[Shoreline evaluations, 1990].

FA-01 – FL-05

SHORELINE EVALUATION

SEGMENT ST/ FA-01 SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1E Main Bay Hatchery release (4/20 to 5/10)
1L Set net sites (6/11 to 7/25)
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6U Recreation: Tent sites (6/1 to 9/15)
6V Recreation: Anchorages (6/1 to 9/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest in Subdivision A.

SHPO SIGNATURE: Charles E. Holmes DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 404 m: No Oil 2229 m
Subsurface Oil Observed: Yes X No ____ Maximum Depth 20+ cm

RECOMMENDATIONS:

X No Treatment Recommended	____Snare/Absorbent Booms
____Treatment Recommended	____Oil Snares (pom poms)
____Manual Pickup	____Absorbents (pads,rolls,etc)
____Bioremediation	____Spot Washing: ____Wands
____Tarmat: ____Breakup	____ Beach Cleaner
____Removal	____Other (see comments)

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/26/90
ADEC JOAN BAUER
EXXON ANDY TOAR
NOAA Gary Petrae
USCG KENNETH KEANE

FOSC: _____ DATE: 5-9-90

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 unoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.	
3N, 3P	Harbor seal and sea lion pupping (5/15 to 7/1)	
3O, 3Q	Harbor seal and sea lion molting (8/15 to 9/15)	
	Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.	
5R	Seabird colony (5/1 to 9/1)	
	Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.	
5S	Shorebird/waterfowl concentration (4/1 to 5/15)	
	Restrict all activity to essential minimum, especially air traffic.	
5T	All Bald Eagle nests (3/1 to 6/1)	
	Active Bald Eagle nests (3/1 to 9/1)	
	Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.	
6U	Recreation:	Tent sites (6/1 to 9/15)
6V		Anchorages (6/1 to 9/15)
6W		Forest Service cabins (6/1 to 9/15)
6X		Lodge (6/1 to 9/15)
6Y		Special use destination
7Z	Subsistence area:	Salmon harvesting (5/1 to 9/30)
7HH		Finfish harvesting
7II		Deer harvesting (8/15 to 2/28)
7JJ		Invertebrate harvesting
	For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.	

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / FA 1 SUBDIVISION: A DATE 4/9/90

USCG
NAME GARY OTT SIGNATURE G S Ott

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

ADEC
NAME MICHAEL J. EBEL SIGNATURE Michael J. Ebel

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

FA-1-A: Small splatters of interstitial pooled tar were found along (very infrequently) ~~along~~ the bedrock point with about the same number of occurances for tarballs. Splashes of cover, coat, and stain were also few and confined to point areas. The high exposure to this area has done a thorough job cleansing it. No treatment recommended.

LAND MANAGER · USDA FOREST SERVICE
NAME DON BREITINGER SIGNATURE Don J. Breitinger 4/10/90

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

10/19

REVISED NC 03/21/90

SHORELINE OILING SUMMARY

OG Randy McBride USCG North Carry Off SEGMENT ST/ FA-1
BIO Lewis Shorman LAND REP USFS Jon Breitnagt SUBDIVISION A
EXXON Leonard Herbst ADEC Michael Ekal TIME 17 :00 to 19 :04
TEAM NO.: 12 TIDE LEVEL: 6.1' to 1.2' DATE 04 / 09 / 90
EST. SUBDIVISION LENGTH: 2779 m ☑ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☑ Foot ☑ Boat ☐ Helo WORKING DIRECTION: East to west
SURFACE SEDIMENTS: R 30 % B 30 % C 25 % P 10 % G 4 % S 1 % M 0 % V 0 %
SLOPE : Lang 5 % Hang 65 % Vert 30 % WAVE EXPOSURE: ☐ Low ☒ Med ☒ High
OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 640 m NO 2139 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	A	P	R						SU	M	MI	U
ASPHALT PAVEMENT													
POOLED				X		X					X		
COVER				X		X					X		
COAT				X		X		X			X		
STAIN				X		X					X		
MOUSSE													
PATTIES				X				X			X		
TARBALLS													
FILM													
NO OIL										X		X	X

PAVEMENT: H F S 0 sq. m by 0 c
PATTIES / TARBALLS 1 BAGS
NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED ☒ YES ☐ NO
TYPE plastic bottles
#BAGS

Photographs:
Roll No. ST-12-7
Frames 1

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm-cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SUBSURFACE SEDIMENTS
		OP	OR	OL	OT	NO		OO	UC						SU	M	MI	U		
1	20				X		18-20	X			X					X				C, P, G, S
2	23					X	—		X							X				C, P, G, S
3	19					X	—		X							X				C, P, G

COMMENTS

FA-1-A is characterized by coarser-grained beaches (boulders and cobbles) and high angle slopes interspersed with some finer-grained pocket beaches. Overall, oiling was non-existent except for some very isolated areas of very light. All the very light oiling was characterized by splashed distributions (see datasheet). Falls Bay is exposed to moderate wave energy. Waves as high when winds are from the NE due to the large fetch available across the Northern end of Knight Island Passage.

REVIEWED TW DATE 4/11/90
2/19

SHORELINE ECOLOGICAL SUMMARY (Page 1 of 2)

REVISION: 8/22

Segment ST / FA-1 Subdivision A Date (mo / day / yr) 4/9/90

Time (24 hr) 1700-1900 Biologist SHARMAN

(A) Substrate type and % of segments:
(1) Bedrock 30 (2) Boulder 30 (3) Cobble 25 (4) Pebble 10 (5) Sand 5 + granule (6) Silt ____

(B) Overall % cover of biota (% of segment): Dense ____ Moderate ____ Low X

(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-12-7
Frames 1

BARNACLES

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L				
2	2	2	2	2	2	2	2	2				
3	3	3	3	3	3	3	3	3	3	X	X	NOT PRESENT
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U			
2	2	2	2	2	2	2	2	2	2			
3	3	3	3	3	3	3	3	3	3	3	3	NOT PRESENT
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	

GASTROPODS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L				
2	2	2	2	2	2	2	2	2				
3	3	3	3	3	3	3	3	3	X	X	X	NOT PRESENT
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	

FUCUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	X	1L	1U	1M	X		1M	1L	
2	2	2	2	2	2	2	2	2				
3	3	3	3	3	3	3	3	3	3	3	3	NOT PRESENT
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	

Wildlife Observations/ General Comments:
5 sea otters, 1 porcupine napping in shoreside spruce, 1 on rock point at E. end of segment, 2 ravens, 4 crabs, 1 murrelet, 1 pair mallards, 10 pair harlequin ducks, 45 pair Barrow's goldeneyes (≈ 40 pairs rafted at head of bay - W. end of segment) at stream mouth. This is clearly a very high-energy beach, with considerable fetch from the NE. (cont.)

Ecological Considerations:
According to the Priorities and Windows table, this segment is assigned an environmentally ranked priority of 1, due primarily to use of the area as a Prince Wm. Sound herring spawning site (sensitivity code 1E) and the presence of bald eagle nests (sensitivity code 5T, constraint (constraints 1+2, treatment priority 2)

5, treatment priority 2. We did not observe any eagle nests on this survey. There are no particularly critical ecological sensitivities (see above General Comments). EHA additional

FA-1-A
4/9/90

Shoreline Ecological Summary (cont.) (Page 2 of 2)

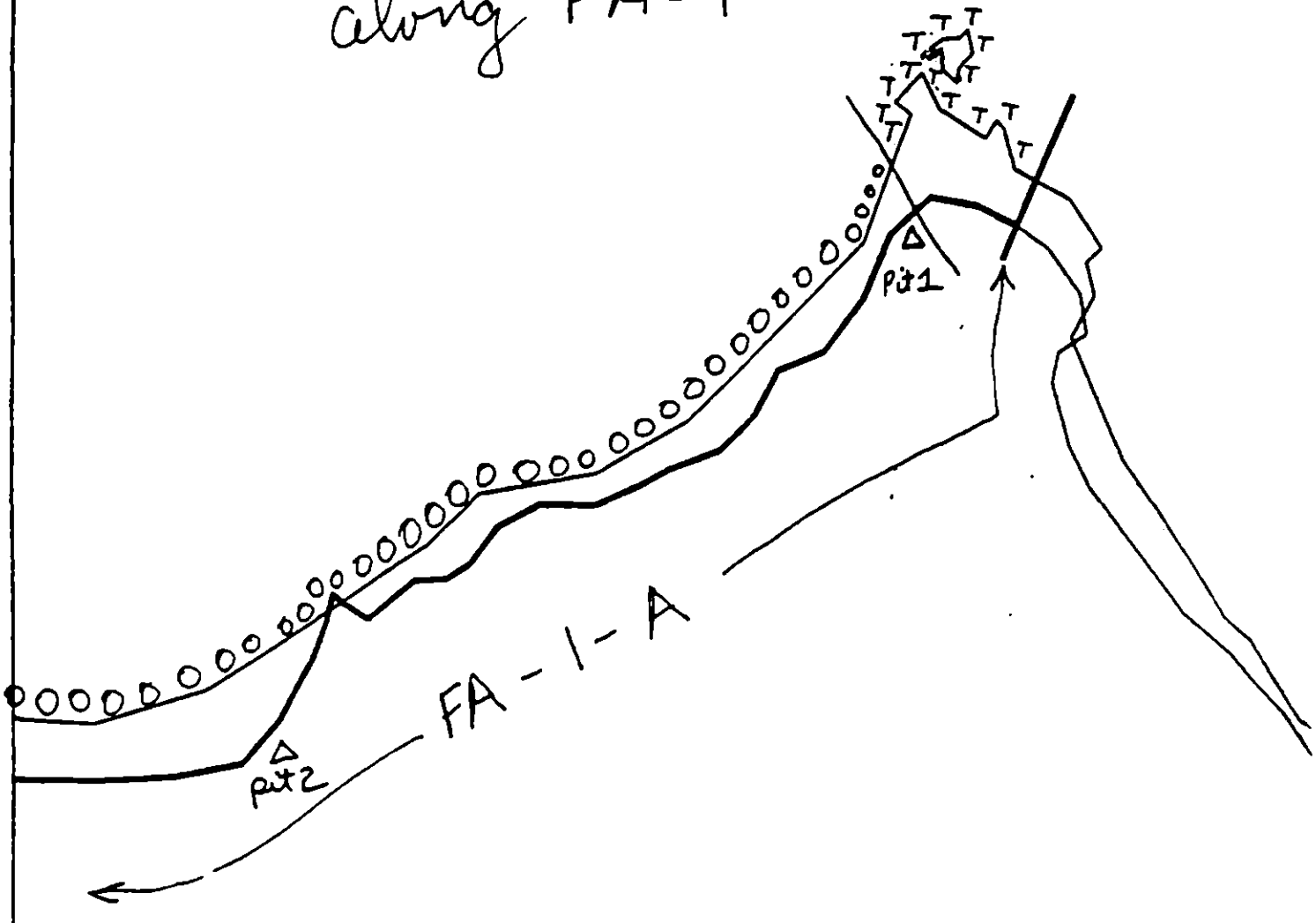
Sharma

General Comments (cont.):

A significant portion of the aggregate is dominated by bedrock. The E. point, in particular, is very rich and productive intertidally, with dense Fucus commonly, and a diversely diverse LTE. Much of the remaining E. ½ of the aggregate is a lag of large boulders atop the continuous bedrock platform, and this intertidal habitat is noticeably depauperate owing to wavewash and chiefly boulder/cobble scouring (boulders are not embedded in fine sediments). There is absolutely no detectable impact from the very light and discontinuous oiling that the beach apparently received. Boulder undersides harbor barnacle spat, sometimes abundant amphipods, and littorines with egg masses, as well as rare Leptasterias feeding on barnacles. Rhodomela joins Fucus in the low and mid-intertidal zones (mostly bedrock and stabilized boulder substrate). There is generally fair to good barnacle and Fucus recruitment these flats. This is a normal and healthy intertidal zone, given its physical parameters and environment.

9/19

Pit Locations along FA-1-A



← 235A

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

FA-1

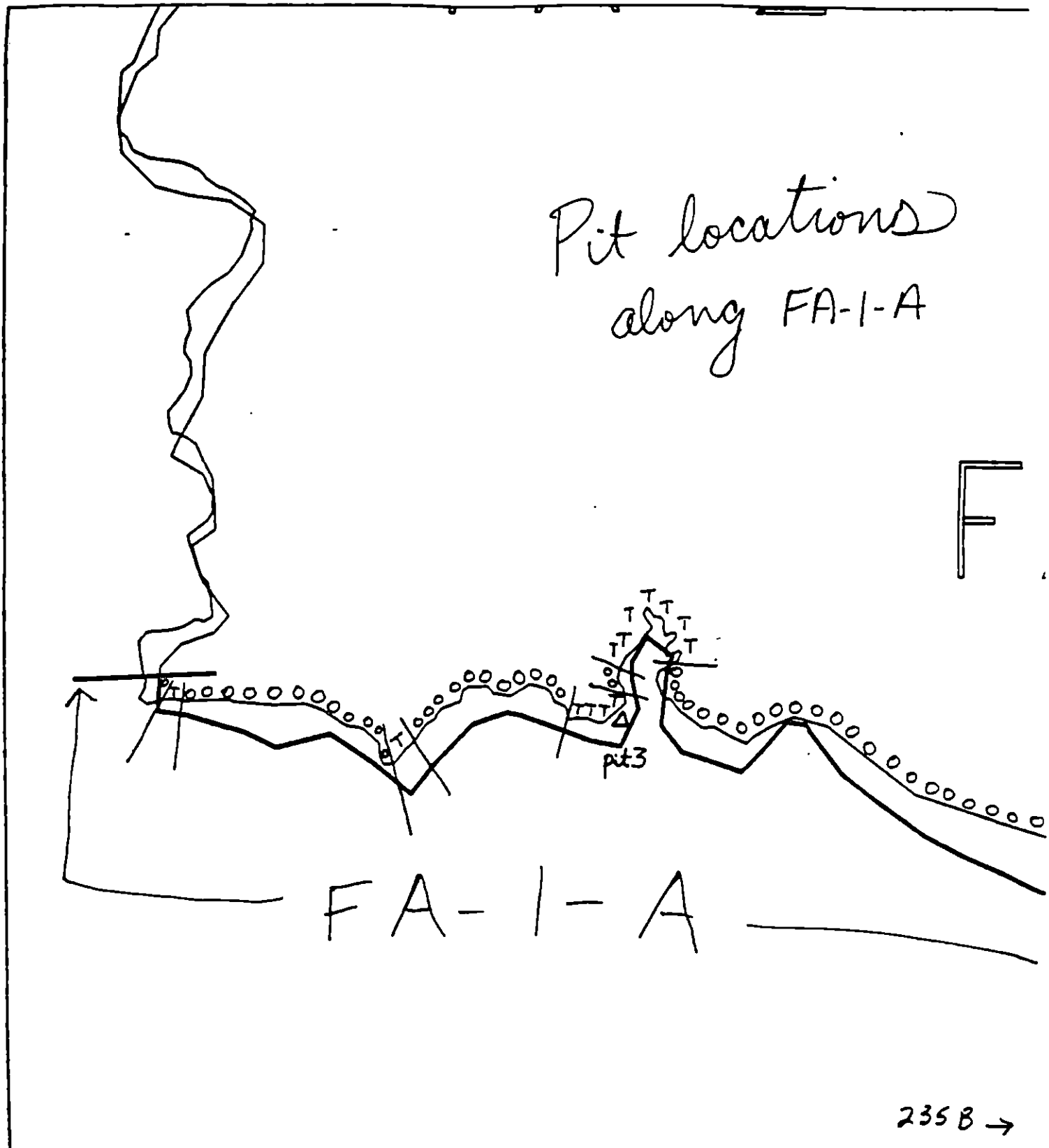
ADEC Segment Length: 2634m

0 100 200 500
METERS

N

Map Key: PWS-235b
Name: Randy McBride
Date: 4/16/90
Date Entered:

5/19



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

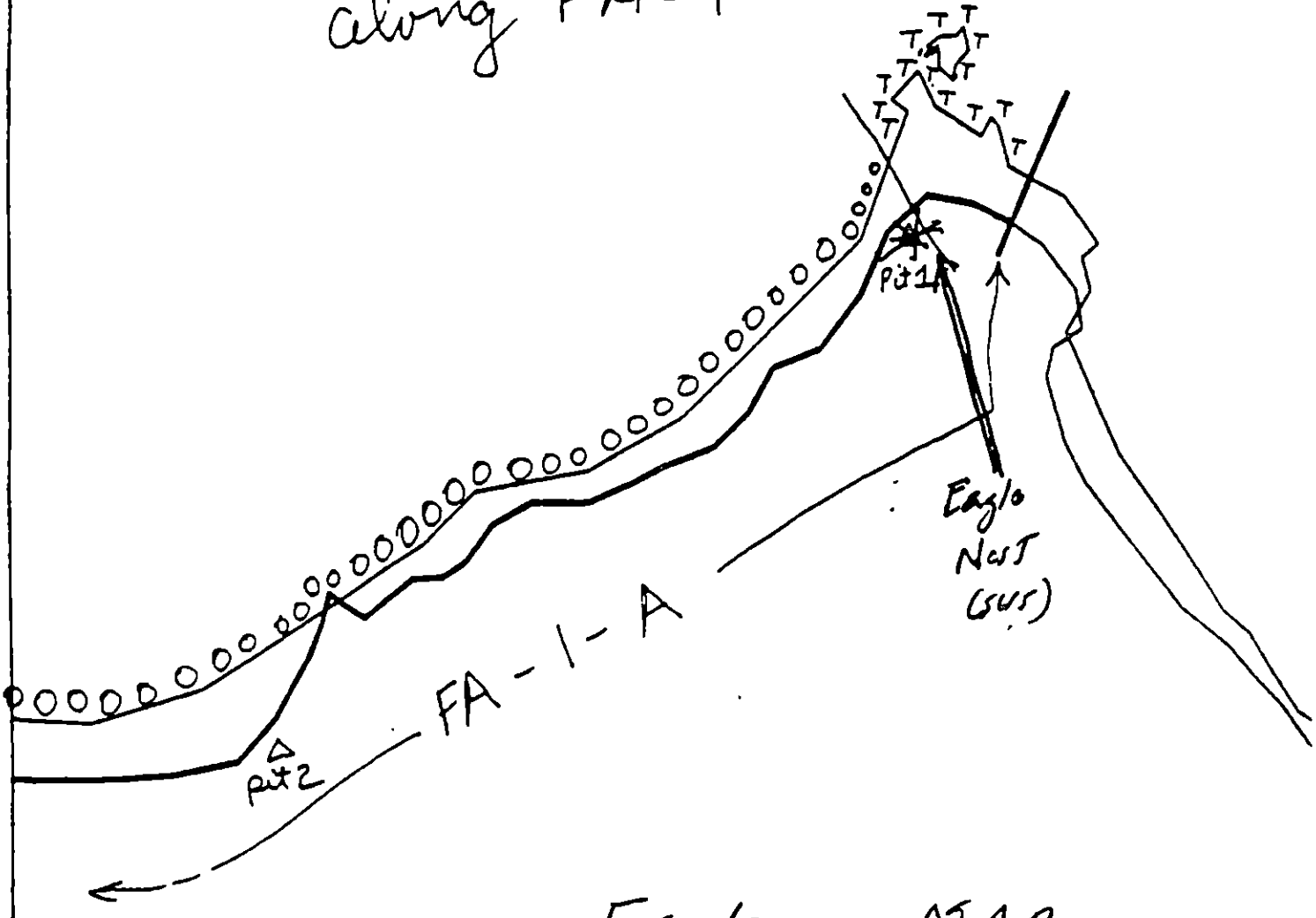
FA-1

ADEC Segment Length: 2634m

0 100 200 300
METERS

Map Key: PWS-235a
Name: Randy McBride
Date: 4/10/90
Date Entered: 6/19

Pit Locations along FA-1-A



Ecology MAP

← 235A

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

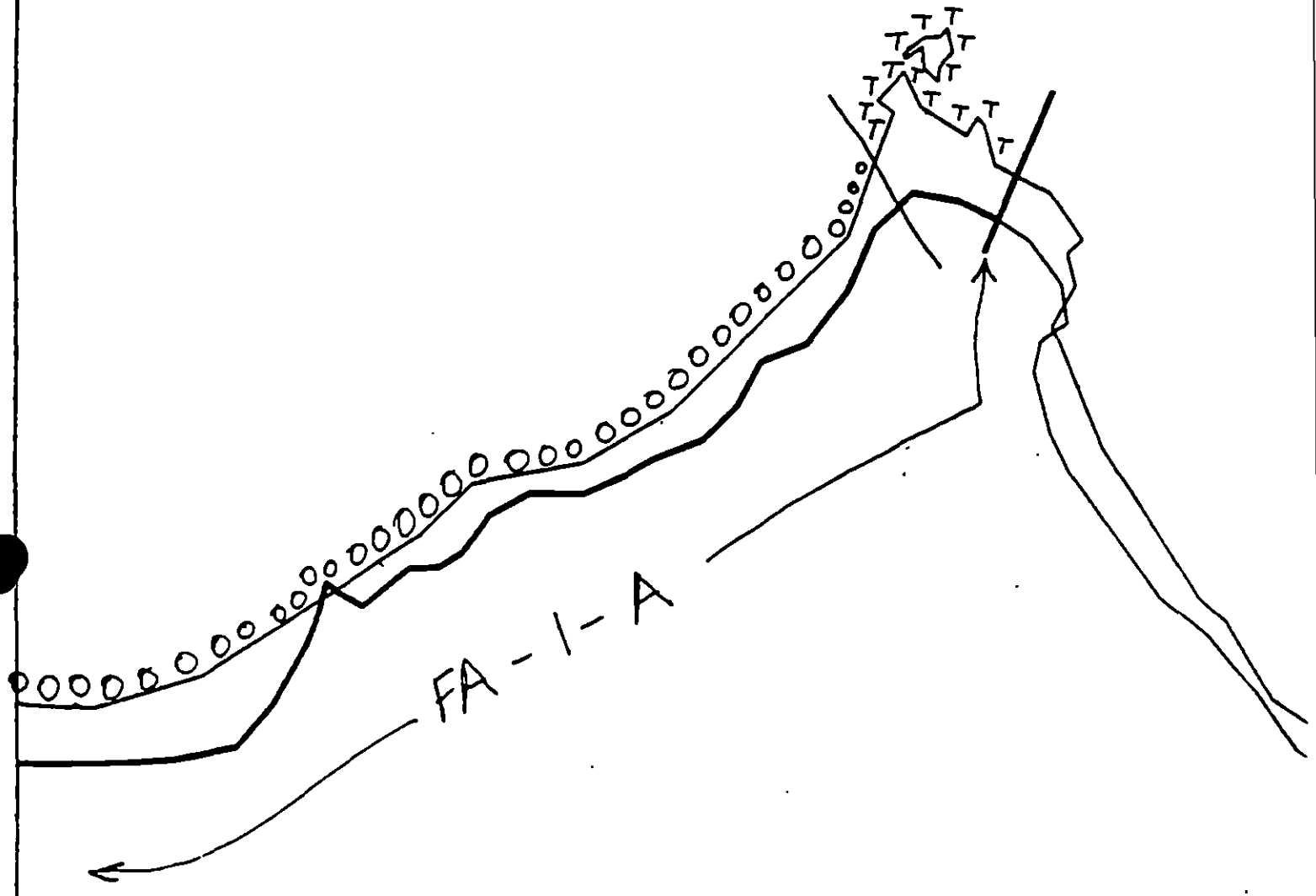
FA-1

ADEC Segment Length: 2654m

0 100 200 300
METERS

Map Key: PWS-235b
Name: Randy McBride
Date: 4/16/90
Date Entered:

5/19



← 235A

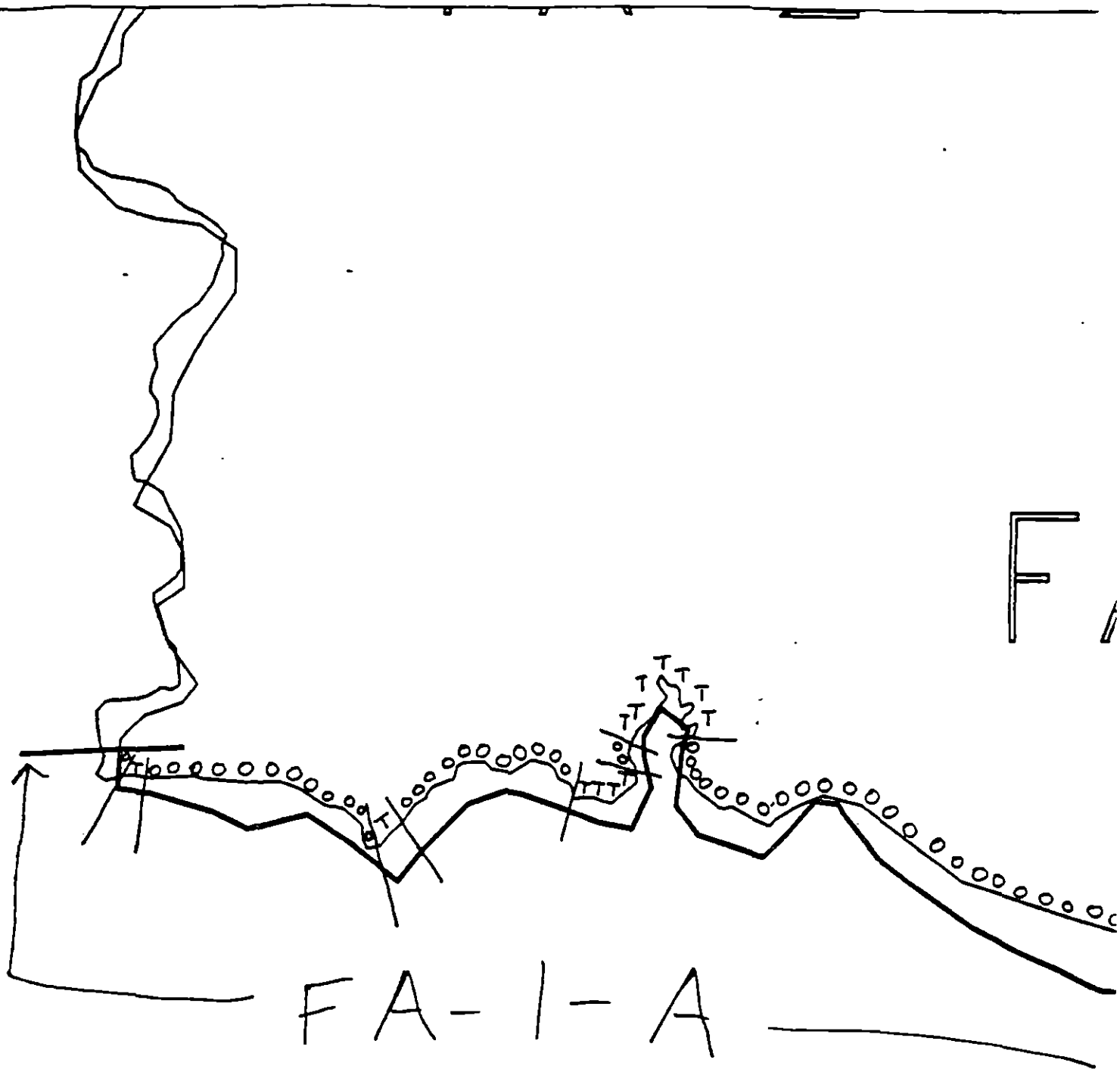
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

FA-1

ADEC Segment Length: 2634m

0 100 200 300
METERS

Map Key: PWS-235b
Name: Randy McBride
Date: 4/10/90
Date Entered: 3/19



235B →

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

FA-1

ADEC Segment Length: 2634m

0 100 200 300
METERS

N

Map Key: PWS-235a
Name: Randy McBride
Date: 4/10/90
Date Entered: 4/19

SHORELINE EVALUATION

SEGMENT ST/ FA-02 SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no. 225-20-15050.
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
1E Main Bay Hatchery release (4/20 to 5/10)
1L Set net sites (6/11 to 7/25)
9BB Privately developed lands
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest near border in MA-10.

SHPO SIGNATURE: [signature] DATE: 5/2/90

OILING CATEGORIZATION:

Wide 0 m: Medium 229 m: Narrow 0 m: V.Light 944 m: No Oil 1406 m
Subsurface Oil Observed: Yes X No ____ Maximum Depth 27+ cm

RECOMMENDATIONS:

X No Treatment Recommended	____Snare/Absorbent Booms
X Treatment Recommended	____Oil Snares (pom poms)
X Manual Pickup	____Absorbents (pads,rolls,etc)
____Bioremediation	____Spot Washing: ____Wands
X Tarmat: ____Breakup	____ Beach Cleaner
X Removal	____Other (see comments)

COMMENTS: MANUAL PICKUP OF ASPHALT PATTIES / TARBALLS AS INDICATED ON SKETCH

TAG COMMENTS: ____

TAG APPROVAL DATE: 4'25'90
ADEC ART WEINER [signature]
EXXON ANDY TEAS [signature] FOSC: [signature] DATE: 5-9-90
NOAA Joseph Talbot II [signature]
USCG KENNETH KEANE [signature]

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 unoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.	
3N, 3P	Harbor seal and sea lion pupping (5/15 to 7/1)	
3O, 3Q	Harbor seal and sea lion molting (8/15 to 9/15)	
	Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.	
5R	Seabird colony (5/1 to 9/1)	
	Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.	
5S	Shorebird/waterfowl concentration (4/1 to 5/15)	
	Restrict all activity to essential minimum, especially air traffic.	
5T	All Bald Eagle nests (3/1 to 8/1)	
	Active Bald Eagle nests (3/1 to 9/1)	
	Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.	
6U	Recreation:	Tent sites (6/1 to 9/15)
6V		Anchorages (6/1 to 9/15)
6W		Forest Service cabins (6/1 to 9/15)
6X		Lodge (6/1 to 9/15)
6Y		Special use destination
7Z	Subsistance area:	Salmon harvesting (5/1 to 9/30)
7HH		Finfish harvesting
7II		Deer harvesting (8/15 to 2/28)
7JJ		Invertebrate harvesting
	For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.	

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / FA2 SUBDIVISION: A DATE 4/10/90

USCG
NAME GARY OTT SIGNATURE _____

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

VERY SCATTERED OIL OBSERVED, IN COATS, IS STABLE.

ADEC
NAME MICHAEL J. EBEL SIGNATURE Michael J. Ebel

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

FA-2-A: Scattered asphalt patches were found along the peripheral inflection of the UTF in a pocket cove (immediately southof Hana Cove village). It was mostly a thin, loose veneer, still sting-dark black found in a intermittent band composed of scattered deposits, some up to a couple cm thick (most ≈ 0.75 cm). We took up what were visibly the heaviest with one pass and noted the substate with pits #4, 5, & 6. Of these, #5 showed DBL residual oil 4 cm thick in a lens from 19-23 cm down. The others only film; likely a small pool/lens ~~remnant~~ remnant under pit #5. We also found scattered ~~remnant~~ coat, film and occasional tarballs (< 1 bag). (cont.)

LAND MANAGER · USDA FOREST SERVICE
NAME DON BREITINGER SIGNATURE Don J. Breitinger 4/10/90

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

18/A

FIELD SHORELINE COMMENT SHEET

FA-2-A (cont.)

My recommendation to this area would be to let the natural flushing of this shoreline finish the cleaning and to make no further impact of any kind. Michael J. Elel 4/14
ADEC

A/A

SHORELINE OILING SUMMARY

07:17 to 8:45 4/10/90 REVISION NO. 0/DRAFT

OG Randy McBride USCG NOAA Gary Ott SEGMENT ST/ FA-2
BIO Lewis Sharman LAND REP USFS Don Breitinger SUBDIVISION A
EXXON Leonard Herbst ADEC Michael Ebel TIME 19 : 05 to 20 : 30 4/9/1
TEAM NO.: 12 TIDE LEVEL: 3.2' to 1' 4/9/90 DATE 04 / 09 / 90
EST. SUBDIVISION LENGTH: 3566 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow 4/10/90
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☑ Foot ☒ Boat ☐ Helo WORKING DIRECTION: SW to NE
SURFACE SEDIMENTS: R 30 % B 10 % C 30 % P 20 % G 8 % S 2 % M 0 % V 0 %
SLOPE : Lang 45 % Hang 40 % Vert 15 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
OIL CATEGORY LENGTH: W 0 m M 240 m N 0 m VL 1026 m NO 1640 m
US 1060

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	AC	AB	AP	AA						SU	UI	MI	LI
ASPHALT PAVEMENT				X	X			•			X		
POOLED		O	•	X				X O			X O		
COVER				X				X			X		
COAT			•	X				X			X		
STAIN													
MOUSSE													
PATTIES													
TARBALLS				X				X			X		
FILM				X		X					X		
NO OIL										X		X	X

PAVEMENT: H (F) (S) 80 sq. m by 3 cm Broken up w/shovels
PATTIES / TARBALLS ____ | ____ BAGS
NEAR SHORE SHEEN? (NO) BR RW SL TL

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

DEBRIS COLLECTED ☒ YES ☐ NO
TYPE Plastic bottles
#BAGS ____

Photographs:
Roll No. ST-12-7
Frames 2-3

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm-cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		BO	UC						SU	UI	MI	LI		
1	17					X	-		X							X				C, P, G, S, M
2	23					X	-		X							X				C, P, G, S
3	38					X	-		X							X				C, P, G, S
4	30				X		22-25		X		X	•				X				B, C, P, G organics rich
5	23		•		X		19-23	X			X	•	•			X				B, C, P, G
6	27				X		22-27	X			X									B, C, P, G organics rich

COMMENTS A P/s broken up w/shovels in most areas.

Overall, FA-2-A is characterized predominately by very light and no oiling except for two areas categorized as medium oiling. The medium oiling is characterized by asphalt pavement, pooled, covered, and coated oiling with splashed distributions. In some areas, the medium oiling is characterized by broken and patchy distributions. Most of these areas were broken up using shovels. A small portion of FA-2-A was not surveyed because of the untold village of Hanes Cove.

REVIEWED ____ DATE 4/11/90

11/19

SHORELINE ECOLOGICAL SUMMARY (Page 1 of 2)

REVISION: 8/92

Segment ST / FA-2 Subdivision A Date (mo / day / yr) 4/9/90

Time (24 hr) 1900 - 2030 Biologist SHARMAN

(A) Substrate type and % of segments:
(1) Bedrock 30 (2) Boulder 10 (3) Cobble 30 (4) Pebble 20 (5) Sand 10 + granules (6) Silt ____

(B) Overall % cover of biota (% of segment): Dense ____ Moderate X Low ____

(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-12-7
Frames 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	X	2				
3	3	3	3	3	3	3	3	3				NOT PRESENT
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2			
3	3	3	3	3	3	3	3	3	3	3	3	NOT PRESENT
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	

GASTROPODS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L				
2	2	2	2	2	2	2	2	2				
3	3	3	3	3	3	3	3	3				NOT PRESENT
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	

FUCUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L				
2	2	2	2	2	2	2	X	2				
3	3	3	3	3	3	3	3	3				NOT PRESENT
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	

Wildlife Observations/ General Comments: 2 adult eagles, 1 subadult eagle, 1 pigeon guillemot, 1 magpie, deer tracks in intertidal zone on pebble beaches, 1 porcupine ridging in beachfront spruce tree (another in FA-1), 1 adult otter (hide + skeleton) in UTE - no oil, cause of death unknown. Also 1 deer carcass in UTE - no oil, cause of death unknown (hide + skeleton). At another location, one sea otter rib in MTE. Pair of black oystercatchers on rocky point, N. end of segment.

