2	2
COBBLE	3	3	3	3	X	3		3		3	3	3
ROCK	4	4	4	4		4		4		X	X	X
SAND	5	5	5	5		5		5		5	5	5
	6	6	6	6		6		6		6	6	6

NOT PRESENT

NOT PRESENT IN ANY ZONE

FUCUS

	Dense			Moderate			Sparse			Rare		
	1U	1M	1L	1U		1L		1M		1U	1M	1L
BOULD	2	2	2	2		2		2		2	2	2
COBBLE	3	3	3	3		3		3		X	3	3
PEBB	4	4	4	4		4		4		4	4	4
SAND	5	5	5	5		5		5		5	5	5
	6	6	6	6		6		6		6	6	6

NOT PRESENT

NOT PRESENT AT ANY ZONE

Wildlife Observations/ General Comments:
Dipper (2), Flicker (1), Bufflehead (4), N.W. crows (40), White-winged scoter (1), Glaucous-winged gull (1), Sandpiper (8), River otter (1), Sea Otter (1), Merganser (1),

Ecological Considerations: Mallard duck (6), and Bald eagle (4) unknown maturity.

Hvy traffic during future clean-up attempts should be cautious of crushing mussel beds in sand / cobble substratum; mid-intertidal zone.

ACE 9961782

/ A,B (Salmon stream)

ACE 1940730

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ TB-003 SUBDIVISION: A DATE 4/19/90

~~USCG~~ NOAA
NAME Donald A. MacDonald SIGNATURE Donald A. MacDonald

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

There was a general consensus on the conditions existing along the beach. The critical portion of segment TB-003 which consisted of the cove extending towards the northwest at the western extremity of Tonsina Bay. This area had large amounts of soft pavement in broken and patchy distributions and sometimes extending down 10-15 cm. Towards the northeastern end of the segment a stretch of beach consisted of fairly large rocks under which were patches of soft pavement with a shiny brown coat.

ADEC
NAME John R. Reed SIGNATURE John R. Reed

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

I am suggesting manual cleanup of asphalt mats in this segment. The tidal flats on the western shore where the anadromous stream is has some heavy oiling. There are some soft pavements along the banks of the anadromous streams. These pavements consist of very fine sediments, some peat is also in this area that seems to have absorbed some oil, this will probably be better left alone. I have Read and agree with all SSAT data. There was some bioremediation done in this segment last year.

LAND MANAGER DNR/DPOR
NAME Jeff Johnson SIGNATURE Jeff Johnson ACE 9961783

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Agree with SSAT team data. TB-3 is within Kachemak Bay State Wilderness Park. High recreation values in Tonsina Bay. Tar mats (especially on tidal flats) should be picked up with shovels. Chain saw cuts from past cleanup efforts at "tide flats" and "beach" should be mitigated. Did not observe oiled debris. CERCLA signs need to be removed, as well as Bioremediation treatment warning signs. Both types were found in this segment. Care should be taken to avoid working near anadromous stream during pink Salmon spawning. Good anchorages in this unit, tent sites possible. Tonsina is an area of relatively high human use, popular with commercial fishermen + pleasure boaters, and has high wildlife values as well. Treatment Recommended.

REVISION NO. 03/21/90

ACE 1940731

To: Homer ADEC

From: Randy Reed ENSCO ATLAS Fax #

011 872 150 0655

SSAT Forms for TB-03

We are going to try and do TB-06 & TB02 Today. If you have any comments give me a call or fax.

Ensco Atlas phone #

011 872 150 0655

ACE 9961784 -/S

ACE 1940732 -/S

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 232-10-10342

SEGMENT TB-003 SUBDIVISION A

WORK WINDOW

Tarmat Removal	**OPEN**
Bioremediation	WORK 6/15 to 7/10

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B	**Salmon Stream**	ADF&G catalogued anadromous stream (232-10-10342) is in Subdivision A. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to tarmat removal.
1J	**Purse Seine Area**	No constraint to bioremediation prior to 7/20.
2M	**Herring Spawning**	Closed to bioremediation prior to 6/15.
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. Restrict boat and air traffic to essential minimum. No flushing of pollutants or sediments into stream drainage; do not allow Inipol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Sensitive estuary.

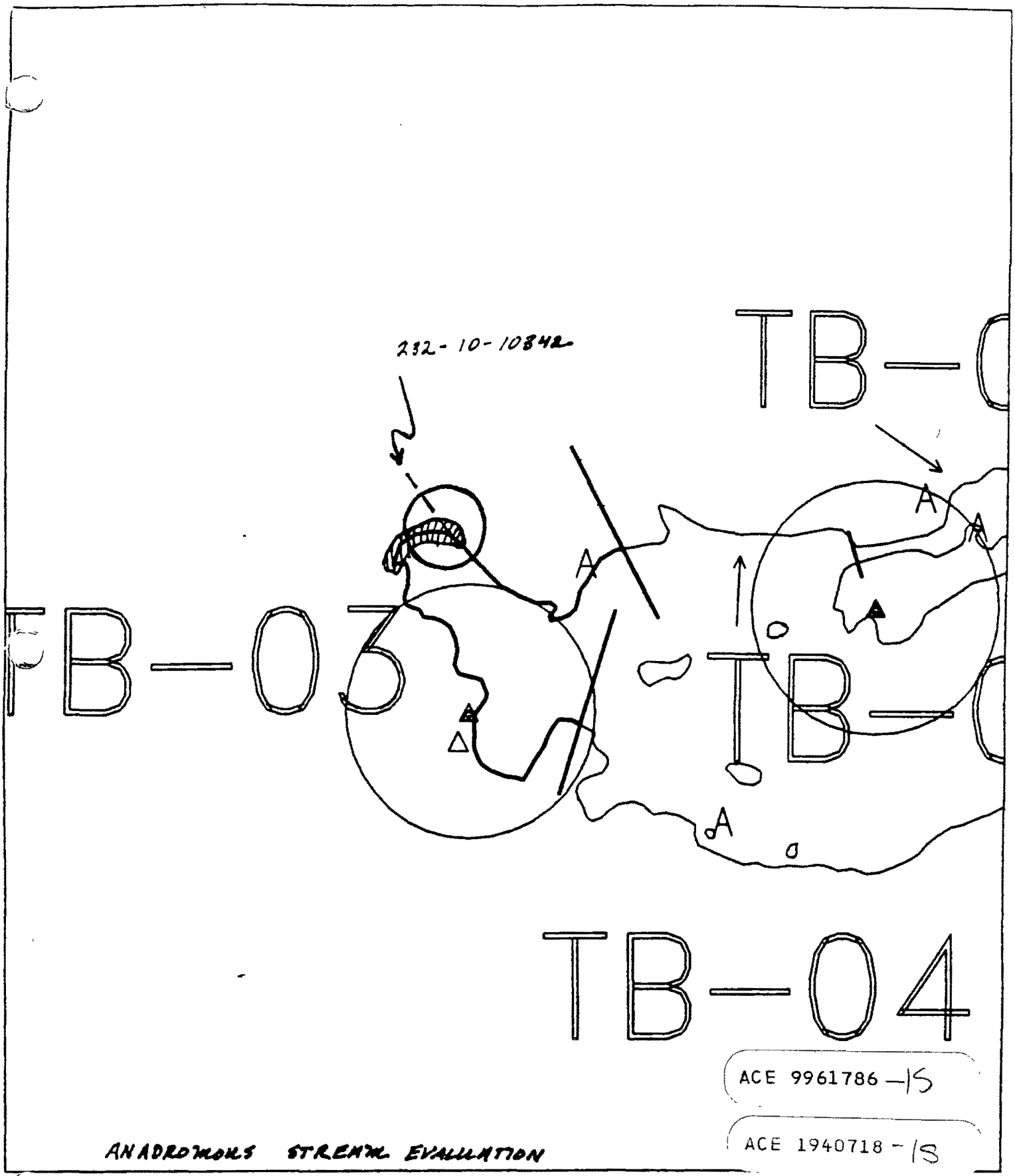
SEE SUBDIVISION CONSTRAINT ADDENDUM TB-003A FOR ADDITIONAL CONSTRAINT INFORMATION.

ACE 9961785 +/S

FOSC [signature] Date 6/?/90

ACE 1940717 +/S

Prepared by [signature] Date 6/12/90



ACE 9961786 - 1S

ACE 1940718 - 1S

ANADROMOUS STREAM EVALUATION

EXXON

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

ECOLOGY MAP
SEGMENT TB-3
SUBDIVISION A (1 of 1)

METERS

★ Seabird Colony
▲ Active Eagle Nest
△ Inactive Eagle Nest

ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

DOA 10/7/9

STREAM#: 2321010342
SEGMENT: TB003

PAGE 3

DATE PRINTED: 08/14/91

LOCATION: TONSINA BAY, NORTHWESTERN SHORE

SURVEY TYPE: 90 CLEANUP MONITORING - BS/SS

METHOD: ~~GROUND~~ FOOT

DATE: 06/20/90

TEAM RECORDER: HILL

START TIME: 1736
END TIME: 1945

OBSERVERS: GLENN

TIDES: Ebb Slack Flood

AGENCY: FG

OG/HAB DISCREPANCIES:

PHOTOS TAKEN: Y

STATION: 2321010342

ROLL#: 90DDH016H
FRAME: 19-22

90LPG023H

VIDEO TAKEN: Y TAPE#: ? ?
START: 5725 END: 5751

SAMPLES TAKEN: N

SAMPLE NUMBERS:

OIL IN STREAM BED: N

OVERALL OIL IMPACT: M/H

OIL ON BEACH BY MOUTH: Y

WAVE EXPOSURE: LOW

SHORELINE TYPE: HEADLAND LOW-LYING ROCKS BEACH

SUBSTRATE TYPE: BEDROCK 5 BOULDER 20 COBBLE 35 VEGETAT

GRAVEL 20 SAND MUD/SILT 10 GRANULE

ANADROMOUS FISH PRESENT: N

SPECIES: COUNT:

ACE 9961787 HS/SG

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

OK NOT

PAGE 4

DATE PRINTED: 08/14/91

STREAM# : 2321010342
SEGMENT#: TB003

SURVEY TYPE : 90 CLEANUP MONITORING
DATE: 06/20/90
TIMES: 1736 - 1945

LOCATION: TONSINA BAY, NORTHWESTERN SHORE
TEAM RECORDER: HILL

-- OILING EXTENT --

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

COMMENTS:
OIL SHEEN READILY APPARENT ALONG THE EAST SHORE OF THE TB-3 TIDE FLATS - ALONG THE SOUGH. OIL OBSERVED IN BEACH GREENS ON EAST SHORE OF CATALOGED ANADROMOUS FISH (OIL SATURATED SEDIMENT AND THIN MATS 10' X 10' X <2" THICK). A GOOD SHEEN IS PRODUCED WHEN THIS OIL IS PLACED IN SOME WATER. JOHN DEAN (EXXON) SAYS THAT THE OIL WHICH IS SCATTERED THROUGHOUT THE FLATS (EXPECIALLY IN THE MID TO LOWER INTERTIDAL) IS NOT ASPHALT OR TAR SO HE WOULD HAVE TO GET HIGHER EXXON AUTHORITY TO AUTHORIZE THE PICKUP OF THIS AMOUNT OF MATERIALS. OIL SATURATED SEDIMENT IS NOT CONSIDERED A SUFFICIENT AMOUNT/% OF OIL TO WARRANT PICKUP. TB-3 TIDE FLATS - OIL SATURATED SEDIMENT PRESENTS A LARGE PROBLEM - STUFF IS IN SEDIMENT THAT DOES NOT GET WORKED MUCH BY THE SURF. THIS AREA IS UTILIZED BY RIVER AND SEA OTTERS, PINK SALMON (= STREAMS), WATERFOWL, SHOREBIRDS (ESPECIALLY DURING MIGRATION), BEAR, WEASELS, EAGLES, ETC. ETC. JOHN DEAN FEELS BIOREMEDIATION (INIPOL) IS A VIABLE TOOL HERE. THE MAJORITY OF THE OIL HERE IS BELOW THE SURFACE. SATURATED SEDIMENT WAS REMOVED FROM THE ANADROMOUS SEGMENT CB-03; WHY NOT HERE? PICKUP SHOULD BE PUSHED KEEPING IN MIND THAT EXXON MAY NOT RETURN IN 1991. OIL SHEEN ARISES WHEN A PERSON WALKS THROUGH THE SALTWATER AT THE MITZ AND UITZ ESPECIALLY. I FEEL OIL SATURATED SEDIMENT IS MORE OF A THREAT/PROBLEM (ESPECIALLY FOR INTERTIDAL BIOTA) THAN ASPHALT/TAR ETC. THE OIL IN THE OIL SATURATED IS TRAPPED TO SOME DEGREE IN SEDIMENT OF THIS LOW ENERGY AREA. OIL IS IN FUCUS ZONE. SITE #1 ALSO CONTAINS OIL TYPES HOR, LOR.

Wait Exxon consider removing the same OIL TYPE from this site.

CLEANUP MONITORING

TONSINA BAY – SNW Creek, ANAD stream (tideflats) & South portion of segment (Grimm Cove) EAGLES OK

ADF&G MULTI-ASSESSMENT DATA FORM

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

METHOD: Aerial (Ground) Boat

3 DATE: 6/20/90 — 16 HIGH TIDE TIMES: 1252 pm 1117 am — 21 TEAM RECORDER: Doug Hill

4 START TIME: 1736 — 16 HIGH TIDE HTS: 9.9 / 14.2 — 22 OBSERVERS: Lee Glenn

5 STOP TIME: 1945 — 17 LOW TIDE TIMES: 0625 / 1811 — 23 AGENCY: ADF&G

6 SEGMENT #: TB-3 — 18 LOW TIDE HTS: -1.7 / 13.3 — 24 PHOTOS TAKEN: (Y) N

7 STATION #: _____ — 19 TIDE HT AT SURVEY: _____ — Roll #: 9000HB16H Frame: 19, 20, 21, 22

8 K-UNIT: _____ — (Ebb) (Slack) (Flood) Slack — 25 VIDEO TAKEN: (Y) N — TAPE#: 90LFG023H.2 OK

9 STAT AREA: _____ — 20 USCG QUAD: Seldovia B-3 — Start: 5725 End: 5751

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

12 SOURCE: Map Loran — Oil _____

13 LOCATION: Tonsina Bay, West end-Head of Bay — Sediment _____

14 DESCRIPTION: _____ — Biological _____

EXTENT OF OIL — Water _____

	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) (Sheen) — TB AP ST SOR – HOR-LOR

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 5 Boulder 20 Cobble 35 Gravel 20 Sand _____ Mud/silt 10

36 CATALOGED ANAD. FISH STREAM? (Y) N

37 CATALOG #: 232-10-10342 OK DOH

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: TB, 02, 04, 06, 05

43 ANADROMOUS FISH PRESENT? Y (N)

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

ACE 9961789 HS

COMMENTS: Met Rich Haglen (OOPS), Clara Crosby (ADEC). We surveyed from Grimm Beach to Grimm Cove where the manual crew is working. Jerry Nugent (USFWS-Eagle monitor) says he'll allow work on the TB-3 tide flats – with respect to the active eagle nest. The eagles were within ~150 yds of the cleanup crews, skiffs + LCM --- steady noise + motion. John Dean (EXXON), Clara Crosby (ADEC), Rich Haglen (OOPS), Jerry Nugent (USFWS), Lee Glenn + I skiffed to the TB-3 tide flats + Anadromous stream.

over →

46 PHOTOLOG

FRAME(S)	DESCRIPTION
21	Heavily oil saturated sediment among beach greens.
22	LIT2 – Lee Glenn/sheen arising from where he turned through with. Very common to stir up sheen at the flats.

46 OIL DISTRIBUTION DIAGRAM

Comments cont'd.

The eagles did not move as we skiffed beneath them/Lem guttering away.

Oil sheen readily apparent along the east shore of the TB-3 tide flats along the slough. Oil observed in beach greens on East shore of cataloged Anadromous fish/oil saturated sediment & thin mats → 10'x10'x<2" thick [20' from stream] ⇒ A good sheen is produced when this oil is placed in some water.

CERCLA damage assessment crew has placed re-bar w/flagging attatched in the flats. This rebar could easily poke holes in skiff.

John Dean (Exxon) says he'll have to get clearance from Exxon to pick up the oil & oiled sediment present in & on the flats. John says that oil (which is scattered throughout the flats (especially in the mid to lower intertidal) is not Asphalt or tar so he would have to get higher Exxon authority to authorize the pickup of this Amount of material (the convience of LABELS huh?!?). Oil saturated sediment is not considered a sufficient amount/% of oil to warrant pick up. It doesn't matter if the sediment reeks of oil, causes sheen, gets your kind oil stained when you sit on it, etc; if it's the type of oiling that looks like fuel oil or motor oil was poured on it & the USCG + Exxon do not want to pick it up.

TB-3 tide flats = Oil saturated sediment presents a large problem - the stuff is in sediment that does not get worked much by the surf. This area is utilized by river & sea otters, pink salmon (streams), waterfowl, Shorebirds (esp during migrations), bear, weasel, eagles etc etc.

John Dean Exxon says there's a lot of oil here, Lee said Yes, lets pick it up. John says he's not authorized to move such a large quantity of materials

Cont'd Next page

= Sample taken
= Photo frame # and shot direction.

Comments Cont'd.

John Dean feels Bioremediation (Inipol) is a viable tool here. The majority of the oil here is below the surface.

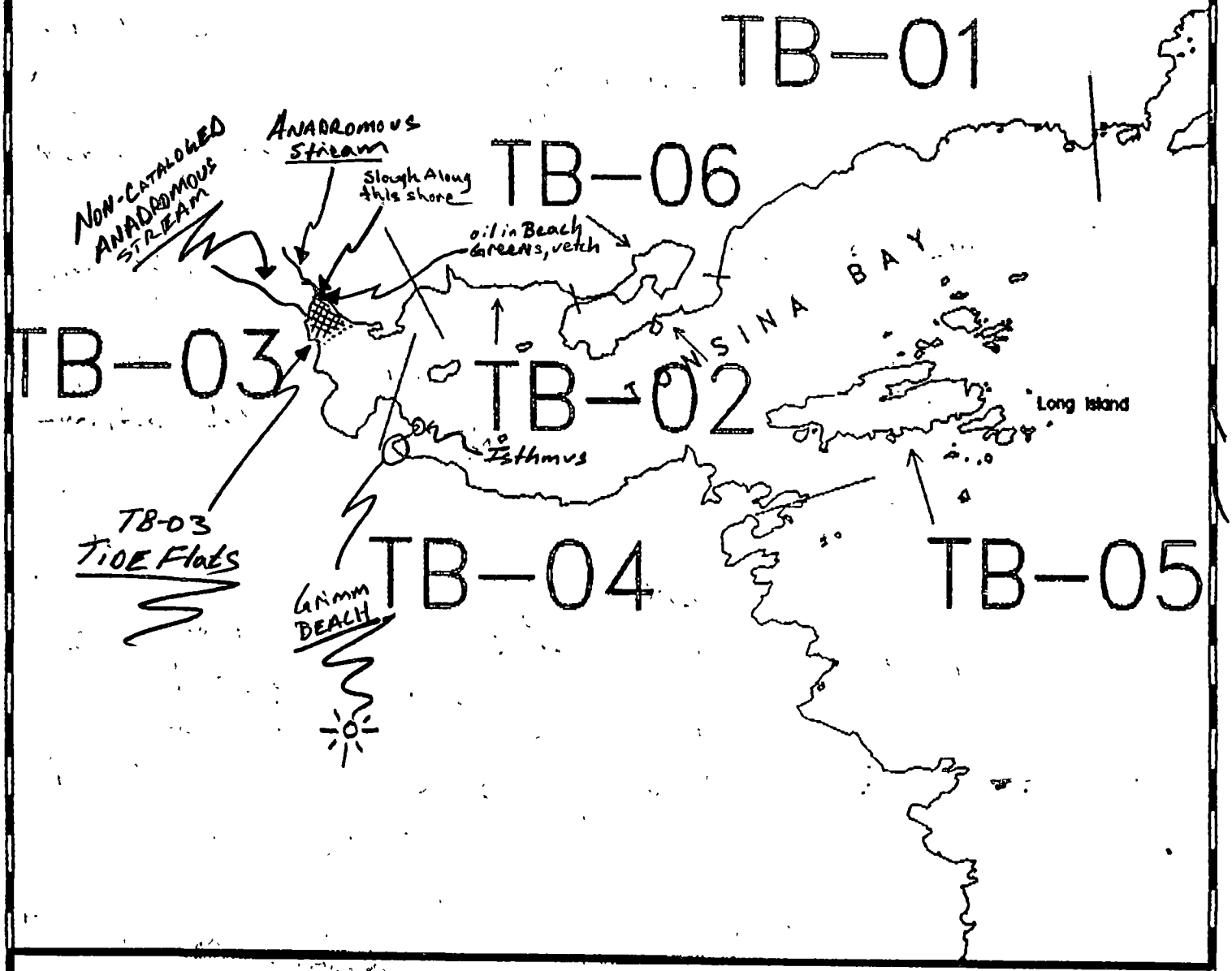
Inipol ~~won't~~ be allowed here anyway (Lee Glenn). (This is a sensitive & heavily oiled area - lets pick it up.

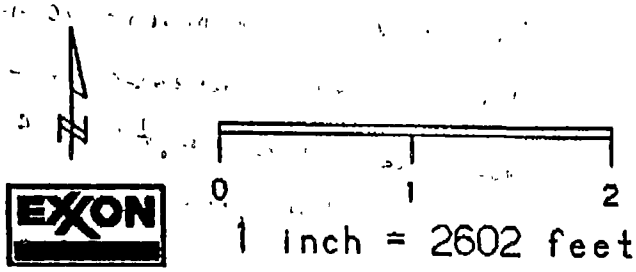
Saturated sediment was removed from the Awad. Segment CB-03, why not here. Pick up should be pushed keeping in EXXON may not return in 1991.

Both TB-03 tide flats & Grimm Beach were bioremediated in 1989.

- Oil sheena arises when a person walks through the saltwater at the MITZ TWITZ especially.
- I feel oil saturated sediment is more of a threat/problem (especially for intertidal biota) than Asphalt/tar etc. The oil in the saturated is trapped to some degree in sediment of this low energy area. Oil is fucus zone. John Dean (EXXON) says "ultimately ADF&G cleanup demands will be met (hmmm!?! we'll see). Even Jerry Nugent (USFWS) says a front end loader is necessary here.

6/20/90





EXXON COMPANY, USA

ACE 9961792—IS/SG

May 21, 1990

Aml used:
/chugach1/morris/super2/ops.aml

TONSINA BAY – SNW Creek (ANAD Stream) (Tide flats) & South Portion of segment (Grimm Cove)

EAGLES

DRAFT 10/7/91

ADF&G MULTI-ASSESSMENT DATA FORM

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

METHOD: Aerial (Ground) Boat

3 DATE: 6/20/90 15 HIGH TIDE TIMES: 1252 am / 1117 am 21 TEAM RECORDER: Doug Hill

4 START TIME: 1736 16 HIGH TIDE HTS: 9.9 / 14.2 22 OBSERVERS: Lee Glenn

5 STOP TIME: 1945 17 LOW TIDE TIMES: 0625 / 1811 23 AGENCY: ADF&G

6 SEGMENT #: TB-3 18 LOW TIDE HTS: -1.7 / 3.3 24 PHOTOS TAKEN: (Y) N

7 STATION #: _____ 19 TIDE HT AT SURVEY: _____ Roll #: 900DHB14H Frame: 19, 20, 21, 22

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

9 STAT AREA: _____ 20 USCG QUAD: Seldovia B-3 Start: 5725 End: 5751

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

12 SOURCE: Map Loran Oil _____

13 LOCATION: Tonsina Bay, West end - Head of Bay Sediment _____

14 DESCRIPTION: _____ 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 5 Boulder 20 Cobble 35 Gravel 20 Sand _____ Mud/silt 10

36 CATALOGED ANAD. FISH STREAM? (Y) N

37 CATALOG #: 232-10-10342

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: TB,02,04,06,05

43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

ACE 9961793 +1S

COMMENTS: Met Rich Haglen (OOPS), Clara Crosby (ADEC). We surveyed from Grimm Beach to Grimm Cove where the manual crew is working. Jerry Nugent (USFWS-Eagle monitor) says he'll allow work on the TB-3 tide flats - with respect to the active eagle nest. The eagles were within ~150yds of the cleanup crews, skiffs + LCM --- steady noise + motion. John Dean (Exxon), Clara Crosby (ADEC), Rich Haglen (OOPS), Jerry Nugent (USFWS), Lee Glenn + I skiffed to the TB-3 tide flats + Anadromous stream.

over →

4B PHOTOLOG

FRAME(S)	DESCRIPTION
21	Heavily oil saturated sediment among beach greens
22	LIT2 - Lee Glenn/sheen arising from where he walked through water → very common to stir up sheen at the flats.

4B OIL DISTRIBUTION DIAGRAM

Comments cont'd.

- The eagles did not move as we skiffed beneath them/LCM sputtering away.
- Oil sheen readily apparent along the east shore of the TB-3 tide flats - along the slough. Oil observed in beach greens on east shore of cataloged Anadromous fish (oil saturated sediment) + thin mats → 10' x 10' x < 2" thick) [20' from stream] ⇒ A good sheen is produced when this oil is placed in some water.

CERCLA damage assessment crew has placed re-bar w/flagging attached in the flats. This rebar could easily poke holes in skiff. John Dean (Exxon) says he'll have to get clearance from Exxon to pick up the oil + oiled sediment present in + on the flats. John says the oil which is scattered throughout the flats (especially in the mid to lower intertidal) is not Asphalt or tar so he would have to get higher Exxon authority to authorize the pickup of this amount of material (the convience of LABELS huh?!?). Oil saturated sediment is not considered a sufficient amount/% of oil to warrant pick up. It doesn't matter if the sediment wreaks of oil, causes sheen, gets your hind oil stained when you sit on it, etc; if its the type of oiling that looks like fuel oil or motor oil was poured on it the USCG + EXXON do not want to pick it up.

TB-3 tide flats - oil saturated sediment presents a large problem - the stuff is in sediment that does not get moved much by the surf. This area is utilized by River/Sea otters, pink salmon (2 streams), waterfowl, shorebirds (esp during migration), bear, weasel, eagles etc etc.

John Dean Exxon says there's alot of oil here, Lee said yes, lets pick it up. John says he's not authorized to move such a large quantity of material. Cont'd Next page

= Sample taken

= Photo frame # and shot direction.

ACE 9961794

Comments Cont'd.

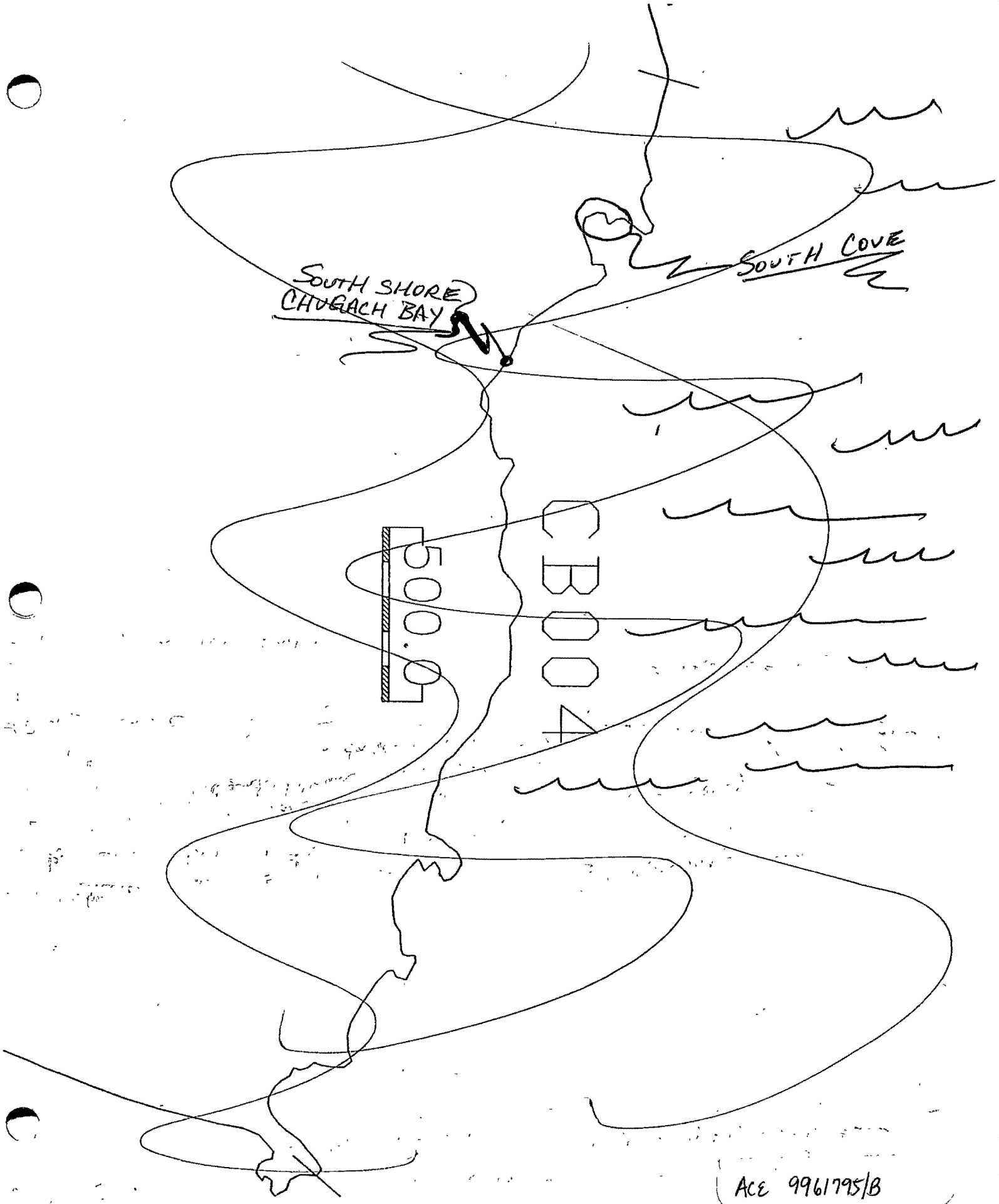
John Dean feels Bioremediation (Inipol) is a viable tool here. The majority of the oil here is below the surface.

~~Inipol~~ will be allowed here anyway (Lee Glenn). Is this a sensitive & heavily oiled area - lets pick it up.

Saturated sediment was removed from the Anad. segment CB-03, why not here. Pick up should be pushed keeping in EXXON may not return in 1991.

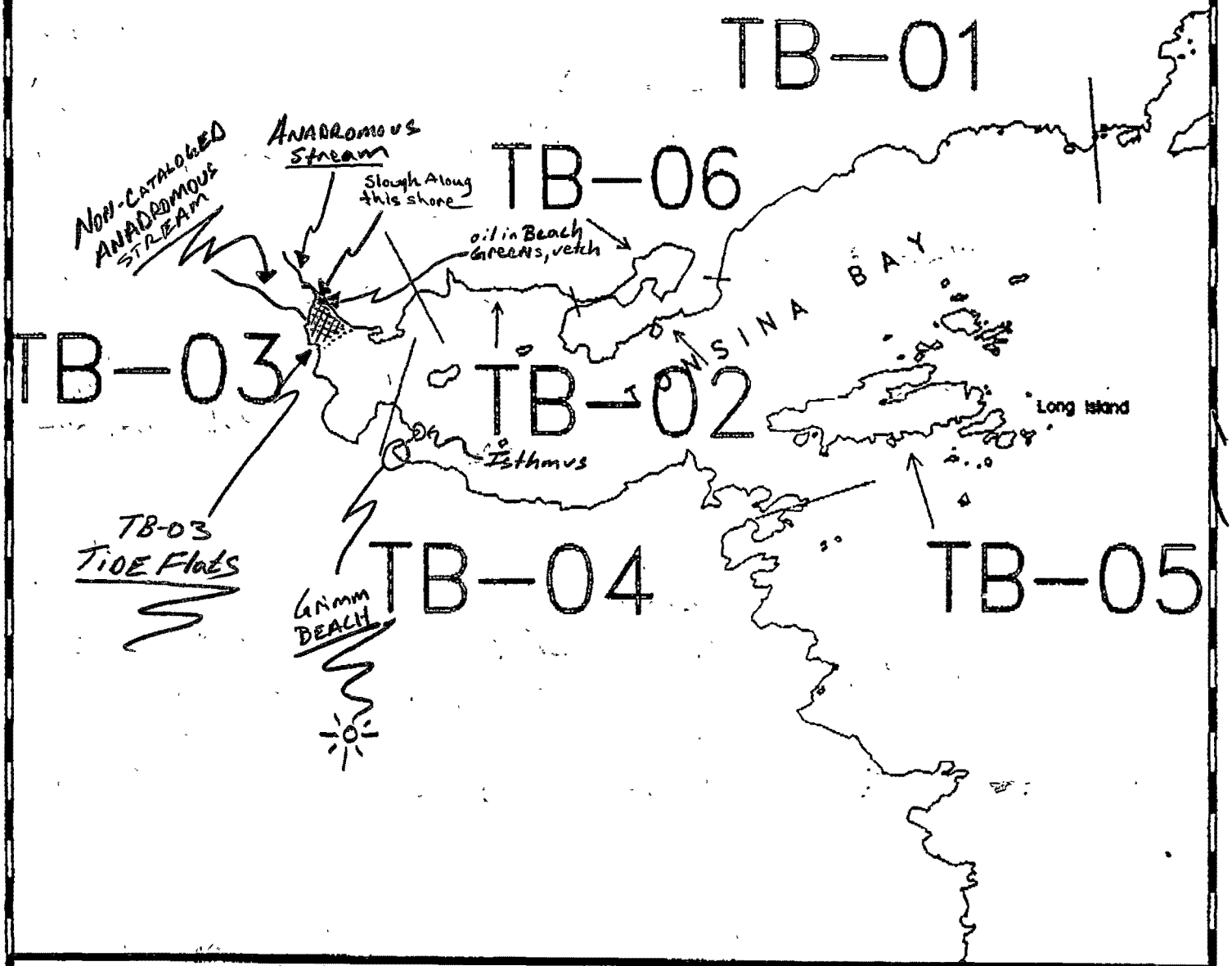
Both TB-03 tide flats & Grimm Beach were bioremediated in 1989.

- Oil ~~sheen~~ arises when a person walks through the saltwater ~~of the~~ MITZ & UITZ especially.
- I feel oil saturated sediment is more of a threat/problem (especially for intertidal biota) than Asphalt/tar etc. The oil in the saturated is trapped to some degree in sediment of this low energy area. Oil is fucus zone. John Dean (EXXON) says "ultimately ADF&G cleanup demands will be met (hmmm!?! we'll see). Even Terry Nugent (USFWS) says a front end loader is necessary here.



ACE 9961795/B

6/20/90



EXXON COMPANY, USA

ACE 9961796 - 15

May 21, 1990

Aml used:
/chugach1/morris/super2/ops.aml

EXXON

0 1 2

1 inch = 2602 feet

ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

STREAM#: 2321010342
SEGMENT: TB003

PAGE 1 DATE PRINTED: 07/25/91

LOCATION: TONSINA BAY, NORTHWESTERN SHORE

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

DATE: 06/27/90 TEAM RECORDER: HILL

START TIME: 0900 OBSERVERS: -0-
END TIME: -0-

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

PHOTOS TAKEN: N

STATION: 2321010342 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

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

WAVE EXPOSURE: LOW SHORELINE TYPE: HEADLAND LOW-LYING ROCKS

SUBSTRATE TYPE: BEDROCK 5 BOULDER 20 COBBLE 35 VEGETAT -0-

GRAVEL 20 SAND -0- MUD/SILT 10 GRANULE -0-

ANADROMOUS FISH PRESENT: - U

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

ACE 9961797 + 1/5/56

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

PAGE 1 DATE PRINTED: 07/26/91

STREAM# : 2321010342
SEGMENT#: TB003

SURVEY TYPE : 90 CLEANUP MONITORING LOCATION: TONSINA BAY, NORTHWESTERN SHORE
DATE: 06/27/90
TIMES: 0900 - -0- 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-	MS TP AP ST

COMMENTS:
CREW OF 8 IS WORKING ON THE WEST CENTRAL PORTION OF TB003 - SMALL POCKET BEACH JUST SOUTH OF THE NON CATALOGED ANADROMOUS FISH STREAM WHICH IS JUST SW OF THE CATALOGED ANADROMOUS STREAM. THE OIL THE VECO CREW IS PICKING UP WAS NOT IDENTIFIED DURING THE SSAT SURVEY. ON 6/26/90 THE VECO CREW PICKED UP APPROXIMATELY 1100 POUNDS OF OILED MATERIAL FROM THE TIDE FLATS AREA. THE CREW REMOVED ~~PICKED~~ OIL ~~UP~~ FROM THE SUPRA/UPPER INTERTIDAL ZONE - REMOVING A TARMAT FROM AMONG THE BEACH GREENS (5' X 5') SOME SATURATED SEDIMENT REMAINS IN THE VICINITY OF THE BEACH GREENS WHICH CAN STILL BE REMOVED EASILY FROM AMONG THE VEGETATION (BEACH GREENS, SILVERWEED). THE VOLUME OF MATERIAL PICKED UP ON THE 25TH WAS TAKEN FROM THE UPPER INTERTIDAL ZONE. VEGETATION WAS REMOVED TO GET AT THE OIL BELOW. THE VECO CREW HAS NOT WORKED THE LOWER INTERTIDAL ZONE. PATRICK EGAN (ADEC) WALKED THE LITZ & MITZ IDENTIFYING OIL. THE CREW HAS ALSO WORKED ON APPROXIMATELY 100 YARDS OF SHORELINE AMONG LOGS AND BOULDER/COBBLES AT THE TREE LINE. OIL NEEDS TO BE REMOVED FROM THE BANKS AND ADJACENT BEACH OF THE NON CATALOGED ANADROMOUS STREAM - THE OIL IS IN THE VEGETATION AND SCATTERED THROUGH COBBLES AND GRAVEL. I'LL BE SUPRISED IF A DECENT CLEANUP, ~~IF ANY CLEANUP~~ OCCURS IN THE MITZ & LITZ OF THE TIDE FLATS PORTION OF TB003. MOUSSE IS BEING RECOVERED FROM BENEATH AND BETWEEN BOULDERS/COBBLES ON THE SMALL POCKET BEACH SOUTH OF THE NON CATALOGED ANADROMOUS STREAM MENTIONED ABOVE.

ACE 9961798 - 15

Cleanup Monitoring
TB-03

OK

ADF&G MULTI-ASSESSMENT DATA FORM

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

METHOD: Aerial (Ground) Boat

3 DATE: 6/27/~~91~~ 90 NOW

15 HIGH TIDE TIMES: 0523 / 1505

21 TEAM RECORDER: Doug Hill

4 START TIME: 0900

16 HIGH TIDE HTS: 14.1 / 11.9

22 OBSERVERS:

5 STOP TIME:

17 LOW TIDE TIMES: 1022 / 2230

23 AGENCY: ADF&G

6 SEGMENT #: TB-03

18 LOW TIDE HTS: -2.8 / 2.4

24 PHOTOS TAKEN: Y (N)

7 STATION #:

19 TIDE HT AT SURVEY:

Roll #: [illegible] Frame: 23, 24

8 K-UNIT:

(Ebb) Slack Flood Slack

25 VIDEO TAKEN: Y (N) TAPE#:

9 STAT AREA:

20 USCG QUAD: Seldovia B-3

Start: End:

10 LAT: 59 18 37

11 LONG: 150 57 6

26 SAMPLES TAKEN? Y (N) Number

12 SOURCE: Map Loran

Oil

13 LOCATION: Tonsina Bay, Head of BAY

Sediment

14 DESCRIPTION: Northwest Creek/tidal flats

Biological

Water

EXTENT OF OIL

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

36 CATALOGED ANAD. FISH SREAM? (Y) N

37 CATALOG #: 232-10-10342

38 STREAM NAME:

39 OIL IN STREAM BED? Y (N)

40 OIL ON STREAM BANKS? (Y) N

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

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

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

MS TB AP ST SOR MOR LOR

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

32 OILED DEBRIS? (Y) N

Where:

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

43 ANADROMOUS FISH PRESENT? Y (N)

OK

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

34 WAVE EXPOSURE: High Moderate (Low)

NOW OK

35 SUBSTRATE TYPE: Bedrock ~~5~~ 10 Boulder ~~20~~ 10 Cobble ~~35~~ 20 Gravel ~~20~~ 25 Sand 25 Mud/silt 10

ACE 9961799 +15

COMMENTS: Crew of 8 is working on the west central portion of TB-03 - small pocket beach just ~~SE~~ of the ~~cataloged~~ Non-CATA- anadromous fish stream which is just SW of the Cataloged ANAD. Stream. The oil the ~~[illegible]~~ VECO crew is picking up was not identified during the SSAT survey. On 6/26/90 the VECO crew picked up approximately 1100 pounds of oiled material from

FRAME(S)	DESCRIPTION
23 24	I.

46 OIL DISTRIBUTION DIAGRAM

the ~~[illegible]~~ Tide flats Area. A The crew removed ~~[illegible]~~ picked oil up from the supra/upper intertidal zone - removing a ~~[illegible]~~ tarmat from among the beach greens (5'x5') ~~some~~ saturated sediments remains in the vicinity of the beach greens which can still be removed easily from among the vegetation (beach greens, Silverweed). The volume of material picked up on the 25th was taken from the upper ~~supra~~ intertidal zone. Vegetation was removed to get at the oil below.

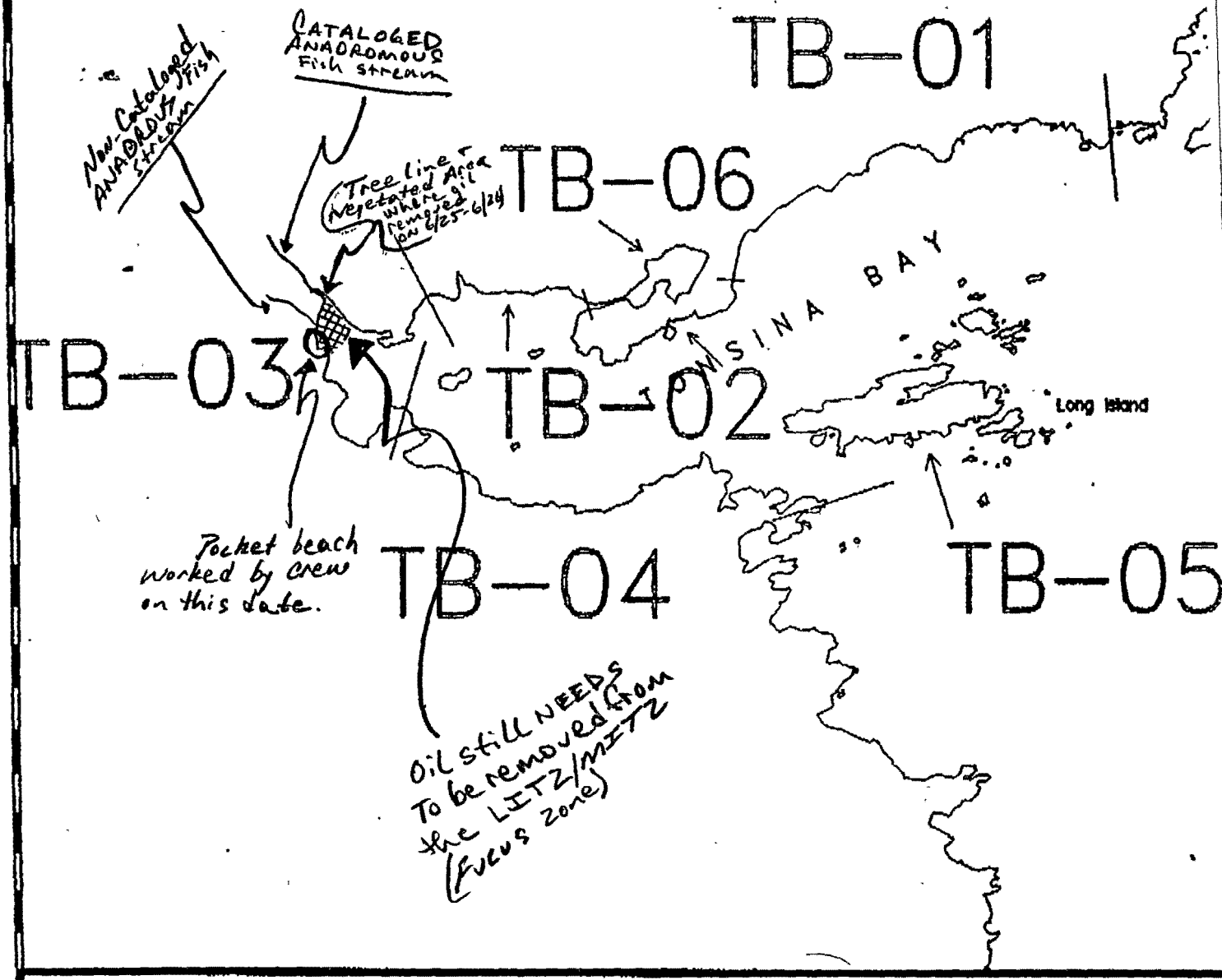
The VECO crew has not work the lower intertidal zone. Patrick Egan (ADEC) walked the LITZ & MITZ identifying oil. The crew has also worked on approximately 100 yards of shoreline among logs & ~~rocks~~ boulders/cobbles at the treeline. ~~Pick Hayden Cove~~ Oil needs to be removed from the banks and adjacent beach of the NON-cataloged Anad. stream - the oil is in the vegetation and scattered ~~[illegible]~~ through cobbles and gravel.

I'll be suprised if a decent Cleanup, if any Cleanup, ~~[illegible]~~ occurs in the MITZ & LITZ of the ~~flats~~ tide portion of TB-03

- Mousse is being recovered from beneath & between boulders/cobbles, on the small pocket beach South of the non-cataloged Anad. stream mentioned above.

■ Sample taken
■ Photo frame # and shot direction.

6/27/90



EXXON

0 1 2

1 inch = 2602 feet

EXXON COMPANY, USA

ACE 9961801-1S/SG

May 21, 1990

Aml used:

/chugach1/morris/super2/...aml

Cleanup Monitoring - TB-03

DRAFT 10/7/91

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: 6/27/91 16 HIGH TIDE TIMES: 0523 / 1505 21 TEAM RECORDER: Doug Hill

4 START TIME: 0900 16 HIGH TIDE HTS: 14.1 / 11.9 22 OBSERVERS: _____

5 STOP TIME: _____ 17 LOW TIDE TIMES: 1022 / 2230 23 AGENCY: ADF&G

6 SEGMENT #: TB-03 18 LOW TIDE HTS: -2.8 / 2.4 24 PHOTOS TAKEN: Y N

7 STATION #: _____ 19 TIDE HT AT SURVEY: _____ Roll #: 9000HR16H Frame: 23,24

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

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

10 LAT: 59 18 37 11 LONG: 150 57 6 26 SAMPLES TAKEN? Y N Number

12 SOURCE: Map Loran Oil _____

13 LOCATION: Tonsina Bay, Head of BAY Sediment _____

14 DESCRIPTION: Northwest Creek/Tidal Flats 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 5 Boulder 20 Cobble 35 Gravel 20 Sand _____ Mud/silt 10

36 CATALOGED ANAD. FISH STREAM? (Y) N

37 CATALOG #: 232-10-10342

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) U

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

ACE 9961802 +15

COMMENTS: Crew of 8 is working on the west central portion of TB-03 - small pocket beach just SW of the ~~Cataloged~~ Non-CATA- anadromous fish stream which is just SW of the Cataloged ANAD. Stream. The oil the ~~EXXON~~ VECO Crew is picking up was not identified during the SSAT surveys. On 6/26/90 the VECO Crew picked up approximately 1100 pounds of oiled material from

logged

45 PHOTOLOG

FRAME(S)	DESCRIPTION
23	In
24	

46 OIL DISTRIBUTION DIAGRAM

the ~~[illegible]~~ Tide flats Area. The crew removed ~~[illegible]~~ picked oil up from the supra/upper intertidal zone - removing a ~~[illegible]~~ oil tarmat from among the beach greens (5'x5') ~~Some~~ saturated sediments remains in the vicinity of the beach greens which can still be removed easily from among the vegetation (Beach greens, Silverweed). The volume of material picked up on the 25th was taken from the upper ~~supra~~ intertidal zone. Vegetation was removed to get at the oil below.

The VECO crew has not work the lower intertidal zone. Patrick Egan (ADEC) walked the LITZ + MITZ identifying oil. The crew has also worked on approximately 100 yards of shoreline among logs + ~~rocks~~ boulder/cobbles at the tree-line. ~~[illegible]~~ Oil needs to be removed from the banks and adjacent beach of the non-cataloged Anad. stream - the oil is in the vegetation and scattered ~~[illegible]~~ through cobbles and gravel.

I'll be suprised if a decent ~~job~~ cleanup, if any ~~job~~ cleanup, occurs in the MITZ + LITZ of the ~~flats~~ tide flats portion of TB-03

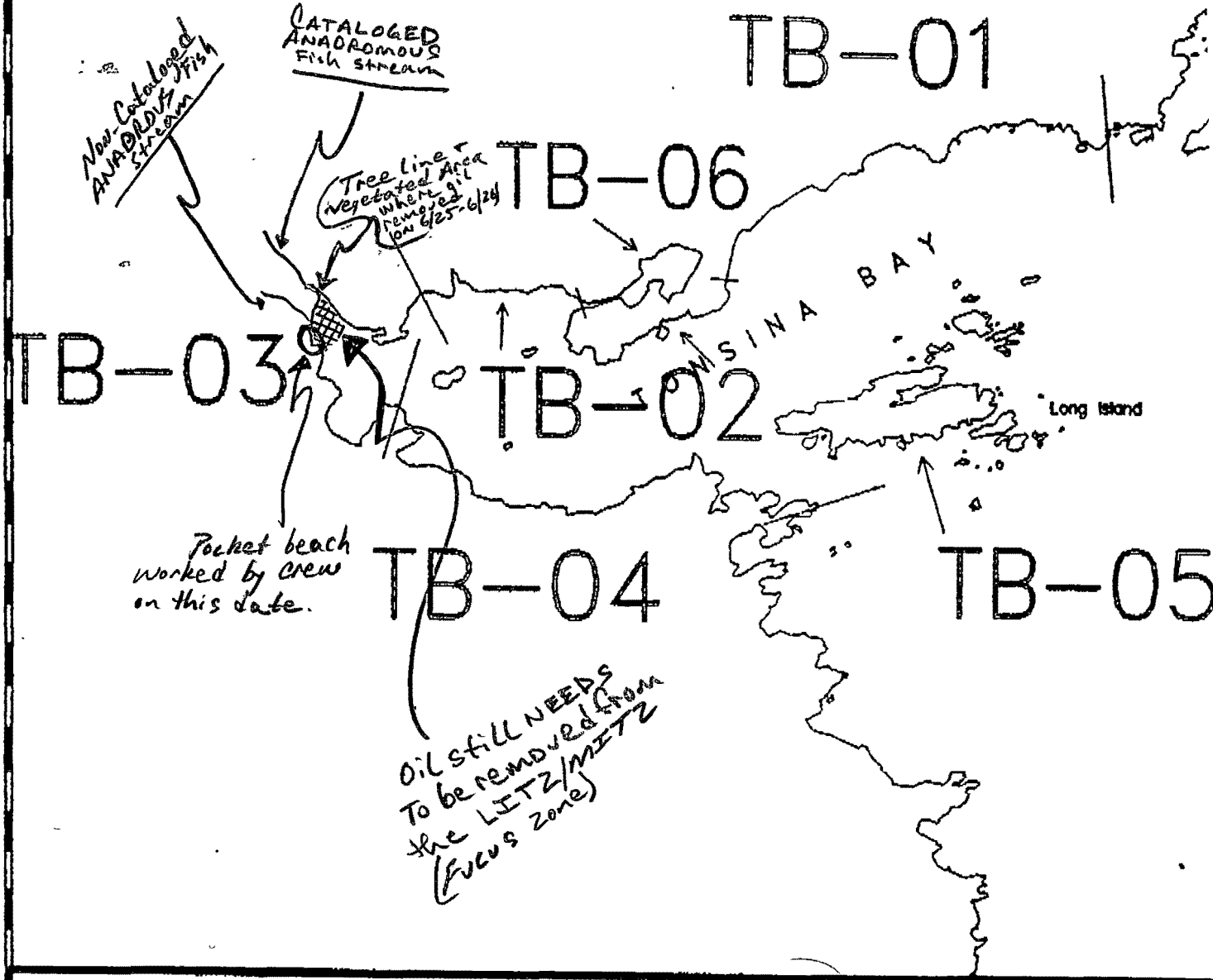
- Mousse is being recovered from beneath + ~~between~~ boulders/cobbles, on the small pocket beach south of the non-cataloged Anad. stream mentioned above.

