

OIL SPILL PUBLIC INFO. CENTER



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EVOS
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S42
1990
v.28

[Shoreline evaluations, 1990].

TB-01 – TB-06

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SHORELINE EVALUATION

SEGMENT ST/ TB-01 SUBDIVISION A (1 OF 1) DATE 4/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1J Purse seine area (7/10 to 8/10)
2M Herring spawning (4/1 to 6/15)
4GA Alaska State Wilderness Parks
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6NN Recreation: Sportfishing
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: [Signature]

DATE: 5/8/90

OILING CATEGORIZATION:

Wide 0 m: Medium 102 m: Narrow 17 m: V.Light 0 m: No Oil 2291 m
Subsurface Oil Observed: Yes X No Maximum Depth 40 cm

RECOMMENDATIONS:

☒ No Treatment Recommended
☐ Treatment Recommended
☐ Manual Pickup
☐ Bioremediation
☐ Tarmat Removal

☐ Snare/Absorbent Booms
☐ Oil Snares (pom poms)
☐ Absorbents (pads, rolls, etc)
☐ Spot Washing: Wands
☐ Beach Cleaner
☐ Other (see comments)

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 5/8/90

ADEC [Signature]
EXXON [Signature]
NOAA [Signature]
USCG G.A. REITER (G.A. Reiter)

FOSC: [Signature]

DATE: 5-12-90

Spot wash bedrock on eastern segment
in conjunction with work on TB-63/04

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (8/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (8/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (8/1 to 9/15)
6V Anchorages (8/1 to 9/15)
6W Forest Service cabins (8/1 to 9/15)
6X Lodge (8/1 to 9/15)
6Y Special use destination
6Z **SPORT FISHING**
Subsistence area: Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (8/15 to 2/28)
Invertebrate harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / TB-1 SUBDIVISION: A DATE 4-29-90

NAME

STEPHEN SWAN

SIGNATURE

Stephen Swan☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

LOCATION #1 - CALCULATE GAY FORMED ON WINDWARD SIDE OF TOMBILLO; SHELTERED IN PART BY LONG ISLAND. VERY WEATHERED. OIL FILM WAS PRESENT ON SURFACES OF SUB-ROUNDED SUB-ANGULAR PEBBLES, 15 TO 40 CM BELOW SURFACE ABOVE THE UPPERMOST BEACH SLANT IN THE VITE, AT THE SW END OF THE BEACH. THIS OIL FILM HAS NO LONGEVITY ABILITY AND WILL NOT FORM ANY IMPERMEABLE BARRIER (I.E. TAR MAT). NO TREATMENT IS NECESSARY - NORMAL BEACH PROCESSES SHOULD EFFECTIVELY REMOVE REMAINING FILM.

OIL COAT/COVER ON VERT. BEDROCK AT NE END OF LOCATION IS EXTREMELY WEATHERED AND NEW BARNACLE RECRUITMENT IS TAKING PLACE IN LIFE (SEE BIG REPORT - ECOLOGICAL CONSIDERATIONS). EXPOSURE TO PHYSICAL PROCESSES SHOULD EFFECTIVELY REMOVE MOST OF THE COAT/COVER IN THE NEXT 1-5 YEARS.

NAME

Wesley Ghormley

SIGNATURE

Wesley Ghormley☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

LOCATION #1 - ADEC has transects on this location & oil film was found 6 m below farthest stake to the west in the vite. Subsurface oil consists of only a film which is very hard to notice & can be much easily detected by odor. I recommend getting data from transect reports to see what type of oil was present & comparing it to current info. on this O.G. sheet.

Eastern end of location consists of coat & cover mixed w/ ^{and} ~~some~~ needles. I scraped a portion of this area w/ a shovel & large amounts of oil w/ needles fell off leaving a semi-clean surface. Treatment here should consist of scraping coat/cover & wiping w/ sorbent pads, evaluate & then possibly Hot H₂O. This area does not consist of barnacles but is in the MITEZ oiled barnacles are present in the life.

LAND MANAGER

NAME J. David McMahon (ADNR) SIGNATURE J. David McMahon☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Segment TB-1 is in Kachemak State Wilderness Park, ~~an~~ ^{an} area of scenic & recreational value, & subject to public use. It is characterized by a gravel beach at the western end, and vertical rock faces interspersed with a few pocket beaches to the east. Oiling was noted only at the western beach. It is manifested as a film and odor within subsurface fasts, and as a coat on ~~some~~ barnacle-encrusted vertical rock faces at the eastern end of the beach. I concur with ADEC cleanup

SHORELINE OILING SUMMARY

REVISION NO. 04-3-88

OG K. DEBUSSCHERE ~~NOAA~~ STEPHEN STUM SEGMENT ST/ TB-1
 IO D. KED LAND REP J. David McMahon SUBDIVISION B (1 OF 7)
 EXXON T. DHE-2 ADEC Wesley Shormley TIME 12:35 to 14:45
 TEAM NO. 9 TIDE LEVEL -2.5 to 5 FT DATE 4/29/90
 EST. SUBDIVISION LENGTH: 2689 m ☐ Sun ☒ Clouds ☒ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 65 % B 19 % C 5 % P 10 % G 0 % S 1 % M 0 % V 0 %
 SLOPE: Long 30 % Hang 40 % Vert 30 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 110 m N 20 m VL 0 m NO 2559 m

SURFACE OIL

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

PAVEMENT H F S 0 sq. m by 0 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒TYPE 0#BAGS 0

Photographs:

Roll No. ST-9-4Frames 12, 13

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				AN A	DEEP (m)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	1	2	3	4	5	SU	U	M	U				
#1	90				X		15-40	X	X						X					H	-	P-P/S&P
2	70					X	.								X					N	-	P-P
#3	80				X		15-40	X	X						X					H	-	P-P/S&P
#4	80					X	.								X					H	-	S&P-P&S/P/S
5	60					X	.								X					H	-	P&S-P/S&G
							.															

COMMENTS

* HIGH VE

- SEGMENT CONSISTS OF VERTICAL HIGHLY EXPOSED BEDROCK WITH SMALL B/C-TOCKET BEACHES AND ONE PEBBLE BEACH AT WEST-END OF SEGMENT.
- ONLY OIL OBSERVED IS AT THIS PEBBLE BEACH (LOW RIBBLE - WILL BE DEVELOPED CUSPS AT EAST END) - LOCATION ①. AT WEST-END OF LOC SUBSURFACE VERY WEATHERED RESIDUAL OIL FILM BETWEEN 15-40 CM. (OIL IS NOT VERY VISIBLE BUT CAN BE RECOGNIZED BY OODK)
- AT EAST END OF LOC ① COAT/P & COVER/S WAS OBSERVED ON 4/30/90

REVIEWED 7W DATE 4/30/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 10/23/90

Segment ST / TB-1 Subdivision A Date (mo / day / yr) 04/29/90
 Line (24 hr) 135-1445 Biologist D. REED

- (A) Substrate type and % of segments:
 (1) Bedrock 65 (2) Boulder 19 (3) Cobble 5 (4) Pebble 10 (5) Sand 1 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 40 Moderate 30 Low 30
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs: ST-9-4
 Roll No. ST-9-4

Frames 12, 13

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

4 MINUTEMAN EAGLES, 8 ADULT BALD EAGLES, 3 SEAS OTTERS, 2 HARTSUN DUCKS
 1 PELAGIC CORMORANT, 2 OYSTER CATCHERS. ON BEDROCK AND BOULDERS
 DENSE ALGAL COVER IN LOW ZONE.

Ecological Considerations:

ALL THE EAGLES WERE IN ONE SMALL AREA NEAR
 LOCATION #2. NO NESTS WERE LOCATED.
 — see OG MAP.

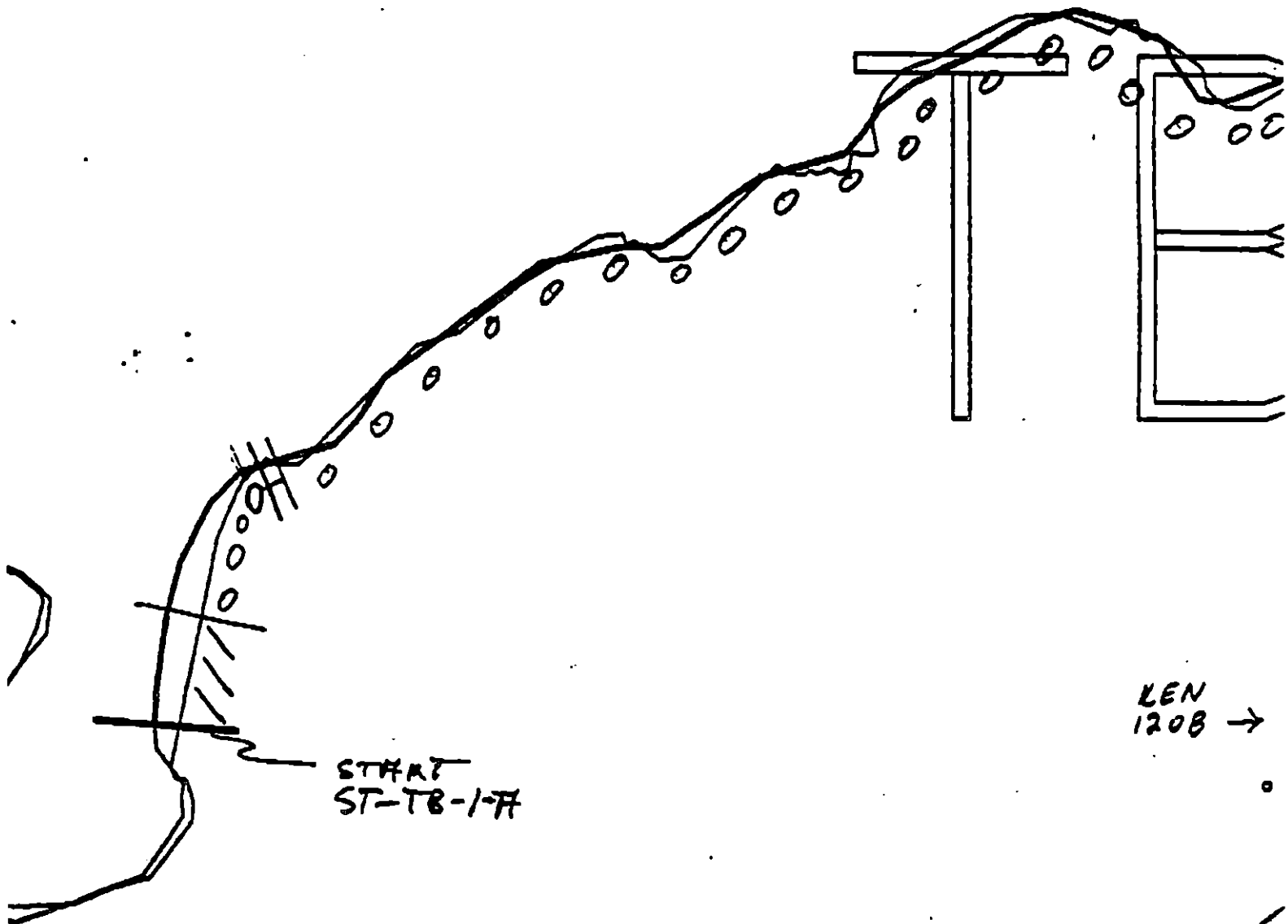
→ SEE ATTACHED

ECOLOGICAL CONSIDERATIONS:

ALL OF THE OIL IN THIS SEGMENT WAS FOUND AT LOCATION (#1) (see OG map). THERE WAS A THIN SUBSURFACE FILM IN THE HIGH ZONE OF THIS HIGH WAVE ENERGY BEACH.

THERE WAS ALSO A POTENT OIL COAT ON THE BEDROCK IN THE HIGH ZONE AT THE NORTH-EAST END OF THE BEACH. HIGH DENSITIES OF BARNACLE WERE FOUND ON THE BEDROCK AND MANY OF THEM WERE HEAVILY OILED AND STILL ALIVE. THE SPECIES OF BARNACLE (SEMIBALANUS CARIOSUS) THAT IS FOUND THERE IS OFTEN DISLODGED BY BASHING DEBRIS DURING PERIODS OF HIGH WAVE ACTION. THIS PROCESS APPEARS TO HAVE RESULTED IN THE REMOVAL OF VARIABLE SIZED PATCHES OF OILED BARNACLES PRODUCING A MOSAIC OF OILED AND NON-OILED SURFACES. NEW NON-OILED BARNACLES HAVE COLONIZED MUCH OF THE NON-OILED PATCHES. I SUSPECT THAT WITHIN A FEW YEARS MOST OF THE OIL IN THE BARNACLE ZONE WILL BE REMOVED AS OILED BARNACLES ARE TORN LOOSE. LEAVING AN OIL COAT ONLY IN THE UPPER SPLASH ZONE.

OIL MAP



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

ST-TB-1-A

ADEC Segment Length: ²⁵²⁹~~2400~~

0 100 200 300



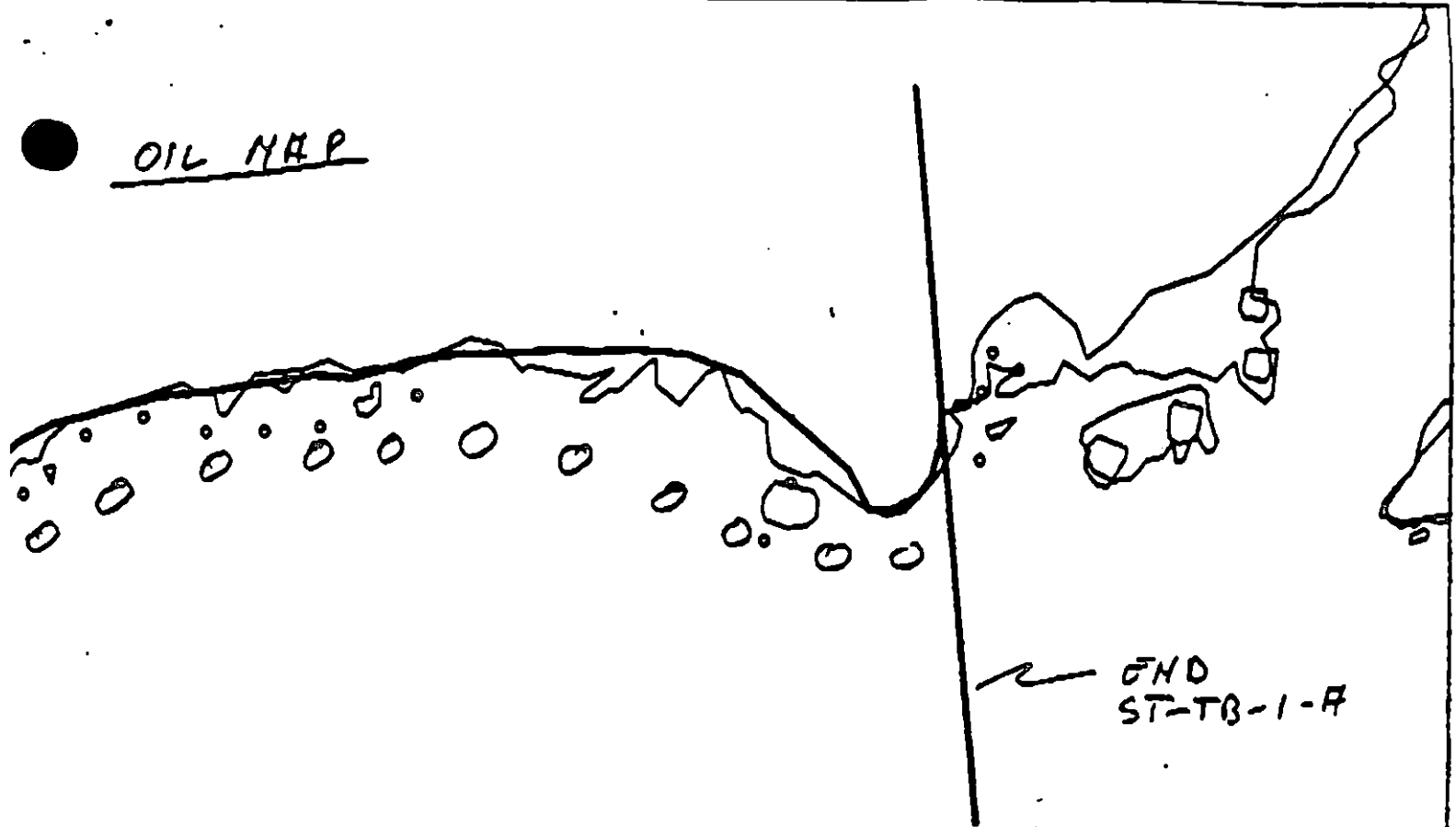
Map Key: KEN-1200

Name: K. OEBUSCHER

Date: 4/29/90

Scale: 1 inch = 1 mile

OIL MAP



← KEN
120A



XXX Wide

/// Medium

--- Narrow

TTTT Very Light

ooo " "

ST-TB-1-A

2689

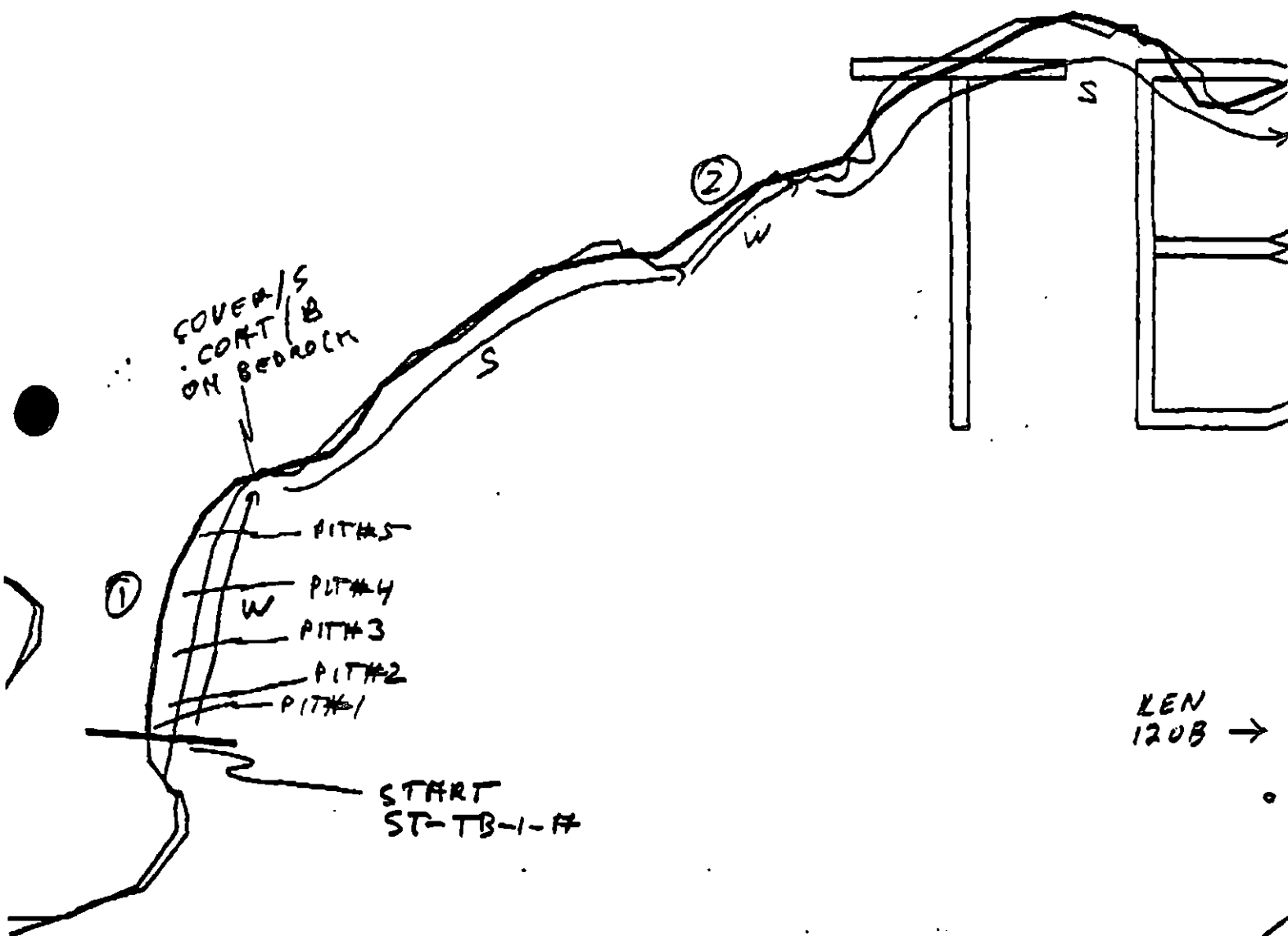
ADEC Segment Length: ~~2400~~ m

0 100 200 300

Map Key: KEN-1206

Name: K. DEBUSSCHER

Date: 4/29/90



XXX Wide

ST-TB-1-A

/// Medium

--- Narrow

TTTT Very Light

0000 N. 0.1

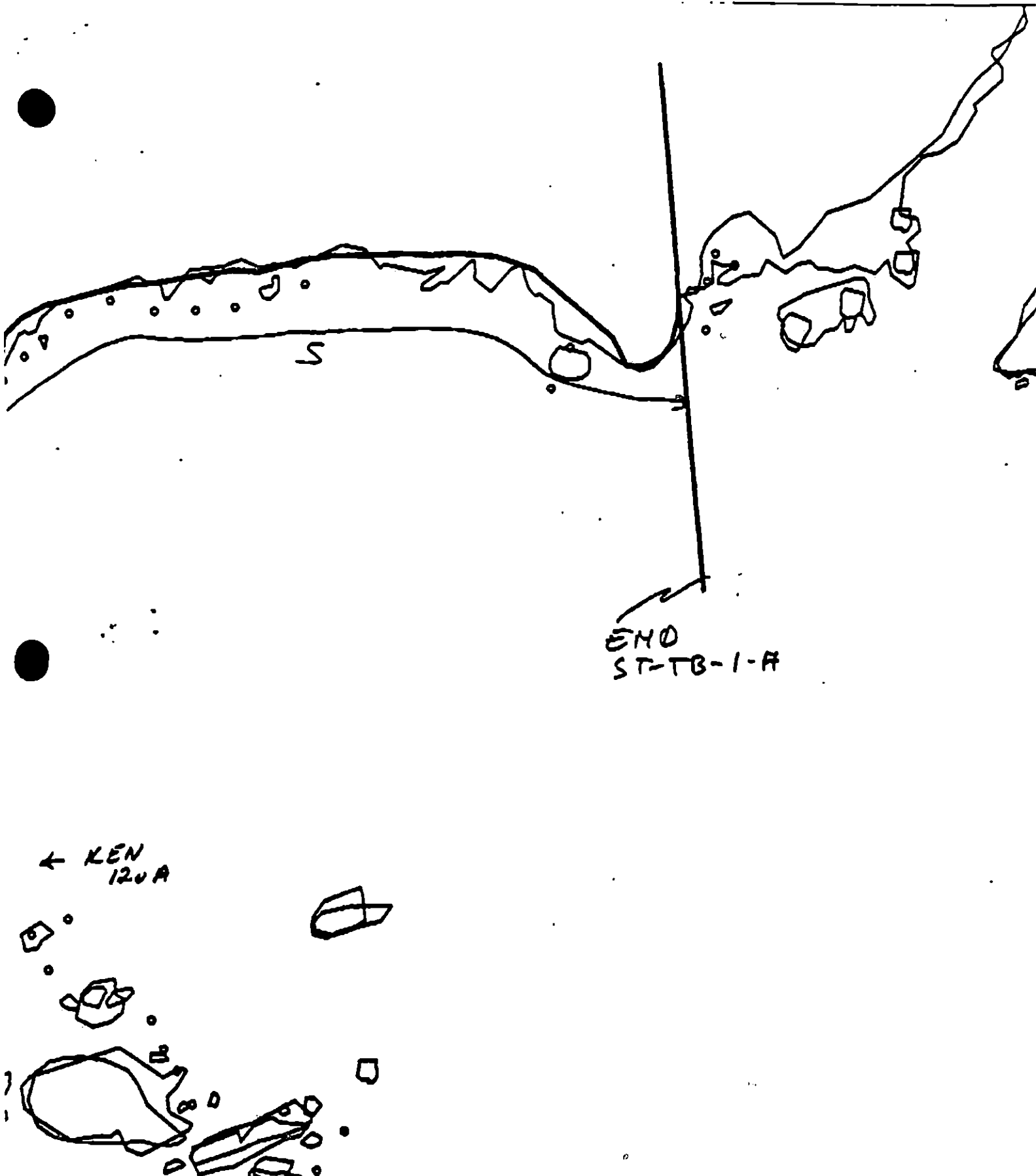
ADEC Segment Length: 2689

0 2/100 200 300

Map Key: KEN-1200

Name: K. DERUSSCHER

Date: 4/29/90



END
ST-TB-1-A

← KEN
120A

ST-TB-1-A

XXX Wide

//// Medium

--- Narrow

TTTT Very Light

oooo No Oil

ADEC Segment Length: 2689



Map Key: KEN-120b

Name: K. DEBUSSCHERE

Date: 4/29/90

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT TB-1 SUBDIVISION A (1 of 1)

WORK WINDOW	
Spot Washing	OPEN

CULTURAL RESOURCE EVALUATION REQUIRED PRIOR TO TREATMENT

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1J	Purse Seine Area	No constraint to spot washing.
2M	Herring Spawning	No constraint to spot washing.
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

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

FOSC

Date

Prepared by

Date

W L 6 July 90
Ree R. Condit 7-5-90

TB-01

TB-06

TB-02

WORK
AREAS

ECOLOGY MAP
SEGMENT TB-1

SUBDIVISION A (1 of 1)

METERS

0 578 1155

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

1 inch = 1895 feet



Exxon Company, USA

Map Key: KEN-TB-1

June 10, 1990



SHORELINE EVALUATION

SEGMENT ST/ TB-02 SUBDIVISION A (1 OF 1) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

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

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

4GG Kachemak Bay State Wilderness Park

6NN Recreation: Sportfishing

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. 5T - eagle nest.

SHPO SIGNATURE: J. Daniel McManis

DATE: 5/1/90

OILING CATEGORIZATION:

Wide 16 m: Medium 602 m: Narrow 1430 m: V.Light 184 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 30 cm

RECOMMENDATIONS:

 No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

X Tarmat Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

 Spot Washing: Wands

 Beach Cleaner

 Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pickup of mousse and pooled oil, 2) removal of tarmat followed by 3) bioremediation of areas indicated on sketch map. Work should be conducted before 6/16 based on herring constraints, after approval of USFWS regarding eagle nest.

TAG COMMENTS: MANUAL TILL STORM BEACH / VITZ OF SMALL POCKET BEACH IN AREA OF PTS 9, 10, +11 NOTED ON SKETCH MAP PRIOR TO B.O.

TAG APPROVAL DATE: 5/1/90.

ADEC Art Weiner Dit Weiner

EXXON Andy Teste

NOAA Gary Petros Gary Petros

USCG Kenneth Kehring

FOSC: W L

DATE: 5-6-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / TB-002 SUBDIVISION: R DATE 4/20/90

~~Not a~~
~~6666~~

NAME Donald A. MacDonnell SIGNATURE Donald A. MacDonnell

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

The segment contains one anadromous stream towards the western end. One river otter and one sea otter were sighted sighted in the vicinity of the segment.

ADEC

NAME JOHN R. REED SIGNATURE John R. Reed

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

I am recommending manual cleanup in segment TB-02. Asphalt fragments could be removed with shovels. There is also some pooled oil on the large island in this segment that could be manually removed with a shovel. There is a 1-2m wide bathtub ring through much of this segment. Two of the pocket beaches also had some subsurface oiling. These were beaches that were heavily oiled last summer. Tilling of these beaches may help biodegradation. Several areas in this segment were bioremediated last year and could be a candidate for reapplication. Some sheers were noticed near shore. I agree with info on SSAT.

LAND MANAGER DNR-DPOR

NAME Jeff Johnson SIGNATURE Jeff Johnson

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

I agree with SSAT data on TB-2. Unit is within Kochmans Bay State wilderness park and has high recreation + wild life resource values. Several tent sites + good anchorage. Grella study site + Bio remediation signs should be removed after project. Eagle nest active in this unit last summer now appears abandoned. Some chain saw cuts should be removed. Evidence of past recreational use. Small island in this unit also needs treatment.