Ecological Considerations: (cont.)
According to the Priorities and Windows table this segment is assigned an environmentally ranked priority of 1, based primarily on ecological sensitivities 1E (Main Bay Hatchery release site) and 5T (bald eagle nests). These have constraints 1-2, and 5, respectively, for a treatment priority of 2. We saw no eagle nests on this assessment. There are not particularly critical ecological sensitivities (see above General Comments). additional

16/19

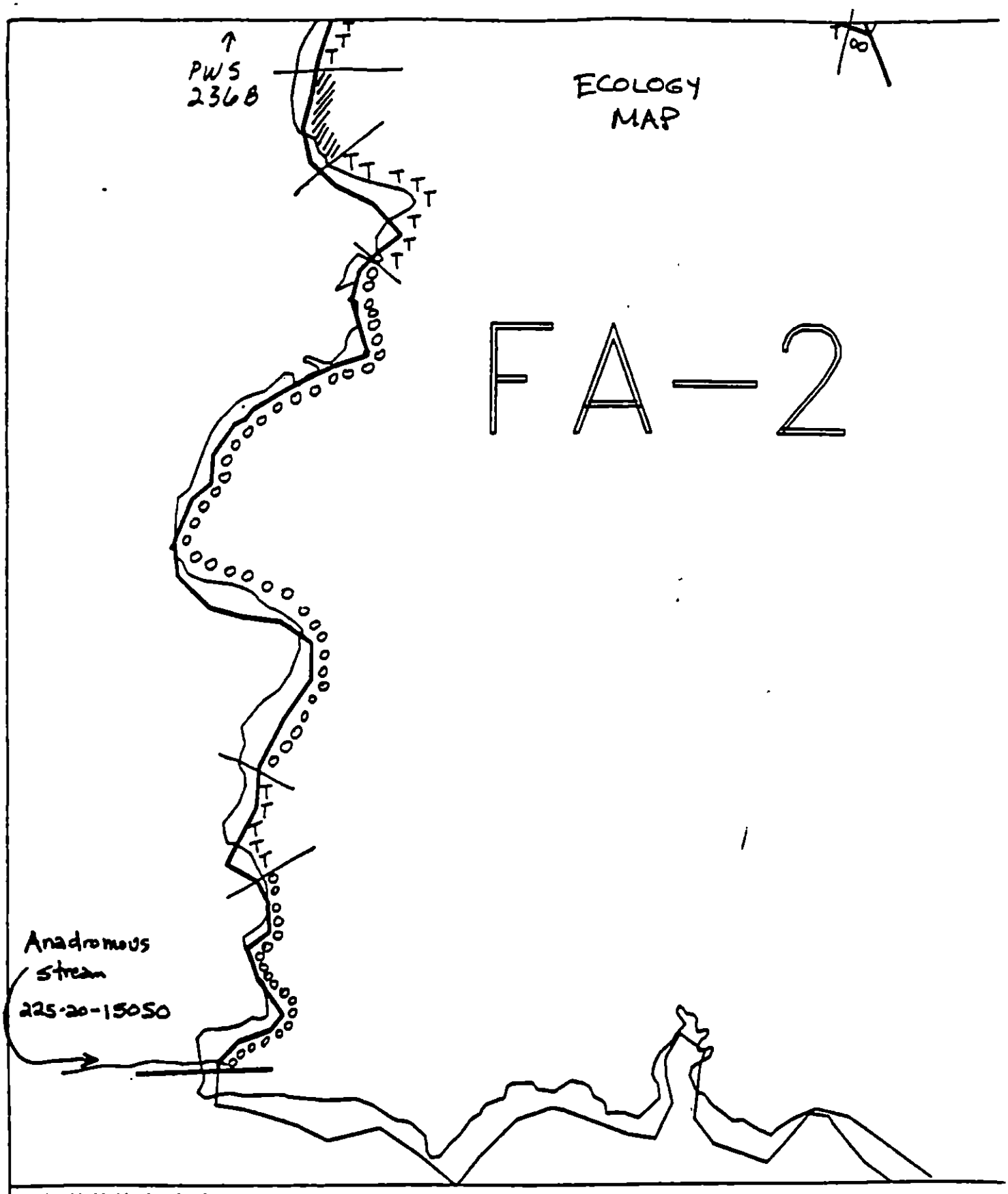
FA-2-A
4/9/90

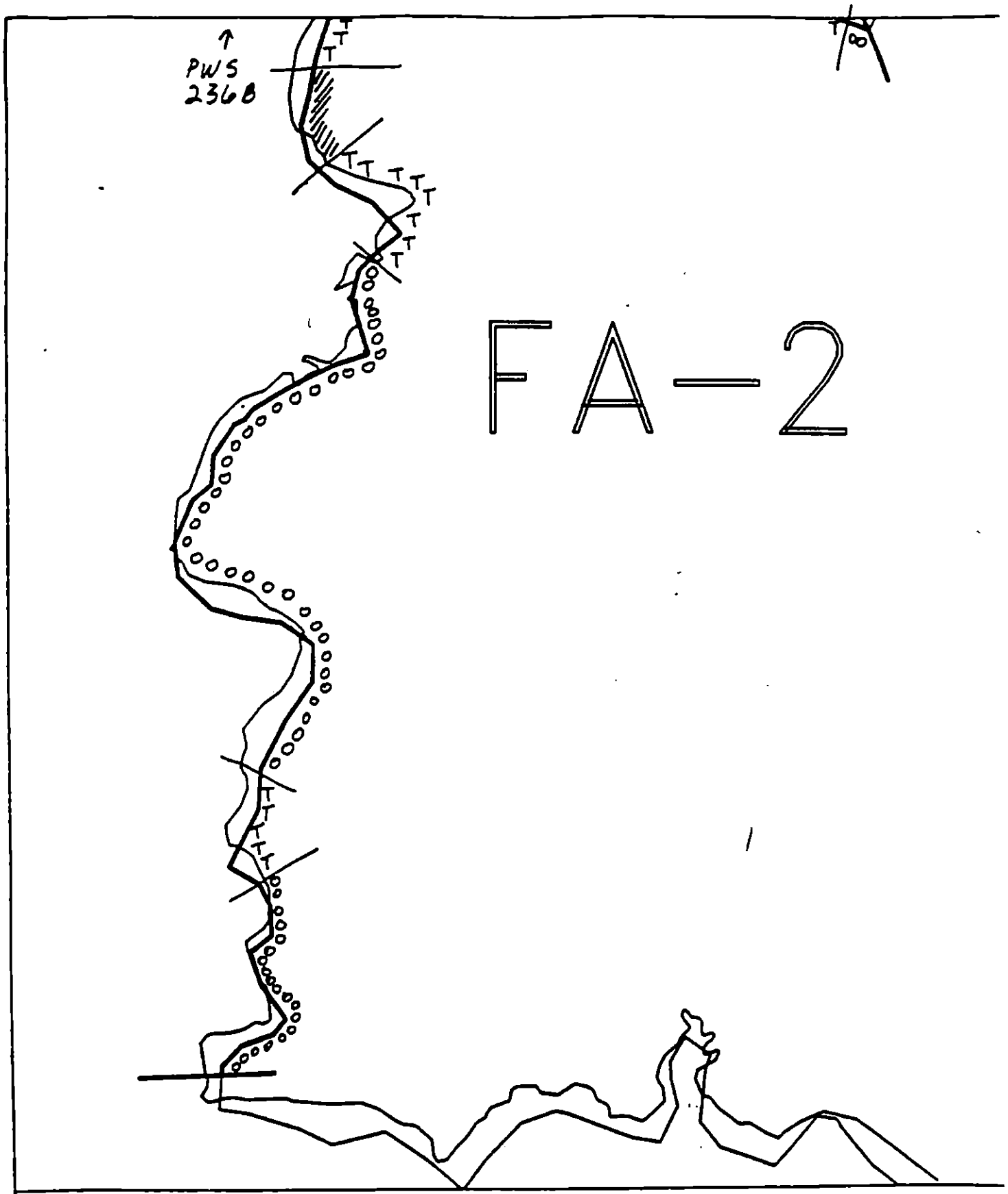
Shoreline Ecological Summary (cont.) Sharman
(Page 2 of 2)

General Comments (cont.):

Intertidally, this segment appears normal and healthy except for very local tar lands in a couple bedrock/boulder areas where adult barnacle mortality is to 50% within the oiled band (vs. ~15% mortality within the barnacle zone where there is no oil). Barnacle set seems to be quite good on this segment (much better than on the more exposed beaches of adjacent FA-1). Mussel recruitment, and Fucus/Rhodomela recruitment, seems to be pretty good (certainly compared to FA-1). Also, on this better protected segment, cobbles support barnacles, Fucus, and gastropods (vs. FA-1). I observed newly-settled barnacle cyprid larvae here! The LTZ, as in FA-1, is highly productive. There are numerous rich bedrock tidepools with coralline algae, anemones, chitons, etc. Additionally Nucella and Littorina are laying eggs both on protected bedrock surfaces and beneath boulders.

17/19


PWS 236B
ECOLOGY MAP
FA-2
Anadromous stream 225-20-15050
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
FA-2
ADEC Segment Length: 3424m
0
100
200
300
Map Key: PWS-236a
Name: Randy McBride
Date: 4/10/90
12/19



XXXX Wide
//// Medium
---- Narrow
TTTT Very Light

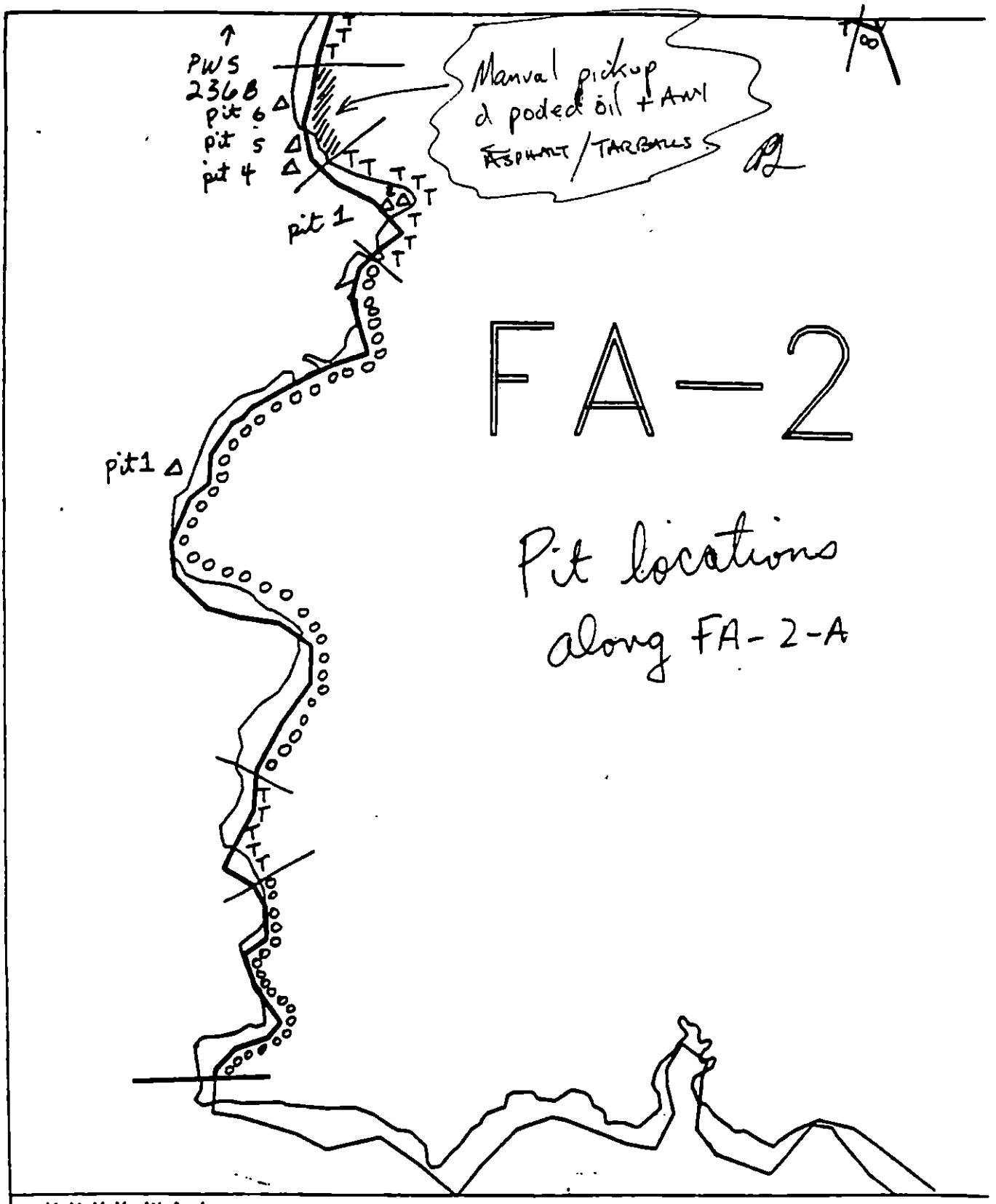
FA-2

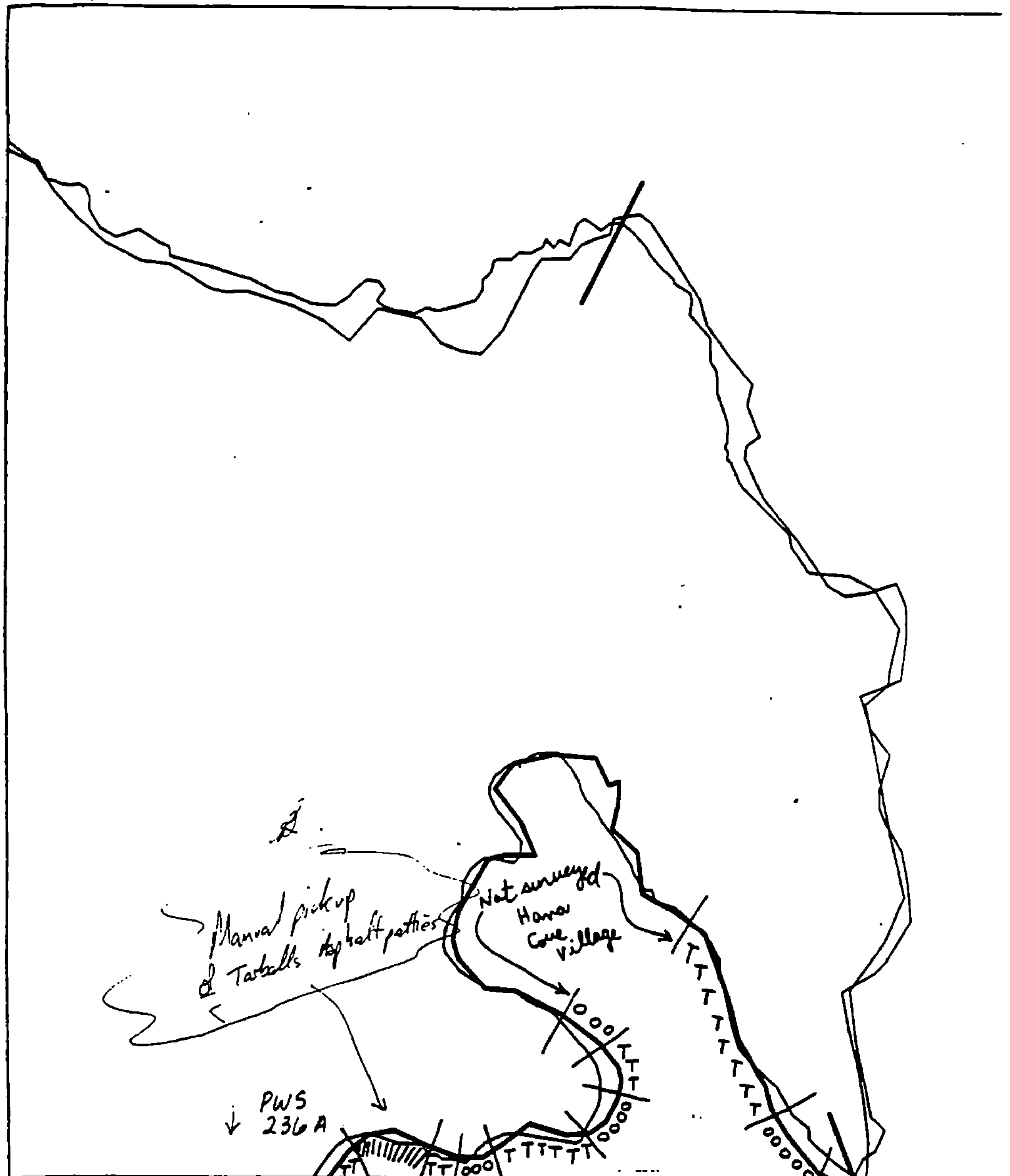
ADEC Segment Length: 3424m

0 100 200 300

Map Key: PWS-236a
Name: Randy McBride
Date: 4/10/90

12/19


PWS 2368
pit 6
pit 5
pit 4
pit 1
Manual pickup of poded oil + ANFO ASPHALT / TARBALLS
pit1
FA-2
Pit locations along FA-2-A
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
FA-2
ABEC Segment Length: 3424m
0
100
200
300
Map Key: PWS-236a
Name: Randy McBride
Date: 4/10/90



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

FA-2

ADEC Segment Length: 3424m

0 100 200 300
METERS

Map Key: PWS-236b
Name: Randy McBride
Date: 4/10/90
Date Entered: 13/19

SHORELINE EVALUATION

SEGMENT ST/ FL-01 SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
No specific constraints identified.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: Charles E Holman DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 64 m: Narrow 398 m: V.Light 30 m: No Oil 57 m
Subsurface Oil Observed: Yes____ No X Maximum Depth_____

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pick up of oiled debris and tarmat removal. Also recommend bioremediation of oil coated and oil covered areas.

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90
ADEC ART WEINER
EXXON ANDY TSIE
NOAA Burl Wescott
USCG KENNETH KOHL

FOSC: _____ DATE: 5-1-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / FL-01 SUBDIVISION: A DATE 09 APRIL 90

USCG
NAME LARRY FLETCHER SIGNATURE Larry R Fletcher

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

1. MANUALLY REMOVE ASPHALT AND TAR PATTIES.
2. POSSIBLE BIO-REMEDIATION

ADEC
NAME DAVID M. SALE SIGNATURE David M Sale

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

① MANUALLY REMOVE TAR PATTIES, DEBRIS AND ASPHALT FROM SURFACE AND SUB SURFACE SEDIMENTS, INCLUDING BETWEEN BOULDERS.

② REMOVE GROSS CONTAMINATION, COVER OTHER THAN STAIN, FROM BEDROCK + BOULDERS

③ BIOREMEDIATE ONLY WITH CONCURRENCE OF CHENEGA VILLAGE RESIDENTS AND/OR CORPORATION.

LAND MANAGER
NAME Steve WARD SIGNATURE Steve Ward

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

I consider the DATA Above to be very ACCURATE, AS to Existing Conditions on the Beach.

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG Richard Marty USCG Larry Fletcher SEGMENT ST/ [redacted] FL-01
BIO Bob Lemon LAND REP [illegible] SUBDIVISION A (1/1)
EXXON Jon Czerneki ADEC Dave Sale TIME 07 :20 to 27 :30
TEAM NO.: 10 TIDE LEVEL: -0.1m(0.4') to 1.0 m(3') DATE 09 / April / 90
EST. SUBDIVISION LENGTH: 527 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: NE to [illegible]
SURFACE SEDIMENTS: R 60 % B 10 % C 10 % P 10 % G 5 % S 5 % M 0 % V 0 %
SLOPE : Lang 30 % Hang 70 % Vert % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
OIL CATEGORY LENGTH: W m M 61 m N 336 m VL 15 m NO 115 m

SURFACE OIL

$3m^2 + (4 \times 0.2 \times 30)m^2 =$

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	RC	RB	RP	RO	BR	RW	OL	TL	LAM	SU	UI	MI	LI
ASPHALT PAVEMENT			X			X					X		
POOLED													
COVER		X						X			X		
COAT		O	✓	X				~~X~~			~~X~~		
STAIN			✓	·				✓			✓		
MOUSSE													
PATTIES				X				X		X			
TARBALLS													
FILM													
NO OIL												X	X

PAVEMENT: H F (S) 27 sq. m by 3 cm
PATTIES / TARBALLS 1 BAGS
NEAR SHORE SHEEN? (NO) BR RW SL TL

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

DEBRIS COLLECTED ☐ YES ☒ NO
TYPE O
#BAGS O

Photographs:
Roll No. ST/10/11
Frames 27-36

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL cm - cm (cm-cm)	BELOW		OIL / FILM COLOR						PIT ZONE				ANA	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	VC	BR	RW	OL	TL	LAM		SU	UI	MI	LI		
1	30					X	·										X			N	Pebbles
2	26					X	·										X			|	Coarse Sand
3	25					X	·										X			|	Pebbles, shells
4	8		X				0 - 4		X				X				X			|	Shale/Rock
5	25					X	·										X			↓	Coarse sand
							·														

COMMENTS

REVIEWED _____ DATE _____

OG Richard [illegible]ly

SEGMENT ST/ FL-01

SUBDIVISION A

DATE 9 /Apr/ 90

CHECKLIST

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

LEGEND

1 ▲ Pit - No Subsurface Oil

2 ▲ Pit - Subsurface Oil

CT/C Continuous Distribution

CT/B Broken Distribution

CT/P Patchy Distribution

CT/S Splashed Distribution

Oiled Vegetation

Photo location, direction, and number

SKE[illegible]H MAP

FL-1

Metamorphic bedrock showing multiple deformations

Sediments and regolith

- TARMAT REMOVAL
- MANUAL PICK UP OILED DEBRIS

Narrow pebble granule beach with

Asphalt amongst angular cobbles in VITZ ~ 4m wide × 20% × 30m long.

Oil band continues around on this face

AP/P

Sandy pebble cobble beach poorly sorted. Band continues around on bedrock. Small patches of asphalt (3in²) up in rocks. 2cm fluid - local sheen in pooled water.

0830

Rocky pocket beach with a few patties. Broken coal on rocks. 'Residual' oil in angular rocks on shallow bedrock in STZ

CV/B

ST/P

High angle rock headlands with no visible oil.

B10

0720

Splashes of coal.

OT/P

Sand, pebble, granules pocket beach. Boulders in back of beach have 1.5m band of coal ~30% coverage. Tarry infilling joints + cracks in bedrock - boulders. One oiled log in STZ

0.3m band of stain (patchy) on bedrock cliff grades to nothing on exposed headlands

Broken band of cover in sheltered areas on rock ~1m wide - patchy. Well preserved in cracks. Pulled out piece of rock - penetration to ~0.5cm back (minor)

0 100 200 300 METERS

N

Oil Character Length (m): AP 40 PO ____ CV 50 CT 200 ST 40 MS ____ PT 50 TB ____ FL ____ NO ____

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/88

Segment ST / FL 1 Subdivision A Date (mo / day / yr) 4 / 9 / 90

Time (24 hr) 0715 - 1100 Biologist L Lemon

(A) Substrate type and % of segments:
(1) Bedrock 60 (2) Boulder 10 (3) Cobble 10 (4) Pebble 10 (5) Sand 10 (6) Silt ____

(B) Overall % cover of biota (% of segment): Dense 90% Moderate ____ Low ____

(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/10/11
Frames 27-36

BARNACLES

Dense			Moderate			Sparse			Rare			
1U	1M	X	1U	X M	1L	X U	1M	1L	1U	1M	1L	
2	2	2	2	X	X	X	2	2	2	2	2	
3	3	3	3	3	3	3	X	X	X	3	3	NOT PRESENT
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	③M	1L	1U	X M	1L	X U	1M	1L	
2	2	2	2	2	2	2	X	2	X	2	2	
3	3	3	3	3	3	3	X	3	3	3	3	NOT PRESENT
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	

GASTROPODS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	X U	X M	X	1U	1M	1L	
2	2	2	2	2	2	X	X	X	2	2	2	
3	3	3	X	3	3	3	X	3	3	3	3	NOT PRESENT
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	

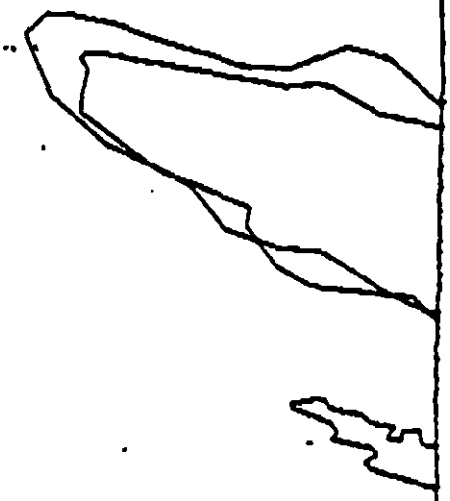
FUCUS

Dense			Moderate			Sparse			Rare			
X U	X M	1L	X	X M	1L	1U	1M	1L	1U	1M	X L	
2	2	2	2	X	2	X	2	X	2	2	2	
3	3	3	3	X	3	X	3	X	3	3	3	NOT PRESENT
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	

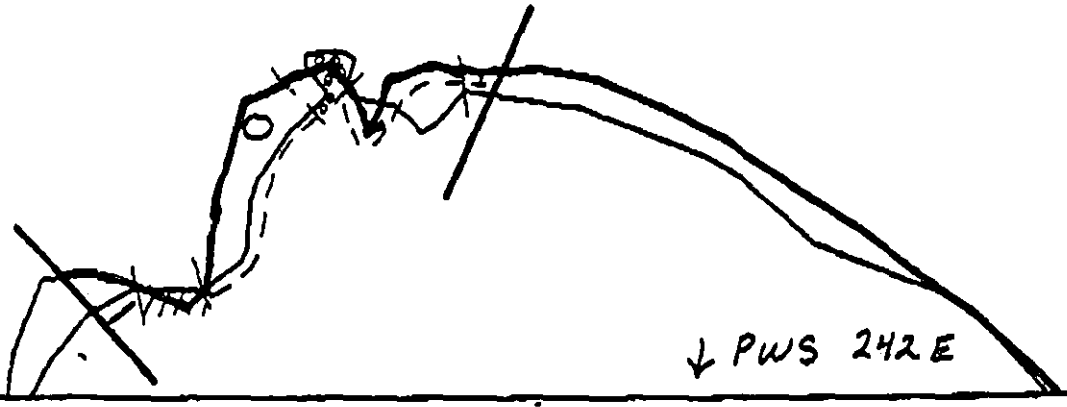
Wildlife Observations/ General Comments: 1 eagle sighting. Low zone also had mixed red algae, Pycnopod. Dermasterias (ASTEROIDEA), Katharina, Hiatella (mollusc), Algaia (brown algae) and Zostera (vascular plant). The mid zone also had Desmarestia, (brown algae), Nereis (ANNELIDA), Anthopleura (ANTHOZOA) and Stephanomia (GASTROPODA). Generally this segment is very rich and varied in its biology.

Ecological Considerations: Stream spawning said to occur on this segment though it appears as though the spawning stream is in segment FL 2.

No	0.75"	113 m	115 m
V. Light	0.1"	15m	15 m
Light	2.2"	330m	336m
Moder.	0.4"	60m	61m
		518 m	527 m



FL-1A



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

FL-~~5~~1

ADEC Segment Length: 5357m

0 100 200 300
METERS

Map Key: PWS-242a
Name: Richard Manly
Date: 4 April 1990
Date Entered:

6 of 87

ASAP FOLLOWUP RECOMMENDATIONS

ment: AS/ FL-1 Subd.: A Site: 1 Date: 8/5/90 1990

Conditions Observed: SPACES BETWEEN BOULDERS AND COBBLES CONTAINED AP & MS THAT WERE TREATED IN MAY. MANY BOULDERS (SMALL) WERE NOT MOVED IN PREVIOUS TREATMENT AND OIL UNDER NEATH HAS MOVED TO OPEN SPACES CREATED BY PREVIOUS MANUAL CREW - BIO CREW HAS WORKED HERE Q/50. ASAP VECO CREW SPENT A FULL DAY & Removed 2+ FULL Super Sacks of OILED Sediment.

Followup Recommendations: ASAP VECO CREW HAS Completed MANUAL P/U OF MS AND AP Patches & Custom Blended THE SITE. A BIO SQUAD Needs TO Check FOR INIPOL APPLICATION AND RETILLING PRIOR TO INIPOL APPLICATION.

Completed by Pickup Crew: [X] YES [ ] NO

Priority for Addressing in 1990: [X] High [ ] Mod. [ ] Low

)EC (name) (signature)

Comments:

Exxon RANDALL K. BOYER (name) Randall K. Boyer (signature)

Comments: I CONCUR WITH THE CONDITIONS OBSERVED AND FOLLOW UP Recommendations.

USCG (name) (signature)

Comments:

Land Rep. (name) Steve Lorah CUC (signature)

ments: ASAP crew Has Completed manual P/U Agree With Above

7 of 7

Record Study

AGENT SU FL-01

DIVISION A

DATE 9 August 90

SPECIALIST

LEGEND

8/5/90

NO 4/5
CT 10
ST 10
CV 10
US 29

SKETCH MAP

8/5/90

UP JUNCTION WALL
CT/S 1.5 X 5m
CT/P 2 x 2m

BEHIND ROCKS
CV/P 10m x 2 m

10 x 2 m ST/S

NS/P 20 x 20 cm PICKED-UP

MANUAL TREATMENT PICK-UP/CUSTOM BLEND CONDUCTED BY FIELD CREW

mixed

BIO

0720

Site 2

Site 1

Splashes of coal.

CT/P

0830

CV/P

ST/P

Sand, pebble, granules pocket beach. Boulders in back of beach have 1.5 m band of coal ~20% coverage. Tarry infilling joints & cracks in bedrock - boulders. One oiled log in ST2

0.3 m band of stain (patchy) on bedrock cliff grades to nothing on exposed bedrock

Broken band of cover in sheltered areas on rock 1 m wide - patchy. well processed in cracks. Pulled out piece of rock - penetration to 4 cm thick (minor)

0 100 200 300
METERS

N

Oil Character Loading Unit: AP 40 PO ___ CV 50 CT 200 ST 40 MS ___ PT 50 TB ___ FL ___ MD ___

FIELD-OPERATIONS SHEET

SEGMENT AS/ FC-1 SUBDIVISION: A SITE: 1 DATE 8/5/90

CG

NAME Dan Davis com USCG SIGNATURE [signature] / T Davis for
Dan Davis, NOAA

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

SCATTERED TAR PATCHES, MOSTLY INTERSTITIAL, BUT HEAVY IN SOME PARTS. MOST AREAS ARE WELL PROTECTED BY ROCK OUTCROPS AND MAY REMAIN EACH WINTER. LOW PRIORITY REASSESSMENT IN 1991.
Old work area in middle pocket beach should be checked in 1991. - DAV

ADEC

NAME BOB McCREADY SIGNATURE Robert McCready

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Two pocket beaches at South end of segment were manually treated by a summer '90 crew. Some residual AP remains and some new tarmats seem to have formed probably from subsurface oil "pumping up." Below existing tarmats is OR subsurface oil to approx 3cm. Remaining oil is not enough to warrant further treatment, but should above described remain after Spring '91 assessment manual removal should occur

LAND MANAGER

NAME Steve Ebbesmeyer CVC SIGNATURE [signature]

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: There is unidentified Sub Surface oil present below work site enough oil Remains to warrant 91 Survey: Summer crew could Have done better manual treatment

EXXON

NAME RANDALL K. BOYER SIGNATURE Randall K. Boyer

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

TWO POCKET BEACHES ON THIS SUBDIVISION HAS AP/P & MOUSSE BETWEEN BOULDERS WHICH REQUIRED ODR ASAP TO SPEND 1 DAY IN RECOVERING OIL. IT WAS MANUALLY TREATED IN MAY HOWEVER SOME MS HAS MOVED INTO AREAS THAT WERE PREVIOUSLY OPENED UP. ANOTHER LOOK IN 91 WOULD BE WARRANTED. NOT A HIGH PRIORITY IN 1991.

REVISION NO. 7/26/90

WENDY BUTEK

[illegible] 1333 NOAA DAVE NCE SUBAREA 4

BOB MCCLENNEN LAND REP STEVE WARD TOTAL NO SITES 1

DATE 8/5/90 TIME 8 42 to 9 00 USCG DOU ORVIS TIDE LEVEL 10

TOTAL EST LENGTH OF SHORELINE SURVEYED: 450 m

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

SHORE CATEGORY LENGTH: W — m M — m N 15 m VL 20 m NO 415 m US 79 m

SURFACE OIL

CHARACTER	SITE 1 DISTRIBUTION /C	/B	/P	/S	SITE 1 OILED ZONES SU	UI	MI	LI	SITE 2 DISTRIBUTION /C	/B	/P	/S	SITE 2 OILED ZONES SU	UI	MI	LI	SITE 3 DISTRIBUTION /C	/B	/P	/S	SITE 3 OILED ZONES SU	UI	MI	LI
ASPHALT																								
S.O.R																								
POOLED																								
COVER			X			X																		
COAT			X	X		X																		
STAIN				X		X																		
MOUSSE	REMOVED																							
PATTIES/T B.																								
FILM																								
NO OIL					X		X	X																
EST. SITE LENGTH					450																			

SUBSURFACE OIL

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

Photographs:

Roll No Ø

Frames Ø

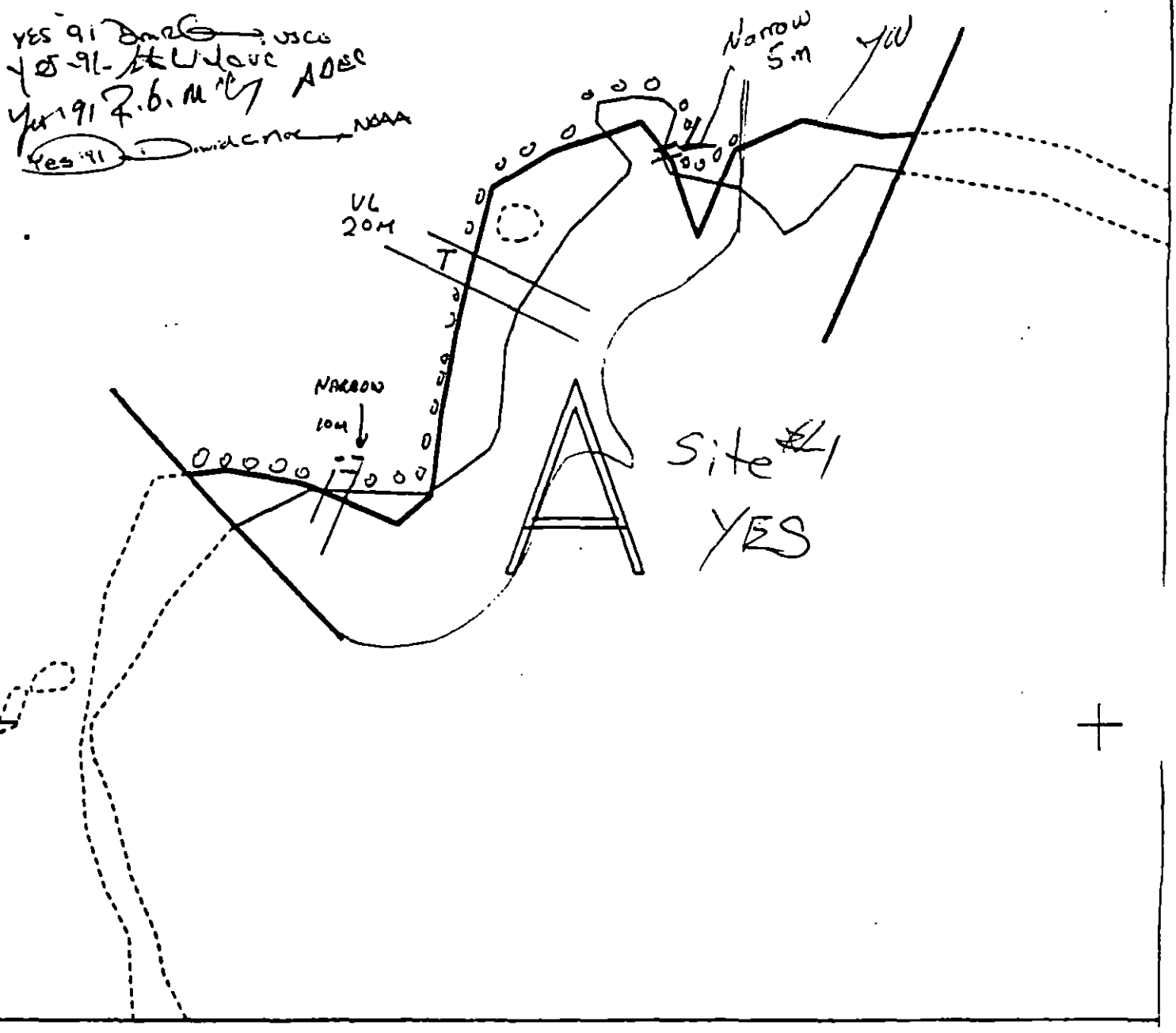
REVIEWED 8/6/90 YW

COMMENTS

CT/ST/CV + MS WERE FOUND IN POCKET BEACHES. THE CT/CV/MS WERE WORKED (RAKED, BROKEN, CULTIVATED) BY THE BIOCREW.

REVISION NO. 7/27/90

FL-1



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

FL-1 A
ADEC Subsegment Length: 549m
METERS
0 75 149
AK State Plane Zone 4 1:2040

Subdivision Field Map
Map Key: PWSFL-1A
Name: NAKASHIMA
Date: 8/5/90
Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ FL-02 SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no 226-40-16390, 16388, 16384.
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: [signature] DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 1303 m: No Oil 293 m
Subsurface Oil Observed: Yes X No ____ Maximum Depth 55+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommend tarmat removal, manual pick up of oiled trash and debris. At pit 2 location (see sketch map), recommend manual relocation of 25cm x 15m x 2m of sediment from the UITZ to the MITZ, followed by bioremediation. Use snare boom during relocation operation. Work should be conducted after 5/1 as long as bioremediation work is not within 100m of stream.

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/20/90.
ADEC ART WEINER [signature]
EXXON ANDY TEAS [signature] FOSC: [signature] DATE: 5-1-90
NOAA Burl Wescott [signature]
USCG KENNETH KEYSE [signature]

Do not bioremediate near stream beds. IAW LM's desires.