= Sample taken

= Photo frame # and shot direction.

ACE 9961803

6/27/90



EXXON COMPANY, USA

ACE 9961804 -15

May 21, 1990

Aml used:
/chugach1/morris/super2/ops.aml

EXXON

0 1 2

1 inch = 2602 feet

SEGMENT 15-003 SUBDIVISION 2 DATED 6/23/80

MODIFICATION

Class I X

1. REASON FOR MODIFICATION

Two salmon streams transect the intertidal zone. Pink salmon utilize the mid and upper tidal areas; some spawning also occurs here. Numerous species of birds and mammals are attracted to this end of Tanaina Bay. For this reason A.O.F.&G. does not recommend use as fertilizer in the tide flats. The use as cast-ablend would be acceptable on the cobble shoreline.

2. SUGGESTED ADJUSTMENT TO WORK PLAN

Do not bioremediate tide flats.

3. TIMING ISSUES

ADEC Russell Kinley

EXXON

USCG

LAND MANAGER (If field rep is on scene)

A.O.F.&G.

ACE 9961805

ACE 1940720

STATE OF ALASKA

STEVE COWPER, GOVERNOR

DEPARTMENT OF FISH AND GAME

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

EXXON Valdez Oilspill Cleanup

Anadromous Fish Stream Authorization

Date 6-27-90

EXXON Authorized Representative _____

Shoreline Segment TB-3A

Anadromous Fish Stream Number(s) 232-10-10392

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

Approved Cleanup Period TO-7/10/90

Alaska Department of Fish and Game

Authorized Officer

Permittee's Signature

Approved Cleanup techniques have been reviewed and complied with:

EXXON Authorized Field Representative

ACE 9961806

ACE 1940719

LOCATION: Tonsina Bay SEG TB3 SUBSEG A

MONITOR(S): E.P. Egan

DATE: 25 June 1990 TIME: BEGIN 0700 END 1900

TIDES: TIME: HEIGHT:
LOW 1002 -2.8
HIGH 0327 14.1
LOW 2210 2.4
HIGH 1647 11.9

WEATHER: CLOUDY RAIN (FOG) (SUN)
TEMP: 55 SEA COND: slight 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.) ~~Eyak River~~ Salmon stream closed to work 7/10/1990

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

SURFACE SEDIMENTS: R 60 % B 10 % C 10 % P 15 % G 0 % 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, buckets
NAMES OF REPS & OTHER AGENCIES: EXXON John Dean
USCG J. Schulte. OTHER: Veco Mike Regis
WORKERS ON SITE: ORTS 8 OTHER: OOPS Rich Heglin

WASTE HANDLING/DISPOSAL

ITEMS USED TO ABSORB/CONTAIN OIL
OF BAGS COLLECTED: 5 Super sacks
OILED DEBRIS 1 OIL & SEDIMENTS 4 OILED VEG. —
OILED LOGS PRESENT: (Y) N # OF LOGS REMOVED ___
stained

4/20/90

ACE 9961807 +/S

ACE 1940768 +/S

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 crew works well, but there are too few ORTs in Tonsina Bay to complete work in time allotted.

SIGNATURE E. Patel

ACE 9961808

ACE 1940769

ADEC DAILY SHORELINE ASSESSMENT

LOCATION: Tonsina Bay SEG TB3 SUBSEG
MONITOR(S): E. P. EGAN
DATE: 24 June 1990 TIME: BEGIN 0700 END 1900

TIDES: TIME: HEIGHT:
LOW 0917 -3.3
HIGH 0238 14.6
LOW 2120 2.4
HIGH 1602 11.8

WEATHER: CLOUDY RAIN FOG (SUN)
TEMP: 58 SEA COND: calm
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.) Salmon stream closed to work 7/10/90

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

SURFACE SEDIMENTS: R 60 % B 10 % C 10 % P 15 % G 0 % 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: Spades Buckets, trowels
NAMES OF REPS & OTHER AGENCIES: EXXON John Dean
USCG Jerry Schultz OTHER: Ikco Mike Reavis
WORKERS ON SITE: ORTS 8 OTHER: OOPS Rich Heglin

WASTE HANDLING/DISPOSAL

ITEMS USED TO ABSORB/CONTAIN OIL —
OF BAGS COLLECTED: > 6 super sacks
OILED DEBRIS 1 OIL & SEDIMENTS 6 OILED VEG. —
OILED LOGS PRESENT: (Y) N # OF LOGS REMOVED —
Stained

1-120/90

ACE 9961809

ACE 1940770

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.

Area needs more work crews to complete work orders in time ~~allotted~~ alotted

SIGNATURE S. Patch Eggl

ACE 9961810

ACE 1940771

ADEC DAILY SHORELINE ASSESSMENT

LOCATION: Tonsina Bay SEG TB3 SUBSEG A

MONITOR(S): E. P. EGAN

DATE: ~~23 June~~ 23 June 1990 TIME: BEGIN 0700 END 1900

TIDES:	TIME:	HEIGHT:
LOW	0745	-3.4
HIGH	0146	14.6
LOW	1938	2.8
HIGH	1517	11.2

WEATHER: CLOUDY RAIN FOG (SUN)
TEMP: 58 SEA COND: calm
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.) Salmon stream closing 7/10/90

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

SURFACE SEDIMENTS: R 60 % B 10 % C 10 % P 15 % G 0 % 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, Bags, Trowels
NAMES OF REPS & OTHER AGENCIES: EXXON John Dean
USCG Jerry Schultz OTHER: Veco Mike Reavis ~~Reavis~~
WORKERS ON SITE: ORTS 8 OTHER: OOPS Rich Heglin
→ + Veco Foreman + Mike Reavis

WASTE HANDLING/DISPOSAL

ITEMS USED TO ABSORB/CONTAIN OIL
OF BAGS COLLECTED: 8 Super Bags
OILED DEBRIS ___ OIL & SEDIMENTS 8 OILED VEG. ___
OILED LOGS PRESENT: (Y) N # OF LOGS REMOVED 0
Stained.

4/20/90

ACE 9961811

ACE 1940772

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.

This area needs more people and equipment to treat it adequately in the time alloted.

SIGNATURE E. Lahti Eggers

ACE 9961812

ACE 1940773

ADEC DAILY SHORELINE ASSESSMENT

LOCATION: Tonsina Bay SEG TB3 SUBSEG A

MONITOR(S): C. Crosby, E. P. Egan

DATE: 22 June 1990 TIME: BEGIN 0700 END 1859

TIDES:	TIME:	HEIGHT:
LOW	0745	-3.4
HIGH	0052	14.6
LOW	1938	2.8
HIGH	1429	11.2

WEATHER: CLOUDY RAIN FOG (SUN)
TEMP: 60 SEA COND: Slight 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.) Salmon Stream closed to work 7/10/90. Eagle Nest at SW corner. (Ruled safe.)

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

SURFACE SEDIMENTS: R 60 % B 10 % C 10 % P 15 % G 0 % 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: Spades, Trowels, Buckets
NAMES OF REPS & OTHER AGENCIES: EXXON John Dean
USCG Jerry Schultz OTHER: Veco MIKE Reavis
WORKERS ON SITE: ORTS 8 OTHER: OOPS Rich Heglin

WASTE HANDLING/DISPOSAL

ITEMS USED TO ABSORB/CONTAIN OIL ___
OF BAGS COLLECTED: 5 (Super Sacks)
OILED DEBRIS — OIL & SEDIMENTS 5 OILED VEG. —
OILED LOGS PRESENT: (Y) N # OF LOGS REMOVED —

some stained upright trees.

10/90

ACE 9961813

ACE 1940774

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.)

With bioremediation being ruled out in tidal flats of TB3 a work order addendum is needed to treat the area with manual pick-up of material. Saturated deposits are not addressed in the original work order. Dave Kenegy of DNR left verbal approval to remove oiled saturated sediments in specific areas. The written adenment is being created.

OBSERVATIONS: TREATMENT EFFICIENCY, POSSIBLE IMPROVEMENTS, ETC.

Crew putting a good day's work.

The tidal flats area is not going to be bioremediated ~~this~~ at this time, so I would like to see much more of the oil saturated sediments be removed. A definiate improvement would be to have more workers and support vessels in this area. I do not believe that the time alotted presently for clean-up of Tonsina Bay is nearly enough.

SIGNATURE E. P. Easley

ACE 9961814

ACE 1940775

PHOTO/VIDEO DOCUMENTATION

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

VIDEO: TAPE #— REASON:

COMMENTS

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

OBSERVATIONS: TREATMENT EFFICIENCY, POSSIBLE IMPROVEMENTS, ETC.

Crew had available an alternative High water work site.

ACE 9961815

SIGNATURE Clara S. Cosby

ACE 1940776

ADEC DAILY SHORELINE ASSESSMENT EXXON ATLHS

LOCATION: Tonsina Bay (South Shore) SEG TB03 SUBSEG A
MONITOR(S): Clara Crosby
DATE: 06/20/90 TIME: BEGIN 0730 END 1930

TIDES: TIME: HEIGHT:
LOW 0605 -1.7
HIGH 1234 9.9
LOW 1751 3.3
HIGH 2359 14.2

WEATHER: (CLOUDY RAIN) FOG SUN
TEMP: 48 SEA COND: 1-2ft
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

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

SURFACE SEDIMENTS: R___% B___% C___% P___% G___% S___%
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 HEADER FLOOD (HOT/COLD)
MANUAL REMOVAL: PO-(MS-AP)-TB BIOREMEDIATION
SPOT WASHING MECHANICAL
OTHER

EQUIPMENT USED: Shovels trowls
NAMES OF REPS & OTHER AGENCIES: EXXON John Dean
USCG Jerry Schwltz OTHER: Jerry Nugent USFWS
WORKERS ON SITE: ORTS 9 OTHER: ADF&G Doug Hill Leland Glem

WASTE HANDLING/DISPOSAL

ITEMS USED TO ABSORB/CONTAIN OIL pom poms
OF BAGS COLLECTED:
OILED DEBRIS 2 OIL & SEDIMENTS 25 OILED VEG. 0
OILED LOGS PRESENT: (Y) N # OF LOGS REMOVED 0

ACE 9961816

-4/20/90

ACE 1940777

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.)

OBSERVATIONS: TREATMENT EFFICIENCY, POSSIBLE IMPROVEMENTS, ETC.__

SIGNATURE Clara S. Crosby

ACE 9961817 - 15

ACE 1940778 - 15

ADEC DAILY SHORELINE ASSESSMENT EXXON ATLAS

LOCATION: Tonsina Bay SEG TB3 SUBSEG A
MONITOR(S): E. P. EGAN
DATE: 28 June 1990 TIME: BEGIN 0700 END 1900

TIDES: TIME: HEIGHT:
LOW —
HIGH 0558 10.6
LOW 12.13 0.2
HIGH 1901 11.3

WEATHER: CLOUDY RAIN FOG (SUN)
TEMP: 68 SEA COND: calm
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.) Salmon Stream closed to work 7/10/1990

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

SURFACE SEDIMENTS: R 60 % B 10 % C 10 % P 15 % G 0 % 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, buckets
NAMES OF REPS & OTHER AGENCIES: EXXON John Dan
USCG Jerry Schultz OTHER: cops Rich Heglin
WORKERS ON SITE: ORTS 8 OTHER: Veco Mike Rakvis

WASTE HANDLING/DISPOSAL

ITEMS USED TO ABSORB/CONTAIN OIL
OF BAGS COLLECTED: 12 Super Bags
OILED DEBRIS 2 OIL & SEDIMENTS 10 OILED VEG.
OILED LOGS PRESENT: (Y) N # OF LOGS REMOVED —
plastic bags oiled from sediment collection. Stained

ACE 9961818 +/S

4/20/90

ACE 1940761 +/S

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.)

No Problems

OBSERVATIONS: TREATMENT EFFICIENCY, POSSIBLE IMPROVEMENTS, ETC.

Crew is hardworking, but too small to complete the area within time constraints.

ACE 9961819

SIGNATURE E. Patti Eggs

ACE 1940762

ADEC DAILY SHORELINE ASSESSMENT EVOS0 ATLAS

LOCATION: Tonsina Bay SEG TB 3 SUBSEG A
MONITOR(S): E. P. EGAN
DATE: 27 June 1990 TIME: BEGIN 0700 END 1900

TIDES:	TIME:	HEIGHT:
LOW	1131	-.9
HIGH	0505	12.
LOW	2358	2.6
HIGH	1812	11.5

WEATHER: CLOUDY RAIN FOG (SUN)
TEMP: 68 SEA COND: calm
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.) Salmon stream closed to treatment 7/10/1990

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

SURFACE SEDIMENTS: R 60 % B 10 % C 10 % P 15 % G 0 % 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 buckets
NAMES OF REPS & OTHER AGENCIES: EXXON John Dean
USCG Jerry Schultz OTHER: OOPS Rick Heglin
WORKERS ON SITE: ORTS 8 OTHER: Veco Mike Reddis

WASTE HANDLING/DISPOSAL

ITEMS USED TO ABSORB/CONTAIN OIL ___
OF BAGS COLLECTED: 8 Super sacks
OILED DEBRIS ___ OIL & SEDIMENTS 8 OILED VEG. ___
OILED LOGS PRESENT: (Y) N # OF LOGS REMOVED ___
stained

4/20/90

ACE 9961820

ACE 1940763

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.

Crew is doing good work, but more workers are necessary in this area to finish the work orders within the time constraints.

ACE 9961821

SIGNATURE E. Patterson

ACE 1940764

ADEC DAILY SHORELINE ASSESSMENT EXXON ATLAS

LOCATION: Tonsina Bay SEG TB3 SUBSEG A

MONITOR(S): E. P. EGAN

DATE: 26 June 1990 TIME: BEGIN 0700 END 1900

TIDES:	TIME:	HEIGHT:
LOW	1049	-2
HIGH	0416	13.2
LOW	2303	2.5
HIGH	1730	11.2

WEATHER: (CLOUDY) RAIN FOG (SUN)
TEMP: 60 SEA COND: light chop
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.) Salmon stream closed to work 2/10/1990

WAVE EXPOSURE: (LOW) MED HIGH
ACROSS SHORE ZONE: SU (UIIZ) (MIIZ) (LIIZ)

SURFACE SEDIMENTS: R 60 % B 10 % C 10 % P 15 % G 0 % 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, ATV + cart
NAMES OF REPS & OTHER AGENCIES: EXXON John Deans
USCG Jerry Schultz OTHER: OOPS - Rich Heglin
WORKERS ON SITE: ORTS 8 OTHER: Veco Mike Reavis

WASTE HANDLING/DISPOSAL

ITEMS USED TO ABSORB/CONTAIN OIL
OF BAGS COLLECTED: 13 Supersacks
OILED DEBRIS OIL & SEDIMENTS 13 OILED VEG.
OILED LOGS PRESENT: (Y) N # OF LOGS REMOVED
Stained

ACE 9961822

4/20/90

ACE 1940765

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.)

In removal of oil and sediments in the TB3 tidal flats a large amount of bagged sediments were on the beach when the tide came in. To prevent submersion of the bags Rich Yglin, OOS, chose to utilize an ATV and trailer to remove the bags. Roger McCauble NWR didn't want the ATV used in this area. As it was, some bags were soaked, but all were recovered. I concur with Rich Yglin that the ATV was necessary, as it was better planning for future ops on this beach. SPL

OBSERVATIONS: TREATMENT EFFICIENCY, POSSIBLE IMPROVEMENTS, ETC.

Crew is efficient, but area of oiling is too vast for the number of workers assigned. More people are needed to work the beaches to finish in the allotted time.

ACE 9961823

SIGNATURE E. L. Engle

ACE 1940766

SEGMENT TC-003 SUBDIVISION A DATED 6/23/90

MODIFICATION

Class I X

1. REASON FOR MODIFICATION

Two Salmon Streams Transect The intertidal zone. Pink salmon utilize The mid and upper Tidal areas; some spawning also occurs here. Numerous species of birds and mammals are attracted to This end of Tonsina Bay. For This reason A.O.F&G does not recommend use of Fertilizer in The Tide Flats. The use of Customblend would be acceptable on The cobble shoreline.

2. SUGGESTED ADJUSTMENT TO WORK PLAN

Do not bioremediate Tide flats.

3. TIMING ISSUES

ADEC Russell Kimble

EXXON [signature]

USCG T33 [signature]

LAND MANAGER [signature] (If field rep is on scene)

A.O.F&G [signature]

ACE 9961824 - 15

ACE 1940767 - 15

ENSCO ATLAS
SQUAD # 8

ADEC DAILY SHORELINE ASSESSMENT

LOCATION: TONSINA BAY SEG TB-03 SUBSEG H
MONITOR(S): STEPHEN FERGUSON
DATE: JUNE 29, 1990 TIME: BEGIN 0700 END 1900
FOG ROLLED IN AROUND 1330

TIDES:	TIME:	HEIGHT:
LOW	0112	+ 2.7
HIGH	0717	+ 9.3
LOW	1314	+ 1.5
HIGH	1808	+ 9.3

WEATHER: CLOUDY RAIN (FOG) (SUN)
TEMP: 61 SEA COND: NO WAVES
(NO) 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.) SALMON STREAM

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

SURFACE SEDIMENTS: R___% B___% C___% P___% G___% S___%
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 / CEMENT TRAWLS
NAMES OF REPS & OTHER AGENCIES: EXXON JOHN DEAN
USCG JERRY SHULTZ OTHER: OOPS (RICH HAGLIN)
WORKERS ON SITE: ORIS 8 OTHER: VECO SUPR (MIKE REAVIS)
INCLUDING VECO SUPR (9) TOTAL
WASTE HANDLING/DISPOSAL

ACE 9961825 + /S

ITEMS USED TO ABSORB/CONTAIN OIL 5 GALLON BUCKETS + POLY BAGS TO SUPERSACKS
OF BAGS COLLECTED:
OILED DEBRIS 2 OIL & SEDIMENTS 4 OILED VEG. ___
OILED LOGS PRESENT: Y ~~N~~ # OF LOGS REMOVED ___

16 SUPER SACKS

4/20/90

ACE 1940757 + /S

EXXON ATLAS
SQUAD # 8 / JUNE 29, 1990 / TONSINA BAY TB-03 A

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.)

(NO PROBLEMS)

OBSERVATIONS: TREATMENT EFFICIENCY, POSSIBLE IMPROVEMENTS, ETC.

① LT. BERNARD (ICP HOMER) + BUDDY STANLEY (NOAA) ARRIVED AT 0745 TO LOOK AT GRIM BEACH (TB-4A) AND ISLAND IN FRONT OF TIDAL FLATS (TB-3A) ⇒ ATTACHED IS MEMO ISSUED BY Q. SHULTZ (USCG) REGARDING ISLAND VISIT / DEPARTED 0925

-REGARDING GRIM MORE WORK COULD HAVE + SHOULD HAVE BEEN DONE BEFORE BIO (CUSTOMIZED) WAS APPLIED / BOTH BERNARD + STANLEY DIDN'T SEE THE NEED FOR FURTHER WORK UPON THIS VISIT AND OBSERVATIONS THEY MADE AT THIS TIME.

② VECO WORK CREW WAS CLEANING IN CENTRAL PART OF TIDAL FLATS WHERE SOME ASPHALTING THAT LEE GLEN (AOF+G) HAD EXPRESSED CONCERN ABOUT

SIGNATURE Stephen Lejnar

ACE 9961826

ACE 1940758

TB-005

FRAME(S)	DESCRIPTION
#11	Oil (mousse) found [illegible] in interstitial spaces
#12	sheen at edge of stream - eggs nearby (previously small
#13	termat saturated into vegetation
#14	aerial view of N.W Tonsina Stream

AREAS WORKED JUNE 29, 190
BY SQUAD #8
TB-03A

Anadscot Recommended

= Sample taken
= Photo frame # and shot direction

ACE 9961827

ACE 1940759

To : CDRS. Rome and Reiter
From : PS3 Schultz

Re : Tonsina Bay

With reference to Tonsina Bay, there is an island which has not been addressed. It bares no segment identification and lies between TB2 and TB3, at the head of the bay.

This island received significant oiling and, in my estimation, should be treated. My suggestion would be a small amount of manual removal, with the remainder being raked and bioremediated with CustomBlen.

This is to request that the island be assessed by a TAG team as soon as possible so it can be treated while crews are in the immediate area.

Respectfully,

J. A. Schultz

PS3 Schultz

6-29-90

I CONCUR.

J M Dean

COPY SENT BY SHULTZ ⇒ DO FEEL THAT LOOKING AT TB-2 ⇒ THIS ISLAND IS COVERED THERE

ACE 9961828 -/S

ACE 1940760 -/S

ENSCO ATLAS
SQUAD # 8

ADEC DAILY SHORELINE ASSESSMENT

LOCATION: TONSINA BAY SEG TB-03 SUBSEG A
MONITOR(S): STEPHEN FERGUSON
DATE: JUNE 30, 1990 TIME: BEGIN _____ END _____

TIDES:	TIME:	HEIGHT:
LOW	0213	+2.7
HIGH	0817	+8.3
LOW	1400	+2.7
HIGH	2054	+11.0

WEATHER: (CLOUDY) RAIN (FOG) SUN
TEMP: 61° SEA COND: NO WAVES
(NO) 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.) SALMON STREAM

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

SURFACE SEDIMENTS: R___% B___% C___% P___% G___% S___%
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 — HEADER FLOOD (HOT/COLD)
MANUAL REMOVAL PO (MS) (AP) (TB) — BIOREMEDIATION _____
SPOT WASHING — MECHANICAL _____
OTHER _____

EQUIPMENT USED: SHOVELS / CEMENT TRAWLS
NAMES OF REPS & OTHER AGENCIES: EXXON JOHN DEAN
USCG JERRY SHULTZ — OTHER: (OOPS) RICH HAGLIN
WORKERS ON SITE: OOPS 8 OTHER: (VECO SUPR) MIKE REAVIS
INCLUDING VECO SUPR (9) TOTAL
WASTE HANDLING/DISPOSAL

ITEMS USED TO ABSORB/CONTAIN OIL 5 GALLON BUCKETS + POLY BAGS TO SUPERSACKS
OF BAGS COLLECTED:
OILED DEBRIS 1 OIL & SEDIMENTS 4 OILED VEG. ___
OILED LOGS PRESENT: Y ~~N~~ # OF LOGS REMOVED ___

5 SUPER SACKS

4/20/90

ACE 9961829 +/S

ACE 1940754 +/S

ENSCO ATLAS / TONSINA BAY / TB-03A

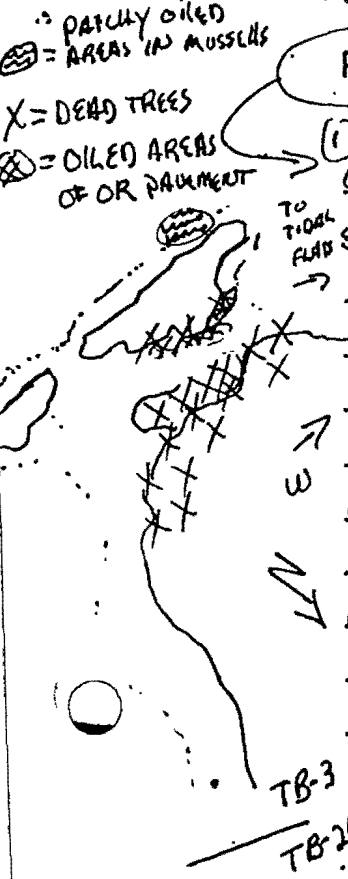
PHOTO/VIDEO DOCUMENTATION SQUAD #8 : JUNE 30, 1990

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.)



(1) CONCERNING AN AREA TO BE WORKED TOMORROW: SEE ATTACHED MAP TO SEE AREA IN QUESTION / ASPHALTING IS OF AN OR TYPE ⇒ BY OBSERVATION WOULD SAY MEDIUM OR to LOW ENDS OF OR PAVEMENT TYPE / ON WEST END OF PAVEMENT AREA ON NORTH SIDE PAVEMENT TYPE IS ¼" to ½" THICK ⇒ TALKING A HANDFUL OF THIS AND ~~SHEENS~~ SLUICING ALMOST NO SHEEN (TRACE OR LESS) WAS OBSERVED ON THE OTHER HAND ON THE EAST END OF OILING (PAVEMENT) THICKNESS WAS 3" TO 4" AND SLUICING CREATED AN IMMEDIATE OBVIOUS SHEEN (SILVERS / RAINBOWS)

(A) JOHN DEAN (EXXON REP) STATED THAT IF I WANTED TO HAVE THIS REMOVED IT WOULD HAVE TO BE SENT TO ANCH. FOR A TEAM TO COME DOWN AND SURVEY THIS TO BE OR NOT BE REMOVED

~~OBSERVATIONS: TREATMENT EFFICIENCY, POSSIBLE IMPROVEMENTS, ETC.~~

(B) Q. SHULTZ (USCG) STATED THAT THIS WAS NOT NECESSARY FOR HE WAS ON-SCENE COORDINATOR AND THAT RAKE + BREAK-UP + BIO WOULD BE FAR BETTER THAN REMOVAL (I DISAGREED) TO WHICH SHULTZ STATED SEND IN OR TALK TO RUSSELL TO TELL HIM I WASN'T IN AGREEMENT BUT THAT THIS WAS GOING TO BE THE WAY THIS AREA WOULD BE TREATED

(2) *ALSO EXPRESSED CONCERNS ABOUT POOLED OIL OR OF TYPE OILING (PATCHY) ON PARTS OF MUSSELL BEDS / SPOKE TO ADF&G + D. LOCKWOOD PREVIOUS THAT OIL CAN BE REMOVED FROM MUSSELL BEDS ⇒ BOTH DEAN (EXXON) + SHULTZ (USCG) SAID UNTIL THEY RECEIVED A MEMO TO THAT EFFECT MUSSELL BEDS WERE OFF LIMITS

SIGNATURE Stephen Jeffries

ACE 9961830

ACE 1940755

SEG Sr... [redacted]

SEGMENT ST[redacted]

SUBDIVISION [redacted]

DATE Apr 1 19 90

SKETCH MAP – A

June 30, 1990

[redacted]

CHECKLIST

- ___N Arrow
- ___Approx. Scale
- ___Seg/Sub Bndry
- ___Oil Dist.
- Width
- Length
- % Cover
- ___Substrate Character
- ___Est. HWL/LWL
- ___DSL
- ___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

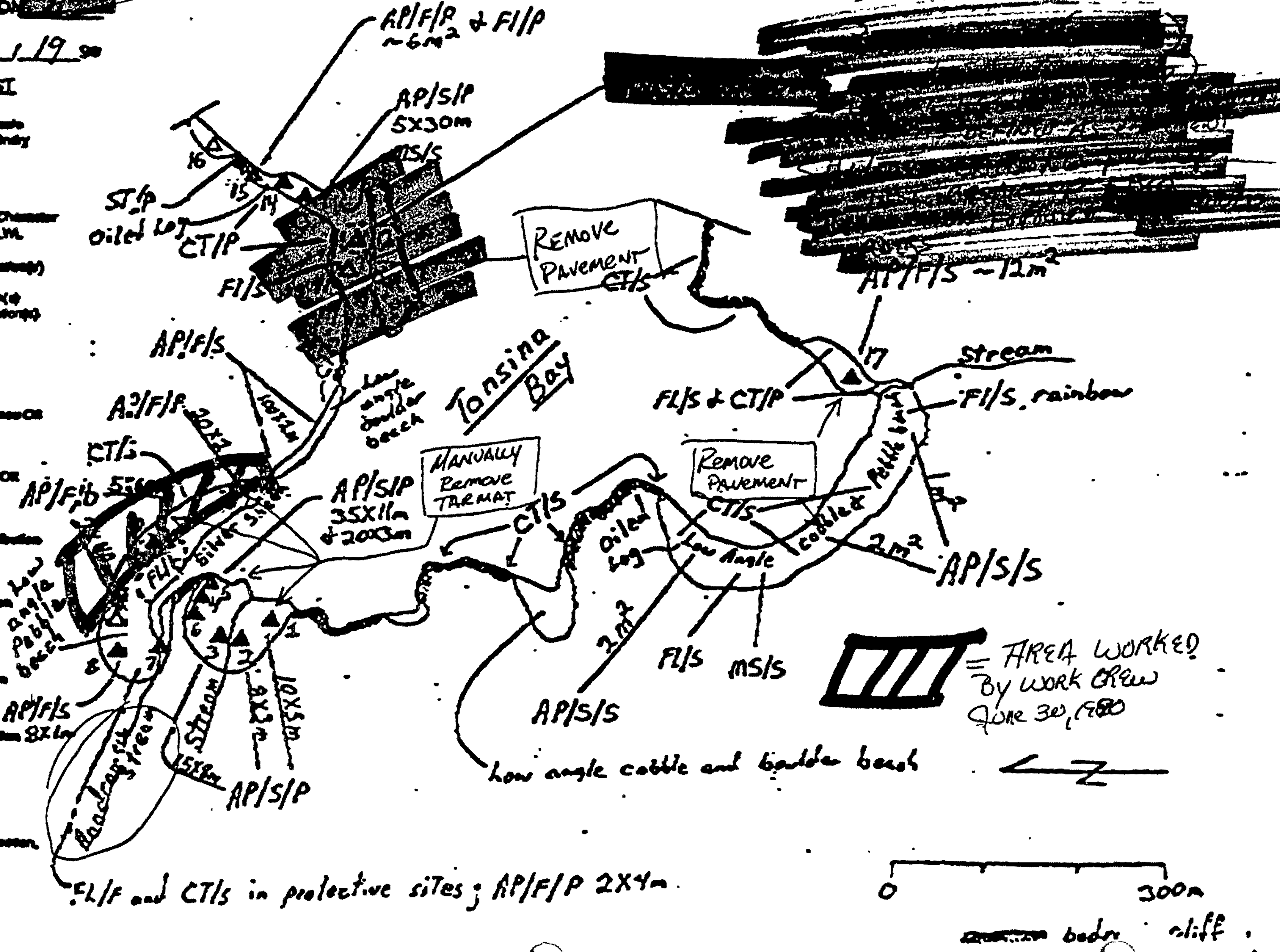
CT/B Broken Distribution

CT/P Patchy Distribution

CT/S Sporadic Distribution

eee Other Vegetation

1 → Photo location, direction, and number



ENSCO ATLAS
SQUAD #8

ADEC DAILY SHORELINE ASSESSMENT

LOCATION: TONSINA BAY SEG TB-03 SUBSEG A
MONITOR(S): STEPHEN FERGUSON
DATE: July 1, 1990 TIME: BEGIN 0700 END 1800 ??
LEFT ON HELO AT 1800

TIDES:	TIME:	HEIGHT:
LOW	0319	+2.5
HIGH	0941	+7.8
LOW	1452	+3.7
HIGH	2141	+11.0

ENSCO WAS SCHEDULED TO LEAVE AT 1700 DUE TO FURTHER PICK-UP WERE STILL THERE WHEN I LEFT MEQUIM FOR Didn't Allow TO STAY ANY LONGER

WEATHER: (CLOUDY) (RAIN) (FOG) SUN
TEMP: 52° SEA COND: < 1 FOOT SEAS
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.) _____

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

SURFACE SEDIMENTS: R 15 % B 35 % C 20 % P 15 % 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: CEMENT TRAWLS / SHOVELS / RAKES
NAMES OF REPS & OTHER AGENCIES: EXXON JOHN DEAN
USCG JERRY SHULTZ OTHER: (OPS) RICK HAGLIN
WORKERS ON SITE: ORTS 8 OTHER: (VECO SUPR) MIKE REAVIS
INCLUDING VECO SUPR (9) TOTAL

WASTE HANDLING/DISPOSAL

ITEMS USED TO ABSORB/CONTAIN OIL: 5 GALLON BUCKETS + POLY BAGS TO SUPER SACKS
OF BAGS COLLECTED:
OILED DEBRIS 1 OIL & SEDIMENTS 3 OILED VEG. ___
OILED LOGS PRESENT: Y (N) # OF LOGS REMOVED ___

14 SUPER SACKS

ACE 9961832 +/S

ACE 1940751 +/S

4/20/90

EXXSCO ATLAS / TONSINA BAY TB-03A

PHOTO/VIDEO DOCUMENTATION SQUAD #8 / July 1, 1990

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.)

(1) PROBLEM DISCUSSED YESTERDAY (6/30/90) ⇒ Q. DEAN (EXXON) FOLLOWED THROUGH WITH Q. SHULTZ RECOMMENDATION & DESICION TO BREAK UP BY RAKING PAVEMENT AREA AT OTTER BEACH

(2) TO THE EAST OF OTTER BEACH ONLY OBVIOUS SPOTS WERE PICKED UP ⇒ SEAMS LEADING OUT FROM THESE OP TYPES OF OILING WERE NOT FOLLOWED BY MOVING ROCKS TO GET AT OIL

(1) Q. SHULTZ (USCG) STATED ONLY OBVIOUS SPOTS OF OILING WERE NECESSARY NO ROCKS (COBBLES & VERY SMALL BOULDERS) SHALL BE MOVED "WE ARENT OUT HERE TO MINE FOR THE STUFF" YET THE FACT IS MOST OF THIS OILING OUT FROM THESE MATS WAS 1" to 2" DOWN FAR LESS THAN THE DESCRIBED NO MORE THAN 6" ROLE

OBSERVATIONS: TREATMENT EFFICIENCY, POSSIBLE IMPROVEMENTS, ETC.

(1) NOT ADEQUATE ON OTTER BEACH ⇒ RECOMMEND AGAIN REMOVAL ALSO AREA EAST OF THERE HAS TO BE GONE OVER AGAIN CHECKING AREAS WHERE OBVIOUS OILING WAS REMOVED TO CHECK FOR OILED SEAMS CONNECTING WITH THESE REMOVED OILED SPOTS

(2) QUESTION DID NOT RECOMMEND OTTER BEACH BE BIOD SHULTZ STATED IT WOULD BE APPLIED WITH OR WITHOUT MY CONCURRING ⇒ WHAT OTHER THAN TALKING TO RUSSELL OR ANCH. CAN I DO ON SITE TO STOP APPLICATION ON AN OBVIOUS TROUBLE AREA?

SIGNATURE Stephen Joyce

BIO WAS APPLIED - SEE MAP

ACE 9961833

ACE 1940752

SG Spencer

SEGMENT [redacted]

SUBDIVISION [redacted]

DATE Apr 1 19 90

SKETCH MAP – A

CHECKLIST

- ___N Arrow
- ___Approx. Scale
- ___Seg/Sub Bndry
- ___Oil Dist.
- Width
- Length
- % Cover
- ___Substrate Character
- ___Est. HHW/LW
- ___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

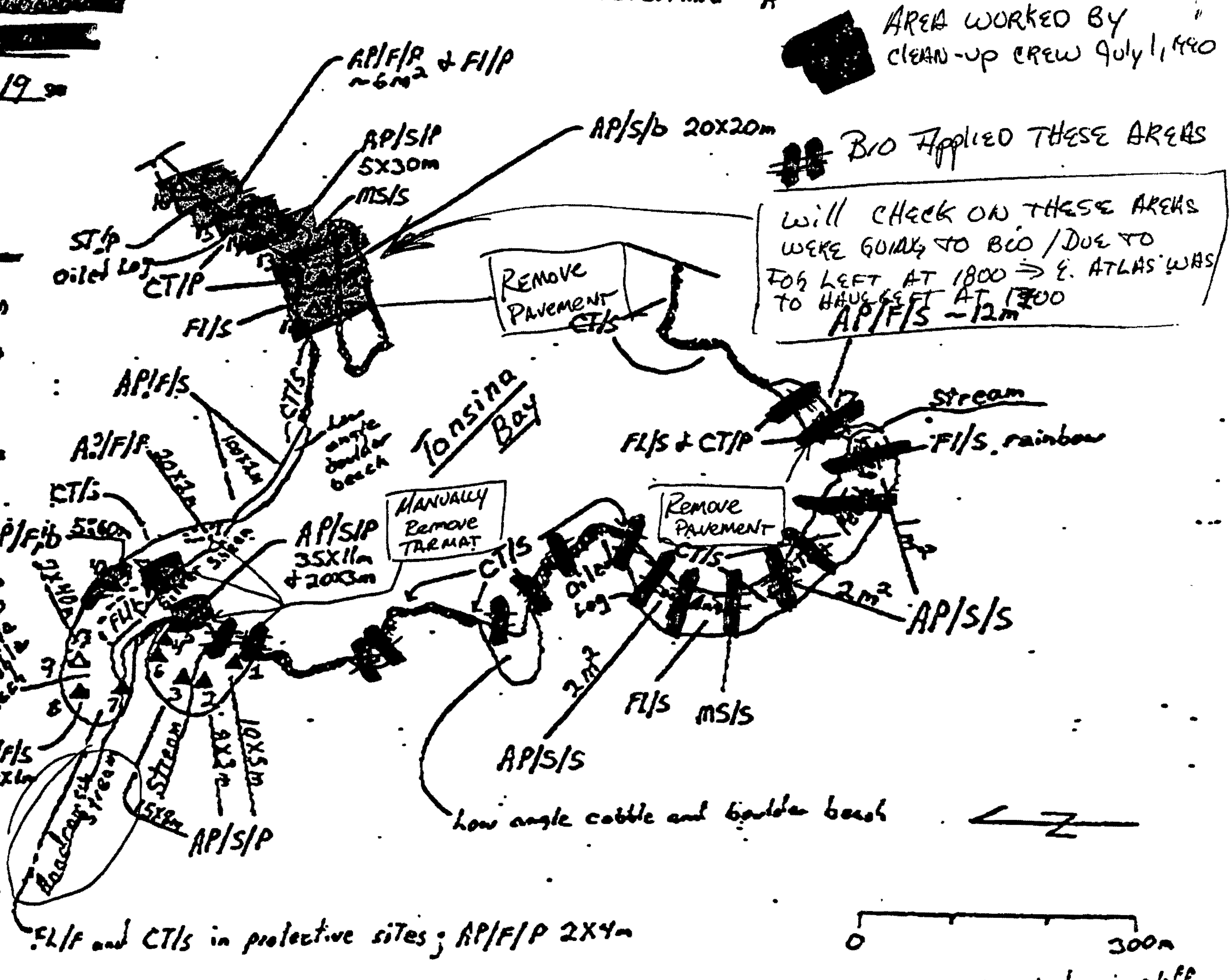
CT/B Broken Distribution

CT/P Patchy Distribution

CT/S Sporadic Distribution

eee Oiled Vegetation

Photo location, direction, and number



AREA WORKED BY CLEAN-UP CREW July 1, 1990
BIO Applied THESE AREAS
Will CHECK ON THESE AREAS WERE GOING TO BIO / DUE TO FOG LEFT AT 1800 ⇒ E. ATLAS WAS TO HAUL LEFT AT 1800
AP/F/P ~6m² & FI/P
AP/S/b 20X20m
AP/S/P 5X30m
MS/S
ST/P
Oiled log
CT/P
FI/S
CT/S
Remove Pavement
CT/S
AP/F/S ~12m²
AP/F/S
Low angle boulder beach
Tonsina Bay
AP/F/P
CT/S
AP/F/P
5X60m
AP/S/P 35X11m & 20X3m
MANUALLY Remove TARMAT
CT/S
Oiled log
Remove PAVEMENT
CT/S
FL/S & CT/P
Stream
FI/S, rainbow
AP/S/S
2m²
Low angle pebble beach
AP/F/S 8X1m
Stream
Stream
AP/S/P
5X8m
9X3m
10X5m
AP/S/S
FI/S
MS/S
Low angle cobble and boulder beach
FL/F and CT/S in protective sites; AP/F/P 2X4m
0
300m
bedrock cliff

ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

STREAM#: 2321010342
SEGMENT: TB003

10/7/91

oh

PAGE 4

DATE PRINTED: 08/14/91

LOCATION: TONSINA BAY, NORTHWESTERN SHORE

SURVEY TYPE: 90 - SS

METHOD: ~~GROUND~~ FOOT

DATE: 07/10/90

TEAM RECORDER: HILL

START TIME: 0910
END TIME:

OBSERVERS: GLENN

TIDES: Ebb

AGENCY: FG

OG/HAB DISCREPANCIES:

PHOTOS TAKEN: Y

STATION: 2321010342

ROLL#: 90DDH019H
FRAME: 01-06

VIDEO TAKEN: Y TAPE#: 90LPG025H
START: 3222 END: 3912

SAMPLES TAKEN: Y

SAMPLE NUMBERS: 90LPG025H

OIL IN STREAM BED: N

OVERALL OIL IMPACT: M/H

OIL ON BEACH BY MOUTH: Y

WAVE EXPOSURE: LOW

SHORELINE TYPE: LOW-LYING ROCKS BEACH

SUBSTRATE TYPE: BEDROCK 10 BOULDER 10 COBBLE 20 VEGETAT

GRAVEL 50 SAND 10 MUD/SILT GRANULE

ANADROMOUS FISH PRESENT: ~~Y~~ U

SPECIES:

COUNT:

ACE 9961835+1S1SG

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

ok

PAGE 5 DATE PRINTED: 08/14/91

STREAM# : 2321010342
SEGMENT#: TB003

SURVEY TYPE : 90 - SS
DATE: 07/10/90
TIMES: 0910 -

LOCATION: TONSINA BAY, NORTHWESTERN SHORE
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 SO

COMMENTS:
CLEANUP CREW HAS PICKED UP SOME OIL FROM THE FLATS YET MORE NEEDS TO BE PICKED UP. THE CREW TOOK THE CENTER OUT OF THE OIL PATCHES - LEAVING A RIM AND SUBSURFACE BOTTOM OF HEAVILY SATURATED SEDIMENTS - NUMEROUS SMALL PATTIES REMAIN IN THE FLATS - LITZ AREA. THE CREW APPLIED GRANULAR FERTILIZER TO A FRESHWATER POOL TO THE SW OF THE CATALOGED SALMON STREAM BEHIND THE HIGH ISLAND LIKE POINT OF LAND. WE DUG A RNADOM HOLE IN THE TIDE FLATS AND LATER RETURNED. THE HOLE WAS FULL OF WATER WITH OIL SHEEN ON THE SURFACE. OIL WAS OBSERVED APPROX 720' SE OF THE DEAD TREES AT THE MOUTH OF THE SALMON STREAM (NORTH SHORE) - THIS IS 720' RUNNING PARALLEL TO THE SALMON STREAM. THIS OIL IS IN THE FUCUS ZONE. A SAMPLE JAR WAS FILLED WITH HEAVILY OILED SEDIMENT TAKEN FROM THE LITZ. A WORK CREW WORKED THE TB-03 TIDE FLATS A BIT. THE VEGETATED AREA IN THE UITZ STILL CONTAINS HEAVILY OIL SATURATED SEDIMENT (OP AND OR). THE SURFACE OF THE OILED AREAS HAVE BEEN SCRAPED BUT A LOT OF OIL REMAINS. THIS AREA IS HABITAT FOR MANY CRITTERS, THE MOST OBVIOUS BEING WATERFOWL, BEAR, OTTERS (RIVER AND SEA), EAGLES, SALMON (PINKS) AND MINK. HOW MANY TIMES WILL WE HAVE TO WATCH EXXON SCRAPE THE SURFACE BEFORE WE GET TO THE BOTTOM OF THIS MESS.

ANIMALS OK

How many times will the surface of the oil be scratched before we get to the bottom of the mess.

ACE 9961836 — 15

ANAD stream

– Tawsina Bay
– Tidal Flats
– Cataloged + non-cataloged Streams

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 NOAK

METHOD: Aerial (Ground) Boat

3 DATE: 7/10/90 — 15 HIGH TIDE TIMES: 0405 / 1641 — 21 TEAM RECORDER: Doug Hill

4 START TIME: ≈0910 — 16 HIGH TIDE HTS: 12.8 / 11.0 — 22 OBSERVERS: Lee & Glenn

5 STOP TIME: — 17 LOW TIDE TIMES: 1007 / 2211 — 23 AGENCY: ADF&G

6 SEGMENT #: TB-3 — 18 LOW TIDE HTS: -1.7 / 2.7 — 24 PHOTOS TAKEN: (Y) N

7 STATION #: — 19 TIDE HT AT SURVEY: — Roll #: 9000H/9H Frame: 1→26

8 K-UNIT: — Ebb Slack Flood Slack — 25 VIDEO TAKEN: Y N TAPE#: 90LPG25H

9 STAT AREA: — 20 USCG QUAD: Seldovia B-3 — Start: 3222 End: 3912

10 LAT: 59 18 37 — 11 LONG: 150 57 6 — 26 SAMPLES TAKEN? (Y) N Number ?

12 SOURCE: Map Loran — 90LPG025H OK LPG – 7/10/90-1000

13 LOCATION: Tawsina Bay, NW head of Bay — Sediment

14 DESCRIPTION: Tide flats — Biological 7/11/90/1000?

Water ~~90LPG025H~~

Lee's video log and my field log give 7/10/90 as the date we were at TB-3 and took this sample- Chain of Custody form date of 7/11/90 is incorrect. Please Correct your records. DONE. DOUG

ACE 9961837

We have changed our chain of custody form to 7/10 and the sample log to 7/10

DOUG

ACE 9961838

EXTENT OF

LINE M² %

27

28

29

30

31 Tar Asphalt

32 S TP AP

33 S Relying Rocks Mar

CATALOGED ANAD. FISH STREAM? (Y) N

CATALOG #: 232-10-10342

STREAM NAME:

IN STREAM BED? Y (N)

ON STREAM BANKS? (Y) N

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

WITHIN 1 MILE OF STREAM? (Y) N

Here: TB-01,02,03,04

ANADROMOUS FISH PRESENT? Y N

34 WAVE EXPOSURE: High Moderate (Low)

35 SUBSTRATE TYPE: Bedrock 10 Boulder 10 Cobble 20

Gravel 50 Sand 10 Mud/silt

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

ACE 9961839 +15

COMMENTS: Cleanup crews has picked up some oil from the flats yet more needs to be picked up. The crews took the centers out of the oil patches--- leaving a rim and subsurface bottom of heavily saturated sediment. Numerous small patties remain in the flats – LITZ area. The crews applied granular fertilizer to a freshwater pool to the SW of the ~~Largest~~ Cataloged Salmon stream behind

ANAD stream

— Tawsina Bay
— Tidal Flats
— Cataloged + uncataloged stream

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 NOAK

METHOD: Aerial (Ground) Boat

3 DATE: 7/10/90
4 START TIME: ~0910
5 STOP TIME:
6 SEGMENT #: TB-3
7 STATION #:
8 K-UNIT:
9 STAT AREA:
10 LAT: 59 18 37
11 LONG: 150 57 6
12 SOURCE: Map Loran
13 LOCATION: Tawsina Bay, NW head of BAY
14 DESCRIPTION: Tide flats

15 HIGH TIDE TIMES: 0405 / 1641
16 HIGH TIDE HTS: 12.8 / 11.0
17 LOW TIDE TIMES: 1007 / 2211
18 LOW TIDE HTS: -1.7 / 2.7
19 TIDE HT AT SURVEY:
Ebb Slack Flood Slack
20 USCG QUAD: Seldovia B-3

21 TEAM RECORDER: Doug Hill
22 OBSERVERS: Lee & Glenn
23 AGENCY: ADF&G
24 PHOTOS TAKEN: (Y) N
Roll #: 9000H19H Frame: 1→26
25 VIDEO TAKEN: Y N TAPE#: 90LPG25H
Start: 3222 End: 3912
26 SAMPLES TAKEN? (Y) N Number ?

90LPG@25H ~~OK~~ LPG - ~~7/10/90-1000~~
Sediment
Biological ~~7/11/90/1200~~ ?
Water ~~90LPG@25H~~

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 M S TP AP SOR ST
33 SHORELINE TYPE: Headland (Low-lying Rocks) (Beach) Cove Lagoon Marsh
34 WAVE EXPOSURE: High Moderate (Low)
35 SUBSTRATE TYPE: Bedrock 10 Boulder 10 Cobble 20 Gravel 50 Sand 10 Mud/silt

36 CATALOGED ANAD. FISH STREAM? (Y) N
37 CATALOG #: 232-10-10342
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: TB-01,02,03,04
43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

ACE 9961839 +15

COMMENTS: Cleanup crews has picked up some oil from the flats yet more needs to be picked up. The crews took the centers out of the oil patches --- leaving a rim and subsurface bottom of heavily saturated sediment. Numerous small patties remain in the flats - <1/2 area. The crews applied granular fertilizer to a freshwater pool to the SW of the ~~largest~~ Cataloged Salmon Stream behind

= Sample taken
= Photo frame # and shot direction.

the high ~~[illegible]~~ island-like point of land. ~~the North~~

We Dug a random hole in the tide flats and later returned. The hole was full of water with oil sheen on the surface

Oil was observed ≅ 720' SE of the dead trees at the mouth of the salmon stream (North Shore) --- this is 720' running parallel to the salmon stream. This oil is in the Fucus zone.

A sample jar was filled with heavily oiled sediment taken from the LITZ.