SHORELINE OILING SUMMARY

REVISION NO. 06/13/98

OG TOM SAWYER ADAM D. MacDonald SEGMENT ST/ TB002
 BIO M. Carr LAND REP J. Johnson SUBDIVISION A (1 OF 1)
 EXXON R. Boyer ADEC R. Reed TIME 13:30 to 17:00
 TEAM NO. 18 TIDE LEVEL +5 TO +1.5 DATE Apr 1 20 1990
 EST. SUBDIVISION LENGTH: 2677 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: EAST to WEST
 SURFACE SEDIMENTS: R 55 % B 20 % C 15 % P 10 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 40 % Hang 5 % Vert 55 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 15 m M 530 m N 1749 m VL 150 m NO 200 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	R	B	P	S	W	M	N	VL	SU	U	M	U
ASPHALT PAVEMENT												
POOLED												
COVER												
COAT												
STAIN												
MOUSSE												
PATTIES												
TARBALLS												
FILM												
NO OIL												

PAVEMENT H (F) S/133.5 sq. m by 4 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? NO BR RW (SL) TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE buoys, rope#BAGS 1

Photographs:

Roll No. ST-18-7Frames 20-38

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	!	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	VO	W	M	N	VL	SU	U	M	U				
1	30																				P-S
2	15																				P-S, P, R
3	25																		Y	10	P-S, P
4	30																				C-B, S
5	20																				P-S, P
6	25						0-15														P-S, P

COMMENTS ST/TB002 comprises bedrock cliffs and low angle boulder and cobble beaches. The eastern half has a nearly continuous 1 to 2 m wide "bathtub" ring of coats. The western half has a significant amount of pavement, generally between boulders. No oil observed in Pits 16 & 17, which are located on either side of a large meandering stream, nor was oil observed when the channel sediment was disturbed.

REVIEWED BAT DATE 21 Apr 90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 06/13/90

SEGMENT ST/ TB-002 SUBDIVISION A (1 OF 1)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OR / FILM COLOR						PIT ZONE				A N A	SCREEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	1	2	3	4	5	6	SU	U	M	U				
7	40					/										/							P-S, P
8	45					/										/							P-P, S
9	25	/					10-25	/		/						/							P-S, C
10	25	/					10-25	/		/						/							P-S, P
11	35	/					15-30		/	/						/							P-S, C
12	20	/					0-6		/	/						/							C-P, S
13	20	/					0-4		/	/						/							C-P, S
14	20	/					0-3		/	/						/							C-S, P
15	15	/					0-4		/	/						/							B-S, B
16	20					/										/							S-C, P
17	20					/										/							S-P, S

COMMENTS: ^{Pt} 9, 10, + 11 - GREATER THAN 3 METRE WIDE BAND OF 'OR' IS SUBSURFACE, but not observed at surface.

REVIEWED BAT DATE 21 Apr 90

OG T. S. S. er

SEGMENT ST. B002

SUBDIVISION A

DATE Apr 1 20 90

CHECKLIST

- ___ N Arrow
- ___ Approx. Scale
- ___ Seg/Sub Entry
- ___ Oil Dist
- ___ Width
- ___ Length
- ___ % Cover
- ___ Substrate Character
- ___ Est. HPR/LVL
- ___ SSL
- ___ Profile Location(s)
- ___ Profile(s)
- ___ Pit Location(s)
- ___ Photo Location(s)

LEGEND

1 Δ
Pit - No Subsurface Oil

2 Δ
Pit - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

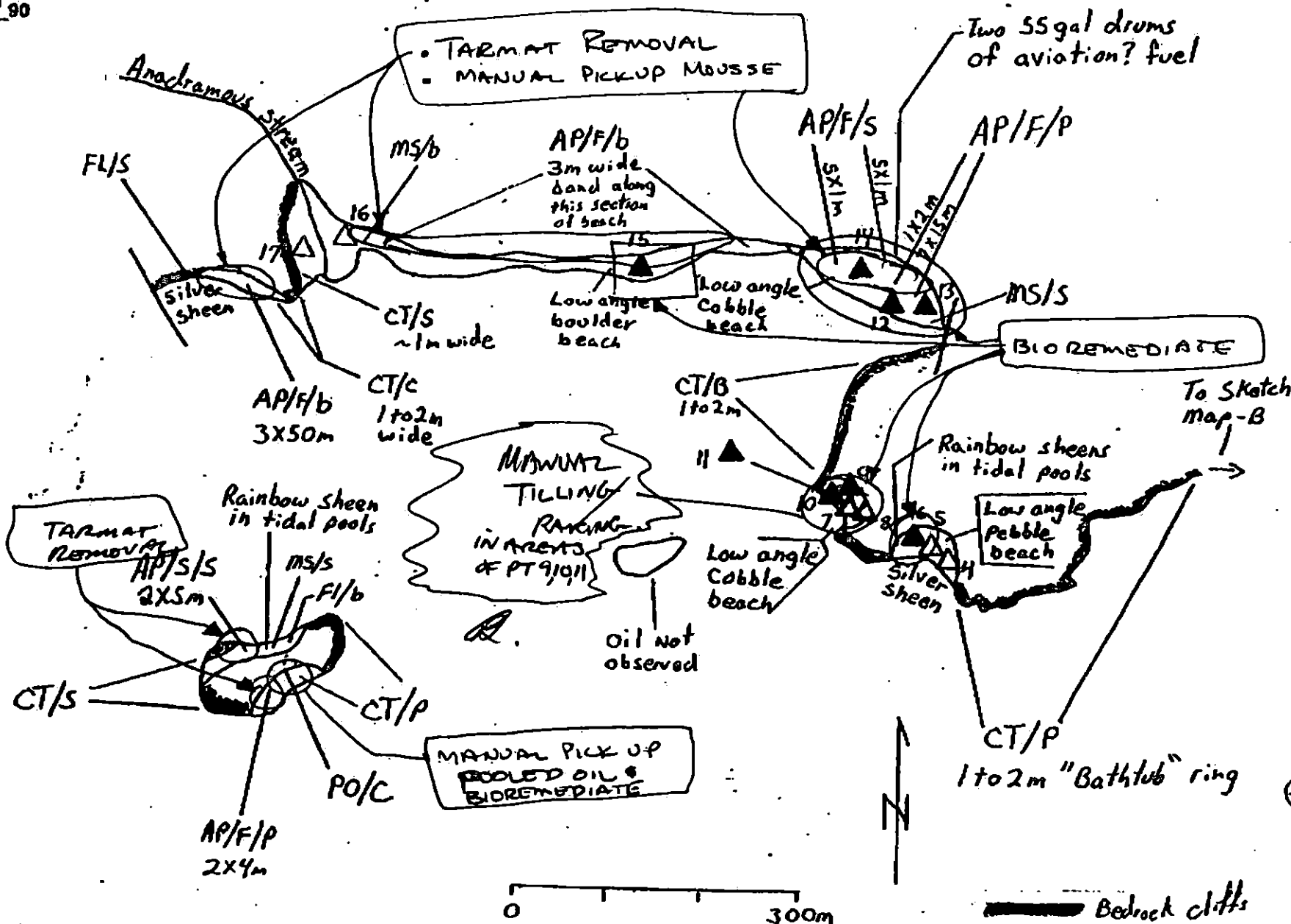
CT/P
Pachy Distribution

CT/S
Speckled Distribution

eee
Oiled Vegetation

1 →
Photo location, direction, and number

ETCH MAP - A



Oil Character Length (m): AP 460 PO 10 CV 0 CT 1100 ST 0 MS 25 PT 0 TB 0 FL 150 NO 200

OG Sawyer

SEG. ST/TB002

SUBDIVISION A

DATE Apr 1 20 90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Sketch Character
- ☐ Est. HNW/LVL
- ☐ SSI
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PB Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ

PR - No Subsurface Oil

2 Δ

PR - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

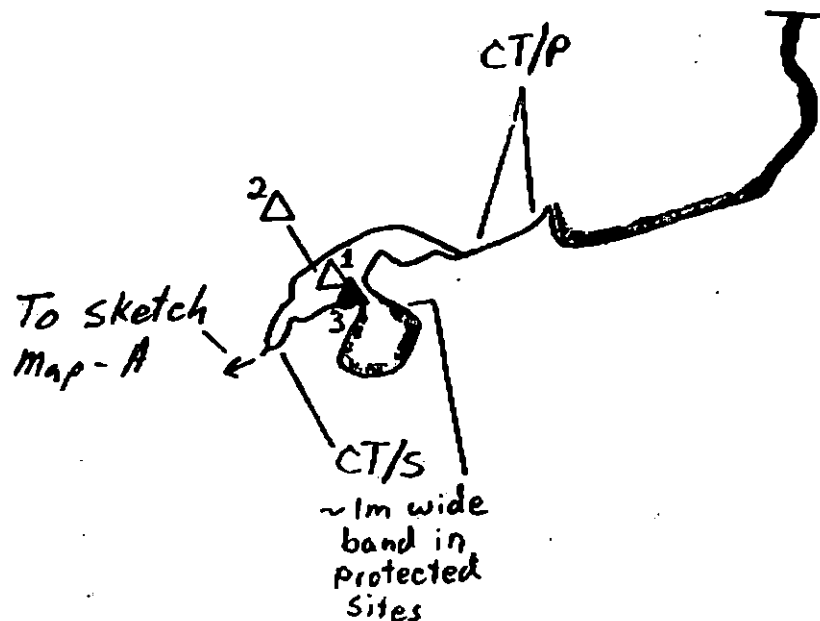
CT/S

Spaced Distribution

Oil Vegetation

1 →

Photo location, direction,
and number



0 300m



Bedrock
Cliff

See sketch Map-A

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

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/20/90

Segment ST / TB002 Subdivision A Date (mo / day / yr) 4-20-90Time (24 hr) 1352 Biologist MARK CARR(A) Substrate type and % of ^{SUBDIVISION} segments:
(1) Bedrock 55 (2) Boulder 20 (3) Cobble 15 (4) Pebble 10 (5) Sand 0 (6) Silt 0(B) Overall % cover of biota (% of ^{SUBDIVISION} segment): Dense 80 Moderate 10 Low 10

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

Photographs:
Roll No. ST-18-7Frames 20-38

BARNACLES

	Dense		Moderate		Sparse		Rare		
	1L		1U	1M	1L		1U	1M	1L
360		2	2		2		2	2	2
300		3	3		3		3	3	3
630		4	4		4		4	4	4
150		5	5		5		5	5	5
	6	6	6	6	6		6	6	6

NOT PRESENT

NOT PRESENT AT ANY 20

MYTILUS

	Dense		Moderate		Sparse		Rare		
	1L		1U	1M	1L		1U	1M	1L
360		2	2		2			2	2
300		3	3		3		3	3	3
630		4	4		4		4	4	4
150		5	5		5		5	5	5
	6	6	6	6	6		6	6	6

NOT PRESENT IN UPPER ZONE

NOT PRESENT

NOT PRESENT IN ANY 20

GASTROPODS

	Dense		Moderate		Sparse		Rare		
	1L		1U	1M	1L		1U	1M	1L
360		2	2		2		2	2	2
300		3	3		3		3	3	3
630		4	4		4		4	4	4
150		5	5		5		5	5	5
	6	6	6	6	6		6	6	6

NOT PRESENT

NOT PRESENT IN ANY 20

FUCUS

	Dense		Moderate		Sparse		Rare		
	1L		1U	1M	1L		1U	1M	1L
360		2			2		2	2	2
300		3			3		3	3	3
630		4			4		4	4	4
150		5			5		5	5	5
	6	6	6	6	6		6	6	6

NOT PRESENT

NOT PRESENT IN ANY 20

Wildlife Observations/ General Comments:

BALD EAGLE (2), BOTH MATURE, w/ NEST

MT. GOAT (1)

SEA OTTER (1)

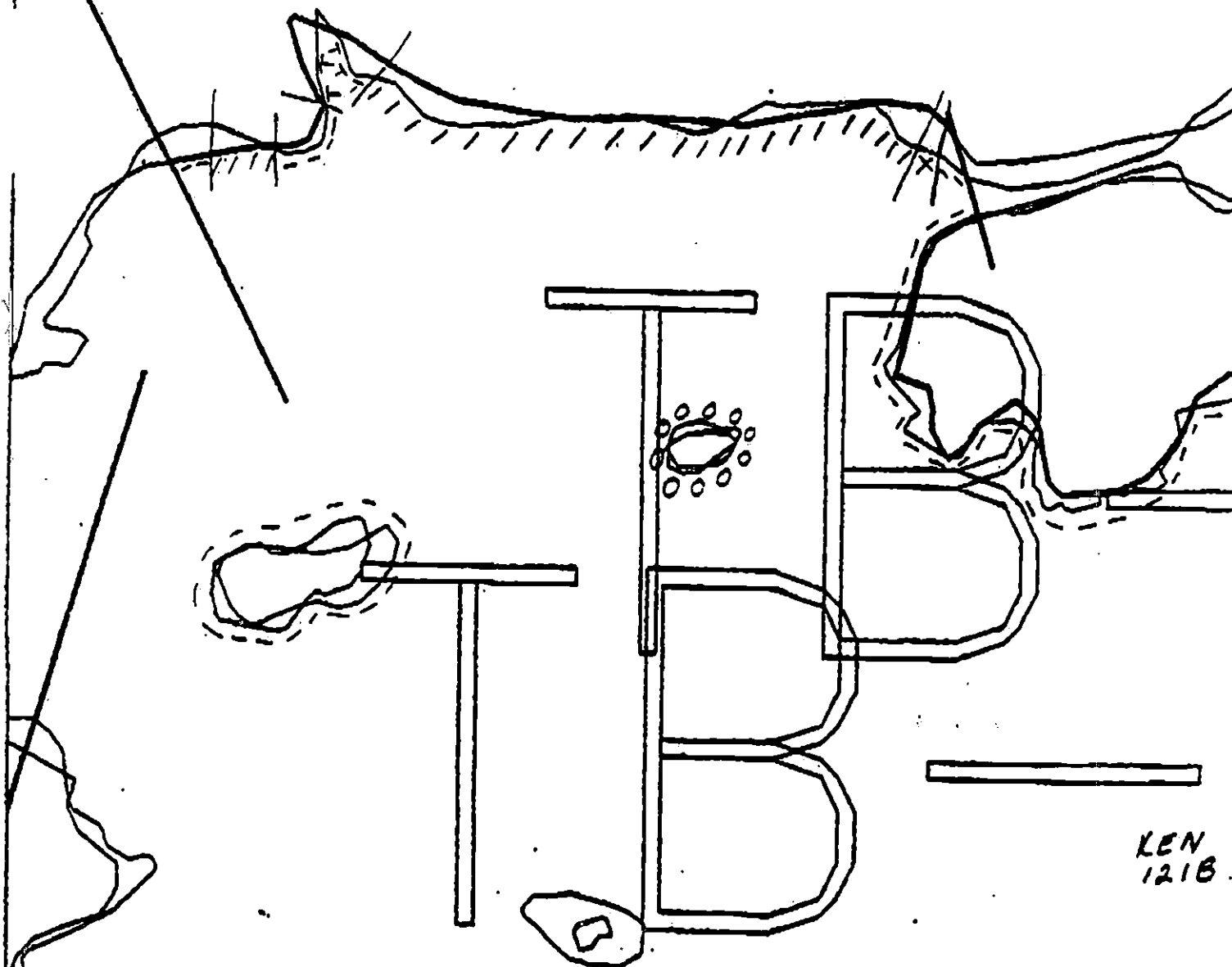
PELAGIC COMMORANT (2)

WHITE-WINGED SCOTER (2)

RIVER OTTER (1)

Ecological Considerations:

1A,B (SALMON STREAM), 2M (HERRING SPawning), 4BB (ALASKA STATE PARK / WILDLIFE)
GUNN (SHORTFISHING)
EAGLE NEST (5T)



LEN
121B

XXXX Wide

//// Medium

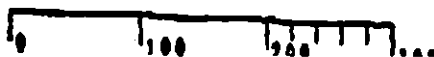
----- Narrow

TTTT Very Light

A A A A S I A A

T B - 2

ADEC Segment Length: 2232m

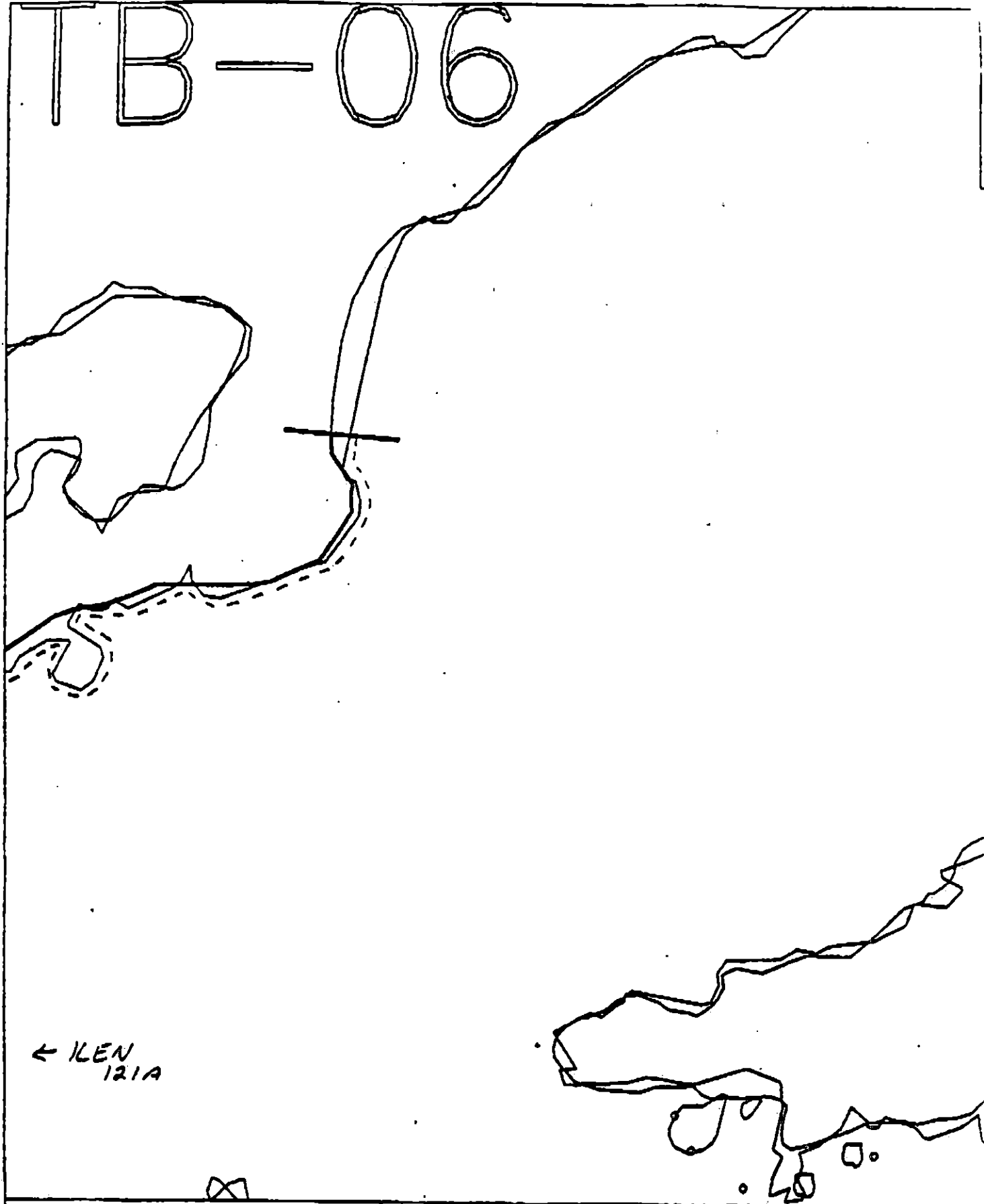


Map Key: KEN-121a

Name: T. Sawyer

Date: 4-21-90

TB-06



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

TB-2

ADEC Segment Length: 2232m



Map Key: KEN-1216

Name: T. Sawyer

Date: 4-21-90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT TB-2 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
Bioremediation and Manual Tilling Less Than 100m From Stream	WORK To 7/10 (ADF&G MONITOR REQ.)
Bioremediation and Manual Tilling More Than 100m From Stream	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

- 1A,1B Salmon Stream** ADF&G catalogued anadromous stream (232-10-10340) is in Subdivision A. This subdivision is closed to bioremediation and manual tilling less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation and manual tilling are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation and manual tilling more than 100m from stream. No constraint to manual pickup and tarmat removal.
- 2M Herring Spawning** No constraint to manual pickup, tarmat removal, bioremediation, and manual tilling.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow input 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. Restrict boat traffic to essential minimum. Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass.

FOSC Date 6-19-90

Prepared by Date 6/16/90

TB-01

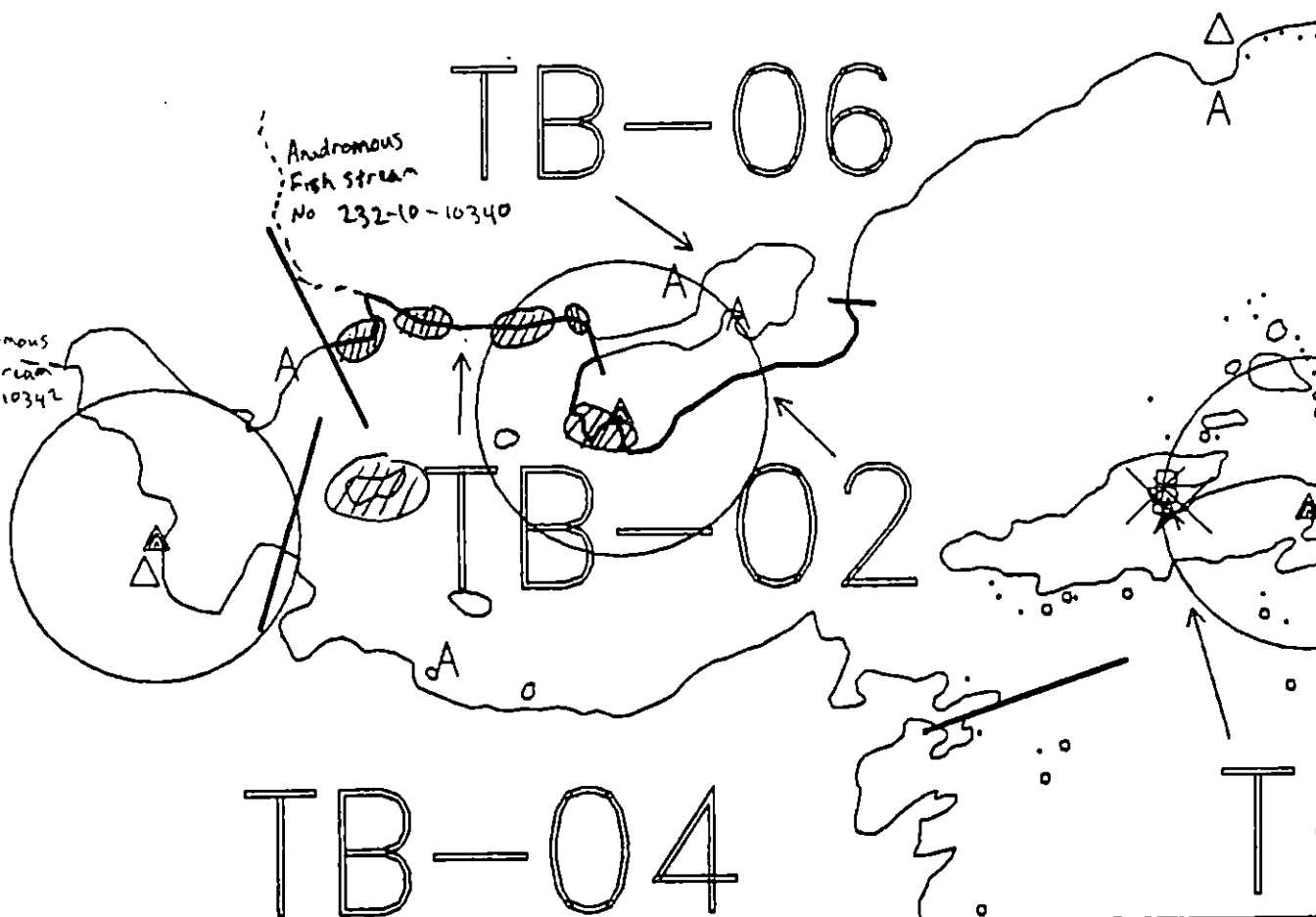
TB-06

TB-02

TB-04

Anadromous
Fish Stream
No 232-10-10340

Anadromous
Fish Stream
232-10-10342



Exxon Company, USA
Map Key: KEN-TB-2
June 10, 1990



ECOLOGY MAP
SEGMENT TB-2
SUBDIVISION A (1 of 1)
METERS
0 525 1049

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

1 inch = 1721 feet

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/TB-002 STREAM NO: 232-10-10340 DATE 4/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
5T All Bald Eagle nests (3/1 to 6/1)
2M Herring spawning (4/1 to 6/15)
4GA State Marine Park Alaska State Wilderness Park
6NN Recreation: Sportfishing
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Rachel Joan Dahn DATE: 5/25/90

Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommend manual removal of tarmat and patties as indicated on the attached ADF&G sketch map. Work from 6/15 to 7/9 with approval of USFWS due to eagle nest.

TAG COMMENTS: Bioremediation (CUSTOMER) IS REQUIRED FOLLOWING TARMAT REMOVAL

TAG APPROVAL DATE: 5/24/90
ADEC Art Weimer
EXXON Andy Galt
NOAA Burt W. H. Hall
USCG M. J. Hall

FOSC: [Signature] DATE: 5/31/90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
1D 1F 1G PWS Aquaculture Association. John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (6/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (6/1 to 9/15)
6V Anchorages (6/1 to 9/15)
6W Forest Service cabins (6/1 to 9/15)
6X Lodge (6/1 to 9/15)
6Y Special use destination
6NW Sport Fishing
7Z Subistence area: Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (8/15 to 2/28)
Invertebrate harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

1 15 00

EXXON COMMAND CENTER (HOMER)

P.O. Box 4848
4014 Lake St.
Homer, AK 99603
Tel: 235-6444
Fax: 235-5963

April 30, 1990

The attached is a ADF&G survey for segment TB-002, stream #232-10-10340. The stream was not surveyed by ANAD. Please refer to SSAT TB-002. Minor type A clean-up is indicated.

Darryl Yoes

BY/mo

TB-2.

232-10-10340

A comprehensive Pre ANAD SCAT was conducted on TB-002, Cat. # 232-10-10340. The ANAD SCAT reviewed the results of this prescreen and decided it was NOT necessary to re-survey this stream. It was decided that they (the ANAD SCAT Team) would take the findings of the Pre-ANAD SCAT.

Manual pick up is recommended, therefore we need to route this on through.

Jack R.

DRAFT

SEGMENT ST / TB-002 SUBDIVISION: 232-10-10340 DATE 4/30/91

USCG

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADF46
~~1000~~

NAME Doug Hill

SIGNATURE

Douglas D Hill

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

— Recommend Manual pickup and removal of tar mats and
patches from Eastern bank at mouth of stream.
This is anadromous fish stream (chums + pinks)

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

Group A

Prescreening

ADFG MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS ☒ SS ☐ DS ☐ TS ☐ AVS ☐ SCHM ☐ MMS ☐ PTA2 REGION: PWS ☒ KP, CI ☐ K, AP

METHOD:

Aerial

☒ Ground

Boat

condova (Adjusted)

3 DATE: 4-17-70

18 HIGH TIDE TIMES: 0551

21 TEAM RECORDER: Doug Hull

4 START TIME: 1415

19 HIGH TIDE HTS: 10.4

22 OBSERVERS: Susan McLain

5 STOP TIME: 1428

17 LOW TIDE TIMES: 1318

23 AGENCY: ADFG

6 SEGMENT #: TB-2

18 LOW TIDE HTS: 2.0

24 PHOTOS TAKEN: Y ☒ N

7 STATION #:

10 TIDE HT AT SURVEY: 10.0

Roll # 70-004-006-H Frame: 9, 10

8 K-UNIT:

Ebb

☒ Slack

Flood

Stack

25 VIDEO TAKEN: Y ☒ N TAPES:

9 STAT AREA: 232-10

20 USCG QUAD: Sedona B-3

Starts: Ends:

10 LAT: 59° 25' 0

11 LONG: 151° 19' 0

26 SAMPLES TAKEN: Y ☒ N Number12 SOURCE: Map ☒ Loren011 ☒ EDH/NO - 4/25/71

13 LOCATION: Tonsina Bay - N Creek AFS #232-10-10340

Sediment

14 DESCRIPTION: North shore of Tonsina Bay, stream mouth approx. 1/4 mile west of Looe Lagoon.
EXTENT OF OIL

Biological

Water

27 SURFACE COVERAGE

SHORELINE	W	N	E	S	W	N	E	S	STREAM

36 CATALOGED ANAD. FISH SREANT ☒ Y ☐ N

28 SURFACE THICKNESS

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

37 CATALOG # 232-10-10340

29 PENETRATION

38 STREAM NAME: Tonsina North

30 OVERALL OIL IMPACT: N VL L N N

39 OIL IN STREAM BED? none observed ☒ Y ☐ N31 OIL TYPE: Pooled Mousse ☒ Tar Asphalt Sticky Stain40 OIL ON STREAM BANKS? ☒ Y ☐ N32 OILED DEBRIS? Y ☒ N41 OIL ON BEACH ADJACENT TO MOUTH (within 50 meters) ☒ Y ☐ N33 SHORELINE TYPE: Headland Low-lying Rocks ☒ Beach ☒ Cove Lagoon Marsh42 OIL WITHIN 1 MILE OF STREAM? ☒ Y ☐ N

Where: N. W. stream at top

34 WAVE EXPOSURE: High ☒ Moderate Low43 ANADROMOUS FISH PRESENT? Y ☒ N

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

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS: 3 observers walked both sides of stream channel up from mouth. No oil was observed on W side. Several large tar mats + tar patties were observed on E side up in 25 yds of mouth of stream.