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 unoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
3N, 3P		Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q		Harbor seal and sea lion molting (8/15 to 9/15)
		Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
5R		Seabird colony (5/1 to 9/1)
		Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
5S		Shorebird/waterfowl concentration (4/1 to 5/15)
		Restrict all activity to essential minimum, especially air traffic.
5T		All Bald Eagle nests (3/1 to 6/1)
		Active Bald Eagle nests (3/1 to 9/1)
		Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
6U	Recreation:	Tent sites (6/1 to 9/15)
6V		Anchorages (6/1 to 9/15)
6W		Forest Service cabins (6/1 to 9/15)
6X		Lodge (6/1 to 9/15)
6Y		Special use destination
7Z	Subsistence area:	Salmon harvesting (5/1 to 9/30)
7HH		Finfish harvesting
7II		Deer harvesting (8/15 to 2/28)
7JJ		Invertebrate harvesting
		For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / FL-02 SUBDIVISION: A DATE 09 APRIL 90

USCG
NAME LARRY FLETCHER SIGNATURE Larry R Fletcher

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

1. MANUALY REMOVE ASPHALT AND TAR PATTIES.
2. POSSIBLE BIO-REMEDIATION.

ADEC
NAME DAVID M. SALE SIGNATURE David M Sale

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

① MANUALLY REMOVE TAR BALLS, ASPHALT AND OILED DEBRIS.

② REMOVE RESIDUAL OIL FROM BETWEEN BOULDERS AND IN SEDIMENTS.

CUC REP. NOTED ~~ON~~ DISCOLORATION IN LIVERS OF DEER TAKEN WHILE FEEDING ON KELP ON BEACH. APPLICATION OF BIOREMEDIATION OR OTHER CHEMICALS SHOULD ONLY BE WITH CUC APPROVAL.

③ REPETITIVE REVIEW SHOULD BE MADE OF OILED GRAVELS MEET TO ANADROMOUS STREAMS

LAND MANAGER
NAME Steve Ward SIGNATURE Steve Ward

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Enclosed data collected very professionaly, very accurate.

REVISION NO. 03/21/90

SHORELINE OILING SUMMARY

REVISION NO. 03/89A

OG Richard Marty USCG Larry Fletcher SEGMENT ST/ [redacted] FL-02 ✓
BIO Bob Lemon LAND REP ~~[redacted]~~ SUBDIVISION A ✓
EXXON Jon Czarneki ADEC Dave Gale TIME 08 : 30 to 11 : 00
TEAM NO.: 10 TIDE LEVEL: +0 m (0') to +1.7m (5.3) DATE 09 / April / 90 ✓
EST. SUBDIVISION LENGTH: 1460 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
SURFACE SEDIMENTS: R 30 % B 10 % C 15 % P 5 % G 15 % S 5 % M ____ % V ____ %
SLOPE : Lang 40 % Hang 60 % Vert ____ % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
OIL CATEGORY LENGTH: W 0 m M 0 m N 339 m VL 839 m NO 282 m
2m × 20% × 15

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	ro	ra	rn	rs						su	ui	mi	li
ASPHALT PAVEMENT			X					X			X		
POOLED													
COVER													
COAT		X	O	✓				X		O			
STAIN			✓	X				✓		X			
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL												X	X

PAVEMENT: H F S 6 sq. m by 3 cm
PATTIES / TARBALLS 2 BAGS
NEAR SHORE SHEEN? (NO) BR RW SL TL

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

DEBRIS COLLECTED ☐ YES ☒ NO
TYPE ____
#BAGS ____

Photographs:
Roll No. ST/10/12 also ST/10/11
Frames 1-18 37, 38

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SUBSURFACE SEDIMENTS
		op	or	ol	of	no		uo	uo						su	ui	mi	li		
1	30					X	•								X				N	G, S
2	55		X				0 - 55	X					X			X				B
3	12	X					0 - 3		X				X			X				Sand
4	29					X	•									X				G
5	26				X		0 - 1		X							X				S
6	36					X	•											X		G, M, S

COMMENTS
* 2m NO CONTINUOUS SUBSURFACE OIL

REVIEWED ____ DATE ____

OG R. [redacted]

SEGMENT ST/ FL-2

SUBDIVISION A

DATE 9 / April 90

CHECKLIST

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

LEGEND

1 △ Pit - No Subsurface Oil

2 △ Pit - Subsurface Oil

CT/C Continuous Distribution

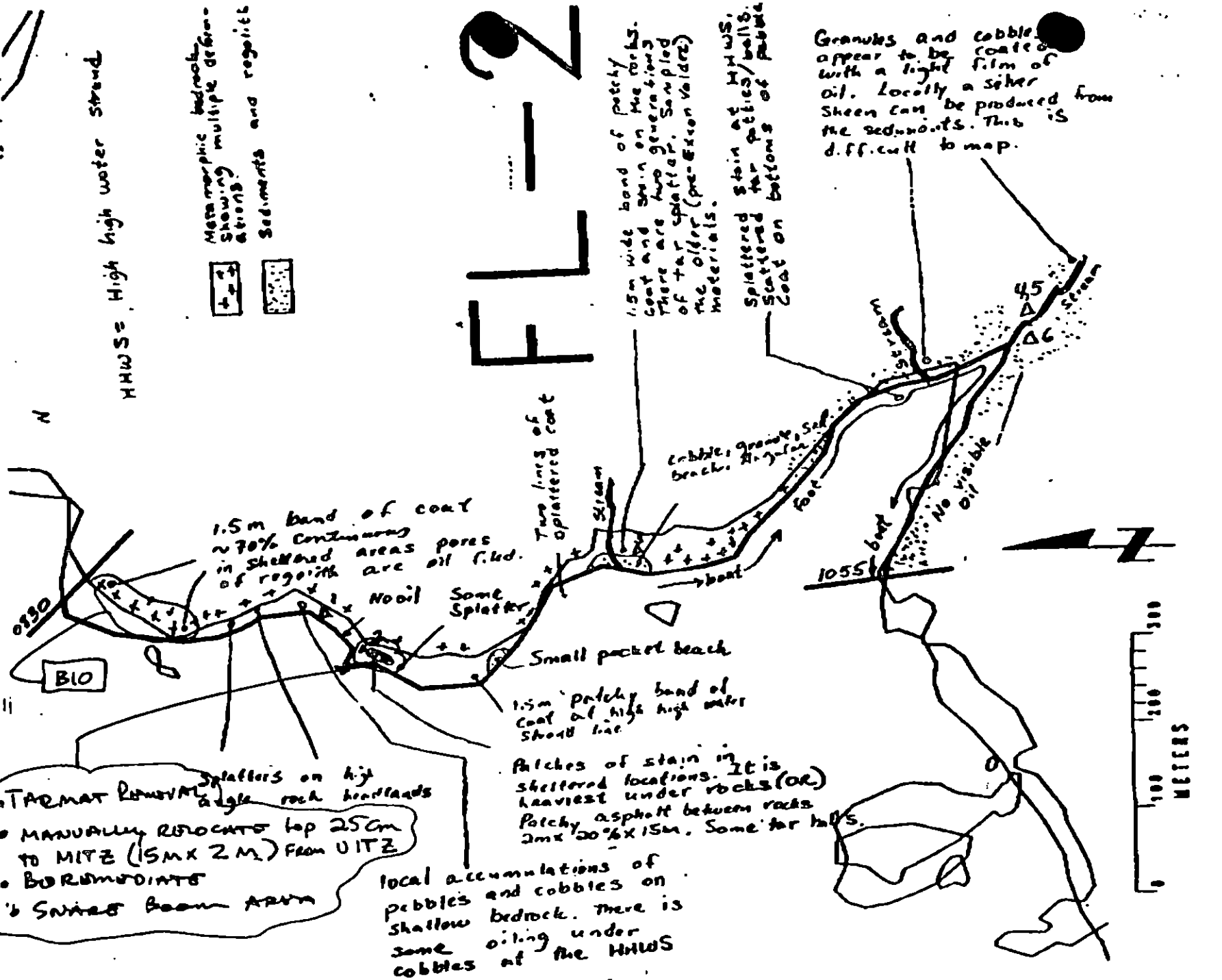
CT/B Broken Distribution

CT/P Patchy Distribution

CT/S Splashed Distribution

Oiled Vegetation

Photo location, direction, and number



Oil Character Length (m. AP 15 PO____ CV____ CT 1170 BT 100 MB____ PT____ TB____ FL____ NO____

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/23/90

Segment ST/ 1 / FL 2 Subdivision A Date (mo / day / yr) 4 / 9 / 90

Time (24 hr) 0830 - 1100 Biologist Lemon

(A) Substrate type and % of segments:
(1) Bedrock 50 (2) Boulder 10 (3) Cobble 15 (4) Pebble 5 (5) Sand 20 (6) Silt ____

(B) Overall % cover of biota (% of segment): Dense 70% Moderate ____ Low ____

(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 10 / 12
Frames 1 - 18
also ST/10/11 "37, 38

BARNACLES

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

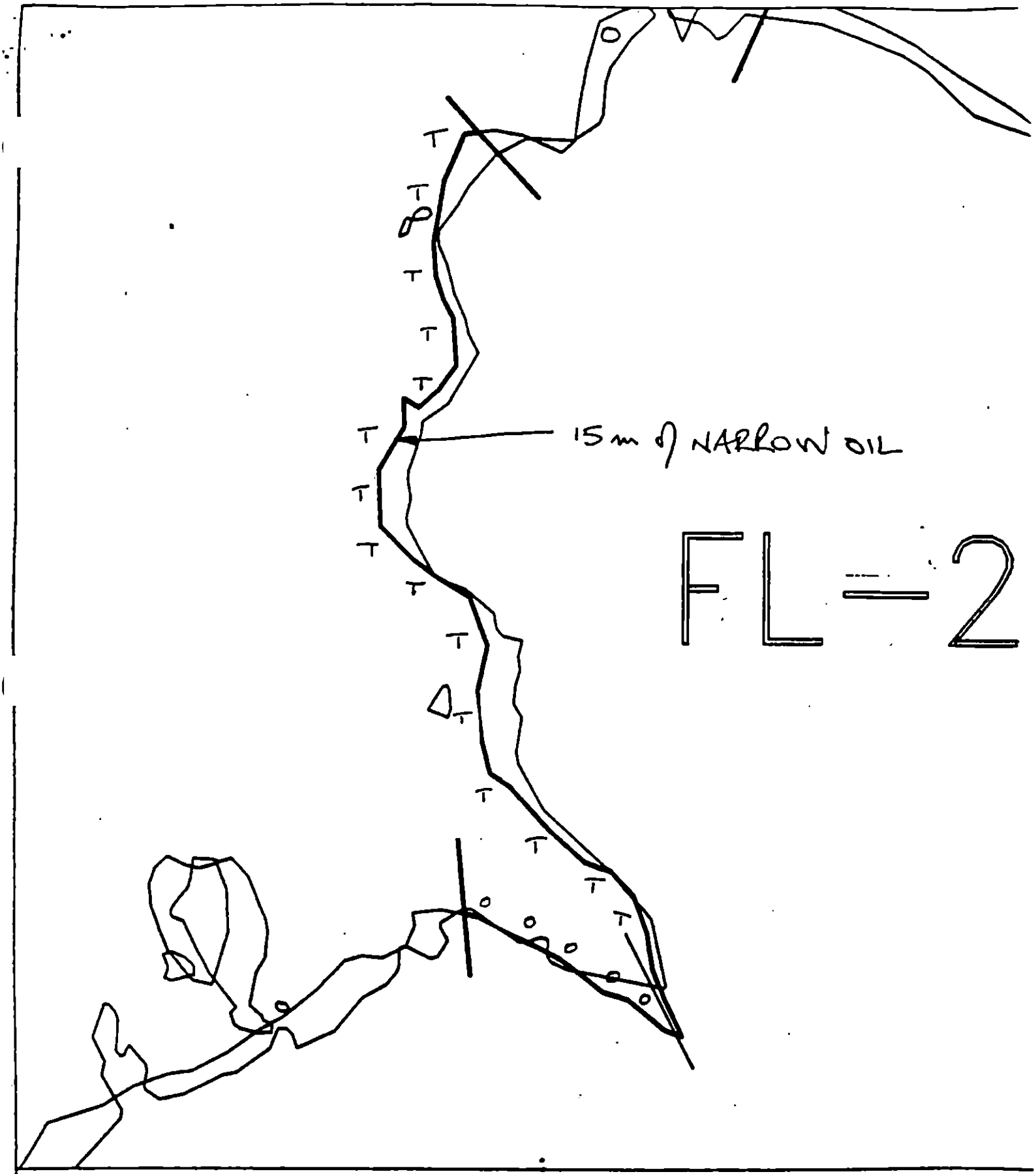
FUCUS

Dense			Moderate			Sparse			Rare		
1U	X	1L	X	M	X	1U	(1)	1L	1U	1M	1L
2	X	2	X	2	X	(3)	2	2	2	2	2
3	3	3	X	X	X	3	3	X	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: water along shore has less clarity than seen at earlier times on plots this study has investigated. Phytoplankton bloom seems most [illegible] stream has rainbow(some) [illegible] have some arthropod exoskeletons & fish vertebrae, and oil on the North shore. In some places the highest zoned Fucus was stressed (photo), at one of these many mussels had experienced mortality (photo). Shell beds in stream mouth

Ecological Considerations: included Protothaca BIVALVES of substantial importance. Barnacles in oil band are pictured, examination found no hidden mortality; ... empty shells about 75%.
High zone included oligochaetes. Low zone included Dendrastera, Mic zone included Anthopleura and Nucella in crevices, Amphipods and Some fish have been found, 2 territorial sightings,
→ Eagle nest and stream spawning area.



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

FL-2A

ADEC Segment Length: 1597m

0 100 200 300
METERS

Map Key: PWS-239
Name: GM for RM
Date: 2/4/90
Date Entered:

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ FL-02 A STREAM NO: 226-40-16390 DATE 4/23/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Three catalogued streams: 226-40-16390, 226-40-16388, 226-40-16384
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.
Subject stream is located within Subdivision FL-002A

SHPO SIGNATURE: J. David Miller DATE: 5/8/90

Subsurface Oil Observed: Yes____ No X Maximum Depth____

RECOMMENDATIONS:

X No Treatment Recommended	_____Snare/Absorbent Booms
_____Treatment Recommended	_____Oil Snares (pom poms)
_____Manual Pickup	_____Absorbents (pads,rolls,etc)
_____Bioremediation	_____Spot Washing:_____Wands
_____Tarmat: _____Breakup	_____ Beach Cleaner
_____Removal	_____Other (see comments)

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: 5/7/90
ADEC ART WEINER Art Weiner
EXXON Andy Teas Andy Teas
NOAA Gary Petrou Gary Petrou
USCG G.A. Reitel G.A. Reitel

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

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

3P **Harbor seal and sea lion pupping (5/15 to 7/1)**
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 267-2208

5T **All Bald Eagle nests (3/1 to 8/1)**
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6U **Recreation: Tent sites (6/1 to 9/15)**
6V **Anchorages (6/1 to 9/15)**
6W **Forest Service cabins (6/1 to 9/15)**
6X **Lodge (6/1 to 9/15)**
6Y **Special use destination**

7Z **Subsistence area: Salmon harvesting (5/1 to 9/30)**
7HH **Finfish harvesting**
7II **Deer harvesting (8/15 to 2/28)**
7JJ **Invertebrate harvesting**
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / FL 002 SUBDIVISION: 16390 DATE 4/23/90

USCG
NAME CWO MCMAHON SIGNATURE [signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

~~DEC~~ ADF&G
NAME NO TEAM MEMBER SIGNATURE [signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

LAND MANAGER
NAME NO TEAM MEMBER SIGNATURE

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

Alaska Department of Fish and Game

ANADSCAT Observations and Recommendations
Team 13 - Michael Wiedmer and Tom Crowe

23 April 1990

ASC # 226-40-16491

Segment BA-002

Observations This large cove has a gradual gradient with a large grassy meadow in the supratidal zone. The intertidal substrate is shale gravel and cobble. East of the channel, extensive tar mats ring the high tide line. West of the channel, widely scattered tar patties dot the upper-intertidal zone. No obvious subsurface oil was identified. Two to three tar patties were observed above the storm berm in the grassy lagoon area.

Treatment Recommendations Manually remove tar mats and patties.

ASC # 226-40-16400

Segment FL-005

Observations The intertidal zones surrounding this stream channel are confined to a small area by bedrock walls. Boulder rubble borders the bases of these walls. Along the north side of the channel, a sticky oil film coats a portion of the underside of some of the shale boulders. No obvious oil penetration of the substrate was noted. Narrow tar bands ring the boulder outcrops south of the channel.

Treatment Recommendations Manually turn over the shale boulders to enhance the weathering of the oiled surfaces. This was completed by the ANADSCAT crew, therefore further treatment is not required. No treatment is recommended for the tar rings on the bedrock outcrops.

ASC # 226-40-16390

Segment FL-002

Observations The intertidal zone surrounding this stream is very confined by bedrock walls on either side. Scattered tar splatters dot the bedrock and associated bedrock rubble on the east side of the channel. A heavy tar stain coats a significant

SHORELINE OILING SUMMARY (ANAD.)

REVISION #: 8/5

OG William Reid USCG McMahon SEGMENT ST/ FL002
BIO Michael Fawcett LAND REP Tom Crowe & STRATA 6226-46-15401 OF
EXXON Gus Garcia ADFG Mike Wardner TIME 7:15 to 7:25
TEAM NO. 15 TIDE LEVEL 2.5 ft DATE 23 / APR / 90
EST. SUBDIVISION LENGTH: 25 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
SURFACE SEDIMENTS: R ___ % B ___ % C 30 % P 60 % G 10 % S ___ % M ___ % V ___
SLOPE: Lang 50 % Hang 50 % Vert ___ % WAVE EXPOSURE: ☐ Low ☒ Med ☐ Hi
OIL CATEGORY LENGTH: W ___ m M ___ m N ___ m VL 2 m NO 23

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	AB	P	R	SH	IR	MS	TC	SR	SU	W	M	U
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT				X		X						X	
STAIN													
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL										X	X		X

PAVEMENT H F S ___ sq. m by ___

PATTIES / TARBALLS ___ S.

NEAR SHORE SHEEN? NO BR RW SL

OILED DEBRIS	AMOUNT SM	MD	LG
Logs	X		
Vegetation			
Trash			
Debris			

Did You Col
DEBRIS
☐ YES ☒ NC
TYPE ___
#BAGS ___

Photographs:

Roll No. ___

Frames ___

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SHEEN (Y/N)		SURFAC SUBSURF SEDIMEN
		OP	OH	OL	OF	NO	cm to cm	SO	SS	SH	IR	MS	TC	SR	SU	W	M	U				
1	35					X	-										X			N		P/G
2	25					X	-										X			N		P/G/C
							-															
							-															
							-															
							-															

COMMENTS

REVIEWED JW DATE 4-25-90

FIM AS-13 7

4/53

OG WILLIAM REID

SEGMENT ST/ FL0002

STREAM 226-90-16390

DATE 23 / APR 90

CHECKLIST

- N Arrow
- Approx. Scale
- Segment Entry
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HWL/BWL
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND

1 △

Pit - No Subsurface Oil

2 ▲

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

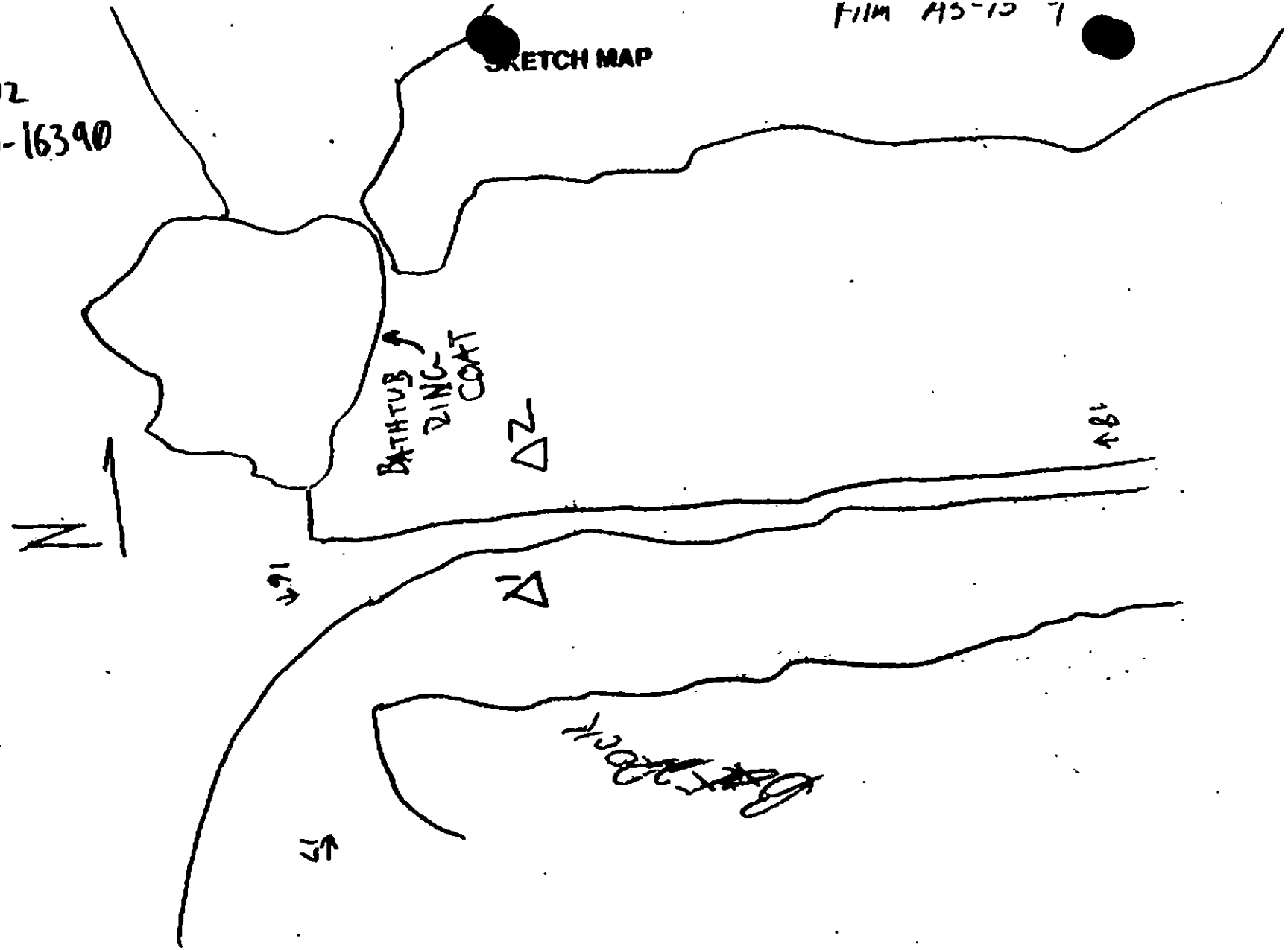
Splashed Distribution

Oiled Vegetation

1 ⇨

Photo location, direction, and number

SKETCH MAP



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

4/5

ADF&G MULTI-ASSESSMENT DATA FORM

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

METHOD: Aerial (Ground) Boat

3 DATE: 4/22/90 16 HIGH TIDE TIMES: 0021 / 1257 21 TEAM RECORDER: M. Wiedner

4 START TIME: 1710 18 HIGH TIDE HTS: 11.5' / 10.5' 22 OBSERVERS: J. Crowe

5 STOP TIME: 1725 17 LOW TIDE TIMES: 0618 / 1855 23 AGENCY: ADF&G

6 SEGMENT #: EL-002 18 LOW TIDE HTS: -0.8' / 0.5' 24 PHOTOS TAKEN: Y (N)

7 STATION #: 226-40-16890 19 TIDE HT AT SURVEY: 2.28' Roll #: _____ Frame: _____

8 K-UNITS: _____ (Bio) Stock Fleet Stock 25 VIDEO TAKEN: (N) TAPE#: _____

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

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

12 SOURCE: Map Loran Oil _____

13 LOCATION: _____ Sediment _____

14 DESCRIPTION: _____ Biological _____

Water _____

EXTENT OF OIL

	SHORELINE L	SHORELINE W	SHORELINE M²	SHORELINE %	STREAM L	STREAM W	STREAM M²	STREAM %
27 SURFACE COVERAGE	30	25		21	25	1		0
28 SURFACE THICKNESS	<1mm							
29 PENETRATION	0							

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

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

32 OILED DEBRIS? Y (N)

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

34 WAVE EXPOSURE: High Moderate (Low)

35 SUBSTRATE TYPE: Bedrock _____ Boulder _____ Cobble _____

Gravel _____ Sand _____ Mud/silt _____

36 CATALOGED ANAD. FISH STREAM? (Y) N

37 CATALOG #: 226-40-16890

38 STREAM NAME: _____

39 OIL IN STREAM BED? Y (N)

40 OIL ON STREAM BANKS? Y (N)

41 OIL ON BEACH ADJACENT TO MOUTH? (Y) N (within 30 meters)

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

Where: _____

43 ANADROMOUS FISH PRESENT? (Y) N

ALEVINS PRESUMED

44 ANADROMOUS FISH OBSERVATION

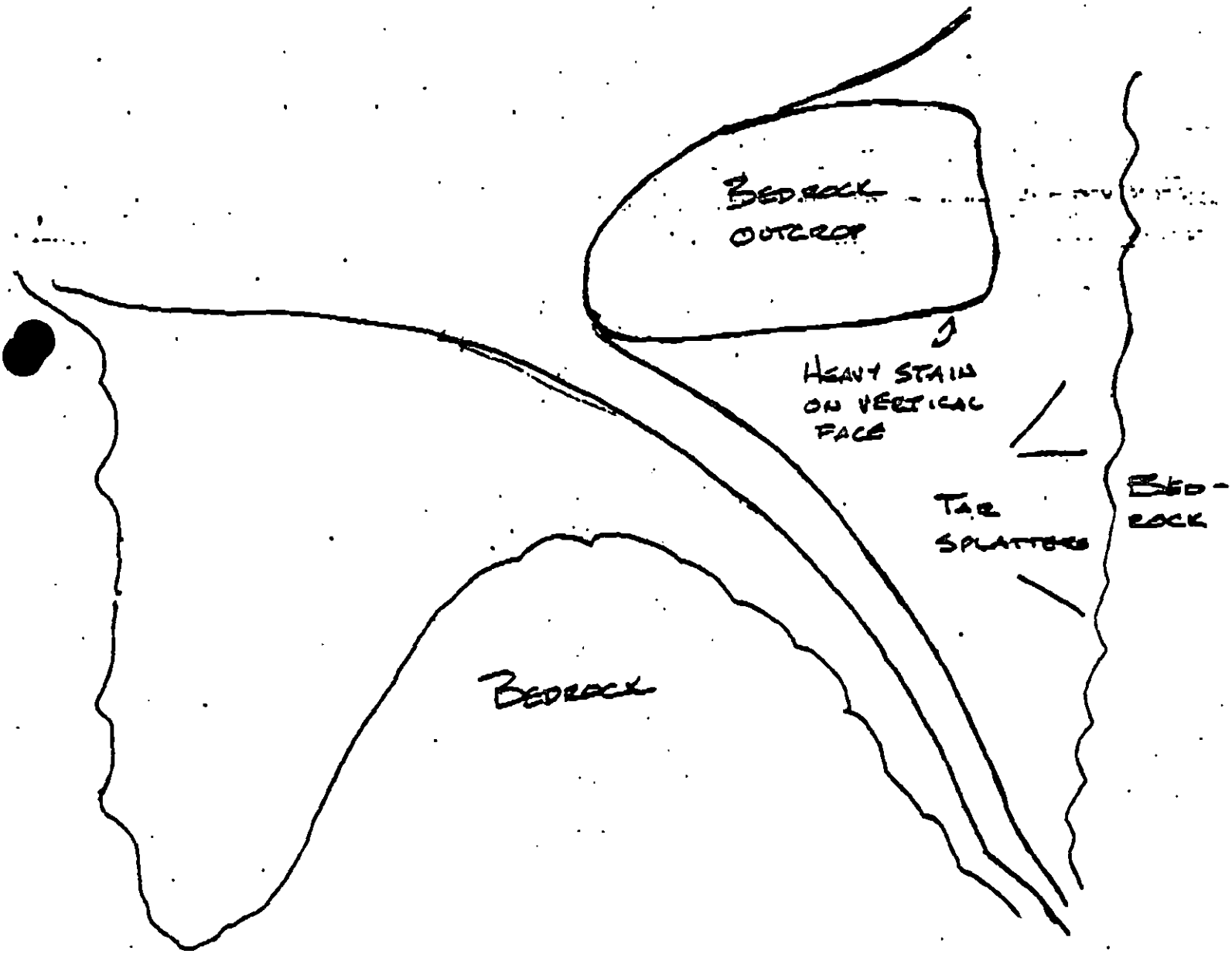
Species	Aerial	Ground

COMMENTS: HEAVY STAIN ON PROTECTED VERTICAL WALLS OF BEDROCK OUTCROP. VERY SCATTERED STAINS ELSEWHERE

4B PHOTOLOG

E(S)	DESCRIPTION
	RECOMMENDATIONS: NO TREATMENT REQUIRED.
	I agree with recommendations. [illegible]

4B OIL DISTRIBUTION DIAGRAM



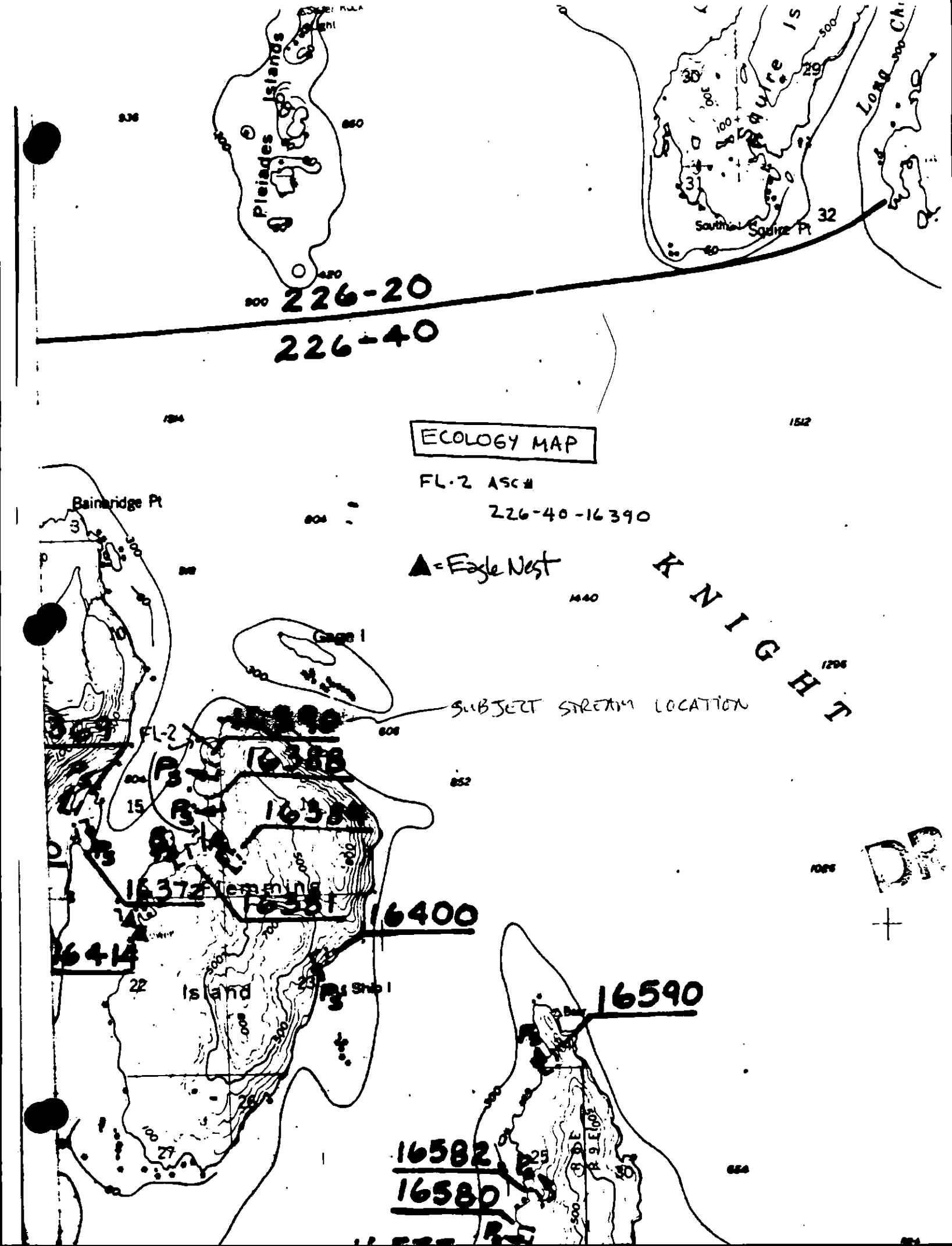
[illegible] taken
[illegible] frame # and
[illegible] direction.

12/53

segment FL002 4/23/90
Stream 226-40-16390 Michael Fawcett
Ecological Summary

This is a small, steep stream, the potential spawning area only about 30 m long. The stream crosses a narrow cobble beach bounded by bedrock walls on each side. A few mussels are scattered among the cobbles, along with dense patches of Fucus and barnacles. The only oiling found consists of stains on the bedrock, cleanup not advised.

M H Fawcett


Plaisance Islands
Squire Is
Long
Southwest Squire Pt
30
29
31
32
226-20
226-40
ECOLOGY MAP
FL-2 ASC #
226-40-16390
▲=Eagle Nest
KNIGHT
Bainbridge Pt
Gage 1
SUBJECT STREAM LOCATION
FL-2
16388
16381
16372
Remains
16400
16414
Island
Shab I
16590
16582
16580
DR

SHORELINE EVALUATION

SEGMENT ST/ FL-03 SUBDIVISION A (1 OF 1) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Anadromous streams reported but uncatalogued.
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)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest immediately north of FL-03 at south end of FL-04.

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 572 m: V.Light 1882 m: No Oil 659 m
Subsurface Oil Observed: Yes____ No X Maximum Depth_____

RECOMMENDATIONS:

X No Treatment Recommended	_____Snare/Absorbent Booms
_____Treatment Recommended	_____Oil Snares (pom poms)
_____Manual Pickup	_____Absorbents (pads,rolls,etc)
_____Bioremediation	_____Spot Washing:_____Wands
_____Tarmat Removal	_____Beach Cleaner
	_____Other (see comments)

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: 5/4/90.
ADEC ART WEINER Art Weiner
EXXON ANDY TEAL Andy Teal FOSC: _____ DATE: 5-18-90
NOAA Gary Petrae Gary Petrae
USCG G.A. REITER G.A. Reiter NOTIFY USC 24 HRS PRIOR TO WORK

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 6/1)
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 Suzomoto 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 (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 unoiled 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)
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

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH Finfish harvesting
7II Deer harvesting (8/15 to 2/28)
7JJ Invertebrate harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

SHORELINE COMMENT SHEET

SEGMENT ST / FL03 SUBDIVISION: A DATE 4/21/90

USCG
NAME LT SHAWN A. MAAS SIGNATURE

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

RECOMMEND BIOREMEDIATION. AREAS WHERE TARRY SPLATTERY COAT MEET LOW ANGLE BEACH.
IN AREAS COAT CONSISTS OF A BANDING ALONG ROCKS IN HIGH INTERTIDAL AREA NO TREATMENT HERE IS RECOMMENDED
NO SUBSURFACE OILS NOTED

ADEC
NAME DAVID M. SALE SIGNATURE

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

MANUAL REMOVAL OF TARRY COATED SEDIMENTS BOTH ON LOW ANGLE PEBBLE/COBBLE BEACHES AND IN AREAS WHERE OIL HAS COATED SEDIMENTS AROUND BEDROCK AND BOULDERS. OIL STAIN - "BATHTUB RING" - ON HI-ANGLE ROCKS SEEMS TO BE NON-MOBILE AND NOT REQUIRING TREATMENT UNLESS WARMER WEATHER CAUSES MOBILITY

LAND MANAGER
NAME DONALD P KAMPHOEFNER, JR SIGNATURE

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

DRAFT

SHORELINE OILING SUMMARY

REVISION NO. 04/13/90

OG R. Marty USCG Steve Maas SEGMENT ST/ FI-03
BIO B. Lamar LAND REP D. Rowbotham Jr. SUBDIVISION A (A OF A)
EXXON J. Czarnecki ADEC D. Sale TIME 12:00 to 16:20
TEAM NO. 10 TIDE LEVEL +1.8' ft → +0.5' m DATE 19-20/ April/ 90
EST. SUBDIVISION LENGTH: 3194 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
SURVEYED FROM: ☒ Foot 1° ☒ Boat 2° ☐ Helo WORKING DIRECTION: S to N
SURFACE SEDIMENTS: R 60 % B 20 % C 10 % P 5 % G 4 % S 1 % M 0 % V 0 %
SLOPE : Lang 6 % Hang 60 % Vert ____ % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
OIL CATEGORY LENGTH: W 0 m M 0 m N 490 m VL 1902 m NO 792 m

SURFACE OIL

CHARACTER	DISTRIBUTION rc	ro	rp	rs	OIL / FILM COLOR					IMPACTED ZONES su	sl	ml	ll
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT			P	S				P_a			P_s		
STAIN													
MOUSSE													
PATTIES #				#				#	-	-	#		
TARBALLS #				#				#	-	-	#		
FILM													
NO OIL										X		X	X

removed

PAVEMENT H F S 0 sq. m by 0 cm

PATTIES / TARBALLS ____ | ____ BAGS #
Removed

NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	No	AMOUNT SM	MD	LG
Logs	X			
Vegetation	X			
Trash	X			
Debris	X			

DID YOU COLLECT DEBRIS?
YES ☒ NO ☐
TYPE Tar balls - pebbles
#BAGS 1 → 2

Photographs:
Roll No. 57/10/13
Frames 15 - 21

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER op	or	ol	of	no	OILED INTERVAL (cm)	BELOW so	su	OIL / FILM COLOR					PIT ZONE su	sl	ml	ll	ANA	SHEEN (Y/N)	▼	SURFACE - SUBSURFACE SEDIMENTS
1	34					X			X				X	-			X		N	N	N	P,G-S,P,G
2	42					X			X			X				X			N	Y	28	R,G-G,S
3	26					X			X							X			N	-	N	G,S,P-C,S,G,P
4	15					X			X							X			N	-	N	C,P,G-P,S,M
5	18					X	0-3	-	X				X			X			N	N	12	C,P,G-P,S,M

COMMENTS Surface oiling is primarily minor. Locally coated sediments are present between 0 and 3 cm. Oil is generally quite tarry.