A work crew worked the TB-03 tide flats a bit. The vegetated area in the UITZ still contains heavily oil saturated sediment (OP and OR). The surface of the oiled areas have been scraped but a lot of oil remains. This area is habitat for many critters, the most obvious being waterfowl, bear, otters (river & sea) eagles, salmon (pinks) and mink. How many time will we have to watch EXXON scrape the surface before we get to the bottom of this mess. ~~[illegible]~~

46 OIL DISTRIBUTION DIAGRAM

FRAME(S)	DESCRIPTION

46 PHOTOLOG

ACE 9961840 - 15/SG

— Tonsina Bay
— Tidal Flats
— Cataloged + uncataloged stream

ANAD stream

ADF&G MULTI-ASSESSMENT DATA FORM

10/7/91 DRAFT

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

METHOD: Aerial (Ground) Boat

3 DATE: 7/10/90
4 START TIME: ~0910
5 STOP TIME:
6 SEGMENT #: TB-3
7 STATION #:
8 K-UNIT:
9 STAT AREA:
10 LAT: 59 18 37
11 LONG: 150 57 6
12 SOURCE: Map Loran
13 LOCATION: Tonsina Bay, NW head of BAY
14 DESCRIPTION: Tide flats

15 HIGH TIDE TIMES: 0405 / 1641
16 HIGH TIDE HTS: 12.8 / 11.0
17 LOW TIDE TIMES: 1007 / 2211
18 LOW TIDE HTS: -1.7 / 12.7
19 TIDE HT AT SURVEY:
Ebb Slack Flood Slack
20 USCG QUAD: Seldovia B-3

21 TEAM RECORDER: Doug Hill
22 OBSERVERS: Lee Glenn
23 AGENCY: ADF&G
24 PHOTOS TAKEN: (Y) N
Roll #: 9000H19H Frame: 1→26
25 VIDEO TAKEN: Y N TAPE#: 90LPG25H
Start: 3222 End: 3912
26 SAMPLES TAKEN? (Y) N Number ?
~~Oil~~ LPG - 7/10/90-1000
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 10 Cobble 20 Gravel 50 Sand 10 Mud/silt

36 CATALOGED ANAD. FISH STREAM? (Y) N
37 CATALOG #: 232-10-10342
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: TB-01,02,03,04
43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

ACE 9961841

COMMENTS: Cleanup crew has picked up some oil from the flats, yet more needs to be picked up. The crew took the center out of the oil patches--- leaving a rim and subsurface bottom of heavily saturated sediment. Numerous small patties remain in the flats - LITZ area. The crew applied granular fertilizer to a freshwater pool to the SW of the ~~Largest~~ Cataloged Salmon stream behind

= Sample taken
= Photo frame # and shot direction.

the high ~~[illegible]~~ island-like point of land. ~~The North~~
We Dug a random hole in the tide flats and later returned. The hole was full of water with oil sheen on the surface
Oil was observed ≈ 720' SE of the dead trees at the mouth of the salmon stream (North Shore) --- this is 720' running parallel to the salmon stream. This oil is in the Fucus zone.
A sample jar was filled with heavily oiled sediment taken from the LITZ.
A work crew worked the TB-03 tide flats a bit. The vegetated Area in the UITZ still contains heavily oil saturated sediment (OP and OR). The surface of the oiled areas have been scraped but a lot of oil remains. This area is habitat for many critters, the most obvious being waterfowl, bear, otters (river & sea) eagles, salmon (pinks) and mink. How many time will we have to watch EXXON scrape the surface before we get to the bottom of this mess.

46 OIL DISTRIBUTION DIAGRAM

FRAME(S) | DESCRIPTION

ACE 9961842

46 PHOTOLOG

STATE OF ALASKA
FIELD MEMO

Permit Number: ASAP | Serial Number: 1095

To (Name and Organization): JON GARNECKI (EXXON) CHIEF AEC VANDEDELS (USCG)

Date and Time: 5/10/90 1520 | Area: KENAI HOMER Zone.

Location and Section of Work: TONSINA BAY TB003A SITE

__ Authorization to Proceed __ Non Conformance __ ADEC Permit __ ADF&G Permit

__ ADNR Permit __ Problem Identification X Other

ADEC RECOMMENDS the following treatment FOR TB003A;
ANADROMOUS STREAM & FLAT-W B/C SHORE (N & S).
1) MANUALLY remove SOR & AP. & MOUSSE.
2) ROLL B/C when possible TO remove H/SOR, MS, AP.

Tombolo
1) MANUAL REMOVAL OF AP, MS, H/SOR.

B/C SHORELINE NE OF TOMBOLO:
1) Roll B/C when possible to recover AP, MS, H/SOR.
2) MANUAL REMOVAL OF H/SOR, MS, AP.
3) USING POM POMS AS NEED TO WIPE ROCKS.
4) CUSTOMBUEN WHEN COMPLETE.

Permit Expiration Date

State Representative: Clara S. Crosby | Recipient

Action Taken by Recipient

ACE 9961843 +15

ACE 1940779 +15

DISTRIBUTION: EXXON Representative Date/Time

WHITE: ADEC-VALDEZ GREEN: ADEC YELLOW: EXXON GOLDENROD: EXXON PINK: COAST GUARD

ASAP SHORELINE OILING SUMMARY

1 2

TEAM NO 04 EXXON Jon Czarnecki SEGMENT AS/ TB-3
OG Rich Marty ~~USGS~~ USCG R. Vandepeis SUBDIVISION A
ADEC Clara Crosby LAND REP Dave Kenagy TOTAL NO. SITES 5
DATE 04 / Aug / 90 TIME 08 00 to 10 :00 TIDE LEVEL to
TOTAL EST LENGTH OF SHORELINE SURVEYED: m
SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo WEATHER: ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
OIL CATEGORY LENGTH: W — m M 120 m N 312 m VLC 18 m NO — m US 1473 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				I		I					I U			I U						I U		I U	I U	
S.O.R.	H			X		X	X				H	X		H	H	X				X		X	X	
POOLED																								
COVER																								
COAT				I		I																		
STAIN																								
MOUSSE				I U		I U						I		I										
PATTIES/T.B.																								
FILM				X		X	X	X			X			X	X	X				X		X	X	
NO OIL					X								X								X			X
EST. SITE LENGTH					600m								100m								50m			

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	18		X			0-7.5	Y	—	—	X	—	C/C S P
2	1	10		X			0-4	Y	—	—	—	X	P/S,P
							-						
							-						
							-						
							-						
							-						
							-						
							-						
							-						
							-						
							-						

Photographs:
Roll No. ASAP-04-01
Frames
* brown sheen on water at 18cm

COMMENTS

ACE 9961844

ACE 1940780

REVISION NO. 7/27/90

ASAP SHORELINE OILING SUMMARY

SEGMENT AS/ T8-3 SUBDIVISION A

SURFACE OIL (CONTINUED)

SITE 4

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SU	UI	MI	LI
ASPHALT				I U		I U		
S.O.R.				X		X		
POOLED								
COVER								
COAT								
STAIN								
MOUSSE								
PATTIES/T.B.								
FILM								
NO OIL					X		X	X
EST. SITE LENGTH					50m			

SITE 5

DISTRIBUTION				OILED ZONES			
/C	/B	/P	/S	SU	UI	MI	LI
			I U		I U		
			I		I	I	
X				X	X		
							X
					80m		

SITE

DISTRIBUTION				OILED ZONES			
/C	/B	/P	/S	SU	UI	MI	LI

SUBSURFACE OIL (CONTINUED)

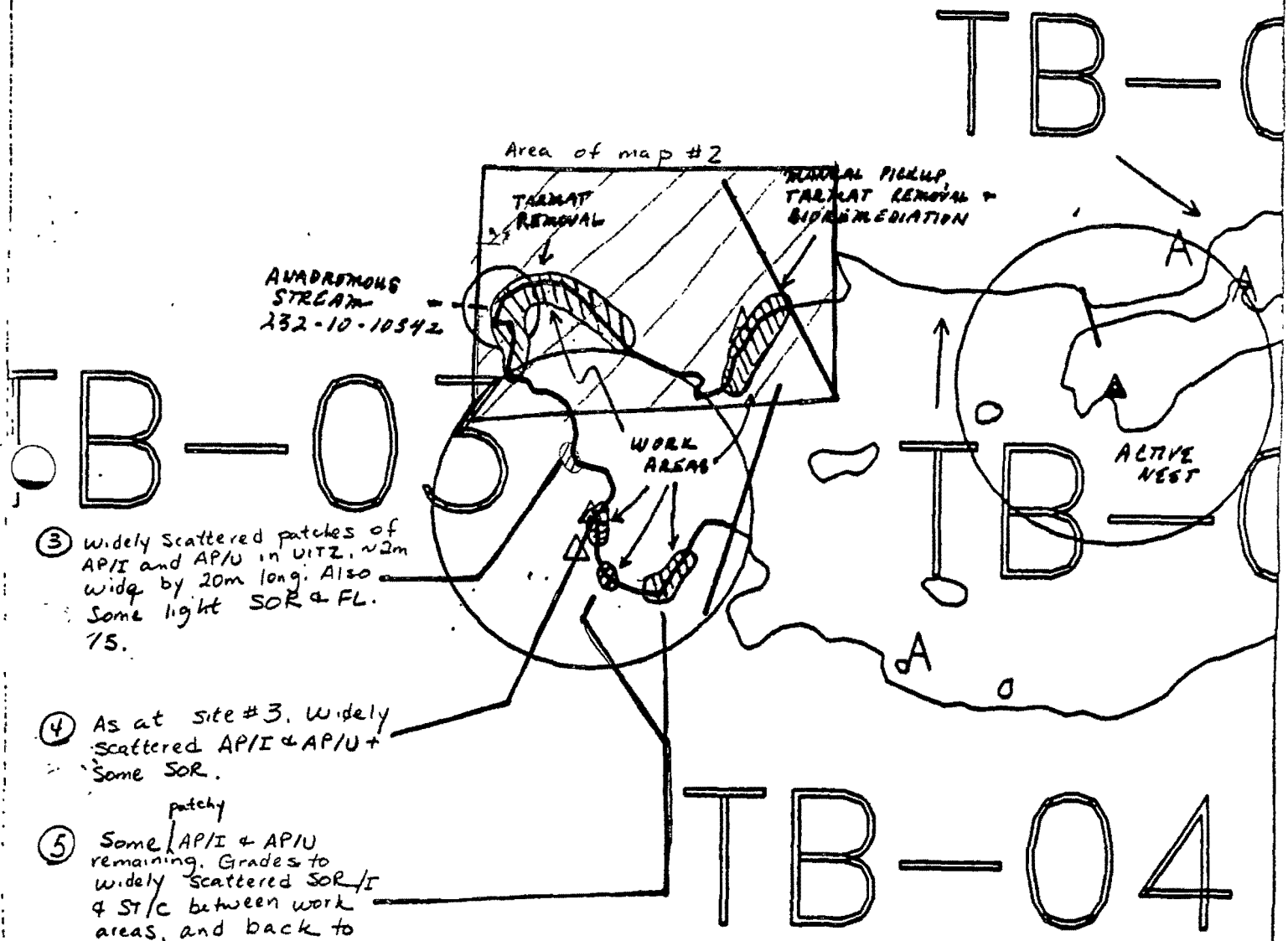
SITE NO.	PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER				OILED INTERVAL (CM-CM)	CLEAN BELOW (Y/N)	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS
			OP	OR	OF	NO			SU	UI	MI	LI	
							-						
							-						
							-						
							-						
							-						
							-						
							-						
							-						
							-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

COMMENTS

ACE 9961845

ACE 1940781

ASAP Sketch map #1
08/04/1990



(3) Widely scattered patches of AP/I and AP/U in UITZ, ~2m wide by 20m long. Also some light SOR & FL. 15.

(4) As at site #3. Widely scattered AP/I & AP/U + some SOR.

(5) Some patchy AP/I & AP/U remaining. Grades to widely scattered SOR/I & ST/C between work areas, and back to scattered SOR/I & AP/I, AP/U.

ACE 9961846

ACE 1940782

EXXON

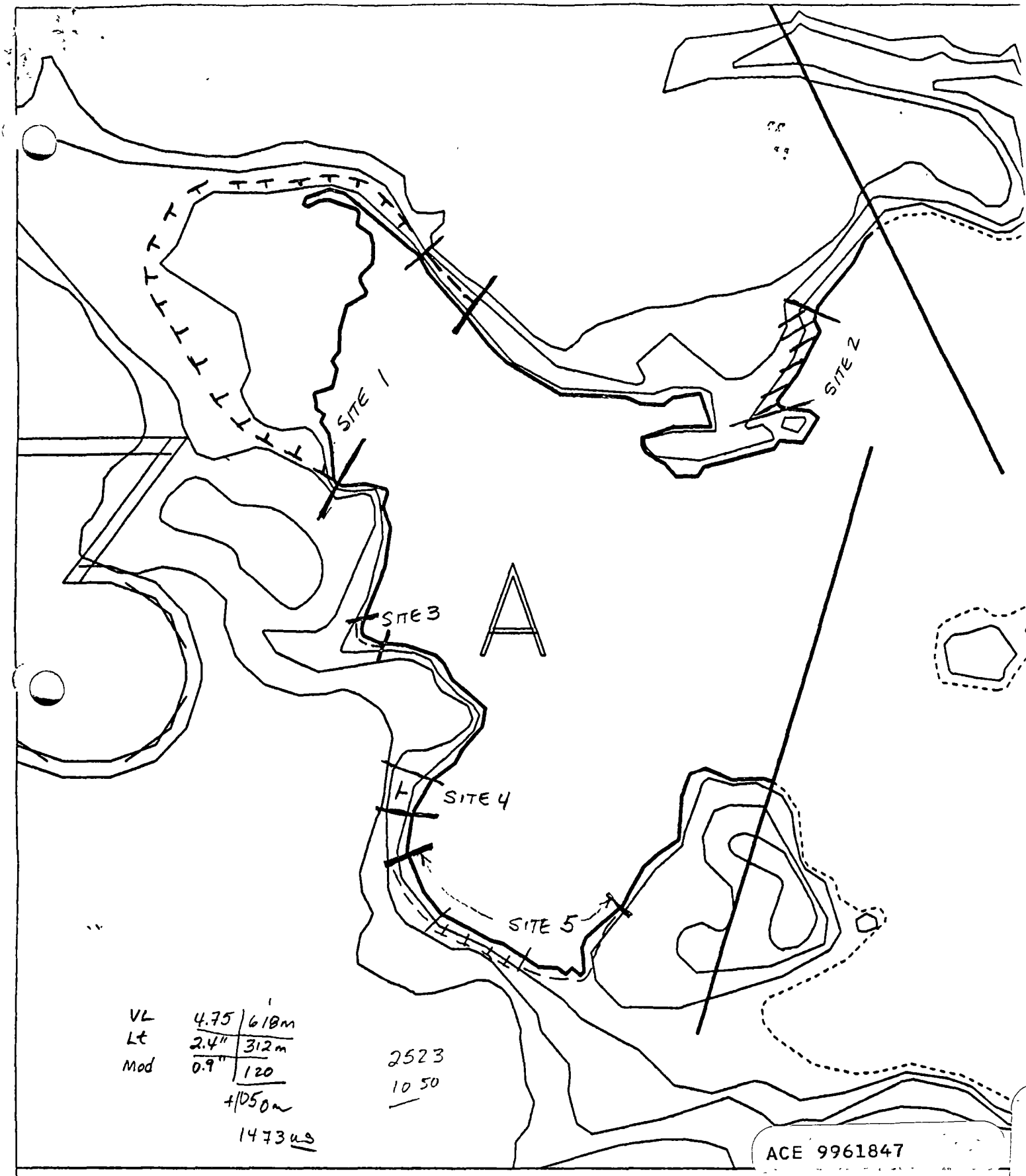
Exxon Company, USA
Map Key: KEH-TB-3
June 10, 1990

ECOLOGY MAP
SEGMENT TB-3
SUBDIVISION A (1 of 1)

METERS
0 416 832

★ Seabird Colony
▲ Active Eagle Nest
△ Inactive Eagle Nest

1 inch = 1364 feet



ACE 9961847

SEGMENT TB-3

Segment Location Map

Map Key: KENTB-3

METERS

0 128 257

2" = 257'
1" = 130'

July 18, 1990

1:5050

ACE 1940783

OG R Ma

SEGMENT ST/ ASAP TB3A

SUBDIVISION A

DATE 04 / Aug 90

ASAP
SKETCH MAP — B #2

CHECKLIST

- N Arrow
- Approx. Scale
- Segr/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 ➡ 10 Photo location, direction, and number

4m wide band 40m long AP/I/P remaining AP/U/P (G,S under C) in UITZ

Oil limited to upper 4cm. Mussles in LITZ have byssal threads with high OR oil. FL on sediments

MS/I/S

SOR/H/P

High SOR in S,C ~2m wide IC locally /I to B

SOR in S,C ~2m wide IC locally /I in boulders some AP/I & MS/I locally grades W to MS/U

AP(MS,CT)/I/S

Patches of FL/S SOR/S on mud up to 2cm penetration

Dead hogs

ADEC transect #326

mud flats

Grass cover. No visible oil

SOR/S in peat low concentrations

SOR/S in F,C, S

ACE 1940784

ACE 9961848

see Sketch Map-A

Z

OG K Marty

SEGMENT ST/ ASAP TB3A
1

SUBDIVISION A

DATE 04 / Aug 90

ASAP
SKETCH MAP — B #2

CHECKLIST

- N Arrow
- Approx. Scale
- Seg/Sub Body
- Oil Dist.
  - Width
  - Length
  - % Cover
- Substrate Character
- Est. HWL/WL
- 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 ●→ 10 Photo location, direction, and number

4m wide band 40m long AP/I/P remaining AP/U/P (G,S under C) in UITZ

Oil limited to upper 4cm. Mussles in LITZ have byssal threads with high OR oil. FL on sediments

MS/I/S

SOR/H/P

High SOR in S,C ~2m wide /C locally /I to B

SOR in S,C ~2m wide /C locally /I in boulders some AP/I & MS/I locally grades U to MS/U

AP(MS,CT)/I/S

Patches of FL/S SOR/S on mud up to 2cm penetration

Dead Aves

ADEC transect ≈326

Grass cover. No visible oil

SOR/S in peat low concentrations

SOR/S in Pc, S

WORK PLAN MODIFICATION SITES: DELINIATED

ACE 1940785

e Sketch Map-A

ACE 9961849

WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT TB-03 SUBDIVISION A DATED 8/5/90

MODIFICATION CLASS I _____ CLASS II ✓ CLASS III _____

1. REASON FOR MODIFICATION Five areas as shown on attached Sketch map, and described in HSAP Sketch map #2 (8/04/90) have SOR to high SOR/OR & asphalt. Sheen continually made from photo site 1, 2, 3, 4; SOR/S as well as the mud flats - Three ADF&G listed anadromous fish streams run through or are immediately adjacent to the described oiled areas In addition, this low energy environment is a staging area for Spring & fall migratory waterfowl Because of the low energy nature of this Subdivision and continued Sheening manual removal is needed -

2. SUGGESTED ADJUSTMENT TO WORK PLAN Manual Removal of SOR/S AP in indicated work sites is needed - as well as oiled Sediments

3. TIMING ISSUES

Sept. 15, 1990

ADEC Clara S Crosby

EXXON _____

USCG AEC Vandegeisla → I disagree with "timing issues". I recommend all of TB3 for reassessment in 91 due to sheen

LAND MANAGER _____ ADNR (If field rep is on scene)

ACE 9961850-1S|C

ACE 1940786-1S

ASC NUMBER: 232-10-10342 SEGMENT NUMBER: TB-03 YR CATALOGED:
LOCATION: Tonsina Bay - NW portion
STREAM NAME Tonsina NW Creek
LATITUDE: 59 / 8 37
LOCAL STREAM K-UNIT: LOCAL STREAM #: —
LONGITUDE: 150 57 06
USGS QUADRANGLE: Seldovia B-3
LEGAL:
SHORELINE TYPE: Beach, Cove, Tide Flats ALL SEGMENTS:
S10S 10W15
WAVE EXPOSURE: Low

SC NUMBER:
SURVEY TYPE: SS/BS
METHOD: Foot
DATE: 5/14/91
START TIME: 1340
STOP TIME: 1500

TEAM RECORDER: Fitzgerald, Hill
OBSERVERS: Glenn, Pelkey, Jensen, Schroeder, Coulter Shigenaka
AGENCY(IES): FG, NOAA, ADNR, LRP, Exxon, USCG

PHOTOS TAKEN? Y
Roll #: NOAA 6-14 Frames: 1-8
VIDEO TAKEN? N Tape Number:
Counter Start:
* Tide - FLOOD

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

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	350	6	2100	<1	<6	—	SOR, FL, LOR Sheen (RB+S)
SITE 2	70	1	70	9	—	—	CT/ST
SITE 3	250	4	1000	<1	—	—	SOR/FL
SITE 4	40	8	32	<1	<7.5	—	S, Sheen (RB)
SITE 5	20	8	160	9	—	—	SOR, FL, LOR

OVERALL OIL IMPACT: L/M

No ANAD Fish observed.

OIL IN STREAM CHANNEL? N
OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Y

SUBSTRATE

Bedrock	10	Granule	
Boulder	10	Sand	10
Cobble	20	Silt	
Pebble	50	Veget.	

SPECIES	—				
COUNT	—				

COMMENTS: Site #'s in oiling box relate to the MAP drawn by the MAYSAP Oil Geomorphologist. The Site Letters on Lee Glenn's comments which follow refer to the map he attached to the MAYSAP report: (NANCY please enter Lee's comments here) (Lee's comments follow the Oil Geo map enclosed)

ACE 996185 H/SC

Doug's Comments: Contrary to the MAYSAP Oil Geo's comments, in the MAYSAP Shoreline Oiling Summary SOR with some LOR Not Film was the most common oiling Condition.
The oil Geo makes a comment about the numerous sheens present on the tide flats and then somehow relates films to sheens, stating that films were the most common oiling condition. The presence of sheens was common because the substrate was saturated with HOR & not because only small bits of film remain in the area.
VECO workers removed approx. 30 pounds of oiled sediment from site E on the Oil Geo. map - - - oil was removed from a partially vegetated area approx 30' from the stream.

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

SC NUMBER: TEAM RECORDER:
URVEY TYPE: OBSERVERS:
ETHOD:
ATE: / / AGENCY(IES):
TART TIME:
TOP TIME: PHOTOS TAKEN?
Roll #: Frames:
VIDEO TAKEN? Tape Number:
Counter Start:

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

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 6	500	200	100,000	1	<9		sheen(S, RB) SOR, LOR, FL
SITE 7	15	3	45	1			ST
SITE 8							
SITE 9							
SITE 10							

VERALL OIL IMPACT:

IL IN STREAM CHANNEL?

OIL ON BEACH WITHIN 50M OF STREAM MOUTH?

SUBSTRATE		SUBSTRATE	
Bedrock		Granule	
Boulder		Sand	
Cobble		Silt	
Pebble		Veget.	

SPECIES					
COUNT					

MMENTS:

ACE 9961852—15

1991 MAYSAP EVALUATION

SEGMENT: TB 003 SUB: A REGION: KEN SURVEY DATE: 5/18/91

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

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

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

SHPO Signature:_____ Date:_____

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

COMMENTS:
INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE:_____ FOSC APPROVAL DATE:_____

ADEC_____ FOSC _____

EXXON_____

USCG_____

NOAA_____

ACE 9961853 4/5

NO. 6-Helo SEGMENT TB-3 SUBDIVISION A DATE 14/Aug/91

ADEC
NAME Lee Glenn ~~[illegible]~~ of ADFG SIGNATURE

☐ NTR ☒ Treatment Recommended

See Comments and Sketch Map - Attached

EXXON
NAME R Coulter SIGNATURE Rex R. Coulter

☑ NTR MINOR TRACES OF SHEEN WERE FOUND IN VARIOUS LOCATIONS AS THE NATURAL CLEANING CONTINUES. THE SOR FOUND VERY LIGHT AND GENERALLY WAS BROKEN/TILLED WITH SOME BEING REMOVED. THE PORTION REMOVED CONSISTED MAINLY OF LIGHTLY OILED SEDIMENTS MIXED WITH A HIGH PERCENTAGE OF SEDIMENTS THAT WERE NOT OILED. NATURAL DISSIPATION APPEARS TO BE PROGRESSING AT A RATE WHICH IS CONDUCIVE TO THE GROWTH OF THE BIOTA AT THIS SITE. TREATMENT WOULD PROVIDE NO BENEFIT AND WOULD CAUSE MORE HARM THAN IMPROVEMENT IN THE CONDITION OF THE SITE. I OBSERVED NO TARMATS OR TAR AT THIS SITE AS NOTED BY THE LANDMANAGER.

LANDMANAGER
NAME J Johnson OF ADNR SIGNATURE

☐ NTR ☒ TR Manual cleanup of the rocky perimeter would be difficult, but Tar mats on tidal flats could easily be removed by manual methods. Merely breaking up mats won't work because the higher temps found in July will likely cause the mats to re-form. This area is within Kachemak Bay State Wilderness park. The tar mats are obvious and unsightly, and certainly a negative visual impact to recreational users. I was able to pick up a shovel full of tar quite easily. I concur with technical comments of USCG/NOAA except that I recommend treatment.
THIS SURVEY IS INCOMPLETE, HOWEVER, AND FAILED TO INCLUDE THE ENTIRE SEGMENT
I completely concur with ADF&G comments for this segment.

USCG/NOAA
NAME Chief Jensen & G. SHIGENAKA SIGNATURE

☐ (NTR) Picked up 1/2 bag SOR as we walked this segment. This is a spawning area for Pink Salmon. There is no need to return to the part of the segment we walked and its fits the "NTR" classification and further removal operations would cause more environmental harm than the trace of oil to be removed. However the East part of this segment, known as Otter Beach, shows a 40m long AP/II/P on 04 Aug 90 ASAP, needs to be looked at by boat. Rex Coulter, EXXON, will make necessary arrangements.

SURVEYED PORTION OF SEGMENT CONSISTS OF A BROAD, LOW-SLOPING COBBLE TO MUD TIDAL FLAT WITH AREAS OF ROCKY RUBBLE AROUND ITS PERIMETER. THE ENTIRE SEGMENT WAS NOT SURVEYED DUE TO INACCESSIBILITY OF PORTIONS AT BOTH ENDS OF THE SEGMENT. THERE WAS GOOD FUCUS COVER OVER MUCH OF THE MIDDLE INTERTIDAL. IN LOWER REACHES OF THE FLAT, FUCUS AND ULVA GAVE WAY TO EELGRASS. SOME PORTIONS OF THE UPPER INTERTIDAL HAD SALICORNIA PLANTS AND OTHER SALT MARSH FLORA. FAUNA WERE NOTICEABLY SCARCE ON THE NORTH SIDE OF THE BEACH ALTHOUGH SOME LITTORINA SCUTULATA, BARNACLES, AND MYTILUS WERE OBSERVED. LITTORINA AND MUSSELS WERE MORE ABUNDANT ON THE SOUTH SHORE — THIS IS PROBABLY A FUNCTION OF EXPOSURE AND RESULTANT ALGAL GROWTH RATHER THAN OILING CONDITIONS. WEATHERED MOUSSE, SOR, AND SHEEN WERE OBSERVED ON BOTH NORTH AND SOUTH SHORES AND SOME COAT WAS STILL PRESENT ON ROCK FACES OF THE NORTHERN SHORELINE. ON THE TIDAL FLAT ITSELF, SHEENING WAS WIDESPREAD, PARTICULARLY IN THE NORTHEASTERN QUADRANT OF THE BEACH. THE GREATEST CONCENTRATIONS OF OIL WERE FOUND IN ONE CONTINUOUS NORTH-SOUTH BAND APPROX 2m x 5m IN THE NORTHWESTERN QUADRANT OF THE BEACH — THIS WAS SOR, AND ONE RELATIVELY SMALL PATCH ALONG THE NORTHWESTERN SHORE YIELDED HEAVY SOR. ALTHOUGH OIL CLEARLY REMAINS IN THE SURVEYED PORTION OF THE SEGMENT, FURTHER REMOVAL WOULD SEEM TO BE PROBLEMATIC AND DIFFICULT.

ACE 9961854

(continued)

FIELD SHORELINE COMMENT SHEET

A.D.F. & G Lee Glenn
Segment TB-003A
Date 5-14-91

The survey team were unable to access the entire segment via helicopter. See the attached sketch map which indicates the unsurveyed and surveyed sections. This survey is invalid until the entire subdivision has been assessed by the MAYSAP Team.

The sketch map delineates 4 areas where treatment is recommended.

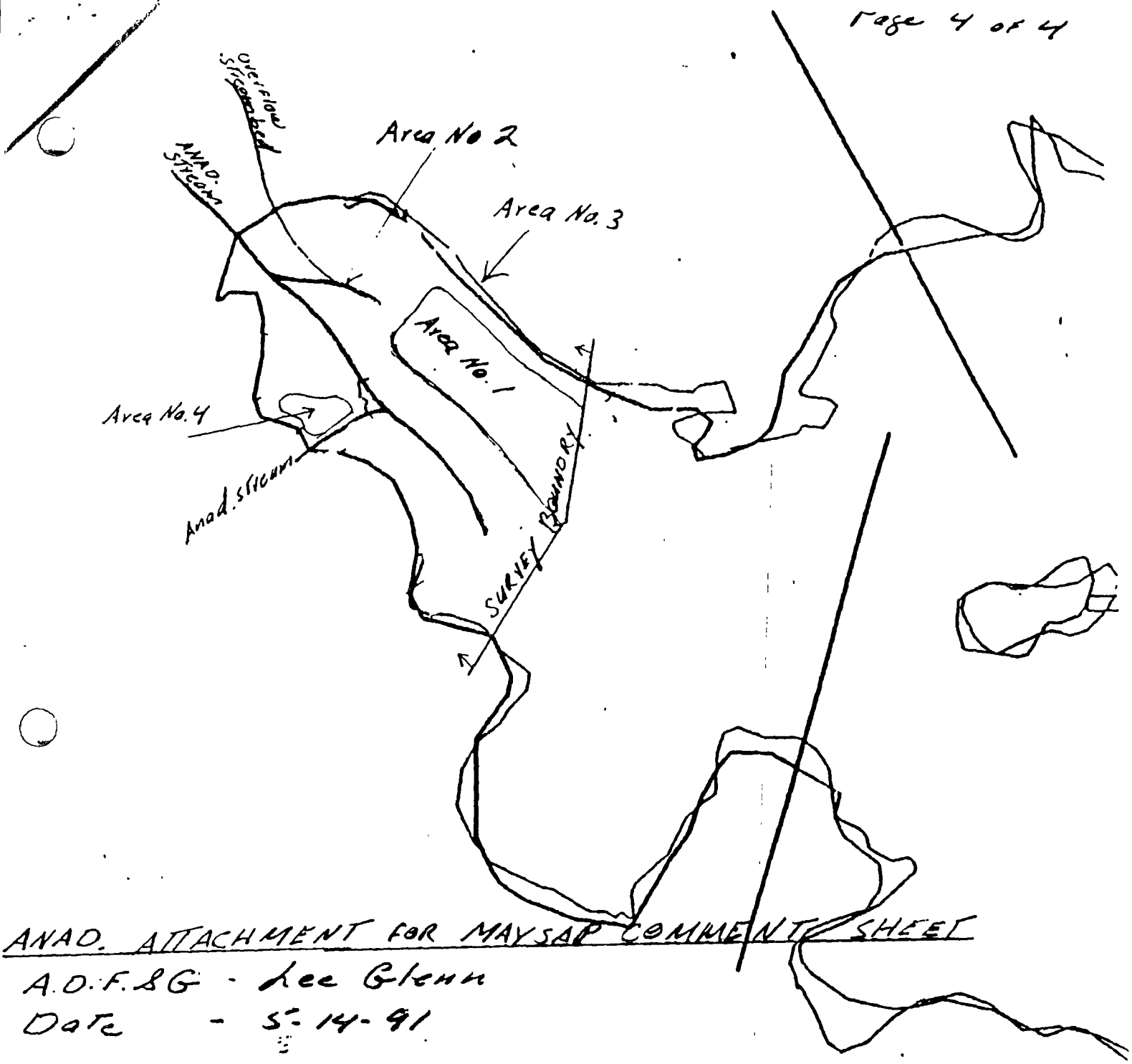
Area No. 1 - Located in the MITZ and LITZ out to the eelgrass zone. Oiling within this area consists of scattered patches of silver colored, consolidated sediments that are accessible at low tide and can be easily removed with hand tools. The physical appearance of these patches of oil has not changed during the past 12 months.

Area No. 2 - This is an overflow bed for the anadromous fish stream. A continuous band of oily sediments 3 m wide by 9 m long runs along the northwest bank. Recommend the oiled layer of this oiled material be removed. Pink salmon utilize the MITZ and some spawning occurs in this area.

Area No. 3 - As spring and summer temperatures increase it is likely that concentrations of oil in this 8 m by 100 m band area will become obvious and should be removed. I recommend that the cleanup team be prepared to walk this section of shoreline and remove MS, OP and AP as necessary.

Area No. 4 - This is a small grassy flat / cobble area that is located in close proximity to an anadromous fish stream. Light to moderate oiling was observed and will benefit by manual cleaning with hand tools.

The intertidal area at the far end of Tonsina Bay was coated with oil and with the exception of Area No. 1 have shown substantial improvement over the past 2 years. All areas recommended for cleanup are warranted due to the special nature of the area. Treatment recommendations focus on improvement of biological and recreational considerations associated with the special nature of the Kachemak Bay State Wilderness Park.



ANAD. ATTACHMENT FOR MAYSAP COMMENT SHEET

A.D.F.&G - Lee Glenn

Date - 5-14-91

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

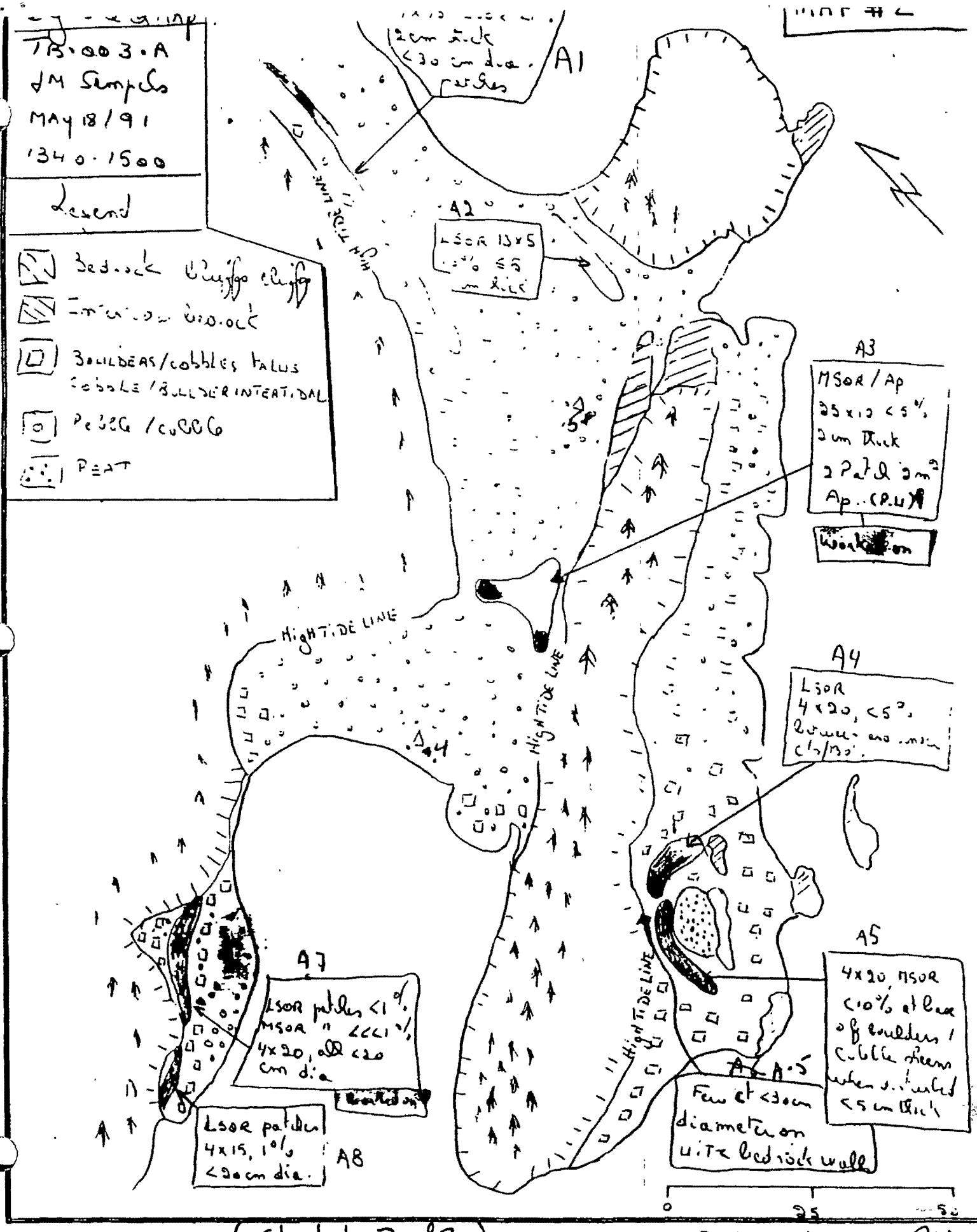
TB-3

ADEC Segment Length: 2371m

0 100 200 300
METERS

Map Key: KEN-122
Name:
Date:
Date Entered:

ACE 9961856

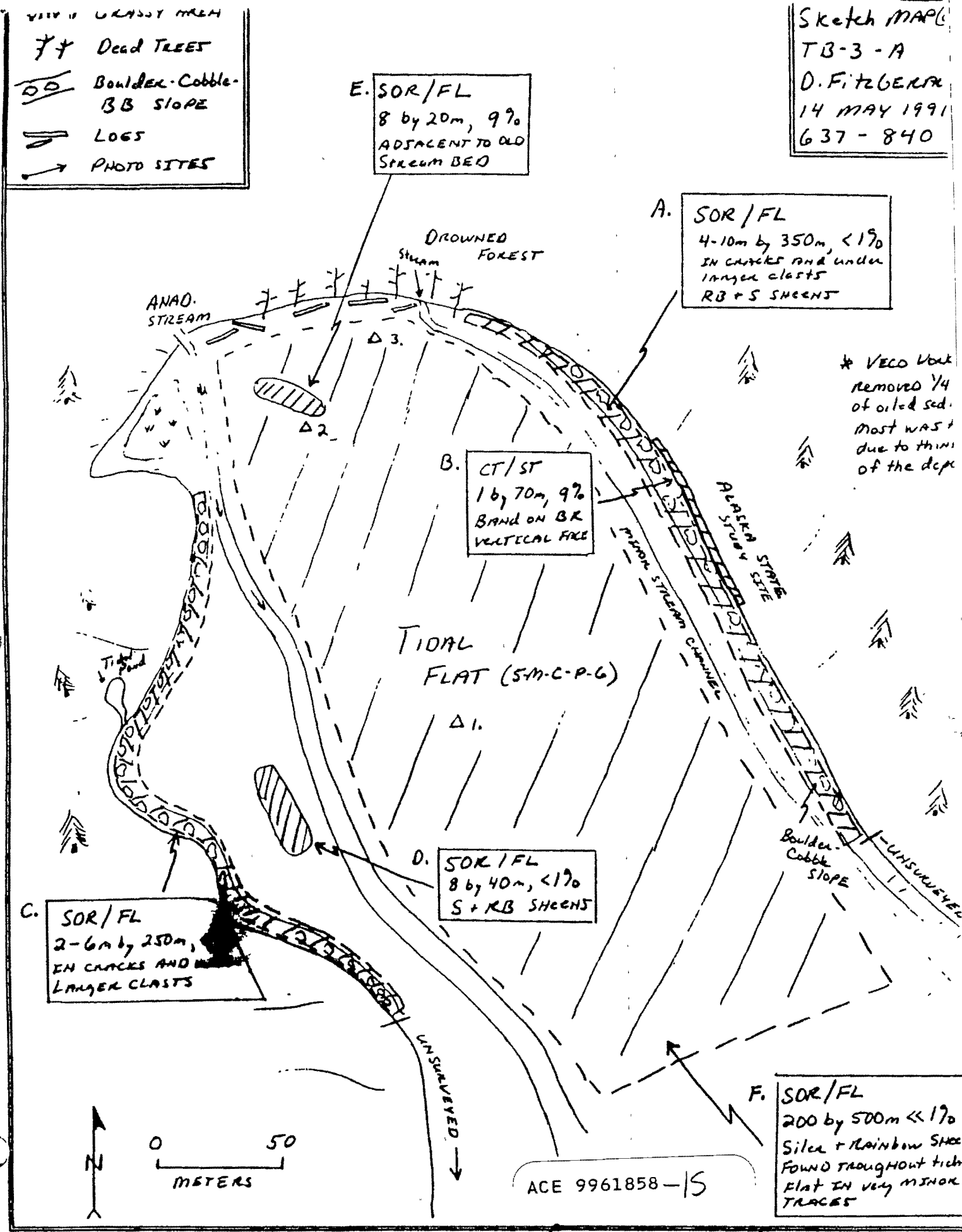


(Sketch 2 of 2)

Reviewed 5.23 9y

ACE 9961857

REVISED: MC 5/15/91



(Sketch 1 of 2) REVIEWED: MC

MAYSAP FIELD SHORELINE COMMENT SHEET

TB003-A 1/1C

TEAM NO. 4 SEGMENT TB003 (Partial) SUBDIVISION A DATE 5/18/91

ADEC
NAME Clara S. Crosby SIGNATURE Clara S. Crosby

NTR Although there are areas of concern on this beach – I do not believe that ~~[illegible]~~ further work would recover a significant amount of oil. The survey was conducted on a rainy day & sheens were produced w/ little agitation @ the lower intertidal. It should be noted however that this beach is adjacent to two Glen Anadromous fish streams – I will defer a recommendation ~~to~~ to ADF&G ~~[illegible]~~ for

EXXON
NAME George P. Stiles SIGNATURE George P. Stiles 5/18/91

☒ NTR This segment has mainly patchy LOR 1cm thick where oil has been trapped in the fine surface sand particles which produced a silver sheen. A few patches were MOR and produced a brown black sheen. 7 bags of AP 1cm thick was picked up from the beach crest. I feel no additional surface or subsurface oil ~~could~~ could effectively be removed manually.

LANDMANAGER
NAME Jeff Johnson OF ADNR SIGNATURE

☒ NTR
Light oiling; fairly scattered, concur with Exxon comments. This segment has improved markedly in the last 2 years. Further cleanup would not be very productive.

USCG/NOAA
NAME McMahon / McDonald SIGNATURE

☒ NTR
No significant oiling remains to justify returning.

Donald MacDonald

ACE 9961859 +/S

LRP SUBDIVISION COMMENT SHEET - MAYSAP
(Please fill in for each subdivision surveyed).

TEAM#/PHASE: ~~3~~ 4

DATE: 8-18-91

SUBDIVISION# ~~1B~~ 3A

TIME: start
finish

LOCATION: ~~[illegible]~~ ~~Bay~~ Tonsoina Bay

LRP REP: Rita L Braun

ADEC REP: Clara Crosby

PHOTOS (example: CDV#1/Frames 7-14):

FIELD CONDITIONS: Rainy, cold Blowing 20

AGREE WITH ADEC COMMENTS ☒ YES ☐ NO EXPLAIN BELOW

COMMENTS: The oil here was of a different texture, ~~[illegible]~~ grainy, sandy, fine texture, hard to deal with. we picked up what we could.

GENERAL OILING DESCRIPTION:

DEBRIS PICKED UP: 4 Bags - 30 lbs each

DEBRIS REMAINING: no

LRP RECOMMENDATION: none

☐ TREATMENT RECOMMENDED ☒ NO TREATMENT RECOMMENDED

TYPE OF TREATMENT:

ACE 9961860

MAYSAP SHORELINE OILING SUMMARY

TEAM NO. 4

OG JM Semple

BIO J. Berry

SEGMENT TB-003

SUBDIVISION A

ADEC

LANDMANAGER for

DATE MAY 18 /91

EXXON

USCG/NOAA

TIME 13 : 40 to 15 : 00 TIDE LEVEL +1.2 ft. to +5.5 ft. ENERGY LEVEL: [ ] H [X] M [ ] L

SURVEYED FROM: [X] FOOT [ ] BOAT [ ] HELO WEATHER: [ ] SUN [X] CLOUDS [ ] FOG [X] RAIN [ ] SNOW

TOTAL LENGTH SHORELINE SURVEYED: 300 m NEAR SHORE SHEEN: [ ] BR [ ] RB [ ] SL [X] NONE

EST. OIL CATEGORY LENGTH: W m M 5 m N m VL 160 m NO 135 m US m

LOC	SURFACE OIL CHARACTER										SURFACE SEDIMENT	SHORE SLOPE	AREA		ZONES				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO	TYPE	V H M L	WIDTH m	LENGTH m	S	UI	MI	LI	
A1				S							cb/pb	M	4	20		X			See map
A2				S							cb/pb	L	13	5		X	X		
A3	S			S							Rb/cb	L	25	10		X			
A4				S							cb/Rb	M	4	20		X			
A5				S							cb/Rb	M	4	20		X			
A6						S					Bedrock	V	Few patches only						include it in A5
A7				T							Rb/cb	M	4	20		X			
A8				T							cb/Rb	M	4	20		X			

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

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

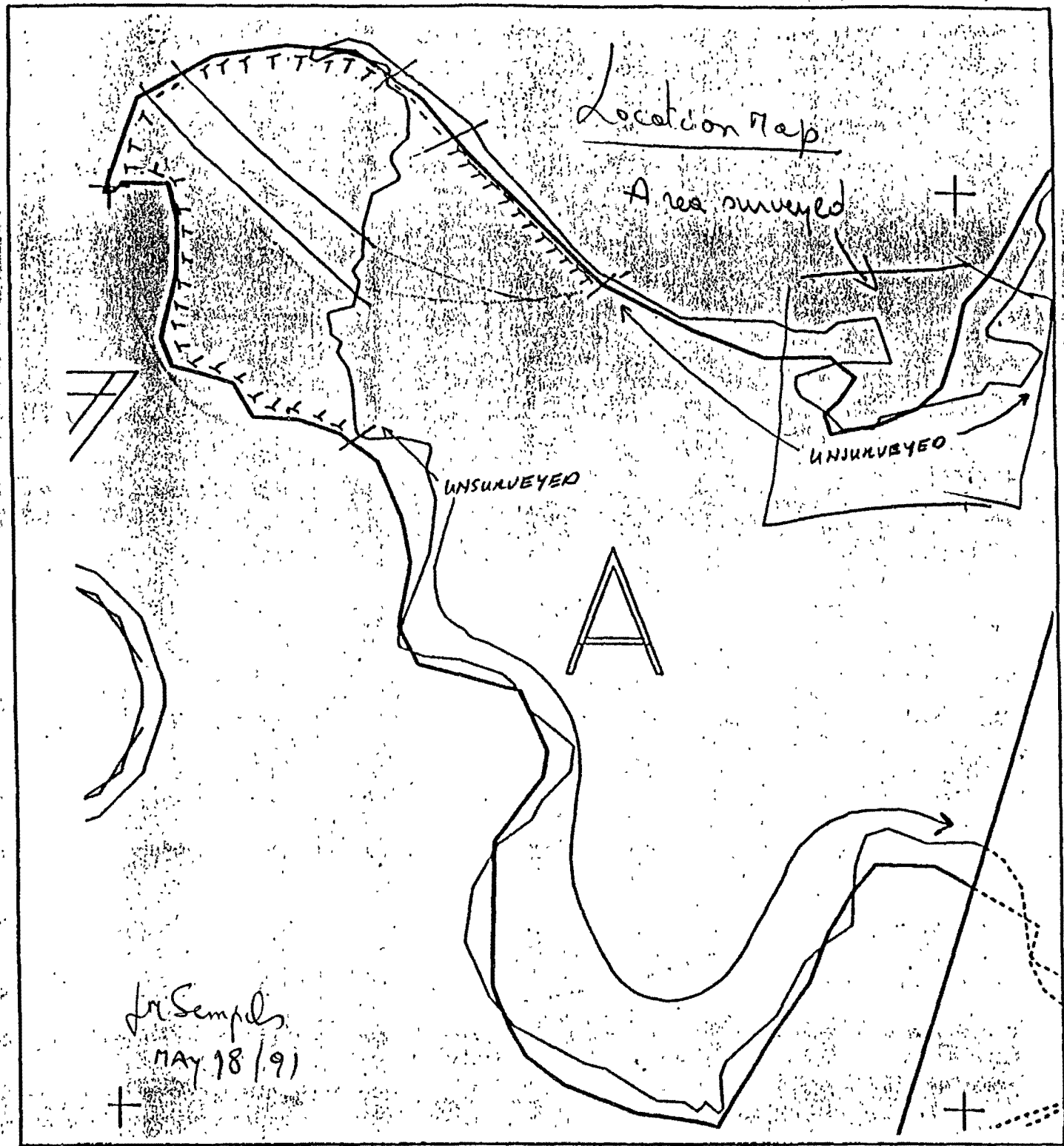
PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	30							—	-	Y	—	—			X		pb/sd	See
2	30							—	-	Y				X			"	map.
									-									
									-									
									-									
									-									
									-									
									-									
									-									

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

OG COMMENTS: Complex area. includes an elongated bedrock body connected to the mainland by a tombolo. Common angular boulders and cobbles are present near bedrock outcrops and bluffs. Elsewhere sediments are mainly a pebble/cobble veneer over pebble/cobble/sand subsurface. Most oiling occurred on the tombolo, and on the outside southeastern coast and on the northeastern part of the segment.