TB-002

FRAME(S)

DESCRIPTION

9, 10

AnPaLe of Northern Anthonous Fish stream (232-10-10340)

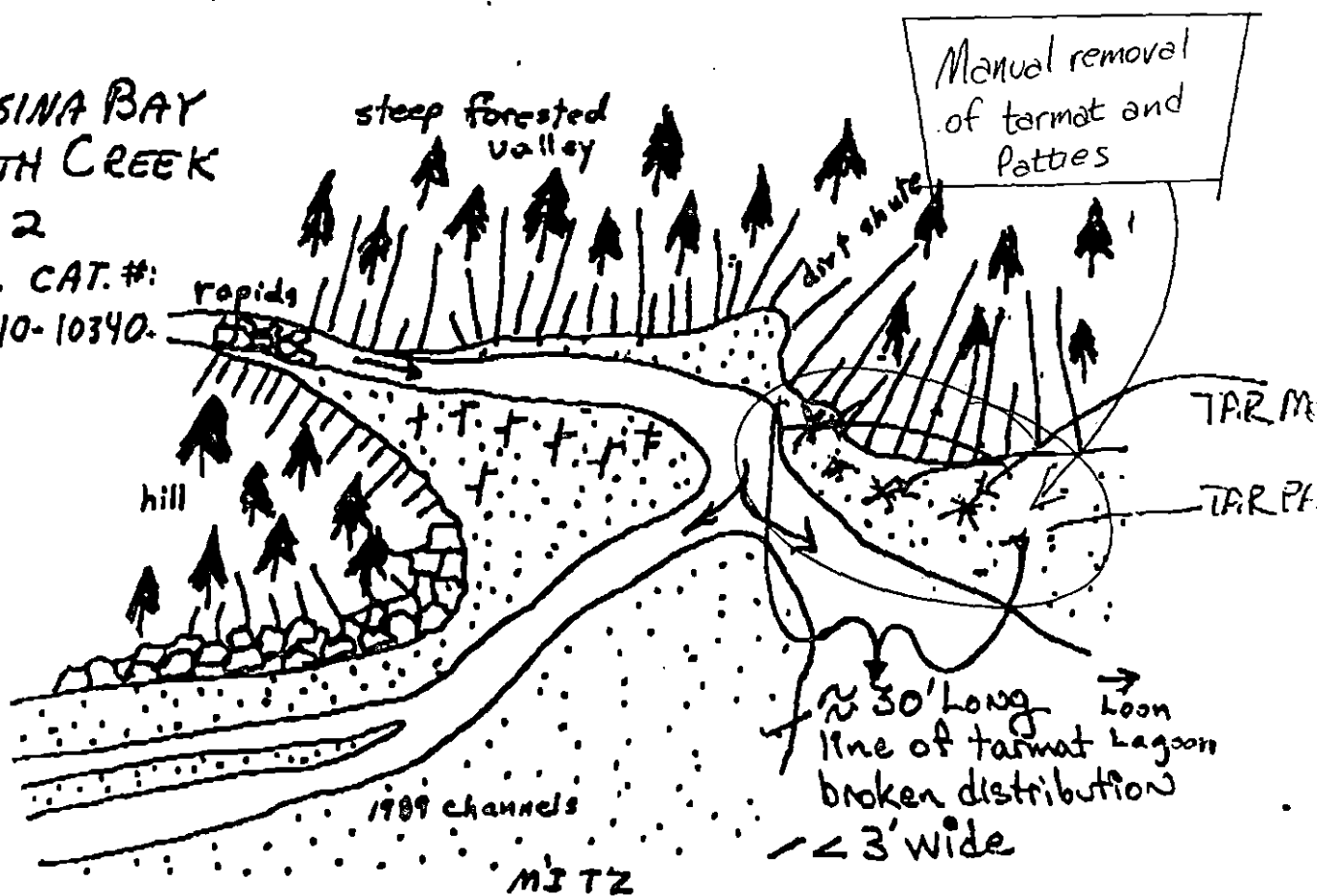
46 OIL DISTRIBUTION DIAGRAM

TONSINA BAY
NORTH CREEK

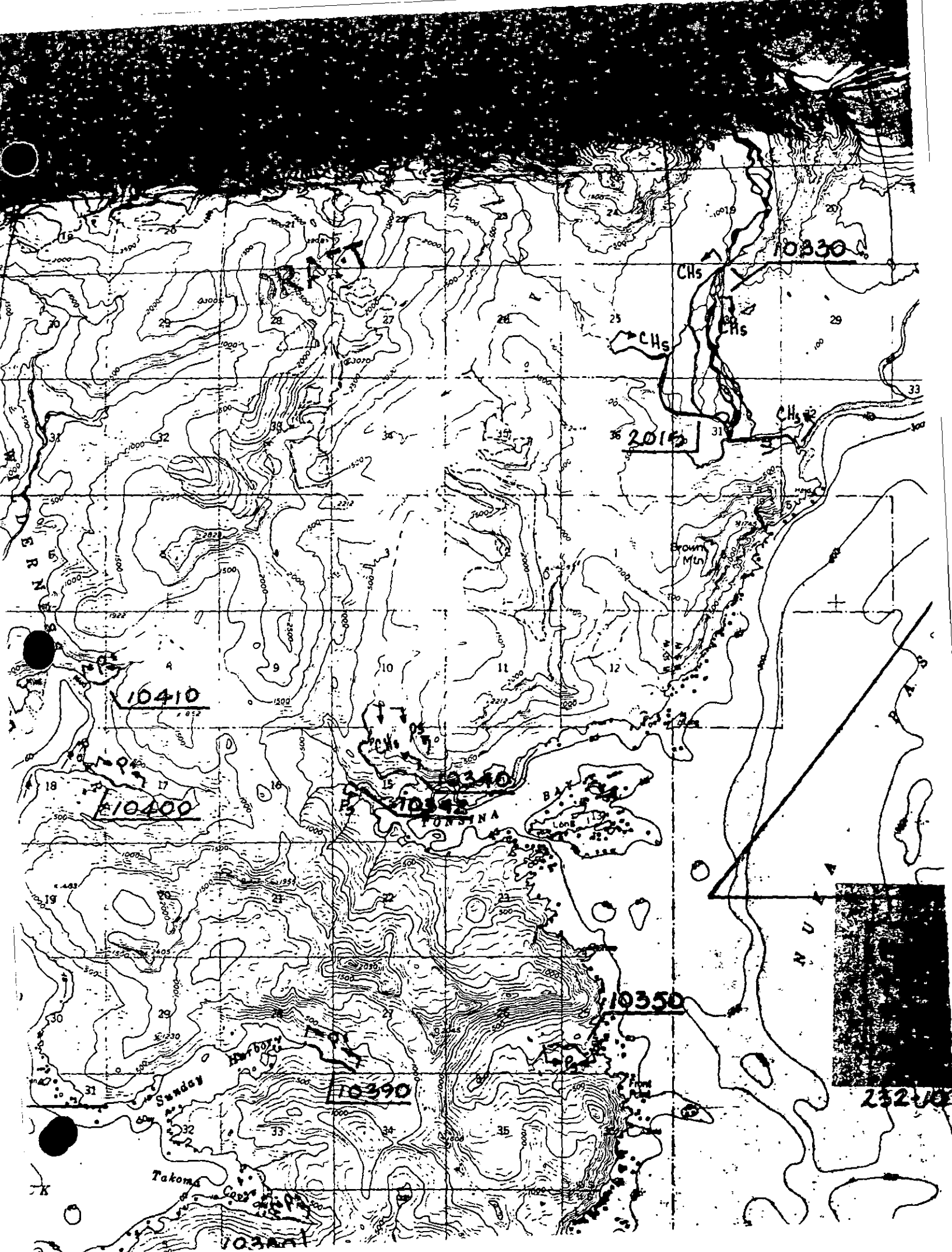
TB-2

ANAD. CAT. #:

232-10-10340.

★ ANADSCAT Recommended

- Sample taken
- Photo frame # and



Anadromous Stream
232-10-10340

EAGLE NEST

KEN
121B

XXXX Wide

//// Medium

---- Narrow

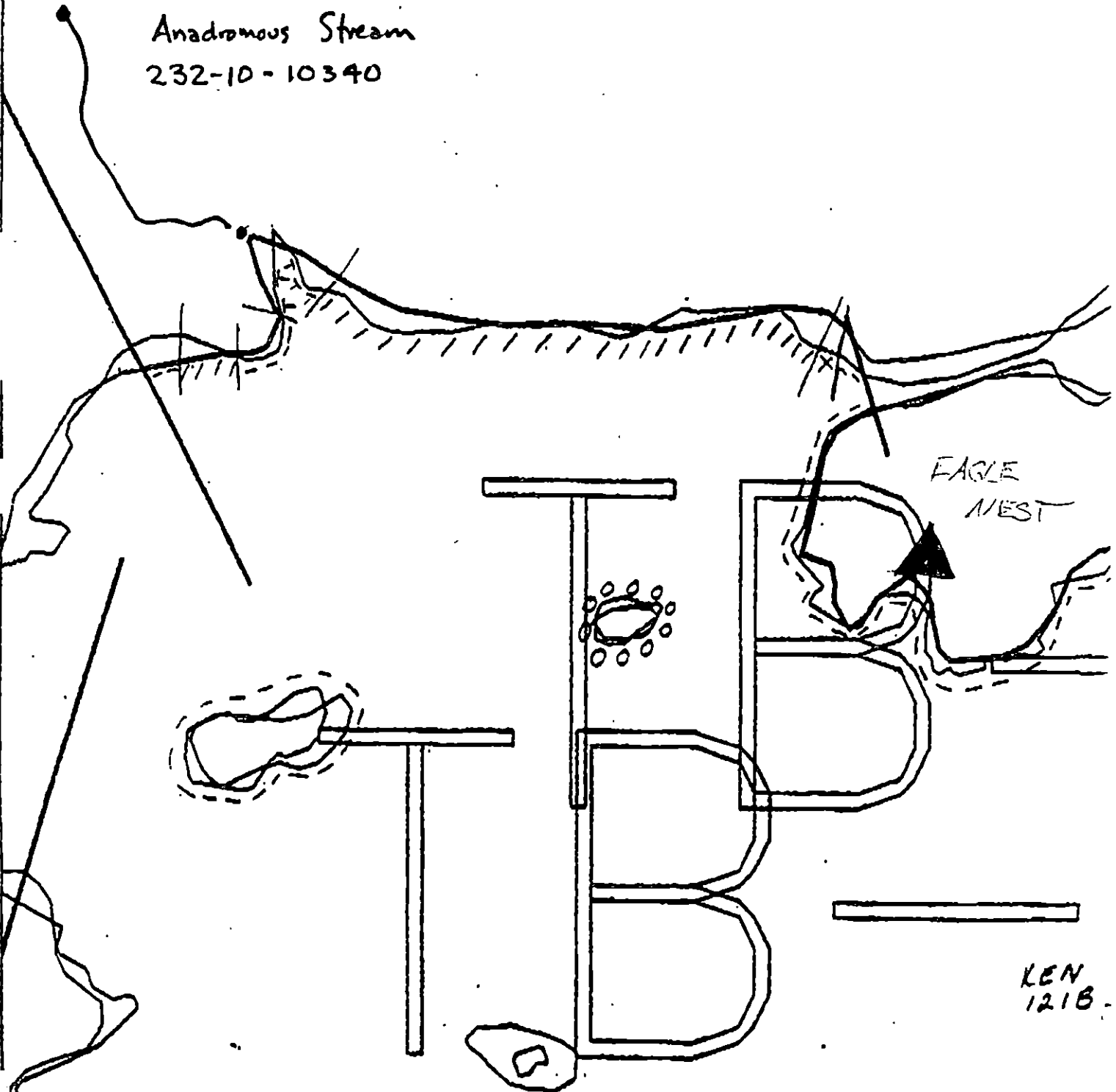
TTTT

TB-2

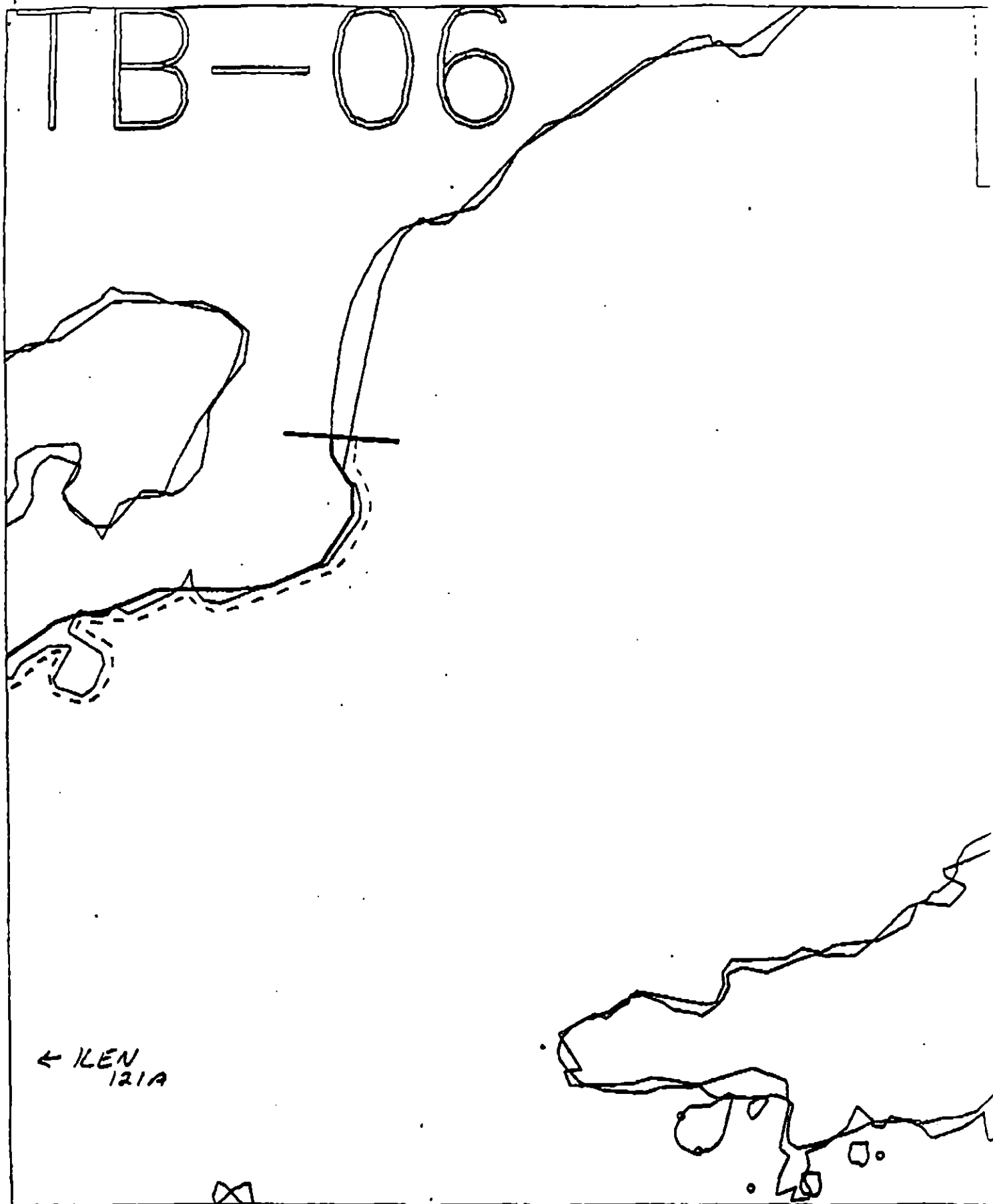
ADEC Segment Length: 2232m

Map Key: KEN-121a

Name: T. Sawyer



TB-06

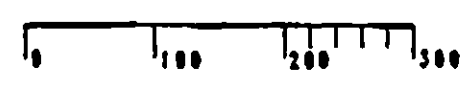


← ILEN
121A

XXXX Wide
///// Medium
---- Narrow
TTTT Very Light
OOOO None

TB-2

ADEC Segment Length: 2232m



Map Key: KEN-121b
Name: T. Sawyer
Date: 4-21-90

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 232-10-10340

SEGMENT TB-002 SUBDIVISION A

WORK WINDOW

Manual Pickup
Tarmat Removal

OPEN

Bioremediation Less Than 100m From Stream

WORK PRIOR TO 7/10
(ADF&G MONITOR REQ.)

Bioremediation More Than 100m From Stream

OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (232-10-10340) is in Subdivision A. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup and tarmat removal.

2M Herring Spawning

No constraint to manual pickup, tarmat removal, and bioremediation.

5T Bald Eagle Nest

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

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow Inpol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Restrict boat traffic to essential minimum. Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass.

SEE SUBDIVISION CONSTRAINT ADDENDUM TB-002A
FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC

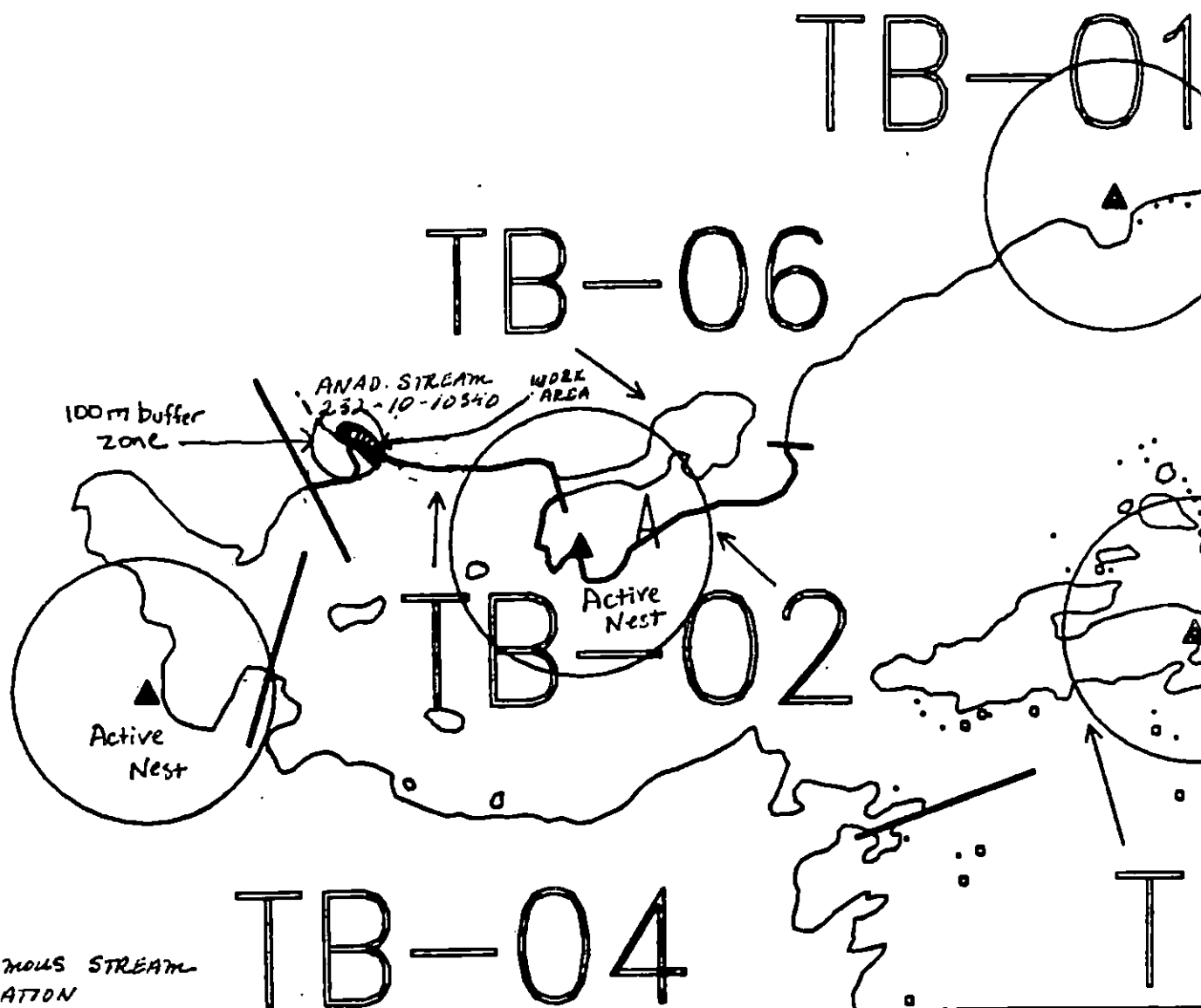
Date

6-19-90

Prepared by

Date

6/16/90



ANADROMOUS STREAM
VALLATION



Exxon Company, USA



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



Seabird Colony



Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ TB-03 SUBDIVISION A (1 OF 1) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
2M Herring spawning (4/1 to 6/15)
5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
4GG Alaska State Parks
6NN Recreation: Sportfishing
8AA Sensitive Estuary
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. If any bioremediation is planned, clear with ADF&G Habitat Division.

SHPO SIGNATURE: *S. David M. Nelson* DATE: *5/1/90*

OILING CATEGORIZATION:

Wide 438 m: Medium 744 m: Narrow 976 m: V.Light 145 m: No Oil 68 m
Subsurface Oil Observed: Yes X No Maximum Depth 25+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes: 1) tarmat removal, 2) manual pickup of plastic buoy and oiled logs if >10% coverage and splash impact and 3) bioremediation of subsurface oil in areas shown on sketch map. Work should be conducted with approval from USFWS regarding eagle nest and ADF&G Habitat Division for bioremediation.

TAG COMMENTS: MONITORS TO ASSESS THE SIGNIFICANCE OF OILED
LOGS AND NEED TO REMOVE / ADDRESS.

NOTE: MONITORS TO CHECK THE OILED PEST LAYER - REMOVAL IS NOT RECOMMENDED.

TAG APPROVAL DATE: 7/30/90

ADEC Art Weintraub Art Weintraub
EXXON Amory Tate Amory Tate
NOAA Gary Petrac Gary Petrac
USCG Kenneth Keane Kenneth Keane

FOSC: DATE: 5-6-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
AGENCY CONTACT PERSON: ADF&G John Mofison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 6/10)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (6/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3 Harbor seal and sea lion pupping (5/15 to 7/1)
30, 30 Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Rothly 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 6/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Jeff Hughes 267-2201
- 6U Recreation: Tent sites (6/1 to 9/15)
6V Anchorages (6/1 to 9/15)
6W Forest Service cabins (6/1 to 9/15)
6X Lodge (6/1 to 9/15)
6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (8/15 to 2/28)
Invertebrate harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / TB-003

SUBDIVISION: A

DATE 4/19/90

~~NOAA~~
~~USEC~~

NAME DONALD A. MacDONALD

SIGNATURE

Donald A. MacDonal

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

There was a general consensus on the conditions existing along the beach. The central portion of segment TB-003 which consisted of the core 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 10-15m. 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 71 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, so 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 bioaccumulation data in this segment last year.

LAND MANAGER DNR/DPOR

NAME JEFF JOHNSON

SIGNATURE

Jeff Johnson

☐ 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 "other beach" should be mitigated. Did not observe oiled debris. CERCLA signs need to be removed, as well as bioaccumulation 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 value as well. Treatment recommended.

SHORELINE OILING SUMMARY

REVISION NO. 04/13/90

OG T. Sawyer NOAA D. MacDonald SEGMENT ST/ TB003
 BIO M. Carr LAND REP J. Johnson SUBDIVISION A (1 OF 1)
 FXXON R. Beyer ADEC R. Reed TIME 12:00 to 16:30
 EAM NO. 18 TIDE LEVEL +6 to +2.5 DATE Apr 1 1990
 ST. 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: Long 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			
	N	NE	E	SE	S	SW	W	NW	U	M	U	U	U	U
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT														
STAIN														
MOUSSE														
PATTIES														
TARBALLS														
M														
NO OIL														

PAVEMENT H 850 sq. m by 8 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE buoy, plastic#BAGS 1

Photographs:

Roll No. ST-18-7Frames 1 thru 17

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW					PIT ZONE				A N A	SHEEN (Y/N)	Y	SURFACE-SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UO	UO	UO	UO	UO	UO	UO	UO				
1	15						0-5													C-S
2	15						0-10													b-C, V
3	20						0-5													P-G, S
4	25						0-8											Y	20	C-P, G, S
5	25						0-5											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.

REVIEWED BA7 DATE 20 Apr 90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 06/12/88

SEGMENT ST/ TB003 SUBDIVISION A (1 OF 1)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR						PIT ZONE				A	N	A	SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	VC	1	2	3	4	5	6	SU	U	M	U						
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	/			✓		0-25	/		✓	/	/	/	/	/	/									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.