REVIEWED [signature] DATE 4/22/90

12922

SHORELINE ECOLOGICAL SUMMARY

Segment ST/10/CL3 Subdivision A Date (mo / day / yr) 4/19/90 & 4/20/90
1900 - 1945 and 20 April 1300 - 1620
Time (24 hr) _____ Biologist Lemon N.W. wind 7 mph, Thin cloud cover

(A) Substrate type and % of segments:
(1) Bedrock 60 (2) Boulder 20 (3) Cobble 10 (4) Pebble 5 (5) Sand 5 (6) Silt ____

(B) Overall % cover of biota (% of segment): Dense ____ Moderate 30% Low ____

(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/10/13
Frames 15 - 21

BARNACLES

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	X	2	X	2	X	2	2	2	
3	3	3	3	3	3	X	X	3	3	3	X	NOT PRESENT
4	4	4	4	4	4	4	4	4	4	4	X	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	X	2	X	2	1	
3	3	3	3	3	3	3	3	3	X	X	X	NOT PRESENT
4	4	4	4	4	4	4	4	4	4	4	X	
5	5	5	5	5	5	5	5	5	5	5	X	
6	6	6	6	6	6	6	6	6	6	6	6	

GASTROPODS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	X	2	X	2	X	
3	3	3	3	3	3	3	X	3	X	3	X	NOT PRESENT
4	4	4	4	4	4	4	4	4	X	4	X	
5	5	5	5	5	5	5	5	5	5	5	X	
6	6	6	6	6	6	6	6	6	6	6	6	

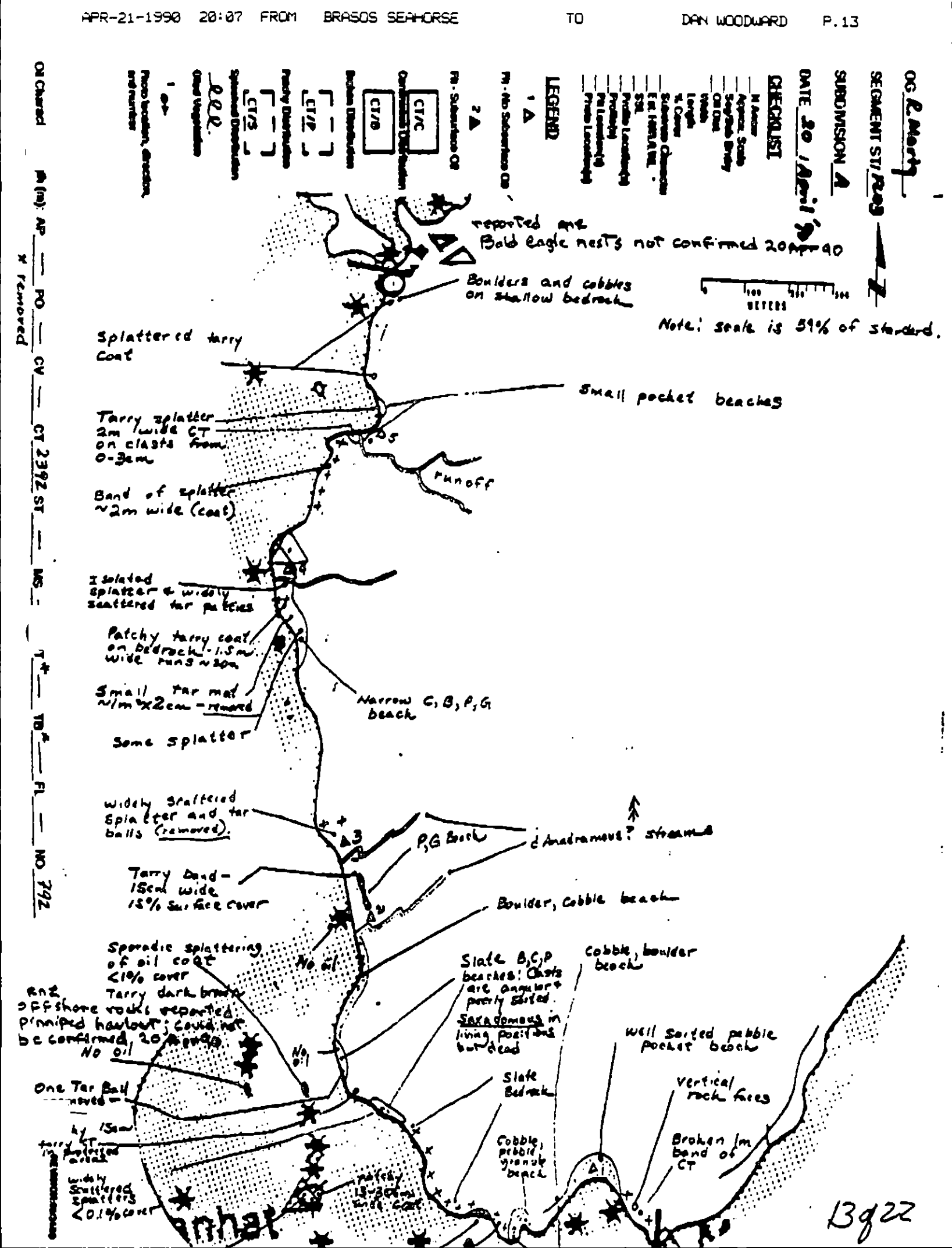
FUCUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	X	2	X	2	X	2	2	2	
3	3	3	3	3	3	X	X	3	3	3	X	NOT PRESENT
4	4	4	4	4	4	4	4	4	4	4	X	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments: Slaty substrate has low diversity relative to other rock types. In many areas Fucus appeared stressed, especially at the top of its range.
1 eagle
4 gulls
1 seal
2 sea otter

Ecological Considerations: 4 substantial streams with salmon spawning potential were mapped and noted. Offshore rocks may be pinniped haulout areas, but this could not be confirmed. Bald eagle nests were not confirmed either; no eagles nearby.

17822


OG L. Marty
SEGMENT ST/Reg
SUBDIVISION A
DATE 20 April 90
CHECKLIST
LEGEND
1 A
2 A
CT/A
CT/C
CT/B
CT/S
CT/P
reported and Bald Eagle nests not confirmed 20Apr90
Boulders and cobbles on shallow bedrock
METERS
Note: scale is 59% of standard.
Splattered tarry coat
Small pocket beaches
Tarry splatter 2m wide CT on clasts from 0-3cm
runoff
Band of splatter ~2m wide (coat)
Isolated splatter & widely scattered tar patties
Patchy tarry coat on bedrock - 1.5m wide runs ~20m
Small tar mat ~1m x 2cm - removed
Narrow C, B, P, G beach
Some splatter
widely scattered splatter and tar balls (removed)
P,G Beach
d Anadromous? streams
Tarry Band - 15cm wide 15% surface cover
Boulder, Cobble beach
Sporadic splattering of oil coat <10% cover
Tarry dark brown
No oil
Slate B,C,P beaches: Clasts are angular + poorly sorted.
Cobble, boulder beach
Several offshore rocks reported pinniped haulout; could not be confirmed 20Apr90
No oil
No oil
Several dismembered
well sorted pebble pocket beach
One Tar Ball removed
Slate Bedrock
Vertical rock faces
by 15cm
tarry CT
Cobble, pebble, granule beach
Broken 1m band of CT
widely scattered splatters <0.1% cover
patchy 15-20cm wide coat
Anhat
13g22

OG ____

SEGMENT ST/ ____

SUBDIVISION ____

DATE ____/____/____

CHECKLIST

Rough oiling Map
version 4/2/90

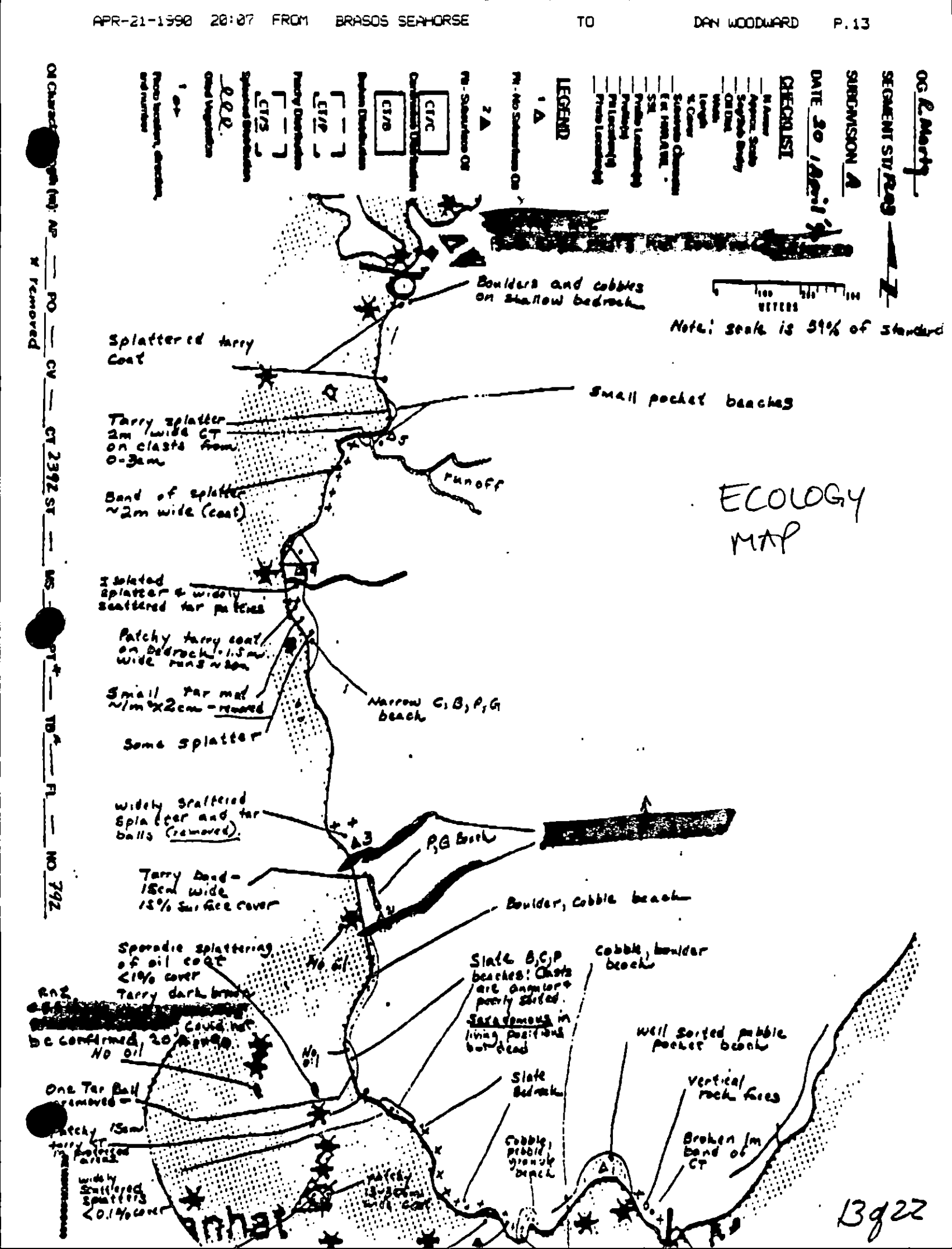
Scale 1" = 260 m

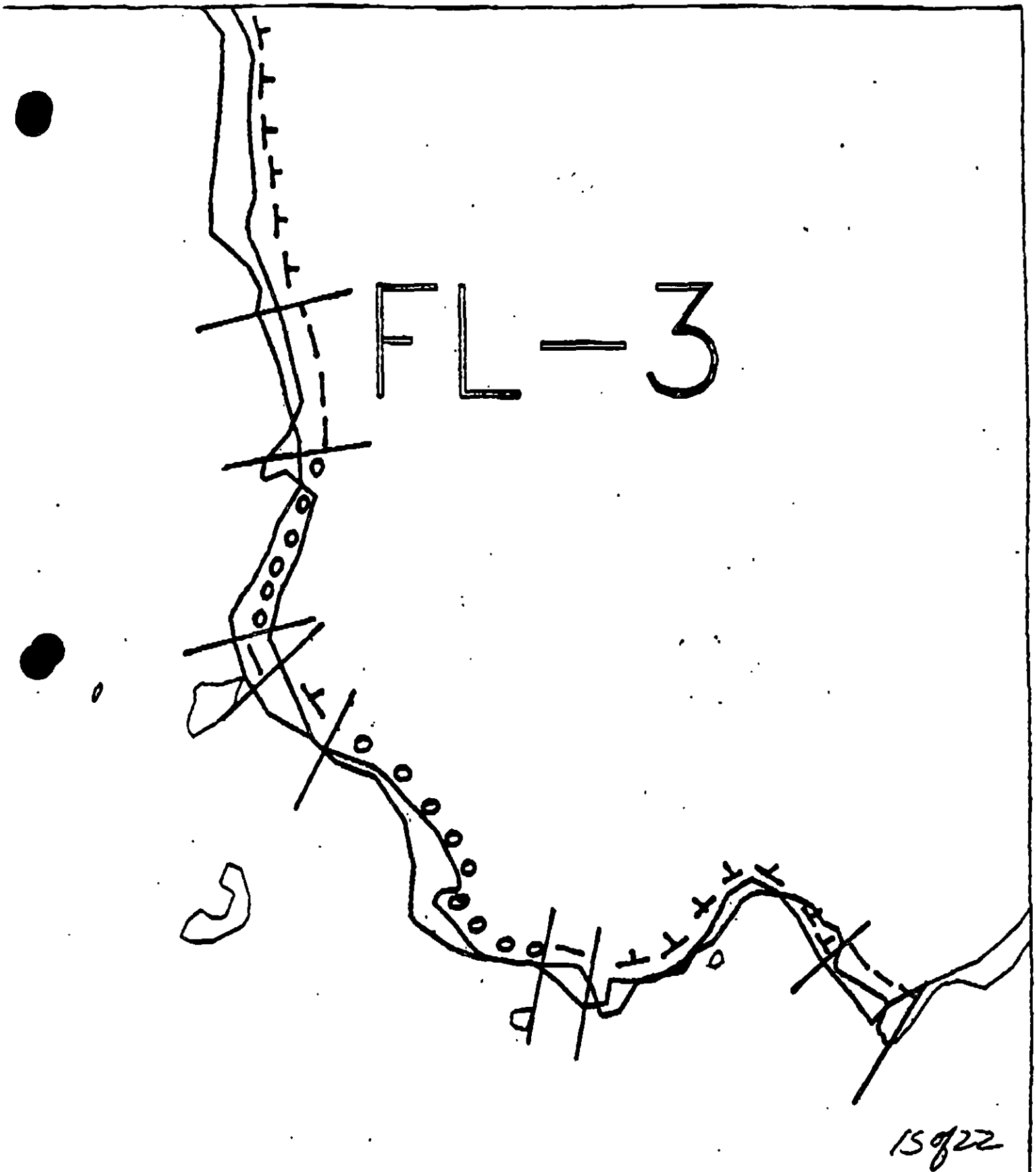
FL-03

No	2.75"	715 m	792 m
V.Lt	6.6"	1716 m	1902 m
Lt	1.7"	442 m	490 m
		2873 m	3184 m

N

14922


OG L Marty
SEGMENT ST/REG
SUBDIVISION A
DATE 30 April
CHECKLIST
LEGEND
Boulders and cobbles on shallow bedrock
Note: scale is 91% of standard
Splattered tarry coat
Small pocket beaches
Tarry splatter 2m wide CT on clasts from 0-3cm
Runoff
Band of splatter ~2m wide (coat)
ECOLOGY MAP
Isolated splatter & widely scattered tar patties
Patchy tarry coat on bedrock 1.5m wide runs ~3m
Small tar mat ~1m x 2cm - removed
Narrow C, B, P, G beach
Some splatter
widely scattered splatter and tar balls (removed)
P,G beach
Tarry band - 15cm wide 15% surface cover
Boulder, Cobble beach
Sporadic splattering of oil coat <1% cover Tarry dark brown
No oil
Slate B,C,P beaches: Clasts are angular & poorly sorted. Sargassum in living position and beached dead
cobble, boulder beach
well sorted pebble pocket beach
Could not be confirmed, 20 meters
No oil
One Tar Ball removed
Slate bedrock
vertical rock faces
Patchy 15cm tarry CT
Cobble, pebble gravelly beach
Broken 1m band of CT
widely scattered splatter <0.1% cover
Patchy 15-20cm wide oil coat
13g22



15 of 22

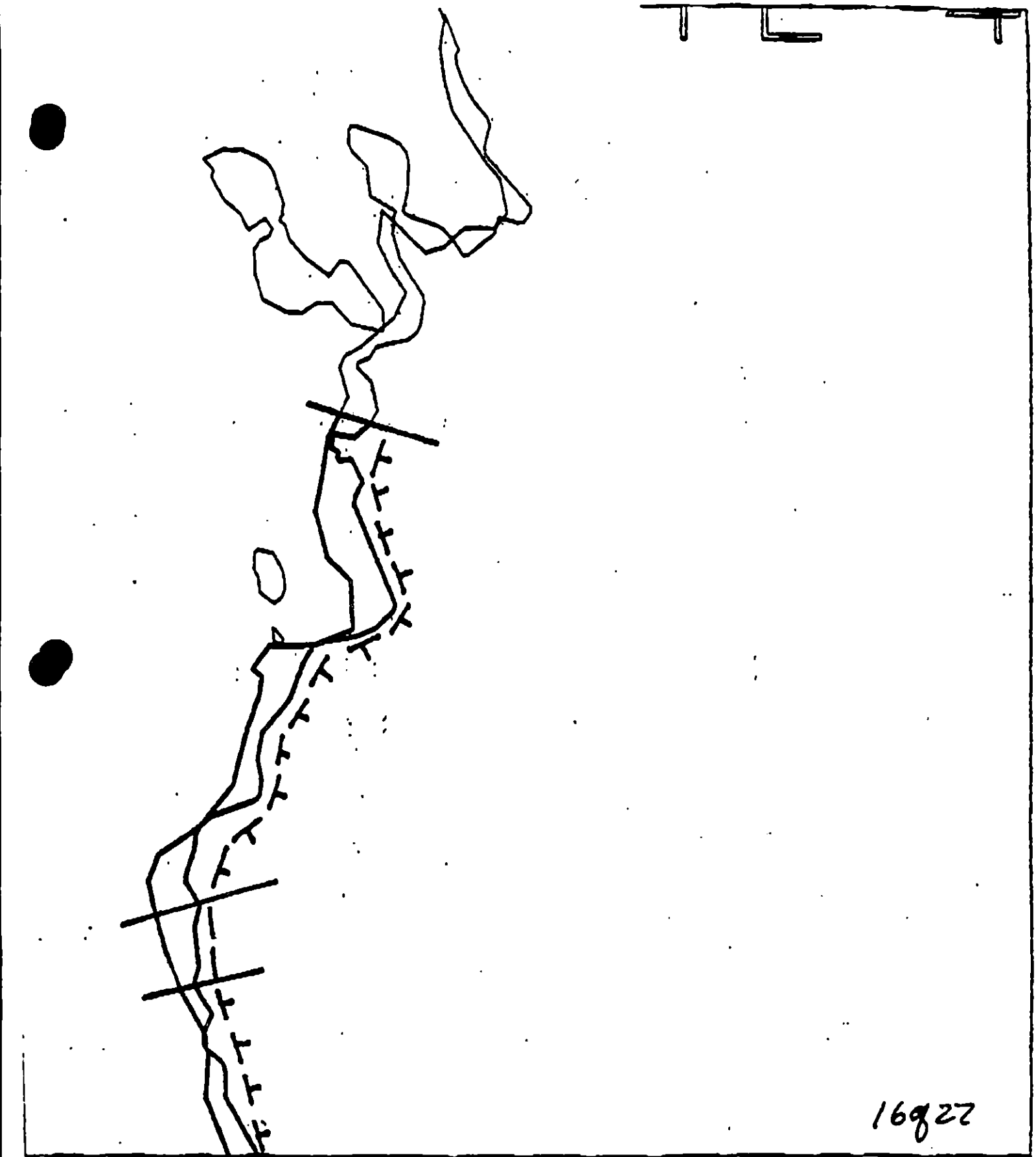
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

FL-3

Approx. Segment Length: 3168m

0 100 200 300
METERS

Map Key: PWS-FL-3e
Name: R. Marty
Date: 20 April 1990
Date Entered:



16927

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

FL-3

Approx. Segment Length: 5148m

0 100 200 300
METERS

Map Key: PWS-FL-3c
Name: R. Marty
Date: 20 April 1990
Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ FL-04 SUBDIVISION A (1 OF 2) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no. 226-40-16381
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Anadromous stream 226-40-16381 in Subdivision A (see ecology map). 2 eagle nests in Subdivision B > 800m from work area.

SHPO SIGNATURE: [signature] DATE: 4/28/90

OILING CATEGORIZATION:

Wide 0 m: Medium 94 m: Narrow 308 m: V.Light 652 m: No Oil 106 m
Subsurface Oil Observed: Yes X No ____ Maximum Depth 8 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, 2) manual pick up of oiled trash and debris, 3) bioremediation of areas shown on attached sketch map. ~~No bioremediation within 100m of anadromous stream without approval from ADF&G.~~ Work should be conducted between 5/15 and 7/10 based on salmon constraints. 2.

TAG COMMENTS: AVOID RICH BIOTA IN INTERTIDAL ZONES DURING BIO.

TAG APPROVAL DATE: 4/26/90.
ADEC JOHN BAUER
EXXON ANDY TEAL
NOAA Gary Petrae
USCG KENNETH KEANE

FOSC: [signature] DATE: 5-8-90
CVC up to be on scene. CG arrange transportation + berthing.

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 unoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
3N, 3P		Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q		Harbor seal and sea lion molting (8/15 to 9/15)
		Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
5R		Seabird colony (5/1 to 9/1)
		Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
5S		Shorebird/waterfowl concentration (4/1 to 5/15)
		Restrict all activity to essential minimum, especially air traffic.
5T		All Bald Eagle nests (3/1 to 6/1)
		Active Bald Eagle nests (3/1 to 9/1)
		Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
6U	Recreation:	Tent sites (6/1 to 9/15)
6V		Anchorages (6/1 to 9/15)
6W		Forest Service cabins (6/1 to 9/15)
6X		Lodge (6/1 to 9/15)
6Y		Special use destination
7Z	Subsistence area:	Salmon harvesting (5/1 to 9/30)
7HH		Finfish harvesting
7II		Deer harvesting (8/15 to 2/28)
7JJ		Invertebrate harvesting
		For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / FL-04 SUBDIVISION: A DATE 09 APRIL 90

USCG
NAME LARRY FLETCHER SIGNATURE Larry R Fletcher

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

1. MANUALY REMOVE ASPHALT, AND TAR PATTIES.
2. POSSIBLE BIO-REMEDIATION.

ADEC
NAME DAVID M. SALE SIGNATURE David M Sale

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
MMENTS

① Remove manually tar balls, asphalt and debris.

② Remove sediments from beneath boulders or any other places where contamination appears.

③ Bioremediation with approval of CVC and village residents

LAND MANAGER
NAME Steve Ward SIGNATURE Steve Ward

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS
Enclosed data very Accurate - Professionaly Analized

REVISION NO. 08/21/90

SHORELINE OILING SUMMARY

REVISION NO. 02/23/90

OG Richard Marty USCG Larry Fletcher SEGMENT ST/ [redacted] FL-4
BIO Bob Lemon LAND REP [redacted] SUBDIVISION A
EXXON Jon Czarneki ADEC Dave Sale TIME 17 :00 to 20 :30
TEAM NO.: 10 TIDE LEVEL: +1.85m (6') to +0.30m (1') DATE 09 / April / 90
EST. SUBDIVISION LENGTH: 1265 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
SURVEYED FROM: ☒ Foot 1° ☒ Boat 2° ☐ Helo WORKING DIRECTION: N to S
SURFACE SEDIMENTS: R 40 % B 15 % C 20 % P % G 10 % S 10 % M 5 % V %
SLOPE: Lang 60 % Hang 40 % Vert % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
OIL CATEGORY LENGTH: W 0 m M 120 m N 386 m VL 759 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	AC	RB	AP	RS	BLK/BRN	BRN/ORG	ORG/YEL	BRN/TAN	LT/SHN	SU	UI	MI	U
ASPHALT PAVEMENT		X	✓					X ✓			X ✓		
POOLED													
COVER		X	✓					X ✓			X ✓		
COAT			X	✓				X ✓					
STAIN			X						X		X	X	X
MOUSSE													
PATTIES				X				X			X		
TARBALLS													
FILM													
NO OIL										X			

PAVEMENT: H F S 255 sq. m by 3 cm
5m² + (60×2×.25) m² + 120×3×.55 + (20×6×.6) + 4×15×.2

PATTIES / TARBALLS 2 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

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

DEBRIS COLLECTED ☒ YES ☐ NO
TYPE Misc.
#BAGS 1

Photographs:
Roll No. ST/10/12
Frames 20 - 31

SUBSURFACE OIL

	PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL cm - cm (DM-DM)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SUBSURFACE SEDIMENTS
			OP	OR	OL	OF	NO		UO	UC	BLK/BRN	BRN/ORG	ORG/YEL	BRN/TAN	LT/SHN	SU	UI	MI	U		
*	1	12		X				0 - 2		X				X		X				N	G, M, C, B
	2	34					X	-									X			|	G, P
	3	34					X	-									X			|	G, P, Pea +
*	4	18			X			3 - 8		X				X			X			|	S, G, M
*	5	22	X					0 - 5		X				X			X			|	S, G, P
*	6	20	X					0 - 7		X				X			X			↓	S, M

COMMENTS

* oil ≤ 5cm does not constitute subsurface oil.

REVIEWED _____ DATE _____

SHORELINE OILING SUMMARY (PAGE___ of___)

SEGMENT ST/ FL-4 SUBDIVISION 4

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (Cm-Cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC						SU	UI	MI	LI		
7	35					X	•									X			N	G, P
8	36					X	•								X				↓	G, P
							•													
							•													
							•													
							•													
							•													
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							•													
							•													
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							•													
							•													

COMMENTS

REVIEWED GM DATE 4/13/00

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/89

Segment ST / 10 / FL4 Subdivision A Date (mo / day / yr) 4 / 9 / 90

Time (24 hr) 1100 - 1900 Biologist L...

(A) Substrate type and % of segments:
(1) Bedrock 40 (2) Boulder 15 (3) Cobble 20 (4) Pebble ___ (5) Sand 25 (6) Silt ___

(B) Overall % cover of biota (% of segment): Dense ___ Moderate 50% Low ___

(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/10/12
Frames 20 - 31

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	X
2	2	2	2	2	2	X	X	2	2	2	X
3	3	3	3	3	3	3	3	X	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	X	X	1L	1U	1M	X
2	2	2	2	2	2	X	X	2	2	2	X
3	3	3	3	3	3	X	4	3	3	3	X
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	X	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	X	X	X	1U	1M	1L
2	2	2	2	2	2	X	X	X	2	2	2
3	3	3	3	3	3	3	X	X	X	3	3
4	4	4	4	4	4	4	4	X	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	X	1M	1L	1U	X	X	1U	1M	1L
2	2	2	X	2	X	2	X	2	X	2	2
3	3	3	3	3	X	3	X	3	X	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: The low zone includes Palmaria, Halosaccion and other red algae with Fucus and a few greens make a 90% cover on the larger clasts. Zostera grass and Solecismus (BIVALVE) shells were seen from the shore. A mid zone included Anthopleura (ANTHOZOA), Nucella (GASTROPOD). Frequently an area (usually upper fringe) of Fucus was dominated and otherwise stressed appearing (ST/10/12/4,5,7,8,22,23). A tourist's told an unusual number of dead otters sighted while steaming to site.

Ecological Considerations: (not drift) mussels photo 29. 7 otters sighted while steaming to site.

OG R. Mars

SEGMENT STI FL-4

SUBDIVISION A

DATE 9 / April 90

CHECKLIST

- ___ N Arrow
- ___ Approx. Scale
- ___ Seg/Sub Bndry
- ___ Oil Dist.
- ___ Width
- ___ Length
- ___ % Cover
- ___ Substrate Character
- ___ Est. HHW/LW
- ___ SSI
- ___ Profile Location(s)
- ___ Profile(s)
- ___ Pit Location(s)
- ___ Photo Location(s)

LEGEND

1 △ Pit - No Subsurface Oil

2 ▲ Pit - Subsurface Oil

CT/C Continuous Distribution

CT/B Broken Distribution

CT/P Patchy Distribution

CT/S Splashed Distribution

Oiled Vegetation

1 ●→ Photo location, direction, and number

HHWS = High high water swash
UITZ = Upper intertidal zone
STZ = Supratidal zone

Splattered tarry coat on rock bands

2m wide band of tarry coat. Some tar balls at HHWS

Tarry oil between rocks. Downward movement limited by mud. The bedrock shows multiple deformations & is quite crumbly.

Pick up Tar Balls Bio

Rock headlands with 1.5m wide patchy oil band

Small pocket beach. There is a splattered oil coat on the bedrock, but no oil on the sediments. 1 bag misc. trash at HHWS

Bio Hard

Angular cobble, pebble beach with a 3m wide 'tar mat' in the UITZ - STZ. Patchy (55%). Stain extends across the beach.

The tombolo is oil free except for a 2m wide band of splattered coat on the rocks.

Small pocket beach with 3m of pavement. Tarry coat on rocks and debris

Pick up pavement

No oil

Tarry splatter on rocks

Tar balls and splatter in a 1m wide band - patchy asphalt in west 1mx 15m x 25%

Remove Asphalt

very light splatter

Some heavy splatter

Splatter in a 1m band

Remove Asphalt

2m wide 'asphaltic' band: 25% cover

Patchy asphalt 6m wide. 60% cover across the tombolo

dead seaolter

Patchy cover

Scatter tar balls.

Scattered splatter on a slate bedrock /boulder beach

Scattered tar patties

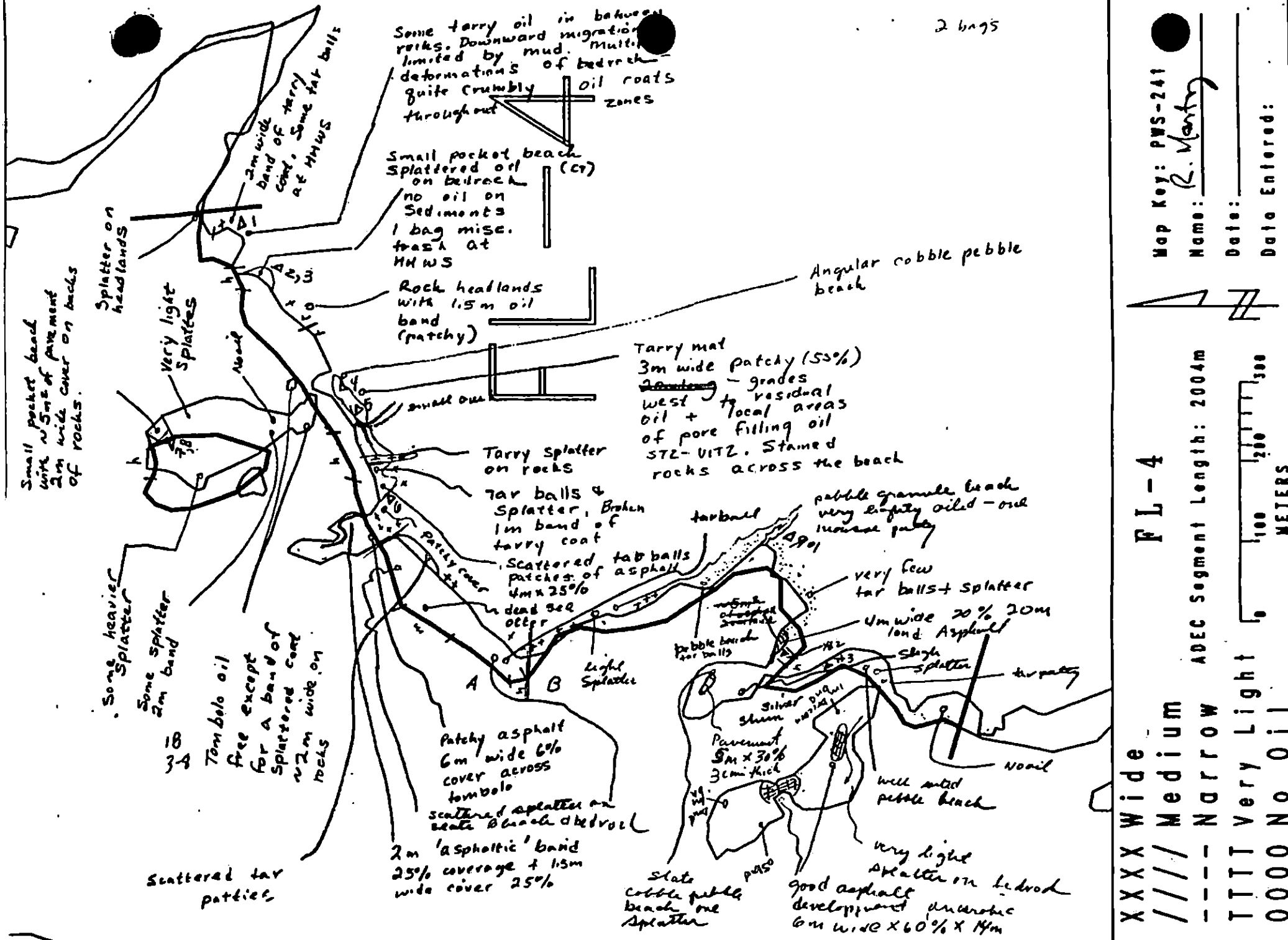
Remove Patties

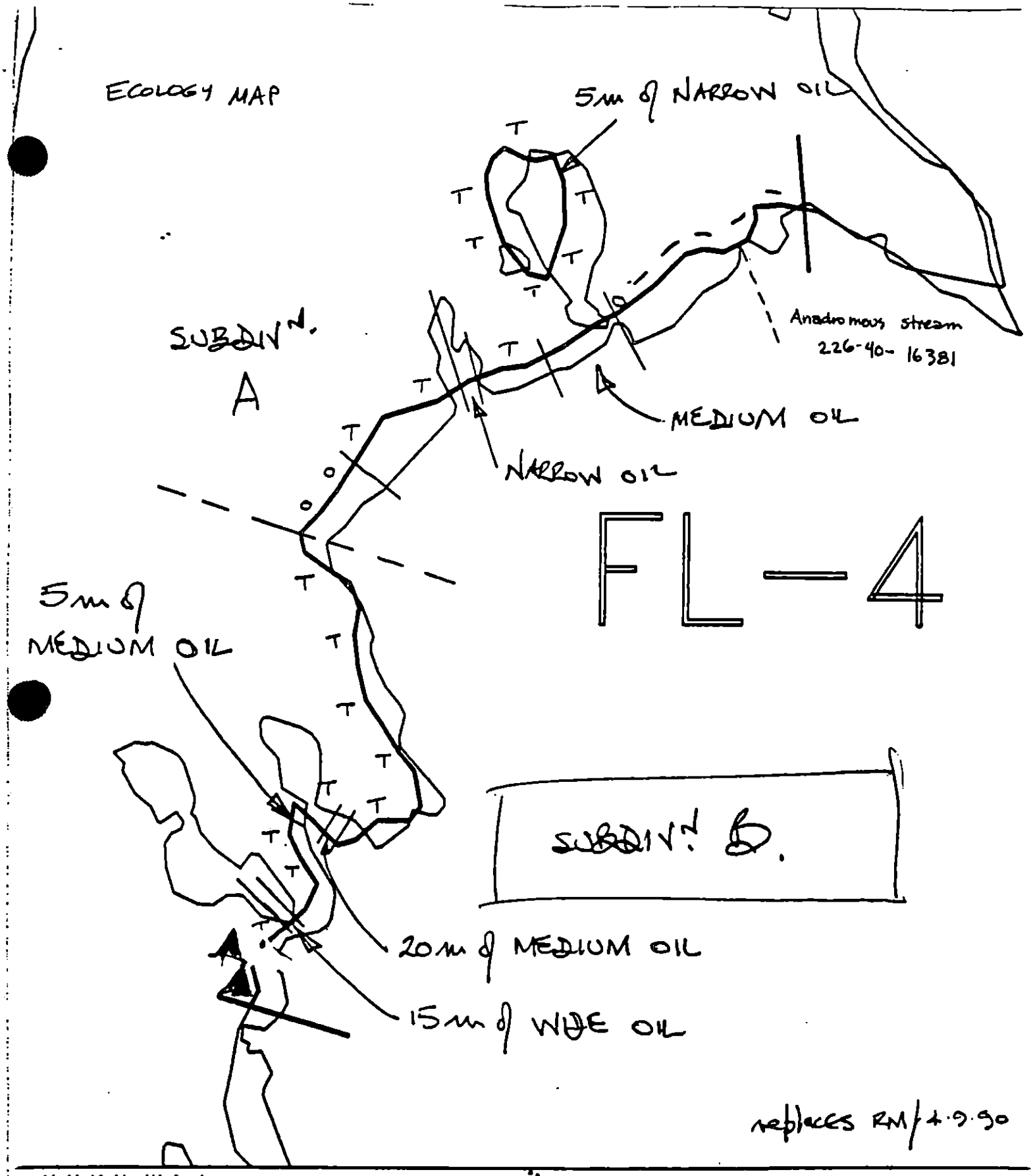
Remove Tar Balls

0 100 200 METERS

OB Character Length (m): AP 220 PO ____ CV 50 CT 1265 ST 100 MS ____ PT 200 TB ____ FL ____ NO ____