ACE 9961861

TB003-A 3/10



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

TB003 A

ADEC Subsegment Length: 2371m

METERS

0 100 200

AK State Plane Zone 4
alb003ac

EXXON

Subdivision Field Map

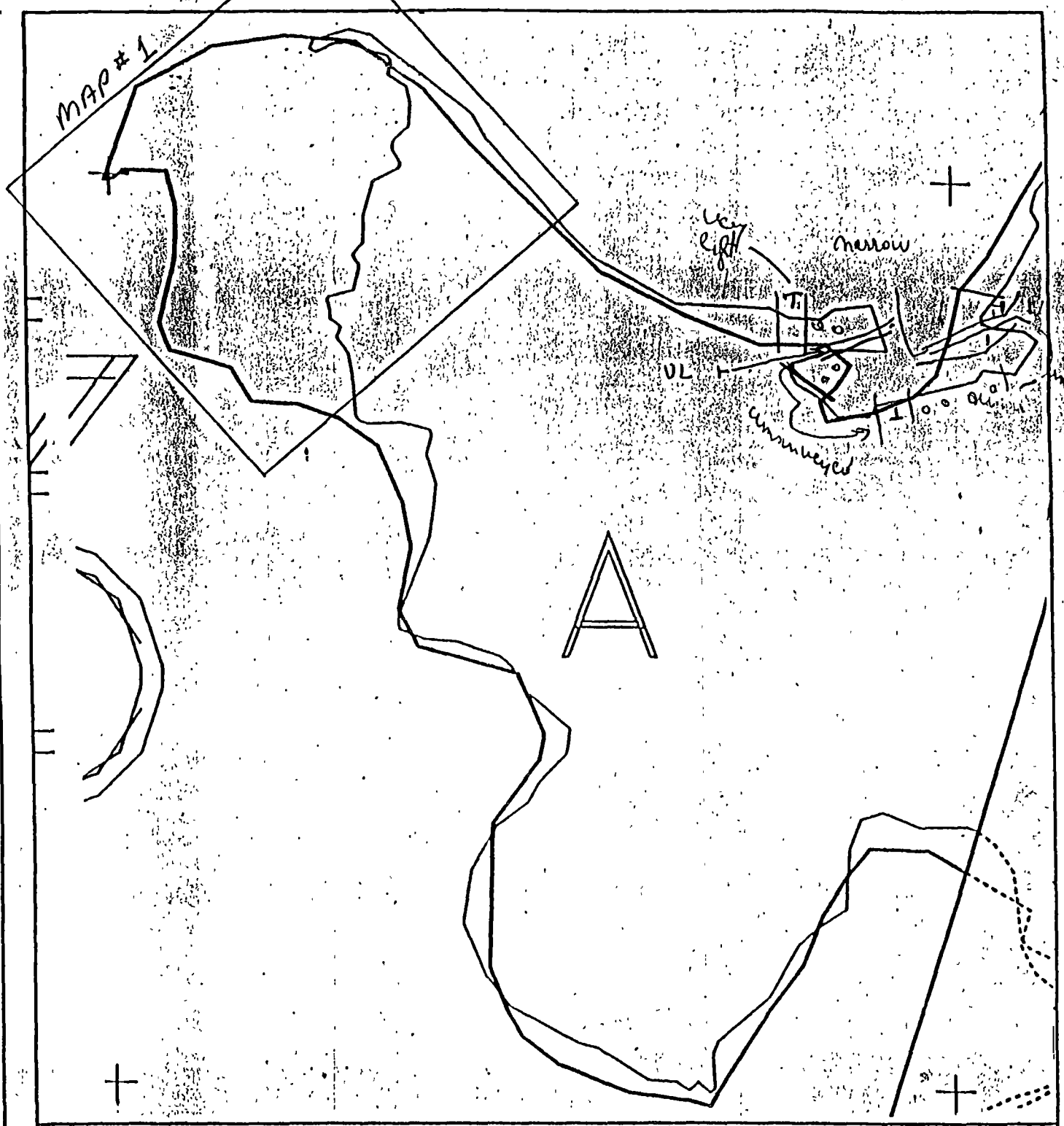
Map Key: KENTB003Ac

Name: ~~D. Fitzgerald~~

Date: ~~14 May 1991~~

Date Entered:

ACE 9961862



TB003 A

Subdivision Field Map

Map Key: KENTB003A

Name: ~~D. Fitzgerald~~ J. Samples

Date: ~~14 MAY 1991~~ May 18/91

METERS

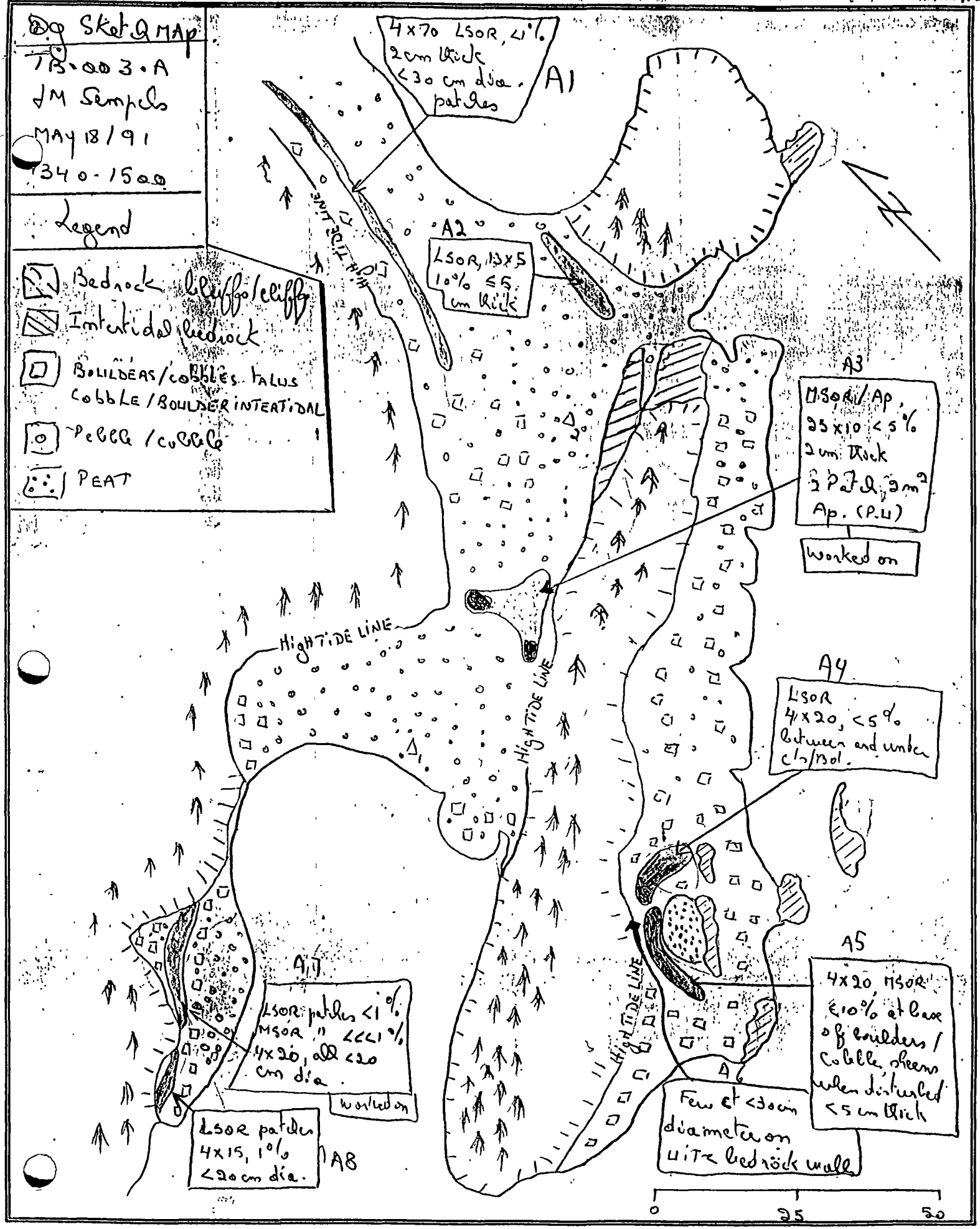
100

200

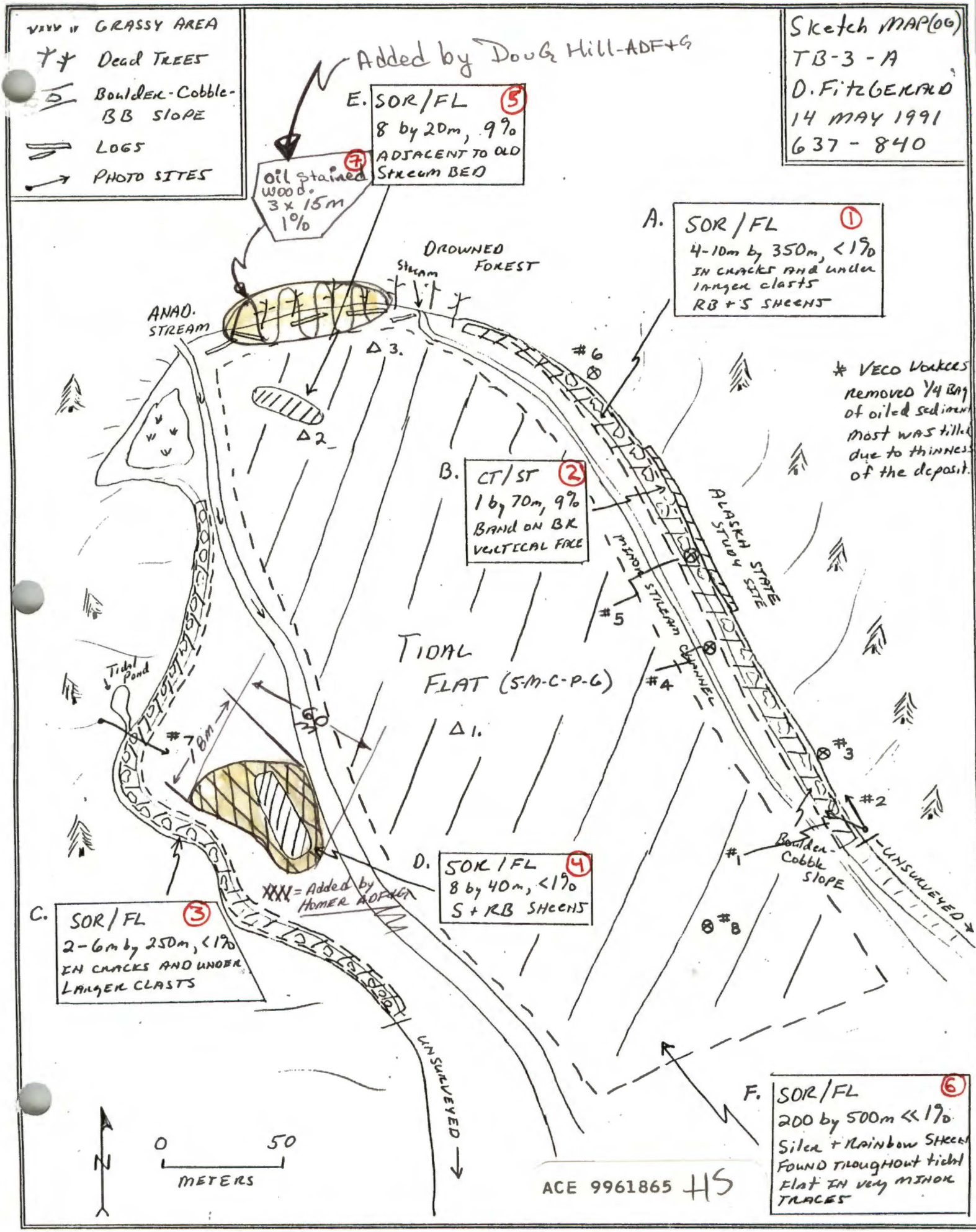
AK State Plane Zone 4

EXXON

ACE 9961863



ACE 9961864 – 15


GRASSY AREA
Dead TREES
Boulder-Cobble-BB SLOPE
LOGS
PHOTO SITES
Added by Doug Hill-ADF+G
Sketch MAP(OG)
TB-3-A
D. FitzGERALD
14 MAY 1991
637 - 840
E. SOR/FL (5)
8 by 20m, 9%
ADJACENT TO OLD Stream BED
(7) Oil stained wood. 3 x 15m 1%
A. SOR/FL (1)
4-10m by 350m, <1%
IN CRACKS AND under larger clasts
RB + S SHEENS
DROWNED FOREST
Stream
ANAD. STREAM
Δ3.
Δ2
#6
* VECO Workers removed 1/4 Bag of oiled sediment most was tilled due to thinness of the deposit.
B. CT/ST (2)
1 by 70m, 9%
BAND ON BK VERTICAL FACE
ALASKA STATE SITE
minor STREAM CHANNEL
#5
#4
TIDAL FLAT (S-M-C-P-G)
Tidal Pond
#7
18m
30
Δ1.
#3
#2
#1
Boulder-Cobble SLOPE
UNSURVEYED
D. SOR/FL (4)
8 by 40m, <1%
S + RB SHEENS
#8
XXX = Added by Homer ADF&G
C. SOR/FL (3)
2-6m by 250m, <1%
IN CRACKS AND UNDER LARGER CLASTS
UNSURVEYED
F. SOR/FL (6)
200 by 500m << 1%
Silver + Rainbow SHEEN FOUND THROUGHOUT tidal flat IN very MINOR TRACES
N
0
50
METERS
ACE 9961865 HS

FIELD SHORELINE COMMENT SHEET

A.D.F. & G Lee Glenn
Segment TB-003A
Date 5-14-91

The survey team were unable to access the entire segment via helicopter. See the attached sketch map which indicates the unsurveyed and surveyed sections. This survey is invalid until the entire subdivision has been assessed by the MAYSAP Team.

Relation to MAYSAP (1991) Report

The sketch map delineates 4 areas where treatment is recommended.

Located w/in site #6 on OG MAP

Area No. 1 - Located in the MITZ and LITZ out to the eelgrass zone. Oiling within this area consists of scattered patches of silver colored, consolidated sediments that are accessible at low tide and can be easily removed with hand tools. The physical appearance of these patches of oil has not changed during the past 12 months.

Located w/in site #6 on OG MAP

Area No. 2 - This is an overflow bed for the anadromous fish stream. A continuous band of oily sediments 3 m wide by 9 m long runs along the northwest bank. Recommend the oiled layer of this oiled material be removed. Pink salmon utilize the MITZ and some spawning occurs in this area.

SAME As site #1 on OG map.

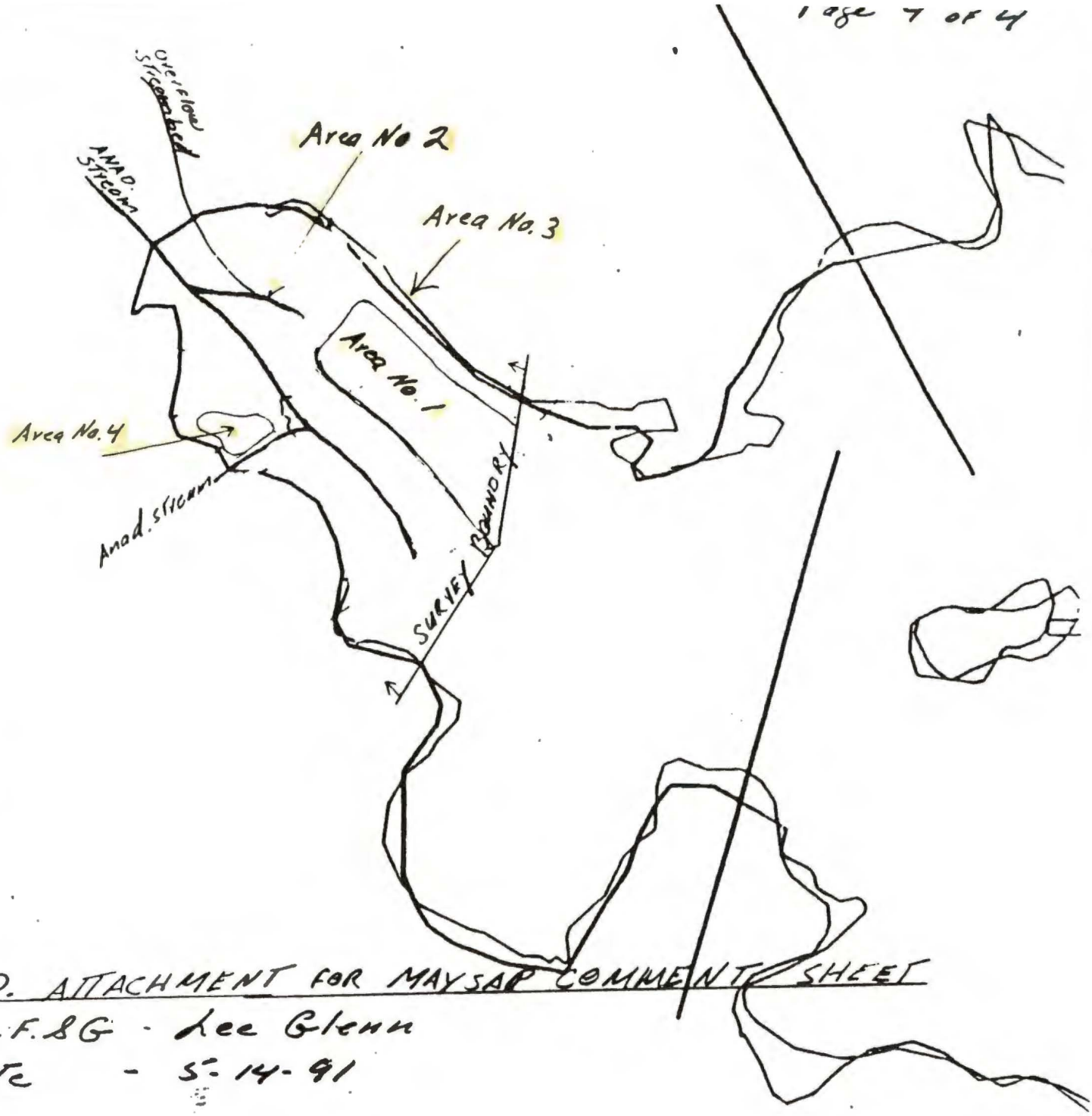
Area No. 3 - As spring and summer temperatures increase it is likely that concentrations of oil in this 8 m by 100 m band area will become obvious and should be removed. I recommend that the cleanup team be prepared to walk this section of shoreline and remove MS, OP and AP as necessary.

Surrounds site #4 on OG MAP

Area No. 4 - This is a small grassy flat / cobble area that is located in close proximity to an anadromous fish stream. Light to moderate oiling was observed and will benefit by manual cleaning with hand tools.

SEE Following page - MAP DRAWN by L.P. Glenn (ADF&G)

The intertidal area at the far end of Tonsina Bay was coated with oil and with the exception of Area No. 1 have shown substantial improvement over the past 2 years. All areas recommended for cleanup are warranted due to the special nature of the area. Treatment recommendations focus on improvement of biological and recreational considerations associated with the special nature of the Kachemak Bay State Wilderness Park.



ANAD. ATTACHMENT FOR MAYSAP COMMENT SHEET

A.D.F.&G - Lee Glenn

Date - 5-14-91

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

TB-3

ADEC Segment Length: 2371m

0 100 200 300
METERS

Map Key: KEN-122
Name:
Date:
Date Entered:

ACE 9961867

LRP SUBDIVISION COMMENT SHEET - MAYSAP
(Please fill in for each subdivision surveyed).

TEAM#/PHASE: 4 DATE: 8-18-91

SUBDIVISION# TB 2A TIME: start ____ finish ____

LOCATION: ~~TB 2a~~ Tonsina Bay

LRP REP: Rita L Braun

ADEC REP: Ceara Cooley

PHOTOS (example: CDV#1/Frames 7-14): ____

FIELD CONDITIONS: Rainy, cold Blowing 20

AGREE WITH ADEC COMMENTS ☑ YES ☐ NO EXPLAIN BELOW

COMMENTS: The oil here was of a different texture. ~~Greasing~~ grainy, sandy, fine texture. hard to deal with. we picked up what we could.

GENERAL OILING DESCRIPTION:

DEBRIS PICKED UP: 4 Bags - 30 lbs each

DEBRIS REMAINING: no

LRP RECOMMENDATION: none

☐ TREATMENT RECOMMENDED ☑ NO TREATMENT RECOMMENDED

TYPE OF TREATMENT:

ACE 9961868

MAYSAP SHORELINE OILING SUMMARY

TEAM NO. 6/4

SEGMENT IB-003

SUBDIVISION A

OG Fitzgerald / Semples   BIO Schroeder / Berry

ADEC Hill (ADF&G) / Crosby   LANDMANAGER Johnson / James for ADNR

May 14 / 1991

DATE MAY 18 /91

EXXON Coulter / Stiles   USCG/NOAA Jansen / Shigenaka McMahon / McDowell

TIME 6:37 13:40 to 8:40 15:00   TIDE LEVEL 1.5 +1.2 ft. to -3.1 +5.5 ft.   ENERGY LEVEL: [ ] H [ ] M [X] L

SURVEYED FROM: [X] FOOT [ ] BOAT [ ] HELO   WEATHER: [ ] SUN [X] CLOUDS [ ] FOG [X] RAIN [ ] SNOW

TOTAL LENGTH SHORELINE SURVEYED: 851 m   NEAR SHORE SHEEN: [ ] BR [X] RB [X] SL [X] NONE

EST. OIL CATEGORY LENGTH: W 0 m M 5 m N 90 m VL 601 m NO 155 m US 1520 m

LOC	SURFACE OIL CHARACTER AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO	SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA WIDTH m	AREA LENGTH m	ZONE S	UI	MI	LI	NOTES
A				T				T			B-C-P-G	M	7	350	X	X	X		Along East Bank
B						S	S				BR	V	1	70	X				On Vertical BR Face
C				T				T			B-C-P-G	M	4	250		X	X		Along West Bank
D				T				T			S-M-C	L	8	40				X	Tidal Flat Area
E				S				S			C-S-G	L	8	20				X	Old Stream Bed
F				T				T			S-M-C	L	200	500				X	Most of Tidal Flat
A1				T							C/P	M	4	70		X			
A2				S							C/P	L	13	5			X		
A3	S			S							P/C	L	25	10		X			
A4				S							C/B	M	4	20		X			
A5				S		S					C/B/R	M	4	20		X			
A6						S					~~B~~	—	—	—					Included in A5
A7				T							B/C	M	4	20		X			
A8				T							C/B	M	4	15		X			

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

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

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER OP	HOR	MOR	LOR	OF	TR	NO	OILED ZONE cm–cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR BRSN	PIT ZONE S	UI	MI	LI	SURFACE-SUBSURFACE SEDIMENTS	NOTES
1	20							X	-							X	C-S-G	Middle of Flat
2	20							X	-							X	C-S-G-P	Next to Site E
3	25							X	-							X	M-S	In soft sed.
									-									
									-									
									-									
4	30							X	-						X		P/S	
5	30							X	-				X				P/S	
									-									

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

OG COMMENTS:

* COMBINED DATA FROM MAY 14 AND MAY 18 SURVEYS

ACE 9961869

PREPARED: MC 5/25/91

OG D FitzGerald | BIO T. Schroeder | SEGMENT 7B-3

ADEC D Hill of ADFG | LANDMANAGER J. Johnson for ADNR | SUBDIVISION A

EXXON R Coulter | USCG/NOAA Chief Jensen/G. Shigenaka | DATE 14 / MAY / 91

TIME 6 : 37 to 8 : 40 | TIDE LEVEL 1.5 ft. to -3.1 ft. | ENERGY LEVEL: ☐ H ☐ M ☒ L

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

TOTAL LENGTH SHORELINE SURVEYED: 536 m | NEAR SHORE SHEEN: ☐ BR ☒ RB ☒ SL ☐ NONE

EST. OIL CATEGORY LENGTH: W 0 m M 0 m N 90 m VL 446 m NO 0 m US 1835 m

LOC	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE V H M L	AREA WIDTH m	AREA LENGTH m	ZONE S	ZONE UI	ZONE MI	ZONE LI	NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO									
A				T				T			B-C-P-G	M	7	350	X	X	X		ALONG EAST BANK
B						S	S				BR	V	1	70	X				ON VERTICAL BR FACE
C				T				T			B-C-P-G	M	4	250		X	X		ALONG WEST BANK
D				T				T			S-M-C	L	8	40				X	TIDAL FLAT AREA
E				S				S			C-S-G	L	8	20				X	OLD STREAM BED
F				T				T			S-M-C	L	200	500				X	MOST OF MID FLAT

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 - 14 FRAMES 1-4

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER OP	HOR	MOR	LOR	OF	TR	NO	OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE S	UI	MI	LI	SURFACE-SUBSURFACE SEDIMENTS	NOTES
1	20							X	-							X	C-S-G	middle of FLAT
2	20							X	-							X	C-S-G-P	Next to SITE E
3	25							X	-							X	M-S	IN SOFT sediment
									-									
									-									
									-									
									-									
									-									
									-									

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

OG COMMENTS: THE SURVEYED PORTION OF THIT SEGMENT WAS the INNER tidal FLAT REGION OF the embayment. The oiling WAS pervasive but INfrequent AND very thin deposits, generally. IN most INSTANCES, the SOR could Not be removed with A SHOVEL due to its thinness AND therefore, it was simply tilled AND broken up. Both silver AND RAINBOW sheens were present, IN FACT, films were the most common oiling condition.

survey continued 5.18.91 see next page.

revised 5.24.91 gy

REVISED: MC 5/25/91

ACE 9961870

TEAM NO. ____

OG J M Semple | BIO J. Berry | SEGMENT TB:003

ADEC Crosby | LANDMANAGER Johnson for ADNR | SUBDIVISION A

EXXON George P. Stiles | USCG/NOAA McMahan/McDonald | DATE MAY 11 B 91

TIME 13 : 45 to 15 : 00 | TIDE LEVEL +1.2 ft. to +5.5 ft. | ENERGY LEVEL: ☐ H ☒ M ☐ L

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

TOTAL LENGTH SHORELINE SURVEYED: 315 m | NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W — m M 5 m N — m VL 155 m NO 155 m US 1520 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	
A1				T							cb/pb	M	41	20		X			See map
A2				S							cb/pb	L	13	5			X		
A3	S			S							pb/cb	L	25	10		X			
A4				S							cb/BR	M	4	20		X			
A5				S		S					cb/BR	M	4	20		X			
A6						S					Bedrock	L	Few patches only						
A7				T							BR/cb	M	4	20		X			
A8				S							cb/BR	M	4	15		X			

DISTRIBUTION: C = 81-100%; B = 51-80%; P = 11-50%; S = 1-10%; T = <1%

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

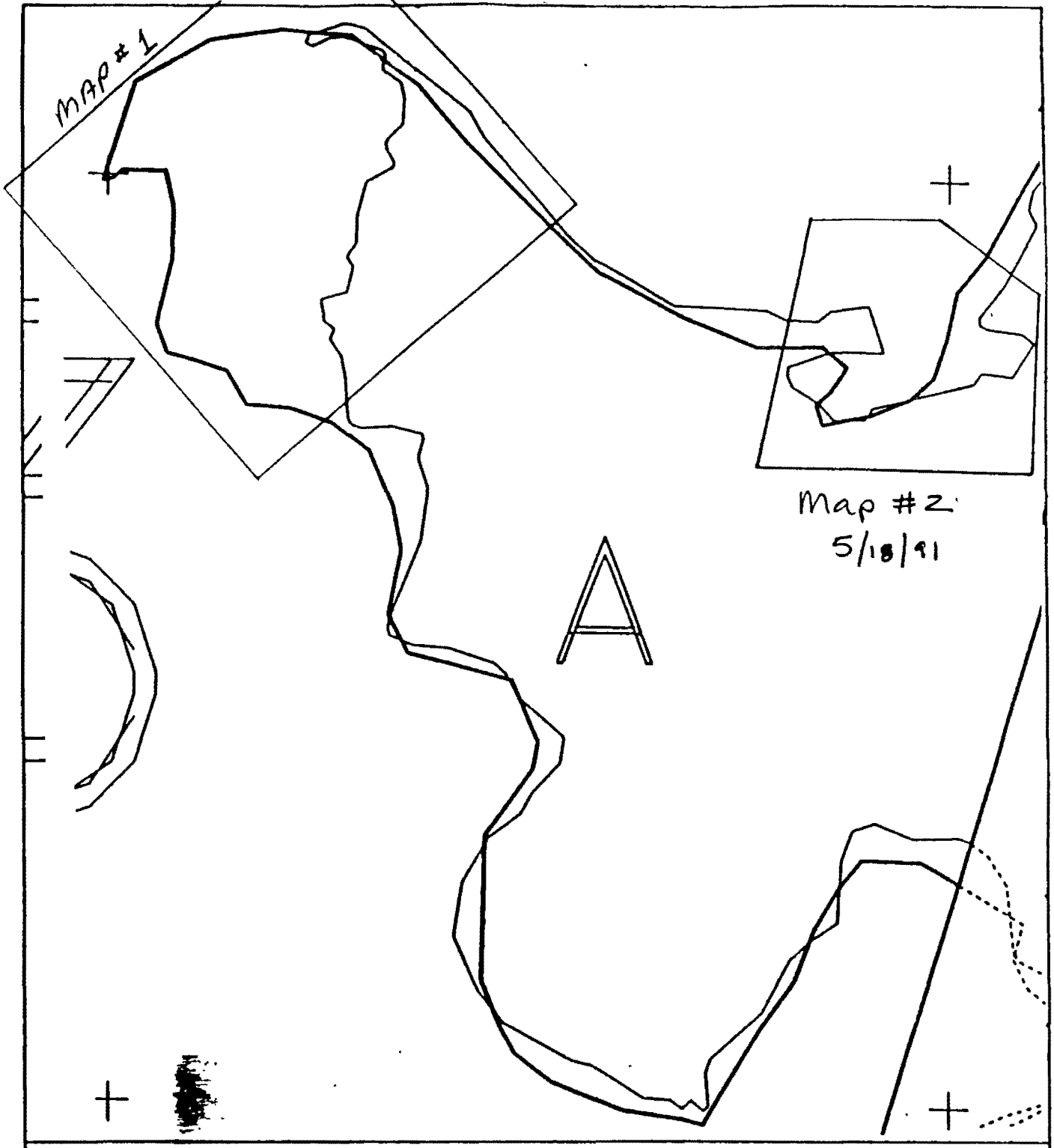
PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	30							—	-	Y	—	—			X		pb/co	See
2	20							—	-	Y				X			"	Log.
									-									
									-									
									-									
									-									
									-									
									-									
									-									

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

OG COMMENTS: Complex area includes an elongated bedrock body connected to the mainland by a tombolo. Coarse angular boulders and cobble are present near bedrock outcrops and bluffs, elsewhere sediments are mainly a pebble/cobble veneer over pebble/cobble subsurface. Most oiling occurred on the tombolo, on the outside southeastern coast and on the northwestern part of the segment.

REVISED: MC 5/25/91 revised 5.23 9y

ACE 9961871



TB003 A

METERS

0 100 200

AK State Plane Zone 4

EXXON

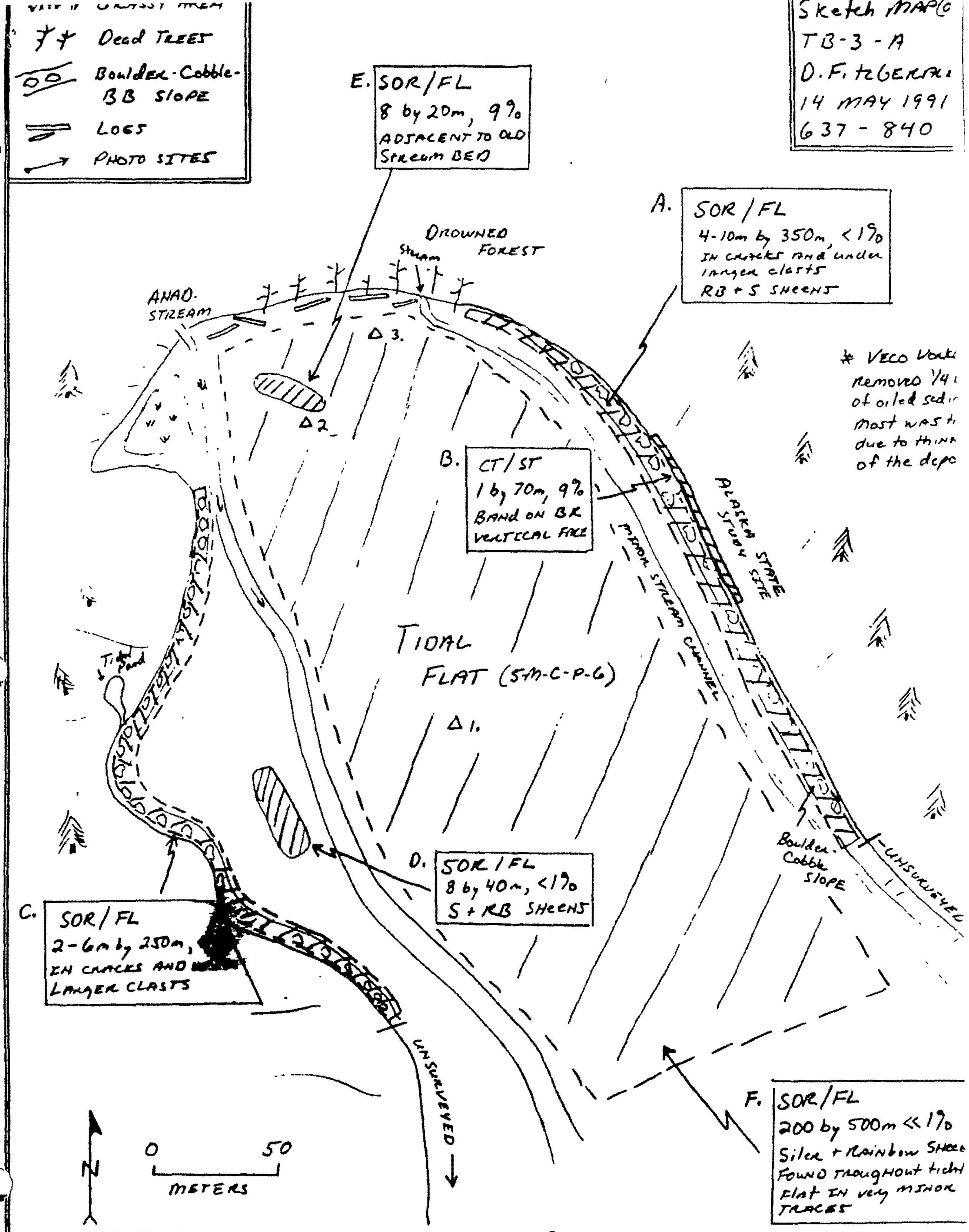
Subdivision Field Map

Map Key: KENTB003A

Name: D. FitzGerald

Date: 14 MAY 1991

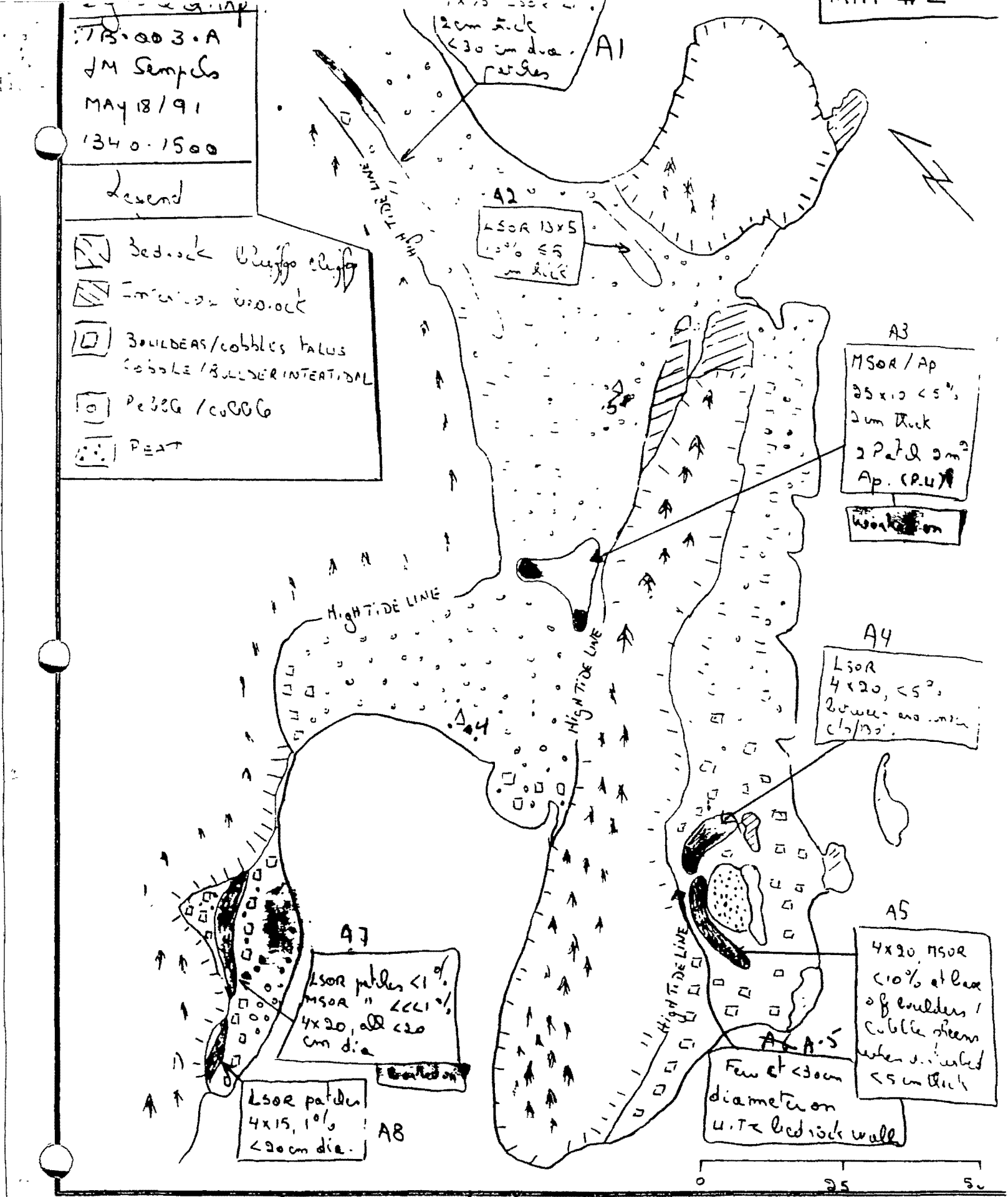
ACE 9961872



(Sketch 1 of 2)

Reviewed: MC

ACE 9961873

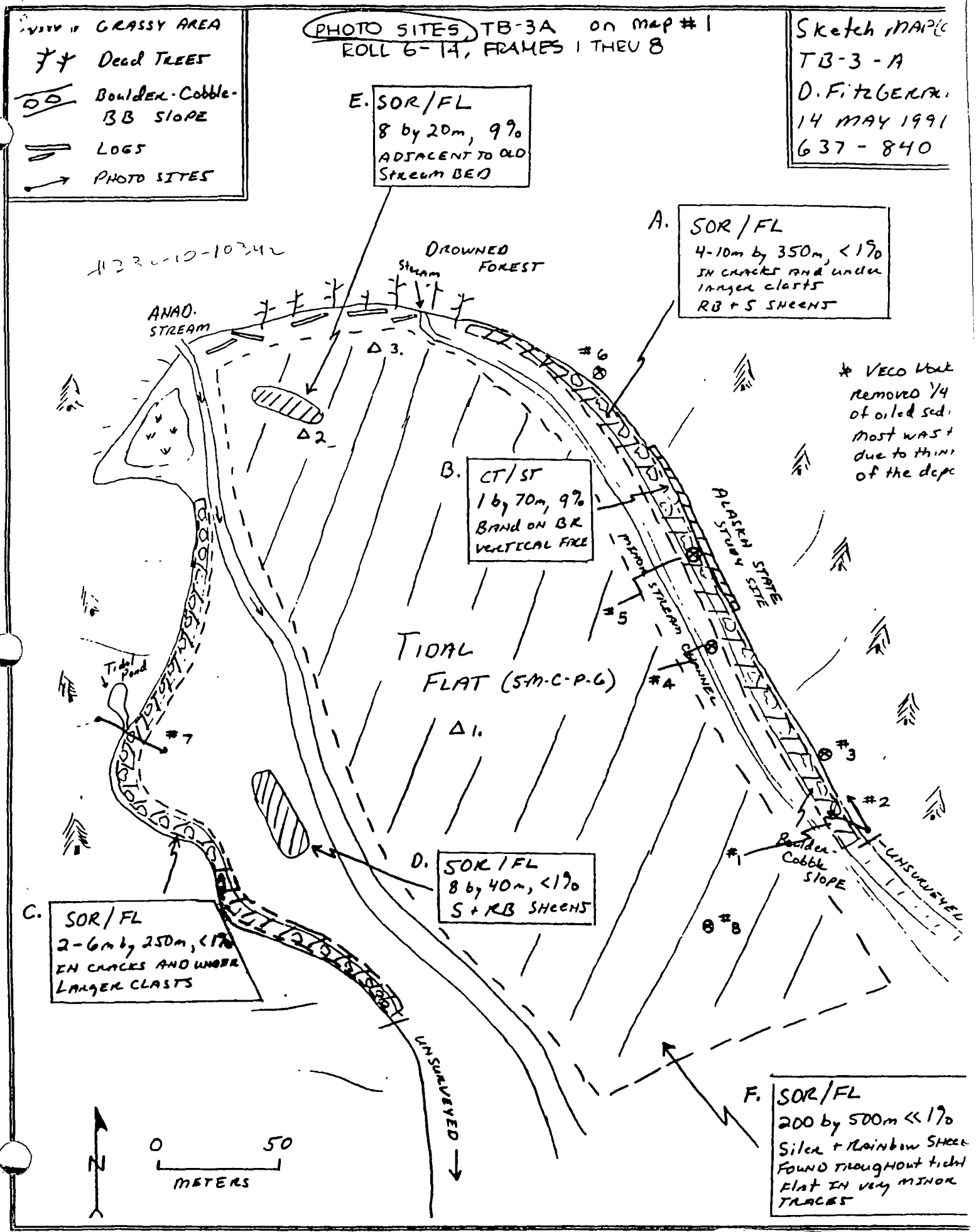


(Sketch 2 of 2)

Reviewed 5.23 9y

REVISED: MC 5/25/91

ACE 9961874


GRASSY AREA
Dead TREES
Boulder-Cobble-BB SLOPE
LOGS
PHOTO SITES
PHOTO SITES TB-3A on map #1
ROLL 6-14, FRAMES 1 THRU 8
Sketch MAP of TB-3-A
D. FitzGERALD
14 MAY 1991
637 - 840
E. SOR/FL
8 by 20m, 9%
ADJACENT TO OLD STREAM BED
A. SOR/FL
4-10m by 350m, <1%
IN CRACKS AND UNDER LARGER CLASTS
RB + S SHEENS
DROWNED FOREST
Stream
ANAD. STREAM
* VECO Unit removed 1/4 of oiled sed. most WAS + due to thin of the depo
B. CT/ST
1 by 70m, 9%
BAND ON BR
VERTICAL FACE
ALASKA STATE SITE
MEADOW STREAM CHANNEL
TIDAL FLAT (SM-C-P-G)
Tidal pond
D. SOR/FL
8 by 40m, <1%
S + RB SHEENS
Boulder-Cobble SLOPE
UNSURVEYED
C. SOR/FL
2-6m by 250m, <1%
IN CRACKS AND UNDER LARGER CLASTS
UNSURVEYED
F. SOR/FL
200 by 500m << 1%
Silver + Rainbow SHEEN FOUND THROUGHOUT tidal flat IN very MINOR TRACES
N
0
50
METERS

ACE 9961875

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6
DATE 5/14/91
SEGMENT # TB-003
TIDAL HEIGHT (Range) -0.5 to -3.5 ft
SUBDIVISION A
BIOLOGIST T.R. Schroeder
SEA STATE calm
WIND SPEED/DIRECTION calm
PHOTOGRAPHS: ROLL #
FRAME #

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

A – E = Fucus kelp + sea lettuce thriving just below SOR/FL and CT/ST. Littorine snails and limpets present and sand fleas very abundant. Plant and animal communities appear healthy and have reestablished themselves. This light remaining oil is over 150 meters from the salmon stream and is not effecting the spawning area and any additional cleanup will cause more harm to these communities than the remaining oil.

(F) = SOR/FL was scattered throughout the fucus kelp bed but does not appear to be affecting the kelp. Mussels are reestablishing themselves amongst the kelp. Little neck clams present in LITZ. Again remaining oil is 30 meters or more from the salmon stream and is not affecting salmon production.

While this area was heavily impacted the intertidal community appears to be fairly healthy and thriving. Sandpipers were observed feeding throughout the intertidal area. This anadromous stream is not a consistent salmon producer every year, but has produced large numbers of pink salmon in the past. The stream looks very good and no oil or sheening was observed within 30 yds of the stream. The area does not appear to have suffered any long term effects from the oil.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1 bald	3	2 rock blennies
Seabirds			
Waterfowl	2 mallard wigeon	16	
Gulls/kittiwakes	1 gulls	18	
Shorebirds	2 knots sandpipers	102	
Corvids	1 raven	1	
Other Birds			

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

Shoreline subdivision map showing important biological features attached.

Reviewed: MC 5/25/91

Survey continued 5·18·91

ACE 9961876

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #	4	DATE/TIME	May 18, 1991 1335 - 1510
SEGMENT #	TB003	TIDAL HEIGHT (Range)	+1.2 => 5.5
SUBDIVISION	A	BIOLOGIST	JIM BARRY
SEA STATE	Calm	WIND SPEED/DIRECTION	Variable 5-20 kt., rain

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

Oil Related Comments

A1 This area has LSOR in a band along the upper to middle intertidal zone, at or above the upper edge of the Fucus zone. Fucus is sparse, with moderate to sparse densities of the common invertebrates (limpets, littorine snails, hermit crabs, and worms). Green filamentous algae are moderately abundant. Fucus and mussels are abundant below.

A2,A4,A5 The oiled substrata (LSOR/MSOR) at these locations occur in the middle intertidal zone amongst a Fucus/mussel bed. These species are present in fairly dense stands. Several other species also are abundant, including littorine snails, limpets, barnacles, polychaete worms, amphipods, isopods, hermit crabs, several species of encrusting invertebrates, and red and green algae. Sediments with the greatest oil content appear to have the lowest densities invertebrate biota. Mussels, which are quite abundant within this zone, even amongst the oiled sediments, appear little affected by the presence of the oil. Juveniles are present throughout the bed in moderate densities. Similarly, barnacles become dense in this mid-zone Fucus bed. Below the Fucus/mussel bed, red and brown algae dominate the shore.

(continued)

WILDLIFE OBSERVATIONS - Completed on all subdivisions

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	
Seabirds			
Waterfowl			
Gulls/Kittiwakes			
Shorebirds	1	35	
Corvids	1	2	
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters	3		
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

ACE 9961877

REVIEWED: MC 5/15/91

Rec'd 5/23/91

A3 This saddle between the islet and the mainland has a peat layer at its crest, with beach grass (Elymus) sprouting from patches of dormant root mats. Oiled surface sediments were removed from this site last year. Remnants of oiled, peat-containing sediments are present on this saddle. Little biota, other than scattered beach grass, green algal films on some cobble, and occasional amphipods, oligochaete worms, and isopods, are present at the oiled site.

A6 This location has oil (CT) on the upper zone bedrock wall. Few biota are abundant at this tidal level. Sparse black lichen, occasional littorine snails and limpets, a few barnacles, and a partial film of green filamentous algae are the primary species at the site.

A7,A8 Oil (LSOR) is present along the boulder and cobble talus shore, primarily in the upper zone, but extending to the middle intertidal zone. Filamentous green algae form a film on the angular cobble at the upper tidal level, but are much denser below. Fucus is sparse at the level of the oil. Scattered barnacles, limpets, and littorine snails are the major invertebrate species. The middle zone 1 to 3 feet below the oiled area has very dense cover of Fucus and high abundance of littorines, limpets, and isopods. Mussels are moderately abundant on the bedrock and cobble within the Fucus zone.

Cleanup Considerations

The main consideration for cleanup is disruption of the Fucus/Mussel beds (sites A2,A4,A5). Intrusive treatments could adversely impact this sensitive resource. Manual removal, if confined to patches of the most heavily oiled sediments, may have only mild impacts to the mussel/Fucus bed. Total removal of the oiled sediments would require much greater disturbance to the bed and should be avoided. The long term recovery of the bed following such disturbance may be greater than that required for natural weathering of the remaining oil. This issue is discussed in the report for subdivision TB004-A.

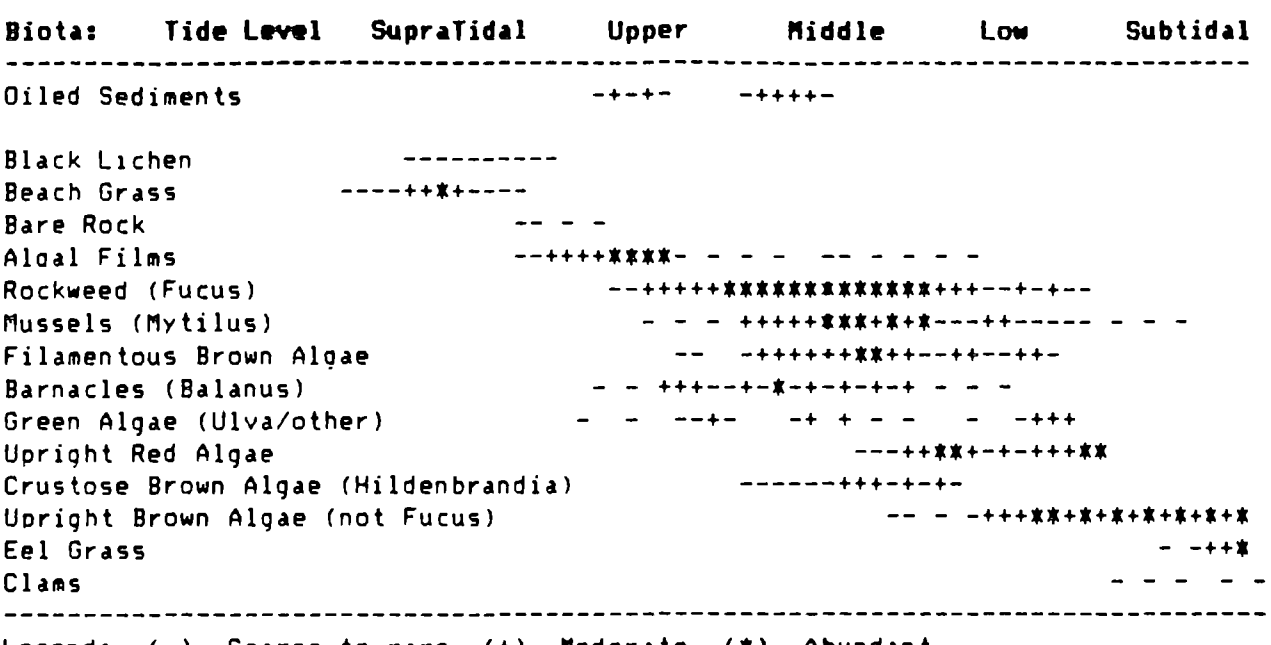
Manual cleanup at the other locations will have little adverse effects on the biota at those locations.

General Characteristics of TB003-A

This portion of TB003-A encompasses a small islet and saddle beach, as well as a short cobble talus shoreline. The upper zones of the site have green algal films, some beach grass, black lichen, and little else. The middle shores are densely covered by Fucus, with a dense bed of mussels throughout much of the Fucus zone. The low shore varies from dense red and brown algal cover on the eastern shore to a small eel grass and clam bed within the very small cove of the western shore, where muddy sediments occur.