REVIEWED BAT DATE 2011.9.10

OG Sa

SEGMENT ST/BOOJ

SUBDIVISION A

DATE Apr 1 19 90

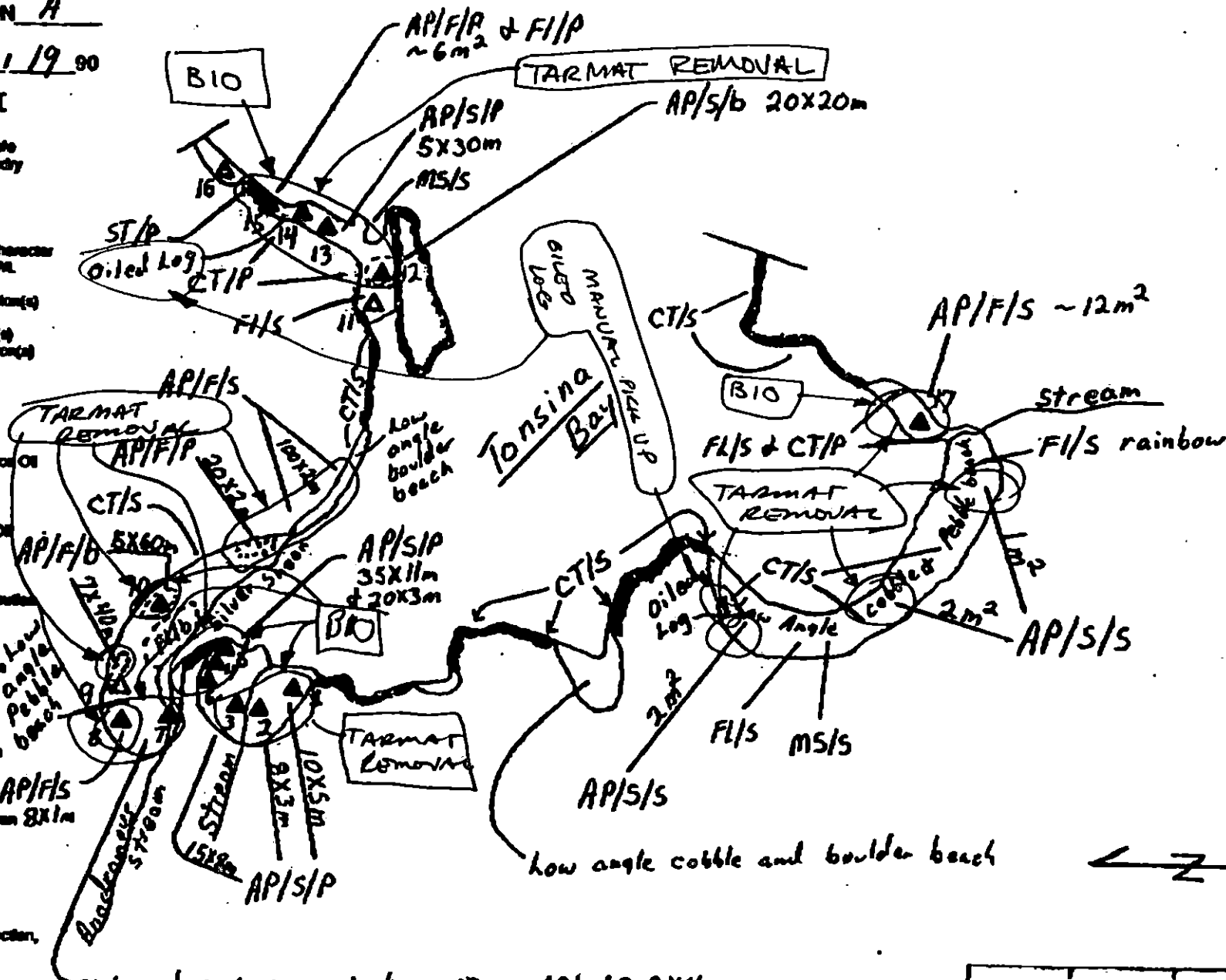
SKETCH MAP - A

CHECKLIST

- ☐ H Area
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. H/M/L/V/L
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pk Location(s)
- ☐ Photo Location(s)

LEGEND

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



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

bedrock cliff

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

OG _____

SEGMENT ST/ _____

SUBDIVISION _____

DATE ____/____/90

CHECKLIST

- ___ N Arrow
- ___ Approx. Scale
- ___ Seg/Sub Entry
- ___ Oil Dist.
- ___ Width
- ___ Length
- ___ % Cover
- ___ Substrate Character
- ___ Est. HWA/LWL
- ___ S&L
- ___ Profile Location(s)
- ___ Profile(s)
- ___ P/L Location(s)
- ___ Photo Location(s)

LEGEND

1 Δ

PT - No Subsurface Oil

2 Δ

PT - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

eee

Old Vegetation

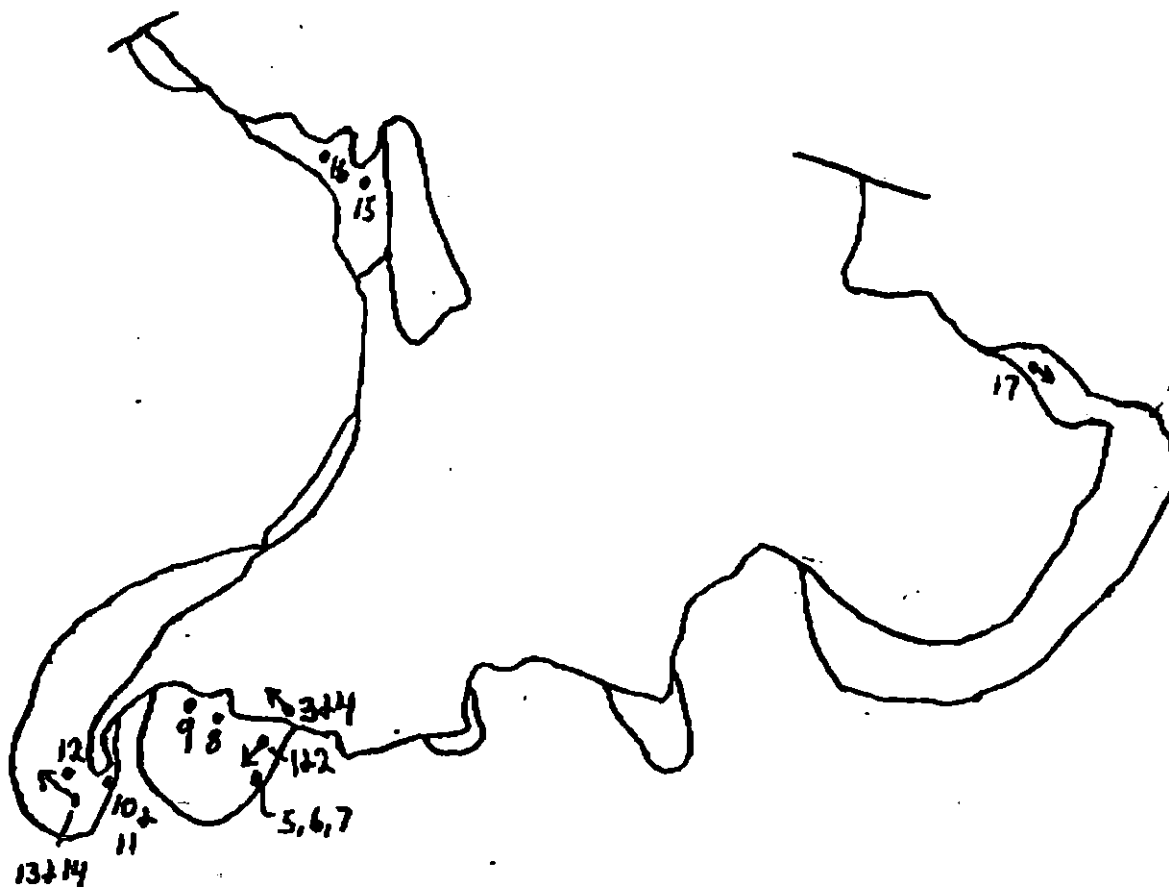
1 $\rightarrow$ 12 vertical direction

Photo location, direction,
and number

SKETCH MAP - B

Photo Location

ST-18-7-1 to 17



See Sketch Map - A

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

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/20/78

Segment ST TB-3 Subdivision A (10F1) Date (mo / day / yr) 4-19-90

Time (24 hr) 1220 Biologist M. LARR

- (A) Substrate type and % of segments: ^{SUBDIVISION}
 (1) Bedrock 60 (2) Boulder 10 (3) Cobble 10 (4) Pebble 15 (5) Sand 5 (6) SS —
- (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 (O)

Photographs: Roll No. ST-18-7

Frames 1-17

BARNACLES

	Dense			Moderate			Sparse			Rare			
	1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
Bedrock	1	2	3	X	X	X	1	2	3	1	2	3	
Boulder	2	3	4	X	X	X	2	3	4	2	3	4	
Cobble	3	4	5	X	X	X	3	4	5	3	4	5	
Pebble	4	5	6	X	X	X	4	5	6	4	5	6	
Sand	5	6		X	X	X	5	6		5	6		NOT PRESENT
SS	6			X	X	X	6			6			NOT PRESENT AT ANY ZONE

MYTILUS

	Dense			Moderate			Sparse			Rare			
	1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
Bedrock	1	2	3	1	2	3	1	2	3	1	2	3	
Boulder	2	3	4	2	3	4	2	3	4	2	3	4	
Cobble	3	4	5	X	X	X	3	4	5	X	X	X	NOT PRESENT IN UPPER INTERTIDAL ZONE
Pebble	4	5	6	X	X	X	4	5	6	X	X	X	NOT PRESENT
Sand	5	6		X	X	X	5	6		X	X	X	
SS	6			X	X	X	6			X	X	X	

STROPODS

	Dense			Moderate			Sparse			Rare			
	1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
Bedrock	1	2	3	1	2	3	1	2	3	1	2	3	
Boulder	2	3	4	2	3	4	2	3	4	2	3	4	
Cobble	3	4	5	X	X	X	3	4	5	X	X	X	NOT PRESENT
Pebble	4	5	6	X	X	X	4	5	6	X	X	X	NOT PRESENT IN ANY ZONE
Sand	5	6		X	X	X	5	6		X	X	X	
SS	6			X	X	X	6			X	X	X	

FUCUS

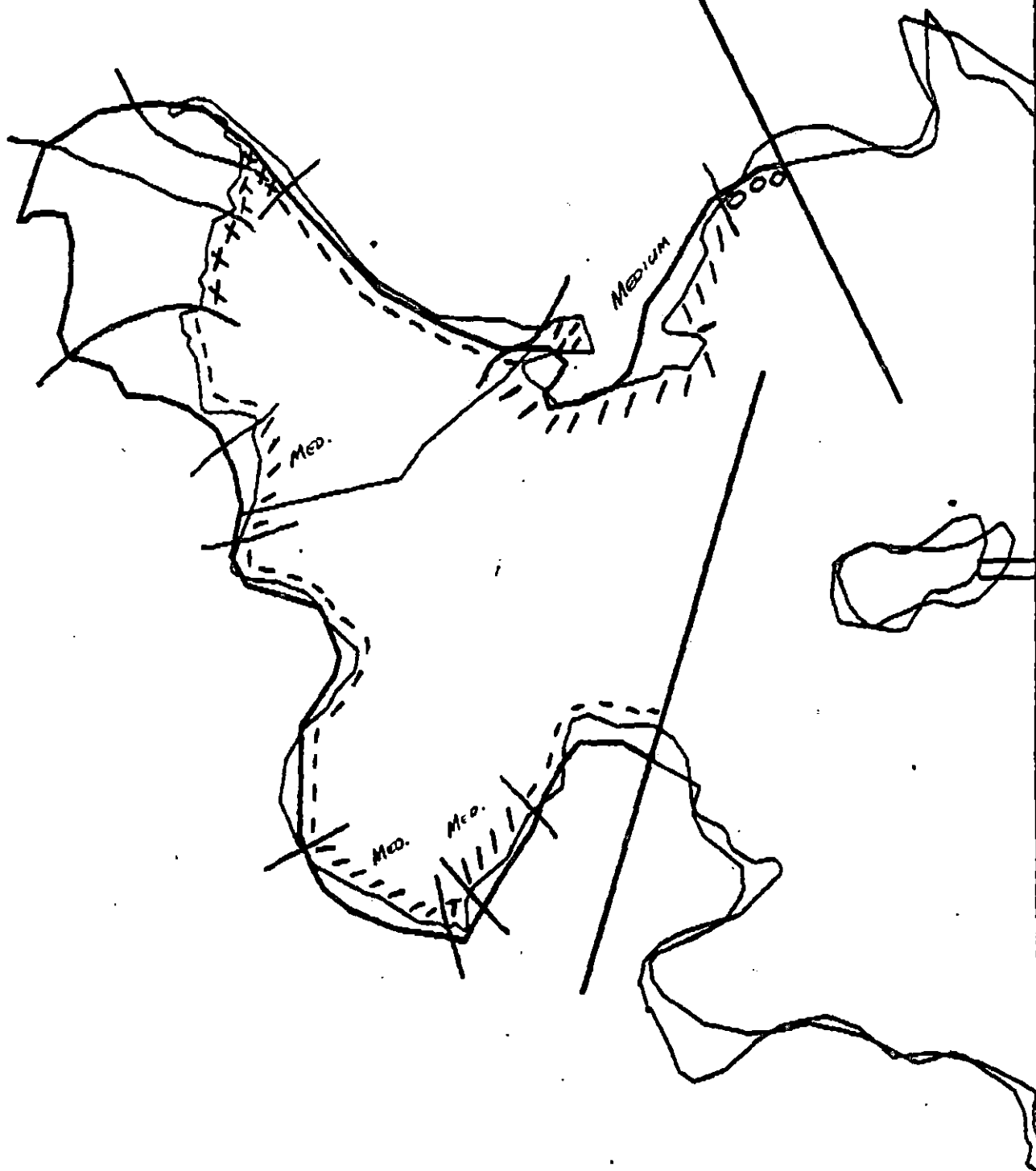
	Dense			Moderate			Sparse			Rare			
	1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
Bedrock	1	2	3	1	2	3	1	2	3	1	2	3	
Boulder	2	3	4	2	3	4	2	3	4	2	3	4	
Cobble	3	4	5	X	X	X	3	4	5	X	X	X	NOT PRESENT
Pebble	4	5	6	X	X	X	4	5	6	X	X	X	NOT PRESENT AT ANY ZONE
Sand	5	6		X	X	X	5	6		X	X	X	
SS	6			X	X	X	6			X	X	X	

Wildlife Observations/ General Comments:

Dipper (2), Flicker (1), Bufflehead (4), N.W. Crow (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.

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

/ A, B (salmon stream)



XXXX Wide

/// Medium

---- Narrow

TTTT Very Light

0000 No Oil

TB-3

ADEC Segment Length: 2371m



Map Key: KEN-122

Name: T. Sawyer

Date: Apr. 19, 90

Date Entered:

ADDENDUM; SUBDIVISION CONSTRAINTS

SEGMENT TB-3 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup and Tarmat Removal Less Than 400m From Eagle Nest More Than 400m From Eagle Nest	CLOSED OPEN
Bioremediation Less Than 400m From Eagle Nest Less Than 100m from stream	CLOSED WORK 6/15 to 7/10 (ADF&G MONITOR REQ.)
More Than 100m From Stream and 400m From Eagle Nest	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 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 manual pickup and tarmat removal.
1J Purse Seine Area	Closed to bioremediation after 7/20. No constraint to manual pickup and tarmat removal.
2M Herring Spawning	Closed to bioremediation before 6/15. No constraint to manual pickup and tarmat removal.
5T Bald Eagle Nest	USFWS bald eagle impact assessment completed on 5/19/90 by Mary Portner indicates an active nest within 400m of the work area. Subdivision is closed to manual pickup, tarmat removal, and bioremediation less than 400m from nest. No constraint to manual pickup, tarmat removal and bioremediation more than 400m from nest.

OTHER ECOLOGICAL CONSIDERATIONS

Sensitive estuary. Restrict trampling and other beach disturbance to essential minimum. Avoid any unnecessary disturbance or damage to unloiled substrate and biota especially intertidal and subtidal algae and seagrass. Restrict boat and air traffic and all disturbance to essential minimum. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from nests. No disturbance to stream bed or bank. No flushing of pollutants or sediment into stream drainage.

FOSC

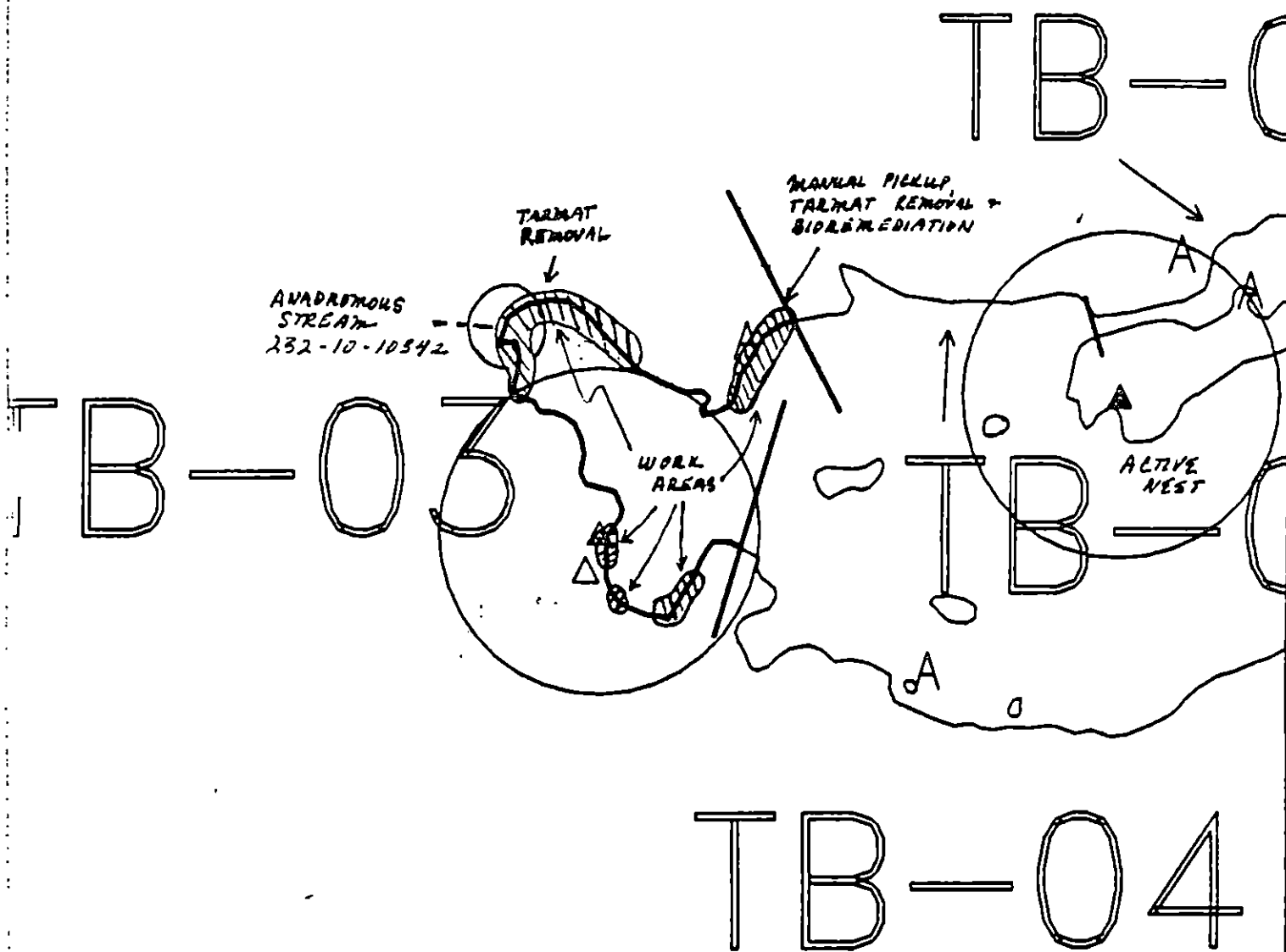
Date

Prepared by

Date

6/7/90

6/13/90



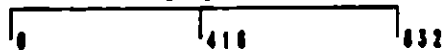
Exxon Company, USA

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

1 inch = 1364 feet

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/TB-003 STREAM NO: 232-10-10342 DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
1J Purse seine area (7/1 to 8/30)
5T All Bald Eagle nests (3/1 to 6/1)
2M Herring spawning (4/1 to 6/15)
4GA State Marine Park Alaska State Wilderness Park
6NN Recreation: Sportfishing
8AA Sensitive estuary

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Subject stream is located within subdivision A (1 of 1). No additional ecological constraints.

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

Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommend manual removal of pavement in areas indicated on attached sketch map. Contact ADNR for entry permit. Work from 6/16 to 7/1 with approval of USFWS regarding eagle nest.

TAG COMMENTS: BIOREMEDIATION (CUSTOMER) AS REQUIRED FOLLOWING TARMAT REMOVAL

TAG APPROVAL DATE: 5/18/90
ADEC Art Weinger
EXXON Andy Gar
NOAA Gary Petros
USCG G.A. Reiter
FOSC [Signature] DATE: MAY 25 1990

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
 AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)
 1E Main Bay Hatchery release (4/20 to 6/15)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
 AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (6/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (6/11 to 7/25)
 Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
 ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
 ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (6/1 to 9/15)
 6V Anchorages (6/1 to 9/15)
 6W Forest Service cabins (6/1 to 9/15)
 6X Lodge (6/1 to 9/15)
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 H Finfish harvesting
 I Deer harvesting (8/15 to 2/28)
 J Invertebrate harvesting
 Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
 AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

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 ADI & G.
This should be used for AMAD TB-003 Stream #232-10-10342. Refer
to SSAT TB-003 file for operations notes.

 Parry L. Yoes 4/30/90

DY/mo.

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

NAME _____

SIGNATURE _____

☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

ADFG

~~ADFG~~NAME Doug HillSIGNATURE Douglas M. Hill☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS Recommend Manual pickup and removal of tar mats and turp on both Southwest and Northeast banks of the tide flats area (See adjacent maps). Manual pickup and removal of turballs, potholes and mats from the tide flats area - both in the gravel and vegetated oiled area - 0.1 ft. and to mid-intertidal zone. (Sediment saturated with oil film at MITZ) Pickups 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

Group A Prescreening

ADF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS SS DS TS AVS SCH MMS PTA 2 REGION: PR CP CA AP
 METHOD: Aerial Ground Boat Cordova-Adjust
 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: 1425 17 LOW TIDE TIMES: 1328 23 AGENCY: ADF&G
 6 SEGMENT #: TB-3 18 LOW TIDE HTS: 2.0 24 PHOTOS TAKEN: 90-DDH-806-H
 7 STATION #: 19 TIDE HT AT SURVEY: 25 ROLL #: DDG Frame: 11-14
 8 K-UNIT: Ebb Slack Flood Slack 26 VIDEO TAKEN: Y (N) TAPE: Starts Ends
 9 STAT AREA: 232-10 20 USCG QUAD: Soldovia A-3
 10 LAT: 59° 25' 0 11 LONG: 151° 19' 0 28 SAMPLES TAKEN: Y (N) Number #DDH/LPG-4/7/90-1110
 12 SOURCE: Map Loran OIL Oil
 13 LOCATION: Tonsina Bay - N.W. head of bay Sediment Sediment
 14 DESCRIPTION: head of Tonsina Bay / NW Corner Biological Biological
 Water Water

EXTENT OF OIL

	SHORELINE				STREAM			
	L	V	H	S	L	V	H	S
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION								
30 OVERALL OIL IMPACT: N VL L M H								
31 OIL TYPE: Pooled <u>Houses</u> <u>Tar</u> <u>Asphalt</u> <u>Sticky</u> <u>Stain</u>								
32 OILED DEBRIS: <u>(Y)</u> <u>(N)</u>								
33 SHORELINE TYPE: Headland <u>Low-lying Rocks</u> <u>Beach</u> <u>Cove</u> Lagoon <u>Marsh</u>								
34 WAVE EXPOSURE: High Moderate <u>Low</u>								
35 SUBSTRATE TYPE: Bedrock <u>10%</u> Boulder <u>10%</u> Cobble <u>20%</u> Gravel <u>50%</u> Sand <u>10%</u> Mud/silt								

36 CATALOGED ANAD. FISH STREAM Y (N)
 37 CATALOG #: 232-10-103
 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

COMMENTS: # oil sample was taken on 4-7-90. This area is a mess!
It contains oil in every weathered state. Extensive tarballs
seen the INT; rock faces; snags have coatings of oil.
Sheening occurs in the stream channel at MTR when walked
in. Sheening occurs at the edge of the channel at the LTR
at the time of sampling.

SG Sanger

SEGMENT ST/BOC3

SUBDIVISION A

DATE Apr 1 19 90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Out
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Ent. HABITAT
- ☐ SSI
- ☐ Photo Location(s)
- ☐ Photo(s)
- ☐ Photo Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
PB - No Substrate Oil

2 Δ
PB - Substrate Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

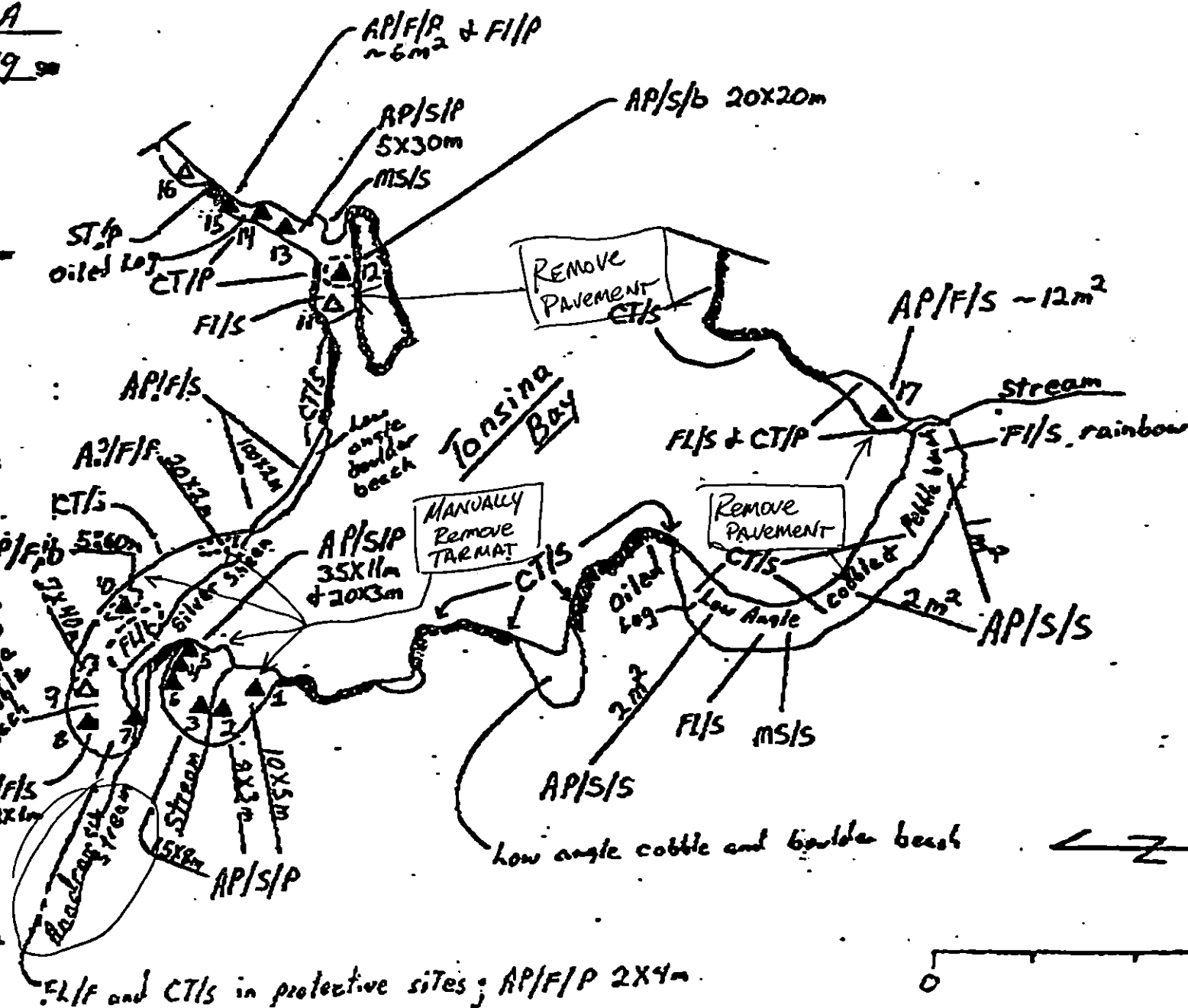
CT/S
Faint Distribution 8X1m

eee
Oil Vegetation

1 Δ

Photo location, direction,
and number

SKETCH MAP - A



150-150 12:58

P-10

DESCRIPCIÓN

oil (Clausse) found ~~interstitial~~ in interstitial space
Shore at edge of stream - eggs nearby (possibly small)
- termat saturated into vegetation
Aerial view of N.W. Tansing stream

12

1513

共 14

TONSINA BAY

NW CREEK OF
TIDE FLAT CREEK IN
HEAD OF BAY CR.