REVISION/COVE


2 bags
Some tarry oil in balwood rocks. Downward migration limited by mud. multi deformations of bedrock quite crumbly throughout
oil coats zones
Small pocket beach splattered oil on bedrock no oil on Sediments 1 bag misc. trash at HHWS (CT)
2m wide band of tarry coat. Some tar balls at HHWS
Splatter on headlands
Small pocket beach with 1.5m of pavement 2m wide cover on backs of rocks.
Very light Splatters
Rock headlands with 1.5m oil band (patchy)
Angular cobble pebble beach
Tarry mat 3m wide patchy (50%) — grades west to residual oil + local areas of pore filling oil STE-VITZ. Stained rocks across the beach
small oil
Tarry splatter on rocks
Tar balls & Splatter. Broken 1m band of tarry coat
Some heavier Splatter
Some splatter 2m band
Tombolo oil free except for a band of splattered coat ~2m wide on rocks
Scattered tar balls
Patchy cover
dead sea otter
Scattered tar balls patches of asphalt 4m x 25%
tarball
pebble granule beach very lightly oiled — one isolated patch
very few tar balls + splatter
4m wide 20% 20m long Asphalt
pebble beach tar balls
Light Splatter
Sheen splatter
tar patty
silver sheen
Pavement 5m x 30% 3cm thick
well oiled pebble beach
Patchy asphalt 6m wide 6% cover across tombolo
scattered splatter on beach bedrock
2m 'asphaltic' band 25% coverage & 1.5m wide cover 25%
Slate cobble pebble beach one Splatter
good asphalt development anaerobic 6m wide x 60% x 1½m
very light splatter on bedrock
Map Key: PWS-241
Name: R. Manley
Date:
Data Entered:
FL-4
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil
ADEC Segment Length: 2004m
0 100 200 300
METERS



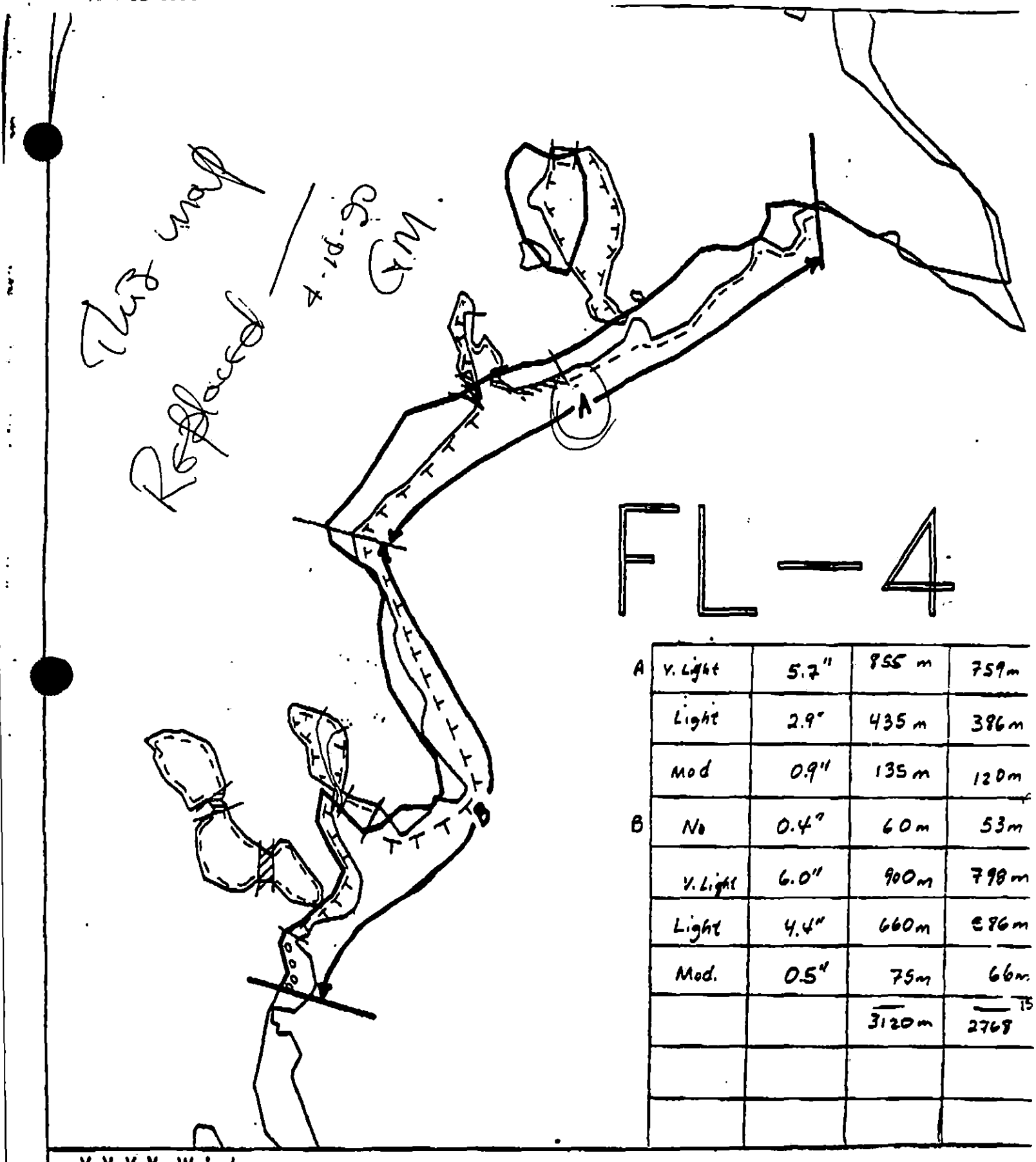
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

FL-4

ADEC Segment Length: 2004m

0 100 200 300
METERS

Map Key: PWS-241
Name: GM for RM
Date: 4/18/90
Date Entered:



Was map Replaced / 4-16-90 GM.

FL-4

A	V. Light	5.7"	855 m	759m
	Light	2.9"	435 m	386m
	Mod	0.9"	135 m	120m
B	No	0.4"	60 m	53m
	V. Light	6.0"	900m	798m
	Light	4.4"	660m	586m
	Mod.	0.5"	75m	66m
			3120m	2768

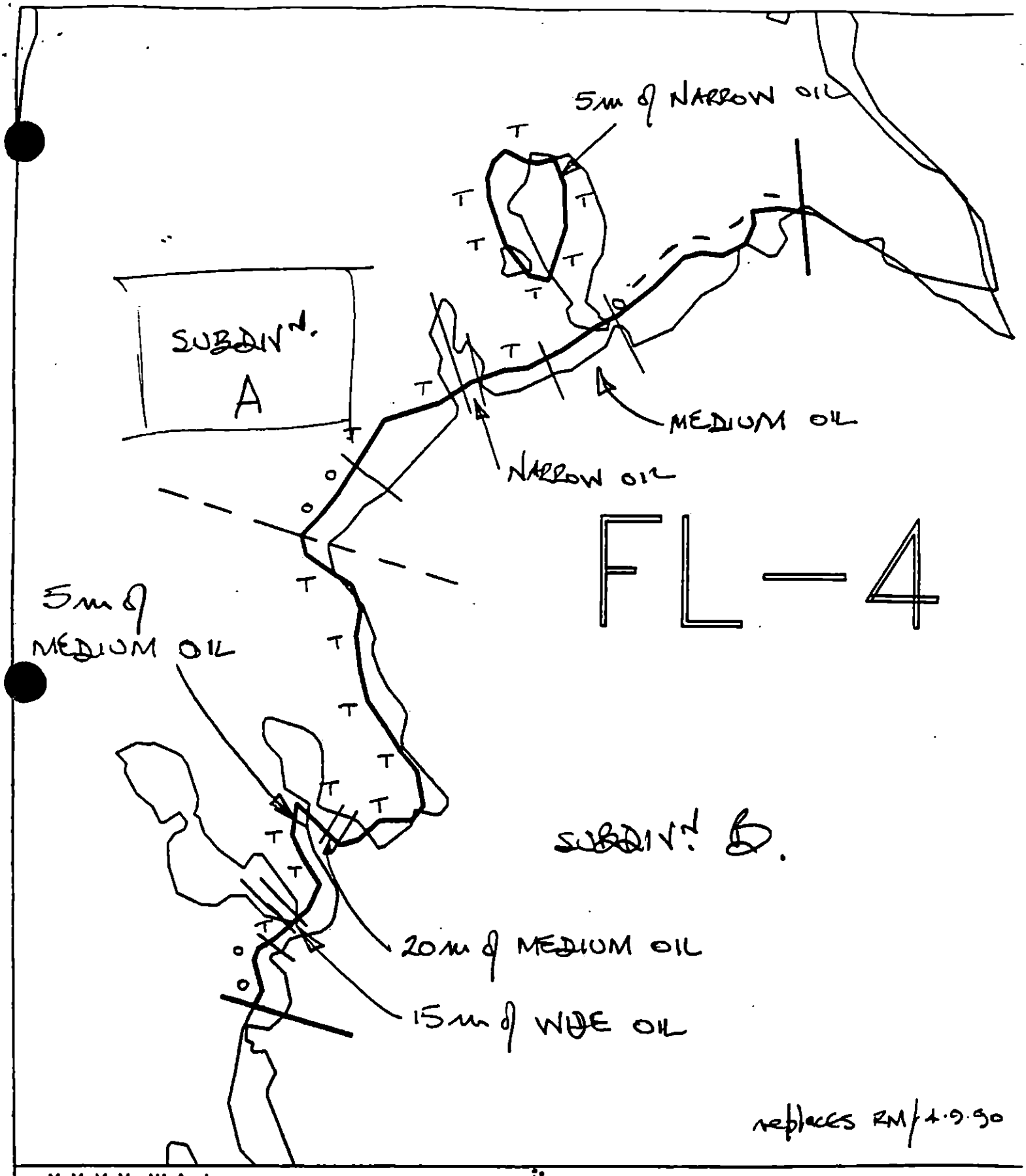
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

FL-4A

ADEC Segment Length: 2004m

0 100 200 300
METERS

Map Key: PWS-241
Name: R. Marty
Date: 09 April 1990
Date Entered:



replaces RM/1.9.90

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

FL-4A

ADEC Segment Length: 2004m

0 100 200 300
METERS

Map Key: PWS-241
Name: GM for RM
Date: 4/13/90
Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT FL-4 SUBDIVISION A (1 of 2)

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

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

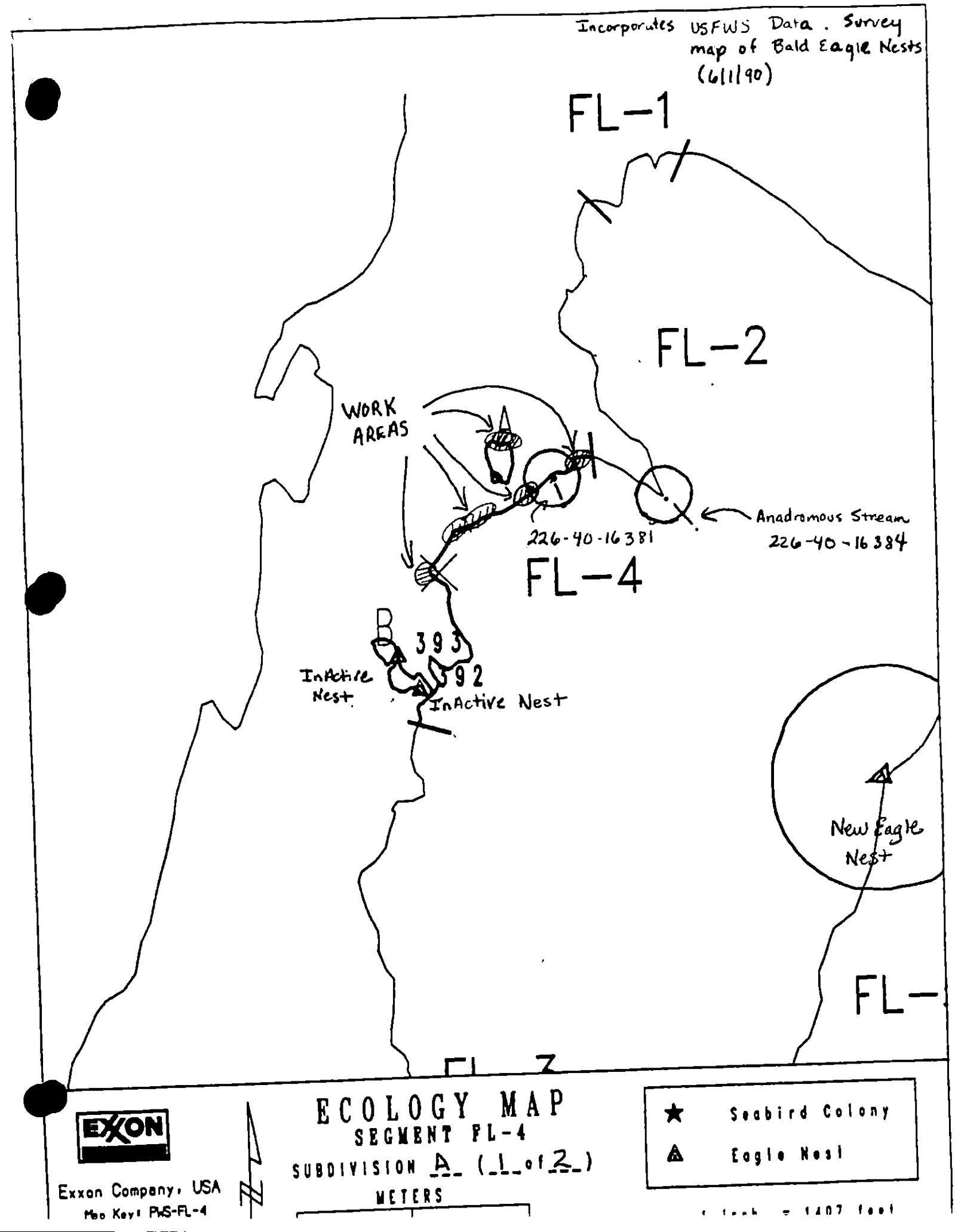
1A,1B Salmon Stream	ADF&G catalogued anadromous stream (226-40-16381) is present in this subdivision. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup and tarmat removal.
5T Bald Eagle Nest	NO CONSTRAINT. Work area more than 400m from active nest

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow Inipol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation 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 rich biota in intertidal zones during bioremediation.

TAG APPROVAL DATE_____
ADEC Ron Morris R Morris
EXXON Andy Tem W Kelley
NOAA_____
USCG_____

FOSC_____ DATE 8 June 90


Incorporates USFWS Data. Survey map of Bald Eagle Nests (6/1/90)
FL-1
FL-2
WORK AREAS
Anadromous Stream 226-40-16384
226-40-16381
FL-4
B 393 92
Inactive Nest
Inactive Nest
New Eagle Nest
FL-
FL-2
ECOLOGY MAP
SEGMENT FL-4
SUBDIVISION A (1 of 2)
METERS
Seabird Colony
Eagle Nest
Exxon Company, USA
Mac Key: PWS-FL-4

SHORELINE EVALUATION

SEGMENT ST/ FL-04 SUBDIVISION B (2 OF 2) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no. 226-40-16381
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Subdivision B has 2 bald eagle nests (see ecology map). Anadromous stream in Subdivision A > 100m from work area.

SHPO SIGNATURE: Marla E Holman DATE: 4/28/90

OILING CATEGORIZATION:

Wide 18 m: Medium 60 m: Narrow 0 m: V.Light 675 m: No Oil 91 m
Subsurface Oil Observed: Yes____ No X Maximum Depth____

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of asphalt, 2) bioremediation of area shown on attached sketch map. Work should be conducted after 6/1 with the approval of USFWS regarding eagle nest constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/26/90.
ADEC JOHN BAUER
EXXON ANDY FAHL
NOAA Gary Petrae Gary Petrae
USCG KENNETH KEENE

FOSC: [signature] DATE: 5-8-90
CVC now removes with bioremediation. Ensure CVC rep on scene. CG arrange for transportation & berthing.

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 unoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.	
3N, 3P	Harbor seal and sea lion pupping (5/15 to 7/1)	
3O, 3Q	Harbor seal and sea lion molting (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		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)
7H-H		Finfish harvesting
7II		Deer harvesting (8/15 to 2/28)
7JJ		Invertebrate harvesting
	For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.	

SEGMENT ST/ FL-04 SUBDIVISION: B DATE 09 APRIL 90

USCG
NAME LARRY FLETCHER SIGNATURE Larry R Fletcher

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

1. MANUALY REMOVE ASPHALT, AND TAR PATTIES.
2. POSSIBLE BIO-REMEDIATION

ADEC
NAME DAVID M. SALE SIGNATURE David M Sale

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

① REMOVE MANUALLY OILED DEBRIS, ASPHALT + TAR BALLS [NOTE: ASPHALT ON TOMBOLO AT END OF SEGMENT IS ON THICK SHELL FRAGMENT ACCUMULATIONS. REMOVAL OF ASPHALT WILL RELEASE H_2S, BUT OILED SEDIMENTS SHOULD STILL BE REMOVED.]

② REMOVE TARRED SEDIMENTS BETWEEN BOULDERS AND HEAVY COVER ON ISLANDS BY MANUAL REMOVAL AND WASHING, RESPECTIVELY

③ BIOREMEDIATE WHEN OXYGEN LEVELS IN SEDIMENTS PERMIT

LAND MANAGER
NAME Steve Ward SIGNATURE Steve Ward

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Enclosed data is Excellent.

SHORELINE OILING SUMMARY

REVISION NO. 03/29/90

OG Richard Marty USCG Larry Fletcher SEGMENT ST/ FL-4
BIO Bob Lemon LAND REP Steve SUBDIVISION B 1 of 1
EXXON Jon Czarnecki ADEC Dave Janis TIME 17 :00 to 20 : 30
TEAM NO.: 10 TIDE LEVEL: +1.85m(') to 0.30m(') DATE 09 / April / 90
EST. SUBDIVISION LENGTH: 1503 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
SURFACE SEDIMENTS: R 50 % B 10 % C 10 % P 10 % G 10 % S 5 % M 5 % V ____ %
SLOPE : Lang 60 % Hang 40 % Vert ____ % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
OIL CATEGORY LENGTH: W 0 m M 66 m N 586 m VL 798 m NO 53 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	RC	RB	RP	RS						SU	UI	MI	LI
ASPHALT PAVEMENT		✓	X					X		X	X		
POOLED													
COVER													
COAT		✓		X				X			X		
STAIN													
MOUSSE													
PATTIES				X				X			X		
TARBALLS				X				X			X		
FILM													
NO OIL												X	X

(4m x 20m x 0.2) + (5m x 20m x 0.2) + (6m x 14m x 0.6) + (6m x 15 x 0.6
PAVEMENT: H F (S) 150 sq. m by 3 cm

PATTIES / TARBALLS 2 BAGS

NEAR SHORE SHEEN? NO BR RW (SL) TL

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

DEBRIS COLLECTED ☒ YES ☐ NO
TYPE M.Sc.
#BAGS < 1

Photographs:
Roll No. ST/10/12
Frames 32-36

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL cm-cm (obs-cln)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC						SU	UI	MI	LI		
1	5					X	-									X			N	G, S, M
2	23	X					0 - 5		X				X		X					G
3	25					X	-										X		Y	M, S, G
							-													
							-													
							-													

COMMENTS oiled interval ≤ 5cm in pit 2 does not constitute subsurface oil.

REVIEWED ____ DATE ____

OG R. Murphy

SEGMENT [redacted] FL-4

SUBDIVISION B

DATE 9 / Apr / 90

CHECKLIST

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

LEGEND

1 ▲ Pit - No Subsurface Oil

2 ▲ Pit - Subsurface Oil

CT/C Continuous Distribution

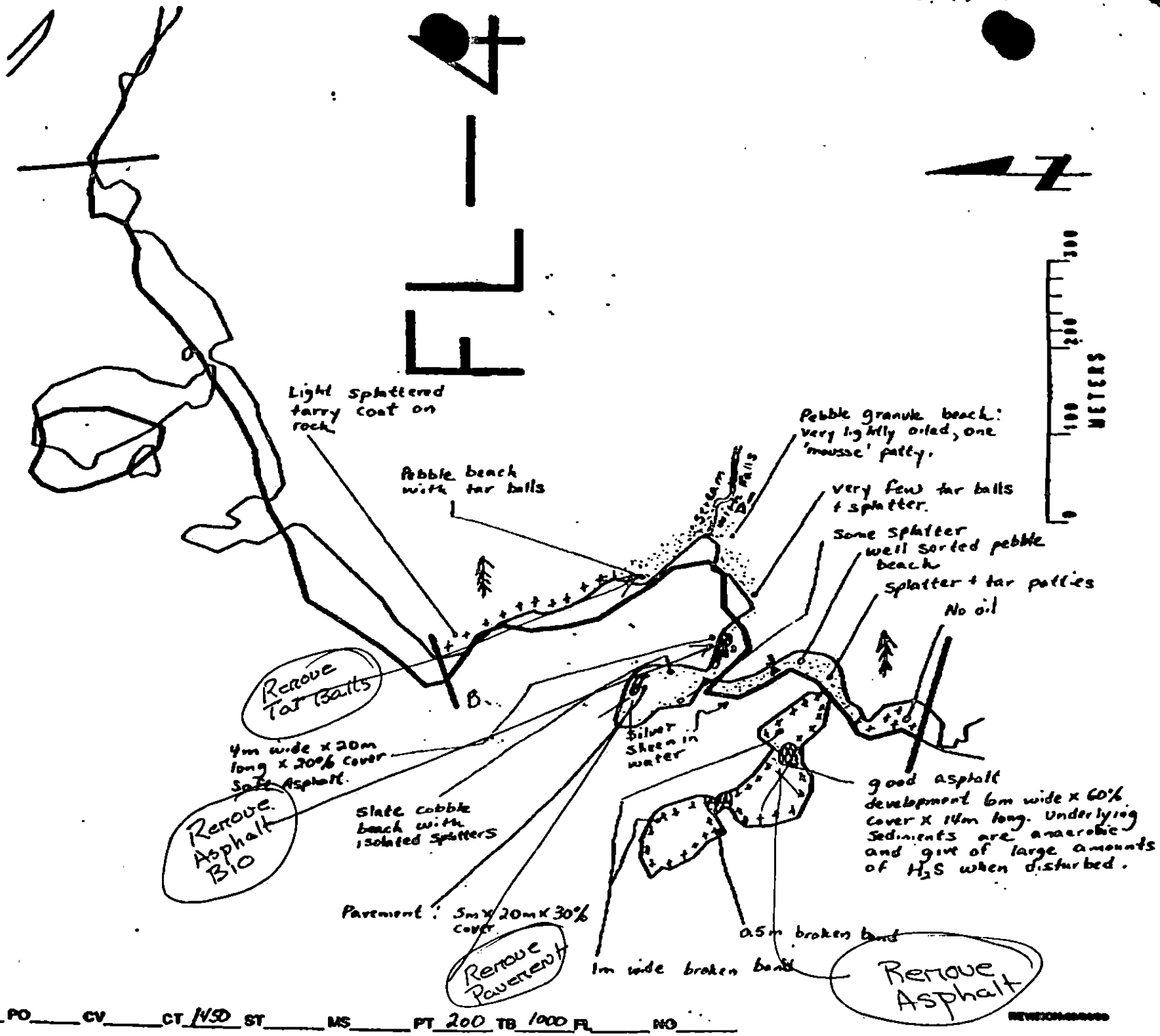
CT/B Broken Distribution

CT/P Patchy Distribution

CT/S Splashed Distribution

Oiled Vegetation

1 ⇔ Photo location, direction, and number



Oil Character Length (m): AP 70 PO ____ CV ____ CT NSD ST ____ MS ____ PT 200 TB 1000 FL ____ NO ____

REVISIONS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 09/23/88

Segment ST / 10 / FL 4 Subdivision B Date (mo / day / yr) 4 / 9 / 90

Time (24 hr) 1900 - 2030 Biologist Lemon

(A) Substrate type and % of segments:
(1) Bedrock 50 (2) Boulder 10 (3) Cobble 10 (4) Pebble 20 (5) Sand ____ (6) Silt ____

(B) Overall % cover of biota (% of segment): Dense ____ Moderate 55% Low ____

(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/10/12
Frames 32-36

BARNACLES — NOT PRESENT

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
3	3	3	3	3	3				3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

MYTILUS — NOT PRESENT

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	
3	3	3	3	3	3	3		3		3	
4	4	4	4	4	4	4		4	4	4	4
5	5	5	5	5	5	5		5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

GASTROPODS — NOT PRESENT

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
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

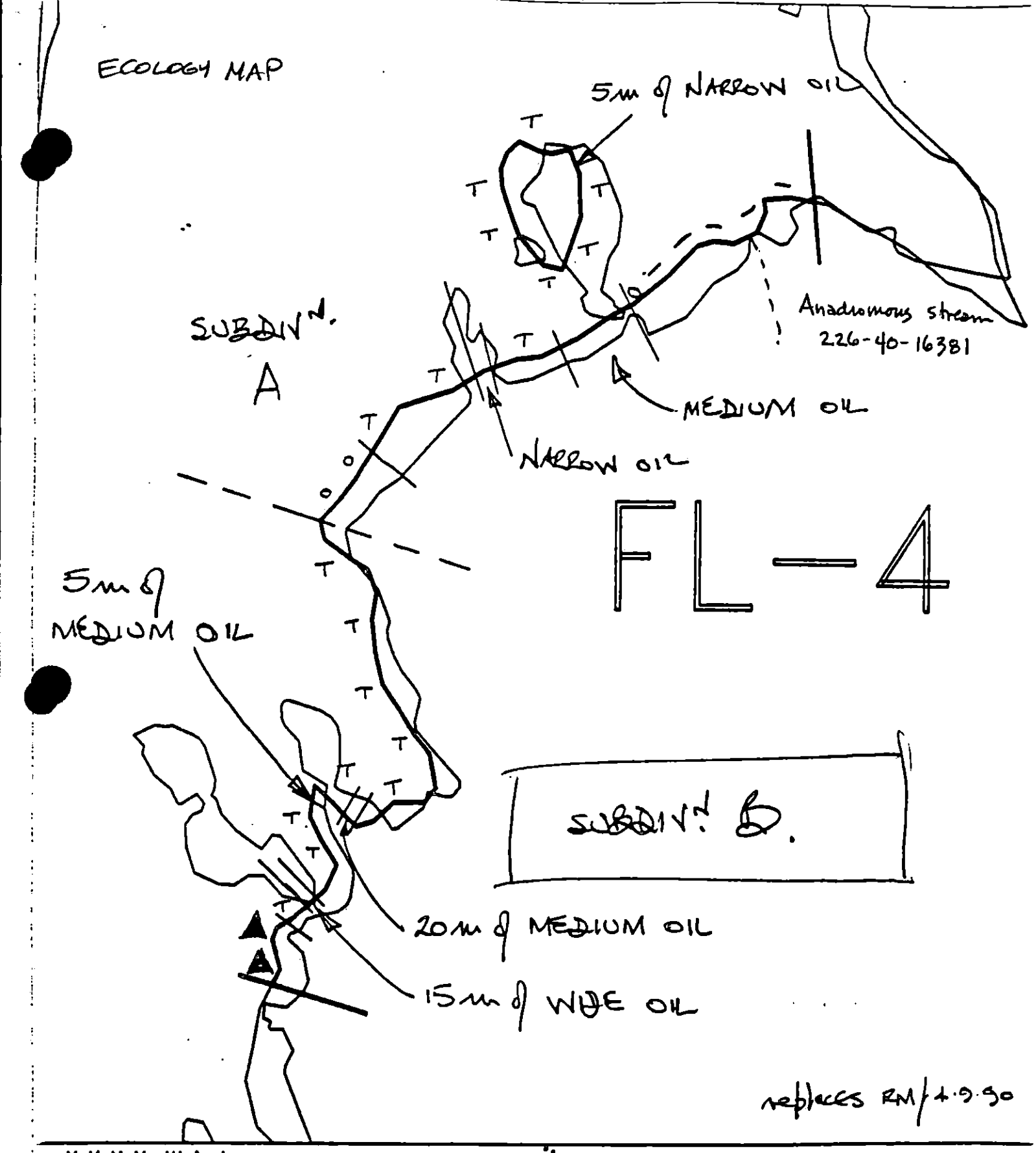
FUCUS — NOT PRESENT

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
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

Wildlife Observations/ General Comments: Low zone has a cover of mixed red & green algae (including Palmaria (red) Zostera (vascular) & Desmarestia (brown) - came across the remains of a dead otter w/ entire front half missing - Other wildlife includes live otter, deer, otter scat, 2 eagles, 6 waterfowl, and a horned owl. Snail eggs and amphipods and dermasteria were low zone animals. one low zone tumbolo was riddled w/ holes as though some animal was digging clams. Boulder dead squid, frame 36.

Ecological Considerations:

→ Stream spawning. Inspected stream w/ water fall, no fish or fish food or nl



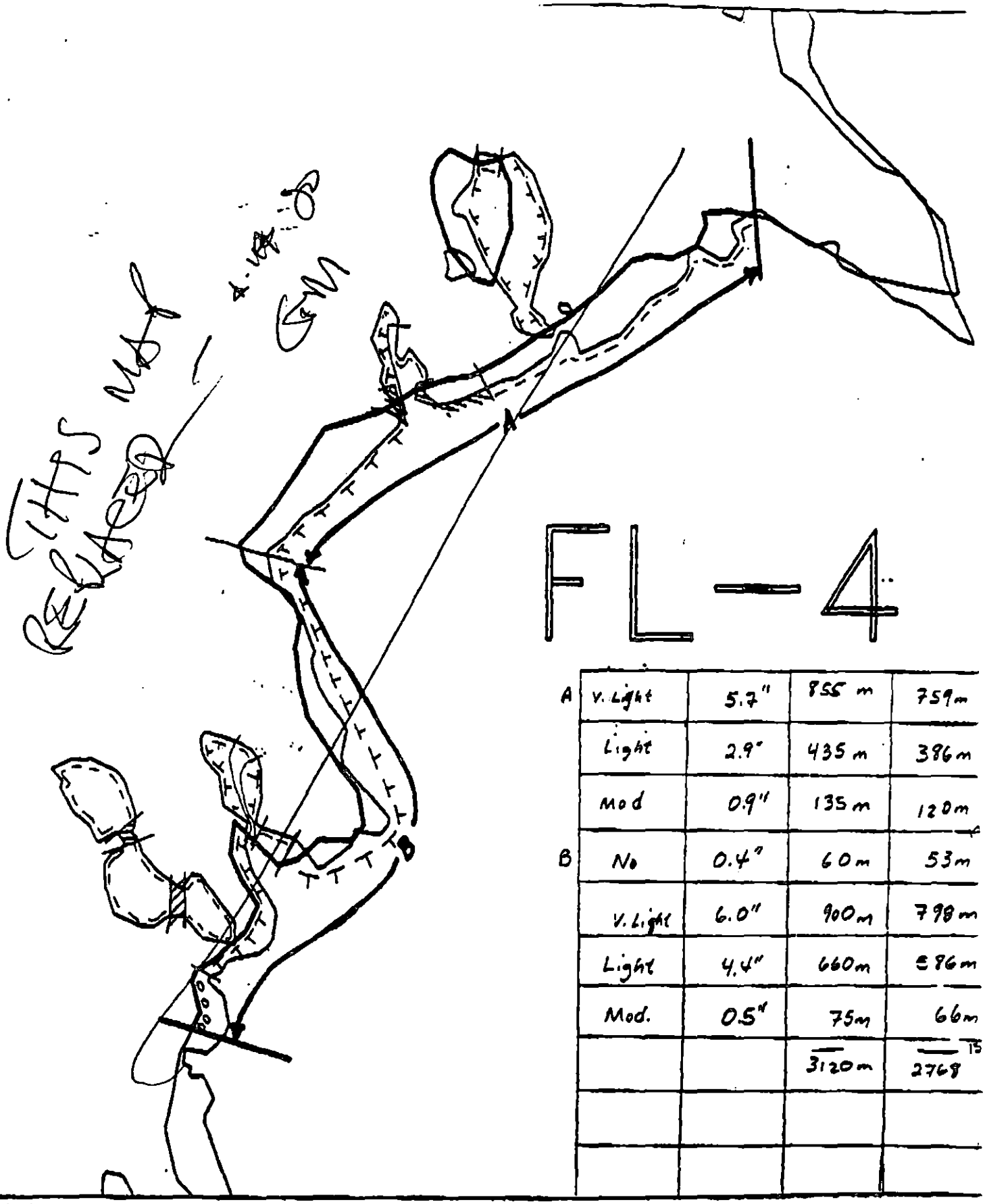
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

FL-4

ADEC Segment Length: 2004m

0 100 200 300
METERS

Map Key: PWS-241
Name: GM for RM
Date: 4/18/90
Date Entered:



FL-4

A	V. Light	5.7"	855 m	759m
	Light	2.9"	435 m	386m
	Mod	0.9"	135m	120m
B	No	0.4"	60m	53m
	V. Light	6.0"	900m	798m
	Light	4.4"	660m	586m
	Mod.	0.5"	75m	66m
			3120m	2768

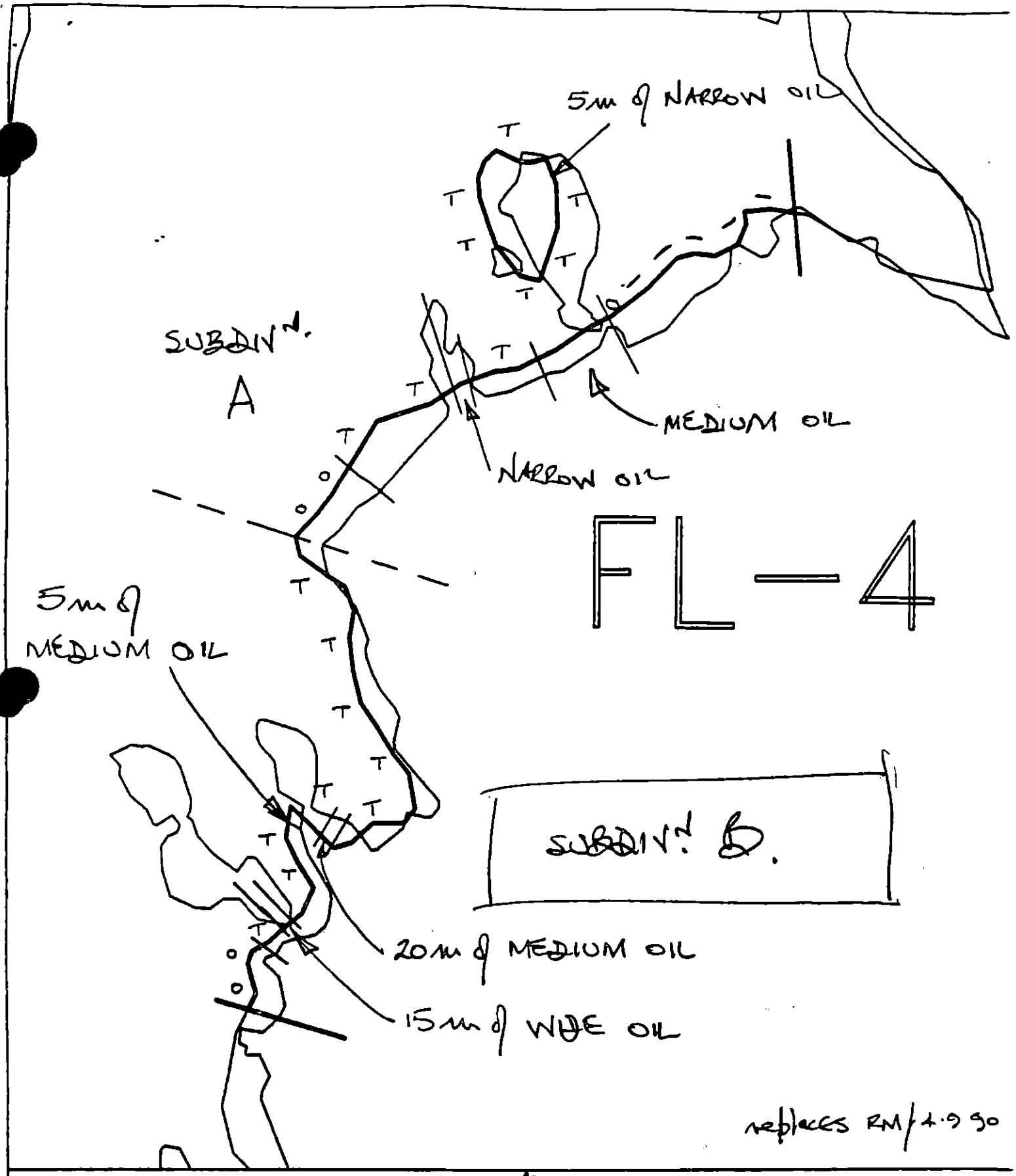
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

FL-4

ADEC Segment Length: 2004m

0 100 200 300
METERS

Map Key: PWS-241
Name: R. Marty
Date: 09 April 1990
Date Entered:



replaces RM/4.9.90

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

FL-4

ADEC Segment Length: 2004m

0 100 200 300
METERS

Map Key: PWS-241
Name: GM for RM
Date: 4/13/90
Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT FL-4 SUBDIVISION B (2 of 2)

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

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream — ADF&G catalogued anadromous stream (226-40-16381) is in Subdivision B. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup and tarmat removal.