REVIEWED: MC 5/25/91

General Zonation Pattern



Legend: (-) Sparse to rare, (+) Moderate, (*) Abundant

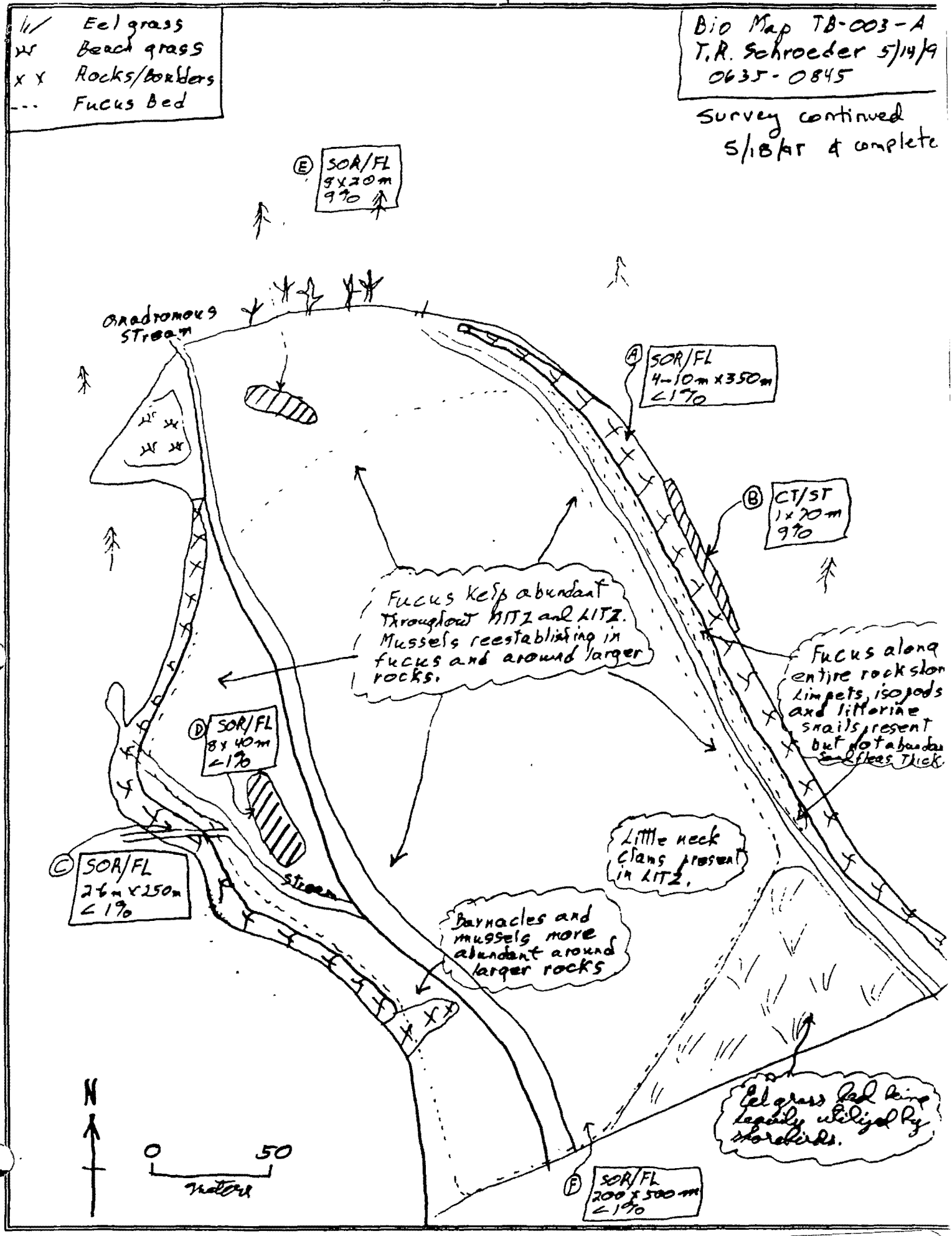
Common Species on TB003-A

A. Marine Plants
   1. Diatoms, Blue Greens
   2. Green Algae - Chlorophyta
      Cladophora sp., Enteromorpha sp., Ulva sp., Urospora sp.
   3. Brown Algae - Phaeophyta
      Alaria marginata, Agarum fimbriatum, Costaria costata, Ectocarpus spp., Fucus distichus, Hildenbrandia sp., Laminaria sp., Ralfsia sp.,
   4. Red Algae - Rhodophyta
      Endocladia muricata,, Halosaccion glandiforme, Iridaea sp., Mastocarpus sp., Membranoptera dimorpha, Odonthalia floccosa, Palmaria palmata, Porphyra sp., Ptilota filicina, Rhodomela larix
   5. Higher Plants - Zostera marina (eel grass), Leymus mollis (beach rye grass)

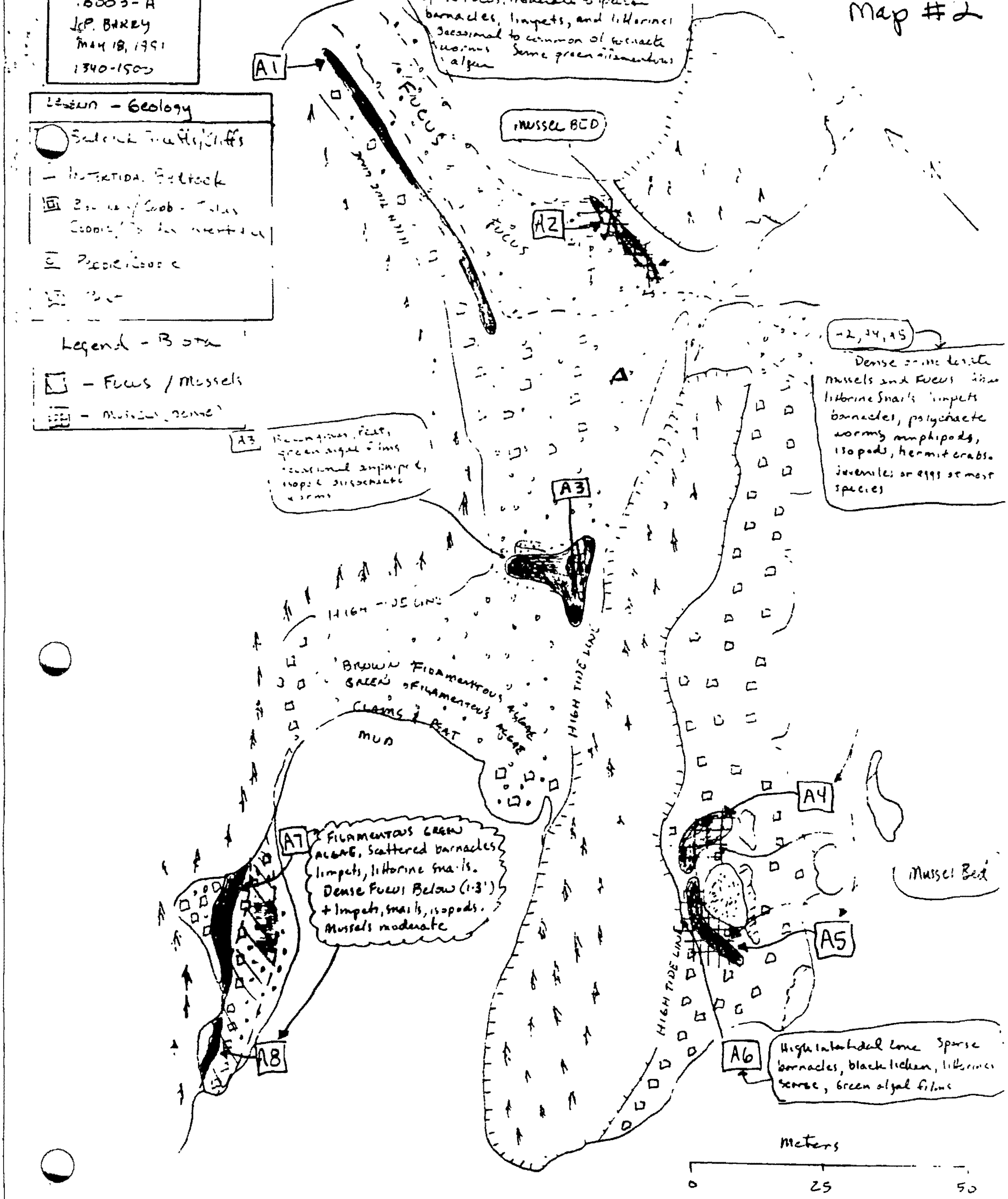
II. Marine Animals
   1. Sponges - Porifera - Halichondria bowerbanki?,
   2. Anemones - Anthopleura artemesia, Epiactis ritteri, Urticina crassicornis,
   3. Hydroids - Sertulariidae, Aglaophenia sp., Abietinaria sp.
   5. Flatworms - Platyhelminthes - Polyclads
   6. Nemertean Worms - Ribbon Worms - Emplectonema gracile
   8. Polychaete Worms
      Glyceridae
      Nepthyidae
      Nereidae - Nereis spp.
      Serpulidae - Serpula sp., Crucigera sp., Eudistylia polymorpha
      Spriorbidae - Spirorbis sp.
   10. Crustaceans
      a. Amphipods - Orchestia sp.?, Traskorchestia traskiana
      b. Barnacles - Balanus glandula, Chthamalus dalli, Semibalanus cariosus
      c. Crabs - Haplogaster sp., Paguridae (hermit crabs), Pugettia sp.,
      d. Isopods - Cirdana harfordi, Idotea wosnesenskii, Gnorimorsphaeroma oregonensis

11. Mollusca
    a. Chitons - Mopalia sp., M. mucosa, Katharina tunicata, Tonicella lineata,
    b. Snails - Gastropods
       Littorina sitkana, L. keenae, Natica clausa, Nucella lamellosa, N. lima, Searlesia dira
    c. Limpets - Lottia digitalis, L. limatula, L. persona, Tectura fenestrata, T. persona, T. scutum, Siphonaria thersites
    d. Nudibranches - Lamellidoris fusca, Onchidella borealis
    e. Bivalves - Clinocardium sp., C. nuttalli, Hiatella arctica, Macoma nasuta, Modiolus modiolus, Mytilus edulis, Pododesmus cepio, Prototheca staminea, Saxidomus giganteus
12. Echinoderms
    a. Brittle Stars - Ophiolus aculeatus?, Ophiothrix spiculata?, Amphipholis?
    b. Sea stars - Crossaster papposus, Dermasterias imbricata, Evasterias truscheli, Henricia leviuscula, Leptasterias hexactis, Orthasterias keohleri, Pycnopoida helianthoides, Solaster dawsoni,
    c. Sea Cucumbers - Holothurians - Eupentacta sp.
    d. Urchins - Strongylocentrotus droebachiensis
13. Bryozoans - Membranipora sp., Microporina borealis, Phidolopora pacifica, Schizoporella sp.
14. Ascidians - Synocium? sp., Aplidium?
15. Fishes
    Cottidae -
    Stichaeidae - Xiphister atropurpureus, X. mucosus

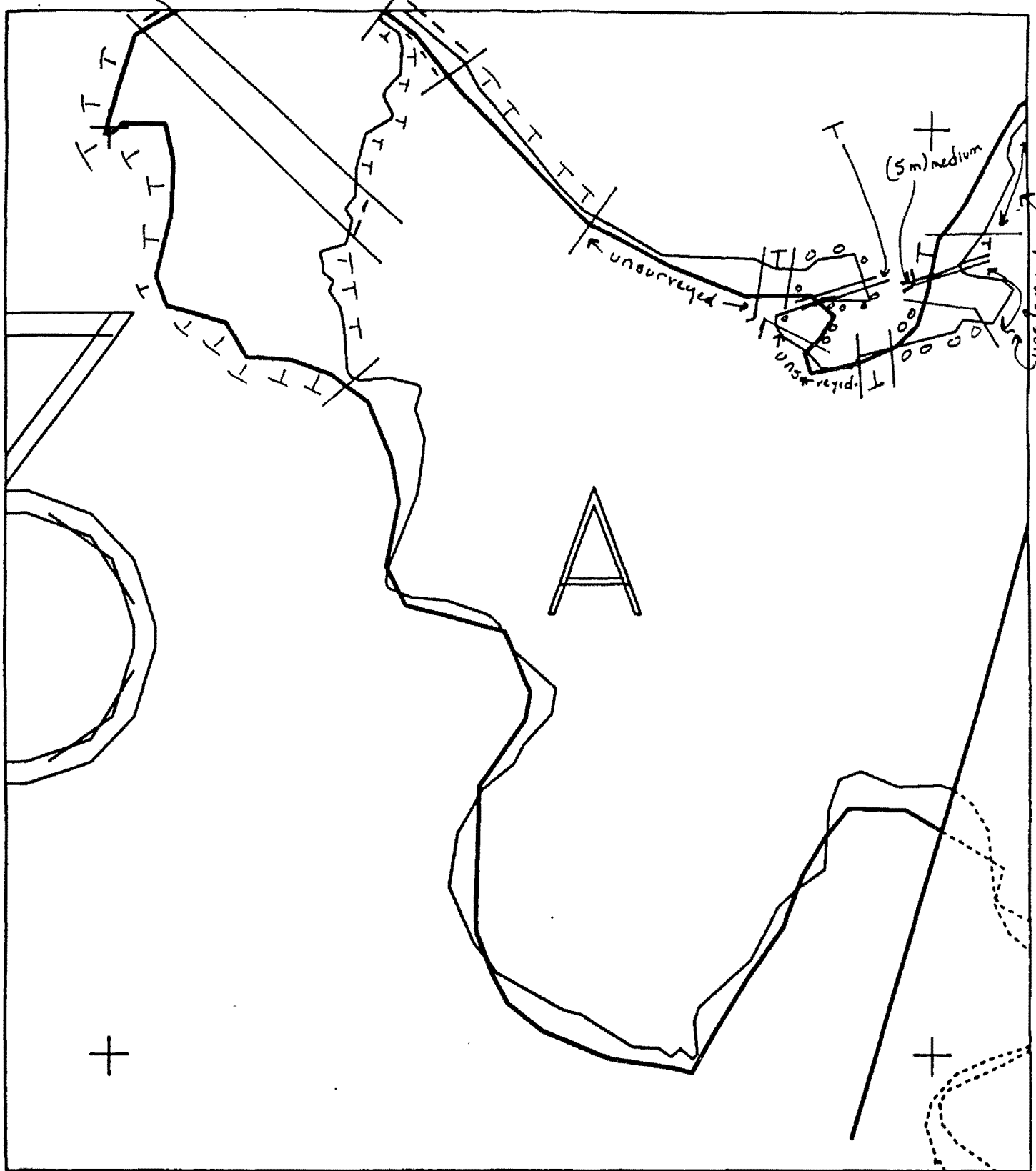
III. Birds - Western Sandpiper (35), Eagle (1), Raven (2)


Eel grass
Beach grass
Rocks/boulders
Fucus Bed
Bio Map TB-003-A
T.R. Schroeder 5/14/9
0635-0845
Survey continued
5/18/91 & complete
E SOR/FL 9x20m 9%
Anadromous Stream
A SOR/FL 4-10m x 350m <1%
B CT/ST 1x20m 9%
Fucus kelp abundant throughout MITZ and LITZ. Mussels reestablishing in fucus and around larger rocks.
Fucus along entire rockslope Limpets, isopods and littorine snails present but not abundant Sandflees Thick
D SOR/FL 8x40m <1%
C SOR/FL 26m x 250m <1%
Little neck clams present in LITZ.
Barnacles and mussels more abundant around larger rocks
Eelgrass bed being heavily utilized by shorebirds.
F SOR/FL 200x500m <1%
N
0 50
meters

ACE 9961881



6003-A
J&P. BARRY
MAY 18, 1991
1340-1500
Map #2
Legend - Geology
Legend - Biota
- Fucus / Mussels
A1
barnacles, limpets, and littorines
Occasional to common of polychaete worms
Some green filamentous algae
FUCUS
HIGH TIDE LINE
MUSSEL BED
A2
A2, A4, A5
Dense to moderate mussels and Fucus. Also littorine snails, limpets, barnacles, polychaete worms, amphipods, isopods, hermit crabs. Juveniles or eggs of most species
A3
HIGH TIDE LINE
BROWN FILAMENTOUS
GREEN FILAMENTOUS ALGAE
CLAMS & PEAT
MUD
A4
Mussel Bed
A5
A6
High intertidal zone. Sparse barnacles, black lichen, littorines sparse, green algal films
A7
FILAMENTOUS GREEN ALGAE, Scattered barnacles, limpets, littorine snails. Dense Fucus Below (1-3') + limpets, snails, isopods. Mussels moderate
A8
Meters
0
25
50



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

TB003 A

ADEC Subsegment Length: 2371m

METERS

0 100 200

AK State Plane Zone 4
alb003aa

N

EXXON

Subdivision Field Map

Map Key: KENTB003Aa

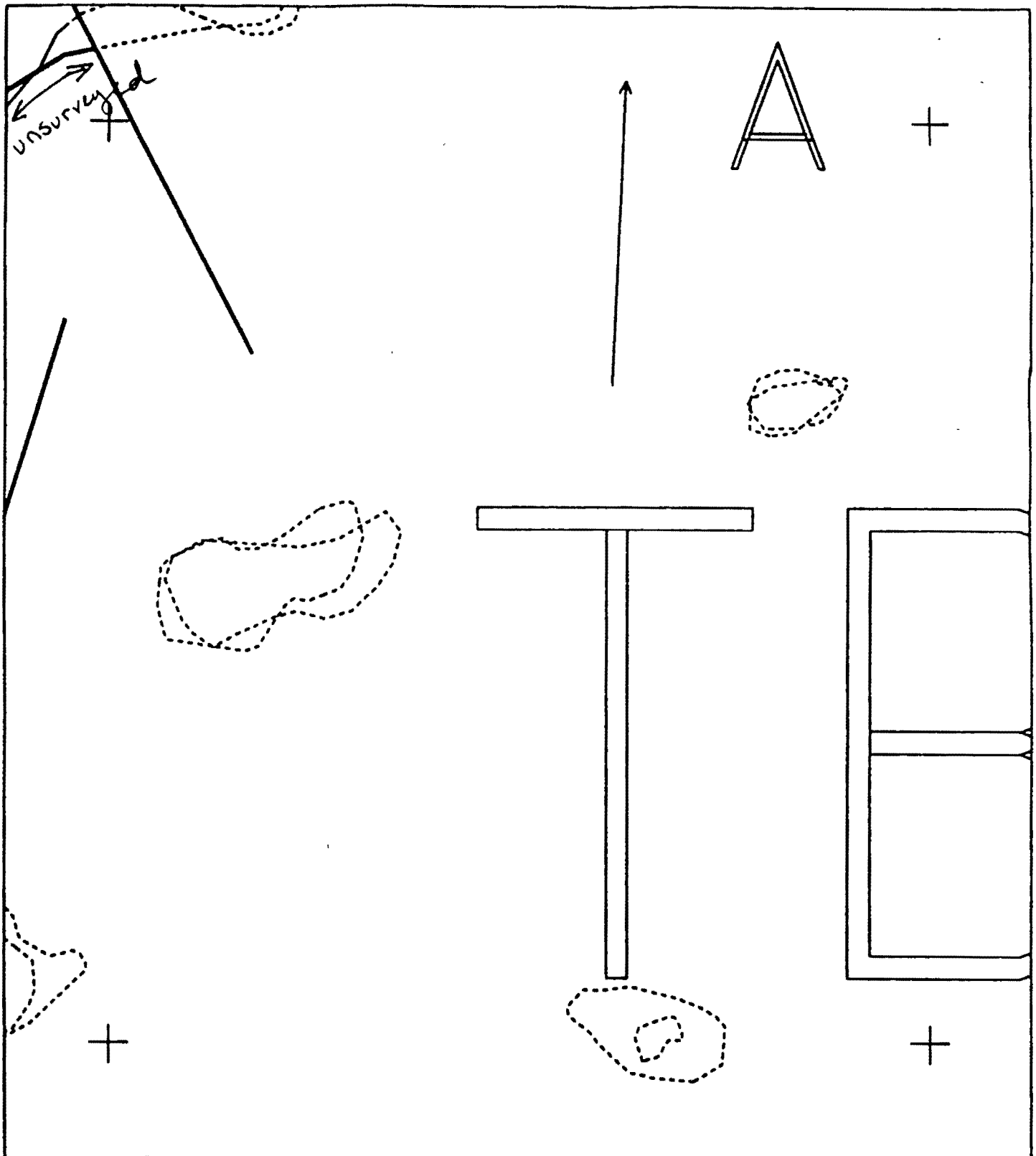
Name: D. F. Fitzgerald (J.Y.)
(J.M. Senpels 18 may-)

Date: 14 May 1991

~~Date Entered~~:

revised 5.24.91 94

ACE 9961883



XXXX	Wide	TB003 A	Subdivision Field Map
////	Medium	ADEC Subsegment Length: 2371m	Map Key: KENTB003Ab
----	Narrow	METERS	Name: J.M. Sempels (JY)
TTTT	Very Light	0 100 200	Date: 18 May 1991
0000	No Oil	AK State Plane Zone 4 nTB003ab	Date Entered:

revised 5.24.91

ACE 9961884

1991 MAYSAP EVALUATION

SEGMENT: TB 003 **SUB:** A **REGION:** KEN **SURVEY DATE:** 5/18/91

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

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

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

SHPO Signature:_____ Date:_____

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

COMMENTS:
INITIAL:

TAG:

FOSC:

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

ADEC_____ FOSC _____

EXXON_____

USCG_____

NOAA_____

ACE 9961885-L/S/C/HF

TEAM NO. 6-Helo SEGMENT TB-3 SUBDIVISION A DATE 14 / APR / 91

232-10-10342

ADEC NAME Lee Glenn of ADF&G SIGNATURE Leland P. Glenn

☐ NTR ☒ Treatment Recommended

See Comments and Sketch Map - Attached

EXXON NAME R Coulter SIGNATURE Rex R. Coulter

☑ NTR MINOR TRACES OF SHEEN WERE FOUND IN VARIOUS LOCATIONS AS THE NATURAL CLEANING CONTINUES. THE SOR FOUND VERY LIGHT AND GENERALLY WAS BROKEN/TILLED WITH SOME BEING REMOVED. THE PORTION REMOVED CONSISTED MAINLY OF LIGHTLY OILED SEDIMENTS MIXED WITH A HIGH PERCENTAGE OF SEDIMENTS THAT WERE NOT OILED. NATURAL DISSIPATION APPEARS TO BE PROGRESSING AT A RATE WHICH IS CONDUCIVE TO THE GROWTH OF THE BIOTA AT THIS SITE. TREATMENT WOULD PROVIDE NO BENEFIT AND WOULD CAUSE MORE HARM THAN IMPROVEMENT IN THE CONDITION OF THE SITE. I OBSERVED NO TARMATS OR TAR AT THIS SITE AS NOTED BY THE LANDMANAGER.

LANDMANAGER NAME J Johnson OF ADNR SIGNATURE

☐ NTR ☒ TR Manual cleanup of the rocky perimeter would be difficult but Tar mats on tidal flats could easily be removed by manual methods. Merely breaking up mats won't work because the higher temps found in July will likely cause the mats to re-form. This area is within Kachemak Bay State Wilderness park. The tar mats are obvious and unsightly, certainly a negative visual impact to recreational users. I was able to pick up a shovel full of tar quite easily. I concur with technical comments of USCG/NOAA except that I recommend treatment. THIS SURVEY IS INCOMPLETE, HOWEVER, AND FAILED TO INCLUDE THE ENTIRE SEGMENT I completely concur with ADF&G comments for this segment.

USCG/NOAA NAME Chief Jensen F.G. SHIGENAKA SIGNATURE Robert D. Jensen Gary Shigenaka

☐ NTR Picked up ½ bag SOR as we walked this segment. There is a spawning area for pink Salmon. There is no need to return to the part of the segment we walked and it's fits the "NTR" classification and further removal operations would cause more environmental harm than the trace of oil to be removed. However the East part of this segment, known as Otter Beach, shown as a 40m long API 11 P on 04 Aug 90 ASAP, needs to be looked at by boat. Rex Coulter, EXXON, will make necessary arrangements.

SURVEYED PORTION OF SEGMENT CONSISTS OF A BROAD, LOW-SLOPING COBBLE TO MUD TIDAL FLAT WITH AREAS OF ROCKY RUBBLE AROUND ITS PERIMETER. THE ENTIRE SEGMENT WAS NOT SURVEYED DUE TO INACCESSIBILITY OF PORTIONS AT BOTH ENDS OF THE SEGMENT. THERE WAS GOOD FUCUS COVER OVER MUCH OF THE MIDDLE INTERTIDAL. IN LOWER REACHES OF THE FLAT, FUCUS AND ULVA GAVE WAY TO EELGRASS. SOME PORTIONS OF THE UPPER INTERTIDAL HAD SALICORNIA PLANTS AND OTHER SALT MARSH FLORA. FAUNA WERE NOTICEABLY SCARCE ON THE NORTH SIDE OF THE BEACH ALTHOUGH SOME LITTORINA SCUTULATA, BARNACLES, AND MYTILUS WERE OBSERVED. LITTORINA AND MUSSELS WERE MORE ABUNDANT ON THE SOUTH SHORE — THIS IS PROBABLY A FUNCTION OF EXPOSURE AND RESULTANT ALGAL GROWTH RATHER THAN OILING CONDITIONS. WEATHERED MOUSSE, SOR, AND SHEEN WERE OBSERVED ON BOTH NORTH AND SOUTH SHORES AND SOME COAT WAS STILL PRESENT ON ROCK FACES OF THE NORTHERN SHORELINE. ON THE TIDAL FLAT ITSELF, SHEENING WAS WIDESPREAD PARTICULARLY IN THE NORTHEASTERN QUADRANT OF THE BEACH. THE GREATEST CONCENTRATIONS OF OIL WERE FOUND IN ONE CONTINUOUS NORTH-SOUTH BAND APPROX 2m x 5m IN THE NORTHWESTERN QUADRANT OF THE BEACH — THIS WAS SOR, AND ONE RELATIVELY SMALL PATCH ALONG THE NORTHWESTERN SHORE YIELDED HEAVY SOR. ALTHOUGH OIL CLEARLY REMAINS IN THE SURVEYED PORTION OF THE SEGMENT, FURTHER REMOVAL WOULD SEEM TO BE PROBLEMATIC AND DIFFICULT.

(continued)

TEAM NO. 4 SEGMENT TB003 (Partial) SUBDIVISION A DATE 5/18/91

ADEC
NAME Clara S. Crosby SIGNATURE Clara S. Crosby

[redacted] Although there are areas of concern on this beach - I do not believe that [redacted] further work would recover a significant amount of [redacted] oil - The survey was conducted on a rising day & sheens were produced w/ little agitation @ the lower intertidal. It should be noted however that this beach is adjacent to two Glenn anadromous fish streams - I will defer a recommendation [redacted] to ADF&G [redacted]

EXXON
NAME George P. Stiles SIGNATURE George P. Stiles 5/18/91

☒ NTR This segment has mainly patchy LOR 1cm thick where oil has been trapped in the fine surface sand particles which produced a silver sheen. A few patches were MOR and produced a brown black sheen. 7 bags of AP 1cm thick was picked up from the beach avest. I feel no additional surface or subsurface oil could effectively be removed manually.

LANDMANAGER
NAME Jeff Johnson OF ADNR SIGNATURE

☒ NTR
Light oiling; fairly scattered, concur with Exxon comments. This segment has improved markedly in the last 2 years. Further cleanup would not be very productive.

USCG/NOAA
NAME Mc Mahon [redacted] SIGNATURE

☒ NTR
No significant oiling remains to justify returning.

Donald MacDonald

1989-AFHS ★ Site 1-7 Tonsina Bay - NW Creek

ASC NUMBER: 232-10-10342 SEGMENT NUMBER: TB-03 YR CATALOGED:

LOCATION: To... ...ay-NW ...

... STREAM ... 06

US... ...OWIS

SH... ...ts ALL

WA... Dimens...

ASC

SURV... Surveys

METH

DATE

STAR... MAP +

STOP

Does not apply since form is a composite.

SAMPL... ...a ...s

SA... ...ge?

4. 5. 6.

Kathrin,
these are the only oiling dimensions recorded for TB-03 (NW). Important to get this on computer
this Does apply.

MAP is a composite of 1989-90+91 survey - though it reflects total oiling in 1989

USE this as a 1989 oiling map - initial oiling would be heavier than what is shown on this map.

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	205	9.0	1886	30	< 4	—	oil saturated sediment (HVY) MS, TAR, CV, CT, ST, TB, TP
SITE 2	40	5.5	220	45	< 4	—	oil saturated sediment (HVY) MS, TAR, CV, TB, TP
SITE 3	55	9.0	495	35	< 4	—	oil saturated sediment (HVY) MS, TAR, TB, TP
SITE 4	5.0	5.0	25	—	—	—	Sheen
SITE 5	27	18	486	5	—	—	2x2m tarmats MS, TARMATS

OVERALL OIL IMPACT: H

Oiling Summary Box Continued on other Side ⟹

OIL IN STREAM CHANNEL? N OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Yes

SUBSTRATE			
Bedrock	10	Granule	
Boulder	10	Sand	10
Cobble	20	Silt	
Pebble	50	Veget.	

SPECIES					
COUNT					

COMMENTS: Extensive cleanup occurred at this site (Manual removal of oil, cold water flooding (deluge), Log burning and Custombler and Inipol applications. MAP # 1 is the most accurate oiling map. However the oil depicted on this map does not represent the initial coat of oil. To my knowledge no ADF+G personnel surveyed +/or recorded the degree of oiling prior to cleanup activities. Nearly all of Tonsina Bay shoreline recieved some degree of oil. The majority of oil landed on the east side of the creek. Oil was found interstitially and beneath boulders, cobbles, pebbles + granules. Oil was found right to the edge of the salmon stream on the vegetated portion of the stream shoreline (light tar-like oil + sheen)

1989-AFHS ★ Site 1-7 Tonsina Bay - NW Creek

ASC NUMBER: 232-10-10342 SEGMENT NUMBER: TB-03 YR CATALOGED:
LOCATION: Tonsina Bay - Head of Bay - NW portion
TEAM NAME: Tonsina NW Creek
KODIAK K-UNIT: . LOCAL STREAM #: LATITUDE: 59 18 37
USGS QUADRANGLE: Seldovia B-3 LONGITUDE: 150 57 06
SHORELINE TYPE: Beach, Cove, Tide flats ALL SEGMENTS: LEGAL: S 10S 10W15
WAVE EXPOSURE: Low

OIL Dimensions

ASC NUMBER:
SURVEY TYPE: ~~SS~~ SS - Summary of Surveys
METHOD: ~~Ground~~
DATE: — / / TEAM RECORDER: Doug Hill
START TIME: — OBSERVERS: Lee Glenn
STOP TIME:
AGENCY(IES): ADF&G
PHOTOS TAKEN? Y — Does not apply since
Roll #: Frames: form is a composite.
VIDEO TAKEN? Y — Tape Number:
Counter Start:

This summary MAP & oiling summary box is a Composite of numerous Surveys. Date Range?

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

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	205	9.0	1886	30	< 4	—	oil saturated sediment (HVY) MS, TAR, LV, CT, ST, TB, TP
SITE 2	40	5.5	220	45	< 4	—	oil saturated sediment (HVY) MS, TAR, LV, TB, TP
SITE 3	55	9.0	495	35	< 4	—	oil saturated sediment (HVY) MS, TAR, TB, TP
SITE 4	5.0	5.0	25	—	—	—	Sheen
SITE 5	27	18	486	5	—	—	2x2m farmats MS, Farmats

OVERALL OIL IMPACT: H

Oiling Summary Box Continued on other Side ⟹

OIL IN STREAM CHANNEL? N

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Yes

SUBSTRATE

Bedrock	10	Granule	
Boulder	10	Sand	10
Cobble	20	Silt	
Pebble	50	Veget.	

SPECIES					
COUNT					

COMMENTS: Extensive cleanup occurred at this site (manual removal of oil, cold water flooding (deluge), Log burning and Customblen and Inipol applications. MAP # 1 is the most accurate oiling map. However the oil depicted on this map does not represent the initial coat of oil. To my knowledge NO ADF&G personnel surveyed &/or recorded the degree of oiling prior to cleanup activities. Nearly all of Tonsina Bay shoreline recieved some degree of oil. The majority of oil landed on the east side of the creek. Oil was found interstially and beneath boulders, cobbles, pebbles & granules. Oil was found right to the edge of the salmon stream in the vegetated portion of the stream shoreline (light tar-like oil + sheen)

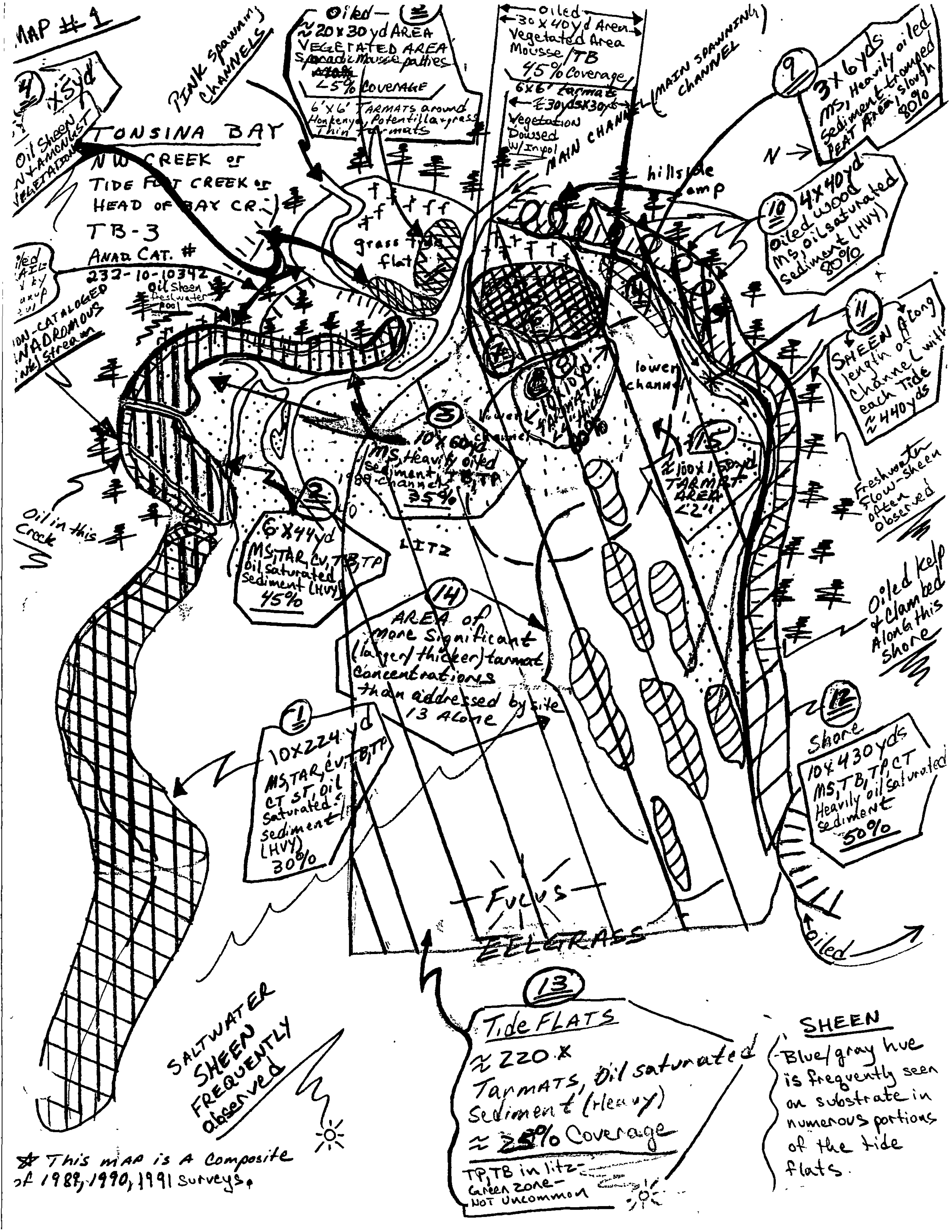
TB-03
TONSINA BAY - NW CREEK

← oiling summary Continued

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 6	(Added from 8/19/89 surveys) 27	27	VEGETATION Doused w/ (Honckenya spp, Plantago spp, silverweed)		Inipol		by trailer sprayer (8/19/89) INIPOL
SITE 7	37	27	999	45	< 3	< 10	MS, TB, Tarmats
SITE 8	9.0	9.0	81	80	< 10	< 10	TARMAT
SITE 9	6.0	3.0	18	80	?	± 10	MS, Heavily oiled peat-like sediment, dry wet
SITE 10	37	4.0	148	80	?	?	MS, oil saturated sediment (HVY), oiled wood (ST, CT, CV)
SITE 11	402	2.0	—	—	—	—	Periodic sheen on Channel surface
SITE 12	393	9.0	3537	40	< 10	?	MS, TB, TA, CT, Heavily oiled sediment
SITE 13	490	220	107,800	25	< 2	5	Tarmats, Oil on surface of sediment (HVY).
SITE 14	—	—	—	—	< 10	5	TARMATS on rises of tide flats
SITE 15	137	91	12467	40	< 5	—	Tarmats

Comments Cont'ds

- The oil sample was taken 15 yds from the stream on the east side of the creek.
- Vertical bands of oil up to thee feet wide present on dead standing trees on North shore of stream - North end of flats (Alot of oiled wood + debris in this area).



MAP # 1
TONSINA BAY
NW CREEK or
TIDE FLAT CREEK or
HEAD OF BAY CR.
TB-3
ANAD. CAT. #
232-10-10342
NON-CATALOGED ANADROMOUS (pink) Stream
PINK spawning CHANNELS
Oil Sheen N+AMONGST VEGETATION
Oiled — 20 x 30 yd AREA VEGETATED AREA Sporadic Mousse patties <5% Coverage
6'x6' TARMATS around Honkenya, Potentilla, grass Thin tarmats
Oiled — 30 x 40 yd Area Vegetated Area Mousse/TB 45% Coverage
6x6' tarmats 30 yds x 30 yds Vegetation Doused w/ Inipol
MAIN CHANNEL (MAIN SPAWNING CHANNEL)
9 3 x 6 yds MS, Heavily oiled sediment tramped PEAT AREA slough 80%
N
hillside swamp
10 4 x 40 yd oiled wood MS oil saturated sediment (HVY) 80%
11 SHEEN along length of Channel with each Tide ≈ 440 yds
grass flat
Oil Sheen freshwater pool
lower channel
3 10 x 60 yd MS, Heavily oiled sediment, TB, TP 1989 channel 35%
15 ≈ 100 x 150 yd TARMAT AREA <2"
Freshwater flow - sheen often observed
Oil in this Creek
2 6 x 44 yd MS, TAR, CV, TB, TP Oil saturated sediment (HVY) 45%
LITZ
14 AREA of more significant (larger/thicker) tarmat concentrations than addressed by site 13 alone
Oiled kelp & clam bed along this shore
1 10 x 224 yd MS, TAR, CV, TB, TP CT ST, Oil saturated sediment (HVY) 30%
12 Shore 10 x 430 yds MS, TB, TP, CT Heavily oil saturated sediment 50%
FUCUS
EELGRASS
oiled
13 Tide FLATS ≈ 220 x ≈ 25% Coverage Tarmats, Oil saturated sediment (Heavy)
TP, TB in litz - Green zone - NOT UNCOMMON
SALTWATER SHEEN FREQUENTLY observed
SHEEN Blue/gray hue is frequently seen on substrate in numerous portions of the tide flats.
* This map is a composite of 1989, 1990, 1991 surveys.

State of Alaska
Department of Fish and Game
Nomination for Waters
Important to Anadromous Fish

Year of Revision

TONSINA BAY
Anadromous Water Catalog Volume Southcentral Region

USGS Quad Seldovia B-3

1-7

Name of Waterway None Known ("Tidal Flats Creek" NW CREEK for purposes here)

Anadromous Water Catalog Number of Waterway NC

Change to _____ Atlas

_____ Catalog

_____ Both

Addition X

Deletion _____

Correction _____

Name addition:

USGS name None

Local name None

For Office Use

Nomination # _____

Regional Supervisor _____ Date _____

_____ _____

Drafted _____ Date _____

Species	Date(s) Observed	Spawning	Rearing	Migration
Pink Salmon	8/16/89, 8/19/89, 8/22/89	X		

Comments: Provide any clarifying information, including number of fish observed, location of fish survey data, etc.

400 Pink Salmon Observed

100 yards of stream surveyed-from saltwater upstream 100 yards.

Pinks observed over entire 100 yards

Original data on file with state EXXON VALDEZ OIL SPILL lawyers(Rite In Rain)

Attach a copy of a map showing location of mouth and upper points of each species, specific stream reaches identified for spawning or rearing, locations of barriers, such as falls. Attach a copy of the fish survey data, if available.

Name of Observer (please print) Douglas D. Hill

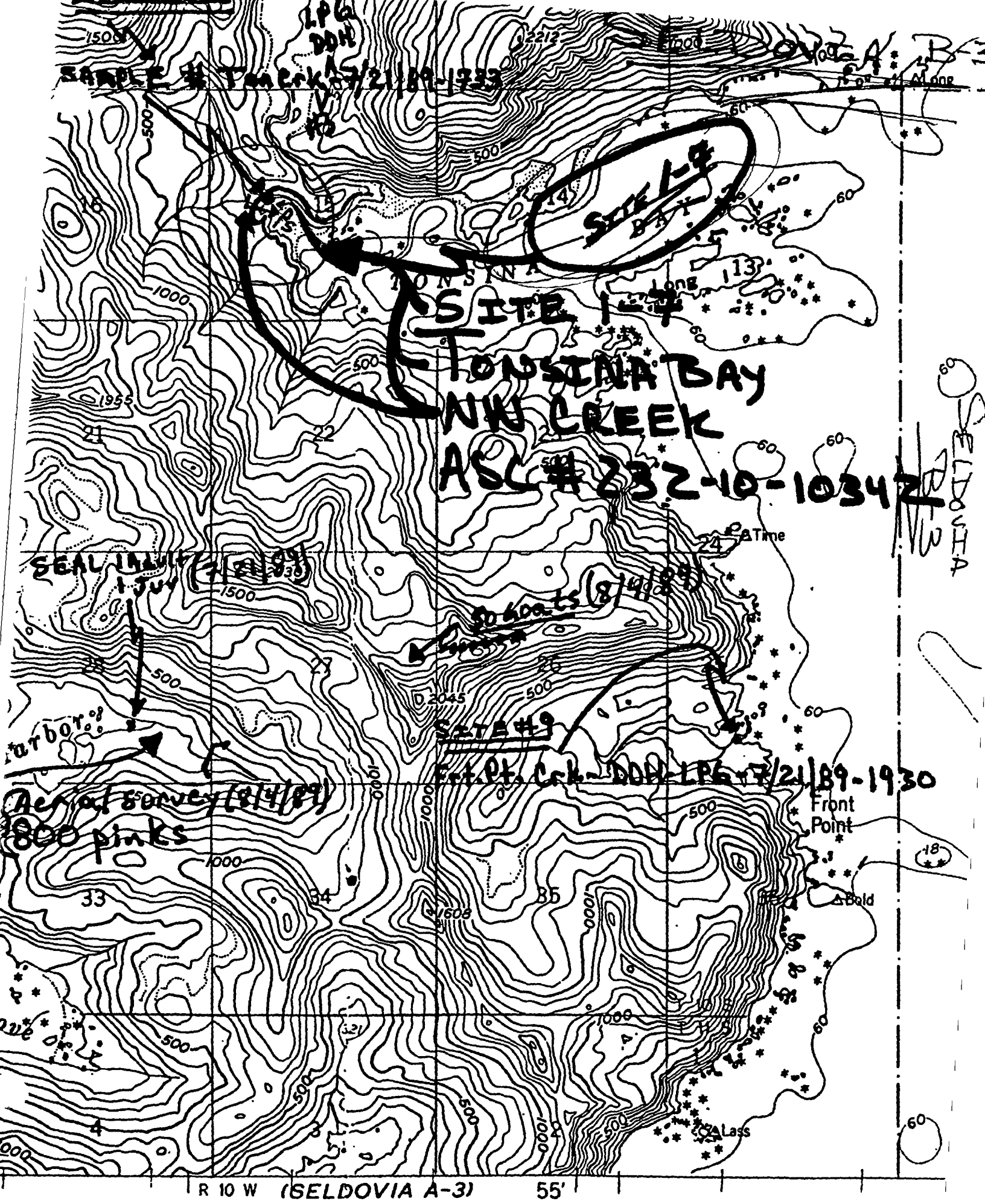
Date: 12/13/89 Signature: Douglas D Hill

Address: Oil Spill Response Center

509 Sterling Hwy., Homer, Alaska 99603 235-5322

Signature of Area Biologist: _____ _____

ACE 7380176


SAMPLE # Tonsina-7/21/89-1733
LPG DOH
SITE 1
TONSINA BAY
NW CREEK
ASC # 232-10-10342
SEAL HAUL 1 Juv (7/21/89)
20 boats (8/4/89)
SITE #9
Fort Pt. Crk - DOH-LPG-7/21/89-1930
Aerial survey (8/4/89)
800 pinks
Front Point
Bald
Lass
Time
R 10 W (SELDOVIA A-3) 55'
SCALE 1:63360
ACE 7380181

ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

STREAM#: 2321010342
SEGMENT: TB003

 DATE PRINTED: 10/15/91

LOCATION: TONSINA BAY, NORTHWESTERN SHORE

SURVEY TYPE: 91 MAYSAP - SS/BS METHOD: GROUND

DATE: 05/14/91 TEAM RECORDER: FITZGERALD HILL

START TIME: 1340 OBSERVERS: GLENN PELKEY JENSEN
END TIME: 1500 SCHROEDER

TIDES: FLOOD AGENCY: FG NOAA ADNR LRP EXX USCG
OG/HAB DISCREPANCIES: -

PHOTOS TAKEN: Y

STATION: 2321010342 ROLL#: NOAA 6-14
FRAME: 01-08

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

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

WAVE EXPOSURE: LOW SHORELINE TYPE: BEACH COVE TIDE-FLATS

SUBSTRATE TYPE: BEDROCK 10 BOULDER 10 COBBLE 20 VEGETAT -0-

GRAVEL 50 SAND 10 MUD/SILT -0- GRANULE -0-

ANADROMOUS FISH PRESENT: N

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

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

DATE PRINTED: 10/15/91

STREAM# : 2321010342
SEGMENT#: TB003

SURVEY TYPE : 91 MAYSAP - SS/BS
DATE: 05/14/91
TIMES: 1340 - 1500

LOCATION: TONSINA BAY, NORTHWESTERN SHORE
TEAM RECORDER: FITZGERALD HILL

-- OILING EXTENT --

SITE#	SITE TYPE	DEPTH (cm)	LENGTH (m)	WIDTH (m)	AREA (m)	%	THICK (cm)	PEN (cm)	OIL TYPE CODES
1	-0-	-0-	350	6	2100	<1	<6	-0-	SOR FL LOR
2	-0-	-0-	70	1	70	9	-0-	-0-	CT ST
3	-0-	-0-	250	4	1000	<1	-0-	-0-	SOR FL
4	-0-	-0-	40	8	32	<1	<7.5	-0-	S SHEEN RB
5	-0-	-0-	20	8	160	9	-0-	-0-	SOR FL LOR

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

 DATE PRINTED: 10/15/91

COMMENTS:
SITE #'S IN OILING BOX RELATE TO THE MAP DRAWN BY THE MAYSAP OIL GEOMORPHOLOGIST. THE SITE LETTERS ON LEE GLENN'S COMMENTS REFER TO THE TO THE MAP HE ATTACHED TO THE MAYSAP REPORT. CONTRARY TO THE MAYSAP OIL GEO'S COMMENTS IN THE MAYSAP SHORELINE OILING SUMMARY BOX, 'SOR' WITH SOME 'LOR', NOT FILM WAS THE MOST COMMON OILING CONDITION. THE OIL GEO MAKES A COMMENT ABOUT THE NUMEROUS SHEENS PRESENT ON THE TIDE FLATS AND THEN RELATES FILMS TO SHEENS, STATING THAT FILMS WERE THE MOST COMMON OILING CONDITION. THE PRESENCE OF SHEENS WAS ONLY SMALL BITS OF FILM REMAINING IN THE AREA. VECO WORKERS REMOVED APPROX 30 POUNDS OF OILED SEDIMENT FROM SITE E ON THE OIL GEO MAP. OIL WAS REMOVED FROM A PARTIALLY VEGETATED AREA APPROX 30' FROM THE STREAM. ALSO PRESENT AT OBSERVERS WERE COULTER AND SHIGENAKA.

91 - MAYSAP

SC NUMBER: [redacted]-10-10342 SEGMENT NUMBER: TB-03 YR CATALOGED:
OCATION: Tonsina Bay - NW portion
AH NAME: Tonsina NW Creek
UUIAK K-UNIT: LOCAL STREAM #: —
SGS QUADRANGLE: Seldovia B-3
HORELINE TYPE: Beach, Cove, Tide Flats ALL SEGMENTS:
AVE EXPOSURE: Low

LATITUDE: 59 18 37
LONGITUDE: 150 57 06
LEGAL: S10S 10W15

SC NUMBER:
URVEY TYPE: SS/BS
CTHOD: Foot
ATE: 5/14/91
TART TIME: 1340
OP TIME: 1500

TEAM RECORDER: Fitzgerald, Hill
OBSERVERS: Glenn, Pelkey, Jensen, Schroeder, Coulter Shigenaka
AGENCY(IES): FG, NOAA, ADNR, LRP, Exxon, USCG

PHOTOS TAKEN? Y
Roll #: NOAA 6-14 Frames: 1-8
VIDEO TAKEN? N Tape Number:
Counter Start:
* Tide - FLOOD

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

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	350	6	2100	<1	<6	—	SOR, FL, LOR Sheen (RB+S)
SITE 2	70	1	70	9	—	—	CT/ST
SITE 3	250	4	1000	<1	—	—	SOR/FL
SITE 4	40	8	32	<1	<7.5	—	S, Sheen (RB)
SITE 5	20	8	160	9	—	—	SOR, FL, LOR

VERALL OIL IMPACT: ~~M~~ L/M

No ANAD Fish Observed.

L IN STREAM CHANNEL? N

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Y

SUBSTRATE

Bedrock 10	Granule
Boulder 10	Sand 10
Cobble 20	Silt
Pebble 50	Veget.

SPECIES	—				
COUNT	—				

Site #'s in oiling box relate to the MAP drawn by the MAYSAP Oil Geomorphologist.

MENTS: The Site Letters on Lee Glenn's comments ~~sheet~~ refer to the map he attached to the MAYSAP report: (NANCY please enter Lee's comments here) Lee's Comments are on the 2nd page following this one

*Dougs Comments: Contrary to the MAYSAP Oil Geo's comments in the MAYSAP Shoreline Oiling Summary ~~box~~, SOR with some LOR, Not Film was the most common oiling Condition.
the oil Geo makes a comment about the numerous sheens present on the tide-flats and then ~~somehow~~ relates films to sheens, stating that films were the most common oiling condition. The presence of sheens was common because the substrate was saturated with LOR & not because only small bits of film remain in the area.
VECO workers removed approx. 30 pounds of oiled sediment from site E on the Oil Geo. map --: oil was removed from a partially vegetated area approx 30' from the stream.

MAYSAP — Tonsina Bay-NW Creek

ASC NUMBER: 232-10-10342 SEGMENT NUMBER: TB-03 YR CATALOGED:
LOCATION: Tonsina Bay-NW Portion
STREAM NAME Tonsina NW Creek LATITUDE: 57 18 37
PEAK K-UNIT: LOCAL STREAM #: LONGITUDE: 150 57 06
USGS QUADRANGLE: Seldovia B-3 LEGAL: S 10S 10W15
SHORELINE TYPE: Beach, Cove, Tide Flats ALL SEGMENTS:
WAVE EXPOSURE: Low

ESC NUMBER:
SURVEY TYPE: Stream/BS. TEAM RECORDER: Fitzgerald, Hill
METHOD: Foot OBSERVERS: Glenn, Pelkey, Fensega, Schroeder, Colter.
DATE: 5/18/91 AGENCY(IES): F&G, NOAA, EXXON, ADNR, USCG, LRP
START TIME: 1340
STOP TIME: 1500 PHOTOS TAKEN?
Roll #: NOAA 6-14. Frames: 1-8
VIDEO TAKEN? N Tape Number:
Counter Start:

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

Tide: Flood

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 6	500	200	100,000	1.	<9		sheen (SQRB) SOR, LOR, FL
SITE 7	15	3	45	1			ST
SITE X 8							
SITE X							
SITE X							

OVERALL OIL IMPACT: M — No Addl. Fish Observed

OIL IN STREAM CHANNEL? N

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Y

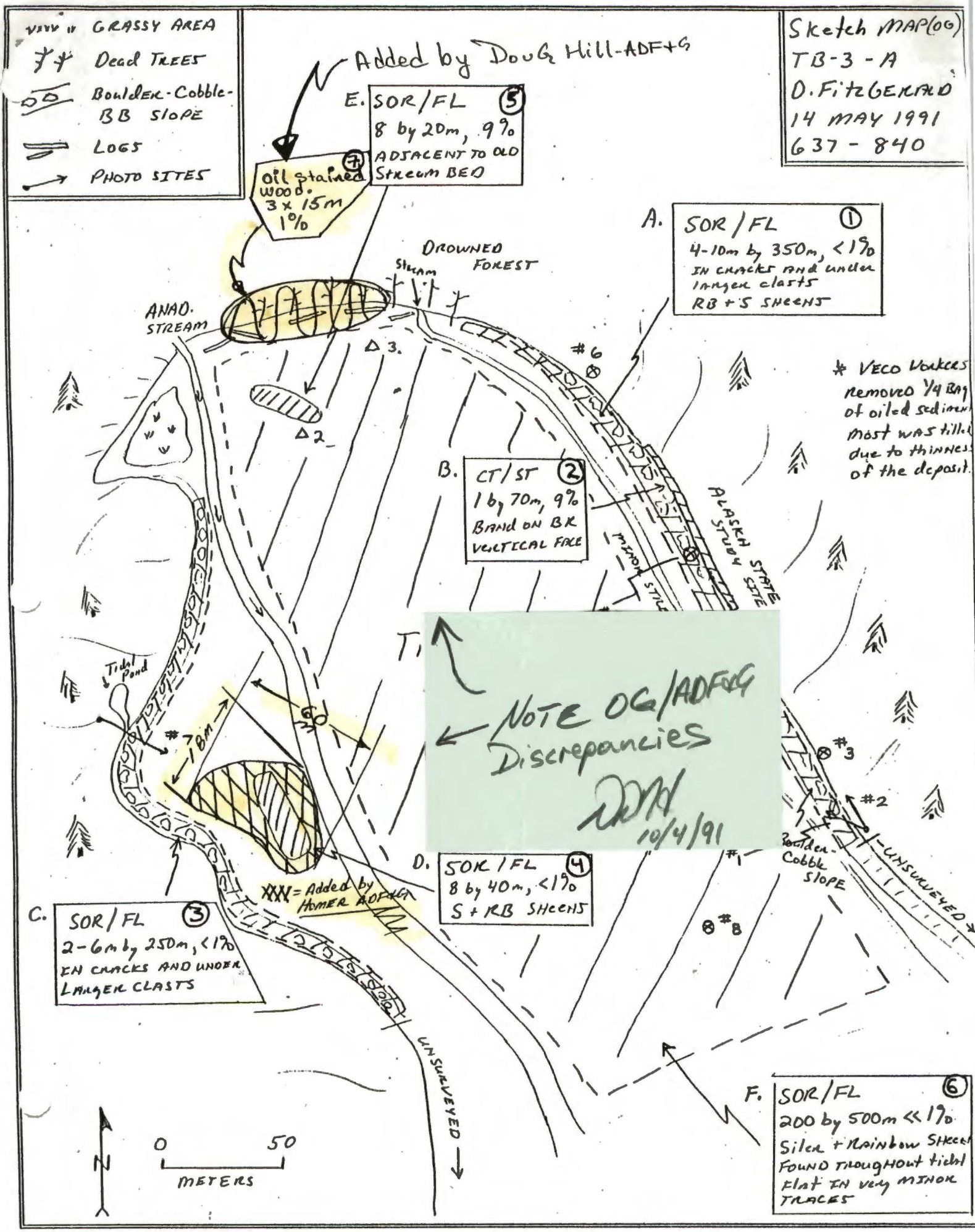
SUBSTRATE

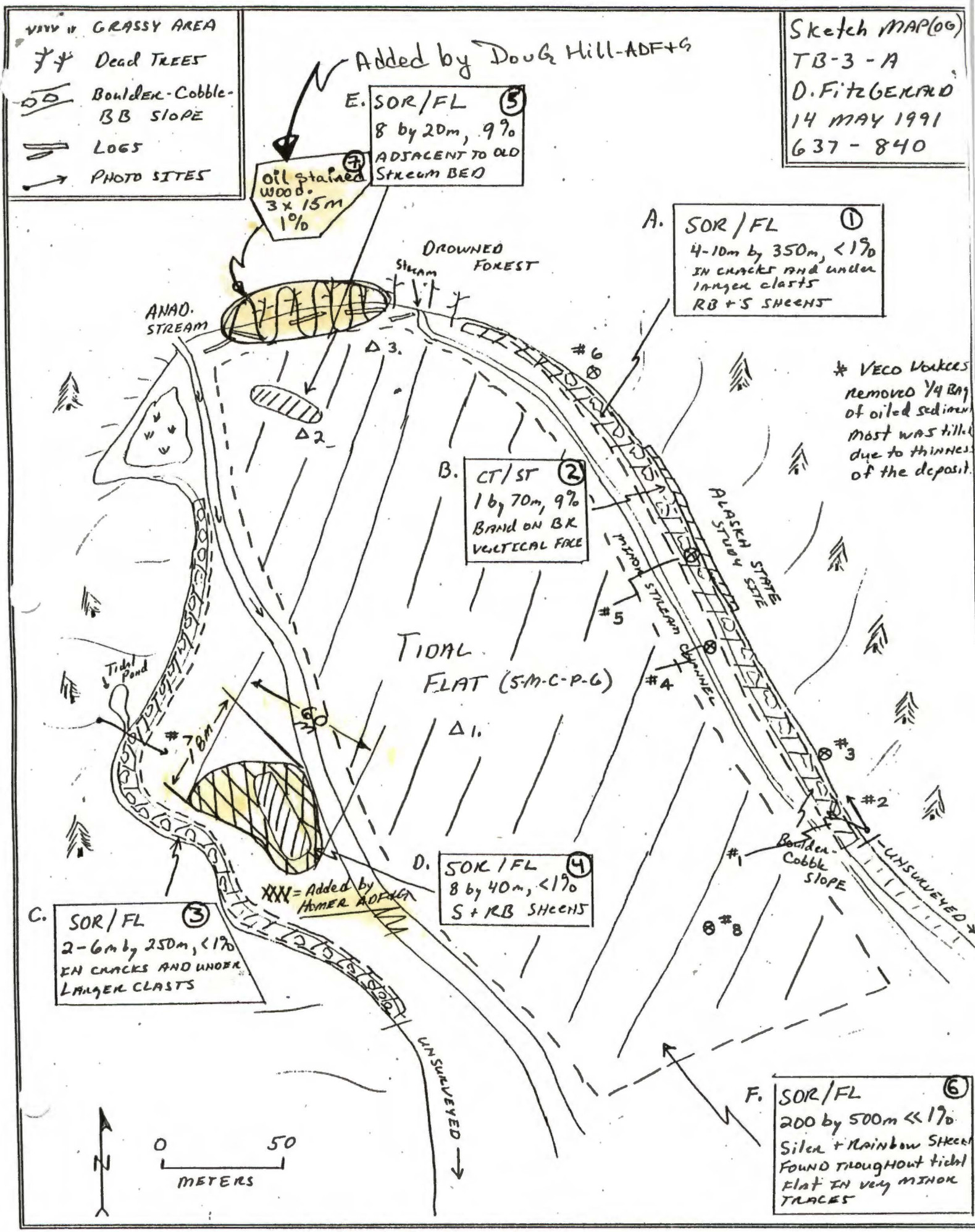
Bedrock	10	Granule	
Boulder	10	Sand	10
Cobble	20	Silt	
Pebble	50	Veget.	

SPECIES					
COUNT					

The site #'s refer to the map drawn by Lee Glenn and not the map produced by the MAYSAP oil Geomorphologists.

COMMENTS: Please enter Lee Glenn's notes on following Page


GRASSY AREA
Dead TREES
Boulder-Cobble-BB SLOPE
LOGS
PHOTO SITES
Sketch MAP(OG)
TB-3-A
D. FitzGERALD
14 MAY 1991
637 - 840
Added by Doug Hill-ADF+G
E. SOR/FL (5)
8 by 20m, 9%
ADJACENT TO OLD STREAM BED
(7) oil stained wood. 3 x 15m 1%
A. SOR/FL (1)
4-10m by 350m, <1%
IN CRACKS AND UNDER LARGER CLASTS
RB + S SHEENS
DROWNED FOREST
STREAM
ANAD. STREAM
#6
* VECO Workers removed 1/4 BAG of oiled sediment MOST WAS TILLED due to thinness of the deposit.
B. CT/ST (2)
1 by 70m, 9%
BAND ON BR VERTICAL FACE
ALASKA STUDY STATE SITE
MINOR STUDY
Tidal Pond
#7
18M
30
NOTE OG/ADFG Discrepancies
10/4/91
#3
#2
#1
#8
Boulder-Cobble SLOPE
UNSURVEYED
D. SOR/FL (4)
8 by 40m, <1%
S + RB SHEENS
XXX = Added by Homer ADF+G
C. SOR/FL (3)
2-6m by 250m, <1%
IN CRACKS AND UNDER LARGER CLASTS
UNSURVEYED
F. SOR/FL (6)
200 by 500m << 1%
Silver + RAINBOW SHEEN FOUND THROUGHOUT tidal flat IN very MINOR TRACES
N
0
50
METERS


GRASSY AREA
Dead TREES
Boulder-Cobble-BB SLOPE
LOGS
PHOTO SITES
Sketch MAP(GG)
TB-3-A
D. FitzGERALD
14 MAY 1991
637 - 840
Added by DOUG Hill-ADF+G
E. SOR/FL (5)
8 by 20m, 9%
ADJACENT TO OLD STREAM BED
(7) oil stained wood. 3 x 15m 1%
A. SOR/FL (1)
4-10m by 350m, <1%
IN CRACKS AND UNDER LARGER CLASTS
RB + S SHEENS
DROWNED FOREST
STREAM
ANAD. STREAM
Δ3.
Δ2.
#6
* VECO Workers removed 1/4 Bag of oiled sediment most was tilled due to thinness of the deposit.
B. CT/ST (2)
1 by 70m, 9%
BAND ON BR VERTICAL FACE
ALASKA STATE STUDY SITE
MINOR STREAM CHANNEL
#5
#4
TIDAL FLAT (S-M-C-P-G)
Δ1.
Tidal Pond
#7
18m
50
#3
#2
#1
Boulder-Cobble SLOPE
UNSURVEYED
D. SOR/FL (4)
8 by 40m, <1%
S + RB SHEENS
XXX = Added by Homer ADF+G
#8
C. SOR/FL (3)
2-6m by 250m, <1%
IN CRACKS AND UNDER LARGER CLASTS
UNSURVEYED
F. SOR/FL (6)
200 by 500m << 1%
Silver + Rainbow SHEEN FOUND THROUGHOUT tidal flat IN very MINOR TRACES
N
0
50
METERS

FIELD SHORELINE COMMENT SHEET

A.D.F. & G Lee Glenn
Segment TB-003A
Date 5-14-91

The survey team were unable to access the entire segment via helicopter. See the attached sketch map which indicates the unsurveyed and surveyed sections. This survey is invalid until the entire subdivision has been assessed by the MAYSAP Team.

Relation to MAYSAP (1991) Report ↓

The sketch map delineates 4 areas where treatment is recommended.

Located w/in site #6 on OG MAP — Area No. 1 - Located in the MITZ and LITZ out to the eelgrass zone. Oiling within this area consists of scattered patches of silver colored, consolidated sediments that are accessible at low tide and can be easily removed with hand tools. The physical appearance of these patches of oil has not changed during the past 12 months.

Located w/in site #6 on OG MAP — Area No. 2 - This is an overflow bed for the anadromous fish stream. A continuous band of oily sediments 3 m wide by 9 m long runs along the northwest bank. Recommend the oiled layer of this oiled material be removed. Pink salmon utilize the MITZ and some spawning occurs in this area.

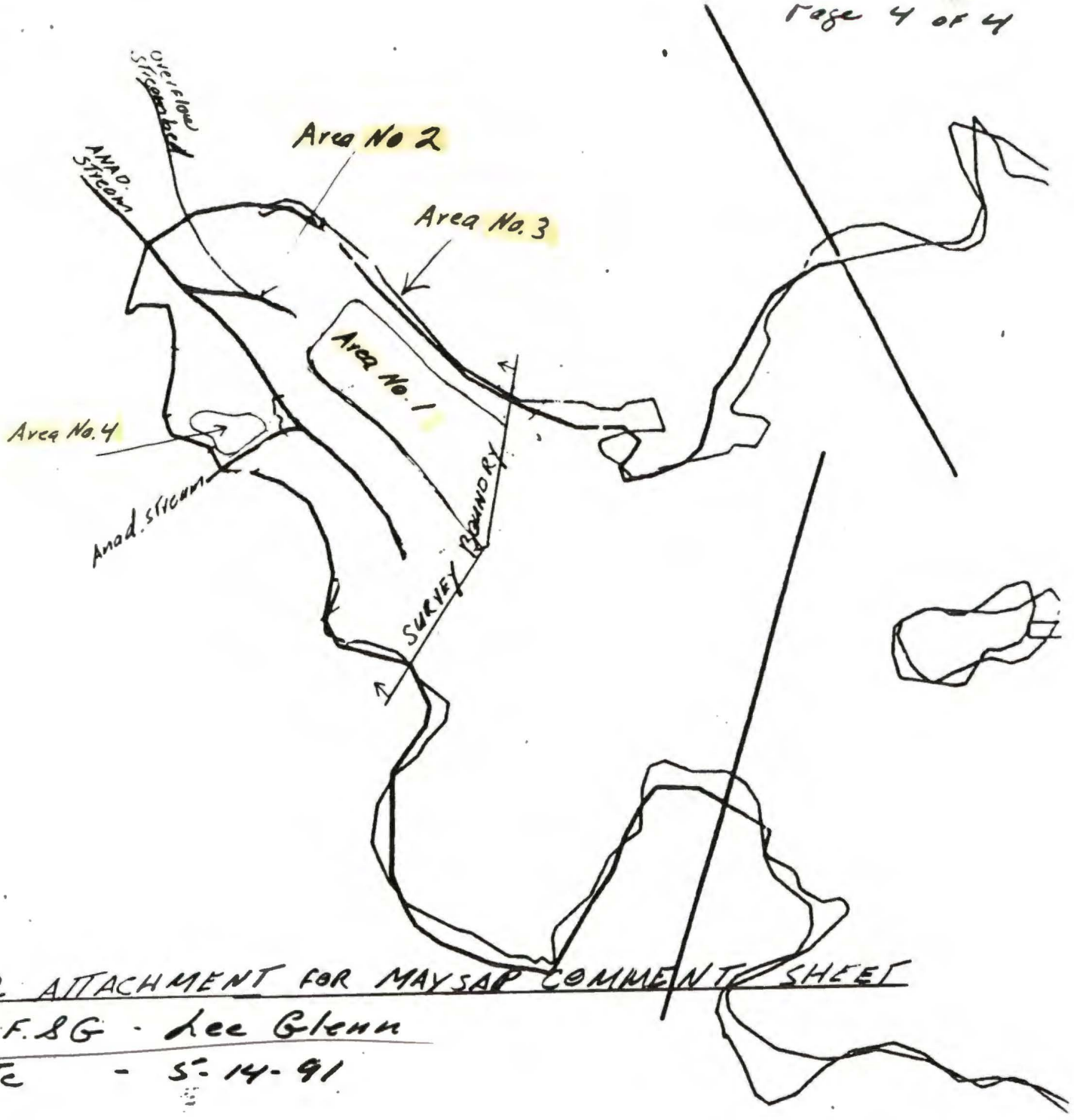
5/14 12/91

SAME As site #1 on OG map. — Area No. 3 - As spring and summer temperatures increase it is likely that concentrations of oil in this 8 m by 100 m band area will become obvious and should be removed. I recommend that the cleanup team be prepared to walk this section of shoreline and remove MS, OP and AP as necessary.

Surrounds site #4 on OG MAP — Area No. 4 - This is a small grassy flat / cobble area that is located in close proximity to an anadromous fish stream. Light to moderate oiling was observed and will benefit by manual cleaning with hand tools.

See Following page - MAP Drawn by L.P. Glenn (ADF&G)

The intertidal area at the far end of Tonsina Bay was coated with oil and with the exception of Area No. 1 have shown substantial improvement over the past 2 years. All areas recommended for cleanup are warranted due to the special nature of the area. Treatment recommendations focus on improvement of biological and recreational considerations associated with the special nature of the Kachemak Bay State Wilderness Park.



ANAD. ATTACHMENT FOR MAYSAP COMMENT SHEET

A.D.F.&G. - Lee Glenn

Date - 5-14-91

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

TB-3

ADEC Segment Length: 2371m

0 100 200 300
METERS

Map Key: KEN-122

Name: _____

Date: _____

Date Entered:

ANIADSCAT ASC# 232-10-10342

EXXON COMPANY, U.S.A.
ALASKA OPERATIONS

M E M O R A N D U M

To: File

From: Julie Arin

Date: May 24, 1991

Subject: TB-03A MAYSAP Survey

TB-03A was surveyed initially by Team 6 on May 14, 1991. Due to the nature of the beach, it was inaccessible by helo and the vessel Team 4 completed the survey on May 18. Reports have been made by both teams and included in the survey packet.

NTR

1991 MAYSAP EVALUATION

SEGMENT: TB 003 **SUB:** A **REGION:** KEN **SURVEY DATE:** 5/18/91

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

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

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

SHPO Signature:_____ Date:_____

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

COMMENTS:
INITIAL: NTR

TAG:

FOSC:

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

ADEC_____ FOSC _____

EXXON_____

USCG_____

NOAA_____

ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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 TB-3 SUBDIVISION A DATE 14/May/91

232-10-10342

ADEC
NAME Lee Glenn ~~ADEH~~ of ADFG SIGNATURE Leland P. Glenn

☐ NTR ☒ Treatment Recommended

See Comments and Sketch Map - Attached

EXXON
NAME R Coulter SIGNATURE Rex R. Coulter

☑ NTR MINOR TRACES OF SHEEN WERE FOUND IN VARIOUS LOCATIONS AS THE NATURAL CLEANING CONTINUES. THE SOR FOUND VERY LIGHT AND GENERALLY WAS BROKEN/TILLED WITH SOME BEING REMOVED. THE PORTION REMOVED CONSISTED MAINLY OF LIGHTLY OILED SEDIMENTS MIXED WITH A HIGH PERCENTAGE OF SEDIMENTS THAT WERE NOT OILED. NATURAL DISSIPATION APPEARS TO BE PROGRESSING AT A RATE WHICH IS CONDUCIVE TO THE GROWTH OF THE BIOTA AT THIS SITE. TREATMENT WOULD PROVIDE NO BENEFIT AND WOULD CAUSE MORE HARM THAN IMPROVEMENT IN THE CONDITION OF THE SITE. I OBSERVED NO TARMATS OR TAR AT THIS SITE AS NOTED BY THE LANDMANAGER.

LANDMANAGER
NAME J Johnson OF ADNR SIGNATURE [signature]

☐ NTR ☒ TR Manual cleanup of the rocky perimeter would be difficult, but Tar mats on tidal flats could easily be removed by manual methods. Merely breaking up mats won't work because the higher temps found in July will likely cause the mats to re-form. This area is within Kachemak Bay State wilderness park. The tar mats are obvious and unsightly, certainly a negative visual impact to recreational users. I was able to pick up a shovel full of tar quite easily. I concur with technical comments of USCG/NOAA except that I recommend treatment.
*THIS SURVEY IS [redacted]COMPLETE, HOWEVER, AND FAILED TO INCLUDE THE ENTIRE SEGMENT
I completely concur with ADF+G comments for this segment.

USCG/NOAA
NAME Chief Jensen / G. SHIGENAKA SIGNATURE Robert D. Jensen Gary Shigenaka

☐ (NTR) Picked up 1/2 bag SOR as we walked this segment. There is a spawning area for Pink Salmon. There is no need to return to the part of the segment we walked and its fits the "NTR" classification and further removal operations would cause more environmental harm than the trace of oil to be removed. However, the East part of this segment, known as Otter Beach, shown as a 40m long AP/II/P on 04AUG90 ASAP, needs to be looked at by boat. Rex Coulter, EXXON, will make necessary arrangements.

SURVEYED PORTION OF SEGMENT CONSISTS OF A BROAD, LOW-SLOPING COBBLE TO MUD TIDAL FLAT WITH AREAS OF ROCKY RUBBLE AROUND ITS PERIMETER. THE ENTIRE SEGMENT WAS NOT SURVEYED DUE TO INACCESSIBILITY OF PORTIONS AT BOTH ENDS OF THE SEGMENT. THERE WAS GOOD FUCUS COVER OVER MUCH OF THE MIDDLE INTERTIDAL. IN LOWER REACHES OF THE FLAT, FUCUS AND ULVA GAVE WAY TO EELGRASS. SOME PORTIONS OF THE UPPER INTERTIDAL HAD SALICORNIA PLANTS AND OTHER SALT MARSH FLORA. FAUNA WERE NOTICEABLY SCARCE ON THE NORTH SIDE OF THE BEACH ALTHOUGH SOME LITTORINA SCUTULATA, BARNACLES, AND MYTILUS WERE OBSERVED. LITTORINA AND MUSSELS WERE MORE ABUNDANT ON THE SOUTH SHORE — THIS IS PROBABLY A FUNCTION OF EXPOSURE AND RESULTANT ALGAL GROWTH RATHER THAN OILING CONDITIONS. WEATHERED MOUSSE, SOR, AND SHEEN WERE OBSERVED ON BOTH NORTH AND SOUTH SHORES AND SOME COAT WAS STILL PRESENT ON ROCK FACES OF THE NORTHERN SHORELINE. ON THE TIDAL FLAT ITSELF, SHEENING WAS WIDESPREAD PARTICULARLY IN THE NORTHEASTERN QUADRANT OF THE BEACH. THE GREATEST CONCENTRATIONS OF OIL WERE FOUND IN ONE CONTINUOUS NORTH-SOUTH BAND APPROX 2m x 5m IN THE NORTHWESTERN QUADRANT OF THE BEACH — THIS WAS SOR; AND ONE RELATIVELY SMALL PATCH ALONG THE NORTHWESTERN SHORE YIELDED HEAVY SOR. ALTHOUGH OIL CLEARLY REMAINS IN THE SURVEYED PORTION OF THE SEGMENT, FURTHER REMOVAL WOULD SEEM TO BE PROBLEMATIC AND DIFFICULT.

(continued)

FIELD SHORELINE COMMENT SHEET

A.D.F. & G Lee Glenn
Segment TB-003A
Date 5-14-91

The survey team were unable to access the entire segment via helicopter. See the attached sketch map which indicates the unsurveyed and surveyed sections. This survey is invalid until the entire subdivision has been assessed by the MAYSAP Team.

The sketch map delineates 4 areas where treatment is recommended.

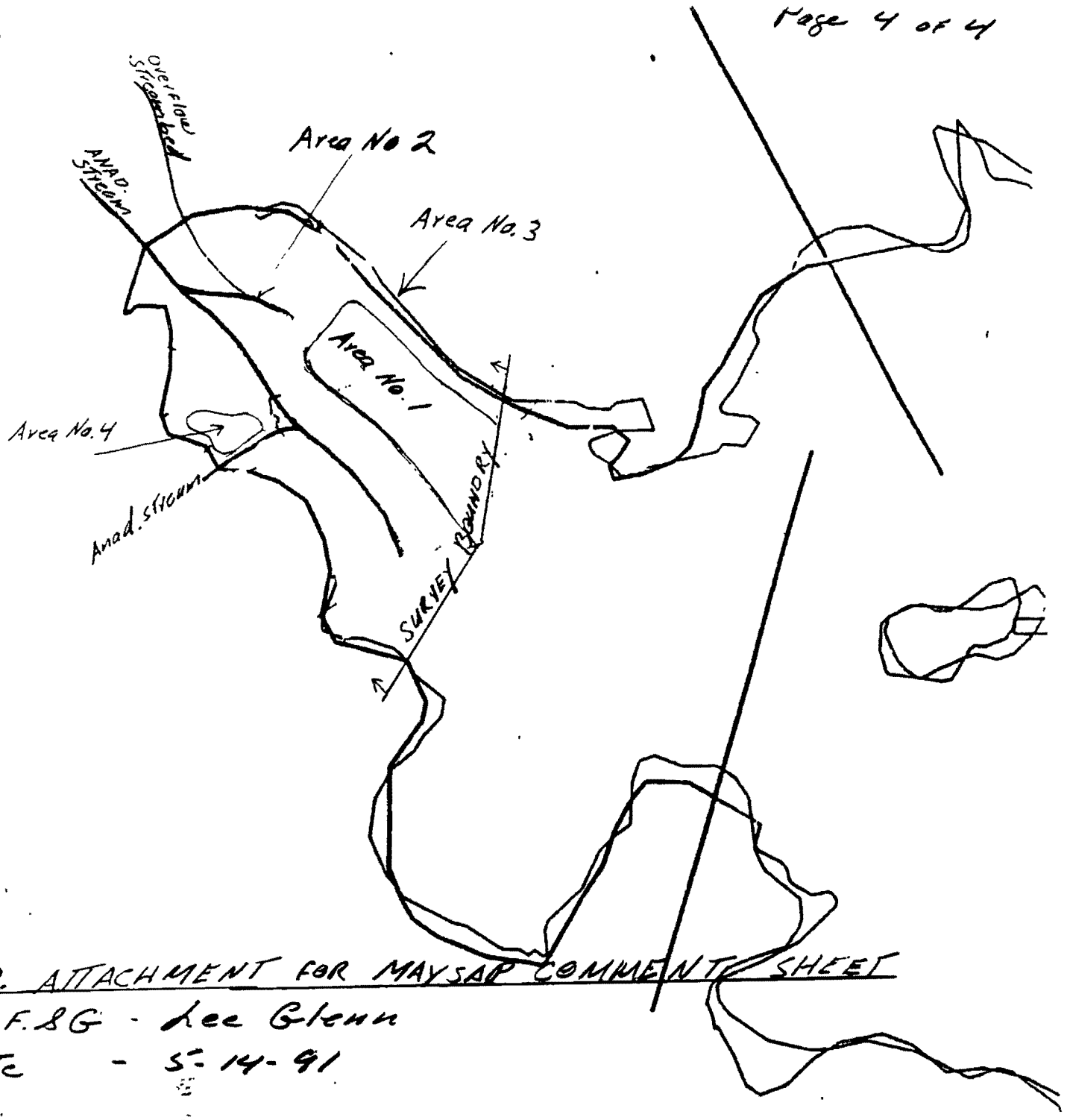
Area No. 1 - Located in the MITZ and LITZ out to the eelgrass zone. Oiling within this area consists of scattered patches of silver colored, consolidated sediments that are accessible at low tide and can be easily removed with hand tools. The physical appearance of these patches of oil has not changed during the past 12 months.

Area No. 2 - This is an overflow bed for the anadromous fish stream. A continuous band of oily sediments 3 m wide by 9 m long runs along the northwest bank. Recommend the oiled layer of this oiled material be removed. Pink salmon utilize the MITZ and some spawning occurs in this area.

Area No. 3 - As spring and summer temperatures increase it is likely that concentrations of oil in this 8 m by 100 m band area will become obvious and should be removed. I recommend that the cleanup team be prepared to walk this section of shoreline and remove MS, OP and AP as necessary.

Area No. 4 - This is a small grassy flat / cobble area that is located in close proximity to an anadromous fish stream. Light to moderate oiling was observed and will benefit by manual cleaning with hand tools.

The intertidal area at the far end of Tonsina Bay was coated with oil and with the exception of Area No. 1 have shown substantial improvement over the past 2 years. All areas recommended for cleanup are warranted due to the special nature of the area. Treatment recommendations focus on improvement of biological and recreational considerations associated with the special nature of the Kachemak Bay State Wilderness Park.



ANAD. ATTACHMENT FOR MAYSAP COMMENT SHEET

A.D.F.&G - Lee Glenn

Date - 5-14-91

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

TB-3

ADEC Segment Length: 2371m

0 100 200 300
METERS

Map Key: KEN-122
Name:
Date:
Date Entered:

TEAM NO. 4 SEGMENT TB003 (Partial) SUBDIVISION A DATE 5/18/91

ADEC
NAME Clara S. Crosby SIGNATURE Clara S. Crosby

NTR Although there are areas of concern on this beach – I do not believe that [redacted] further work would recover a significant amount of oil – The survey was conducted on a rising day & sheens were produced w/ little agitation @ the lower intertidal. It should be noted however that this beach is adjacent to two Glenn anadromous fish streams – I will defer a recommendation to ADF&G for

EXXON
NAME George P. Stiles SIGNATURE George P. Stiles 5/18/91

☒ NTR This segment has mainly patchy LOR 1cm thick where oil has been trapped in the fine surface sand particles which produced a silver sheen. A few patches were MOR and produced a brown black sheen. 7 bags of AP 1cm thick was picked up from the beach crest. I feel no additional surface or subsurface oil could effectively be removed manually.

LANDMANAGER
NAME Jeff Johnson OF ADNR SIGNATURE

☒ NTR
Light oiling; fairly scattered, concur with Exxon comments. This segment has improved markedly in the last 2 years. Further cleanup would not be very productive.

USCG/NOAA
NAME Mr Mahe[redacted] SIGNATURE

☒ NTR
No significant oiling remains to justify returning.

Donald MacDonald

LRP SUBDIVISION COMMENT SHEET - MAYSAP
(Please fill in for each subdivision surveyed).

TEAM#/PHASE: ~~3~~ 4 DATE: 8-18-91

SUBDIVISION# TB 3A TIME: start ______ finish ______

LOCATION: ~~[illegible] Bay~~ Tonsaina Bay

LRP REP: Rita L Brown

ADEC REP: Clay Cooley

PHOTOS (example: CDV#1/Frames 7-14): ______

FIELD CONDITIONS: Rainy, cold Blowing 20

AGREE WITH ADEC COMMENTS [X] YES [ ] NO EXPLAIN BELOW

COMMENTS: The oil here was of a different texture, ~~[illegible]~~ grainy, sandy, fine texture. hard to deal with. we picked up what we could.

GENERAL OILING DESCRIPTION:

DEBRIS PICKED UP: 4 Bags - 30 lbs each

DEBRIS REMAINING: no

LRP RECOMMENDATION: none

[ ] TREATMENT RECOMMENDED [X] NO TREATMENT RECOMMENDED

TYPE OF TREATMENT:

MAYSAP SHORELINE OILING SUMMARY

PAGE ____ OF ____

TEAM NO. 6/4

SEGMENT TB-003

SUBDIVISION A

OG FitzGerald / Semples BIO Schroeder / Berry

ADEC Hill (ADAPP) Crosby LANDMANAGER Johnson / James for ADNR

MAY 1'14 / 1991

DATE MAY 18 / 91

EXXON Coulter / Stiles USCG/NOAA Jansen / Shigenaka McMahon / McDonald

TIME 13 : 40 to 15 : 00 (6:37 to 8:40) TIDE LEVEL +1.2 ft. to +5.5 ft. (1.5 to -3.1) ENERGY LEVEL: ☐ H ☐ M ☒ L

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

TOTAL LENGTH SHORELINE SURVEYED: 851 m NEAR SHORE SHEEN: ☐ BR ☒ RB ☒ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W 0 m M 5 m N 90 m VL 601 m NO 155 m US 1520 m

LOC	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO	SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA WIDTH m	AREA LENGTH m	ZONE S	UI	MI	LI	NOTES
A				T				T			B-C-P-G	M	7	350	X	X	X		Along East Bank
B						S	S				BR	V	1	70	X				On Vertical BR Face
C				T				T			B-C-P-G	M	4	250		X	X		Along West Bank
D				T				T			S-M-C	L	8	40				X	Tidal Flat Area
E				S				S			C-S-G	L	8	20				X	Old Stream Bed
F				T				T			S-M-C	L	200	500				X	Most of Tidal Flat
A1				T							C/P	M	4	70		X			
A2				S							C/P	L	13	5			X		
A3	S			S							P/C	L	25	10		X			
A4				S							C/B	M	4	20		X			
A5				S		S					C/B/R	M	4	20		X			
A6						S					~~B~~	~~V~~	—	—					Included in A5
A7				T							B/C	M	4	20		X			
A8				T							C/B	M	4	15		X			

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

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

PIT NO.	PIT DEPTH (cm)	OP	HOR	MOR	LOR	OF	TR	NO	OILED ZONE cm–cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR BRSN	PIT ZONE S	UI	MI	LI	SURFACE-SUBSURFACE SEDIMENTS	NOTES
1	20							X	-							X	C-S-G	Middle of Flat
2	20							X	-							X	C-S-G-P	Next to Site E
3	25							X	-							X	M-S	In Soft Sed.
									-									
									-									
									-									
4	30							X	-						X		P/S	
5	30							X	-					X			P/S	
									-									

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

OG COMMENTS:

* Combined data from May 14 and May 18 surveys

Prepared: MC 5/25/91

OG D FitzGerald | BIO T. Schroeder | SEGMENT TB-3

ADEC D Hill of AOFG | LANDMANAGER J. Johnson for ADNR | SUBDIVISION A

EXXON R Coulter | USCG/NOAA Chief Jensen/G. Shigenaka | DATE 14 / MAY / 91

TIME 6:37 to 8:40 | TIDE LEVEL 1.5 ft. to -3.1 ft. | ENERGY LEVEL: ☐ H ☐ M ☒ L

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

TOTAL LENGTH SHORELINE SURVEYED: 536 m | NEAR SHORE SHEEN: ☐ BR ☒ RB ☒ SL ☐ NONE

EST. OIL CATEGORY LENGTH: W 0 m M 0 m N 90 m VL 446 m NO 0 m US 1835 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			B-C-P-G	M	7	350	X	X	X		ALONG EAST BANK
B						S	S				BR	V	1	70	X				ON VERTICAL BR FACE
C				T				T			B-C-P-G	M	4	250		X	X		ALONG WEST BANK
D				T				T			S-M-C	L	8	40				X	TIDAL FLAT AREA
E				S				S			C-S-G	L	8	20				X	OLD STREAM BED
F				T				T			S-M-C	L	200	500				X	MOST OF TIDAL FLAT

DISTRIBUTION: C = 91–100%; S = 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 - 14 FRAMES 1-8

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	20							X	-							X	C-S-G	MIDDLE OF FLAT
2	20							X	-							X	C-S-G-P	NEXT TO SITE E
3	25							X	-							X	M-S	IN SOFT SEDIMENT
									-									
									-									
									-									
									-									
									-									
									-									

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

OG COMMENTS: THE SURVEYED PORTION OF THIS SEGMENT WAS THE INNER TIDAL FLAT REGION OF THE EMBAYMENT. THE OILING WAS PERVASIVE BUT INFREQUENT AND VERY THIN DEPOSITS, GENERALLY. IN MOST INSTANCES, THE SOR COULD NOT BE REMOVED WITH A SHOVEL DUE TO ITS THINNESS AND THEREFORE, IT WAS SIMPLY TILLED AND BROKEN UP. BOTH SILVER AND RAINBOW SHEENS WERE PRESENT, IN FACT, FILMS WERE THE MOST COMMON OILING CONDITION.

SURVEY CONTINUED 5.18.91 SEE NEXT PAGE.

REVISED 5.24.91 GY

REVISED: MC 5/25/91

TEAM NO. 7

OG J M Sempsch | BIO J. Berry | SEGMENT TB-003

ADEC Crosby | LANDMANAGER Johnson for ADNR | SUBDIVISION A

EXXON George P Stiles | USCG/NOAA McMahon / McDonald | DATE MAY 11 B 91

TIME 13 : 45 to 15 : 00 | TIDE LEVEL +1.2 ft. to +5.5 ft. | ENERGY LEVEL: ☐ H ☒ M ☐ L

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

TOTAL LENGTH SHORELINE SURVEYED: 315 m | NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W — m M 5 m N — m VL 155 m NO 155 m US 1520 m

LOC	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE	AREA WIDTH m	AREA LENGTH m	ZONE S	ZONE UI	ZONE MI	ZONE LI	NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO		V H M L							
A1				T							cb/pb	M	4	20		X			See map
A2				S							cb/pb	L	13	5			X		
A3	S			S							pb/cb	L	95	10		X			
A4				S							cb/Bd	M	4	20		X			
A5				S		S					cb/Bd	M	4	20		X			
~~A6~~						~~S~~					Bedrock	M	Four patches only						
A7				T							Bd/cb	M	4	20		X			
A8				S							cb/Bd	M	4	15		X			

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

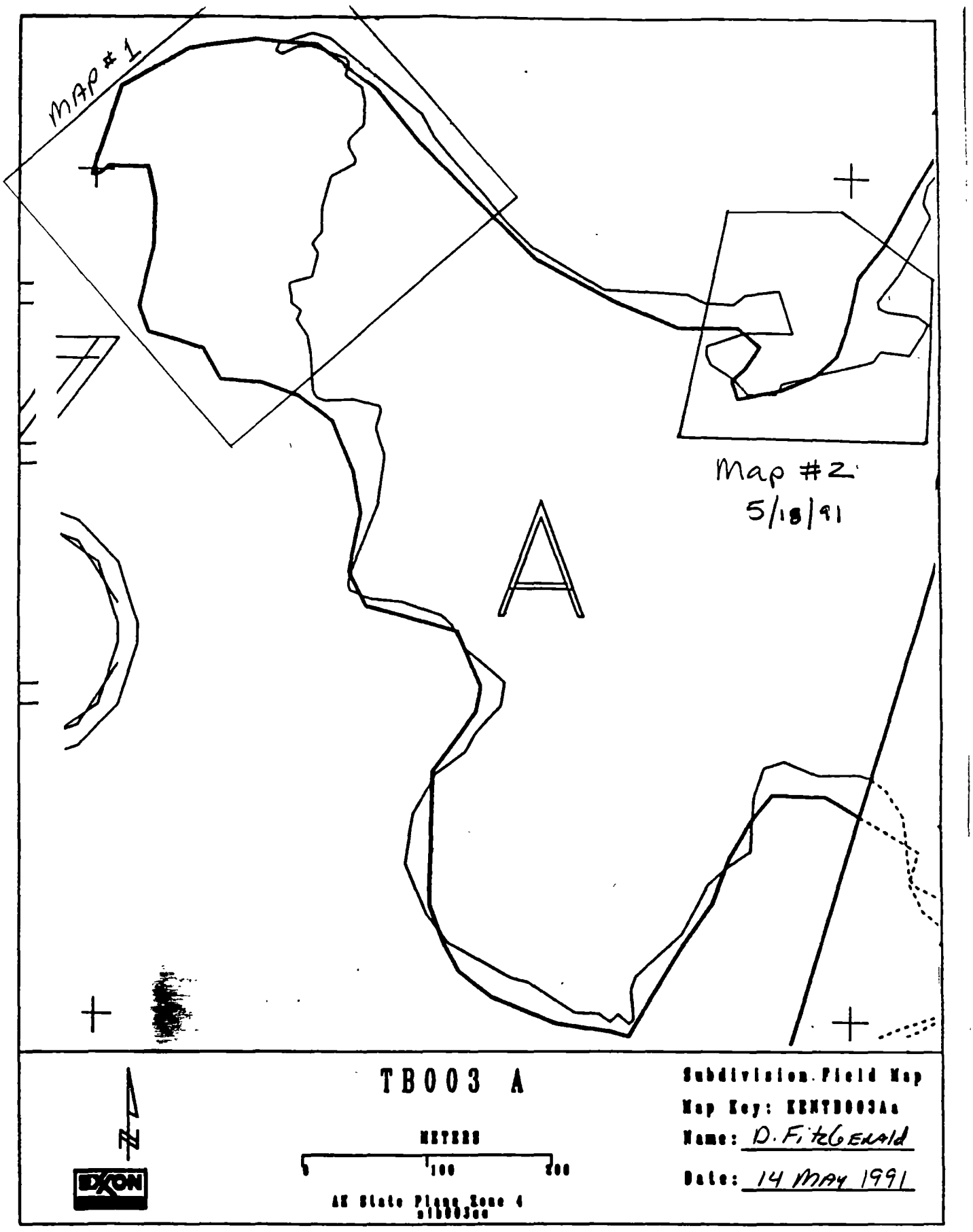
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP-_____-_____ FRAMES _____

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE S	PIT ZONE UI	PIT ZONE MI	PIT ZONE LI	SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO										
1	~~30~~							—	-	Y	—	—			X		pb/so	See
2	~~30~~							—	-	Y				X			"	Sep.
									-									
									-									
									-									
									-									
									-									
									-									
									-									

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

OG COMMENTS: Complex area includes an elongated bedrock body connected to the mainland by a tombolo. Coarse angular boulders and cobble are present near bedrock outcrops and bluffs, elsewhere sediments are mainly a pebble/cobble veneer over pebble/cobble/sand sub-surface. Most oiling occurred on the tombolo, on the outside southeastern coast and on the northwestern part of the segment.

REVISED: MC 5/25/91 revised 5.23 9y



TB003 A

Subdivision Field Map

Map Key: KENTB003Aa

Name: D. FitzGerald

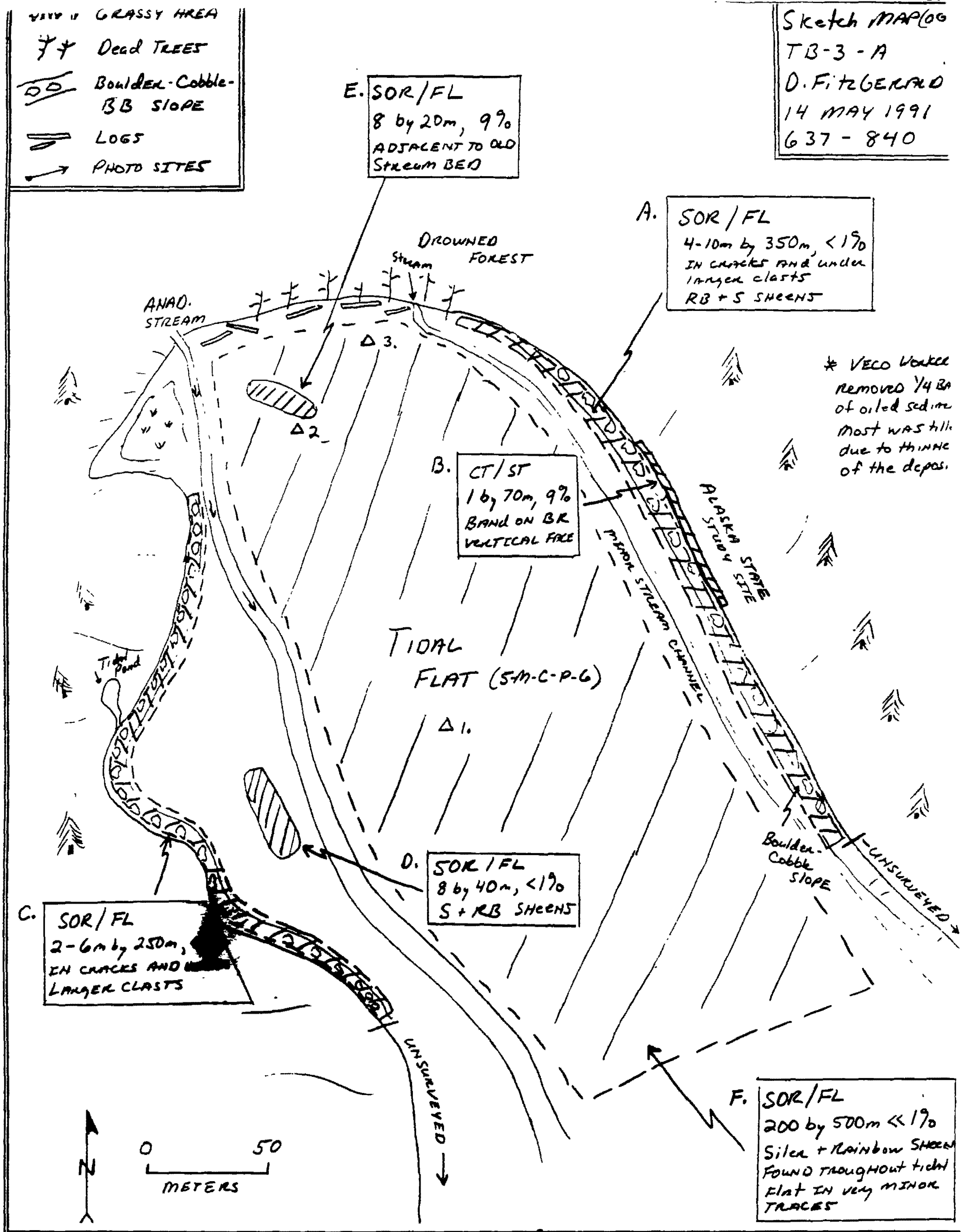
Date: 14 MAY 1991

METERS

0 100 200

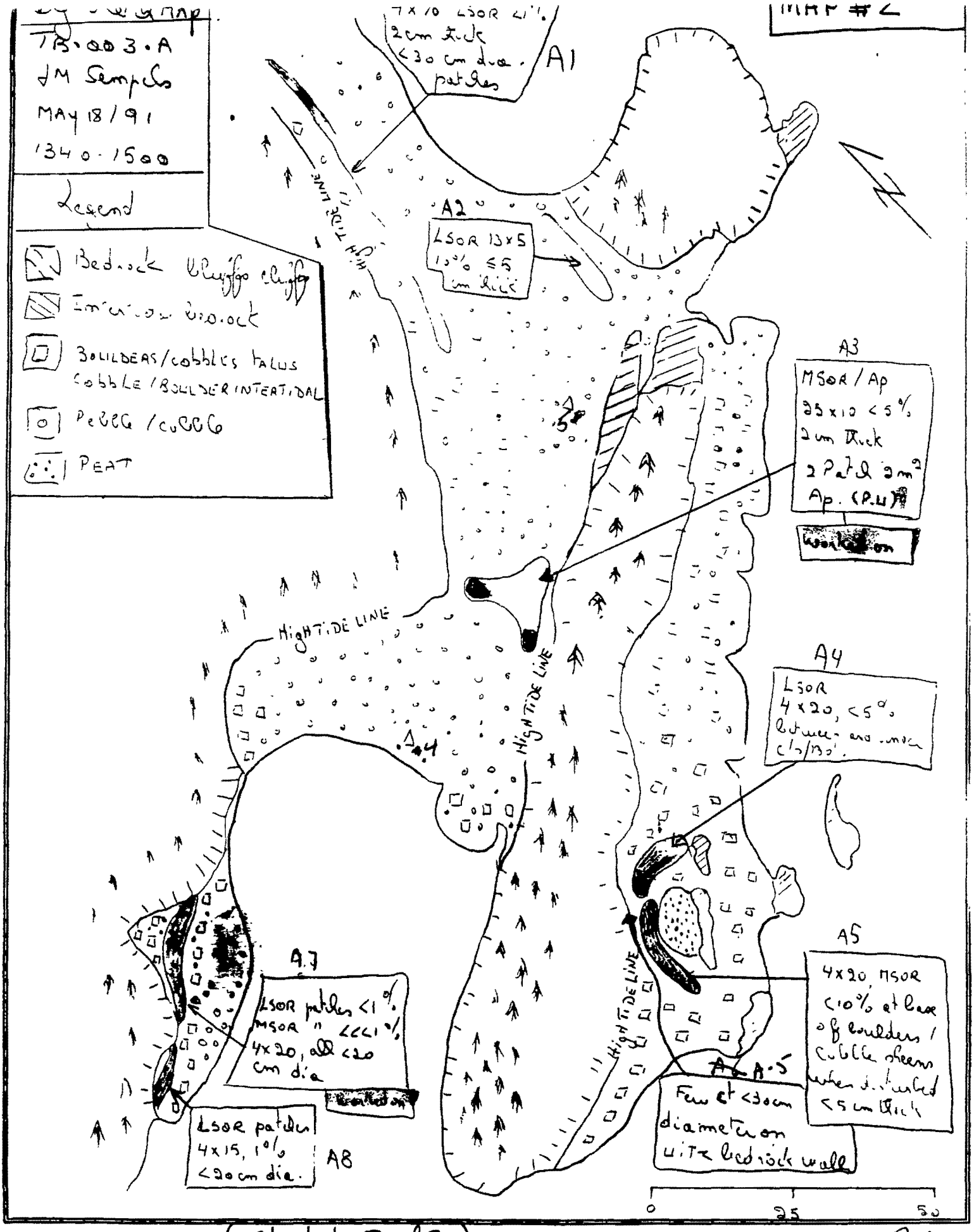
AK State Plane Zone 4

DXON



(Sketch 1 of 2)

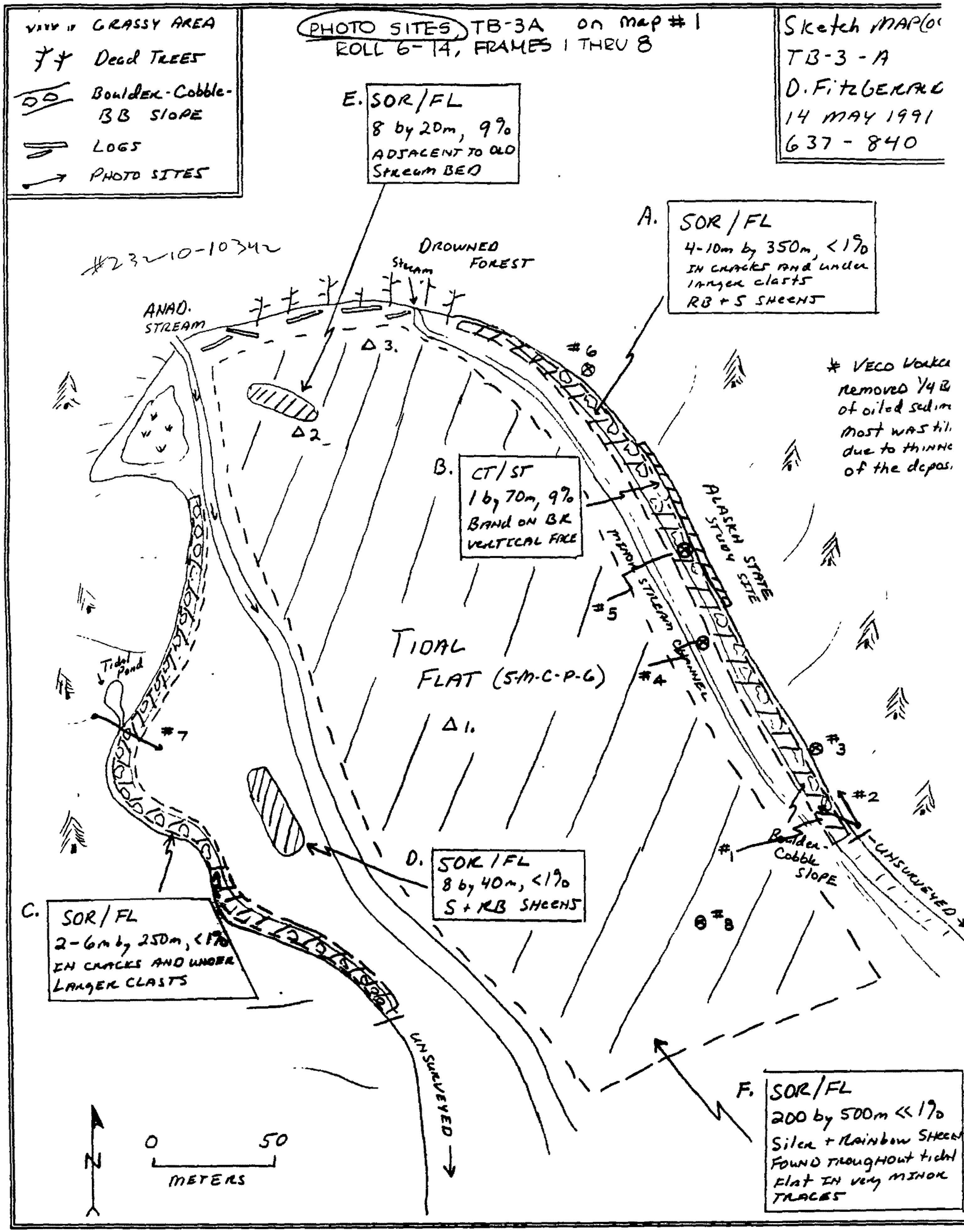
REVIEWED: MC



(Sketch 2 of 2)

Reviewed 5.23 9y

REVISED: MC 5/15/91


GRASSY AREA
Dead TREES
Boulder-Cobble-BB SlOPE
LOGS
PHOTO SITES
PHOTO SITES TB-3A on map #1
ROLL 6-14, FRAMES 1 THRU 8
Sketch MAP
TB-3-A
D. FitzGERALD
14 MAY 1991
637 - 840
E. SOR/FL
8 by 20m, 9%
ADJACENT TO OLD Stream BED
A. SOR/FL
4-10m by 350m, <1%
IN CRACKS AND under larger clasts
RB + S SHEENS
#232-10-10342
DROWNED FOREST
Stream
ANAD. STREAM
△3.
#6
△2
* VECO Worker removed 1/4
of oiled sedim
most was til
due to thinne
of the depos
B. CT/ST
1 by 70m, 9%
Band on BR
VERTICAL FACE
ALASKA STATE STUDY SITE
MINOR STREAM CHANNEL
#5
TIDAL FLAT (S-M-C-P-G)
#4
Tidal Pond
#7
△1.
#3
#2
#1
Boulder-Cobble Slope
UNSURVEYED
D. SOR/FL
8 by 40m, <1%
S + RB SHEENS
C. SOR/FL
2-6m by 250m, <1%
IN CRACKS AND UNDER LARGER CLASTS
#8
UNSURVEYED
N
0 50
METERS
F. SOR/FL
200 by 500m << 1%
Silver + Rainbow Sheen
Found throughout tidal flat in very minor traces

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6	**DATE** 5/14/91
SEGMENT # TB-003	**TIDAL HEIGHT(Range)** -0.5 to -3.5 ft
SUBDIVISION A	**BIOLOGIST** T.A. Schroeder
SEA STATE calm	**WIND SPEED/DIRECTION** calm
PHOTOGRAPHS: ROLL #	**FRAME #**

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

(A-E) = Fucus Kelp, sea lettuce thriving just below SOR/FL and CF/ST. Littorine snails and limpets present and sand fleas very abundant. Plant and animal communities appear healthy and have reestablished themselves. This light remaining oil is over 150 meters from the salmon stream and is not effecting the spawning area and any additional cleanup will cause more harm to these communities than the remaining oil.

(F) = SOR/FL was scattered throughout the fucus kelp bed but does not appear to be effecting the kelp. Mussels are reestablishing themselves amongst the kelp. Little sand dams present in LITZ. Again remaining oil is 30 meters or more from the salmon stream and is not effecting salmon production.

While this area was heavily impacted the intertidal community appears to be very healthy and thriving. Sanderlings were observed feeding throughout the intertidal area. This small unnamed stream is not a consistent salmon producer every year, but has produced large numbers of pink salmon in the past. The stream looks very good and no oil or sheening was observed within 30 yds of the stream. The area does not appear to have suffered any long term effects from the oil.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1 bald	3	2 rock Greenlings
Seabirds			
Waterfowl	2 mallard, widgeon	16	
Gulls/Kittiwakes	1 gulls	18	
Shorebirds	2 Sanderlings	102	
Corvids	1 raven	1	
Other Birds			

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

Shoreline subdivision map showing important biological features attached.

REVIEWED: MC 5/25/91

Survey Continued 5.18.91

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #	4	DATE/TIME	May 18, 1991 1335 - 1510
SEGMENT #	TB003	TIDAL HEIGHT (Range)	+1.2 => 5.5
SUBDIVISION	A	BIOLOGIST	JIM BARRY
SEA STATE	Calm	WIND SPEED/DIRECTION	Variable 5-20 kt., rain

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

Oil Related Comments

A1 This area has LSOR in a band along the upper to middle intertidal zone, at or above the upper edge of the Fucus zone. Fucus is sparse, with moderate to sparse densities of the common invertebrates (limpets, littorine snails, hermit crabs, and worms). Green filamentous algae are moderately abundant. Fucus and mussels are abundant below.

A2,A4,A5 The oiled substrata (LSOR/MSOR) at these locations occur in the middle intertidal zone amongst a Fucus/mussel bed. These species are present in fairly dense stands. Several other species also are abundant, including littorine snails, limpets, barnacles, polychaete worms, amphipods, isopods, hermit crabs, several species of encrusting invertebrates, and red and green algae. Sediments with the greatest oil content appear to have the lowest densities invertebrate biota. Mussels, which are quite abundant within this zone, even amongst the oiled sediments, appear little affected by the presence of the oil. Juveniles are present throughout the bed in moderate densities. Similarly, barnacles become dense in this mid-zone Fucus bed. Below the Fucus/mussel bed, red and brown algae dominate the shore.

(continued)

WILDLIFE OBSERVATIONS - Completed on all subdivisions

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	
Seabirds			
Waterfowl			
Gulls/Kittiwakes			
Shorebirds	1	35	
Corvids	1	2	
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters	3		
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

REVIEWED: MC 5/15/91
Rec'd 5/23/91

A3 This saddle between the islet and the mainland has a peat layer at its crest, with beach grass (Elymus) sprouting from patches of dormant root mats. Oiled surface sediments were removed from this site last year. Remnants of oiled, peat-containing sediments are present on this saddle. Little biota, other than scattered beach grass, green algal films on some cobble, and occasional amphipods, oligochaete worms, and isopods, are present at the oiled site.

A6 This location has oil (CT) on the upper zone bedrock wall. Few biota are abundant at this tidal level. Sparse black lichen, occasional littorine snails and limpets, a few barnacles, and a partial film of green filamentous algae are the primary species at the site.

A7,A8 Oil (LSOR) is present along the boulder and cobble talus shore, primarily in the upper zone, but extending to the middle intertidal zone. Filamentous green algae form a film on the angular cobble at the upper tidal level, but are much denser below. Fucus is sparse at the level of the oil. Scattered barnacles, limpets, and littorine snails are the major invertebrate species. The middle zone 1 to 3 feet below the oiled area has very dense cover of Fucus and high abundance of littorines, limpets, and isopods. Mussels are moderately abundant on the bedrock and cobble within the Fucus zone.

Cleanup Considerations

The main consideration for cleanup is disruption of the Fucus/Mussel beds (sites A2,A4,A5). Intrusive treatments could adversely impact this sensitive resource. Manual removal, if confined to patches of the most heavily oiled sediments, may have only mild impacts to the mussel/Fucus bed. Total removal of the oiled sediments would require much greater disturbance to the bed and should be avoided. The long term recovery of the bed following such disturbance may be greater than that required for natural weathering of the remaining oil. This issue is discussed in the report for subdivision TB004-A.

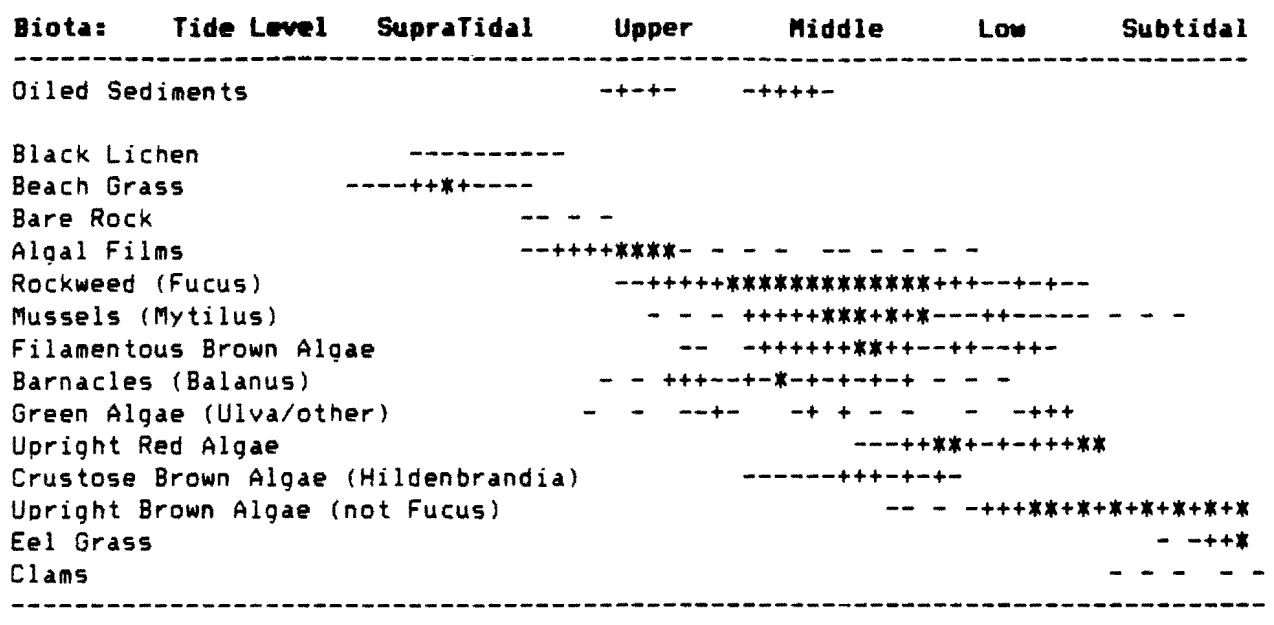
Manual cleanup at the other locations will have little adverse effects on the biota at those locations.

General Characteristics of TB003-A

This portion of TB003-A encompasses a small islet and saddle beach, as well as a short cobble talus shoreline. The upper zones of the site have green algal films, some beach grass, black lichen, and little else. The middle shores are densely covered by Fucus, with a dense bed of mussels throughout much of the Fucus zone. The low shore varies from dense red and brown algal cover on the eastern shore to a small eel grass and clam bed within the very small cove of the western shore, where muddy sediments occur.

REVIEWED: MC 5/25/91

General Zonation Pattern



Legend: (-) Sparse to rare, (+) Moderate, (*) Abundant

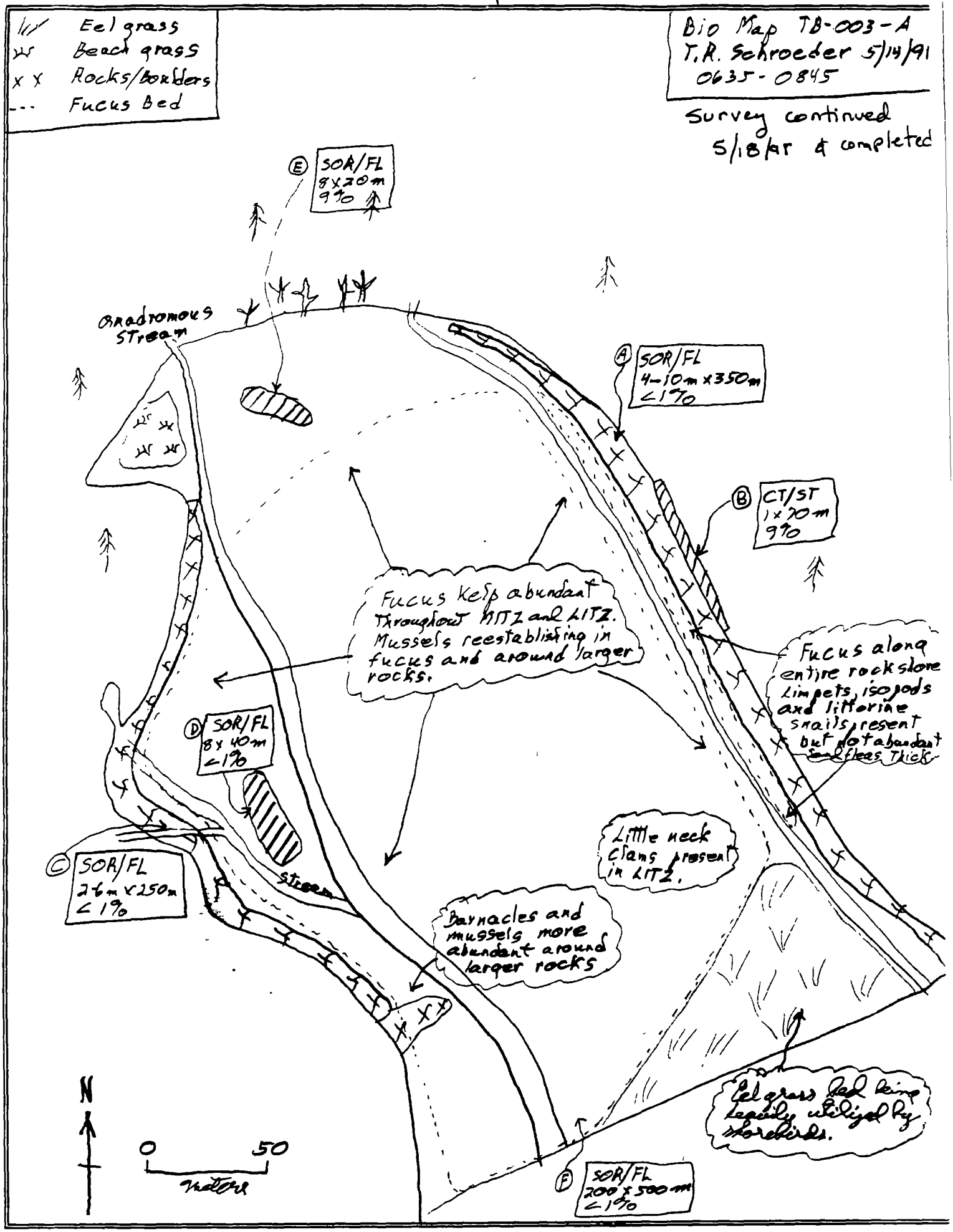
Common Species on TB003-A

A. Marine Plants
   1. Diatoms, Blue Greens
   2. Green Algae - Chlorophyta
      Cladophora sp., Enteromorpha sp., Ulva sp., Urospora sp.
   3. Brown Algae - Phaeophyta
      Alaria marginata, Agarum fimbriatum, Costaria costata, Ectocarpus spp., Fucus distichus, Hildenbrandia sp., Laminaria sp., Ralfsia sp.,
   4. Red Algae - Rhodophyta
      Endocladia muricata,, Halosaccion glandiforme, Iridaea sp., Mastocarpus sp., Membranoptera dimorpha, Odonthalia floccosa, Palmaria palmata, Porphyra sp., Ptilota filicina, Rhodomela larix
   5. Higher Plants - Zostera marina (eel grass), Leymus mollis (beach rye grass)

II. Marine Animals
   1. Sponges - Porifera - Halichondria bowerbanki?,
   2. Anemones - Anthopleura artemesia, Epiactis ritteri, Urticina crassicornis,
   3. Hydroids - Sertulariidae, Aglaophenia sp., Abietinaria sp.
   5. Flatworms - Platyhelminthes - Polyclads
   6. Nemertean Worms - Ribbon Worms - Emplectonema gracile
   8. Polychaete Worms
      Glyceridae
      Nepthyidae
      Nereidae - Nereis spp.
      Serpulidae - Serpula sp., Crucigera sp., Eudistylia polymorpha
      Spriorbidae - Spirorbis sp.
   10. Crustaceans
      a. Amphipods - Orchestia sp.?, Traskorchestia traskiana
      b. Barnacles - Balanus glandula, Chthamalus dalli, Semibalanus cariosus
      c. Crabs - Haplogaster sp., Paguridae (hermit crabs), Pugettia sp.,
      d. Isopods - Cirdana harfordi, Idotea wosnesenskii, Gnorimorsphaeroma oregonensis

11. Mollusca
    a. Chitons - Mopalia sp., M. mucosa, Katharina tunicata, Tonicella lineata,
    b. Snails - Gastropods
       Littorina sitkana, L. keenae, Natica clausa, Nucella lamellosa, N. lima, Searlesia dira
    c. Limpets - Lottia digitalis, L. limatula, L. persona, Tectura fenestrata, T. persona, T. scutum, Siphonaria thersites
    d. Nudibranches - Lamellidoris fusca, Onchidella borealis
    e. Bivalves - Clinocardium sp., C. nuttalli, Hiatella arctica, Macoma nasuta, Modiolus modiolus, Mytilus edulis, Pododesmus cepio, Prototheca staminea, Saxidomus giganteus
12. Echinoderms
    a. Brittle Stars - Ophiolus aculeatus?, Ophiothrix spiculata?, Amphipholis?
    b. Sea stars - Crossaster papposus, Dermasterias imbricata, Evasterias truscheli, Henricia leviuscula, Leptasterias hexactis, Orthasterias keohleri, Pycnopoida helianthoides, Solaster dawsoni,
    c. Sea Cucumbers - Holothurians - Eupentacta sp.
    d. Urchins - Strongylocentrotus droebachiensis
13. Bryozoans - Membranipora sp., Microporina borealis, Phidolopora pacifica, Schizoporella sp.
14. Ascidians - Synocium? sp., Aplidium?
15. Fishes
    Cottidae -
    Stichaeidae - Xiphister atropurpureus, X. mucosus

III. Birds - Western Sandpiper (35), Eagle (1), Raven (2)


Eelgrass
Beach grass
Rocks/boulders
Fucus Bed
Bio Map TB-003-A
T.R. Schroeder 5/14/91
0635-0845
Survey continued 5/18/91 & completed
E SOR/FL 8x20m 9%
Anadromous Stream
A SOR/FL 4-10m x 350m <1%
B CT/ST 1x20m 9%
Fucus kelp abundant throughout MITZ and LITZ. Mussels reestablishing in fucus and around larger rocks.
Fucus along entire rockshore Limpets, isopods and littorine snails present but not abundant Sandfleas Thick
D SOR/FL 8x40m <1%
C SOR/FL 26m x 250m <1%
Stream
Little neck clams present in LITZ.
Barnacles and mussels more abundant around larger rocks
Eelgrass bed being heavily utilized by shorebirds.
F SOR/FL 200x500m <1%
N
0
50
Meters

TB003-A
J.P'BARRY
MAY 18, 1991
1340-1500

Map #2

Legend - Geology

- Bedrock Bluffs/Cliffs
- Intertidal Bedrock
- Boulder/Cobble Talus
- Cobble/Gravel Intertidal
- Pebble/Cobble
- Sand

Legend - Biota

- Fucus / Mussels
- Mussels (dense)

A1 — Sparse Fucus, moderate to sparse barnacles, limpets, and littorinid. Occasional to common oligochaete worms and algae. Some green filamentous

MUSSEL BED

FUCUS

HIGH TIDE LINE

A2

A2, A4, A5 — Dense or moderate mussels and Fucus there littorine snails, limpets, barnacles, polychaete worms, amphipods, isopods, hermit crabs. Juveniles or eggs of most species

A3 — Beach grass, peat, green algal films occasional amphipod, isopod, oligochaete worms

A3

HIGH TIDE LINE

BROWN FILAMENTOUS
GREEN FILAMENTOUS ALGAE
CLUMPS OF PEAT
MUD

HIGH TIDE LINE

A4

A7 — FILAMENTOUS GREEN ALGAE, scattered barnacles, limpets, littorine snails. Dense Fucus Below (1-3') + limpets, snails, isopods. Mussels moderate

A7

Mussel Bed

A5

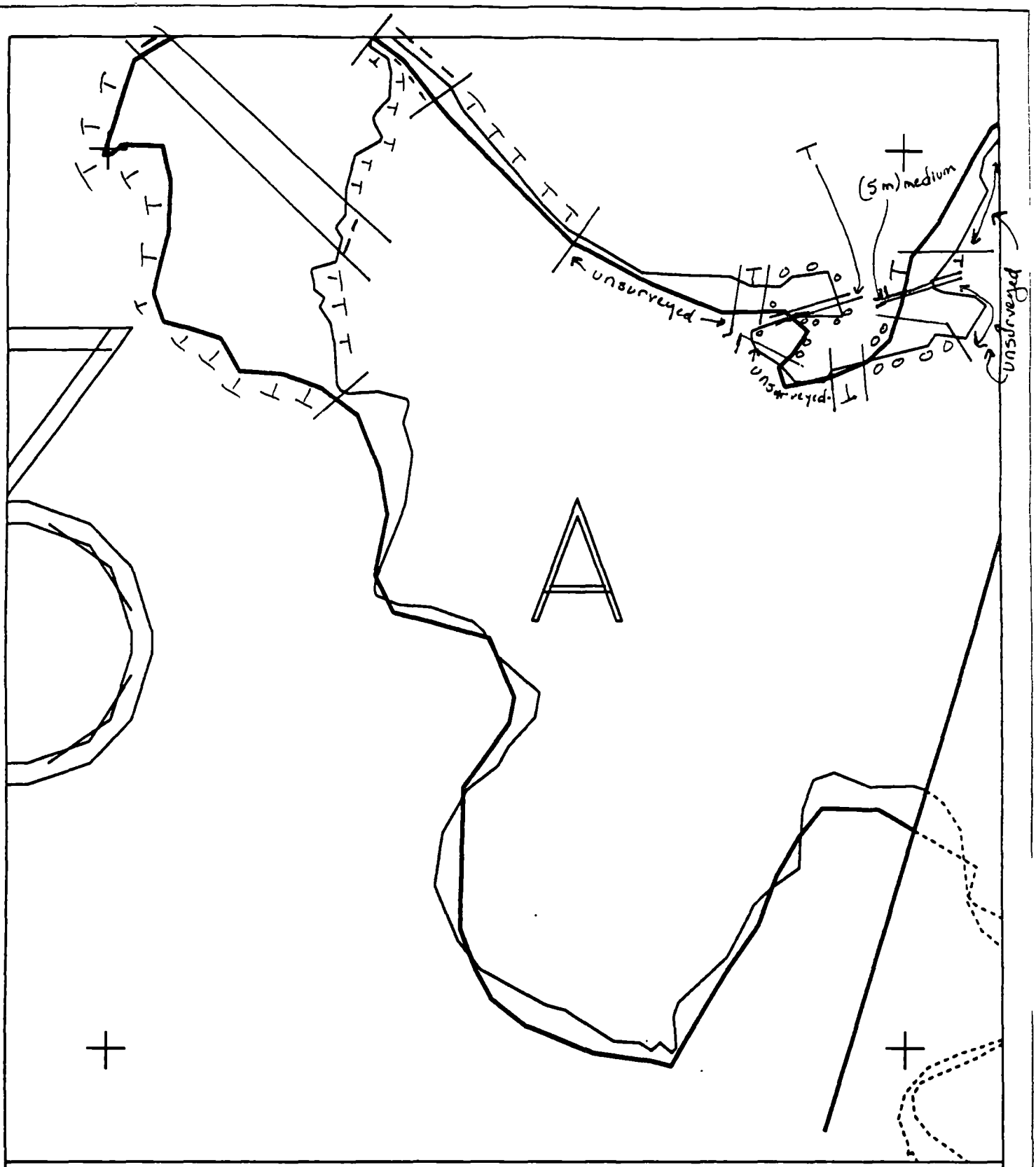
HIGH TIDE LINE

A8

A6 — High intertidal zone Sparse barnacles, black lichen, littorines sense, green algal films

Meters

0 25 50



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

TB003 A

ADEC Subsegment Length: 2371m

METERS

0 100 200

AK State Plane Zone 4
afb003aa

N

EXXON

Subdivision Field Map

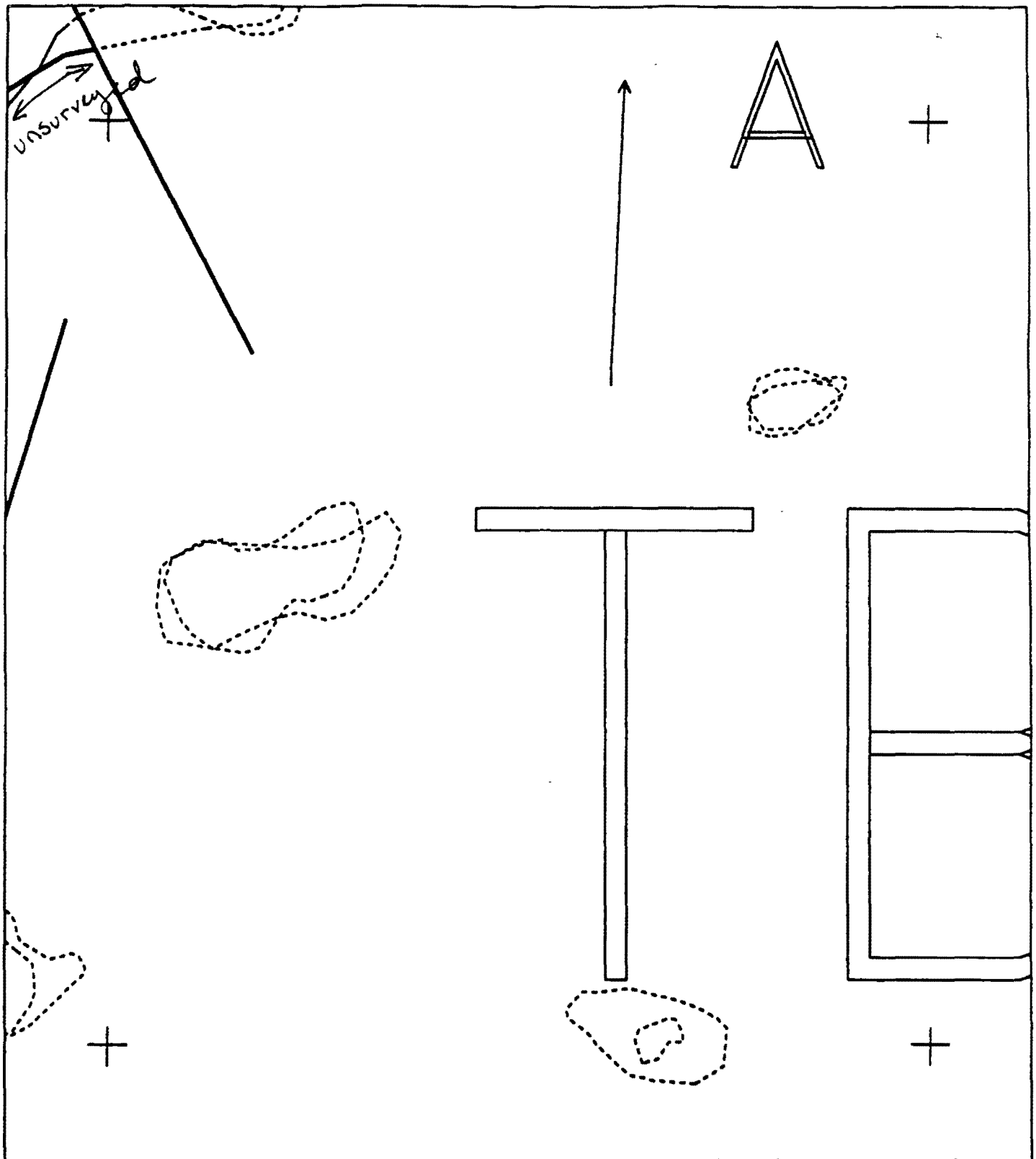
Map Key: KENTB003Aa

Name: D. Fitzgerald (J.Y.)
(J.M. Sempels 18 May-)

Date: 14 May 1991

~~Date Entered~~:

revised 5.24.91 gy



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

TB003 A

ADEC Subsegment Length: 2371m

METERS

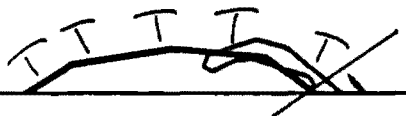
0 100 200

AK State Plane Zone 4
e1b003ab

EXXON

Subdivision Field Map
Map Key: KENTB003Ab
Name: J.M. Sempels (JY)
Date: 18 May 1991
Date Entered:

revised 5.24.91



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

TB003 A

ADEC Subsegment Length: 2371m

METERS

0 100 200

AK State Plane Zone 4
alb003ac

N

EXXON

Subdivision Field Map

Map Key: KENTB003Ac

Name: D. Fitzgerald (J.Y)

Date: 14 May 1991

Date Entered:

revised 5.24.91 gy

Date: 5/14/91 No. 901

Title: TB003A

Segment No TB-3 Subdivision A
Date 5/14/91 Log Frame No 3
Photographer GARY SHIGENAKA
Location TONSINA BAY
Comments MOUSSE IN COBBLE, EASTERN SHORELINE

Roll No MAYSAP-6-14 Neg. No 2
Control No 901 (Office Use Only)

Segment No TB-3 Subdivision A
Date 5/14/91 Log Frame No 4
Photographer GARY SHIGENAKA
Location TONSINA BAY
Comments SHEEN IN BOOTPRINT, IN TIDAL FLAT AT THE BASE OF RUBBLE SHORELINE, EASTERN SHORE.

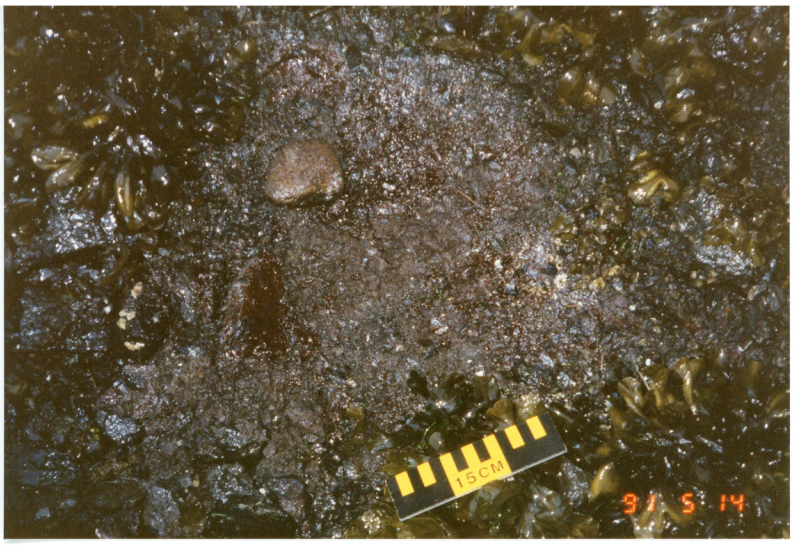
Roll No MAYSAP-6-14 Neg. No 3
Control No 901 (Office Use Only)

Segment No TB-3 Subdivision A
Date 5/14/91 Log Frame No 1
Photographer GARY SHIGENAKA
Location TONSINA BAY
Comments VIEW FROM THE SOUTHEASTERN LIMIT OF THE SURVEYED PORTION OF SEGMENT ACROSS TIDAL FLAT, ORIENTATION TO THE NORTH-NORTHWEST

Roll No MAYSAP-6-14 Neg. No 0
Control No 901 (Office Use Only)

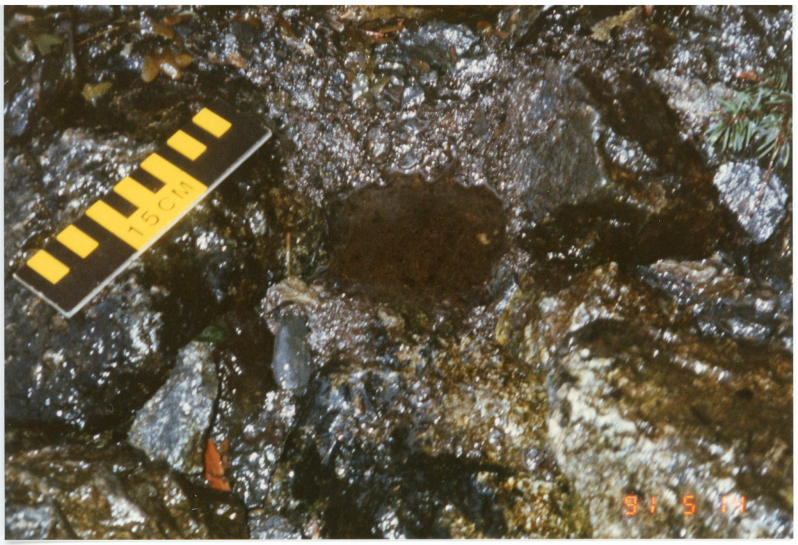
Segment No TB-3 Subdivision A
Date 5/14/91 Log Frame No 2
Photographer GARY SHIGENAKA
Location TONSINA BAY
Comments VIEW FROM SAME LOCATION AS #1, PIVOTED CLOCKWISE TO A NORTH-NORTHEAST ORIENTATION.

Roll No MAYSAP-6-14 Neg. No 1
Control No 901 (Office Use Only)



Date: 5/14/91 No. 901

Title: TB003A



Segment No TB-3 Subdivision A
Date 5/14/91 Log Frame No 7
Photographer GARY SHIGENAKA
Location TONSINA BAY
Comments PHOTO FROM WESTERN SHORELINE THROUGH DEADFALLS, LOOKING OUT TOWARD BAY ENTRANCE. ORIENTATION IS SOUTHEASTERLY.

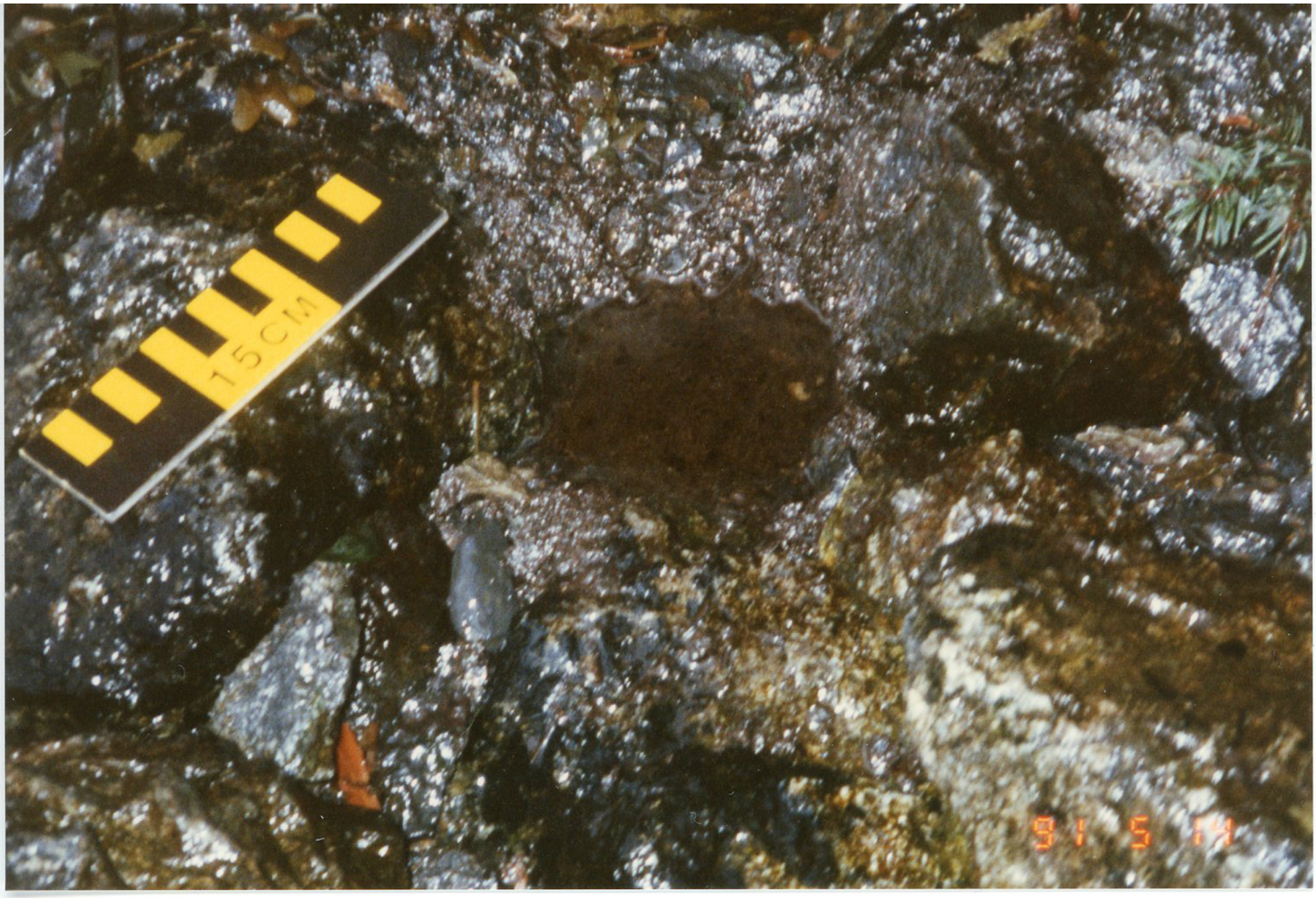
Roll No MAYSAP-6-14 Neg. No 6
Control No 901 (Office Use Only)

Segment No TB-3 Subdivision A
Date 5/14/91 Log Frame No 5
Photographer GARY SHIGENAKA
Location TONSINA BAY
Comments SOR IN COBBLE AND FINER SUBSTRATE, EASTERN SHORELINE

Roll No MAYSAP-6-14 Neg. No 4
Control No 901 (Office Use Only)

Segment No TB-3 Subdivision A
Date 5/14/91 Log Frame No 8
Photographer GARY SHIGENAKA
Location TONSINA BAY
Comments SHEEN ON THE SURFACE OF THE TIDAL FLAT

Roll No MAYSAP-6-14 Neg. No 9
Control No 901 (Office Use Only)



Segment No TB-3 Subdivision A
Date 5/14/91 Log Frame No 6
Photographer GARY SHIGENAKA
Location TONSINA BAY
Comments HEAVY SOR IN COBBLE-FINER SUBSTRATE, SHOWING OIL RESIDUE FLOATING ON WATER SURFACE.

Roll No MAYSAP-6-14 Neg. No 5
Control No 901 (Office Use Only)

MAYSAP-Y

232-10-10342

1991 MAYSAP EVALUATION

SEGMENT: TB 003 **SUB:** A **REGION:** KEN **SURVEY DATE:** 5/18/91

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

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

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

SHPO Signature: Timothy A. Smith Date: 6/04/91

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

COMMENTS:
INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: June 4 1991 FOSC APPROVAL DATE: 6/7/91

ADEC

EXXON

USCG

NOAA

FOSC

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

Maysap - 4

2321010342

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

KENAI REGION

SEGMENT: TB003 **SUBDIVISION:** A **SITE:**

RECOMMENDED TREATMENT:
NO TREATMENT RECOMMENDED AT THIS TIME

ENVIRONMENTAL SENSITIVITIES:

WORK WINDOW: -

CLEANUP PLAN AND COST ESTIMATE DUE:

DATE SUBMITTED: 06/04/91

STATE ON SCENE COORDINATOR: BlueBauer for G. Pyon

1991 STREAM FILE LOG
HABITAT

STREAM CATALOG # : 232-10-10342
STREAM NAME : Tonsina Bay

LOCATION : Homer
SEGMENT : TB-003a

DATE	NAME	ACTIVITY	REASON/STATUS

ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

DDH 10/4/91

STREAM#: 2321010342
SEGMENT: TB003

ok

PAGE 5 DATE PRINTED: 08/14/91

LOCATION: TONSINA BAY, NORTHWESTERN SHORE

SURVEY TYPE: 89 AFHS - BS/SS METHOD: GROUND FOOT

DATE: 07/21/89 TEAM RECORDER: HILL

START TIME: 1733
END TIME: 1834

OBSERVERS: GLENN

TIDES: High, slack
OG/HAB DISCREPANCIES:

AGENCY: FG

PHOTOS TAKEN: Y

STATION: 2321010342

ROLL#: 89DDH007H 89DDH008H
FRAME: 33-36 02

VIDEO TAKEN: N TAPE#:
START: END:

SAMPLES TAKEN: ~~Y~~ Y

SAMPLE NUMBERS: ? ? don't have. 89LPG005H

OIL IN STREAM BED: N

OVERALL OIL IMPACT: H

OIL ON BEACH BY MOUTH: Y

WAVE EXPOSURE: LOW

SHORELINE TYPE: BEACH COVE

SUBSTRATE TYPE: BEDROCK BOULDER COBBLE VEGETAT

GRAVEL SAND MUD/SILT GRANULE

ANADROMOUS FISH PRESENT: Y

SPECIES: COUNT:

need to add comments. DONE.

ACE 9961725 +15

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

OK

PAGE 1

DATE PRINTED: 08/26/91

STREAM# : 2321010342
SEGMENT#: TB003

SURVEY TYPE : 89 AFHS - BS
DATE: 07/21/89
TIMES: 1733 - 1834

LOCATION: TONSINA BAY, NORTHWESTERN SHORE
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-	5	5	25	-0-	-0-	-0-	SHEEN
2	-0-	-0-	27	18	486	5	-0-	-0-	MS TB AP
3	-0-	-0-	37	27	999	45	<3	<10	MS TB
4	-0-	-0-	37	4.0	148	80	-0-	-0-	HSOR CT CV

AHO Comments, [illegible]

ACE 9961726

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

62

PAGE 2 DATE PRINTED: 08/26/91

COMMENTS:
SITE 1-7. SITE #4 - HEAVILY OILED LOGS, WOOD DEBRIS, TRASH AND OTHER ORGANIC MATTER PRESENT WEST AND NORTHWEST SHORE OF TIDE FLATS. SITE #2: 6' X 6' TARMATS IN VEGETATED AREA AT MOUTH OF CREEK (~100' DOWNSTREAM OF TREE LINE). VEGETATION WITH OIL IS VETCH, PLANTAGO, POTENTILLA, ELYMUS. SITE #1, 2, 3: OIL SHEEN AND MOUSSE AMONG VEGETATION ON BOTH SHORES OF STREAM. OIL OBSERVED PENETRATING SUBSTRATE TO 8" DEPTH. OILED WOOD OBSERVED.

02

END OF REPORT

ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

STREAM#: 2321010342
SEGMENT: TB003

PAGE 5 DATE PRINTED: 06/21/91

LOCATION: TONSINA BAY, NORTHWESTERN SHORE

SURVEY TYPE: 90 PRE SCREEN - ~~MS~~ SS METHOD: GROUND

DATE: 04/08/~~91~~ 90 TEAM RECORDER: HILL

START TIME: 1003 OBSERVERS: GLENN MCLANE
END TIME: 1127

AGENCY: FG

OG/HAB DISCREPANCIES: -

PHOTOS TAKEN: Y

STATION: 2321010342

ROLL#: 90DDH001H 002H
FRAME: 21-~~25~~ 24 1-7

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

Doug, looks like DDH-4/9/90-1110 ~110%?

SAMPLES TAKEN: Y

SAMPLE NUMBERS: ?? ~~DDH-4/8/90-1110~~ 90DDH062H -0-
ok
-0- -0-

-0- -0-

OIL IN STREAM BED: N

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

WAVE EXPOSURE: LOW SHORELINE TYPE: LOW-LYING ROCKS BEACH COV

SUBSTRATE TYPE: BEDROCK 5 ~~10~~ BOULDER 5 ~~10~~ COBBLE 20 VEGETAT -0-

GRAVEL 70 SAND 10 MUD/SILT -0- GRANULE -0-

ANADROMOUS FISH PRESENT: -

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

ACE 9961760 +1S/C

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

DATE PRINTED: 06/21/91

STREAM# : 2321010342
SEGMENT#: TB003

SURVEY TYPE : 90 PRE SCREEN - ~~MS~~ SS
DATE: 04/08/91
TIMES: 1003 - 1127

LOCATION: TONSINA BAY, NORTHWESTERN SHORE
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-	400	200	80000	10	<4.5	<7.0	OR TB AP MS
2	-0-	-0-	1000	1	-0-	1	-0-	-0-	ST CT CV

COMMENTS:
THE TB-3 TIDAL FLATS AREA ~~A~~ is A MESS. A SIGNIFICANT QUANTITY OF OIL REMAINS ON THIS BIOLOGICALLY SENSITIVE & PRODUCTIVE AREA. NUMEROUS PORTIONS OF THE FLATS CAN BE DESCRIBED AS "GRAVEL THAT HAS BEEN ?? WITH FUEL OIL. OBSERVED TB, PT, MS, CT, CV, ST, F, HOR-LOR. WALKED APPROX 150 YARDS OF THE NORTH SHORE FROM THE GRASSY AREA SOUTH. OBSERVED TARMATS UP TO 4CM THICK OVER THE ENTIRE DISTANCE (50' WIDE SWATH APPROX 20-30% COVERAGE). OIL PATCHES (PT, AP, OR) FOUND SPORADICALLY THROUGHOUT FLATS AREA TO LOWER INTERTIDAL ZONE. WHILE WALKING THROUGH WATER AT LITZ OIL SHEEN FREQUENTLY RISES TO SURFACE - SHEEN RISES TO SURFACE EASILY WHEN SUBSTRATE IS AGITATED. OIL IN LITZ IS IN THE VEGETATION ZONE. SIGNIFICANT SHEENS WHERE CREATED ON THE SURFACE OF THE WATER BY DISTURBING THE SUBSTRATE IN THIS ZONE (FUCUS ZONE). OIL PATTIES FOUND AMONG VEGETATION AT STREAM SIDE (EAST SHORE). OILING CONTINUES ALONG THE SHORE OUT OF BOTH ENDS OF THIS SEGMENT INTO THE ADJACENT SEGMENTS. OIL (OP, OR, MS) CAN EASILY BE FOUND BENEATH COBBLES/BOULDERS ON SHORELINE - ESPECIALLY ON THE WEST SHORE OF THE SEGMENT. 'AP' PATCHES & 'MS' 'PT' ARE EASILY FOUND ON EAST SHORE. SITE 1-7 OF AFHA.
OIL ON STREAM BANK: YES
OIL WITHIN 1 MILE OF STREAM: YES, BEACH ADJACENT STREAM, NEARLY ALL OF TONSINA BAY.

DOUSED 420k DOH

[redacted] "1990 Field log for further info".

ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

10/9/91 2004

STREAM#: 2321010342
SEGMENT: TB003

PAGE 6 DATE PRINTED: 08/14/91

LOCATION: TONSINA BAY, NORTHWESTERN SHORE

SURVEY TYPE: 89 AFHS - BS/SS METHOD: ~~GROUND~~ FOOT

DATE: 08/16/89 TEAM RECORDER: HILL

START TIME: 1150 OBSERVERS: VANDERBRINK
END TIME: 1230

TIDES: FLOOP AGENCY: FG HMAC
OG/HAB DISCREPANCIES:

PHOTOS TAKEN: Y

STATION: 2321010342 ROLL#: 89DDH022H
FRAME: 13-17

VIDEO TAKEN: ~~Y~~ TAPE#: ~~89RDR001H~~
START: END:

SAMPLES TAKEN: N

SAMPLE NUMBERS:

OIL IN STREAM BED: N

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

WAVE EXPOSURE: LOW SHORELINE TYPE: BEACH COVE

SUBSTRATE TYPE: BEDROCK 10 BOULDER 10 COBBLE 20 VEGETAT

GRAVEL 50 SAND 10 MUD/SILT GRANULE

ANADROMOUS FISH PRESENT: Y

SPECIES: PINK SALMON COUNT: 400

ACE 9961732 +/S

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

ok

PAGE 6 DATE PRINTED: 08/14/91

STREAM# : 2321010342
SEGMENT#: TB003

SURVEY TYPE : 89 AFHS - BS
DATE: 08/16/89
TIMES: 1150 - 1230

LOCATION: TONSINA BAY, NORTHWESTERN SHORE
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, TB, OF, HOR CT, CV, ST

COMMENTS:
SUTE 1-7. 300-400 PINK SALMON OBSERVED. ~100 OF THE SALMON OBSERVED WERE LOCATED IN THE GRASS FLAT/INTERTIDAL PORTION OF THE CREEK. MAJORITY OF PINKS OBSERVED FROM JUST BELOW INTERTIDAL GRASS FLATS TO A POINT ~200 YARDS UPSTREAM. MUCH OF THE OILED WOOD FROM THE NORTHWEST SHORE OF THE TIDE FLATS HAS BEEN BURNED SINCE MY LAST SURVEY. THE BURN PIT IS VISIBLE ON THE FLATS, SEE PHOTO #17 FROM ROLL # 89DDH022H. (BURN CORDS AND CORDS OF WOOD FOR OUNCES OF OIL?!)

Numerous cords of wood were burned [redacted] (dumped into the great celestial sink) simply to [redacted] purge the beaches [redacted] a minimal amount of oil. cont'd. on 2nd page following this one. (please add to this comments section)

DOH 9/4/91

HAND Written sheet

ACE 9961733 - 15

1989-AFHS 342 Site 1-7 Tonsina Bay-NW Creek

ASC NUMBER: 232-10-10452 SEGMENT NUMBER: YR CATALOGED:
LOCATION: Tonsina Bay-Head of Bay-NW Portion
STREAM NAME: Tonsina NW Creek LATITUDE: 54 18 37
KODIAK K-UNIT: . LOCAL STREAM #: LONGITUDE: 150 57 06
USGS QUADRANGLE: Seldovia B-3 LEGAL:
SHORELINE TYPE: Beach, Cove, tide flats ALL SEGMENTS:
WAVE EXPOSURE: Low

ASC NUMBER:
SURVEY TYPE: BS
METHOD: Ground
DATE: 7/21/89
START TIME: 1733
STOP TIME: 1834

TEAM RECORDER: Doug Hill
OBSERVERS: Lee Glenn

AGENCY(IES): ADF&G

PHOTOS TAKEN? 89DDH07H → 33,34,35,36
Roll #: 89DDH08H → Frames: 2
VIDEO TAKEN? N Tape Number:
Counter Start:

SAMPLES TAKEN?
SAMPLE I.D. NUMBERS: 1. LPC/DDH-7/21/89-1733 2. we do not have this sample. 3.
4. 5. 6.