TB-3

ANAL CAT. #

232-10-10342

-terminals
throughout grass
in $\approx 3 \times 5$

hillside

Oiled tree b'r

sheering off
in water--
when subs
is complete

- Arising from water when sediment disturb

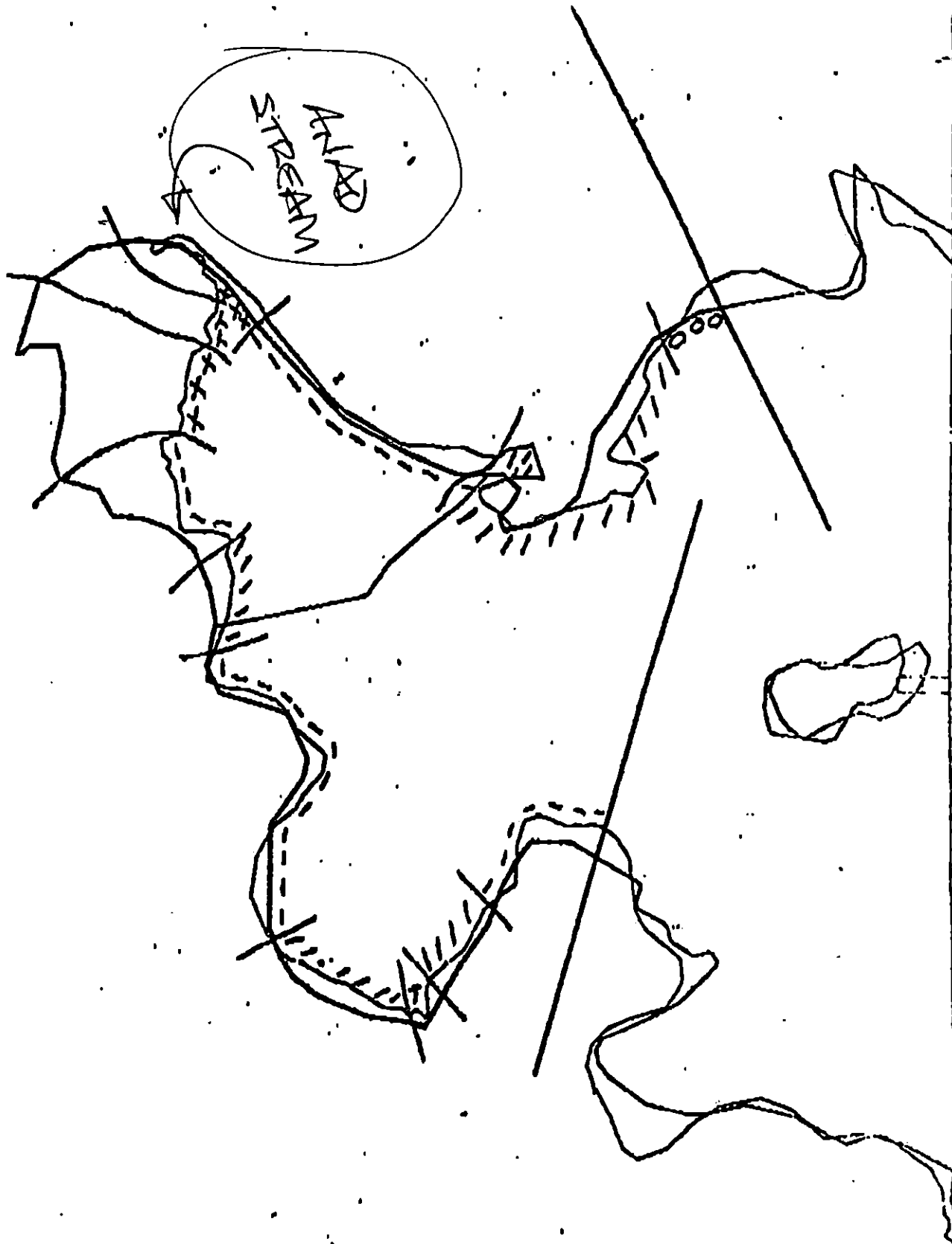
Shear arising
along water-land
interface:

oil rock
w/ spruce
needles of
long rock
to small
terrell (fir)
5 meters
)

shale-oil (mousse)
found throughout
this pocket beach interstitially.
ter potties (5-7" diameter)
found also

• Anadscot Recommended.

- Sample taken
- Photo frame # and
- shot direction



XXXX Wide

// Medium

-- Narrow ADEC Segment Length: 2371m

TTT Very Light

000 No Oil

TB-3



Map Key: KEN-122

Name: T. Sawyer

Date: Apr. 19, 90

Date Entered:

ALAB
STREAM

SUBJECT
ANTHROPICS
SYMBOL #
257 1C-1C342

BALD EAGLE
NEST

ECOLOGICAL MAP

AA, AB 15+ ST-1

WPI
LGA
EAG
EAA

XXXX Wide

/// Medium

-- Narrow. ADEC Segment Length: 2371m

TTT Very Light

0000 No Oil

TB-3

0 100 200 300
METERS

Map Key: KEN-122

Name: T. Sawyer

Date: Apr. 19, 90

Date Entered:

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 Inpol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to uncolled biota and substrate. Sensitive estuary.

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

FOSC

[Signature]

Date

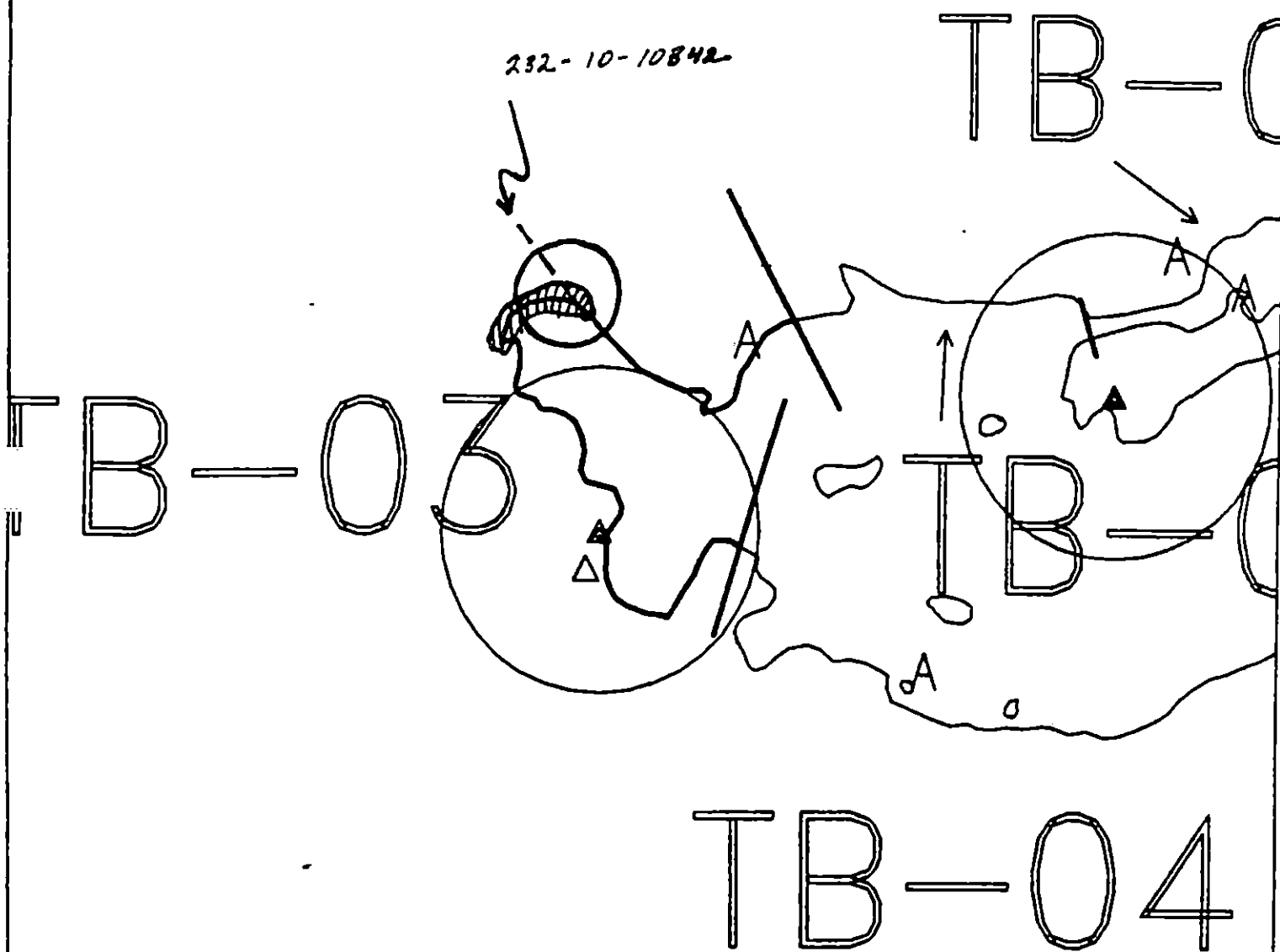
6/17/90

Prepared by

[Signature]

Date

6/12/90



ANADROMOUS STREAM EVALUATION



Exxon Company, USA
Map Key: KEN-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

SHORELINE EVALUATION

SEGMENT ST/ TB-04 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
4GG Kachemak Bay State Wilderness Park
6NN Recreation: Sportfishing

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: J. David McManis DATE: 5/1/90

OILING CATEGORIZATION:

Wide 193 m: Medium 27 m: Narrow 2217 m: V. Light 541 m: No Oil 221 m
Subsurface Oil Observed: Yes X No Maximum Depth 13 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of tarmat and mousse, 2) burning of oiled logs, and 3) bioremediation of areas shown on attached sketch map. Work should be conducted after 6/15 based on herring constraints.

TAG COMMENTS: MONITORS TO DETERMINE SIGNIFICANCE OF LOGS

TAG APPROVAL DATE: 5/1/90
ADEC Art Weimer Art Weimer
EXXON Andy Getz Andy Getz
NOAA Gary Petrus Gary Petrus
USCG Kenneth Keane Kenneth Keane

FOSC: W L DATE: 5-6-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / TB-04 SUBDIVISION: A (1 of 1) DATE 4/21/90

~~NOAA~~
~~USGS~~

NAME DONALD A. MacDONALD SIGNATURE Donald A. Macdonald

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

This segment has no special concerns other than a rich intertidal zone. The Tomsina Bay has both river and sea otter with a sea otter pupping beach on Long Island. It was classified as soft asphalt pavement generally appears to be less weathered than what I would consider asphalt however there does not appear to be a good surface classification for it. If it has been subsurface oil then it would be classified as OK (oiled but not saturated). The 00 basically agrees with this. The rest of the SSAT report is fine.

ADEC

NAME JOHN R. REED SIGNATURE John R. Reed

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

pavements and some saturated substrates still remain at Grim Beach

I am recommending manual removal or breakup of asphalt pavements in TB-04. This is a long segment with vertical headlands and small pocket beaches. There is a 1-2m bathtub ring on protected vertical rock faces. Grim Beach on the western end of the segment was hot water washed, flooded, and bioremediated. Some near shore sheens could be seen at Grim beach. Several asphalt pavements can be found on beaches in the Eastern end of TB-04. I agree with information on SSAT Form.

LAND MANAGER

NAME SHARIE MATHYEN-TONEY SIGNATURE Sharie Mathyen-Toney

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

This segment TB4 is within Kachemak Bay Wilderness Park, receives use from campers, kayakers, sport fish. This segment includes Grim Beach on the west side end where the summer of 1989 was treated with hot water & cold water wash & flooded and then bioremediated, I recommend additional treatment. The segment contains small pocket beaches, steep rock faces, one notable stream with large volume output, good test sites. On the eastern portion of the segment referred to as Isthmus Beach, observed asphalt pavements, recommend treatment manually shoveling oil & bagging it & moving the rocks over, the area needs to be cleaned on the low tide only. Wildlife in the area: bald eagles, mallard ducks, glaucous-winged gulls, cormorants, harlequin ducks, scoters, sea otters.

SHORELINE OILING SUMMARY

REVISION NO. 04/13/90

OG SAWYER ^{NOAA} USEG MACDONALD SEGMENT ST/ TB-004
 BIO CHRR LAND REP Methven-TONEY DNE SUBDIVISION A (1 OF 1)
 EXXON BOYEL ADEC REED TIME 14:15:10 12:45
 TEAM NO. 18 TIDE LEVEL +3.5 +2.0 DATE 4/12/90
 EST. SUBDIVISION LENGTH: 3639 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: WEST to EAST
 SURFACE SEDIMENTS: R 45 % B 30 % C 10 % P 10 % G 0 % S 5 % M 0 % V 0 %
 SLOPE: Long 50 % Hang 0 % Vert 50 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 125 m M 60 m N 2605 m VL 350 m NO 299 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	FC	FB	FP	FS	1	2	3	4	5	6	7	8	EW	U	M	L
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL																

PAVEMENT H (F) S 1815 sq. m by 3 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE PLASTIC
CONTAINERS, E#BAGS 2

Photographs:

Roll No. ST-18-70-1 (8)Frames 39 1 to 7

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM)	BELOW		OIL / FILM COLOR								PIT ZONE	A N A	SHEEN (Y/N)	Y	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	6	7	8					
1	25						0-5													Y	10	C-G, S
2	25																					C-G, S
3	30						0-12															C-G, C
4	25						0-10															C-P, S, G
5	20						0-8													Y	15	B-P, S
6	15						0-8													Y	10	B-P, G, S

COMMENTS ST/TB004: This segment consists of nearly equal amounts of beached and low angle beaches. Both the east and west ends of this segment have significant oiling, whereas the central part has somewhat less oiling.

REVIEWED BAT DATE 22 Apr 90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04-1-90

SEGMENT ST/TB004 SUBDIVISION A (1 OF 1)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SL BL	OR BR	GR BR	BL BL	BL BL	BL BL	SU	U	M	U				
7	25					/										/							S-C, S
8	20					/										/					N	10	P-S, C
9	25					/										/							S-S, C
10	25					/										/							P-P, S
11	30					/										/							P-C, S
12	40					/										/					N	25	P-S, G
13	35	/					8-13	/		/						/							P-S, C
							.																
							.																
							.																
							.																
							.																
							.																
							.																

COMMENTS

REVIEWED BA7 DATE 22 Apr 90

OG T. Myer
 SEGMENT ST/TB004

SUBDIVISION A

DATE Apr. 1 21 90

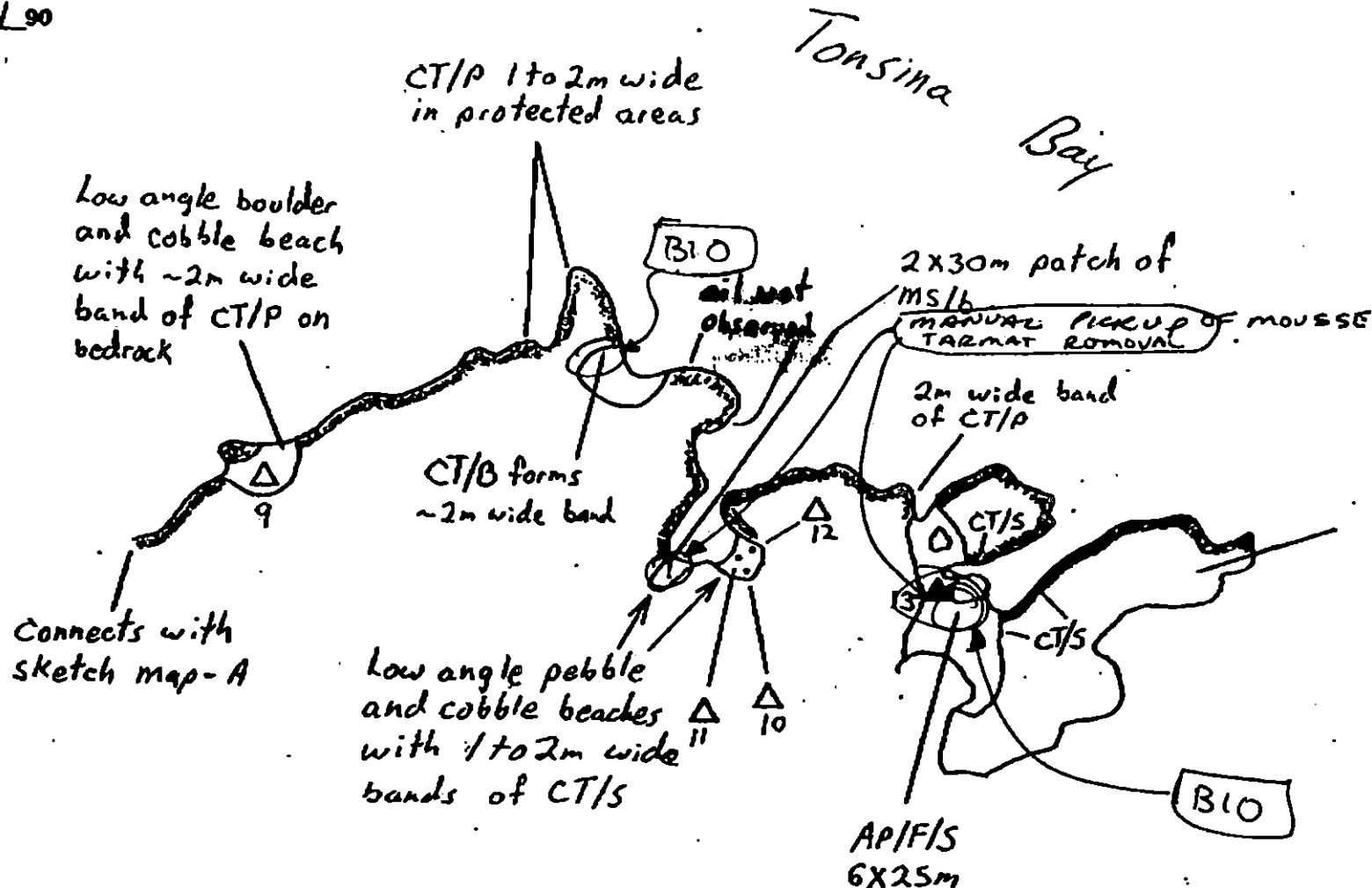
SKETCH MAP - B

CHECKLIST

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

LEGEND

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



see sketch map - A

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

UG I myer

SEGM TITB004

SUBDIVISION A

DATE Apr 12 90

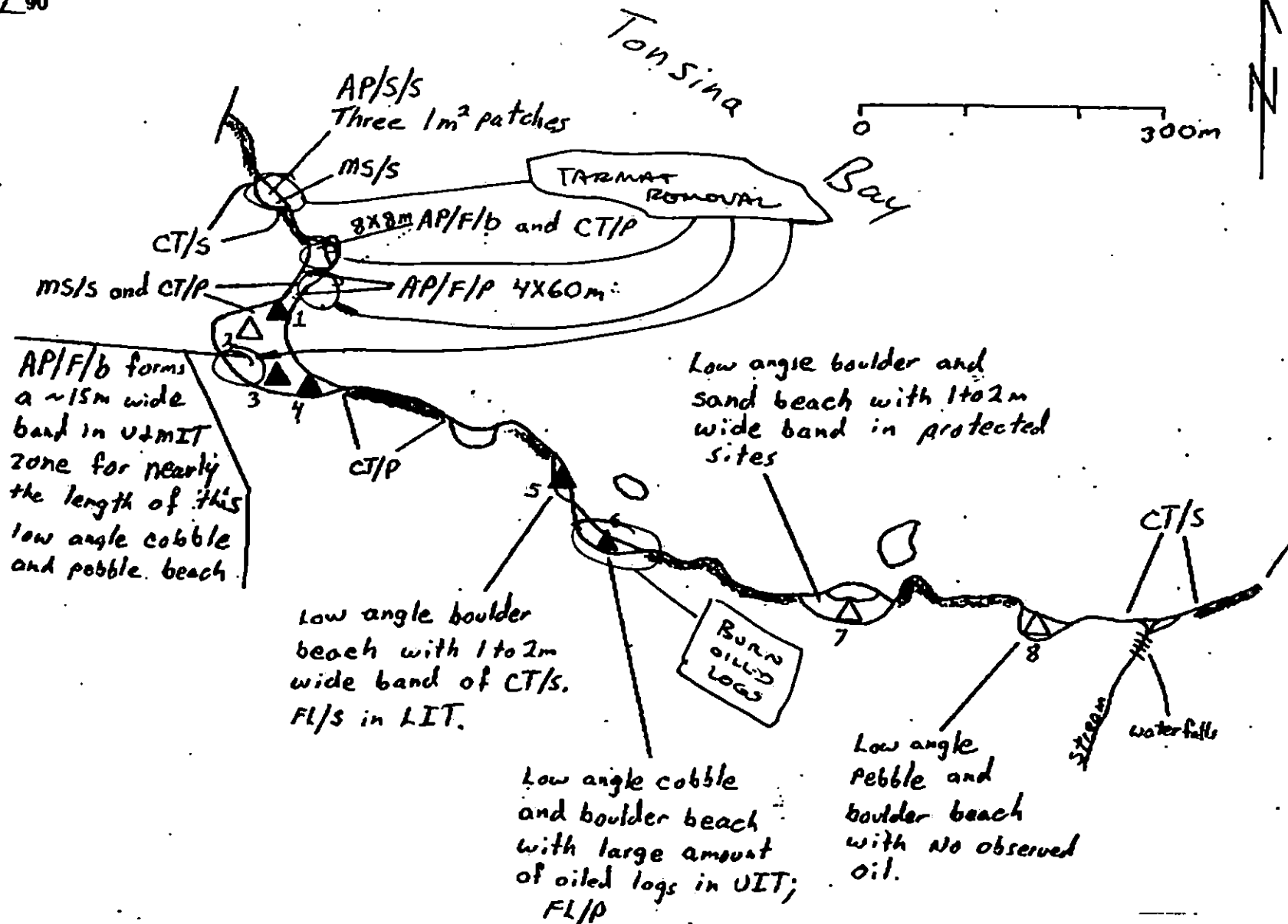
CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. H/W/L/W/L
- ☐ SSI
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pli Location(s)
- ☐ Photo Location(s)

LEGEND

- 1 Δ
Pl - No Subsurface Oil
- 2 Δ
Pl - Subsurface Oil
- CT/C
Continuous Distribution
- CT/D
Broken Distribution
- CT/P
Patchy Distribution
- CT/S
Splashed Distribution
- eee
Oiled Vegetation
- 1 $\rightarrow$
Photo location, direction, and number

SKETCH MAP - A



Oil Character Length (m): AP 140 PO 0 CV 0 CT 700 ST 0 MS 40 PT 0 TB 0 FL 90 NO 300

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / TB004 Subdivision A (1 OF 1) Date (mo / day / yr) 4-21-90Time (24 hr) 1415 Biologist MARK CARR

- (A) Substrate type and % of ^{SUBDIVISION} segments:
 (1) Bedrock 45 (2) Boulder 30 (3) Cobble 10 (4) Pebble 10 (5) Sand 5 (6) Silt 0
- (B) Overall % cover of biota (% of ^{SUBDIVISION} segment): Dense 80 Moderate 10 Low 10
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)

 Photographs:
 Roll No. ST-18-7 / ST-18-8
 Frames 39 / 1-8

BARNACLES

	Dense			Moderate			Sparse			Rare			
	1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
BEAD			X			X			X			X	
POULD	2	2	2	2	2	2	2	2	2	2	2	2	
COBB	3	3	3	3	3	3	X	X	3	3	3	3	
PEBB	4	4	4	4	4	4	4	4	4	4	4	4	NOT PRESENT
	5	5	5	5	5	5	5	5	5	5	5	5	NOT PRESENT AT ANY ZONE
	6	6	6	6	6	6	6	6	6	6	6	6	

NOT PRESENT

NOT PRESENT AT ANY ZONE

MYTILUS

	Dense			Moderate			Sparse			Rare			
	1U		1L	1U	1M	1L	1U	1M			1M	1L	
BEAD													
POULD	2	2	2	2	2	2	2	2	2	2	2	2	
COBB	3	3	3	3	3	X	3	3	3	3	3	3	NOT PRESENT
PEBB	4	4	4	4	4	X	4	4	4	4	4	4	NOT PRESENT IN DIFFERENT ZONE
	5	5	5	5	5	5	5	5	5	5	5	5	
	6	6	6	6	6	6	6	6	6	6	6	6	

NOT PRESENT

NOT PRESENT IN UPPER
INTERSTITIAL ZONE

GASTROPODS

	Dense			Moderate			Sparse			Rare			
	1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
BEAD			X			X			X			X	
POULD	2	2	2	2	2	X	2	2	2	2	2	2	
COBB	3	3	3	3	X	X	3	3	3	X	3	3	NOT PRESENT
PEBB	4	4	4	4	4	4	4	4	4	4	4	4	
	5	5	5	5	5	5	5	5	5	5	5	5	NOT PRESENT IN ANY ZONE
	6	6	6	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	1M	1L	1U	1M	1L	1U	1M	1L	
BEAD			1L			1L							
POULD	2	2	2	2	2	2	2	2	2	2	2	2	
COBB	3	3	3	3	3	3	3	3	3	3	3	3	NOT PRESENT
PEBB	4	4	4	4	4	4	4	4	4	4	4	4	NOT PRESENT IN ANY ZONE
	5	5	5	5	5	5	5	5	5	5	5	5	
	6	6	6	6	6	6	6	6	6	6	6	6	

NOT PRESENT

NOT PRESENT IN ANY
ZONE

Wildlife Observations/ General Comments:

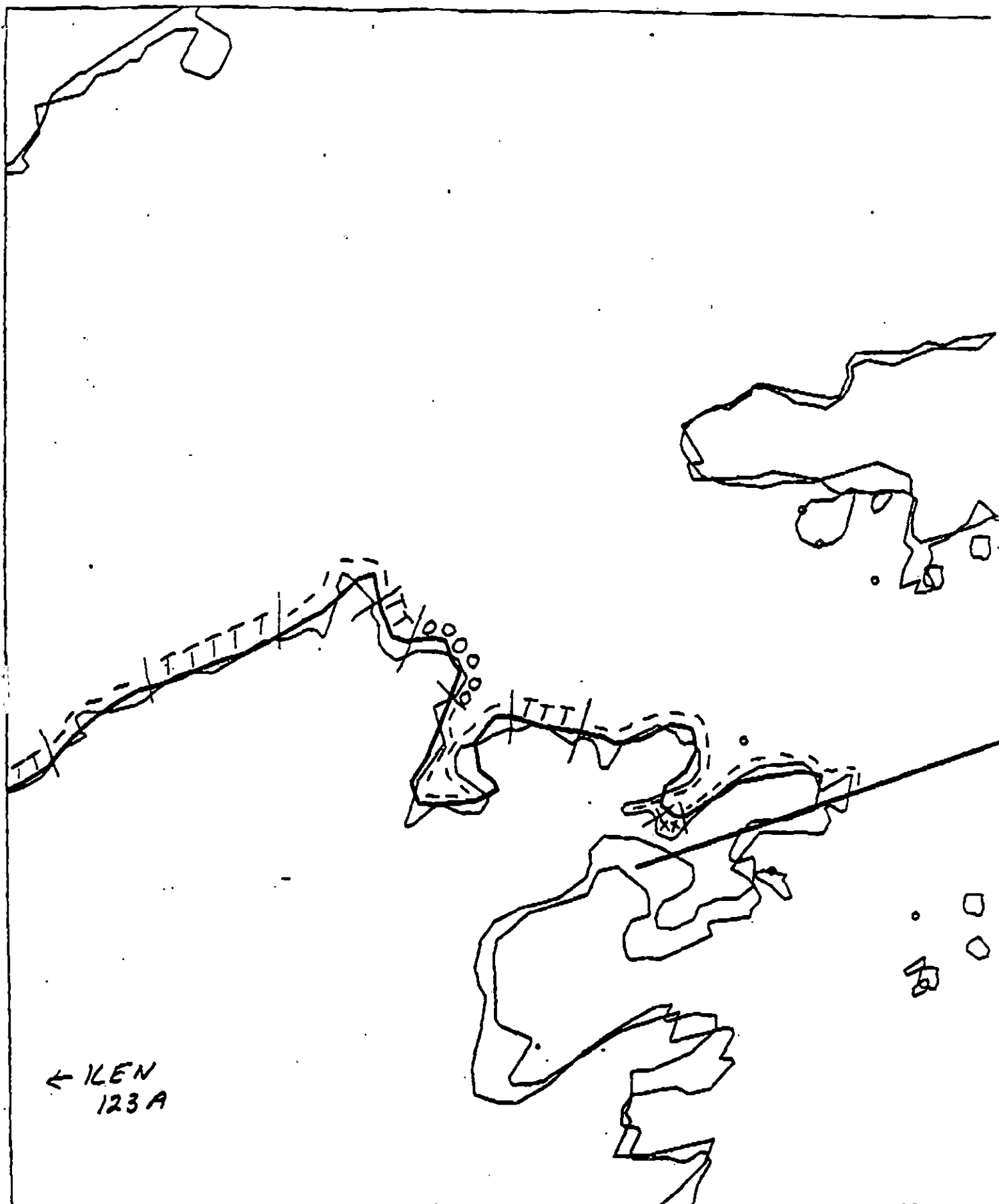
 Bald eagle (1), immature
 Cormorant (3)

 Mallard ducks (8)
 Harlequin ducks (15)

 Glaucous-winged gull (21)
 Scoters (4) Sea otter (1)
 Steller's Jay (1)

Ecological Considerations:

 2M (HERRING SPAWNING), 4GG (Alaska State Park / Wilderness),
 1BNN (SPORT FISHING)



← ILEN
123A

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

TB-4

ADEC Segment Length: 3171m

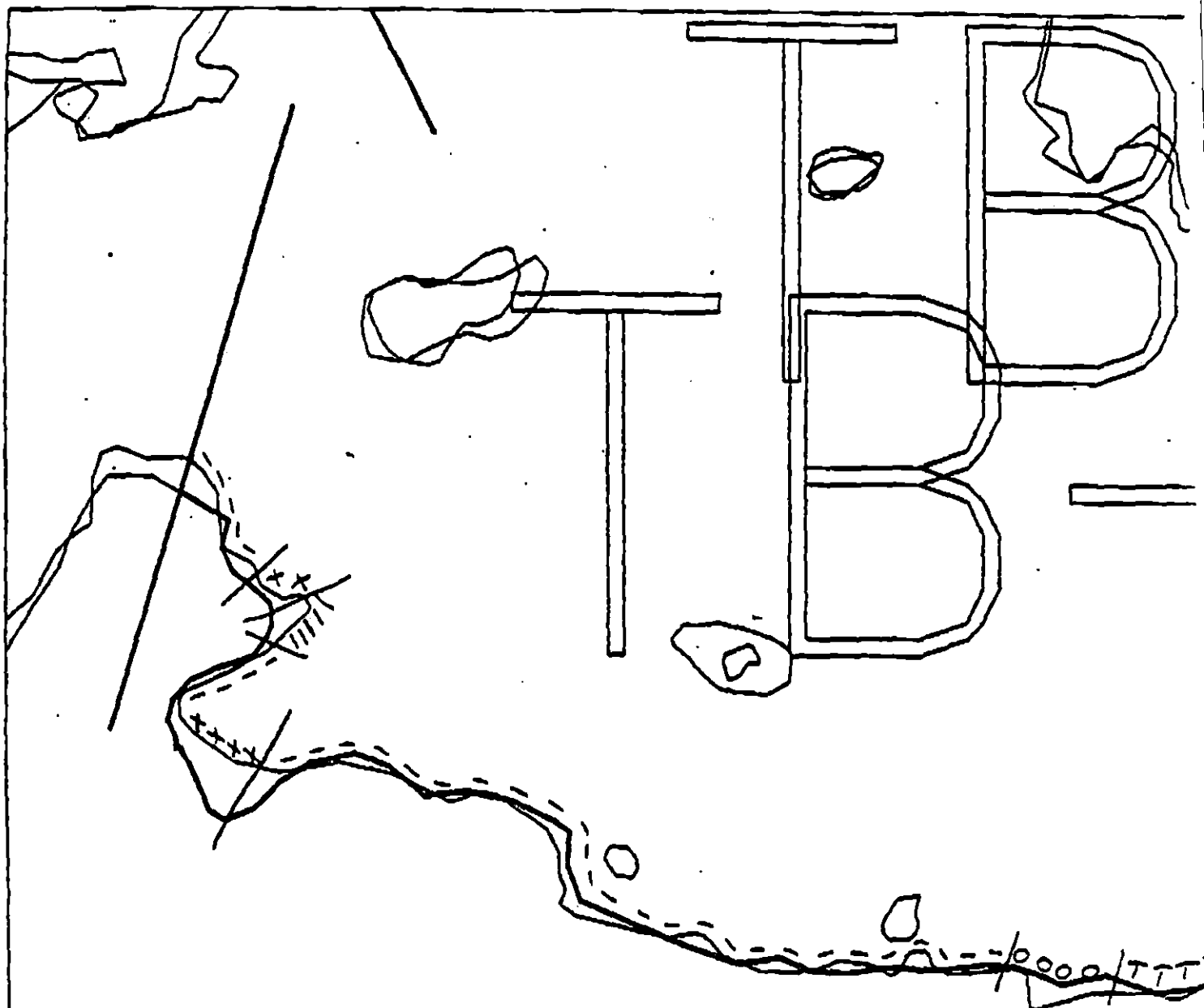


Map Key: KEN-123b

Name: T. Sawyer

Date: Apr. 21, 1990

Data Entered:



KEN
123B

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

TB-4

ADEC Segment Length: 3171m



Map Key: KEN-123a

Name: T. Sawyer

Date: Apr 21, 1990

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT TB-4 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
Bioremediation	WORK 6/15 - 7/10 OR AFTER 8/10

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1J	Purse Seine Area	Closed to bioremediation between 7/10 and 8/10. No constraint to manual pickup and tarmat removal.
2M	Herring Spawning	Closed to bioremediation prior to 6/15. No constraint to manual pickup and tarmat removal.
5T	Bald Eagle Nest	NO CONSTRAINT. USFWS bald eagle impact assessment conducted on 5/19/90 by Mary Portner indicates no active nests within 400m of the work area.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic to essential minimum after 7/10. Restrict boat traffic to essential minimum. Avoid any unnecessary disturbance or damage to unrolled substrate and biota, especially intertidal and subtidal algae and seagrass.