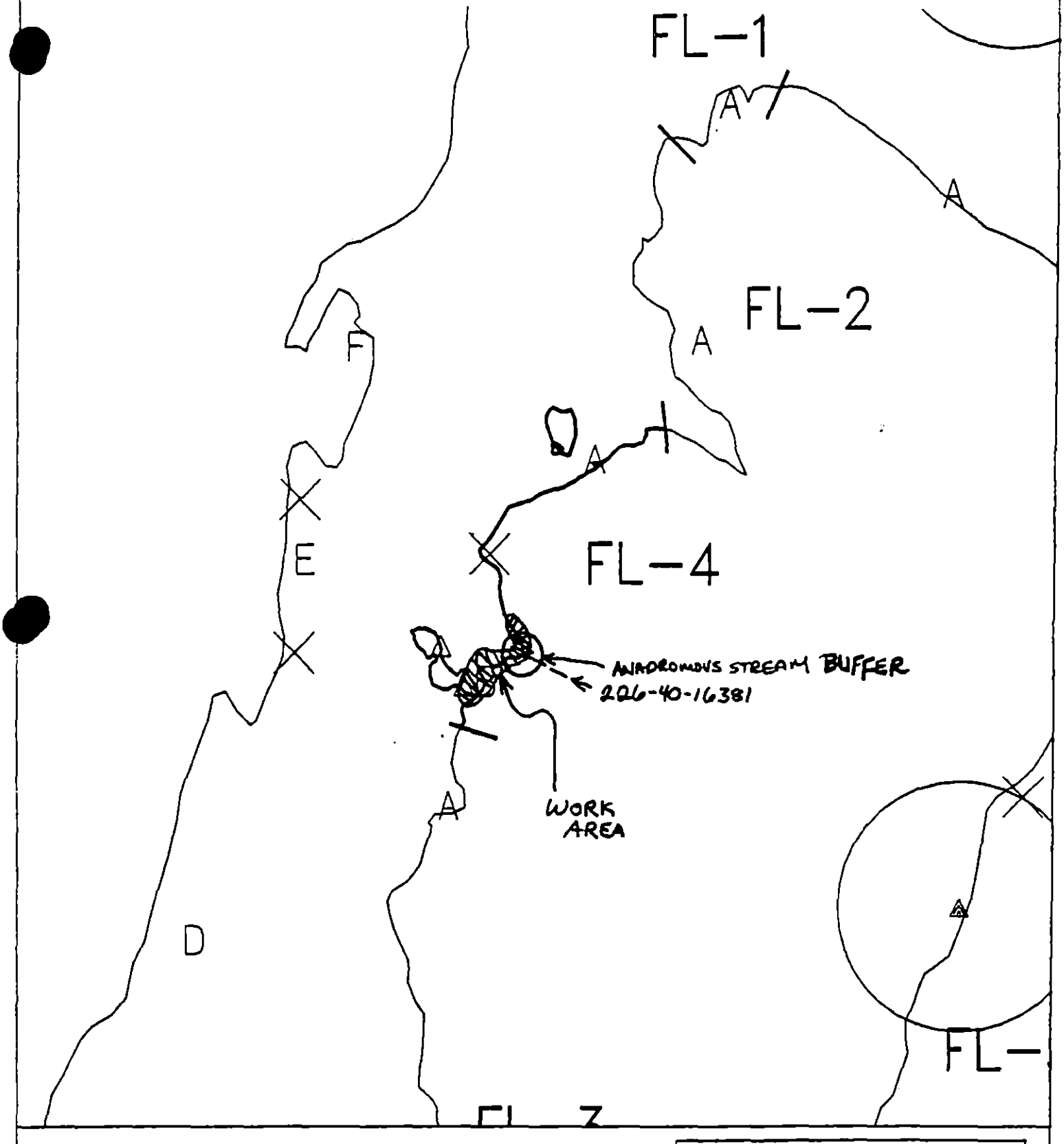
5T Bald Eagle Nest — NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision B work site.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC _____ Date 6-12-90

Prepared by _____ Date 6/11/90



EXXON

Exxon Company, USA

Map Key: PWS-FL-4

June 04, 1990

ECOLOGY MAP

SEGMENT FL-4

SUBDIVISION B (2 of 2)

METERS

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

ASAP FOLLOWUP RECOMMENDATIONS

gment: AS/ FL-4 Subd.: B Site: 1 Date: 8/5/90 1990

Conditions Observed: SURFACE OIL IN AREAS WHERE TARMATS WERE REMOVED ARE PRESENT IN SEVERAL AREAS ON THE SUBDIVISION.

Followup Recommendations: MANUALLY TREAT AREAS OF SURFACE OILING WHERE AP PATCHES EXISTED.

Completed by Pickup w: ☐ YES ☒ NO

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

ADEC Bob McCready (name) Robert B. McC (signature)

Comments: Recommend the manual removal of all remaining AP, oil and OR oil and other heavy oil residuals left by Summer '90 cleanup crew followed by vigorous manual tilling and scarification.

Exxon RANDALL K. BOYER (name) Randall K. Boyer (signature)

Comments: BREAK UP AND EXPOSE SURFACE AREAS OF SEDIMENTS WHERE TARMATS WERE LIFTED EARLIER IN 1990. RE BIO AS REQUIRED.

USCG Don Davis (name) (signature)

Comments: AGREE WITH AOR ASSESSMENT.

Rep. Steve Ward EVS (name) (signature)

Comments: Agree with AOR

FIELD SHORELINE COMMENT SHEET

SEGMENT AS / FL-04 SUBDIVISION: B SITE: 1 DATE 8 Aug 90

CG

NAME Don Orth, LCDR, USCG SIGNATURE [signature]
David Rose, NOAA

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

OBSERVED ONE SECTION APPROX 10m x 2m PREVIOUSLY TREATED. IF NO WORK IS PERFORMED THIS YEAR, THE PATCH WILL BE COVERED BY GRAVEL BAR. THE SECTION WOULD BE A LOW PRIORITY FOR THIS YEAR, BUT I WOULD LIKE TO SEE IF IT REMAINS IN 1991.
(Agree. -DCN)

ADEC

NAME Bob McCready SIGNATURE [signature]

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Two areas on spit (South portion of segment) require further treatment. A Work Order Mod. Rec. has been submitted recommending manual removal of all AP, OP, OR, and other residual highly oiled sediments. This work is to be followed by thorough tilling of all treated areas and bioremediation using Inipol and Customblen. This segment is to be a priority reassessment site for 1991

LAND MANAGER

NAME Steve Ward CVC SIGNATURE [signature]

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Needs more manual and should be tilled in 90
91 Yes

EXXON

NAME RANDALL E. BOYER SIGNATURE Randall K. Boyer

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

AP THAT WAS REMOVED IN 1990. NEEDS SOME BREAK UP AND RE BIO IN 1990. THIS SUBDIVISION WOULD BE A LOW PRIORITY ASSESSMENT IN 1991 WITH MANUAL TILLING AND RE BIO IN 1990.

REVISION NO. 7/31/90

OG: R. Murphy

SEGMENT ST/ FL-4

SUBDIVISION B

DATE 9 / April 90

CHECKLIST

- ___ # Areas
- ___ Approx. Scale
- ___ Seg/Sub Body
- ___ Oil Dist.
- Width
- Length
- % Cover
- ___ Substrate Character
- ___ Est. HWL/LWL
- ___ ESL
- ___ Profile Location(s)
- ___ Profile(s)
- ___ Pit Location(s)
- ___ Photo Location(s)

LEGEND

1 △ Pit - No Subsurface Oil

2 ▲ Pit - Subsurface Oil

CT/C Continuous Distribution

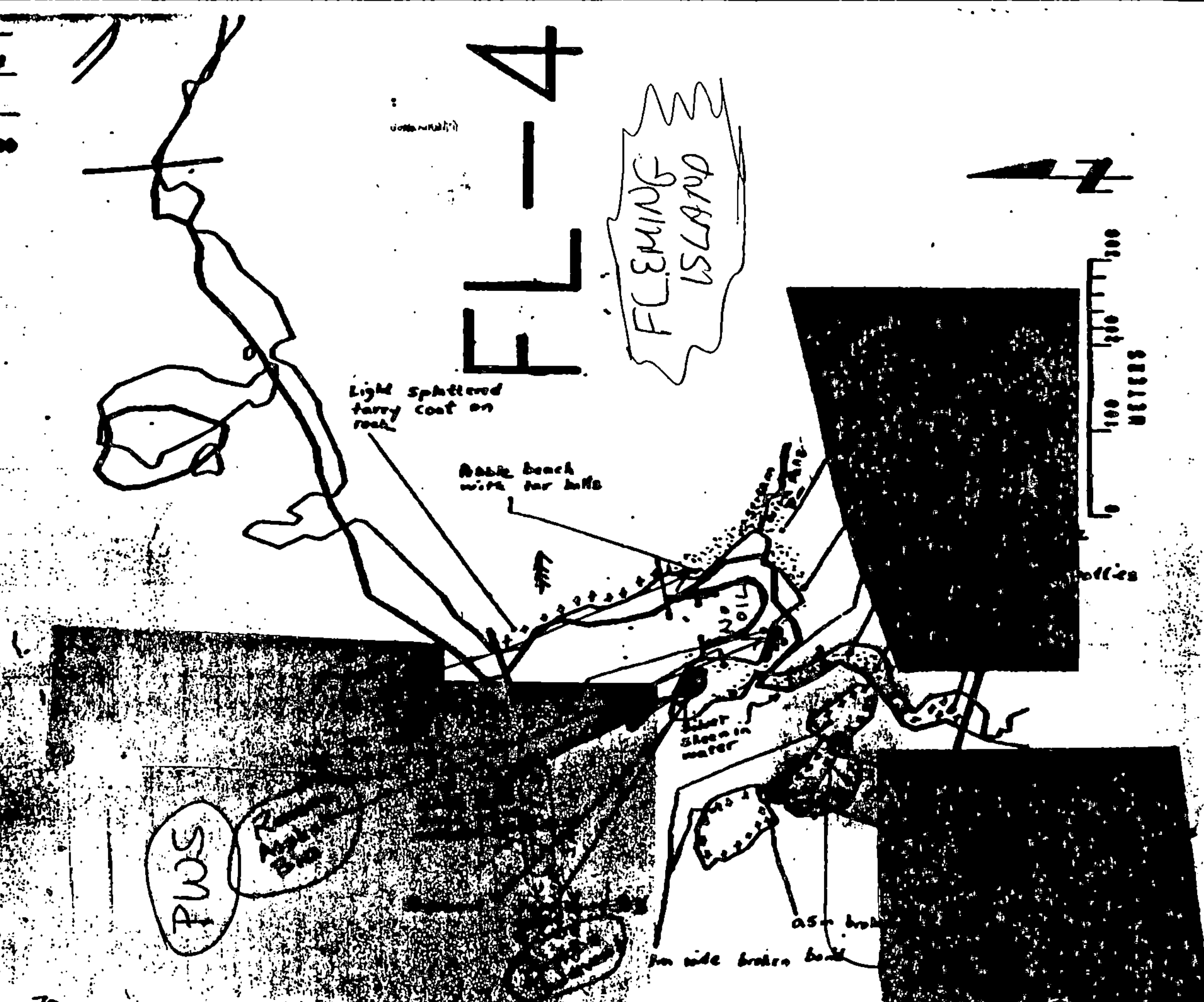
CT/B Broken Distribution

CT/P Patchy Distribution

CT/S Splashed Distribution

Oiled Vegetation

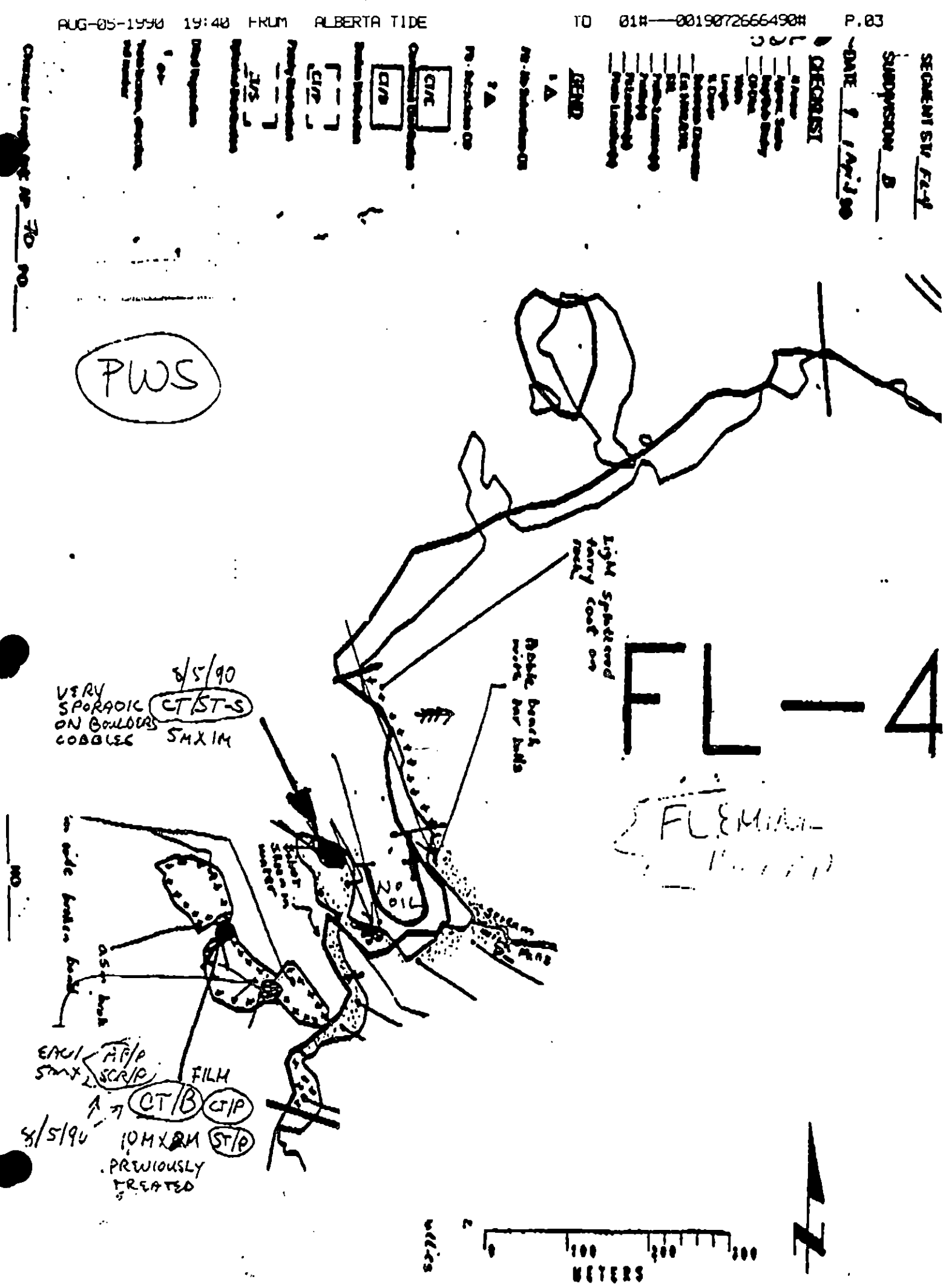
1 ●→ Photo location, direction, and number



Oil Character Length AP 70 PO ___ CV ___ CT ___ NO ___

PWS

FL-4


8/5/90
VERY SPORADIC ON BOULDERS COBBLES
CT/ST-S
5MX1M
Light sprinkling tarry coat on rocks
Rocks back with tar balls
NO OIL
EACH 5MX2
HP/P SCR/P
FILM
CT/B
CT/P
ST/P
8/5/90
10MX8M
PREVIOUSLY TREATED
METERS

RANDY BUYER

~~USCG~~ NOAA DAVE NCE SUBSOIL

ED BOB MCKENNEY LAND REP STEVE WARD TOTAL NO SITES

DATE 8 / 5 / 90 TIME 10 16 to 10 35 USCG DON DAVIS TIDE LEVEL 10

TOTAL EST LENGTH OF SHORELINE SURVEYED: 744 m

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

OIL CATEGORY LENGTH: W — m M — m N 10 m VL 15 m NO 719 m US 880 m

860 fm

SURFACE OIL

CHARACTER	SITE 1 DISTRIBUTION /C	/B	/P	/S	SITE 1 OILED ZONES SU	UI	MI	LI	SITE 2 DISTRIBUTION /C	/B	/P	/S	SITE 2 OILED ZONES SU	UI	MI	LI	SITE 3 DISTRIBUTION /C	/B	/P	/S	SITE 3 OILED ZONES SU	UI	MI	LI
ASPHALT			X			X																		
S.O.R			X			X																		
POOLED																								
COVER																								
COAT		X	X	X		X																		
STAIN			X	X		X																		
MOUSSE																								
PATTIES/T.B.																								
FILM				I		X																		
NO OIL					X		X	X																
EST. SITE LENGTH					744 m																			

SUBSURFACE OIL

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

Photographs:

Roll No Ø

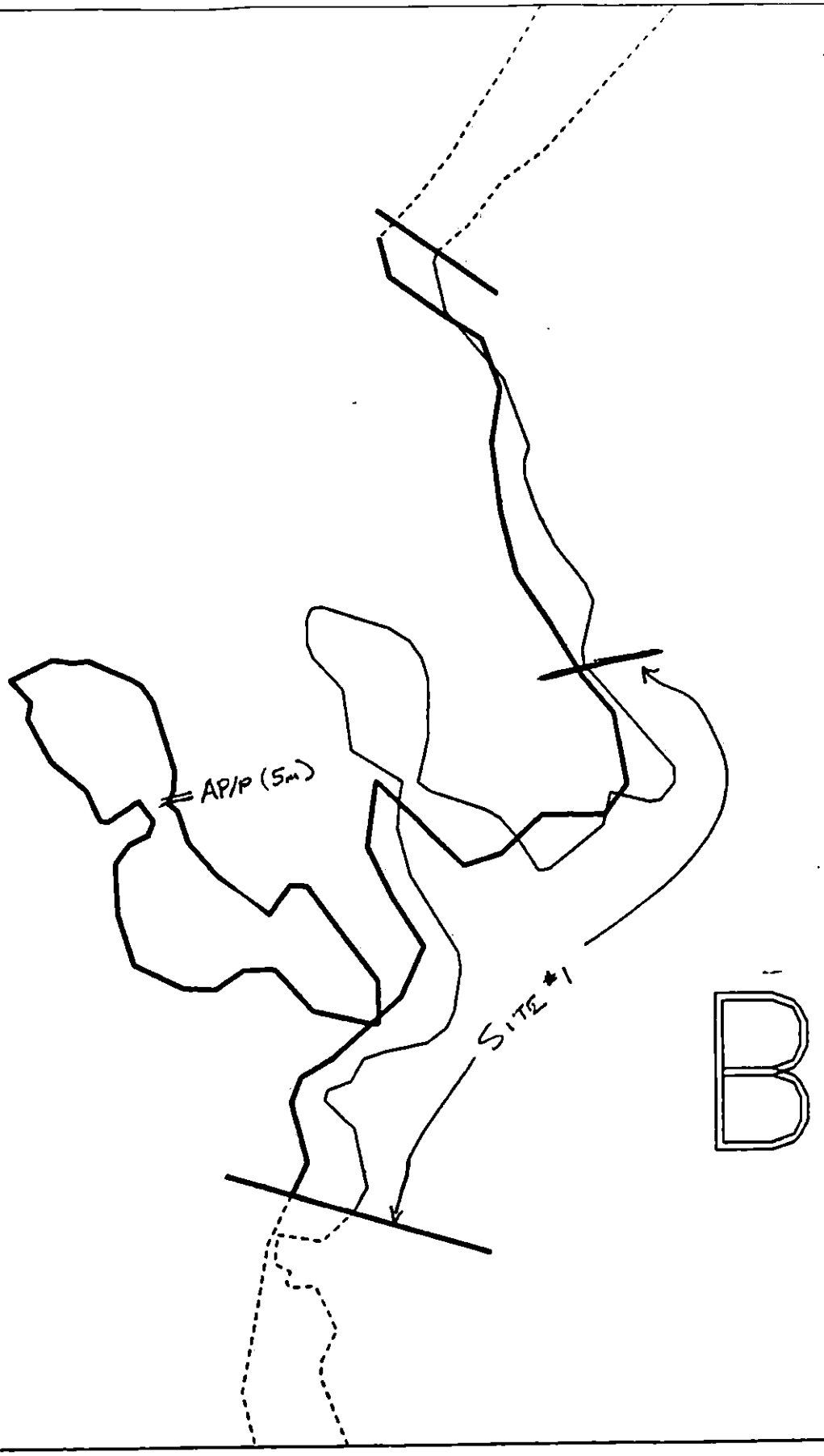
Frames Ø

REVIEWED 8/6/90

COMMENTS

- OIL CONFINED TO TWO TOMBOLOS (INTERTIDAL) AS CT/SS.
- ISOLATED FILM WAS ALSO PRESENT IN THE UPPER INTERTIDAL PORTION OF THE PROFILE
- THE AREAS APPEARED TO BE PREVIOUSLY WORKED AND THE OR/SEDIMENTS APPEARED TO [illegible]

REVISION NO. 7/27/88



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

FL-4 B

ADEC Subsegment Length: 1615m

METERS

0 93 186

AK State Plane Zone 4 1:3656

pfl-4b

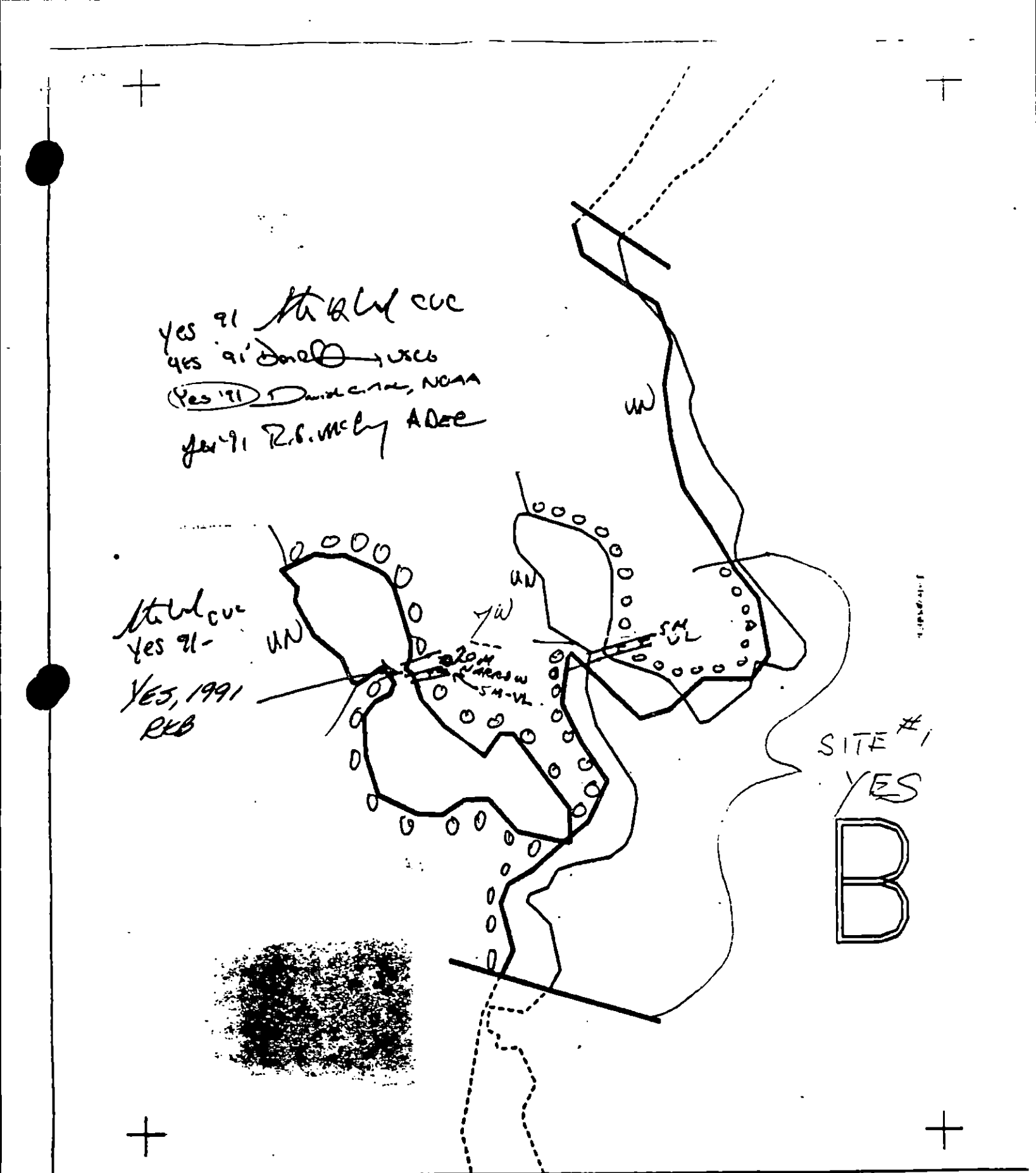
Subdivision Field Map

Map Key: PWSFL-4B

Name: [signature] Tom Fox NAKASHIMA

Date: 7 Aug 90

Date Entered:



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

FL-4 B

ADEC Subsegment Length: 1615m

METERS

0 | 93 | 186

AK State Plane Zone 4 NAD27

1:3000

FL-4B

EXXON

Subdivision Field Map

Map Key: PWSFL-4B

Name: NAKASHIMA

Date: 8/5/90

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ FL-05 SUBDIVISION A (1 OF 2) DATE 4/18/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no. 226-40-16400
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
1K Purse seine hook-off (7/20 to 9/30)
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest listed in Subdivision A but not confirmed. Anadromous stream supposedly in Subdivision A, but field reports indicated stream in Subdivision B looks more promising.

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 455 m: No Oil 2668 m
Subsurface Oil Observed: Yes___ No X Maximum Depth_____

RECOMMENDATIONS:

X No Treatment Recommended	___Snare/Absorbent Booms
___Treatment Recommended	___Oil Snares (pom poms)
___Manual Pickup	___Absorbents (pads,rolls,etc)
___Bioremediation	___Spot Washing:___Wands
___Tarmat Removal	___Beach Cleaner
	___Other (see comments)

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: May 5, 1990
ADEC Art Weiner Art Weiner
EXXON Mark N. Silbert Mark N. Silbert FOSC: _____ DATE: 5-18-90
NOAA Gary Petrae Gary Petrae
USCG G.A. REITER G.A. Reiter

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 unoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
3N, 3P		Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q		Harbor seal and sea lion molting (8/15 to 9/15)
		Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
5R		Seabird colony (5/1 to 9/1)
		Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
5S		Shorebird/waterfowl concentration (4/1 to 5/15)
		Restrict all activity to essential minimum, especially air traffic.
5T		All Bald Eagle nests (3/1 to 6/1)
		Active Bald Eagle nests (3/1 to 9/1)
		Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
6U	Recreation:	Tent sites (6/1 to 9/15)
6V		Anchorages (6/1 to 9/15)
6W		Forest Service cabins (6/1 to 9/15)
6X		Lodge (6/1 to 9/15)
6Y		Special use destination
7Z	Subsistence area:	Salmon harvesting (5/1 to 9/30)
7HH		Finfish harvesting
7II		Deer harvesting (8/15 to 2/28)
7JJ		Invertebrate harvesting
		For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ FI05 SUBDIVISION: A DATE 4/20/90

USCG
NAME Shawn Maas DC SIGNATURE [signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

WHAT STAINING FOUND IN THIS SUBDIVISION CONSISTED OF LIGHT BANDING IN TWO AREAS. NOT EASY TO DETECT MOSTLY ON HIGH ANGLE ROCK FACE. NO SUBSURFACE OIL FOUND.

ADEC
NAME Dave Sale SIGNATURE [signature]

BASED ON ABOVE-MOBILITY + INABILITY TO EFFECTIVELY REMOVE BAND
☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

The STAINING on THE HI-ANGLE FACES DOES NOT REQUIRE TREATMENT. THE BAND IS PROBABLY NOT GOING TO BECOME MOBILE, AND WILL IN FACT DARKEN OR MORE AS IT WEATHERS. I HAVE DOUBTS, WITHOUT SCOURING AGENTS, WHETHER IT WILL REMOVE ENTIRELY. ~~CHEMICAL TREATMENT~~ ONLY HAND

THE TARRY ~~DEPOSITS~~ COBBLES IN THE SMALL ROCKS BENEATH BOULDERS AT MID-SUBSECTION WOULD BENEFIT FROM MANUAL REMOVAL.

LAND MANAGER
NAME Don Hompcroft SIGNATURE [signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

SHORELINE OILING SUMMARY

REVISION NO. 08/13/88

OG R. Marty USCG Shawn Mack SEGMENT ST/ FL-05 1 2
BIO B. Lemon LAND REP D. Kompcroft SUBDIVISION A (1 OF 3)
EXXON J. Czaroski ADEC D. Sale TIME 17:35 to 19:45
TEAM NO. 10 TIDE LEVEL +0.9m → +1.84m DATE 18 / April / 90
EST. SUBDIVISION LENGTH: 3123 m ☒ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
SURFACE SEDIMENTS: R 70 % B 14 % C 10 % P 3 % G 2 % S 1 % M 0 % V 0 %
SLOPE: Lang 20 % Hang 50 % Vert 30 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 394 m NO 2729 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	rc	ra	rp	rs						su	ui	mi	li
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT													
STAIN				X		X					X		
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL										X	—	X	X

PAVEMENT H F S Abnt 0 sq. m by 0 cm
PATTIES / TARBALLS None 0 BAGS
NEAR SHORE SHEEN? NO BR RW (SL) TL
Very loc

OILED DEBRIS	No	AMOUNT SM	MD	LG
Logs	X			
Vegetation	X			
Trash	X			
Debris	X			

DID YOU COLLECT DEBRIS?
YES ☒ NO ☐
TYPE Trash
#BAGS < 1
(everything vis

Photographs:
Roll No. ST 10 / 13
Frames 0-3

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SHEEN (Y/N)	▼	SURFACE-SUBSURFACE SEDIMENTS
		op	or	ol	of	no		uo	uc						su	ui	mi	li				
1	18					X											X		N	N	5	CB-GSM
2	35					X										X			N	N	32	GP-GP
3	15					X										X			N	N	—	CBP-GSM
4	45					X										X			N	N	—	P,G-P,G,S

COMMENTS Segment primarily high angle rock. What oil there is is quite difficult to detect, and is very local.

REVIEWED JW DATE 4/20/90

SEGMENT ST/ FL-05

SUBDIVISION A (pt.)

DATE 19 April 90

SKETCH MAP

2 of 29

1/4

CHECKLIST

- N Arrow
- Approx. Scale
- Seg/Sub Endpt
- Dist.
- Width
- Length
- % Cover
- Substrate Character
- Ex. HAPLA WL
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND

1 ▲ Pit - No Subsurface Oil

2 ▲ Pit - Subsurface Oil

CT/C Continuous Distribution

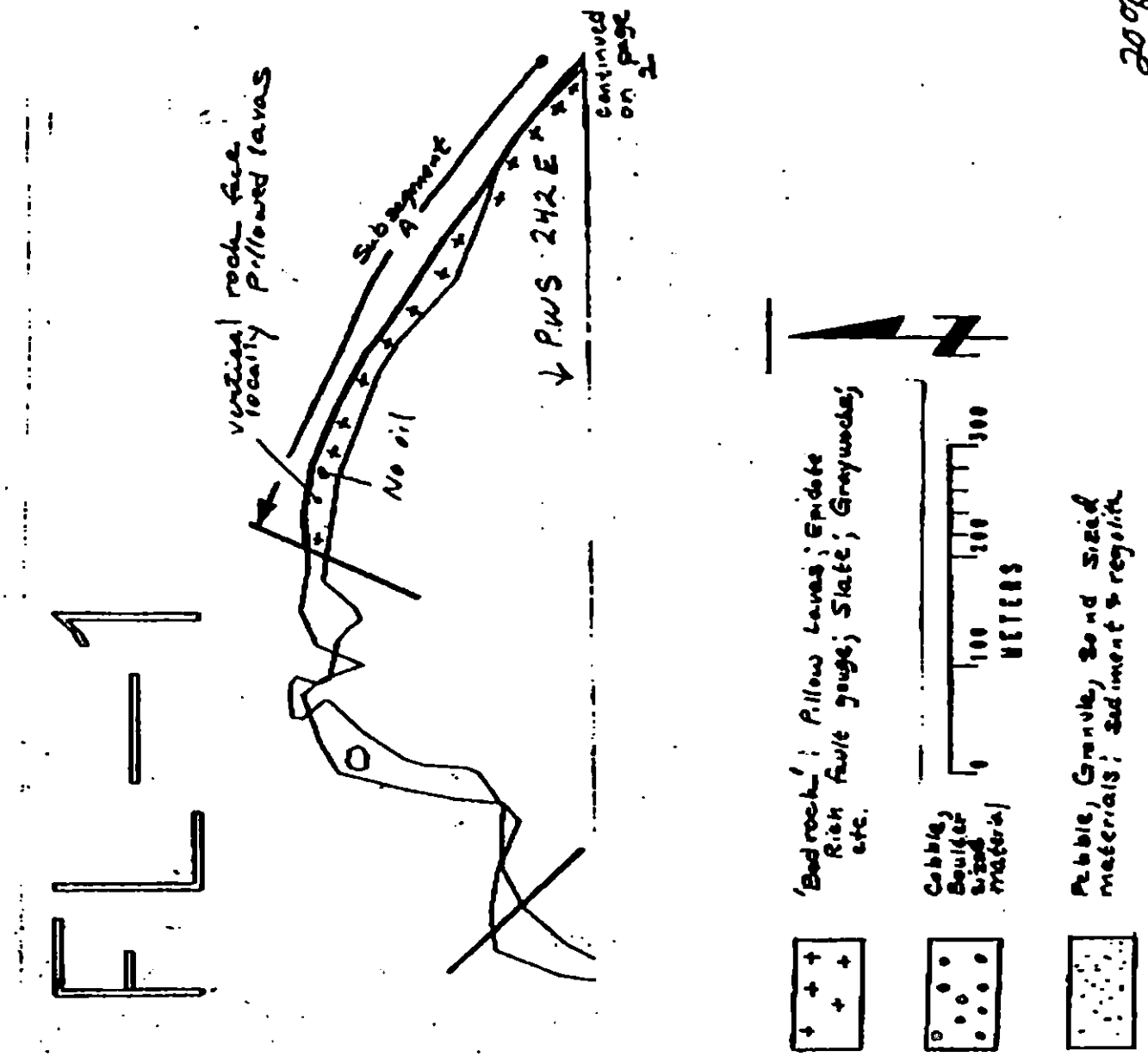
CT/B Broken Distribution

CT/P Patchy Distribution

CT/S Splashed Distribution

lll Oiled Vegetation

Photo location, direction, and number



1 — — — — 394 — — — — 2729 — = none observed

Oil Character Length (m) BAP 1 PO — CV — CT 223 ST — MS — PT — TB 1 FL — NO 189

Note: all lengths are in meters

SEGMENT ST// FL-05

SUBDIVISION A (pt.)