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	5	5	25	—	—	—	Sheen
SITE 2	27	18	486	5	? —	? —	MS, TB, Tarmat AP
SITE 3	37	27	999	45	<3	<10	MS, TB
SITE 4	37	4.0	148	80	? —	? —	Saturated Sediment (HVY), oiled wood, CT, CV, ST — HSOR comments
SITE 5							

OVERALL OIL IMPACT: H

OIL IN STREAM CHANNEL? N

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Y

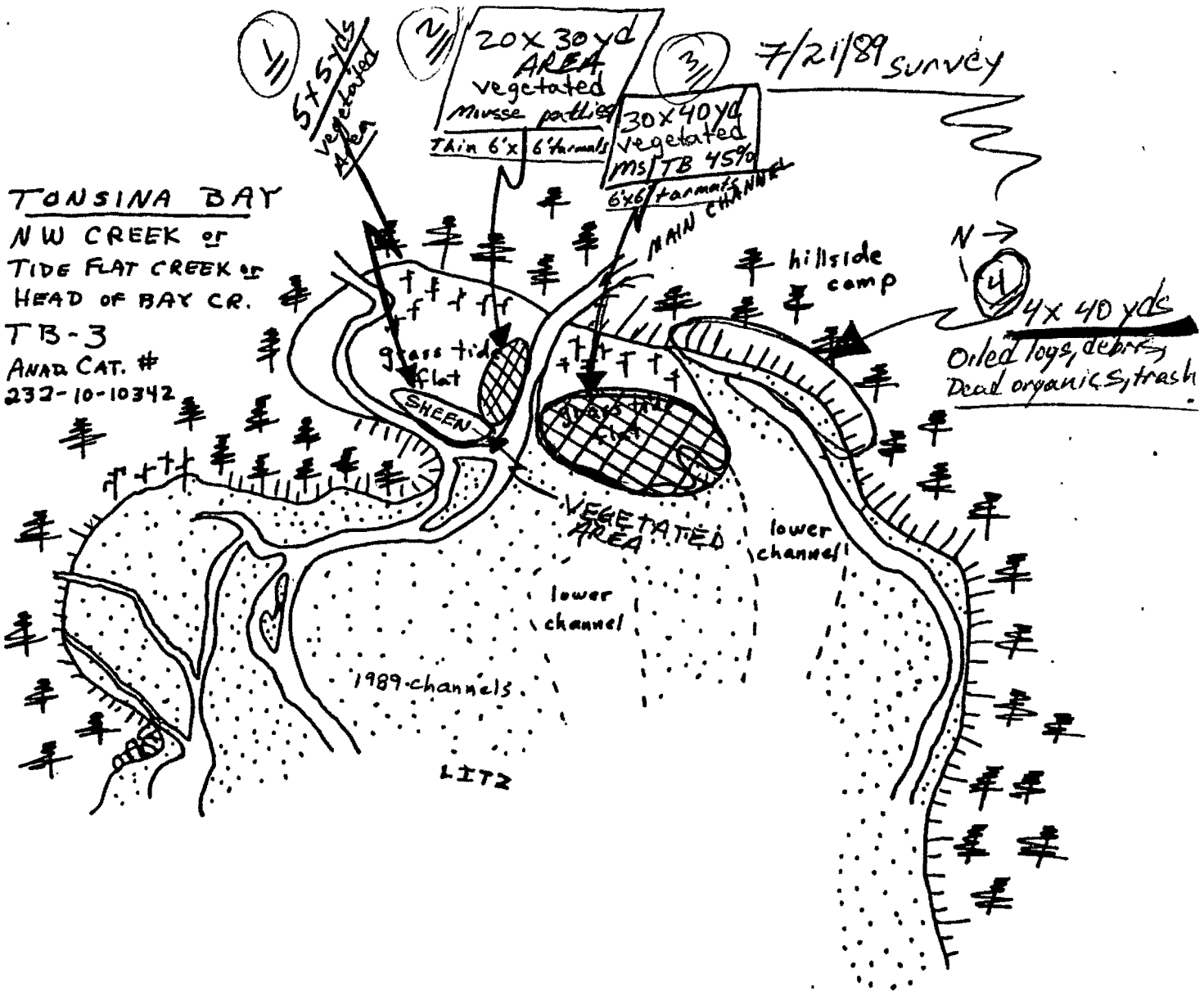
SUBSTRATE

Bedrock	10	Granule	
Boulder	10	Sand	10
Cobble	20	Silt	-
Pebble	50	Veget.	

SPECIES					
COUNT					

COMMENTS: Site 4 Heavily oiled logs, wood debris, trash & other organic matter present west and northwest shore of tide flats. Site 2 6'x6' tarmats in vegetated area at mouth of creek (Approx. 100' downstream of treeline). Vegetation with oil is vetch, plantago, potentilla, Elymus. Site 1&3 Oil sheen & masses among vegetation on both shores of stream. Oil observed penetrating substrate to 8" depth.

ACE 9961728 HS


TONSINA BAY
NW CREEK or
TIDE FLAT CREEK or
HEAD OF BAY CR.
TB-3
ANAD CAT. #
232-10-10342
7/21/89 survey
1
5 x 5 yds
vegetated
Area
2
20 x 30 yd
AREA
vegetated
mousse patties
Thin 6'x
6' tarmats
3
30 x 40 yd
vegetated
ms TB 45%
6x6 tarmats
MAIN CHANNEL
N
4
4 x 40 yds
Oiled logs, debris
Dead organics, trash
hillside
camp
grass tide
flat
SHEEN
VEGETATED
AREA
lower
channel
lower
channel
1989 channels
LIT2

ACE 9961729

Corrected Copy 6/26/91
DDH

FISH HABITAT ASSESSMENT FORM

TONSINA BAY - NW-most Creek (TB-3)

[1]REGION: [2]PWS ([3]KP,CI) [4]K,AP [5]OBSERVER(S) Doug Hill, Lee Glenn
[illegible]

[6]SITE NO. 1-7 [7]AERIAL PHOTO NO. 35,36 [8]CAT NO. ~~DK~~

[9]STREAM NAME TB-3 [10]LAT 59°. ~~18~~'. ~~88~~ 37" [11]LONG 150°. ~~59~~ 57'. ~~70~~ 06'

[12]DATE 7/21/89 [13]TIME 1733 [14]TIDE: Low slack Flood (High slack) Ebb

[15]CATALOGED ANADROMOUS STREAM? Y (N) [16]ANAD. FISH FOUND? (Y) N
SEE 8/16/89 Survey Form - Following page

[17]OIL FOUND IN STREAM? Y (N) [18]OIL FOUND NEAR STREAM (1 MI.)? (Y) N
* Depends on water level

[19]OIL SAMPLES TAKEN? (Y) N [20]ID NOS. Ton Crk #3-LPG/DDH-7/21/89-1733

[21]35 mm PICTURES TAKEN? (Y) N [22]ROLL NO(S). 89-DDH-007

[23]EXPOSURE NO.	[24]DESCRIPTION
34	Mousse & sheen on water. Amongst Potentilla, Honkenya & grass
35	Aerial Ton. Crk #3 - Mouth and Intertidal looking upstream
36	Aerial " " " - Oil on all shore in photo
33	Lee Glenn Collecting Oil Samples From beach logs, and ~~rocks~~ at high water line (rocks)
02	Aerial of stream mouth

Roll # 89-DDH-007 (exposures 33–36)
Roll # 89-DDH-008 (exposure 02)

[25]VIDEO FOOTAGE TAKEN? Y N [26]CASSETTE NO(S). ______

[27]DESCRIPTION: ______

ACE 9961730

ACE 7380177

ANADROMOUS FISH OBSERVATIONS

	PINK	CHUM	RED	KING	COHO	DOLLY		
28 Aerial								
29 Ground								

10.5

0930 2.5
1200 2.5
1300 4
2100

30 COMMENTS: No Fish Observed on this DATE Fish Observed on 8/11/89 Photo-Following ~~Photo~~ page

OIL OBSERVATIONS-

Site 1-7

✓ Extensive Cleanup has occurred in this Area
✓ Oil pick up - Flooding and burning

EXTENT OF OIL: NEARLY ALL of Tonsina BAY WAS oiled

	WITHIN STREAM	OUTSIDE STREAM
31 SURFACE COVERAGE	150yds x 15yds	Shoreline for 100 yds plus on either side of stream. oil from treeline downstream 80yds plus
32 SURFACE THICKNESS	20yds x 30yds	film to 1"
33 PENETRATION		0-8"

[illegible]-oiled vegetation
[illegible]-vegetation

✓ * oil sample taken ≈15 yds from stream on EAST Shore
✓ * MAJORITY of oil on EAST Shore

34 OIL DISTRIBUTION DIAGRAM (SHOW SAMPLING SITES)

35 PREDOMINANT SUBSTRATE TYPE:

1. Bedrock
2. Boulder
3. Cobble
4. Gravel (circled)
5. Sand
6. Mud
7. Other

36 COMMENTS: MAJOR oil Along shoreline BANK. Roughly an 100 x 150 yd of tidal flat Area lightly to Moderately oiled. Oil Found right to edge of SALMON stream - Amongst vegetation.

ACE 9961731-15

ACE 7380178

1989 Site 1-7 Tonsina Bay NW Creek

ASC NUMBER: 232-22-10342 SEGMENT NUMBER: TB-03 YR CATALOGED:
LOCATION: Tonsina Bay-Head of Bay-NW Portion
STREAM NAME: Tonsina NW Creek
KODIAK K-UNIT: . LOCAL STREAM #:
USGS QUADRANGLE: Seldovia
SHORELINE TYPE: Beach, Cove, Tideflats ALL SEGMENTS:
WAVE EXPOSURE: Low
LATITUDE: 59 18 37
LONGITUDE: 150 57 06
LEGAL: S10S 10W15

ASC NUMBER:
SURVEY TYPE: ~~BS~~ ~~SS~~ ~~Ground~~ FOOT
METHOD:
DATE: 8/22/89
START TIME: 1130 DDH
STOP TIME: 1150

TEAM RECORDER:
OBSERVERS:
AGENCY(IES): DDH 10/4/91

PHOTOS TAKEN?
Roll #: 89DDH27H Frames: 10→17
VIDEO TAKEN? Tape Number: 89-ROR-001-H-Video
Counter Start: 0001→0327

SAMPLES TAKEN? Yes
SAMPLE I.D. NUMBERS: 1. DDH/ROR-8/22/89-1130 2. DDH/ROR-8/22/89-1135 3. DDH/ROR-8/22/89-1140
4. 5. 6.

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

OVERALL OIL IMPACT: H

OIL IN STREAM CHANNEL? N

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Y

SUBSTRATE

Bedrock	10	Granule	
Boulder	10	Sand	10
Cobble	20	Silt	
Pebble	50	Veget.	

SPECIES	Pink SALMON				
COUNT	~~400~~				

COMMENTS: Sample # DDH/ROR-8/22/89-1130 is Potentilla ~~spp~~ that was sprayed with Inipol on 8/19/89.

Sample # DDH/ROR-8/22/89-1135 is Honckenya ~~spp~~ that was sprayed with Inipol on 8/19/89

Sample # DDH/ROR-8/22/89-1140 is Fucus that was sprayed with Inipol on 8/19/89.

Exxon officials arrive and post "Warning"-Bioremediation Fertilizer Has been applied here-"Avoid Contact" signs.

ACE 9961711+F|S

OPPOSITE side of PAGE

An ~30 yard x 30 yard vegetated area was doused with Inipol by trailer Sprayer. Numerous patches of Sedge were also doused with Inipol. The vegetation doused was within 30 feet of ANAD. stream. Neither the Exxon nor the crew supervisor monitored this operation properly, i.e., lack of time spent with crew during operation

FISH HABITAT ASSESSMENT FORM

[1]REGION: [2]PWS (3)KP,CI [4]K,AP [5]OBSERVER(S) Hill, Randall

[6]SITE NO. 1-7 [7]AERIAL PHOTO NO. 10 [8]CAT NO. 232-22-10342

[9]STREAM NAME Tonsina NW Creek [10]LAT 59 ° 18 . 37 ' [11]LONG 150 ° 57 . 06 '

[12]DATE 8/22/89 [13]TIME 1114 [14]TIDE: Low slack Flood High slack Ebb

[15]CATALOGED ANADROMOUS STREAM? Y (N) [16]ANAD. FISH FOUND? (Y) N

[17]OIL FOUND IN STREAM? Y (N) [18]OIL FOUND NEAR STREAM (1 MI.)? (Y) N

Inipoled Vegetation
[19]~~OIL~~ SAMPLES TAKEN? (Y) N [20]ID NOS. DDH/RDR-8/22/89 -1130 -1135 -1140

[21]35 mm PICTURES TAKEN? (Y) N [22]ROLL NO(S). 89DDHZ7H

[23]EXPOSURE NO.	[24]DESCRIPTION
10	Aerial of TB-03 Tide Plate - NW Portion of Tonsina Bay
11, 12, 13	Aerial of TB-03 Tide Plate / 4-wheeler/trailer sprayed track in vegetation and gravel visible in photo / to some degree delineates vegetated area dosed with Inipol
14, 15, 16, 17	"Warning Bioremediated Area Sign

[25]VIDEO FOOTAGE TAKEN? (Y) N [26]CASSETTE NO(S). 89-RDR-001-H-Video/

[27]DESCRIPTION: 0001 → 0325 ⇒ Collection of Inipol Sprayed Vegetation - North shore of Stream Aerial of Creek mouth / General footage of oiling + WARNING-Bioremed. Site Signs ACE 9961713 15

SEE Also ⇒ 89-LPB-004-H-Video/0345-1864 ⇒ Oil found below tideline, tarballs washed up on to vegetation - Numerous puddles of oil visible among vegetation - were not as apparent when vegetation was tall; sheen kicked up from substrate below water

1989 - AFHS Site 1-7 Tonsina Bay - NW Creek

ASC NUMBER: 232-10-10342 SEGMENT NUMBER: TB-03 YR CATALOGED:
LOCATION: Tonsina Bay - Head of Bay - NW portion
STREAM NAME: Tonsina NW Creek LOCAL STREAM #: LATITUDE: 59 18 37
KODIAK K-UNIT: . LONGITUDE: 150 57 06
USGS QUADRANGLE: Seldovia B-3 LEGAL: S 105 10W 15
SHORELINE TYPE: Beach, Cove ALL SEGMENTS:
WAVE EXPOSURE: Low

ASC NUMBER:
SURVEY TYPE: BS
METHOD: Ground
DATE: 8/16/89
START TIME: 1150
STOP TIME: 1230

TEAM RECORDER: Doug Hill
OBSERVERS: Dave VanderbNuk
AGENCY(IES): ADF&G HMAC Fisheries Rep.

PHOTOS TAKEN? Y
Roll #: 89DDH022H Frames: 13, 14, 15, 16, 17
VIDEO TAKEN? ~~Y~~ Tape Number: ~~89RDL0011H~~
Counter Start: NO DDH

SAMPLES TAKEN? 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							

OVERALL OIL IMPACT: H

OIL IN STREAM CHANNEL? N

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Yes

SUBSTRATE

Bedrock	10	Granule	
Boulder	10	Sand	10
Cobble	20	Silt	
Pebble	50	Veget.	

SPECIES	SALMON Pinks				
COUNT	3-400				

OK DDH

300 - 400 pink salmon observed.

COMMENTS: Approx. 100 of the salmon observed were located in the Grass flat/intertidal portion of the creek. Majority of pinks observed from just below intertidal Grass flats to a point approx. 200 yds upstream. ACE 9961734 +KG

Much of the oiled wood from the North-west shore of the tide flats has been burned since my last survey - the burn pit is visible on the flats see photo #17 from Roll# 89DDH22. ~~Burn 3 loads of cords of wood for ounces of oil?!~~ → Comments over →

~~It~~ made little sense to burn ~~load~~ cord of spruce and cedar to rid the beaches of a few ounces of oil - by the time the wood was burned the oil was stationary (A stain on the logs). The oil on logs could be likened to the shell on a hard boiled egg a very small % of the object - yet effort & wood were blown off into space with the cloud of smoke.

In my mind the wood burning operation was a fiasco and a crime. Cords + Cords of wood were burned to rid the beaches of a few ounces of oil. The oil on the logs could be likened to the shell on a hard-boiled egg --- a very small % of the object. Yet valuable effort and spruce and cedar were exported to space in a cloud of hazy smoke. The air became as smoggy as the minds that made this decision.

The oil stain on the wood posed no threat to the biota. By the time ADEC got around to conducting their "Opacity test" the oil was baked onto the logs & immobile. Effort that could should have been Utili[illegible] ns of oil from the beaches was [illegible] g a minor and superficial Cosm [illegible] caused by a few ounces of [illegible]

Need to ask Mark. This really has no place in data sheets.

DDK

ACE 9961735/A

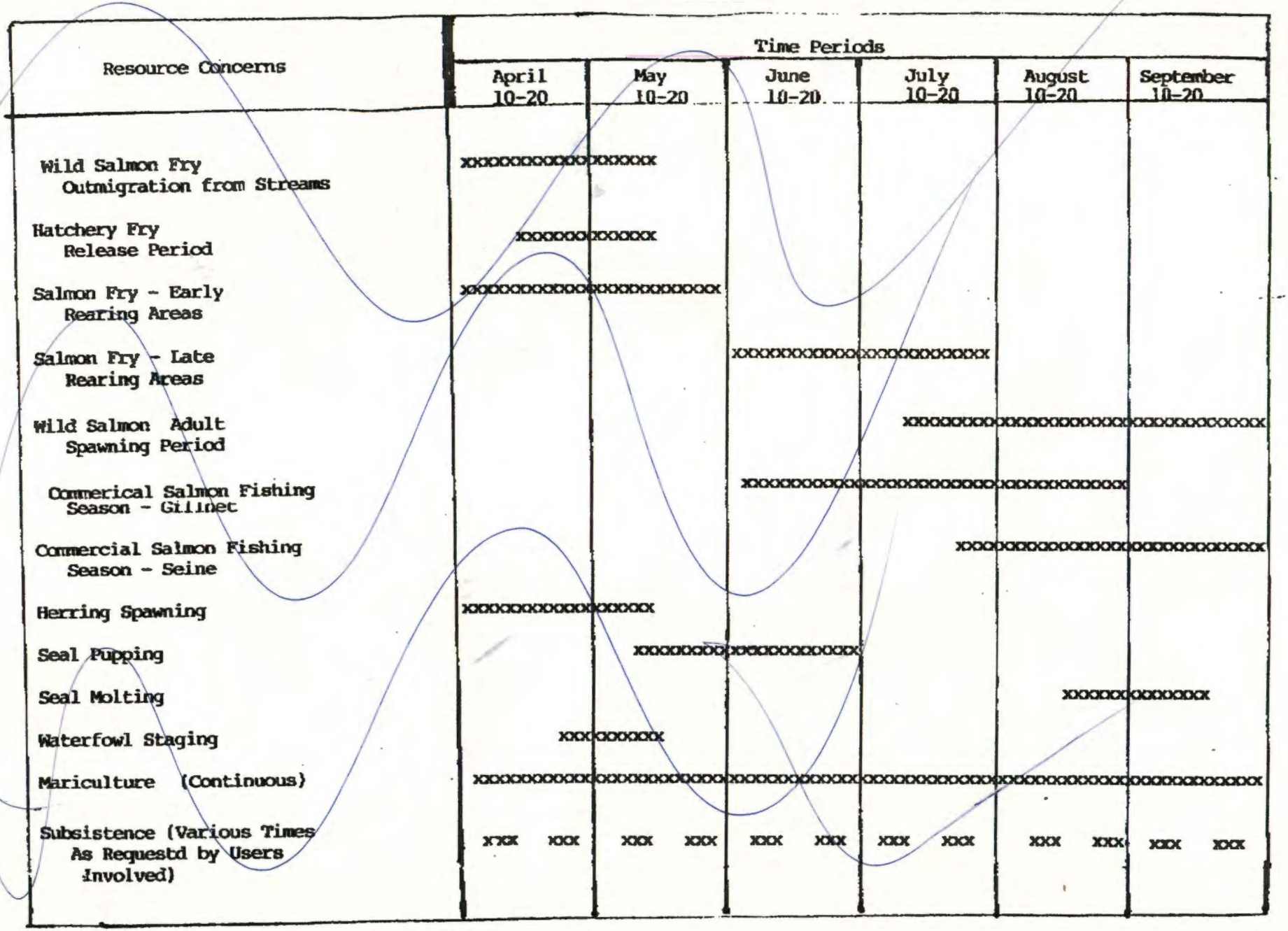
ACE 9961735/B

In my mind the wood burning operation was a fiasco and a crime. Cords + Cords of wood were burned to rid the beaches of a few ounces of oil. The oil on the logs could be likened to the shell on a hard-boiled egg --- a very small % of the object. Yet valuable effort and spruce and cedar were exported to space in a cloud of hazy smoke. The air became as smoggy as the minds that made this decision.

The oil stain on the wood posed no threat to the biota. By the time ADEC got around to conducting their "Opacity test" the oil was baked onto the logs & immobile. Effort that could/should have been utilized in removing gallons of oil from the beaches was directed at removing a minor and superficial cosmetic disturbance caused by a few ounces of oil

DDK

FIGURE 1. Summary of Important Time Windows for Protected Resources.



Corrected 6/26/91 DDH

FISH HABITAT ASSESSMENT FORM

Tonsina Bay - NW-most Creek (TB-3) CONT'D.

[1]REGION: [2]PWS [3]KP, CI [4]K, AP [5]OBSERVER(S) Doug Hill, Dave Vanderbrink, Lee Glenn, Rick Randa

[6]SITE NO. 1-7 [7]AERIAL PHOTO NO. 13, 14 [8]CAT NO. ______

[9]STREAM NAME TB-3 [10]LAT 59° 18' ~~.~~ 37" [11]LONG 150° ~~58~~ 57' ~~38~~ 06"

[12]DATE 8/16/89 8/19/89 [13]TIME ~~1733~~ 1150 → 1230 [14]TIDE: Low slack Flood High slack Ebb

[15]CATALOGED ANADROMOUS STREAM? Y (N) [16]ANAD. FISH FOUND? (Y) N

[17]OIL FOUND IN STREAM? Y (N) [18]OIL FOUND NEAR STREAM (1 MI.)? (Y) N

[19]OIL SAMPLES TAKEN? ~~Y~~ (N) [20]ID NOS. ~~LPG/DDH 7/21/89 1733~~

[21]35 mm PICTURES TAKEN? (Y) N [22]ROLL NO(S). 89-DDH-022 ~~89-DDH-023~~

[23]EXPOSURE NO. [24]DESCRIPTION

Roll #22:
- 14+13 — Aerial of Stream Mouth - heavy sheen visible
- 16 — Ground - Pink Salmon in Stream - oil found to Edge of Vegetation in Photo/streamside... @ 8' from present water level

Cont'd (SEE opposite side of page)

Roll #23 8/19/89 photos:
- ~~10, 11, 12 — photo Inipol being Applied to streamside and Intertidal vegetation (Salmon Present)~~ ACE 9961736 HS
- ~~Inipol Applied to within 40' of stream~~

ACE 7380179

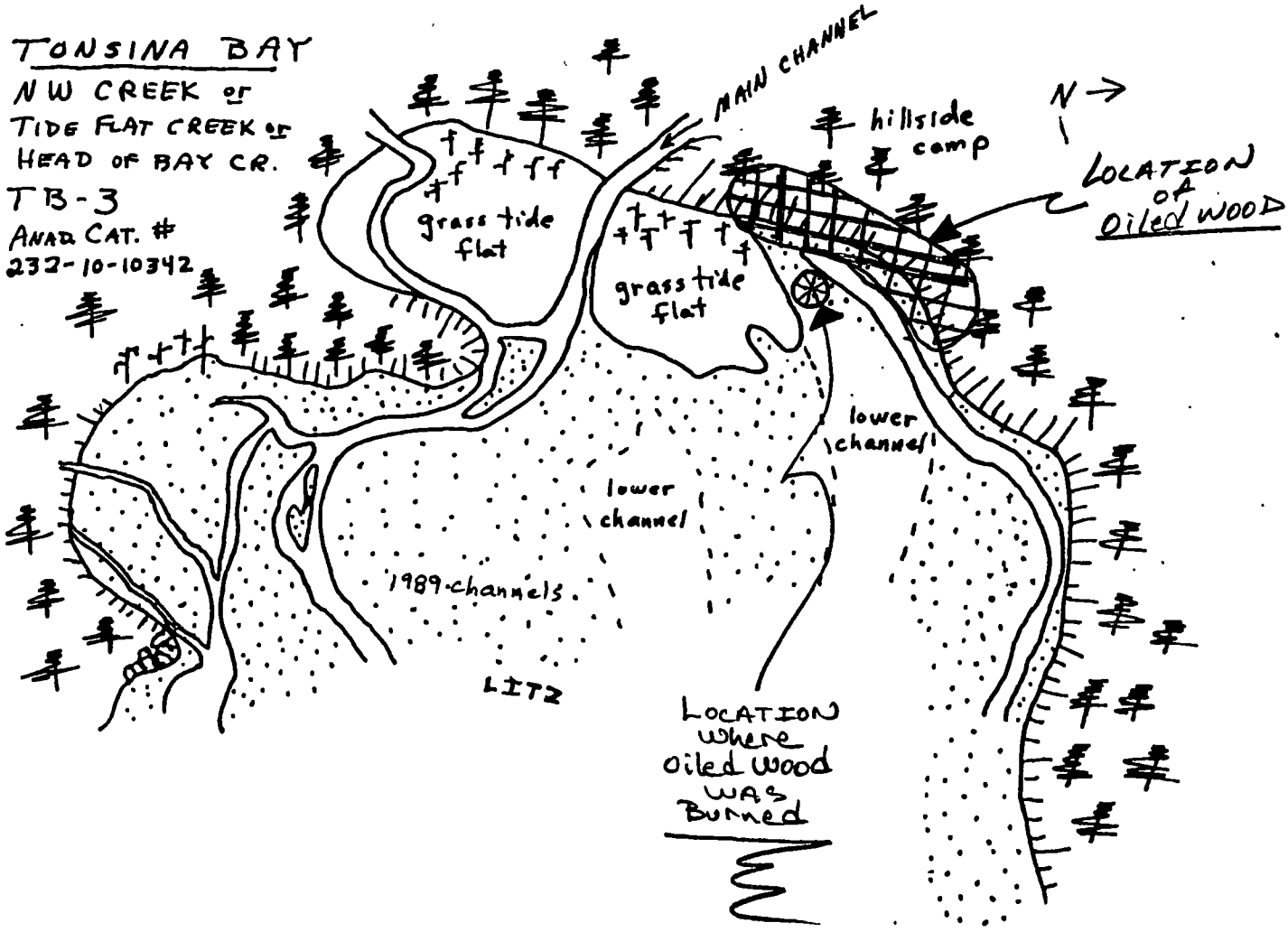
wrong place for Inipol survey

[25]VIDEO FOOTAGE TAKEN? (Y) N [26]CASSETTE NO(S). ~~LPG~~ - 89-RDR-001-H-Vid

[27]DESCRIPTION: ~~0001 → 0325 (8/22/89) - Collection of Inipol Sprayed Vegetation - East shore of Stream. Aerial of Creek mouth, General Extent of oiling. WARNING Bioremed Site Sign~~ North

89-LPG-~~004~~-H-Video/0345-1864 (9/10/89). Oil found below tideline, ~~tarballs washed up onto vegetation, numerous puddles of oil visible amongst vegetation/were not apparent when vegetation was tall, sheen kicked up from below water surface~~

8/16/89


TONSINA BAY
NW CREEK or
TIDE FLAT CREEK or
HEAD OF BAY CR.
TB-3
ANAD CAT. #
232-10-10342
MAIN CHANNEL
hillside camp
N
LOCATION OF Oiled WOOD
grass tide flat
grass tide flat
lower channel
lower channel
1989 channels
LIT2
LOCATION where Oiled Wood WAS Burned

[redacted] D[redacted]:

#15 — [redacted] stream in 1989) - oil nearly surrounds mouth [redacted]

#7 — [redacted] heavy to moderately oiled tidal flats. Dark spot between foreground & Barge in background is oiled wood burn pit

ACE 9961737

Corrected 6/26/91

ANADROMOUS FISH OBSERVATIONS

	PINK	CHUM	RED	KING	COHO	DOLLY		
28 Aerial	300 to 400							
29 Ground	300 to 400							

30 COMMENTS: Approx 100 of these fish were in Grass flat / intertidal Area of creek. Bright fish.

Site 1-7

OIL OBSERVATIONS

EXTENT OF OIL:

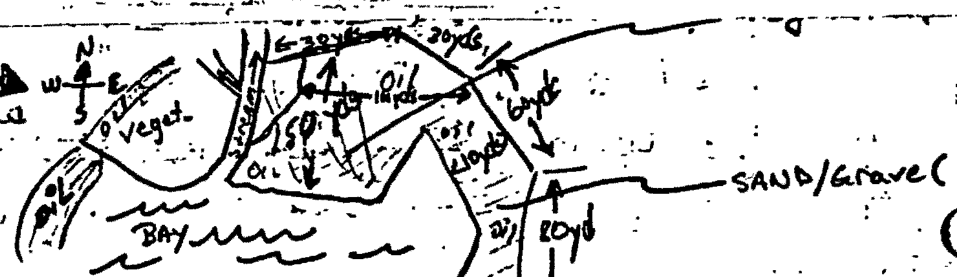
	WITHIN STREAM	OUTSIDE STREAM
31 SURFACE COVERAGE		
32 SURFACE THICKNESS		
33 PENETRATION		

34 OIL DISTRIBUTION DIAGRAM (SHOW SAMPLING SITES)

35 PREDOMINANT SUBSTRATE TYPE:

1. Bedrock
2. Boulder
3. Cobble
4. Gravel
5. Sand
6. Mud
7. Other________

Approx. Dimensions of oiled Area in Near Vicinity of Non-catalog'd Tonsina Bay Creek #3



36 COMMENTS: ~~*Inipol Applied to the vegetation on the EAST shore (Honkenya, Potentilla) side of Creek. Claire Crosby – DEC & Herb Oettler – USCG were observers of this Application Also~~ → Added from 8/19/89 Survey

ACE 7380180 ACE 9961738-15

1989-AFHS Site 1-7 Tonsina Bay-NW Creek

ASC NUMBER: 232-10-10342 SEGMENT NUMBER: TB-03 YR CATALOGED:
LOCATION: Tonsina Bay-Head of Bay-NW portion
STREAM NAME: Tonsina NW Creek LATITUDE: 59 18 37
KODIAK K-UNIT: . LOCAL STREAM #: LONGITUDE: 150 57 06
USGS QUADRANGLE: Seldovia B-3 LEGAL: S 10S 10W 15
SHORELINE TYPE: Beach, Cove ALL SEGMENTS:
WAVE EXPOSURE: Low

ASC NUMBER:
SURVEY TYPE: BS
METHOD: Ground
DATE: 8/16/89
START TIME: 1150
STOP TIME: 1230

TEAM RECORDER: Doug Hill
OBSERVERS: Dave Vanderbruk
AGENCY(IES): ADF&G HMAC Fisheries Rep.

PHOTOS TAKEN? Y
Roll #: 89DDH022H Frames: 13, 14, 15, 16, 17
VIDEO TAKEN? Tape Number:
Counter Start:

SAMPLES TAKEN? NO
SAMPLE I.D. NUMBERS: 1. 2. 3.
4. 5. 6.

DNR 10/4/91

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

OVERALL OIL IMPACT: H

OIL IN STREAM CHANNEL? Y

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Yes

SUBSTRATE			
Bedrock	10	Granule	
Boulder	10	Sand	10
Cobble	20	Silt	
Pebble	50	Veget.	

SPECIES	Salmon Pinks				
COUNT	3-400				

COMMENTS: Approx. 100 of the salmon observed were located in the Grass flat/intertidal portion of the creek.
Majority of pinks observed from just below intertidal Grass flats to a point approx. 200 yds upstream.

Much of the oiled wood from the North-west shore of the tide flats has been burned since my last survey - the burn pit is visible on the flats see photo #17 from Roll# 89DDH22. Burn 2 cords of wood for ounces of oil?!

ACE 9961739 #5

Corrected
6/26/91
DOH

FISH HABITAT ASSESSMENT FORM

TONSINA BAY - NW-most Creek (TB-3) CONT'D.

[1]REGION: [2]PWS (KP,CI) [4]K,AP [5]OBSERVER(S) Doug Hill, Dave Vanderbrink, Lee Glenn, Rick Randa

[6]SITE NO. 1-7 [7]AERIAL PHOTO NO. 13,14 [8]CAT NO. _____

[9]STREAM NAME TB-3 [10]LAT 59° · 18' · ~~37~~ · [11]LONG 150° · ~~58~~ 57 · ~~30~~ 06"

[12]DATE 8/16/89 8/19/89 [13]TIME ~~1733~~ → 1150 → 1230 [14]TIDE: Low slack Flood High slack Ebb

[15]CATALOGED ANADROMOUS STREAM? Y (N) [16]ANAD. FISH FOUND? (Y) N

[17]OIL FOUND IN STREAM? Y (N) [18]OIL FOUND NEAR STREAM (1 MI.)? (Y) N

[19]OIL SAMPLES TAKEN? ~~(Y)~~ N [20]ID NOS. ~~LPG/DOH 7/21/89 1733~~

[21]35 mm PICTURES TAKEN? (Y) N [22]ROLL NO(S). 89-DOH-022
89-DOH-023

[23]EXPOSURE NO. [24]DESCRIPTION

ROLL #22

14 & 13 Aerial of Stream Mouth - heavy sheen visible

16 Ground - Pink Salmon in stream - oil found to Edge of Vegetation in Photo/streamside ... at 8' from present water level

Cont'd (SEE opposite side of page)

ROLL #23 8/19/89 photos

~~10, 11, 12~~ ~~photo Exipol being Applied to streamside and Intertidal Vegetation (Salmon Present)~~ ACE 9961740

~~Exipol Applied to within 40' of Stream~~

ACE 7380179

[25]VIDEO FOOTAGE TAKEN? (Y) N [26]CASSETTE NO(S). ~~ACE~~ - 89-DOH-001-H-Vid

[27]DESCRIPTION: ~~0001 → 0325 (8/22/89) - Collection of Exipol Sprayed Vegetation - North shore of Stream. Aerial of Creek mouth, General Footage of oiling. WARNING Bicromed Site Sign 89-LPG-004-H-Video/0345-1864/9/10/89. Oil found below tideline, tarballs washed up onto vegetation - numerous puddles of oil visible amongst vegetation/were not apparent when vegetation was tall, sheen kicked up from below water surface~~

Exp. No.	Description
15	Pink Salmon in TB-3 stream (Non-catalogued Stream in 1989) - oil nearly surrounds mouth of stream
17	Approx. 30 yds from spawning salmon heavy to moderately oiled tidal flats. Dark spot between foreground & Barge in background is oiled wood burn pit.

Corrected 6/26/91

ANADROMOUS FISH OBSERVATIONS

		PINK	CHUM	RED	KING	COHO	DOLLY		
28	Aerial	300 to 400							
29	Ground	300 to 400							

30 COMMENTS: Approx 100 of these fish were in Grass flat/intertidal Area of creek - Bright fish.

Site 1-7 [signature] *

OIL OBSERVATIONS

EXTENT OF OIL:

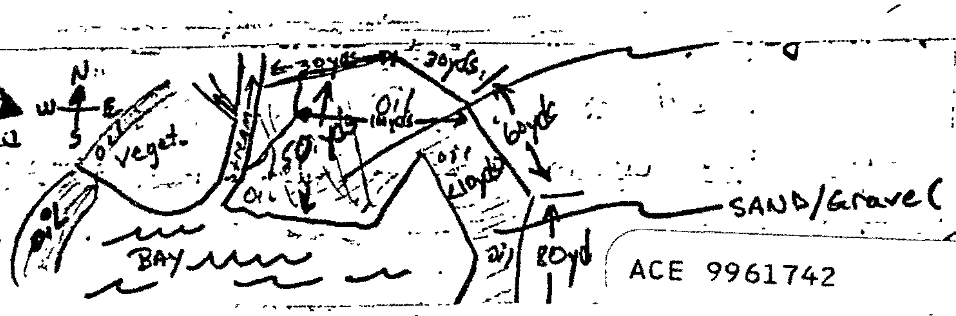
		WITHIN STREAM	OUTSIDE STREAM
31	SURFACE COVERAGE		
32	SURFACE THICKNESS		
33	PENETRATION		

34 OIL DISTRIBUTION DIAGRAM (SHOW SAMPLING SITES)

35 PREDOMINANT SUBSTRATE TYPE:

1. Bedrock
2. Boulder
3. Cobble
4. Gravel
5. Sand
6. Mud
7. Other________

—Approx. Dimensions of oiled Area in Near Vicinity of Non-catalogued Tonsina Bay Creek #3

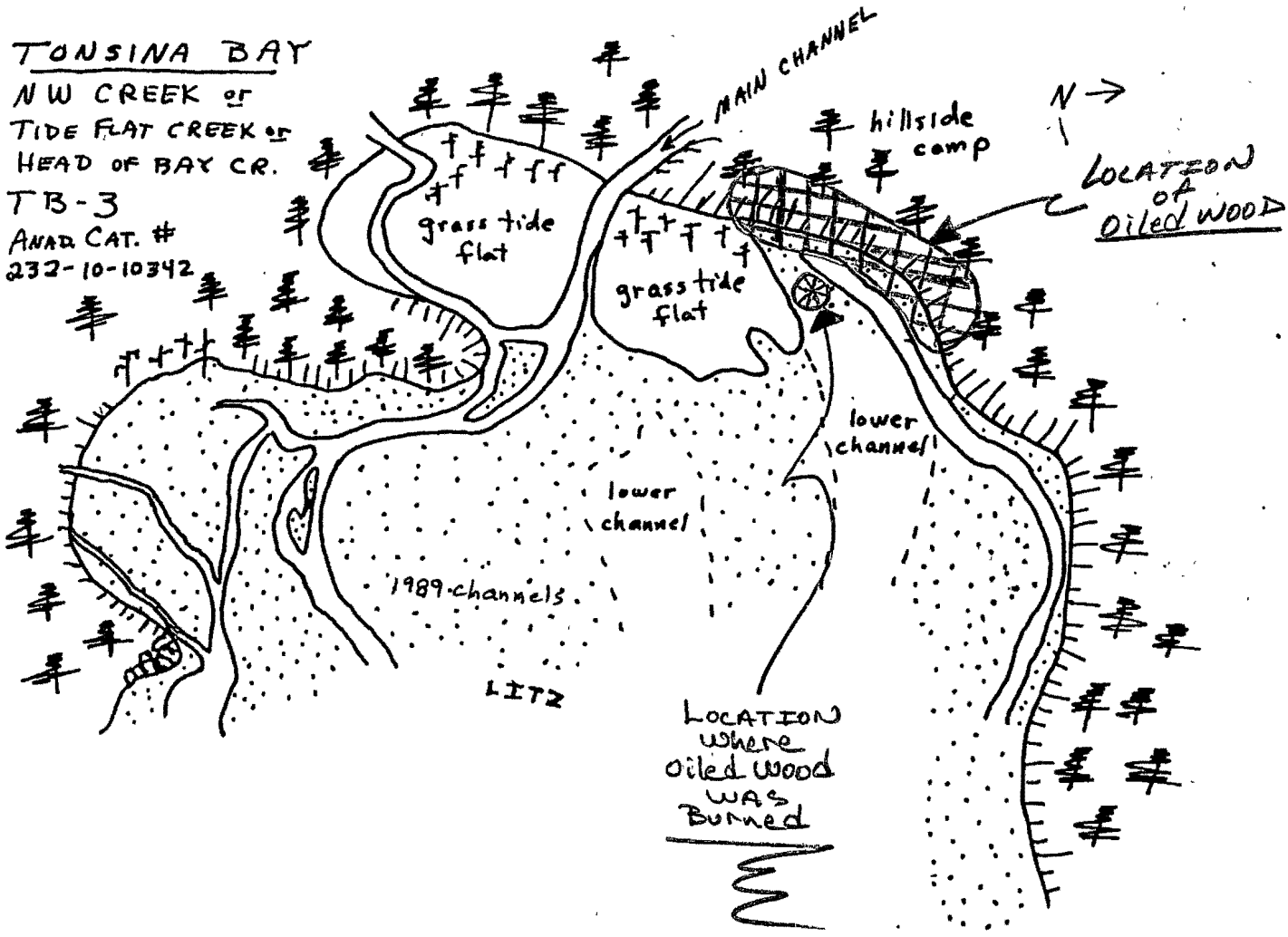


ACE 9961742

36 COMMENTS: ~~Inipol Applied to the vegetation on the EAST Shore/Grass Hardegra/Potentilla side of Creek, Claire Crosby-DEC & Herb Oetter-USCG were observers of this Application~~ Also → Added from 8/19/89 survey

ACE 7380180

8/16/89



ACE 9961743 — 15

ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

10/4/91 DWH

OK

STREAM#: 2321010342
SEGMENT: TB003

PAGE 7

DATE PRINTED: 08/14/91

LOCATION: TONSINA BAY, NORTHWESTERN SHORE

SURVEY TYPE: 89 TREATMENT MONITORING - BS/SS

METHOD: ~~GROUND~~ FOOT

DATE: 08/19/89

TEAM RECORDER: HILL

START TIME: 1630
END TIME: 2030

OBSERVERS: CROSBY OETLER

TIDES: ~~[illegible]~~ Flood SLACK ebb
OG/HAB DISCREPANCIES:

AGENCY: FG DEC USCG

PHOTOS TAKEN: Y

STATION: 2321010342

ROLL#: 89DDH023H 89DDH024H
FRAME: 07-14 10-25

VIDEO TAKEN: N TAPE#:
START: END:

SAMPLES TAKEN: N

SAMPLE NUMBERS:

OIL IN STREAM BED: N

OVERALL OIL IMPACT: H

OIL ON BEACH BY MOUTH: Y

WAVE EXPOSURE: LOW

SHORELINE TYPE: BEACH COVE TIDE FLATS

SUBSTRATE TYPE: BEDROCK 10 BOULDER 10 COBBLE 20 VEGETAT

GRAVEL 50 SAND 10 MUD/SILT GRANULE

ANADROMOUS FISH PRESENT: Y

SPECIES: PINK SALMON COUNT: 400

CORRECT DWH 10/4/91

SAMPLES? NO

ACE 9961744 +/S

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

ok

PAGE 7

DATE PRINTED: 08/14/91

STREAM# : 2321010342
SEGMENT#: TB003

SURVEY TYPE : 89 AFHS - BS
DATE: 08/19/89
TIMES: 1630 - 2030

LOCATION: TONSINA BAY, NORTHWESTERN SHORE
TEAM RECORDER: HILL

-- OILING EXTENT --

SITE#	SITE TYPE	DEPTH (cm)	LENGTH (m)	WIDTH (m)	AREA (m)	%	THICK (cm)	PEN (cm)	OIL TYPE CODES
1			27	27	729	90			INIPOL ONLY

COMMENTS:
SITE 1-7. SITE #1 - 27 X 27M VEGETATED AREA WAS SPRAYED WITH INIPOL USING TRAILER SPRAYER TOWED BY 4-WHEELER (PLANTS DOWSED WITH INIPOL ARE HONCKENYA, PLANTAGO, VETCH, SILVERWEED AND GRASSES). FUCUS IN THE LITZ WAS ALSO SPRAYED WITH INIPOL; THE BEACH WORKERS TOLD ME THY HAD SPRAYED FUCUS ON OTHER BEACHES AS WELL. SEE 8/19/89 FIELD NOTES FOR FURTHER INFO CONCERNING THIS APPLICATION OF INIPOL TO THE TB-03 TIDE FLATS/ANADROMOUS SEGMENT. THE TIDE FLATS ARE UTILIZED BY BEAR, LAND AND SEA OTTER, MINK, WEASEL, WATERFOWL, SHORE BIRDS AND, OF COURSE, SALMON - TO NAME A FEW OF THE MAJOR CREATURES IDENTIFIED IN THIS AREA.

DDH

1989-AFHS Site 1-7 Tonsina Bay-NW Creek

ASC NUMBER: 232-10-~~10452~~ 10742 SEGMENT NUMBER: TB-03 YR CATALOGED:
LOCATION: Tonsina Bay-Head of Bay-NW Portion
TEAM NAME: Tonsina NW Creek LATITUDE: 54 18 37
KODIAK K-UNIT: . LOCAL STREAM #: LONGITUDE: 150 57 06
USGS QUADRANGLE: Seldovia B-3 LEGAL:
SHORELINE TYPE: Beach, Cove, Tide flats ALL SEGMENTS:
WAVE EXPOSURE: Low

ASC NUMBER:
SURVEY TYPE: BS TREATMT MONITORING
METHOD: Ground
DATE: 8/19/89
START TIME: 1630
STOP TIME: 2030

TEAM RECORDER: Doug Hill (ADF&G)
OBSERVERS: Claire Crosby (ADEC), Herb Oettler (USCG)
AGENCY(IES):

PHOTOS TAKEN? Y
Roll #: 89DDH023 Frames: 7 → 14
VIDEO TAKEN? N Tape Number:
Counter Start:

SAMPLES TAKEN? N
SAMPLE I.D. NUMBERS: 1. 2. 3. Comments ok.
4. 5. 6. OK

→ SEE Roll # 89DDH24H ALso for photos Concerning the Inipol appt'c.

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	~~OIL TYPE~~
SITE 1	27	27	729	90	VEGETATED Area sprayed with Inipol.		INIPOL ONLY
SITE 2							
SITE 3							
SITE 4							
SITE 5							

OVERALL OIL IMPACT: H

OIL IN STREAM CHANNEL? NO

OIL ON BEACH WITHIN 50M OF STREAM MOUTH? Yes

SUBSTRATE

Bedrock	10	Granule	
Boulder	10	Sand	10
Cobble	20	Silt	
Pebble	50	Veget.	

SPECIES	3-400				
COUNT	Pink salmon				

COMMENTS:
- Site #1 ⇒ ≈27 x 27m vegetated area was sprayed with Inipol using trailer sprayer towed by 4-wheeler (plants doused with Inipol are Honckenya, plantago, vetch, silverweed + grasses).
- Fucus in the LITZ was also sprayed with inipol - the beachworkers told me then had sprayed fucus on other beaches as well.
- See 8/19/89 field notes for further info concerning this Application of Inipol to the TB-03 tide flats/ANADROMOUS Segment.
  The tide flats are utilized by bear, land + sea otter, mink, weasel, waterfowl, shore birds and of course salmon - to name a few of the major creatures identified in this area.
- See Photo Roll # 89DDH024H also for more photos concerning the application of Inipol to the TB-03 tide flats (frames 10 → 25)

ACE 9961746 4/5

Bioremed

FISH HABITAT ASSESSMENT FORM

Tonsina - NW Creek

[1]REGION: [2]PWS [3]KP,CI [4]K,AP [5]OBSERVER(S)_____

[6]SITE NO._____ [7]AERIAL PHOTO NO._____ [8]CAT NO._____

[9]STREAM NAME_____ [10]LAT ___°___.___' [11]LONG ___°___.___'

[12]DATE 8/19/89 [13]TIME_____ [14]TIDE: Low slack Flood High slack Ebb

[15]CATALOGED ANADROMOUS STREAM? Y N [16]ANAD. FISH FOUND? Y N

[17]OIL FOUND IN STREAM? Y N [18]OIL FOUND NEAR STREAM (1 MI.)? Y N

[19]OIL SAMPLES TAKEN? Y N [20]ID NOS._____

[21]35 mm PICTURES TAKEN? Y N [22]ROLL NO(S).____

[23]EXPOSURE NO.	[24]DESCRIPTION
7	Bioremed. - Inipol being applied to vegetation/Not an isolated occurrence
8	Bioremed - Overview of beach + portion of vegetated Area sprayed w/ Inipol
9	Bioremed - Inipol applied to Asphalt patch - patch not scarified/tilled prior to Application
10	Bioremed - trailer sprayer applying Inipol to LIT2 → Fucus sprayed - Tongue depresser = location photo 9
11	Bioremed - trailer sprayer applying Inipol - Vegetation Inipoled at mouth of stream
12, 13	Bioremed - Vegetation sprayed w/ Inipol / 3-400 salmon in stream
	Bioremed - refilling 100 gallon tank of trailer sprayer w/ Inipol
24 →	sample # DDH-8/20/89-1255
10, 11, 12	Bioremed - Fucus doused w/ Inipol - Distinct boundary line between area sprayed with Inipol + Area not sprayed w/ Inipol
13	↓ Inipol in foreground, None in background
14, 15, 16, 17	↓ Inipol leaking off + out of trailer sprayer
18	↓ Inipoled vegetation - tracks left by Inipol spraying equipment / Mashed Vegetation
19, 25	↓ Inipoled vegetation → Sample of → Sample # DDH 8/20/89-1250
20, 21	↓ Overview of tideflats; dark spot in Photo 21 is remant of log burning
22, 23	oiled portion of beach NOT sprayed w/ Inipol - trailer sprayer could not ↓ operate through such obstacles

89DDH023H

910DH024H

ACE 9961747 - 15

ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

STREAM#: 2321010342
SEGMENT: TB003

PAGE 24 DATE PRINTED: 08/19/91

LOCATION: TONSINA BAY, NORTHWESTERN SHORE

SURVEY TYPE: 89 TREATMENT MONITORING - SS METHOD: FOOT

DATE: 08/22/89 TEAM RECORDER: HILL

START TIME: 1130 OBSERVERS: RANDALL
END TIME: 1150

TIDES: LOW AGENCY: FG
OG/HAB DISCREPANCIES:

PHOTOS TAKEN: Y

STATION: 2321010342 ROLL#: 89DDH027H
FRAME: 10-17

VIDEO TAKEN: Y TAPE#: 89RDR001H
START: 0001 END: 0327

SAMPLES TAKEN: Y

SAMPLE NUMBERS: 89DDH053H
89DDH054H
89DDH055H

OIL IN STREAM BED: N

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

WAVE EXPOSURE: LOW SHORELINE TYPE: BEACH TIDE FLATS

SUBSTRATE TYPE: BEDROCK 10 BOULDER 10 COBBLE 20 VEGETAT
GRAVEL 50 SAND 10 MUD/SILT GRANULE

ANADROMOUS FISH PRESENT: Y

SPECIES: PINK SALMON COUNT: 400

ACE 9961748 4/5

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

PAGE 37 DATE PRINTED: 08/19/91

STREAM# : 2321010342
SEGMENT#: TB003

SURVEY TYPE : 89 TREATMENT MONITORIN LOCATION: TONSINA BAY, NORTHWESTERN SHORE
DATE: 08/22/89
TIMES: 1130 - 1150 TEAM RECORDER: HILL

-- OILING EXTENT --

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

COMMENTS:
SITE 12-1. SAMPLES CONSIST OF VEGETATION COATED WITH INIPOL #1 - POTENTILLA SPP. #2 - HONCKENYA SPP. #3 - FUCUS. AN ~30 YARD X 30 YARD VEGETATED AREA WAS DOUSED WITH INIPOL BY TRAILER SPRAYER. NUMEROUS PATCHES OF FUCUS WERE ALSO DOUSED WITH INIPOL. THE VEGETATION DOUSED WAS WITHIN 30 FEET OF ANADROMOUS FISH STREAM. NEITHER THE EXXON NOR THE CREW SUPERVISOR MONITORED THIS OPERATION PROPERLY, IE., LACK OF TIME SPENT WITH CREW DURING APPLICATION.