TAG APPROVAL DATE 6/01/90.

ADEC Ray Morris Ray Morris

EXXON Amey Jean Amey Jean

NOAA G.A. Reiter G.A. Reiter

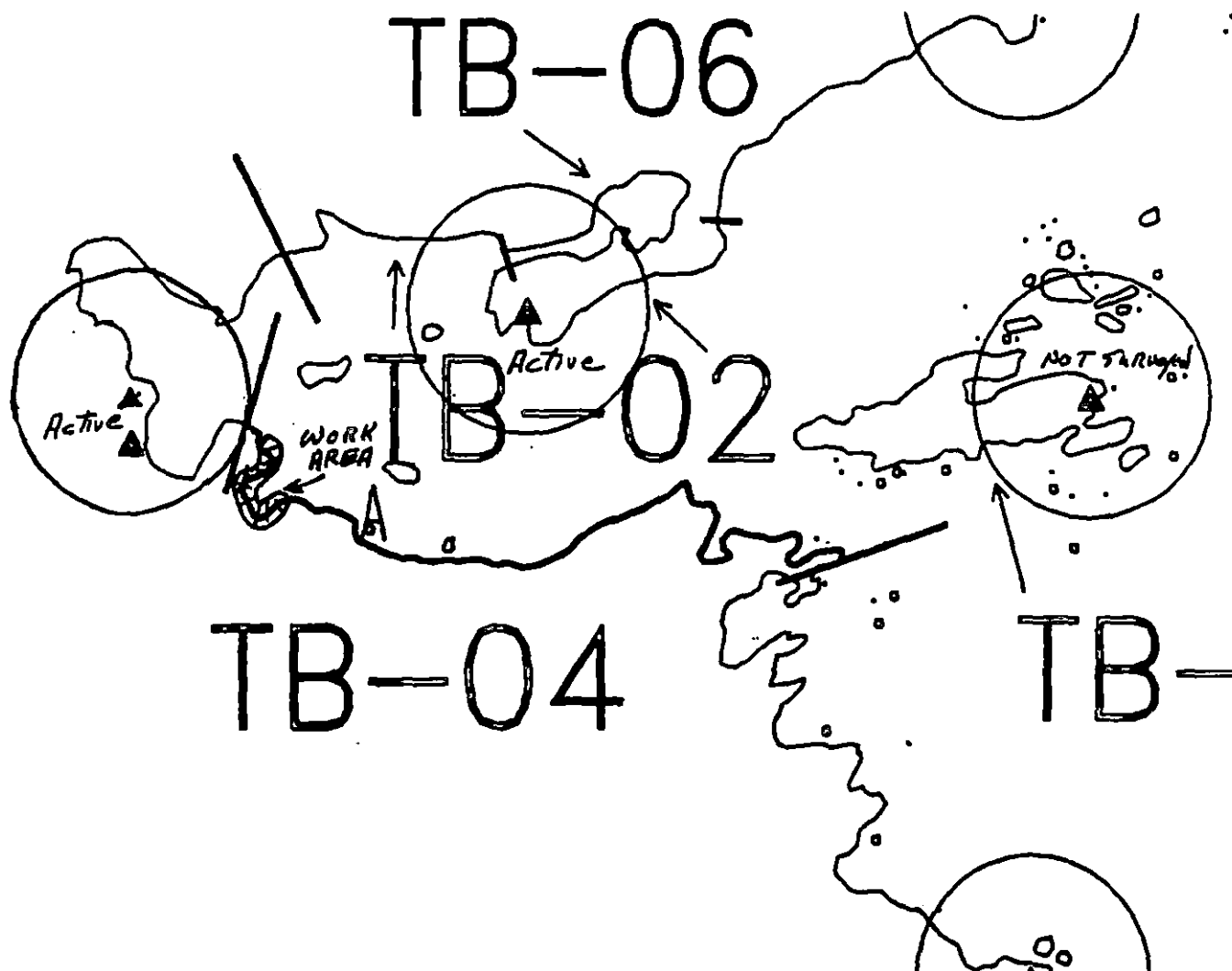
USCG G.A. Reiter G.A. Reiter

FOSC D. Rome, CDR, USCG DATE 6/2/90
Acting

Prepared By: Andra Meyer Wx

Date 5/31/90

*Incorporates information from
USFWS bald eagle survey 5/19/90.*



ECOLOGY MAP ^{5/31}

SEGMENT TB-4

SUBDIVISION A (1 of 1)



Seabird Colony



Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ TB-05 SUBDIVISION B (2 OF 2) DATE 4/27/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1J Purse seine area (7/10 to 8/10)
2M Herring spawning (4/1 to 6/15)
4GA Alaska State Wilderness Park
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6NN Recreation: Sportfishing
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: J. Daniel McManis DATE: 5/11/90

OILING CATEGORIZATION:

Wide 91 m: Medium 94 m: Narrow 0 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of tarmat and 2) bioremediation of areas shown on attached sketch map. Work should be conducted between 6/15 and 7/10 based on herring spawning and purse seine area with approval of USFWS regarding eagle nest.

TAG COMMENTS: MANUALLY RAKE THE SURFACE TO BREAK UP/EXPOSE THE SURFACE OIL PRIOR TO BIOREMEDIATION IN AREAS 2 + 3

TAG APPROVAL DATE: 5/11/90
ADEC ART WENGER
EXXON ANDY TEAL
NOAA JACOB
USCG D.D. ROME

FOSC: [Signature] DATE: 6/1/90

PWS, SEWARD AND SEWARD ECOCOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
 AGENCY CONTACT PERSON: ADF&G John Morison 267-2324

1C Salmon fry nursery area (4/31 to 7/31)
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214

1D Esther Hatchery release (4/15 to 6/15)
 1E Main Bay Hatchery release (4/20 to 6/15)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site

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

AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511

1I Gill net area (8/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (8/11 to 7/25)

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

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

2M Herring spawning (4/1 to 6/15)
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235

30, 3Q Harbor seal and sea lion pupping (5/15 to 7/1)
 Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.

AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
 ADF&G Don Calkins 267-2403

5R Seabird colony (5/1 to 9/1)
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
 ADF&G Tom Roth 267-2206

5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6U Recreation: Tent sites (8/1 to 9/15)
 6V Anchorage (8/1 to 9/15)
 6W Forest Service cabins (8/1 to 9/15)
 6X Lodge (8/1 to 9/15)
 6Y Special use destination
 6UN Sport Fishing
 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 7HH Finfish harvesting
 | Deer harvesting (8/15 to 2/28)
 | Invertebrate harvesting

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / TB-5 SUBDIVISION: B DATE 04/27/90

NOAA
USFWS

NAME STEPHEN STURM SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS - Subdivision B consists of 3 pebble-to cobbles veneered w/fg substrate 'beaches' located inside a relatively small tidal basin with very poor circulation - resulting in anaerobic conditions. Two of these beaches were bioremediated prior to the winter of 89-90 with little success as a result of very poor flushing ^{and} low permeable substrates.

It is recommended that sediments should be mechanically tilled, plowed or otherwise disrupted to improve the exposure of subsurface oil to natural removal processes. Tilling may be combined with nutrient addition to speed microbial degradation. Mechanical mixing of the sediments will increase physical and chemical weathering, as the oil is brought to the surface, and it will prevent the formation of tar mats. This procedure can be combined with either hot H₂O header washing or physical removal of oiled sediments.

ADEC

NAME Wesley Ghormley SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

- Segment TB-5 consists of a long channel w/ vertical bedrocks w/oil coverage consisting of coat/cover. At the end of the channel are 3 low angle (10-15% grade) pebble beaches. Locations #1 & #2 both have warning signs due to bioremediation in progress, while Location #3 has ADEC transect. The entire area gives you an eerie feeling for no wildlife is visible & dead bull kelp is floating in the water along w/ silver sheen. The area is also extremely sheltered w/ very little wave action.

Treatment suggested

LOCATION #1 - Suggested clean-up consists of using a Hot H₂O Header system to flush oil to water to be retrieved. I also recommend tilling area before the use of the header system, all 3 beaches have extremely tight sediment & if not tilled the Hot H₂O will not penetrate thru the surface to flush oil. The slope of the beach is ideal for the Hot H₂O to flow gradually & to penetrate the tilled sediment there for flushing oil as it flows to the Litz. Biota is very rare on the Litz so work could be done.

LAND MANAGER

NAME J. David McMahon (ADU) SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Segment TB-5B consists of 3 small beaches within a protected lagoon at the east end of Long Is. This is within Kachemak State Wilderness Park and a high public-use area. Subsurface oil was present at varying depths on all beaches but was lighter on the southern beach (beach #3). Biota on all beaches especially #1 & #2 (which had been bioremediated) seems sparse relative to others in the area. Clean-up is recommended, perhaps by warm water flushing.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / TB-5 SUBDIVISION: B DATE 4/27/90

USCG

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC

NAME Wesley Gihormley SIGNATURE Wesley Gihormley

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

at any tide height. I also suggest stringing boom in the entrance of Cove to catch any oil that escapes primary boom. There will be a large amount of oil flushed from these beaches.

Location #2 - Treat as above but oil on this beach is up to 14 cm in depth. There is some shiny black oil on surface & when pits were dug a very strong petroleum smell was present in pit, also it would fill with jet black oil mixed w/water. You can possibly remove a top layer of this beach & bring in clean sediment & gravel after flushing & filling removed oil.

Location #3 - Manually remove tar patches & asphalt pavement. Also vertical bedrock cliffs need to be treated w/ Hot H₂O to remove coat/cover.

- After observation of the 2 bioremediation beaches I do believe one would come to the conclusion that bioremediation has been a complete failure here.

- I also recommend tag team evaluate area!

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

2/2

12/17.

SHORELINE OILING SUMMARY

REVISION NO. 04/12/90

OG K. DEBOSSCHERE USCG SEGMENT ST/ TB-5
 BIO DREED LAND REP J. David McMahon SUBDIVISION B (2 OF 2)
 EXXON T. D1#2 ADEC Wesley Ghormley TIME 19:45 to 20:20
 TEAM NO. 9 TIDE LEVEL 4 TO 3 DATE 4/27/90
 EST. SUBDIVISION LENGTH: 240 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: NW to SE
 SURFACE SEDIMENTS: R 8 % B 2 % C 5 % P 85 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 95 % Hang 5 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 170 m M 70 m N 0 m VL 0 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	10	15	17	18	20	25	30	35	40	45	50	55	SU	U	M	U
ASPHALT PAVEMENT			X			X								X		
POOLED																
COVER				X		X								X		
COAT		X				X								X		
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM			X			X								X		
NO OIL													X			X

PAVEMENT: H F S 9 sq. m by 1 cm

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 0

#BAGS 0

Photographs:

Roll No. ST-9-Y

Frames 5, 6, 7

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SHEEN (Y/N)	▼	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UB	20	25	30	35	40	45	50	55	SU	U	M	U				
1	20		X				2.5		X	X								X			-	N	18	P-PaS	
*2	50					X	.											X			-	N	-	P-PaGdS	
3	20		X				2.5		X	X								X			-	N	-	P-PaS	
4	20		X				0.14		X	X								X			-	Y	10	P-PaS	
5	15		X				2.8	X		X									X		-	Y	8	P-PaS	
6	30		X				0.15		X	X								X			-	Y	20	P-PaS	

COMMENTS PIT #2 WAS IN HIGH UZ

- SUBDIVISION IS A LOW ENERGY ENVIRONMENT. SHORELINE CONSISTS OF A SERIES OF 3 LOW ANGLE PEBBLE BEACHES CONNECTED BY ROCK OUTCROP

- LOCATIONS ① & ② HAD MARKERS ON THE BEACH INDICATING BIOREMEDIATION TREATMENT IN PROCESS.

THE SURFACE OF THESE TWO BEACHES APPEARED CLEAN.

IN LOC ① OILING EXTENDED TO 5CM - NO SUBSURFACE

REVIEWED SAI DATE 1 May 90

2117

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04/13/90

SEGMENT ST/ VB-5 SUBDIVISION B (2 OF 2)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR							PIT ZONE				A N A	S E E N (M)	▼	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SB	SB	SB	SB	SB	SB	SB	SU	U	M	U				
7	20		X				0-10		X	X									X		-	Y	5	P-P&S
8	20					X	.										X				-	H	-	P-P&S
9	25		X				1-2		X	X							X				-	M	-	P-P&S
			X				4-5		X	X														
10	20		X				0-1		X	X							X				-	M	-	P-P
11	25		X				1-2		X	X							X				-	M	-	P-P&S
			X				4-5		X	X							X				-	M	-	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	

COMMENTS

R PIT#10 0-1CM OF RP

IN LOC ② SUBSURFACE OIL EXTENDS TO 14 CM

- LOCATION ③ HAD NO BIOREMEDIATION. SURFACE OIL CONSISTED OF FILM AND ASPHALT PAVEMENT

OIL WAS PRESENT (± CONTINUOUS) UNDER A THIN SURFACE PEBBLE LAYER - SUBSURFACE OIL WAS ONLY OBSERVED ON WEST-END OF BEACH

- COAT/B & COVER/S OCCURRED ON BEDROCK B/W BEACHES
NOTE !!

① OIL CATEGORY IS BASED ON PRESENCE OF OIL SURFACE OR SUBSURFACE (SURFACE APPEARED PREDOMINANTLY CLEAN)

② OIL CATEGORY LENGTHS ARE BASED ON DISTANCE ON GIS MAP WHICH APPARENTLY IS AT HIGH TIDE. THE ACTUAL LENGTH OF BEACHES AT LOCATIONS ① & ② IS EACH ± 20 M ACROSS (COULD NO DISTINGUISH ADJAC FROM GXXON LUG)

3/17

REVIEWED

BAT

DATE 1 May 90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / TB-5 Subdivision B Date (mo / day / yr) 04/27/90
 ne (24 hr) 1945-2020 Biologist D. REED

- (A) Substrate type and % of segments:
 (1) Bedrock 8 (2) Boulder 2 (3) Cobble 5 (4) Pebble 85 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 0 Moderate 10 Low 90
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X) , new settlement (3)

Photographs:
 Roll No. ST-9-4

Frames 5, 6, 7

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

VERY small subdivision, consisting of 3 pocket beaches with subsurface oil located in a protected back bay. Biota rare on pebble beach and sparse to moderate on bedrock.

Ecological Considerations:

AS FAR AS I CAN TELL THERE ARE FEW ECOLOGICAL considerations in this area. Some salmon fry were observed in the quiet waters near shore. OTHER THAN THAT INTERESTING BIOTA AND WILDLIFE ARE RATHER SPARSE IN THIS small SUBDIVISION (240 m).

K/IF

ST-TB-5-B

(240 m)

- Small sheltered cove, low energy w/ three pocket beaches.
- Bio-remediation test site. Surface clean, but subsurface oil still present.
- Recommend further TAG evaluation as to proper treatment method.



OG K. DEBUSSCHER

SEGMENT ST-TB-5

SUBDIVISION B

DATE 4/27/90

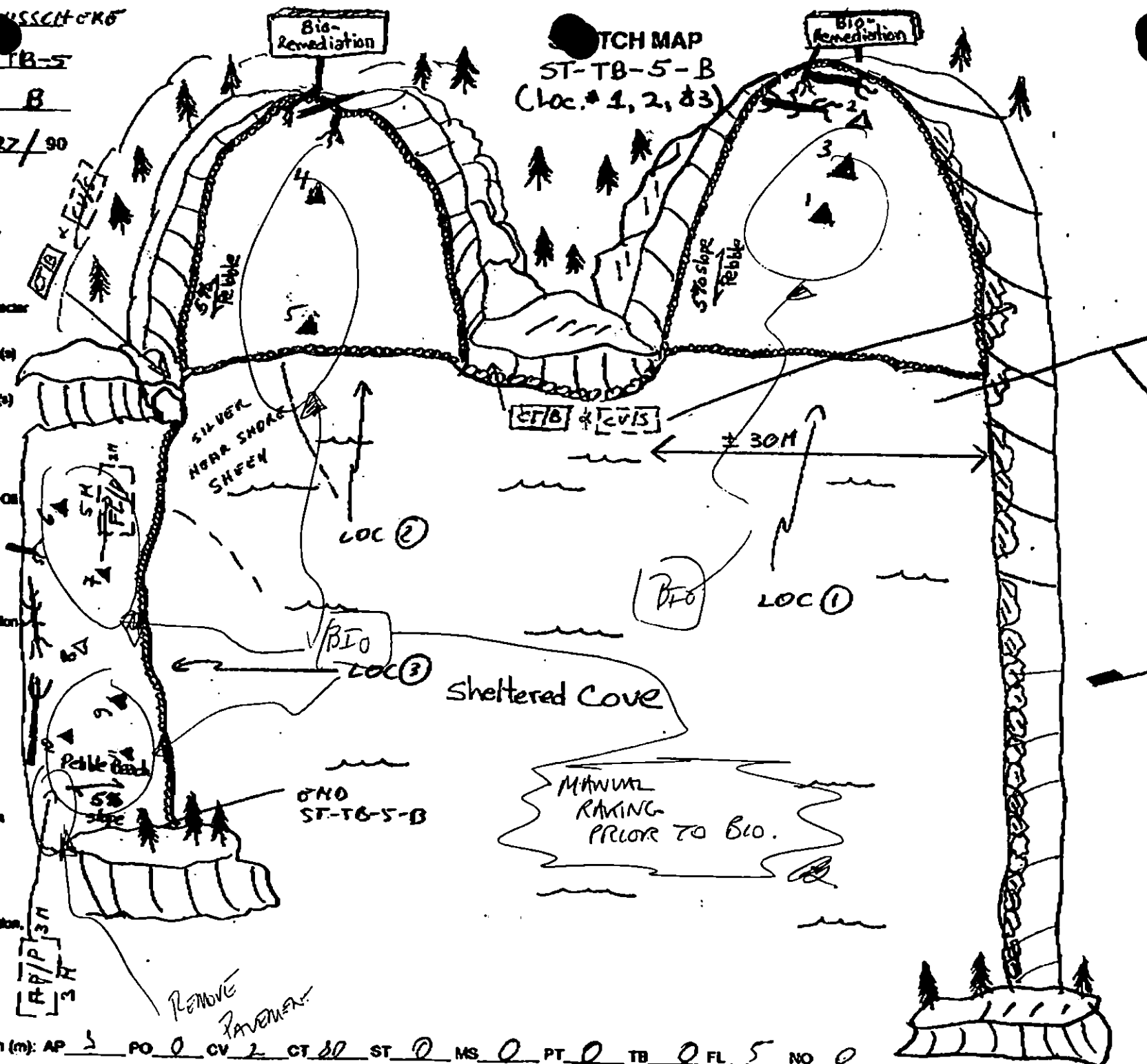
CHECKLIST

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

LEGEND

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

ATCH MAP ST-TB-5-B (Loc. 1, 2, & 3)



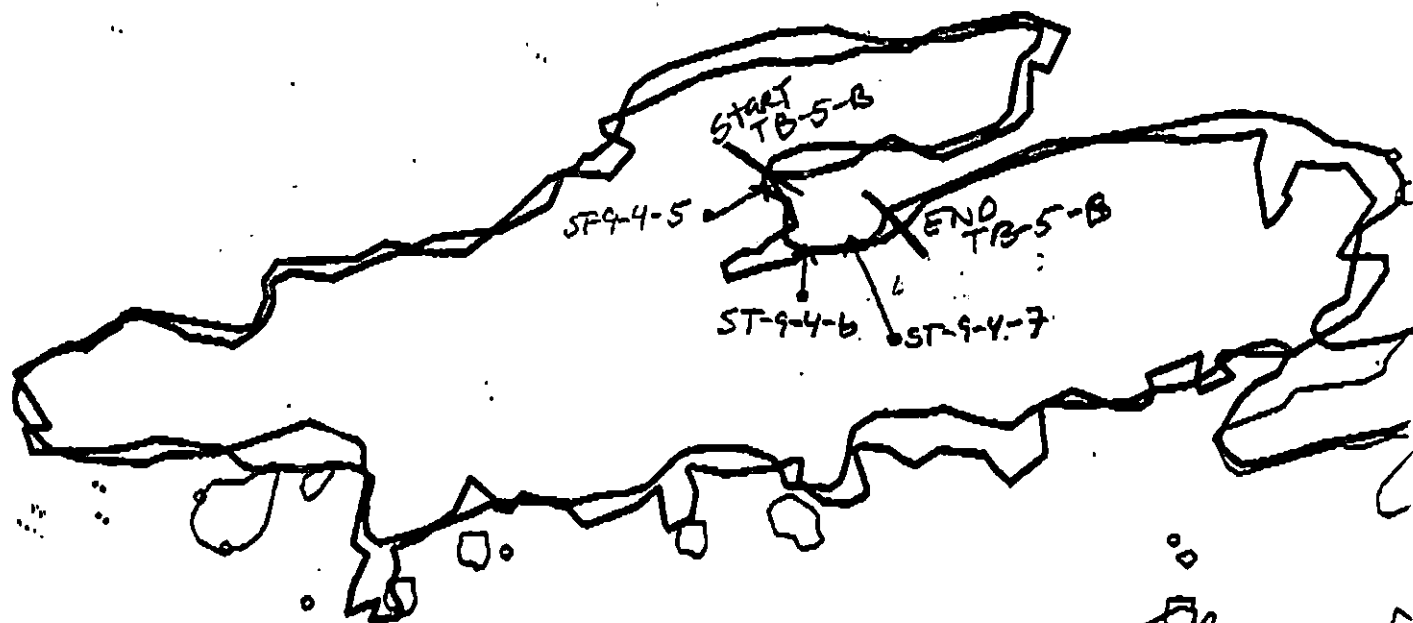
Oil Character Length (m): AP 5 PO 0 CV 2 CT 80 ST 0 MS 0 PT 0 TB 0 FL 5 NO 0

5 BEACH SURFACE IS 16 CM H

ECOLOGY MAP

RESOURCE CODES FOR SUBDIVISION

NONE



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO None

ST-TB-5-B

Approx. Segment Length: 3840m

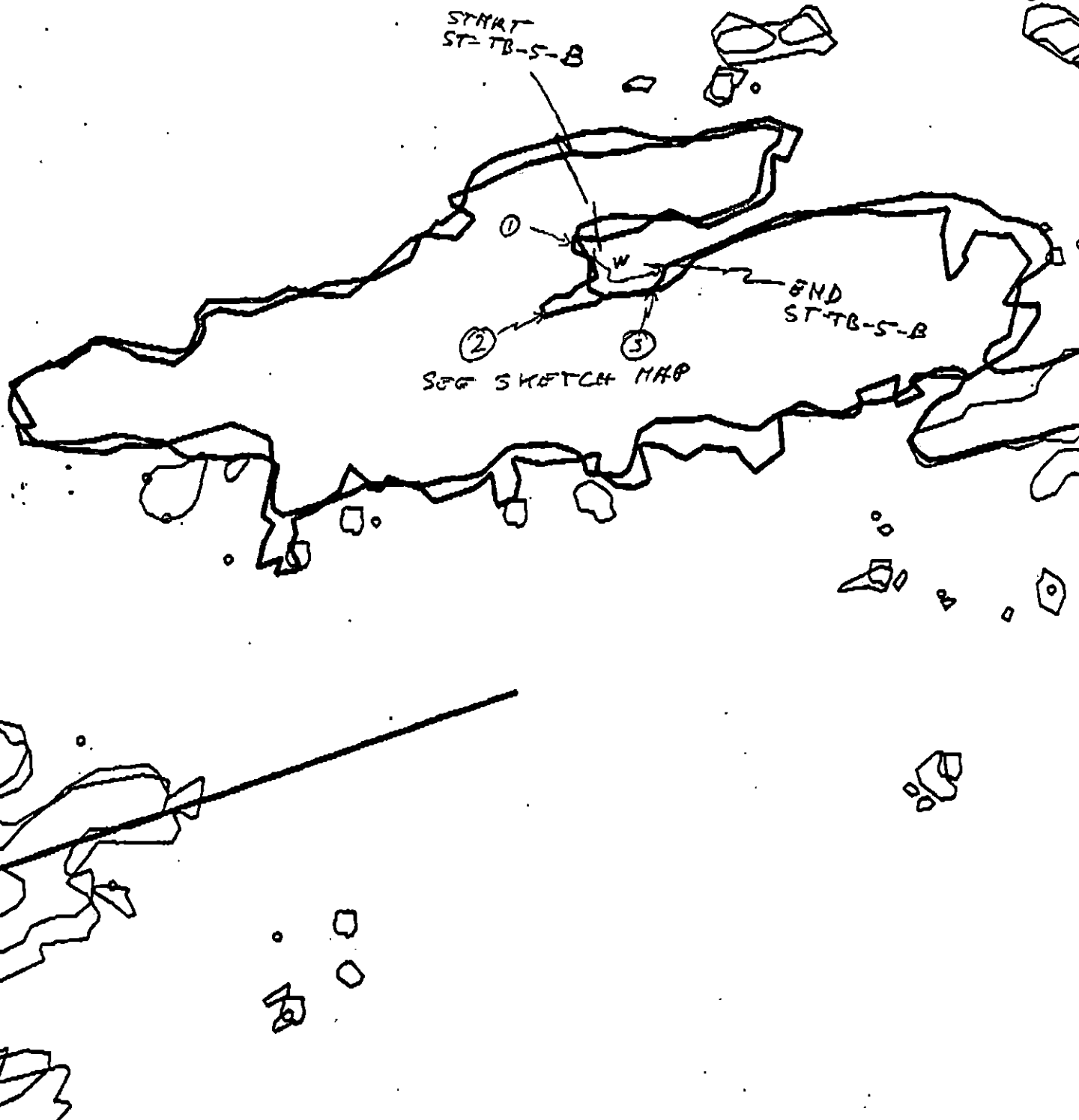
0 9/17 100 200 300

Map Key: KEN-TB-5b

Name: DAN Reed

Date: 04/27/90

Data Entered:



XXXX Wide

/// Medium

---- Narrow

TTTT Very Light

0000 No Oil

ST-TB-5-B

Approx. Segment Length: ~~300m~~ 3911

0 5 100 200 300
1/17 scale



Map Key: KEN-TB-5b

Name: K. DEBUSSCHERE

Date: 4/27/90

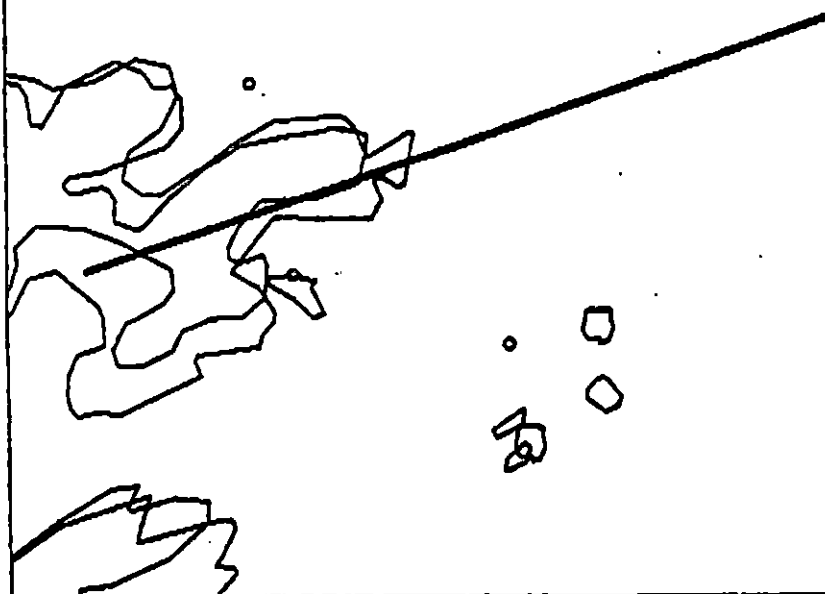
Data Entered:

START
ST-TB-5-B

SUBDIV A
RWC.

SUBDIV A
RWC.

ST-TB-5-B



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

ST-TB-5-B

Approx. Segment Length: ³⁹⁴~~300~~m

0 100 200 300

Map Key: KEN-TB-5b

Name: K. DEBUSSCHERE

Date: 4/27/90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT TB-5 SUBDIVISION ^B (1 of 2)

6/8/90

WORK WINDOW

Bioremediation

WORK PRIOR TO 7/10

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

- | | | |
|----|------------------|---|
| 1J | Purse Seine Area | Closed to bioremediation after 7/10. |
| 2M | Herring Spawning | Closed to bioremediation prior to 6/15. |
| 5T | Bald Eagle Nest | NO CONSTRAINT. USFWS 4/9/90 map indicates no active nest within 400m of Subdivision ^B work site. |

6/8/90

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat traffic to essential minimum. Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass.

FOSC

A. J. Jaramila

Date

6-15-90

Prepared by

P. Phillips

Date

6/15/90

B-02

TB-05



Exxon Company, USA



ECOLOGY MAP

SEGMENT TB-5

SUBDIVISION A (1 of 2)
METERS



Seabird Colony



Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ TB-05 SUBDIVISION A (1 OF 2) DATE 4/27/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1J Purse seine area (7/10 to 8/10)
2M Herring spawning (4/1 to 6/15)
4GA Alaska State Wilderness Park
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6NN Recreation: Sportfishing

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Richard D. Dale DATE: 5/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 54 m: Narrow 723 m: V.Light 987 m: No Oil 1689 m
Subsurface Oil Observed: Yes X No Maximum Depth 17 cm

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS: BIOREMEDIATE AREA INDICATED ON SKETCH

TAG APPROVAL DATE: 5/11/90
ADEC Art Weimer
EXXON Andy Tera
NOAA Joseph C. Tuller
USCG D.D. Rome
FOSC: [Signature] DATE: 5/31/90

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

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

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

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

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

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

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

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

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

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

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

1H Remote release site

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

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

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

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

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

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

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

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

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

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

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

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

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

30, 3Q Harbor seal and sea lion molting (8/15 to 9/15)

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

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

ADF&G Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Rothy 267-2206

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

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

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

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

6Y Special use destination

6AA Sport Fishing

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

7HH Finfish harvesting

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

7J Invertebrate harvesting

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2350

FIELD SHORELINE COMMENT SHEET

PAGE 1 of 1

SEGMENT ST / TB-5 SUBDIVISION: A DATE 04/27/90

NOAA
NERRS

NAME STEPHEN STURN

SIGNATURE

Stephen Sturn

☒ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

of oil

Location 2 - A fairly continuous coat to cover was present on south facing vertical bedrock (VITE) on the western end of location #2. In places, this coat is patchy and very weathered - in others the coat is more continuous grading out a weathered, tacky coat. Both barnacles and mussels, partially covered w/coat to cover are present, but not in the abundance as observed in other areas of this location. Although new barnacle spat observed on weathered cover/coat indicates that intertidal life can adapt to oiled surfaces, it appears that the long term effect is still uncertain. If barnacles and mussels can adapt to oiled surface then it is recommended that no treatment of this location is necessary - and let natural processes (photo degradation / wave agitation) proceed.

(Continued)

ADEC

NAME Wesley Ghormley

SIGNATURE

Wesley Ghormley

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Location #2 - West Pocket beach, 3 m wide band of coat / cover that has some recover oil present. The cover consists of sticky, tacky oil mixed w/ spruce needles. Clean-up considerations are scraping coat / cover with brushes or scrapers to remove coat cover then wiping with sorbent pads. However new growth of barnacles & algae are present in oiled area. Most of the oil is weathered but when you remove the needles that is where you find your sticky oil. Spruce needles & oil comes off very easily by scraping (ADEC rep. experimented by scraping w/ a rock & was quite successful)

Location #4 - Treat as outlined above, but Hot H₂O may be a plus in this area - High exposed wave action, ~~high~~ ^{high} new barnacles present. Sporadic subsurface oil present may need to be evaluated.

LAND MANAGER

NAME J. David McMahon (ADUR)

SIGNATURE

J. David McMahon

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Oiling of TB-5A is limited to thin asphaltic coatings of oil & spruce needles on vertical rock faces. In concert with ADEC above if this can be done in a relatively short time frame. Resource impact, other than aesthetics, appears to be minimal and recovery rapid. Scraping of the thickest deposits and spot washing may be the best alternative here. Significant time investment is unwarranted.

REVISION NO. 001/90

10/1/7

FIELD SHORELINE COMMENT SHEET

PAGE 2 of 2

SEGMENT ST / TB-5 SUBDIVISION: A DATE 4/27/90NOAA
~~USCG~~

NAME

STEPHEN STURM

SIGNATURE

Stephen Sturm☒ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

If intertidal life cannot adjust then spot hot H₂O washing is recommended at expense of existing organisms in the affected area.

Location -4 - Same As Above on ventral bedrock. Small work crews should locate small crevices (1-2 m²) of oiled substrates beneath boulder venee and either remove or break-up. As these crevices are in the U/RZ, they should be exposed to physical processes and microbial degradation.

* "Most of the surface oil remaining on high-energy segments of the Alaskan coast will be removed within the next year or two, based on observations of the AMOCO CADIZ and NESTUCCA SPILLS; clean-up could take longer in lower energy beaches." NOAA RECOMMENDATION TO FOSC 1-25-90

ADEC
NAME

SIGNATURE

☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

LAND MANAGER

NAME

SIGNATURE

☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

SHORELINE OILING SUMMARY

REVISION NO. 04/13/90

OG K. DERUSSCHER ~~1988~~ S.D. STURM SEGMENT ST/ TR-5
 BIO D. REED LAND REP. J. Daniel M. Mahan SUBDIVISION R (1 OF 2)
 EXXON T. D1R2 ADEC Wesley Shornley TIME 11:00 to 1:30 AND 20:20 to 21:00
 TEAM NO. 9 TIDE LEVEL -1 to 6 or 3 to 2.5 DATE 4/23/90
 EST. SUBDIVISION LENGTH: 3671 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 75 % B 15 % C 15 % P 5 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 25 % Hang 40 % Vert 35 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 40 m N 760 m VL 1080 m NO 1880 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	R	B	P	C	1	2	3	4	5	SU	U	M	L
ASPHALT PAVEMENT													
POOLED													
COVER				X	X					X			
COAT	V	X		0	V					V	0		
STAIN			X		X					X			
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL										X		X	X

PAVEMENT H P S 0 sq. m by 0 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? ☒ NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒TYPE 0#BAGS 0

Photographs:

Roll No. ST-9-4Frames 2,3

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR					PIT ZONE				A	N	SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UE	1	2	3	4	5	SU	U	M	L					
LOC ① 1	30					X	.									X					N	-	C-PdGdS
2	40					X	.									X					N	-	P-PdGdS
LOC ② 3	40					X	.									X					N	-	P-PdGdS
④ 4	50					X	.									X					N	-	B-PdGdS
5	30		X				15-17	X	X							X					N	-	B-C/PdGdS
④ 6	40					X	.									X					N	-	P-PdG

COMMENTS

- SUBDIVISION IS DOMINATED BY HIGH ANGLE TO VERTICAL BEDROCK WITH SOME B/C POCKET BEACHES. THE MAJORITY OF THE SEGMENT HAS LIMITED ACCESS BECAUSE OF OFFSHORE ROCK OUTCROPS. WAVE EXPOSURE IS MEDIUM TO HIGH.
- OILING CONSISTS MAINLY OF COATING ON VERTICAL TO HIGH ANGLE ROCK FACES. IN LOCATION ② FOR EXAMPLE THIS COAT EXTENDS TO ≤ 3 M WIDE.

REVIEWED BAI DATE 1 MAY 90

REVISION 04:300

SUBSURFACE OIL (CONTINUED)

[illegible]

COMMENTS

COMMENTS
- LOCATION ④ IS A C/B POCKET BEACH WITH COATING ON ROCK FACE
AND SOME COVER/S

ON THE BEACH SURFACE COAT/B IN VI & COAT/S IN MI
BEACH HAS SUBSURFACE OIL IN VI (UNOIL BAC) BUT SUBSURFACE
OIL HAS A PATCHY DISTRIBUTION. AND DOES NOT EXTEND IN
MI.

REVIEWED BAT DATE 1 MAY 90

2/17

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / TS-5-A Subdivision A Date (mo / day / yr) 04/27/90Time (24 hr) 1100-1330
2020-2050 Biologist D. REED(A) Substrate type and % of segments:
(1) Bedrock 75 (2) Boulder 15 (3) Cobble 5 (4) Pebble 5 (5) Sand 0 (6) Silt 0(B) Overall % cover of biota (% of segment): Dense 60 Moderate 30 Low 10

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

Photographs:
Roll No. ST-9-4Frames 2,3

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

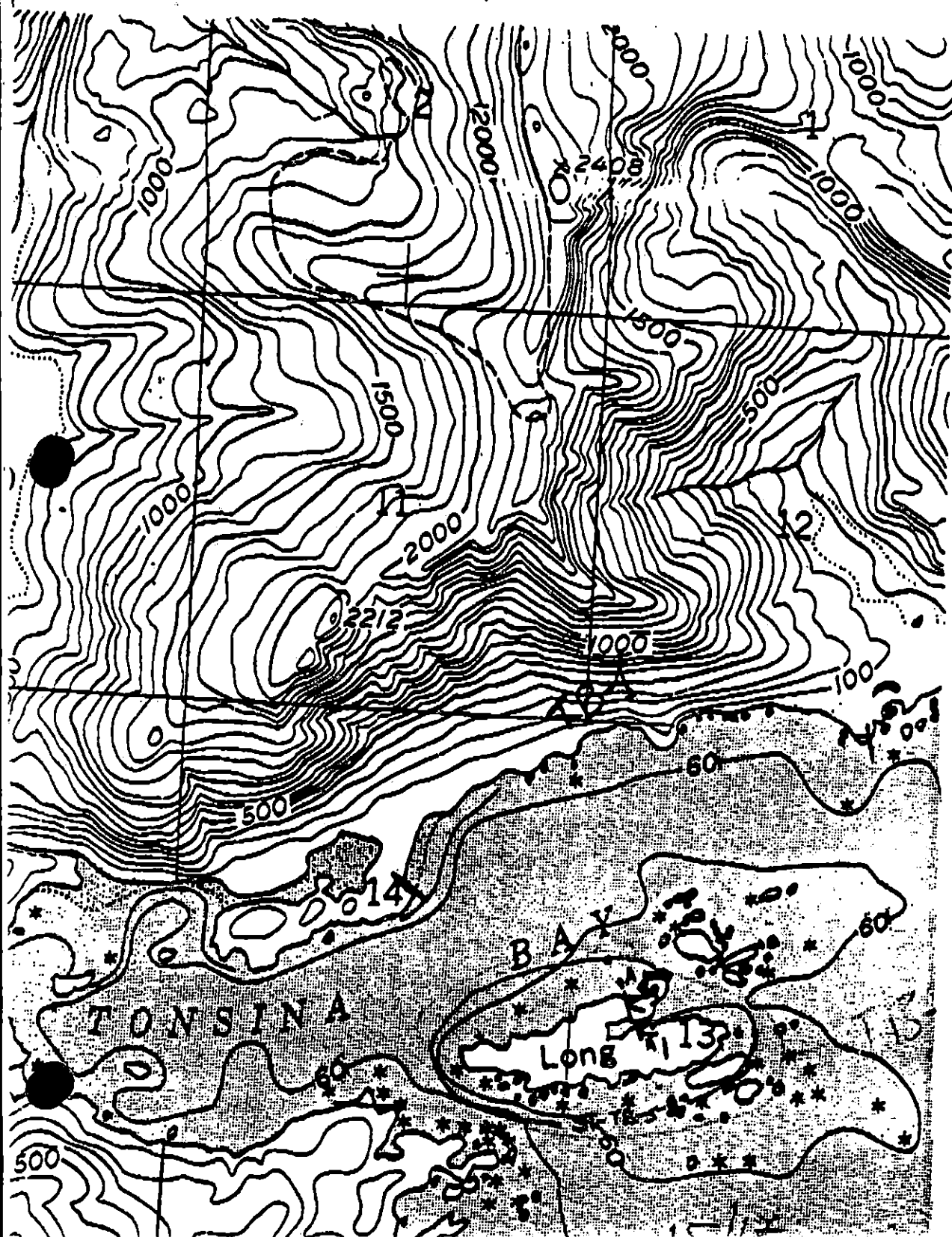
1 BALD EAGLE WITH NEST. 4 SEA OTTERS, 1 OYSTER CATCHER, 1 PIGEON GUILLINOT.
20 GLAUCOUS WING GULLS. LOW ZONE HAS DENSE ALGAL COVER; ALARIA, LEMNIA.
CYMATHERE, DESMORESTIA. NEREOCYSTIS FOREST IN SUBTIDE.

Ecological Considerations:

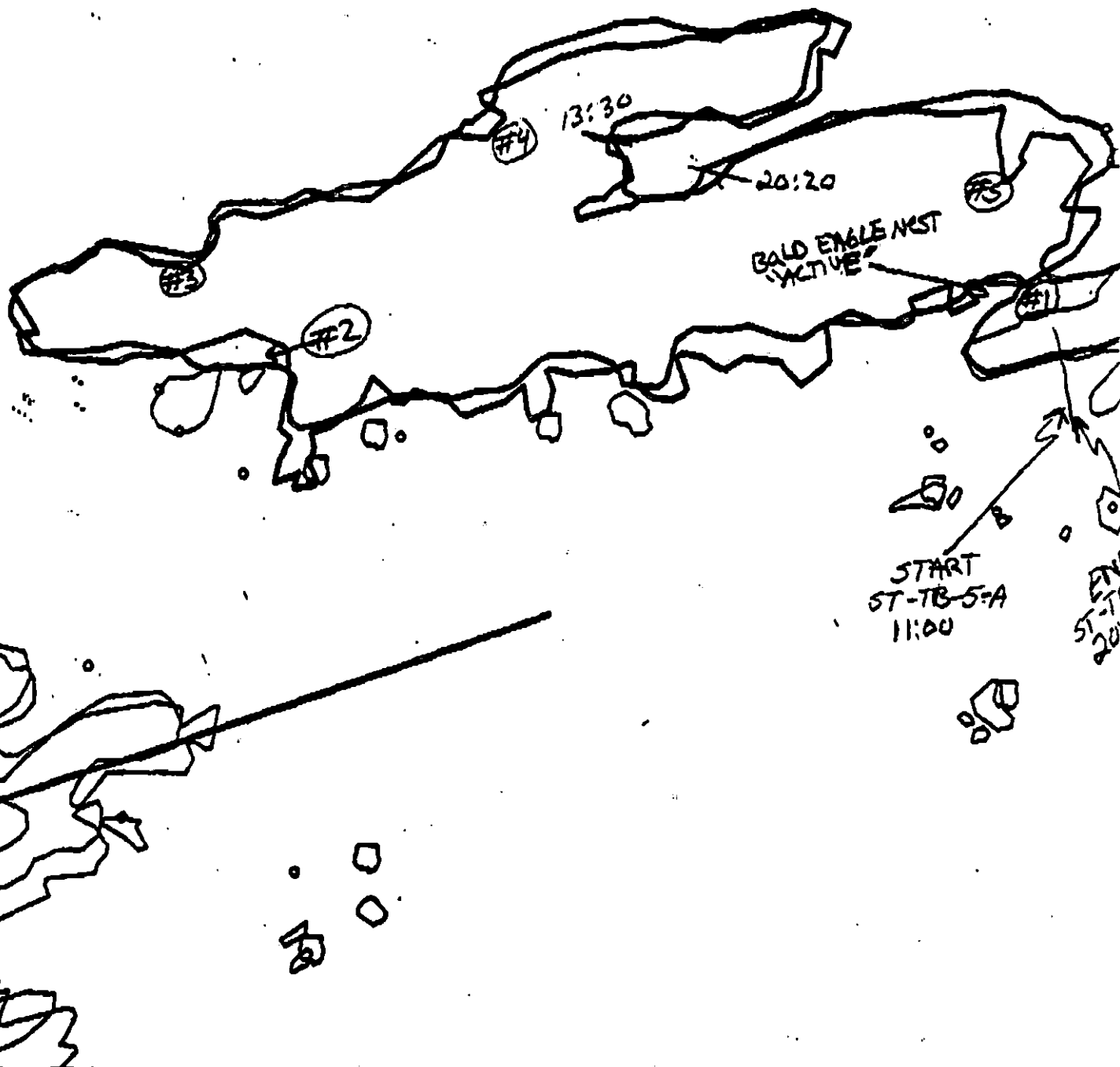
WAVE EXPOSURE OF THIS SUBDIVISION IS RELATIVELY HIGH (ESPECIALLY ON THE SOUTH SIDE AND EASTERN END). IT CONSISTS LARGELY OF BEDROCK WHICH SUPPORTS A DENSE BIOTA. OILED COAT AT LOCATIONS 2 & 4 IS ON SOUTH FACING BEDROCK AND IS QUITE WEATHERED. LITTLE MORTALITY OF MUSSELS AND BARNACLES ON OILED SURFACES WITH NOTICEABLE SETTLEMENT AND NEW GROWTH. IN SITU, ORGANISMS ON OILED COAT APPEAR TO BE DOING WELL. IF CLEAN UP IS RECOMMENDED FOR THE PURPOSE OF AESTHETICS AND ORGANISMS ARE KILLED IN THE PROCESS, I WOULD PREDICT (BASED ON THE HIGH EXPOSURE OF THIS AREA AND THE FACT THAT THE ORGANISMS THAT LIVE THERE ARE LIKELY ADAPTED TO FREQUENT DISTURBANCE) THAT NO SHORT TERM AND RECOVERY WOULD PROCEED QUICK.

ST-TB-S-A
(3671 meters)

- Mostly Vertical bedrock w/many rock outcrops. - Difficult Access
- Only oil is on vertical bedrock faces. Very weathered and baked
- NO TREATMENT RECOMMENDED



ECOLOGY MAP
RESOURCE CODES FOR SUBDIVISION
1-5T



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-TB-5-A

Approx. Segment Length: 3840m

9/17 100 200 300
METERS

Map Key: KEN-TB-5b

Name: DAN REED

Date: 04/27/90

Data Entered:

OIL MAP

TB-O

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-TB-5-A

Approx. Segment Length: ³⁹¹¹~~3911~~m

0 100 200 300
13/17 METERS

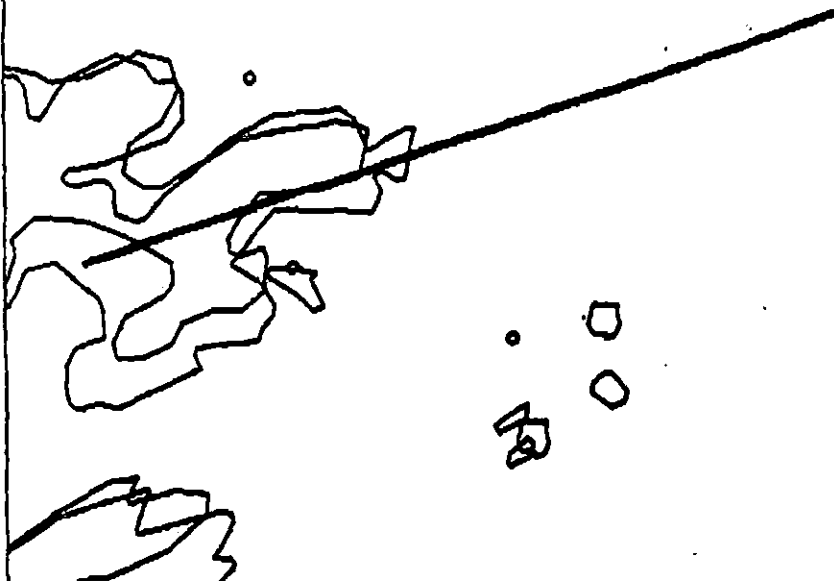
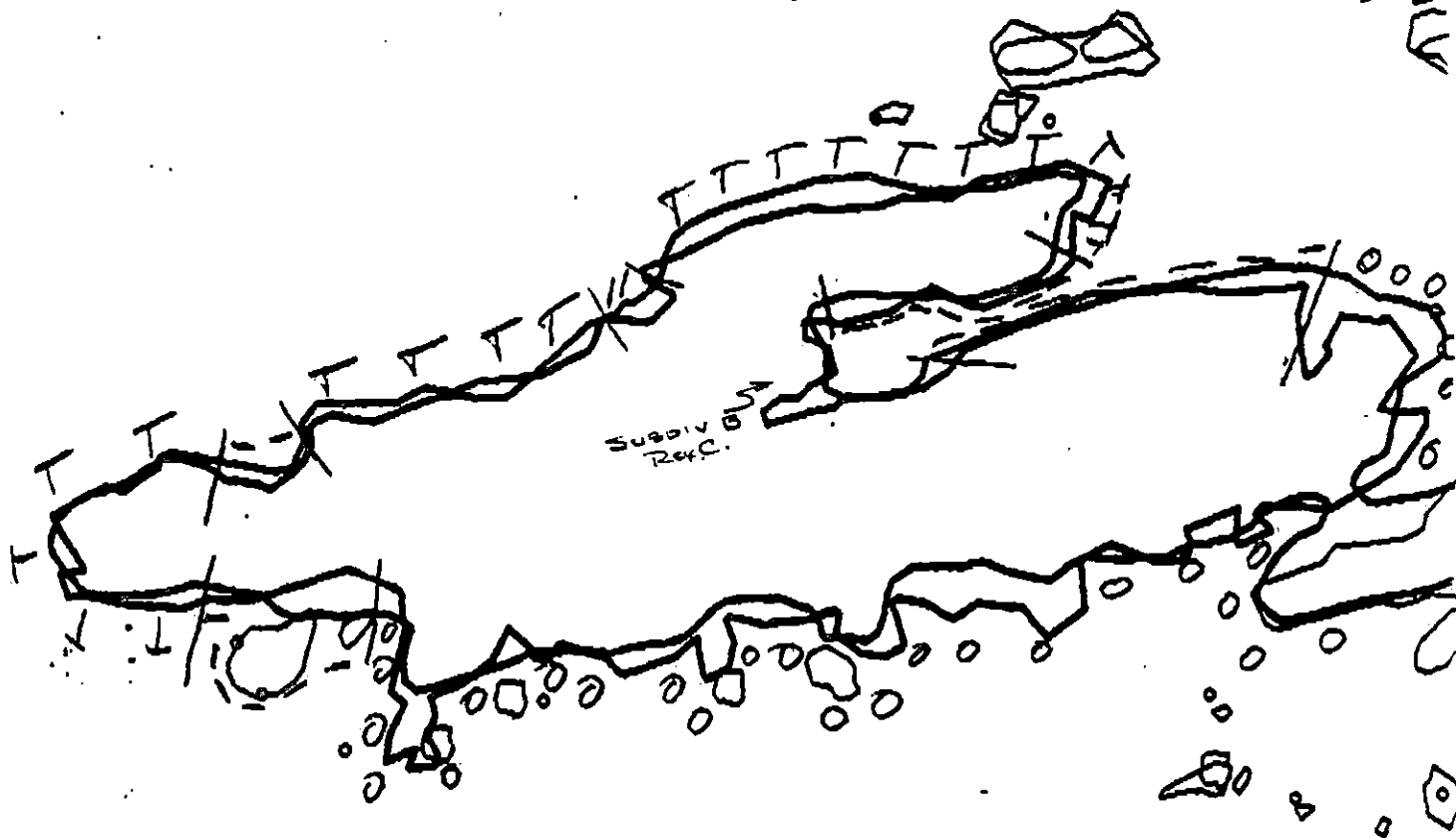
Map Key: KEN-TB-5c

Name: K. DEBUSSCHE

Date: 4/27/90

Data Entered:

OLL MAP



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

ST-TB-5-A

Approx. Segment Length: 3911 ~~3450~~ m

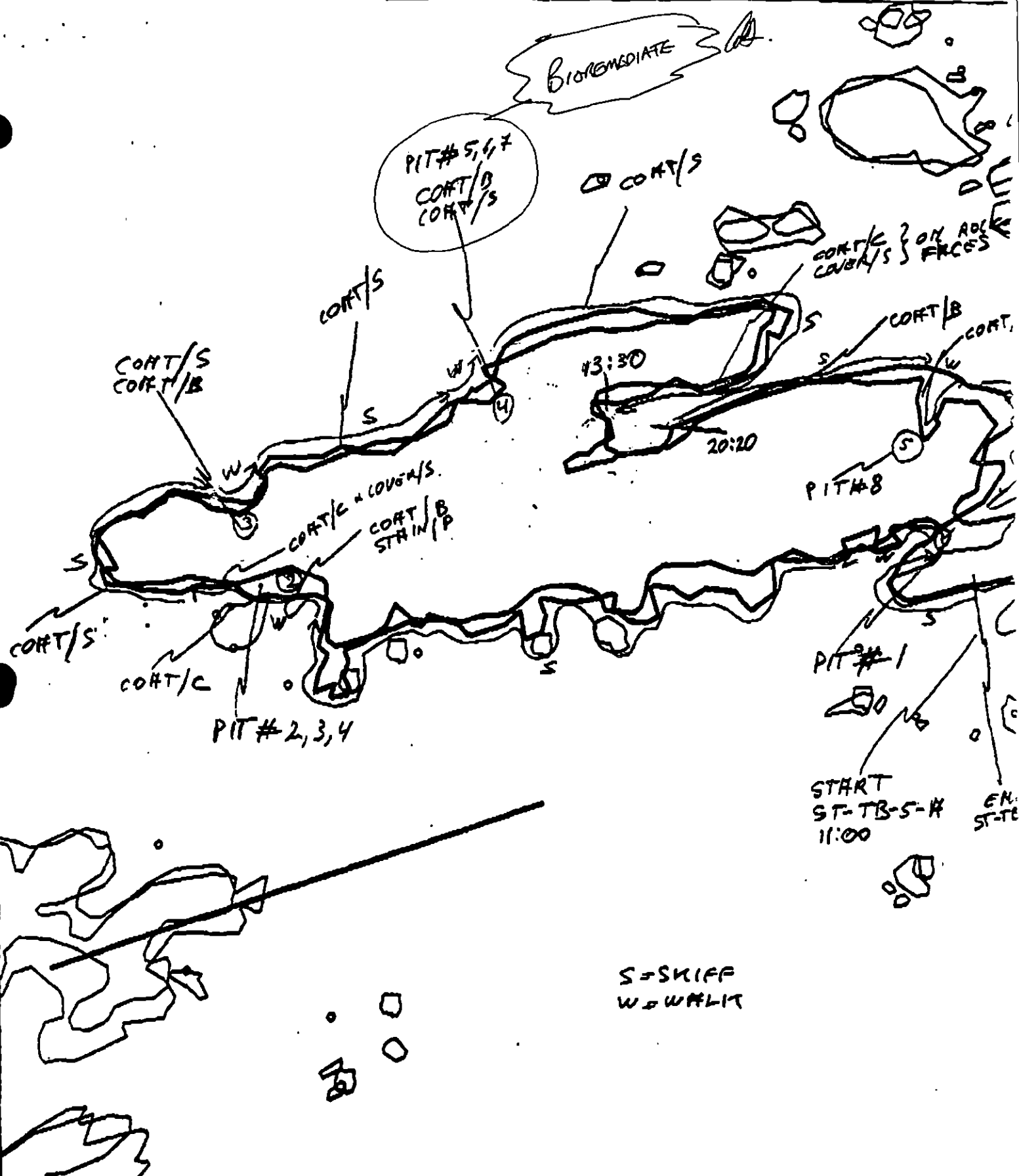


Map Key: KEN-TB-5b

Name: K. DEBOUSS (H.C.M.)

Date: 4/27/90

Data Entered:



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-TB-5-H

Approx. Segment Length: 347m

0 4 100 200 300

3911

Map Key: KEN-TB-5b

Name: K. DEBUSSCHKE

Date: 4/27/90

Notes Entered:

S = SKIFF
W = WALK

TB-O

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-TB-5-A

Approx. Segment Length: ~~300~~ 3911

5/17 100 200 300

Map Key: KEN-TB-5c

Name: K. DERUSSCHOW

Date: 4/27/90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT TB-5 SUBDIVISION ^A (2 of 2)

6/8/90

WORK WINDOW

Tarmat Removal Less Than 400m From Active Nest	CLOSED
Tarmat Removal More Than 400m From Active Nest	OPEN
Bioremediation and Manual/Mechanical Raking Less Than 400m From Active Nest	CLOSED
Manual/Mechanical Raking More Than 400m From Active Nest	OPEN
Bioremediation More Than 400m From Active Nest	WORK 6/15 to 7/10

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1J	Purse Seine Area	Closed to bioremediation after 7/10. No constraint to tarmat removal and manual/mechanical raking.
2M	Herring Spawning	Closed to bioremediation prior to 6/15. No constraint to tarmat removal and manual/mechanical raking.
5T	Bald Eagle Nest	USFWS 4/9/90 map indicates an active nest in Subdivision A. Closed to tarmat removal, bioremediation, and manual/mechanical raking within 400m of active nest. No constraint to tarmat removal, bioremediation, and manual/mechanical raking more than 400m from active nest.

OTHER ECOLOGICAL CONSIDERATIONS

If eagle nest constraint is removed, other ecological considerations will apply.

FOSC

J. Farrell

Date

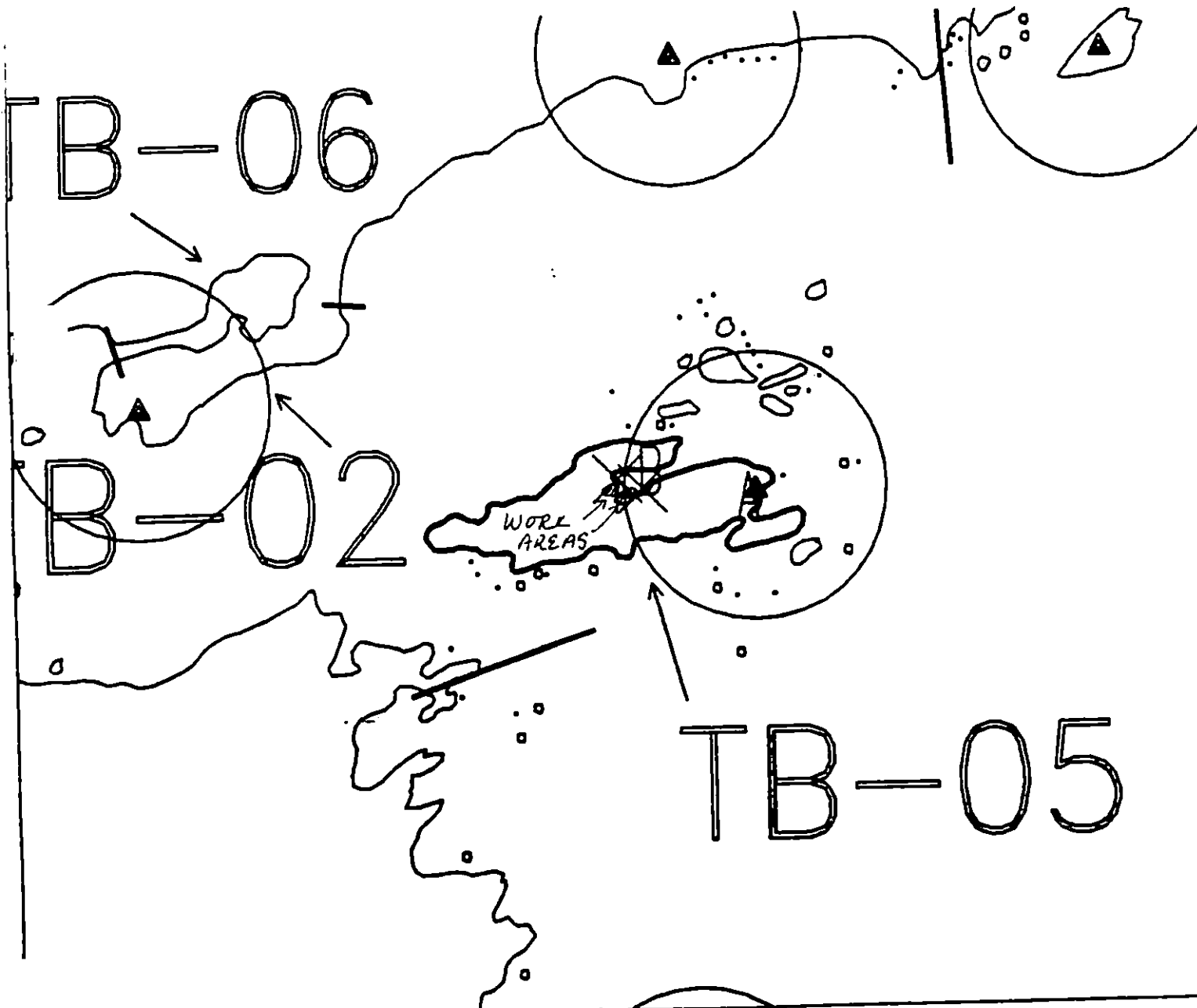
6-16-90

Prepared by

J. Phillips

Date

6/15/90



Exxon Company, USA

ECOLOGY MAP
SEGMENT TB-5
SUBDIVISION A (2 of 2)
METERS

- ★ Seabird Colony
- ▲ Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ TB-06 SUBDIVISION A (1 OF 1) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

4GG Alaska State Parks

6NN Recreation: Sportfishing

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Holmes DATE: 5/5/90

OILING CATEGORIZATION:

Wide 95 m: Medium 108 m: Narrow 0 m: V. Light 1381 m: No Oil 60 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

 No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

X Tarmat Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

 Spot Washing: Wands

 Beach Cleaner

 Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, 2) bioremediation of areas indicated on sketch map. Work should be conducted after 6/15 based on herring spawning constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 5/4/90

ADEC Art Weimer

EXXON Andy Galt

NOAA Gary Petree

USCG G.A. REITER

FOSC:

DATE: 5-12-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / TB-006 SUBDIVISION: A DATE 4/20/90

NOAA

USCG

NAME Donald A. MacDonell SIGNATURE Donald A. MacDonell☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

Main concern for the area as far as NOAA is concerned is it is reported to be a herring spawning area. One stream was present in the segment but was considered to be too small to support an anadromous run.

ADEC

NAME John R. Reed SIGNATURE John R. Reed☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

TB-06 is a small lagoon with a narrow entrance that is accessible only at high tide. The more heavily oiled beaches on the south shore were looked at by walking in from the Bay side at a lower tide. I am suggesting manual cleanup, shovels, on the asphalt pavements in this segment. There was some near shore sheering in this lagoon. I feel like this was a good survey and I agree with data on SSAT forms.

LAND MANAGER / DNR-DPOR

NAME Jeff Johnson SIGNATURE Jeff Johnson☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Agree with SSAT data. Fragile lagoon area with high recreation and wildlife values. Chainsaw cuts from past cleanup should be mitigated. Sheer + Tar patches in moss indicated. Unit within Kachemak Bay State Wilderness Park. Evidence of cleanup operations should be completely removed.

SHORELINE OILING SUMMARY

REVISION NO. 04/13/90

OG T. Sawyer NOAA O. MacDonald SEGMENT ST/ TB006
 BIO M. Carr LAND REP J. Johnson ADNR SUBDIVISION A (1 OF 1)
 EXXON R. Boyer ADEC R. Reed TIME 10:00 to 11:45 and 13:00 to 13
 TEAM NO. 18 TIDE LEVEL +9 to +8 and +6 to +5 DATE Apr / 20 / 90
 EST. SUBDIVISION LENGTH: 1708 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 65 % B 10 % C 10 % P 5 % G 0 % S 5 % M 0 % V 5 %
 SLOPE: Lang 35 % Hang 0 % Vert 70 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 90 m M 115 m N 0 m VL 1470 m NO 33 m

SURFACE OIL

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

PAVEMENT H 165 sq. m by 4 cm
 (PATTIES) TARBALLS 1 bag collected 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 Patties

#BAGS 1

Photographs:

Roll No. ST-18-7

Frames 18-19

SUBSURFACE OIL * Oiled interval < 5 cm in pit #s 5, 6, 8, 9, 10 does not constitute subsurface c.i.

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR								PIT ZONE	A	N	A	SHEEN (Y/N)	F	SURFACE-SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UG	UC	1	2	3	4	5	6	7	8							
1	20																							S-S, P
2	20																					N	15	P-S, P
3	15																							C-S, P, S
4	20																							C-P, S
5	15						0.5*															Y	10	C-P, S
6	15						3.5*																	C-P

COMMENTS ST/TB006 is a lagoon with a narrow and shallow entrance that is only navigable during relatively high tides. For this reason the segment was assessed primarily during a +9 to +8 tide. We were able to hike in and observe some of the more oiled sections during a +6 to +5 tide. The south side of this section has two "pocket" beaches with medium to wide oiling.

REVIEWED BAT DATE 21 Apr 90

REVISION 04/13/90

SUBSURFACE OIL (CONTINUED)

[illegible]

COMMENTS

REVIEWED BAY DATE 21 Apr 90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/90

Segment ST / T3006 Subdivision A Date (mo / day / yr) 4-20-90
 Time (24 hr) 1000 Biologist MARK CARR

(A) Substrate type and % of ^{SUBDIVISION} segments:
 (1) Bedrock 65 (2) Boulder 10 (3) Cobble 10 (4) Pebble 5 (5) Sand 5 (6) Silt 0

(B) Overall % cover of biota (% of ^{SUBDIVISION} segment): Dense 30 Moderate 30 Low 30

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

Photographs:

Roll No. ST-18-7Frames 18, 19

BARNACLES

Dense			Moderate			Sparse			Rare			1L
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
BD 1	2	2	X	X	2	X	2	2	2	2	2	}
BD 2	3	3	X	X	3	X	3	3	X	3	3	
COB 3	4	4	4	4	4	X	4	4	4	4	4	}
PEB 4	5	5	5	5	5	5	5	5	5	5	5	
SAND 5	6	6	6	6	6	6	6	6	6	6	6	}

1L } LOW INTERTIDAL INACCESSIBLE

NOT PRESENT

 NOT PRESENT IN UPPER
 INTERTIDAL ZONE
 NOT PRESENT IN ANY ZONE

MYTILUS

Dense			Moderate			Sparse			Rare			1L
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
BD 1	2	2	2	2	2	X	X	2	2	2	2	}
BD 2	3	3	X	X	3	X	3	3	3	3	3	
COB 3	4	4	4	4	4	4	4	4	4	4	4	}
PEB 4	5	5	5	5	5	5	5	5	5	5	5	
SAND 5	6	6	6	6	6	6	6	6	6	6	6	}

 NOT PRESENT IN UPPER ZONE
 LOW INTERTIDAL INACCESSIBLE
 NOT PRESENT

GASTROPODS

Dense			Moderate			Sparse			Rare			1L
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
BD 1	2	2	2	2	2	2	2	2	X	2	2	}
BD 2	3	3	3	3	3	3	3	3	X	3	3	
COB 3	4	4	4	4	4	4	4	4	4	4	4	}
PEB 4	5	5	5	5	5	5	5	5	5	5	5	
SAND 5	6	6	6	6	6	6	6	6	6	6	6	}

1L } MID & LOW INTERTIDAL ZONE INACCESSIBLE

NOT PRESENT

NOT PRESENT IN UPPER INTERTIDAL ZONE

FUCUS

Dense			Moderate			Sparse			Rare			1L
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
BD 1	2	2	X	X	2	X	2	2	2	2	2	}
BD 2	3	3	3	3	3	X	3	3	X	3	3	
COB 3	4	4	4	4	4	X	4	4	X	4	4	}
PEB 4	5	5	5	5	5	5	5	5	5	5	5	
SAND 5	6	6	6	6	6	6	6	6	6	6	6	}

1L } LOW INTERTIDAL INACCESSIBLE

NOT PRESENT

 NOT PRESENT ON SAND
 SUBSTRATUM

Wildlife Observations/ General Comments:

Unid. ducks (12)

Raven (1)

Buffleheads (3)

NW. crows (13)

Mallard ducks (6)

Harlequin ducks (2)

Ecological Considerations:

Sensitivity codes:

ZM (HERRING SPAWNING)

4GG (ALASKA STATE PARK/UN. OWNED)

6NN (SPORTFISHING)

SEGMENT TB006

SUBDIVISION A

DATE Apr 1 20 00

CHECKLIST

☐ M Area
☐ Approx. Scale
☐ Seg/Sub Entry
☐ Off Dist.
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. HW/LWL
☐ SCL
☐ Profile Location(s)
☐ Profile(s)
☐ PR Location(s)
☐ Photo Location(s)

LEGEND

1 Δ
 PR - No Subsurface CI

2 Δ
 PR - Subsurface CI

CT/C
 Continuous Distribution

CT/B
 Broken Distribution

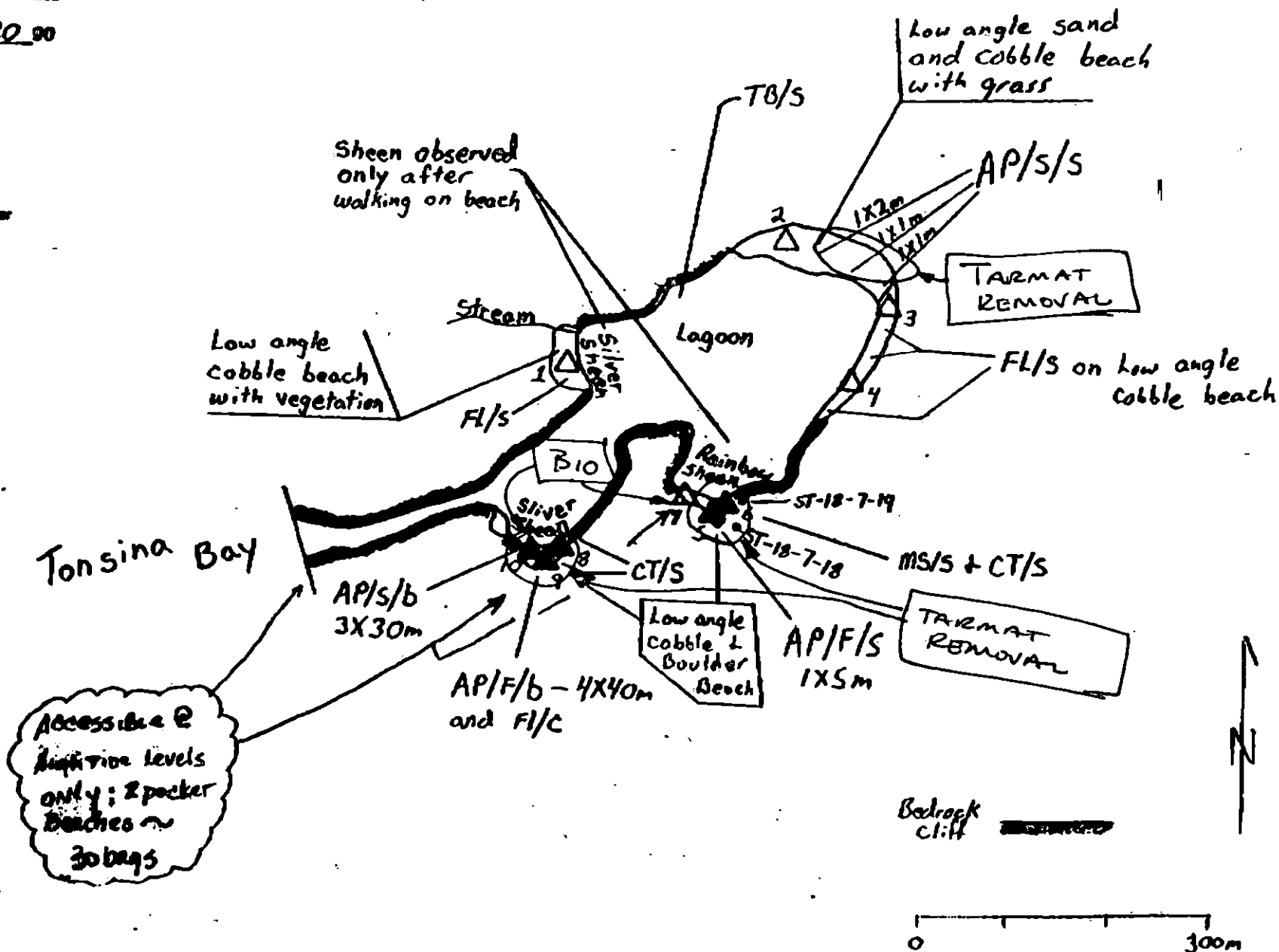
CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

lll
 Old Vegetation

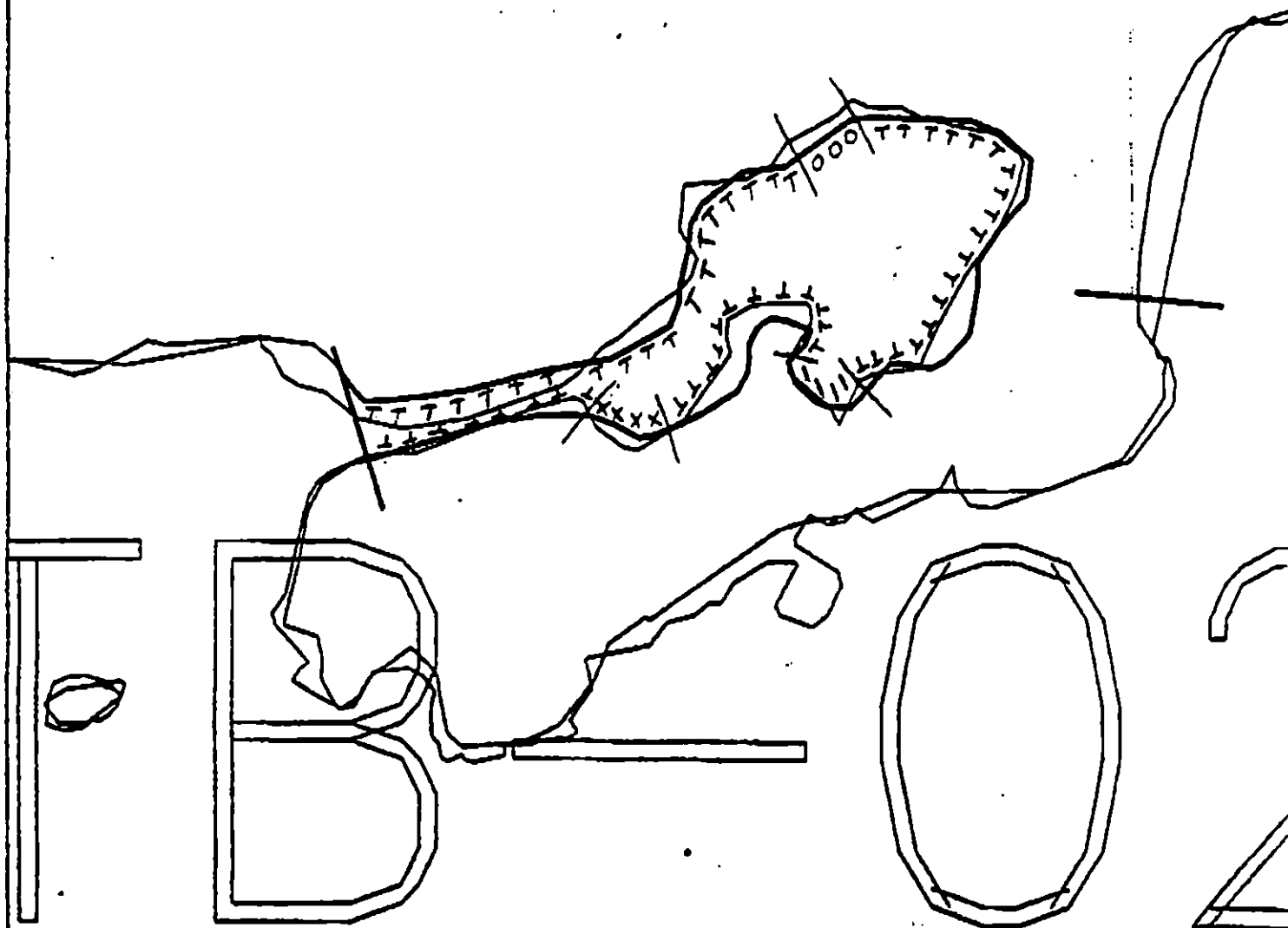
1 ●
 Photo location, direction,
 and number

ETCH MAP



CI Character Length (m): AP 80 PO 0 CV 0 CT 135 ST 0 MS 5 PT 0 TB 3 FL 260 NO 35

TB-01



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

TB-6

ADEC Segment Length: 1636m

0 100 200 300

Map Key: KEN-125

Name: T. SawyerDate: 4-20-90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT TB-6 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup and Tarmat Removal Less Than 400m From Active Nest	CLOSED
Manual Pickup and Tarmat Removal More Than 400m From Active Nest	OPEN
Bioremediation Less Than 400m From Active Nest	CLOSED
Bioremediation More Than 400m From Active Nest	WORK 6/15 to 7/20 AND AFTER 9/5.

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1J	Purse Seine Area	Closed to bioremediation 7/10 to 9/5. No constraint to manual pickup and tarmat removal.
2M	Herring Spawning	Closed to bioremediation before 6/15. No constraint to manual pickup and tarmat removal.
5T	Bald Eagle Nest	USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup, tarmat removal and bioremediation within 400m of active nest. No constraint to manual pickup, tarmat removal, and bioremediation more than 400m from active nest.

OTHER ECOLOGICAL CONSIDERATIONS

~~Boat~~
Restrict all traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Restrict boat traffic to essential minimum. Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass.

FOSC

Date

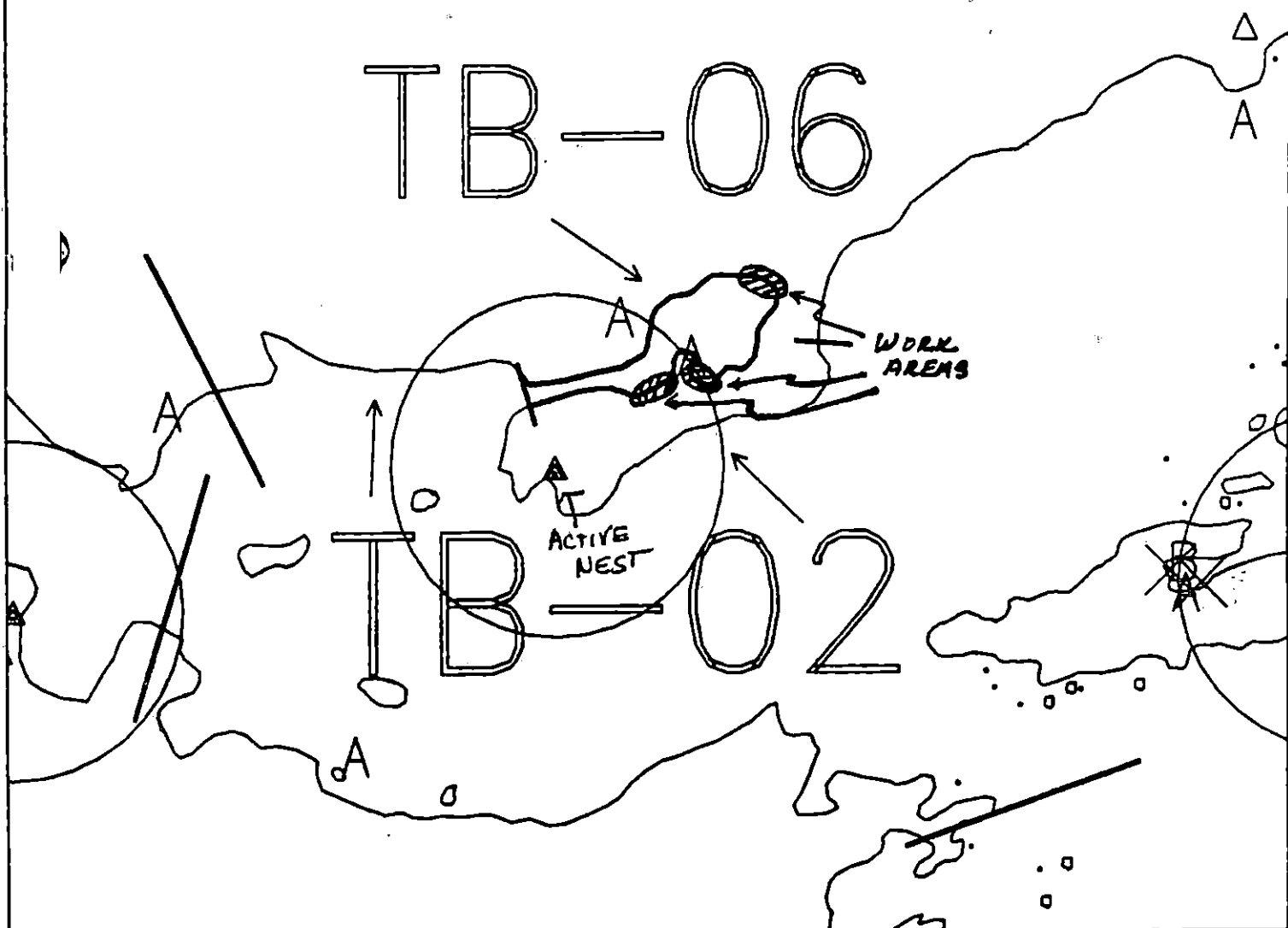
Prepared by

Date

[Signature] 6/16/90
[Signature] 6/14/90

TB-0

TB-06



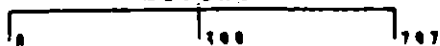
Exxon Company, USA

Map Key: KEN-TB-6

Scale 10: 1000

ECOLOGY MAP
SEGMENT TB-6
SUBDIVISION A (1 of 1)

METERS



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

1 inch = 1300 feet

ARLIS
Alaska Resources
Library & Information Services
Anchorage, Alaska