DATE 19 /April 90

CHECKLIST

LEGEND

1 A

2 A

Continued from Page 1

No Oil

No oil

No oil

No oil

Small C,B pocket beach, Low Angle

pocket beach

oil film in pockets. Silver sheen on water in LITZ. Sticky. The film is best developed on surface. Film not present on surfaces exposed to waves.

Extensive shearing. Well developed slickensides on boulders. "Epidote" on fracture filling. High angle B,C. beach at toe of slope

Boulder, cobble pocket beach. Angular. Fetch window >10km to NNW.

Rhythmically Bedded 'Turbidites'

P, G, S pocket beach.

Subsegment

Boulder beach

Some ? stain in cracks between

continued on Page 3

0 100 200 300 METERS

2 of 2

2/4

SEGMENT ST/ FL-05

SUBDIVISION (AB)

DATE 19 / April 92

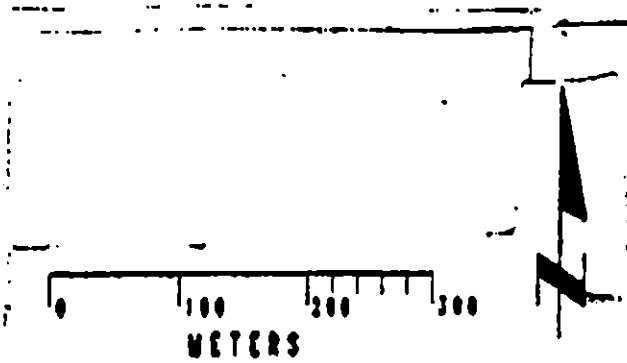
CHECKLIST

LEGEND

1A

2A

Continued from Page 2



Mapped position of 'anadromous' stream. There is a falls here

Subsegment A

B, C, P, G, S Relict beach

No oil

G, P, C, B beach

No oil

Splattered coat ~30cm wide only extends ~20m

rock

No oil

No oil

Boulders

Splattered coat ~30cm wide on rocks in U/TZ

Continuous 15cm band of coat + one mousse patty - recovered

PWS 242D

Tarry coating under beach clasts.

Splattered to patchy coat ~30cm wide

PWS 242C

Boulder cobble beach - angular slate fragments

Subsegment B

Major Stream (probably the reported anadromous one)

30cm wide patchy coat Oil penetration in pockets.

10cm wide band of splatter one tar ball (recovered)

rock

No oil

No oil

22 of 29

3/4

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / 10/EL5 Subdivision A Date (mo / day / yr) 4/19/90

Time (24 hr) 1200-1600 Biologist Lemon wind 0, cloudy, no seas

(A) Substrate type and % of segments:
(1) Bedrock 70 (2) Boulder 14 (3) Cobble 10 (4) Pebble 3 (5) Sand 3 (6) Silt ____

(B) Overall % cover of biota (% of segment): Dense ____ Moderate 60% Low ____

(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/10/13
Frames 0 - 3

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
X			X	X	X						
2	2	2		2		2	X	2	2	2	2
3	3	3	X	3	X	3	3	3	X	X	X
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	(1M)	2	X		
3	3	3	3	(X)	3	3	3	3	X	X	X
4	4	4	4	4	4	4	4	4	X	X	X
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	X	2	X	(1M)	X
3	3	3	3	3	3	X	X	X	3	2	3
4	4	4	4	4	4	4	4	4	4	3	4
5	5	5	5	5	5	5	5	5	5	4	5
6	6	6	6	6	6	6	6	6	6	5	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	(X)	2	2	X	(X)	X
3	3	3	3	X	X	3	3	3	X	3	X
4	4	4	4	4	4	4	4	4	X	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: mytilus juv. dense only in bedrock cracks
1 cormorant 1 water ouzel
4 bald eagles 1 gull
1 stellers jay
Fucus w/ swelling conceptacles and new sporelings.
Storm scouring at the north end perhaps prevented occupation of smaller clasts.

Ecological Considerations:
Eagle nest was not seen, presumably its still there; purse seine hookoff.

6 of 29

ST/10/FLS A 3123 m Lemon

DATE 19 Apr 90 TIME 1200-1600 TIDE HEIGHT +6 to 2.1

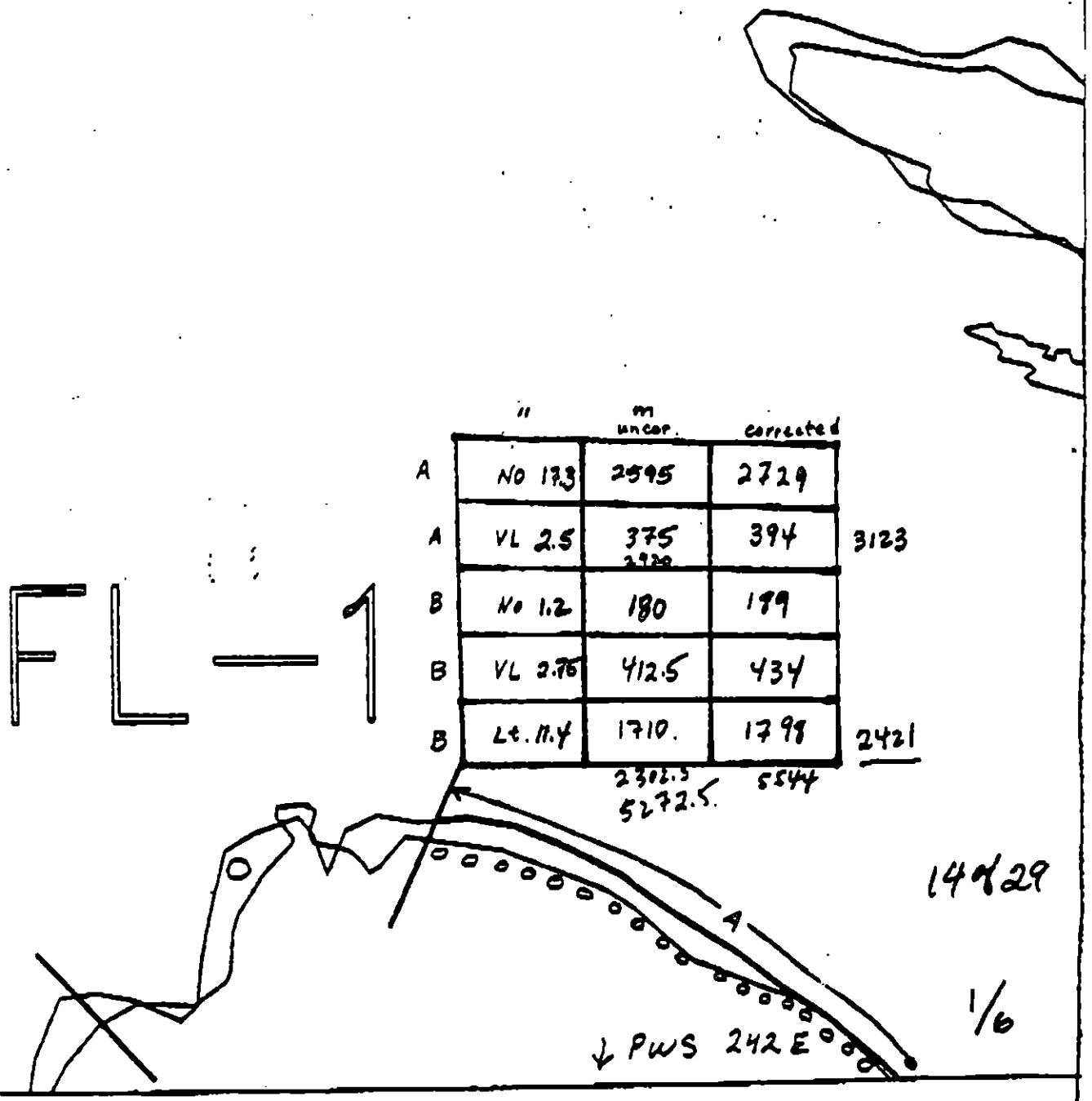
1 = BEDROCK 2=BOULDER 3=COBBLE 5=SAND 6=SILT

	SPECIES	UITZ	MITZ	LITZ	COMMENTS
	Filamentous browns		2		
FLORA:	BOSSIELLA/CORALLINA		1	1	in pools
	CALLIARTHRON/CORALLINA				
	CLADOPHORA SPP	1	1		
	COSTARIA SPP				
	ENDOCLADIA MURICATA	1			
	FILMAENTOUS GREENS	1	1	2	
	FILAMENTOUS REDS		1,2	2	
	GLOIOPELTIS FURCATA				
	HALOSACCION GLANDIFORME	1			
	LAMINARIA SPP				
	LITHOTHAMNION		1	1	in pools
	NEREOCYSTIS SPP				
	PORPHYRA SPP				
	RALPHSIA/HILDENBRANDIA		1,2		
	PHODOMELA LARIX				
	RHOHOMENIA PALMATA				
	SCYTOSIPHON SPP				
	ULVA SPP				
	ZOSTERA MARINA				
	ENTOROMORPHA				
	Holothuroidea		3		about 1 cm long
FAUNA:	ANTHOPLEURA SPP		1	1	
	(SEMI) BALUNUS CARIOSUS				
	B. GLANDULA				
	BRYOZOANS				
	CHITONS (other than K. TUNICATA)				
	CLAMS				
	CRABS				
	DERMASTERIAS IMBRICATA				
	KATHARINA TUNICATA		1	1	
	LEPTASTERIAS HEXACTIS			3	
	LIMPETS	1,2,3	(1),2,3	1,2,3	
	LITTORINA SPP				
	NUCELLA SPP		1,2	1,2	
	PAGURUS SPP				
	PISASTER OCHRACEUS			1	
	POLYCHAETES				
	PYCNOPODIA HELIANTHOIDES				
	SEARLESIA DIRA				
	SERPULIDS				
	SIPHONARIA THERSITES				
	TEALIA		1,2	1,2	
	GAMMARID AMPHIPODS	2,3	2,3		

DATE 19 Apr 90 TIME 1600-1630 1730-1900 TIDE HEIGHT 2.1' @ +5'

1 = BEDROCK 2=BOULDER 3=COBBLE 5=SAND 6=SILT

	SPECIES	UIT2	MITZ	LITZ	COMMENTS
FLORA:	Desmarestia BOSSIELLA/CORALLINA		3		
	CALLIARTHRON/CORALLINA				
	CLADOPHORA SPP				
	COSTARIA SPP				
	ENDOCLADIA MURICATA	2	3		
	FILMAENTOUS GREENS		3	2,3	
	FILAMENTOUS REDS			2	
	GLOIOPELTIS FURCATA				
	HALOSACCION GLANDIFORME				
	LAMINARIA SPP				
	LITHOTHAMNION				
	NEREOCYSTIS SPP				
	PORPHYRA SPP		(D)		sporling
	RALPHSIA/HILDENBRANDIA				
	PHODOMELA LARIX				
	RHOHOMENIA PALMATA				
	SCYTOSIPHON SPP				
	ULVA SPP				
	ZOSTERA MARINA				
	ENTOROMORPHA		2,3	2,3	
	Prasiola	1.			on pinniped I.
	GAMMARID AMPHIPODS	3,4	3,4		under drift and under manycobbles
	NEMERTEA	3,4	3,4		in drift line and other places
AUNA:	ANTHOPLEURA SPP				
	(SEMI) BALUNUS CARIOSUS				
	B. GLANDULA				
	BRYOZOANS				
	CHITONS (other than K. TUNICATA)				
	CLAMS				
	CRABS				
	DERMASTERIAS IMBRICATA			1	
	KATHARINA TUNICATA				
	LEPTASTERIAS HEXACTIS				
	LIMPETS	1,2,3	1,2,3	1,2,3	
	LITTORINA SPP				
	NUCELLA SPP		1,2	1,2	
	PAGURUS SPP				
	PISASTER OCHRACEUS			1	
	POLYCHAETES				
	PYCNOPODIA HELIANTHOIDES				
	SEARLESIA DIRA				
	SERPULIDS				
	SIPHONARIA THERSITES				
	TEALIA				18 of 29
	CENTIPEDE	2,3			on oil
	Solaster stimpsoni			1	



	"	m uncor.	corrected	
A	NO 17.3	2595	2729	
A	VL 2.5	375	394	3123
B	No 1.2	180	189	
B	VL 2.76	412.5	434	
B	Lt. 11.4	1710.	1798	2421
		2302.5	5544	
		5272.5.		

14/29

1/6

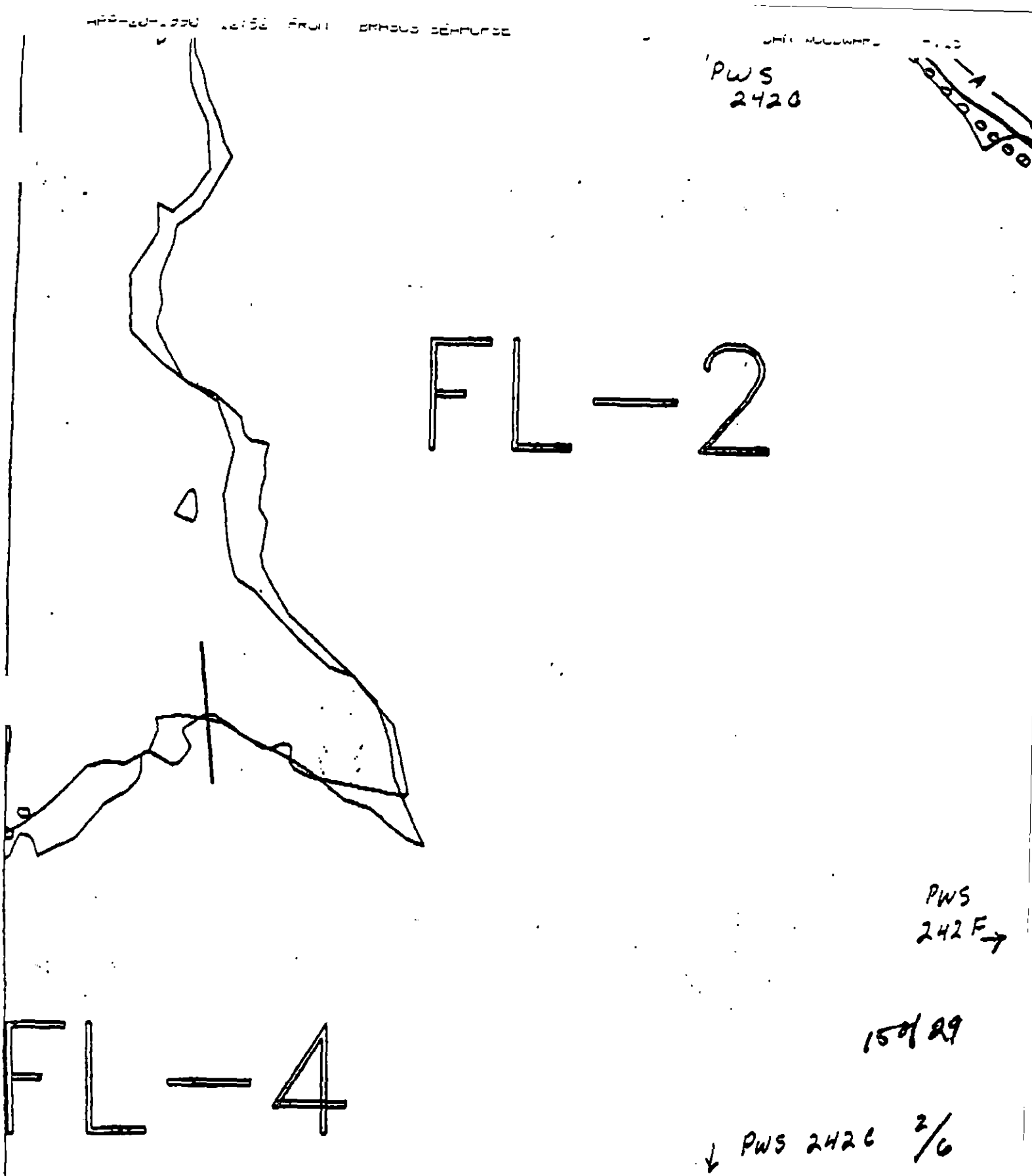
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0.0.0.0 No Oil

FL-5

ADEC Segment Length: 5357m

0 100 200 300
METERS

Map Key: PWS-242a
Name: R. Marty
Date: 19 April 1990
Date Entered:



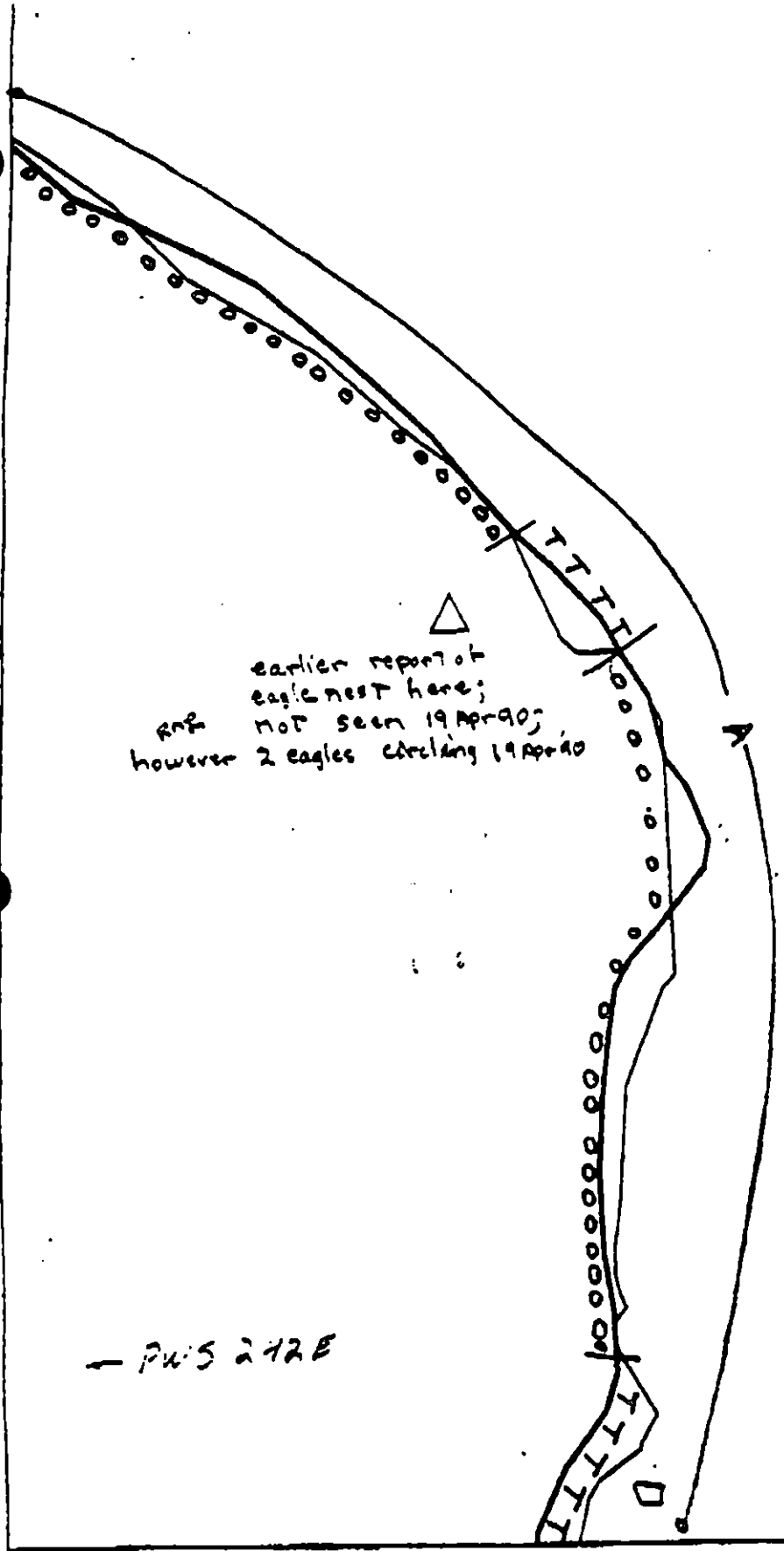
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

FL-5

ADEC Segment Length: 5357m

0 100 200 300
METERS

Map Key: PWS-242e
Name: R. Marty
Date: 19 April 1990
Date Entered:



16 of 29

3/6

PWS 2420

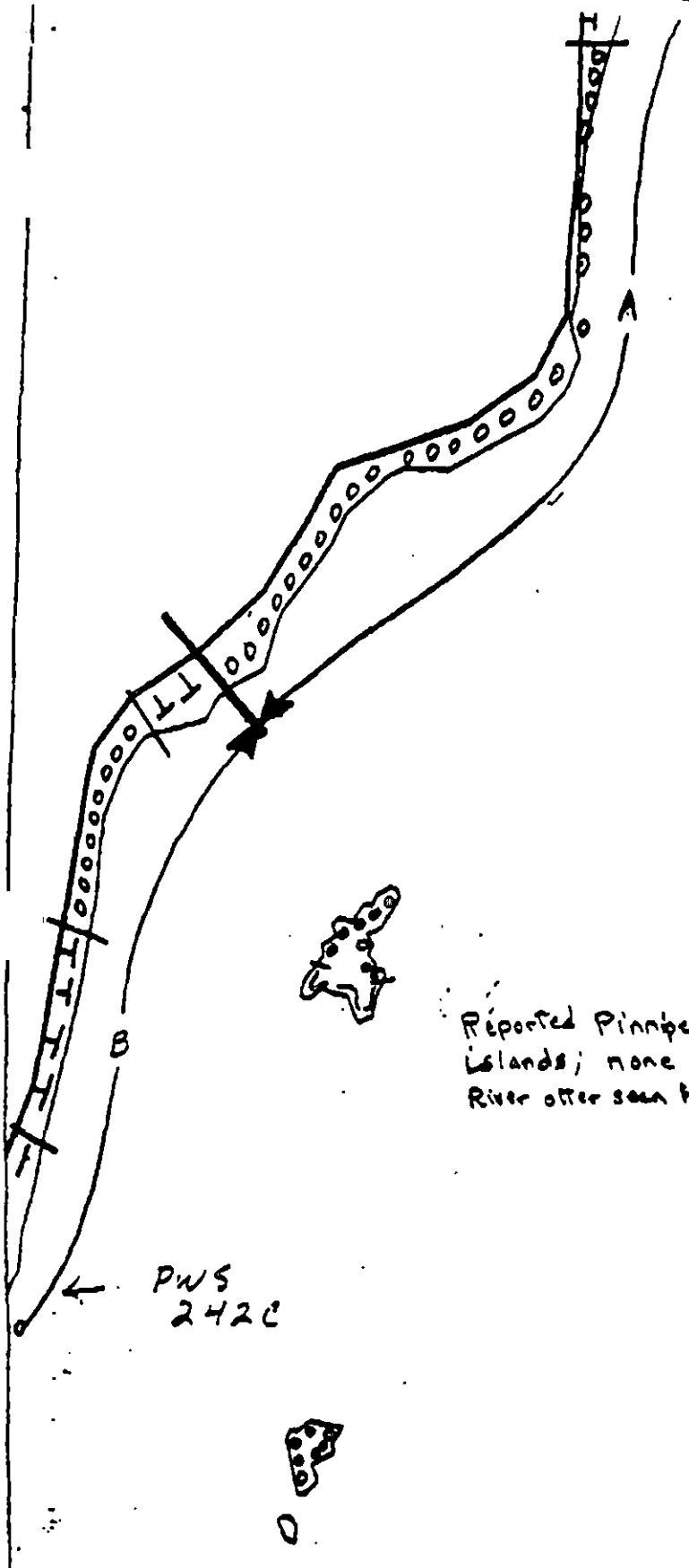
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
OOOO No Oil

FL-5

ADEC Segment Length: 5357m

0 100 200 300
METERS

Map Key: PWS-2421
Name: R. Marty
Date: 19 April 1990
Date Entered:



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4/6

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

FL-5

ADEC Segment Length: 5357m

0 100 200 300
METERS

Map Key: PWS-242d
Name: R. Marty
Date: 19 April 1990
Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ FL-05 SUBDIVISION B (2 OF 2) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no. 226-40-16400
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
1K Purse seine hook-off (7/20 to 9/30)
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.
3N, 3P, 3O, 3Q - seal pupping and molting.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Biologist feels Anadromous stream is in Subdivision B, not Subdivision A as originally mapped. ~~Probable~~ pinniped (seal) haulout nearshore near border of A and B. Eagle nest not confirmed.

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 1644 m: V.Light 436 m: No Oil 228 m
Subsurface Oil Observed: Yes X No Maximum Depth 15+cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment is bioremediation of surface and subsurface oil in areas shown on attached sketch map. Work should be conducted between 6/1 and 7/10 based on eagle nest and salmon constraints, after approval by ADF&G and USFWS regarding eagle nest.

TAG COMMENTS:

TAG APPROVAL DATE: May 5, 1990
ADEC Art Weiner Art Weiner
EXXON Mark N. Gilbert Mark N. Gilbert FOSC: [signature] DATE: 5-18-90
NOAA Gary Petrae Gary Petrae
USCG G.A. Reiter G.A. Reiter Notify CVC 24 hrs prior to work

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 Suzomoto 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

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 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 (5/1 to 9/15)**
6V **Anchorages (5/1 to 9/15)**
6W **Forest Service cabins (5/1 to 9/15)**
6X **Lodge (5/1 to 9/15)**
6Y **Special use destination**

7Z **Subsistence area: Salmon harvesting (5/1 to 9/30)**
7HH **Finfish harvesting**
7II **Deer harvesting (8/15 to 2/28)**
7JJ **Invertebrate harvesting**
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ EL 05 SUBDIVISION: B DATE 4/20/90

USCG NAME Shawn Maas DC SIGNATURE [signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

RECOMMEND BIOREMEDIATION AND SOME MANUAL REMOVAL IN POCKET BEACHS WHERE BANDING INTERSECTS THEM.

ADEC NAME Dave Sale SIGNATURE [signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

① REMOVE STICKY, TARRY COAT FROM POCKET BEACHES AND LOW ANGLE SHORELINES WHERE OILED BAND CROSSES THESE LOWER ANGLES. MANUAL REMOVAL IS REQUIRED.

② BIOREMEDIATION WHERE CONDITIONS ALLOW. LOW ANGLE BEACHES WITH SMALLER COBBLE AND PEBBLE SIZES SHOULD HAVE UPPER LAYER OF BOULDERS TURNED OVER TO EXPOSE OILED ROCKS AND SEDIMENTS BELOW BEFORE REMEDIATION.

LAND MANAGER NAME Don Hampcroft SIGNATURE [signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

9/29

SHORELINE OILING SUMMARY

REVISION NO. 04/1/90

OG R. Marty USCG SHAWN MAAS SEGMENT ST/ FL-05 2 2
BIO B. Lemon LAND REP D. Kempcroft SUBDIVISION 8 (8 OF 8)
EXXON J. Czarnecki ADEC D. Sale TIME 12:09 to 16:30
TEAM NO. 10 TIDE LEVEL +1.7m (5.58') / +0.72m DATE 10 / April / 90
EST. SUBDIVISION LENGTH: 2421 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
SURVEYED FROM: ☒ Foot 2' ☒ Boat 1' ☐ Helo WORKING DIRECTION: N to S
SURFACE SEDIMENTS: R 70 % B 14 % C 10 % P 3 % G 2 % S 1 % M 0 % V 0 %
SLOPE: Lang 20 % Hang 50 % Vert 30 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
OIL CATEGORY LENGTH: W 0 m M 0 m N 1798 m VL 434 m NO 189 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	ro	ra	rp	rs						su	ui	mi	li
ASPHALT PAVEMENT *	R	E	M	O	V	E	D				R		
POOLED													
COVER													
COAT	O		P	X				O P X			O P X		
STAIN													
MOUSSE													
PATTIES				R	E	M	O	V	E	D			
TARBALLS													
FILM													
NO OIL										X		X	X

* removed — none remaining

PAVEMENT H F (removed) 0 sq. m by 80 cm
PATTIES / TARBALLS (removed) 0 BAGS
NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	NO	AMOUNT SM	MD	LG
Logs	X			
Vegetation	X			
Trash	X			
Debris	X			

DID YOU COLLECT DEBRIS?
YES ☒ NO ☐ Asphalt/Tar
TYPE Trash
#BAGS <1
(all detected debris was removed)

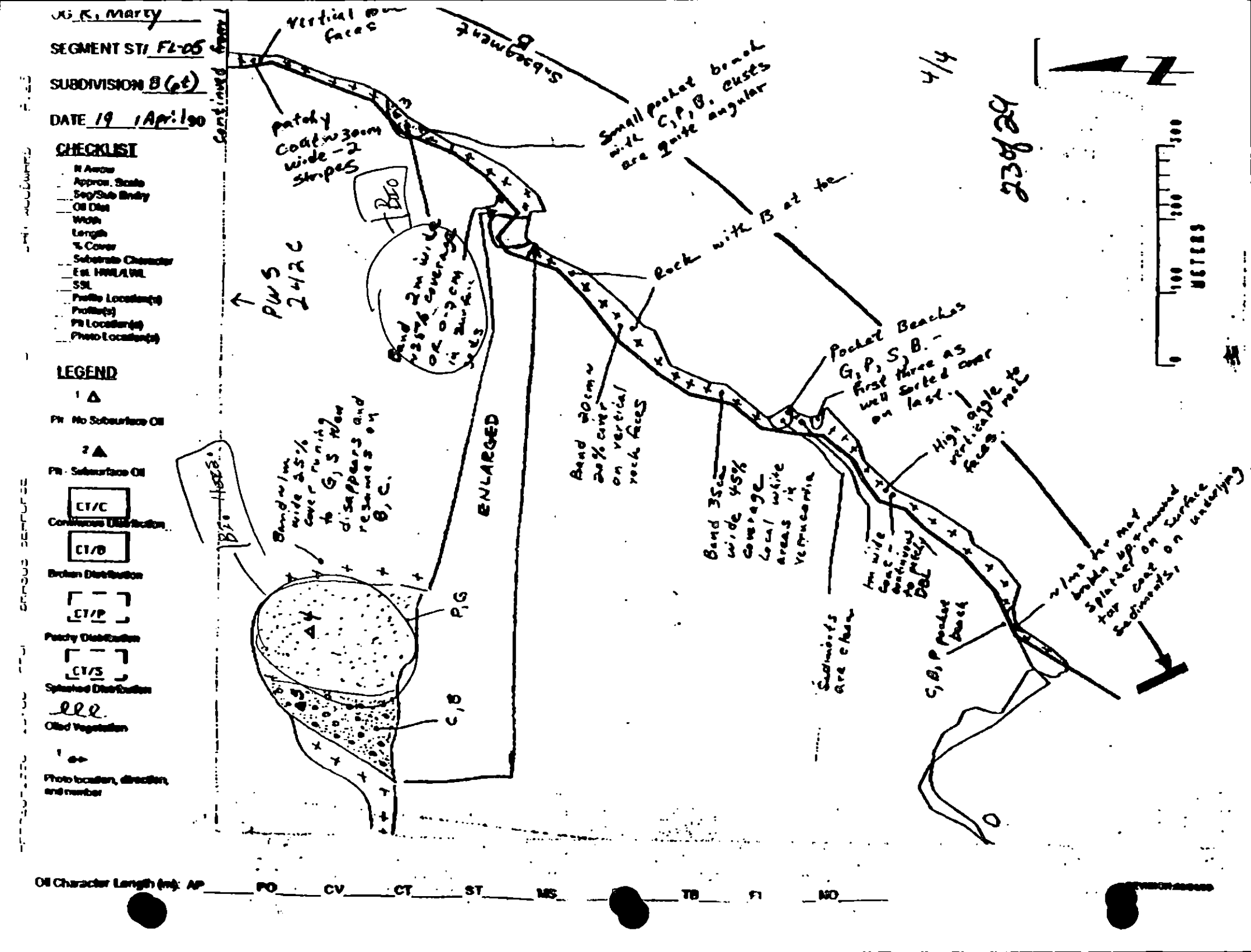
Photographs:
Roll No. ST/10/13
Frames 4-14

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER op	or	ol	cp	no	OILED INTERVAL (cm)	BELOW uo	uc	OIL / FILM COLOR					PIT ZONE su	ui	mi	li	ANA	SHEEN (Y/N)	▼	SURFACE-SUBSURFACE SEDIMENTS
1	12					X	-									X			N	N	N	C PG-CPG
2	32			X			2-7		X				X			X			?	N	N	PG-GSV
3	24		X				0-8		X				X			X			?	N	N	CPB-PSM
4	34					X										X			N	N	24	PG-PGSi
5	19		X				0-15	X					X			X			N	Y	15	CBP-PGS
6	33					X										X			?	N	28	PG-PG,V

COMMENTS: Segment is primarily high angle rock with very narrow bands of coat. Where the band intersects pocket beaches there is residual oil beneath the surface to depths of up to 7cm. The oil is quite viscous/tarry & of low mobility

REVIEWED JW DATE 4/29/90


J.G. R. Marty
SEGMENT ST/ FL-05
SUBDIVISION B (pt)
DATE 19 Apr 90
CHECKLIST
N Arrow
Approx. Scale
Seg/Sub Bndry
Oil Dist
Width
Length
% Cover
Substrate Character
Est. HWL/LWL
SSL
Profile Location(s)
Profile(s)
Pit Location(s)
Photo Location(s)
LEGEND
Pit: No Subsurface Oil
Pit: Subsurface Oil
CT/C
Continuous Distribution
CT/B
Broken Distribution
CT/P
Patchy Distribution
CT/S
Splashed Distribution
Oiled Vegetation
Photo location, direction, and number
Oil Character Length (m): AP PD CV CT ST MS TB FT MD
Continued from
Vertical
faces
Drawbacks
Small pocket beach with C, P, B, cusps are quite angular
patchy coat w 30cm wide -2 stripes
Bro
PWS 24/2C
Band 2m wide 25% coverage of 0-2cm thick tarballs
Rock with B at the
Pocket Beaches G, P, S, B. - First three as well formed as last.
High vertical faces.
Band 30cm 20% cover on vertical rock faces
Band 35cm wide 45% coverage Local white areas of vermetids
Band 1m wide 60% coverage of tarballs on DBL
Submerged rocks are clean
C, B, P pocket beach
Tarballs have many barnacles attached to them
Band 1m wide 45% cover running to G, S then disappears and resumes as B, C.
Bro Haze
ENLARGED
P, G
C, B
4/4
239/29
METERS

SEGMENT ST/ FL-05

SUBDIVISION (A,B,C) A

DATE 19 / April 90

CHECKLIST

Name
Approx. Scale
Digitize Body
Oil Dist.
Width
Length
% Cover
Stranding Character
E.S. HABITAT
Site
Photo Locations
Photos
Pt Locations
Photo Locations

LEGEND

1 A
Pt - No Subsurface Oil

2 A
Pt - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Spotted Distribution

Oiled Vegetation

1 a
Photo location, direction, and number

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

0 100 200 300
METERS

Continued from Part

Mapped position of 'anadromous' stream. There is a falls here

Subsegment A

B, C, P, G, S Relict beach

No oil

S, B, C, B beach

No oil

Splattered coat ~30cm wide only extends ~20m

rock

No oil

No oil

Boulders

Splattered coat ~30cm wide on rocks in U/TZ

continuous 15cm band of coat + one mousse patty - recovered

PWS 242D

Tarry coating under beach clasts.

Splattered to patchy coat ~30cm wide

Boulder cobble beach - angular slate fragments

PWS 242C

Major Stream (MS) providing the reported anadromous area

Subsegment B

30cm wide patchy coat oil penetration in pockets.

Recent band of Splatter oil tar ball (recovered)

rock

No oil

No oil

22 of 29

3/4

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/01/90

Segment ST / 10/ELS Subdivision B Date (mo / day / yr) 4/19/90

Time (24 hr) 1600-1630-1730-1900 Biologist Lemon wind 0, broken clouds no seas

(A) Substrate type and % of segments:
(1) Bedrock 70 (2) Boulder 14 (3) Cobble 10 (4) Pebble 3 (5) Sand 3 (6) Silt ____

(B) Overall % cover of biota (% of segment): Dense ____ Moderate 55% Low ____

(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/10/13
Frames 4 - 14

BARNACLES

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	X	X	2	2	2	X	2	2	2	
3	3	3	X	X	3	X	X	3	3	3	X	NOT PRESENT
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	(3)	2	X	2	X	
3	3	3	3	3	3	3	X	3	X	3	X	NOT PRESENT
4	4	4	4	4	4	4	X	4	X	4	X	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

GASTROPODS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	X	X	X	
2	2	2	2	2	2	X	X	2	2	2	X	
3	3	3	3	3	3	X	X	3	3	3	(3)	NOT PRESENT
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	

FUCUS

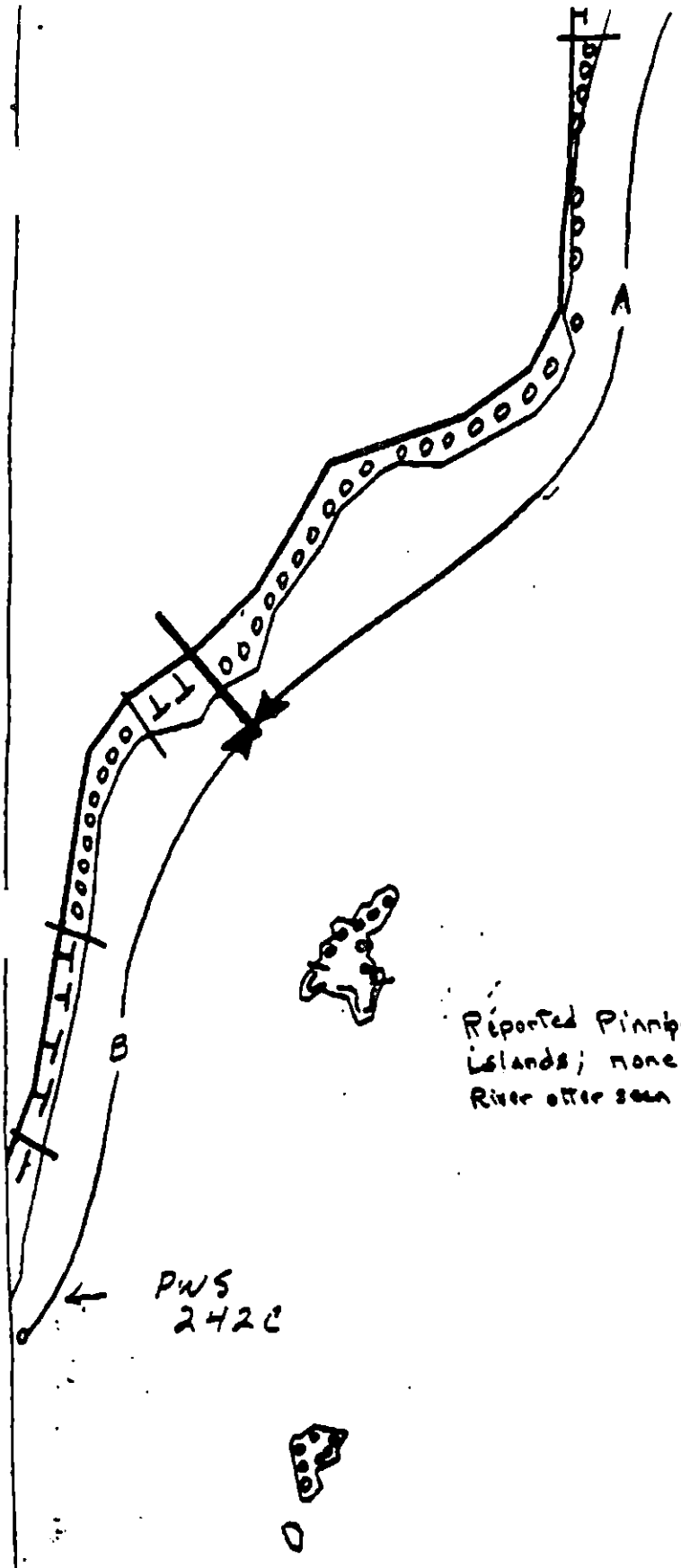
Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	X	1M	1L	
2	2	2	2	X	X	2	(3)	2	X	2	2	
3	3	3	3	X	X	3	3	3	X	3	3	NOT PRESENT
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:
2 cormorants 1 stellar jay 1 gull Littorina on eggs.
2 Alcidae 1 mink no unusual mortalities of any kind seen.
1 river otter 2 oystercatchers

Fucus w/ swollen conceptacles and new sporelings.

Ecological Considerations:
pinniped haulout off shore rocks; anadromous stream needs to be relocated on map.

12189



PWS 242 F

Reported Pinniped haulout Rock Islands; none seen 19 Apr 90.
River otter seen here " " ".

1/4/89

4/6

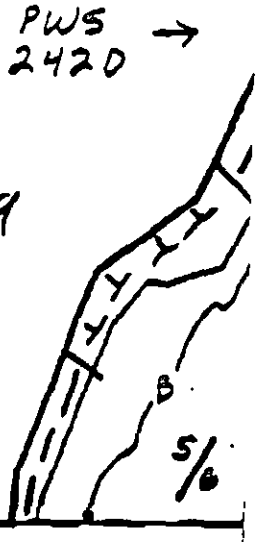
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

FL-5

ADEC Segment Length: 5357m

0 100 200 300
METERS

Map Key: PWS-242d
Name: R. Morey
Date: 19 April 1990
Date Entered:



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

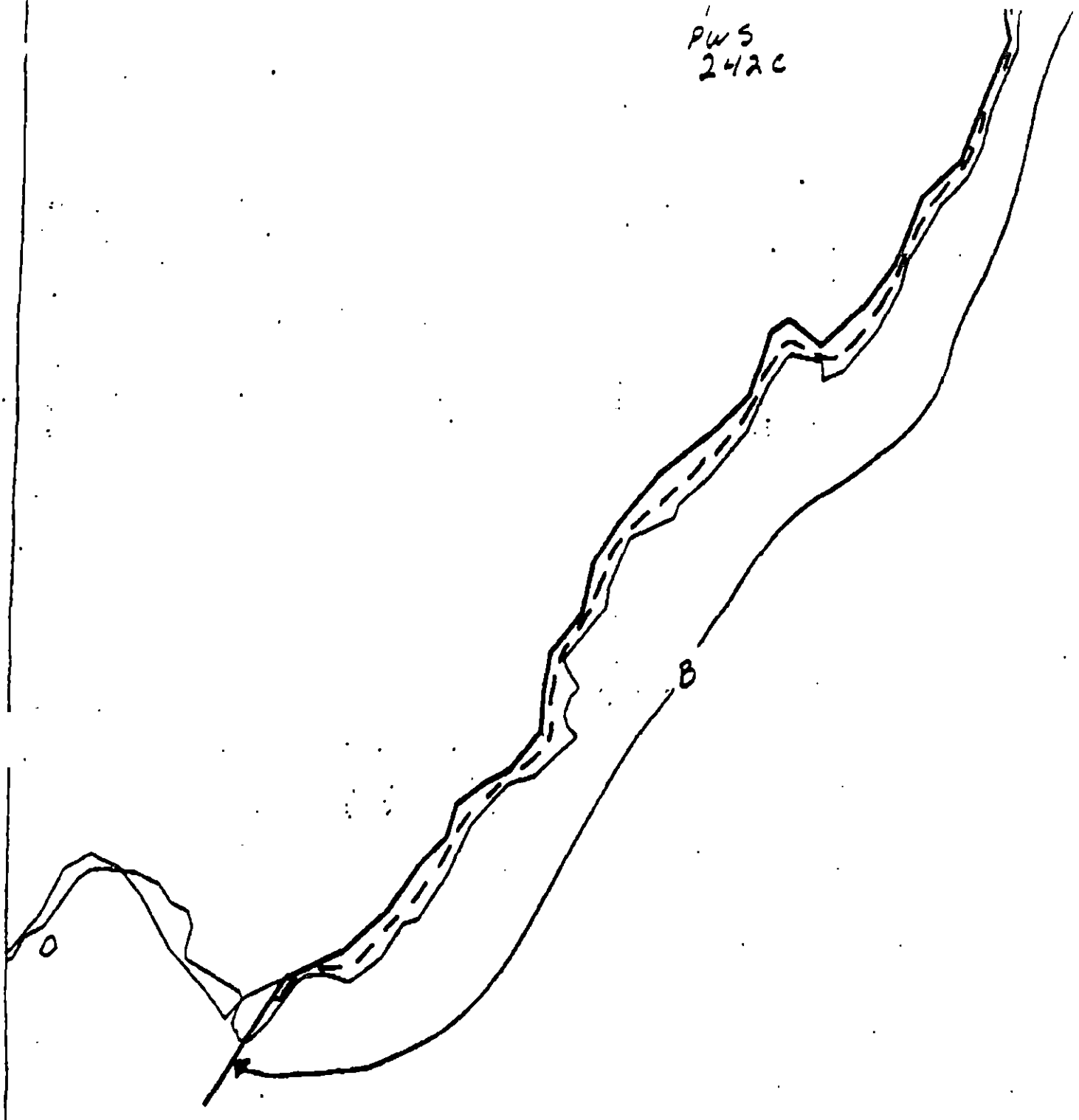
FL-5

ADEC Segment Length: 5357m

0 100 200 300
METERS

Map Key: PWS-242c
Name: R. Marty
Date: 19April 1990
Date Entered:

PWS 242c



19829

6/6

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

FL-5

ADEC Segment Length: 5357m.

0 100 200 300
METERS

Map Key: PWS-242c
Name: R. Marty
Date: 19 April 1990
Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT FL-5 SUBDIVISION B (2 of 2)

WORK WINDOW	
Bioremediation	**WORK PRIOR TO 7/20**

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

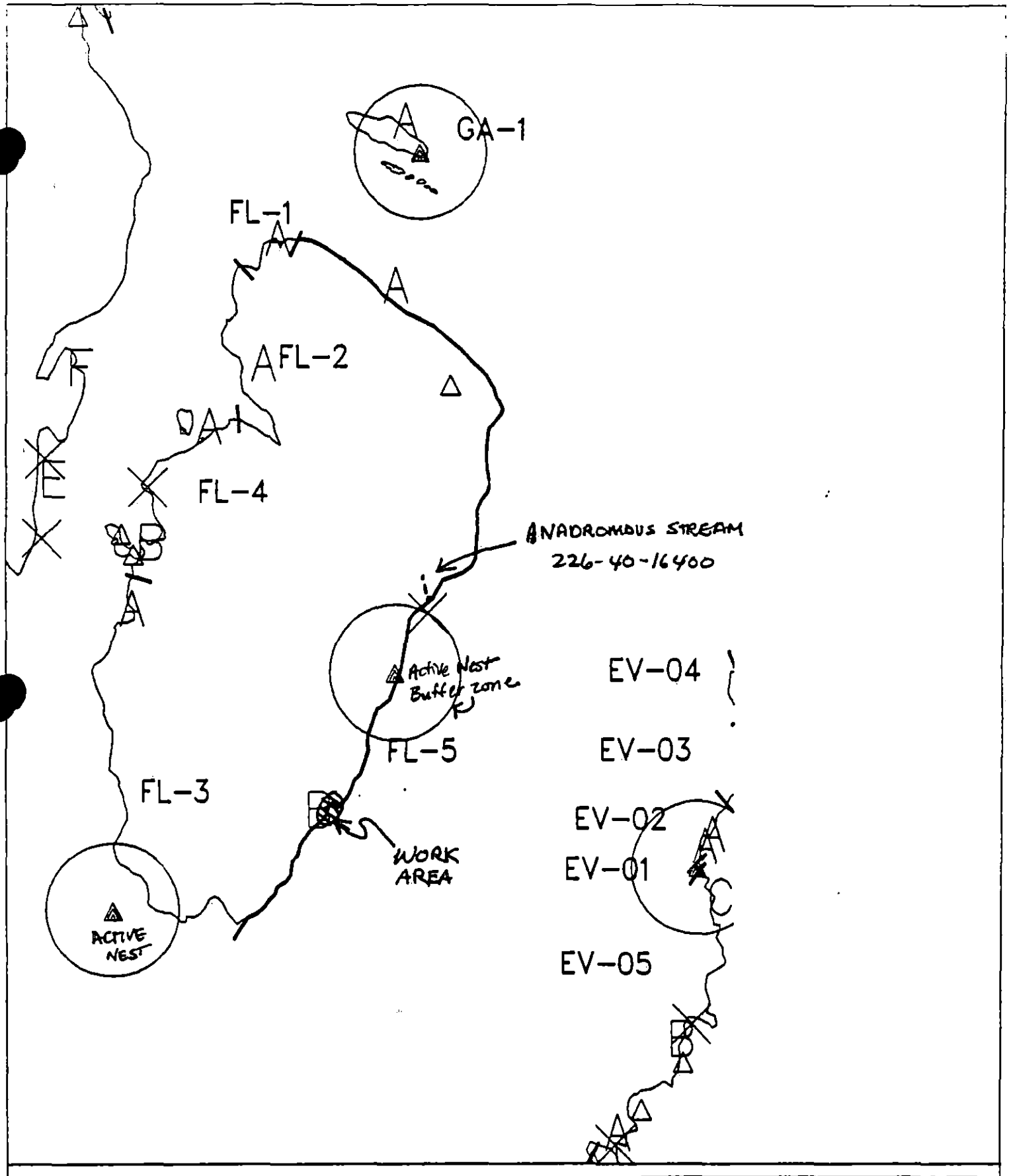
1A,1B	**Salmon Stream**	ADF&G catalogued anadromous stream (226-40-16400) is more than 100m from work site. No constraint to bioremediation.
1K	**Purse Seine Area**	Closed to bioremediation after 7/20.
3N,O,P,Q	**Harbor Seal & Sea Lion Pupping and Molting**	NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.
5T	**Bald Eagle Nest**	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.

OTHER ECOLOGICAL CONSIDERATIONS

Do not apply bioremediation to specific areas where seals are observed to haulout. Do not chase or harass seals or sea lions, and do not approach pups under any circumstances. When working on or near haulouts, complete the job as quickly as possible with minimum personnel, equipment, noise and disturbance. Keep boats and personnel as far from actual haulouts as is practical to do the work specified. Minimize air traffic near haulouts, maintain elevation as is practical, and avoid repeated overflights of the same haulout areas. 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 uncited biota and substrate.

FOSC _____ Date 6-12-90

Prepared by _____ Date 6/11/90



EXXON

Exxon Company, USA
Map Key: PWS-FL-5
June 04, 1990

ECOLOGY MAP

SEGMENT FL-5

SUBDIVISION B (2 of 2)

METERS

★ Seabird Colony
△ Active Eagle Nest
△ Inactive Eagle Nest

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ FL-05 STREAM NO: 226-40-16400 DATE 4/23/90

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)
1K Purse seine hook-off (7/20 to 9/30)
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. No additional ecological constraints. Subject stream is located in Subdivision A (1 of 2).

SHPO SIGNATURE: J. David McMahan DATE: 5/8/90

Subsurface Oil Observed: Yes____ No X Maximum Depth____

RECOMMENDATIONS:

X No Treatment Recommended	____Snare/Absorbent Booms
____Treatment Recommended	____Oil Snares (pom poms)
____Manual Pickup	____Absorbents (pads,rolls,etc)
____Bioremediation	____Spot Washing:____Wands
____Tarmat Removal	____Beach Cleaner
	____Other (see comments)

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: 5/7/90

ADEC Art Weiner

EXXON Andy Teal

NOAA Gary Petrone

USCG G.A. Beiter

FOSC: _____ DATE: 5-16-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

[redacted] Salmon stream mouth - fry outmigration (3/1 to 5/15)
[redacted] 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 Suzomoto 424-7511

1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
[redacted] 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 unoiled 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

[redacted] Harbor seal and sea lion pupping (5/15 to 7/1)
[redacted] 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

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

6U Recreation: Tent sites (6/1 to 9/15)
6V Anchorages (6/1 to 9/15)
6W Forest Service cabins (6/1 to 9/15)
6X Lodge (6/1 to 9/15)
6Y Special use destination

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH Finfish harvesting
7II Deer harvesting (8/15 to 2/28)
[redacted] 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

151

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / FL005 SUBDIVISION: 16400 DATE 4/23/90

USCG
NAME CHO MC MAHON SIGNATURE [signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

~~ADEC~~ ADF&G
NAME ~~No Tom Hemmer~~ SIGNATURE [signature]

☒ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

LAND MANAGER
NAME NO TOM HEMMER SIGNATURE _____

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

SHORELINE OILING SUMMARY (ANAD.)

OG William Reid USCG McMahon SEGMENT ST/ FL005
BIO Michael Fawcett LAND REP Tom Crowe AD FG Strike 226-40-16000 OF
EXXON Gus Garcia AD/FG Mike Wurdner Time 16:35 to 16:55
TEAM NO. 15 TIDE LEVEL APP DATE 23 / APR / 90
EST. SUBDIVISION LENGTH: 50 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
SURFACE SEDIMENTS: R ___ % B 10 % C 75 % P 15 % G ___ % S ___ % M ___ % V ___
SLOPE: Lang 40 % Hang 60 % Vert ___ % WAVE EXPOSURE: ☐ Low ☒ Med ☐ Hi
OIL CATEGORY LENGTH: W ___ m M ___ m N ___ m VL 30 m NO 20

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	A	P	R						SW	W	M	U
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT													
STAIN			X			X					X		
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL										X		X	X

PAVEMENT H F S ___ sq. m by ___
PATTIES / TARBALLS ___
NEAR SHORE SHEEN? (NO) BR RW SL

OILED DEBRIS	AMOUNT SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

Did You Col
DEBRIS
☐ YES ☒ N
TYPE ___
#BAGS ___

Photographs:
Roll No. ___
Frames ___

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SHEEN Y/N		SURFA SUBSURF SEDIME
		OP	OR	OL	OF	NO		SO	SO						SW	W	M	U				
1	25					X	-									X				N		P/G/C
2	35					X	-									X				N		P/G/C
3	30					X	-										X			N		P/G/C
4	35					X	-									X				N		P/G/C
							-															
							-															

COMMENTS

SOME STICKY OIL ON UNDERSIDES OF BOULDERS.

REVIEWED JW DATE 4-26-

145' OG WILLIAM REID

SEGMENT ST/ FL005

STREAM 226-40-164001

DATE 23 / APR 90

SKETCH MAP

Film A3-15-4

CHECKLIST

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

LEGEND

1 ▲
Pit - No Subsurface Oil

2 ▲
Pit - Subsurface Oil

CT/C
Continuous Distribution

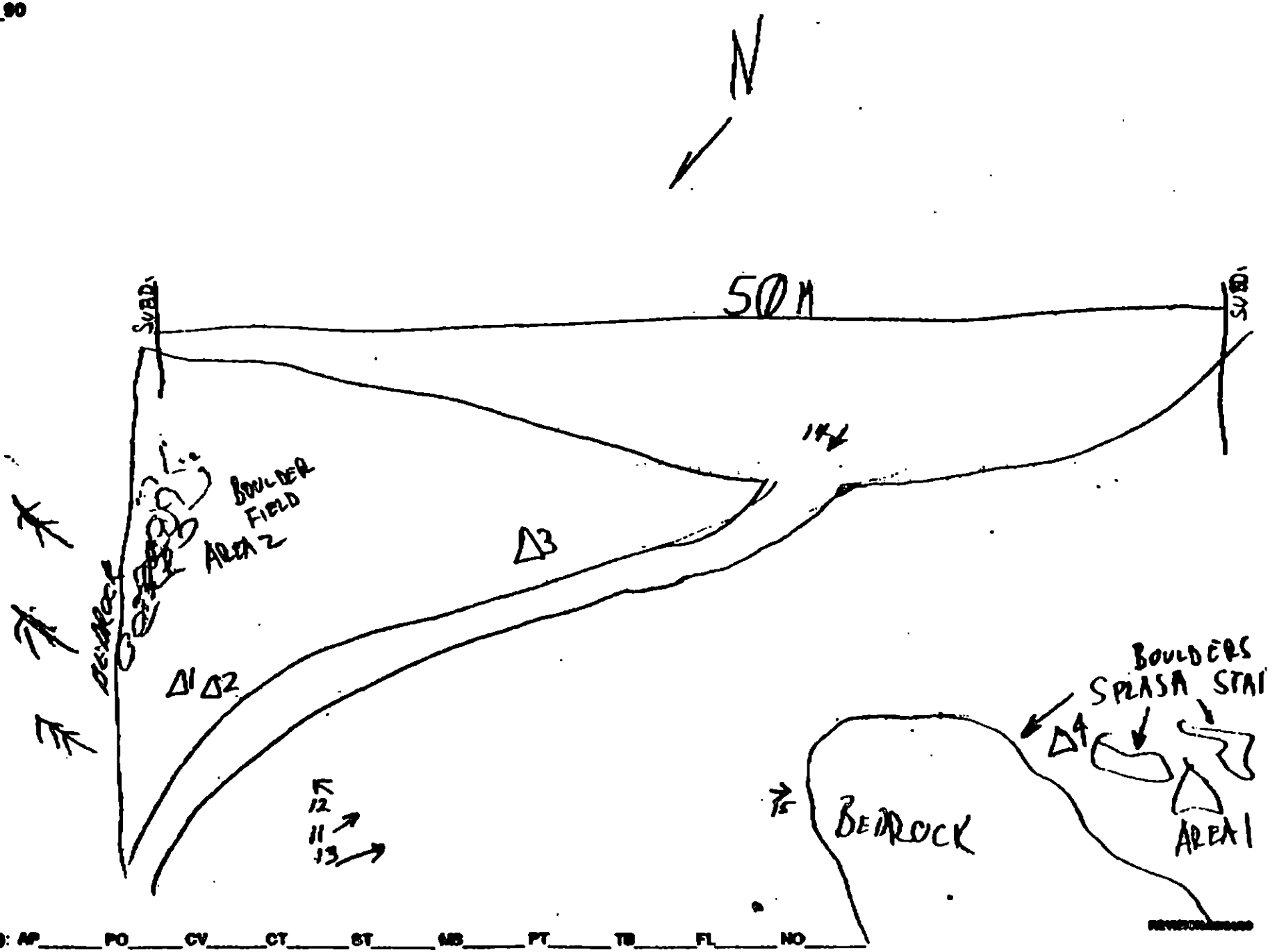
CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

Photo location, direction, and number



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

ADFG&G MULTI-ASSESSMENT DATA FORM

SURVEY TYPE: BE (SS) DE TE AVE SCM HHMB PTA 2 REGION: (PWS) KP,CI K,AP

METHOD: Aerial (Ground) Boat

3 DATE: 4/23/90 18 HIGH TIDE TIMES: 0021 / 1257 21 TEAM RECORDER: M. WIGGOMER

4 START TIME: 1630 19 HIGH TIDE HTS: 11.5' / 10.5' 22 OBSERVERS: T. GROVE

5 STOP TIME: 1700 17 LOW TIDE TIMES: 0648 / 1855 23 AGENCY: ADF&G

6 SEGMENT #: FL-005 18 LOW TIDE HTS: -0.8' / 0.5' 24 PHOTOS TAKEN: Y (N)

7 STATION #: 226-40-16400 19 TIDE HT AT SURVEY: 3.23' Roll #: _____ Frame: _____

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

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

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

12 SOURCE: Map Loran Oil _____

13 LOCATION: EAST SIDE, FLEMMING IS. Sediment _____

14 DESCRIPTION: _____ Biological _____

Water _____

EXTENT OF OIL

	SHORELINE L	SHORELINE M	SHORELINE H	SHORELINE %	STREAM L	STREAM M	STREAM H	STREAM %
27 SURFACE COVERAGE	50	50		<1				
28 SURFACE THICKNESS	D							
29 PENETRATION	1MM	<1MM						

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

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

32 OILED DEBRIS? Y (N)

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

34 WAVE EXPOSURE: High (Moderate) Low

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

36 CATALOGED ANAD. FISH STREAM? (Y) N

37 CATALOG #: 226-40-16400

38 STREAM NAME: _____

39 OIL IN STREAM BED? Y (N)

40 OIL ON STREAM BANKS? (Y) N

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

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

Where: _____

43 ANADROMOUS FISH PRESENT? (Y) N FRY PRESUMED

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS: STICKY FILM ON UNDERSURFACE OF SHALE BOULDERS ALONG UPPER-INTERTIDAL ZONE. BATHTUB RING ON BEDROCK OUTCROPS

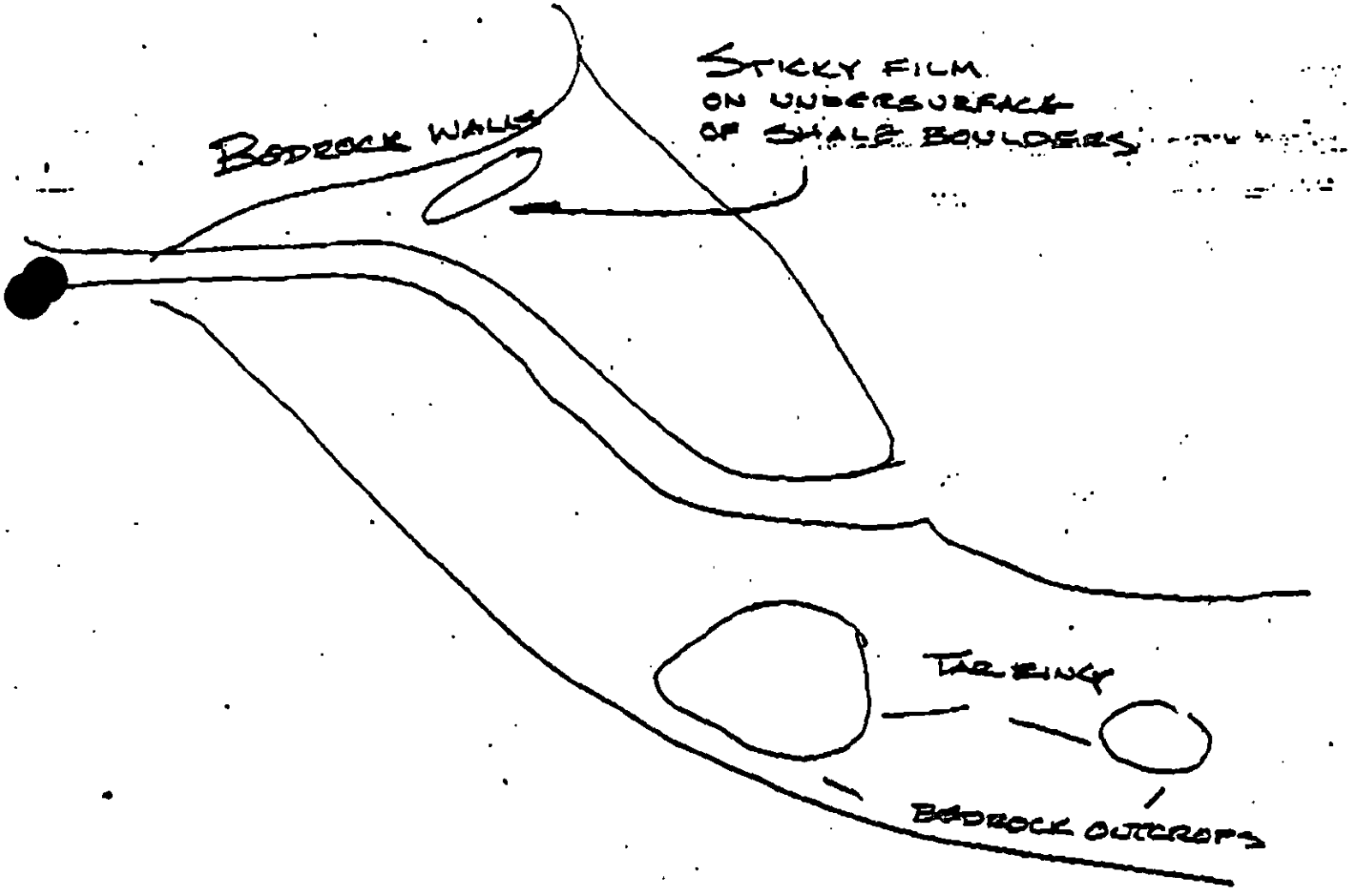
MP

48 PHOTOLOG

FRAME(S)	DESCRIPTION
	RECOMMENDATIONS: DO NOT TREAT TAR BLOCK ON BEDROCK.
	TURN OVER SHALE BOULDERS TO EXPOSE OIL TO ENHANCED WEATHERING.
	TASK TO BE ACCOMPLISHED BY SURVEY CREW - RETURN VISIT NOT REQUIRED.

I agree with recommendation
MP Feb 89

48 OIL DISTRIBUTION DIAGRAM

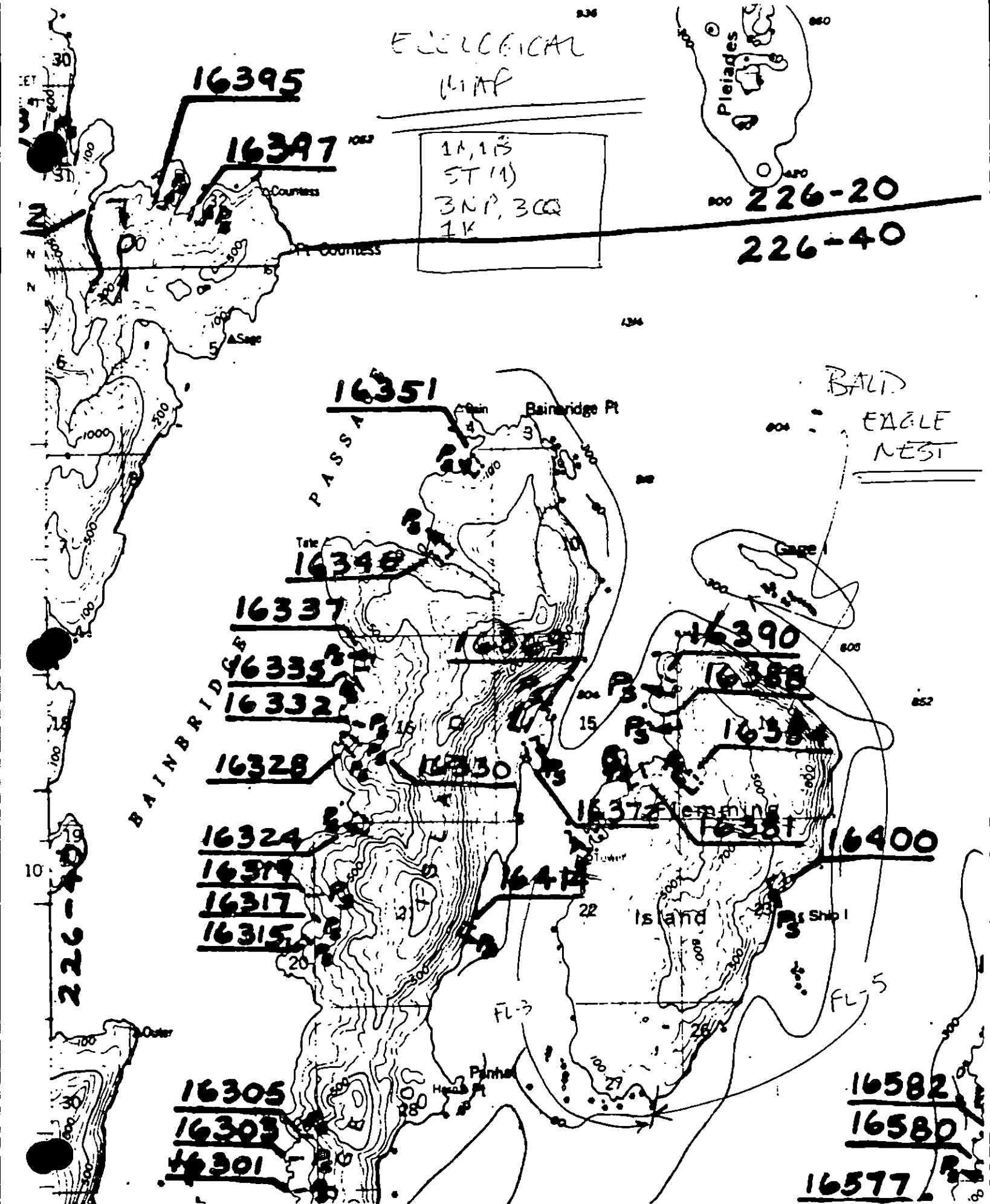


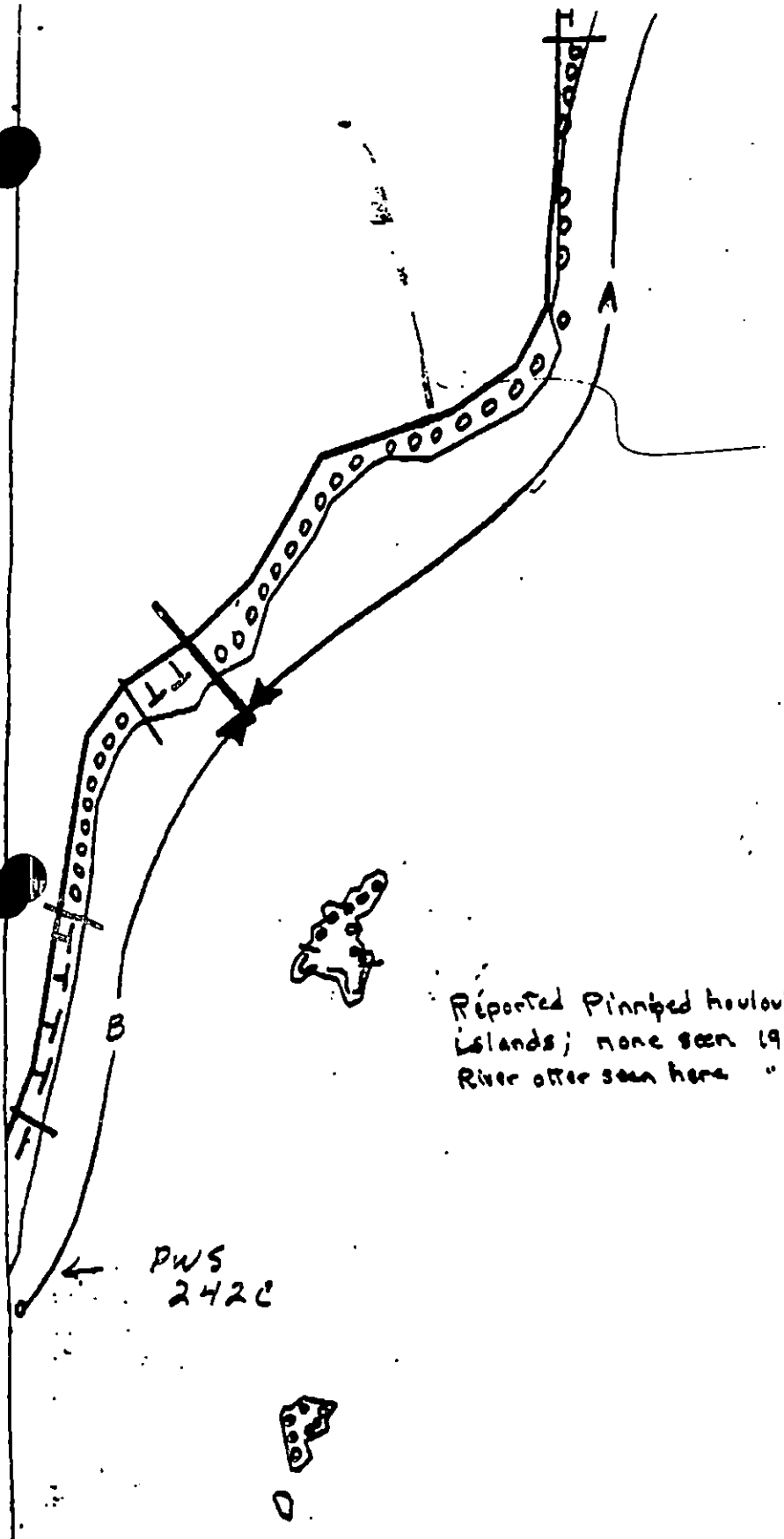
:le taken
:o frame # and
: direction.

Segment FL005 4/23/90
Stream 226-40-16400 Michael Fawcett
Ecological Summary

This is a small stream with a short beach (25-30 m from woods to mouth) composed of shale boulders, cobble and pebbles, with bedrock at each side of the cove. Fucus, barnacles, limpets, etc, are abundant on the bedrock and boulders, and a moderately dense mussel bed exists around the stream mouth. Oiling consists of light splashes on bedrock, and some coat beneath boulders. Two sea lions swimming nearby.

Michael Fawcett


ECOLOGICAL MAP
1M, 1F
ST (1)
3NP, 3CQ
1K
16395
16397
16351
16348
16337
16335
16332
16328
16324
16319
16317
16315
16305
16303
16301
16390
16388
16400
16582
16580
16577
226-20
226-40
BALD EAGLE NEST
PASSAGE
BAINBRIDGE
Pleiades
Countess
Pt Countess
Sage
Bainbridge Pt
Gage
Fleming
Island
Ship I
Hansen Pt
Panther
FL-3
FL-5



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4/6

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

FL-5

ADEC Segment Length: 5357m

0 100 200 300
METERS

Map Key: PWS-242d
Name: R. Morey
Date: 19 April 1990
Date Entered: