

FL-004A

ASC 16381

WEST SIDE OF ISLAND (excellen

ACE 1369606



Prince William Sound

DOCUMENTS IN STREAM FILES

ASC# _____ Segment # _____

____ '89 Intertidal Assessment Survey, Sport/Com. Fish
____ '89 Shoreline Clean-Up Program (SAT)
____ '89 Anadromous Fish Stream Authorization, for instream work
____ '89 Stream Treatment Reports
____ '89 Demobilization Reports ____ Bioremediation ____ other
____ '89 RLS Sheet ____ Oil sed. sample ____ Egg sample
____ '89 Fall Walk-a-thon Survey, ADEC
____ '89 Winter Assess. Study Site ____ Winter Stream Survey Form
____ '89 Other Documents _____

____ '90 Pre-Anadscat Survey, multi-assessment form
____ '90 Anadscat Survey
____ '90 Anadromous Fish Stream Evaluation (work order)
____ '90 Anadromous Fish Stream Addendum to work order
____ '90 Shoreline Evaluation, SAT and work order for segment
____ '90 Anadromous Fish Stream Authorization, Title 16 permit
____ '90 Stream Treatment Report
____ '90 ADEC Demobilization Report for Bio
____ '90 ADF&G Oiling Condition Survey, for ASAP use (Aug. Sur.)
____ '90 ASAP Survey ____ ASAP Rec. ____ ADEC Rec. (____)
____ '90 Other Documents _____

ASAP TAG Evaluations/Recommendations

TAG RECOMMENDATIONS

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

TAG		DATED:	08/09/90
EXXON	Andy Ten Beal		
ADEC	Ray Morris		
USCG	D.D. Rome	FOSC:	1/1/91
NOAA	Bur/Wescott	DATED:	1/1/91

NOTE: * - ALREADY SCHEDULED FOR REAPPLICATION



OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ

DATE: 09/20/89

TIME: -0-

SEGMENT#: -0-

STATION#: -0-

LOCATION: FLEMING ISLAND

REASON FOR TAKING PHOTO:D. AERIAL INTERTIDAL
(148°01'57"/60°10'24")

TAKEN BY: RICK GUSTIN

INITIALS: _____

ROLL #: 89RLG009V FRAME #: 09

EVIDENCE ID#: 10212

ACE 7354039

ADEC EXXON VALDEZ POST-TREATMENT SURVEY REPORT

SEGMENT#: FLO04A
LOCATION: W FLEMING ISLAND

DATE: 10/19/89
TIME: 11:30

Survey Type: Boat, Ground
Team: D. Gardner, P. Endres

WEATHER AND SEA CONDITIONS

Weather: Cloudy Wind Direction: NW
Sea State: Moderate Knots: 0-15

Low Tide: 10:55	Feet: 4.35	High Tide: 16:51	Feet: 13.2
Low Tide: 23:52	Feet: 0.	High Tide: 5:34	Feet: 10.7

SHORELINE DESCRIPTION

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

Wave Exposure: M,L (H=high, M=moderate, L=low)
Shoreline Composition: R,B,C,G,S
(R=bedrock, B=boulder, C=cobble, G=gravel, S=sand, M=silt)

OIL CHARACTERISTICS

Degree of Oiling: M,VL,L,M,H (some areas not surveyed)
(N=none, VL=very light, L=Light, M=moderate, H=heavy)
Area of Impact: H,M
(S=supratidal, H=high intertidal, M=mid tidal, L=low intertidal)

Max. Oil Thickness: 20 mm (1 = 1 mm or less, 0 = no oil)
Max. Oil Penetration: 8 cm (35 = 35 cm or greater)

Percent Segment Categorized as Oiled: 90%
Presence of Oiled Driftwood (y/n): n
Oil Types: M,SY,T,A,ST
(P=pooled, M=mousse, SY=sticky, T=tar, A=asphalt, ST=stain)
Samples: none / none / none / none

DAMAGED OR OILED ORGANISMS

Fucus (y/n): n Barnacles (y/n): y Mussels (y/n): y
Dead Mammals: 1 Dead Birds: 0

SOLID WASTE FOUND

Type: Few localities, cleanup debris, garbage
Bags Collected: 1

Draft

Printed: 12/12/89 11:24

ACE # 7354036
ACE # 7354037
are loose papers

Walk-a-thon

ACE 7354036

STREAM#: 2264016381
PURPOSE: CLEANUP

SEGMENT#: FL004 A

LOCATION: FLEMMING ISLAND, WEST COAST

STREAM NAME:

DATE	OBSERVER OTHER REPS	WORK ORDER DATE	DEMObIL. DATE	SURFACE OIL SUBSURFACE OIL	TREATMENTS	AMOUNT REMOVED	REMAINING OIL
06/28/91	MONTESANO (ADEC) EXX BOYER NAUMAN, USCG MCMAHON		06/28/91	AP CV CT ST SOR OP 10CM DEEP 3CM THK	MANUAL REMOVAL CUSTOMBLEN 4#	12 GEO BAG	SURFACE: CV CT ST SLOR MOR LOR 2 CM DEEP 1-2 CM THICK SUBSURFACE:

COMMENTS:

NO ADF&G PERMIT WAS ISSUED SINCE THE WORK WAS CONDUCTED FAR FROM THE ANAD STREAM. STANDARD, EFFICIENT REMOVAL OF AP/SOR AND SOME GRASSES IN AREA M AS THE AP/SOR WAS ALONG THE GRASS LINE. LSOR REMAINED IN THIS AREA, VERY LIGHT SOR. THE AP/SOR WAS DRY AND CLEANLY REMOVABLE. I WENT TO LOOK FOR PIT 5 AND WAS UNABLE TO DUPLICATE THE MAYSAP PITS. 15 PITS FAILED TO REVEAL THE OP, SOME MOR WAS FOUND IN THE MID ITZ, 1-2 CM THICK BELOW MUSSELS. IN THIS AREA A COUPLE OF SCATTERED AP PEBBLES WERE REMOVED. TAG WORK ORDER COMPLETED. NO WORK ORDER MODIFICATION REQUESTED. NOT RECOMMENDED FOR FUTURE REASSESSMENT. WORK FROM 0910 TO 1020. EAGLE NEST. SURFACE SEDIMENTS: B 5%, C 15%, P 50%, G 25%, S 5%. SUBSURFACE SEDIMENTS: G 50%, S 50%. MID TO UPPER INTERTIDAL ZONE.

STREAM#: 226UNCAT10
PURPOSE: TREATMENT SITE A

SEGMENT#: KN005 B

LOCATION: KNIGHT ISLAND, BAY OF ISLES, COVE BETW S & E ARMS

STREAM NAME:

DATE	OBSERVER OTHER REPS	WORK ORDER DATE	DEMObIL. DATE	SURFACE OIL SUBSURFACE OIL	TREATMENTS	AMOUNT REMOVED	REMAINING OIL
06/15/91	GHORMLEY (ADEC) EXXON OLSON, USCG MULLIGAN			MS TB AP CV CT ST HOR 15 CM THICK	MANUAL REMOVAL	4 GEO BAGS	

COMMENTS:

CREW WORKING ON BANK OF ANADROMOUS STREAM REMOVING SOR/H AND OILED GRASS. ADEC REP REMOVED 2 LARGE GEO BAGS OF TRASH FROM SITE - ALSO 3 OILED POM POMS AND 3 OILED SORBENT PADS. TREATMENT FROM 1540 TO 1745, WEATHER FOGGY / SUNNY. MID TO SUPRA INTERTIDAL, WAVE EXPOSURE MODERATE. SURFACE SEDIMENTS: R 30%, B 10%, C 30%, P 10%, G 10%, S 10%. SUBSURFACE SEDIMENTS: R 30%, B 10%, C 30%, P 5%, G 5%, S 20%.

into horizon = 19/91 k.
unit for depth, thickness?

226 40 16381

ADEC DAILY SHORELINE ASSESSMENT (rvsd 4-15-91)

LOCATION Flemming IS SEGMENT FL4 SUBSEG A
DATE 6-28-91 TIME: Begin 0910 End 1020 SITE M, N, + PITS
WEATHER: Cloudy Rain Fog Snow Sunny Other _____
MONITOR(S) Peter Montesano
ENVIRONMENTAL CONSTRAINTS Eagle Nest, Arrived Stream outside of work areas.

DESCRIPTION OF TREATMENT SITE:

SHORE COMPOSITION

Surface sediments: R _____ % B 5 % C 15 % P 50 % G 25 % S 5 %

Subsurface sdmnts: R _____ % B _____ % C _____ % P _____ % G 50 % S 50 %

Wave Exposure: Low Moderate High

OIL CHARACTERISTICS

Before Treatment AP CV CT ST
Surface: Mousse Tarball/Patty Pavement Cover Coat Stain SOR

Subsurface: OP HOR MOR LOR OF Depth: 10 Thickness: 3

Across Tidal Zone: Low Mid Upper Supra

TREATMENT PERFORMED:

MANUAL REMOVAL Type: MS TB AP SOR OP OR OF

MANUAL RAKING MECHANICAL TILLING - WITH/WITHOUT TIDAL FLUSH

BERM RELOCATION BIOREMEDIATION granular 4 lbs Inipol _____ gal

OTHER Customblen Thoroughly raked in

EQUIPMENT USED _____

WORKERS ON SITE: # ORTS 1 OTHER _____

OTHER REPRESENTATIVES: EXXON Boyer + Nauman

USCG M'Mahon

OTHER _____

METHOD TO CONTAIN/COLLECT OIL _____

NUMBER OF BAGS COLLECTED: Oiled Sediments 12 ^{gas bags} Oiled Debris _____
Oiled Vegetation _____ Unooled Debris _____ Oiled Logs Present _____

SEGMENT FL 4A MONITOR Montesano DATE 6-28-91

PHOTOGRAPHS: Roll # Frames Reason
VIDEO: TAPE # Reason

COMMENTS: (Observations, problems & efforts made to correct, etc.)

NO ADF+6 permit was issued since the work was conducted far from the Anad Stream.

Standard, efficient manual removal of AP/SOR and some grasses in area M as the AP/SOR was along the grass line. ~~AP~~ LSOR remained in these area, Very Light SOR. The AP/SOR was dry and cleanly removable.

I went to look for pit 5 and was unable to duplicate the MAYS/AP pits. 15 pits failed to reveal the op, some MOR was found in the mid ITZ, 1-2cm thick below mussels. In this area a couple of scattered AP pebbles were removed.

Heli-Team of Five (total) personnel.

OIL CHARACTERISTICS After Treatment

Surface: Mousse Tarball/Patty Pavement Cover Coat Stain LSOR

Subsurface: OP HOR MOR LOR OF Depth: 2 Thickness: 1-2

TAG WORK ORDER COMPLETED? NO YES COMMENTS

WORK ORDER MODIFICATION REQUESTED? NO YES DATE

RECOMMEND FOR FUTURE REASSESSMENT? NO YES (include map identifying treatment performed and oil remaining)

SIGNATURE

in comments

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 5 SEGMENT FL-4 SUBDIVISION A DATE 5/12/91
226-40-16381

ADEC

NAME

John Hays

SIGNATURE

☐ NTR

✓ TREATMENT RECOMMENDED

Areas M-N-O - Manual pickup of AP.

Area of pit #5 - Expose subsurface by manually raking
away pebbles. ③ Manual removal of OP sediments in this 5m² area.
Good area for small crew.

EXXON

NAME

JOHN DEAN

SIGNATURE

☒ NTR

ALL SURFACE OIL OBSERVED WAS WELL WEATHERED
AND PRESENTS LITTLE THREAT, MOST WAS IN UNRECOVERABLE
STATE OR LOCATION.

LANDMANAGER

NAME

Steve WARD

OF

CVC

SIGNATURE

☐ NTR

THIS AREA NEEDS ALOT OF MANUAL AREAS M-N-O NEED HEAVY
MANUAL. THIS AREA HAS BEEN WORKED BEFORE AND SHOULD BE
FINISHED. PIT #5 SHOWED HEAVY SUB SURFACE AND SHOULD BE
CLEANED UP, THIS SUB-SURFACE AREA IS 20' SQUARE AND WILL
LIGHTEN WHEN THE SUN COMES OUT. CHENEQUA LOCAL RESERVE
NO BIO.

USCG/NOAA

NAME

DREHER/CLINE

SIGNATURE

CWO R. L. Dreher☒ NTR

FURTHER CLEAN UP OF THIS SEGMENT WOULD CAUSE MORE ENVIRONMENTAL HARM THAN
THE OIL TO BE REMOVED. (CLINE)

AP FOUND AT SITE 6 WAS RECOVERED, HOWEVER @ SITES M & N AP WAS TOO
EXTENSIVE FOR PICKUP DURING SURVEY. FURTHER MANUAL TREATMENT IS DESIRABLE
REST OF OILING DOES NOT APPEAR TO WARRANT FURTHER TREATMENT. DWC (DREHER)



1991 MAYSAP EVALUATION

w/ acid
stream

SEGMENT: FL 004 SUB: A REGION: PWS SUR

1364 226-40-16381
NON - MAYAP

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____

Date: _____

RECOMMENDATIONS:

TREATMENT REQUIRED (Y

Manual Pickup (Check
Spot Washing
Bio-Customblen Only
Bio-Inipol/Customblen
Other _____
Other _____

TAG

FOSC

red
files

COMMENTS:

INITIAL: Manual removal AP in areas N.V.
Manual removal of OP around pit #5

} This is
STAG 5/30/91

Exxon comment 5/12/91
No treatment.

TAG: NIP - state to review.

} TAG: put in 5/30/91
NIP to review state
reviewers

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

STAG
5/30/91
KM



1991 MAYSAP EVALUATION

SEGMENT: FL 004 SUB: A REGION: PWS SURVEY DATE: 5/12/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: Manual removal AP in areas N, N,

Manual removal of OP around pit #5

TAG: NTR - state to reverse.

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

STAG
5/30/91
KM

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

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

MAYSAP SHORELINE OILING SUMMARY

PAGE ____ OF ____

TEAM NO. 5

OG CHANEY

BIO CRANK

SEGMENT FL-4

ADEC HAYES

LANDMANAGER WARD for CUC

SUBDIVISION A

EXXON DEAN

USCG/NOAA DREHER/CLINE

DATE MAY 12 191

TIME 17:45 to 20:20

TIDE LEVEL 2.0 ft. to 3.0 ft.

ENERGY LEVEL: ☐ H ☐ M ☒ L

SURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELO

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

TOTAL LENGTH SHORELINE SURVEYED: 1098 m

NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W — m M — m N 210 m VL 360 m NO 528 m US 210 m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE V H M L	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A						B					B	M	0.1	6		✓			Bath tub Ring
B						T					B		10	15		✓			Pocket Cove
C						S					R	V	1	15		✓			Remnant CT rock face
D						S					RR	H	2	10		✓			
E						T					B	H	5	5		✓			Random splatters
F						T					B	H	1	4	✓	✓			Random splatters
G	T			T	S	S					RBCPG	M-L	10	50	✓	✓			Several AP patches recovered
H					S	S					R	V	10	2		✓			Weathered CT&CV
I					S	S					R	V	2	50		✓			" " "
J					S	S					RB	H	2	30		✓			Random Splatters
K					S	S					RB	M	3	15		✓	✓		Random Splatters
L					S	S					RB	H	2	25		✓			Random Splatters
M	P			S							B	M	2	5	✓				Patchy AP
N	S										BCP	M	2	20		✓			Patches AP by Stream & NE
O	T			T	T	T					BC	L	5	70		✓			Random Splatters
P	T			T	T	T					BC	L	2	25			✓		Random Splatters

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

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 5-13 FRAMES 13-21

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	25							✓	-		-		✓			BC-BCP		
2	30							✓	-		25	N	✓			P-PGS		
3	35							✓	-		-		✓			BCP-PGB		
4	15			✓					2-7	Y	10	B	✓			C-CGMR	Approx 2m ²	
5	15	✓							10-13	Y	-	-	✓			BP-BGPR	Approx 5m ²	
6	15					✓			10-15		10	S	✓			CPG-CGB		
7	40							✓	-		35	N	✓			P-PB	5 pits no oil	
8	30							✓	-		-	-	✓			PC-PG		
9	15			✓					0-4		-	-	✓			CP-CPG	Not Extensive	

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

OG COMMENTS: AREA (G) Broad band along tombolo to bedrock ridge on adjacent island. Weathered splatters of CT&CV on bedrock. Small patches SOR/H (patches AP recovered) on pebbles & boulders. Sub surface oil on shallow bedrock in poorly sorted sediments. Thin lense OP on bedrock in area of pit 5. Approximately 5m². AREAS (M) & (N) DISTINCT PATCHES IN A BAND. (N) BEGINS AT SMALL STREAM & RUNS N.E. ~20m.

revised 5.19.91 94

PAGE _____ OF _____

DATE May 12 191

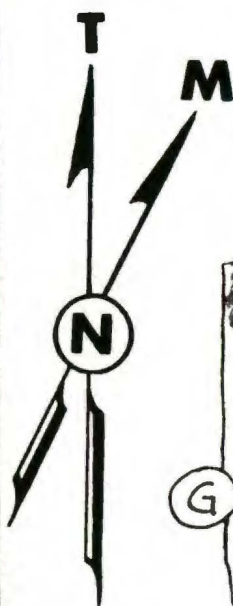
PHOTO ROLL # MAYSAP- 5 - 13 FRAMES 13-2

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

IN AREA (V) THERE WAS HEAVY SOR IN THE HIGHEST POINT IN THE FISSURE COVE BETWEEN BOULDERS FOR A TOTAL OF $\sim 0.5 \text{ m}^2$

revised 5.19.91 9y
REVIEWED: F.W. 5/21/91

MAYSAP 1991
 OG SKETCH MAP
 GREG CHANEY
 TEAM 5
 SEGMENT: FL 4 A
 DATE: MAY 12 1991
 AIR P.N.: PIMC BOS 193



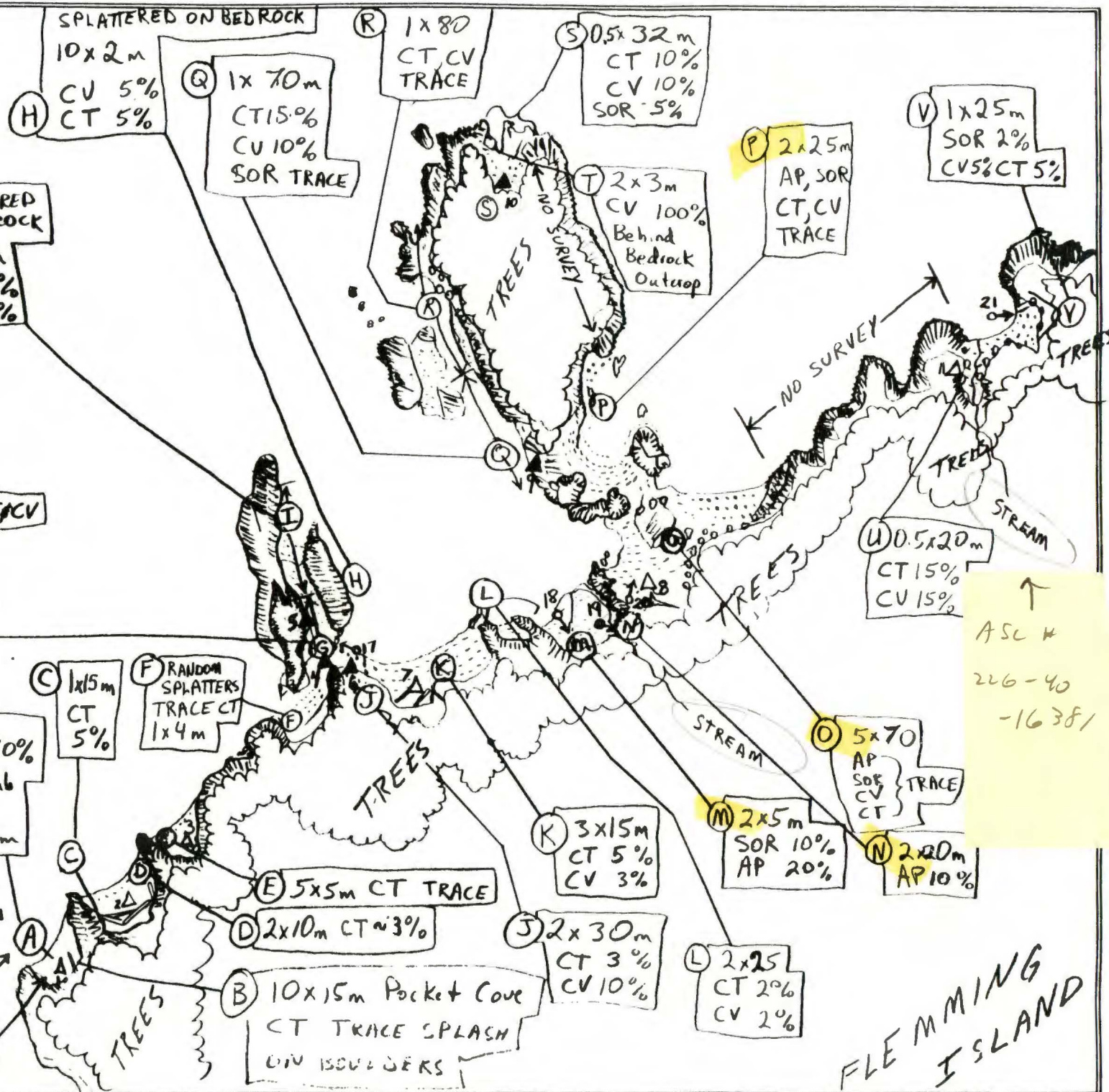
LEGEND

BEDROCK	
BOULDERB	
FINE BED.	
DRIFT LOG	
GRASS	
BRUSH	
FOREST	
OILED PIT	
NO OIL PIT	
PHOTO	

SCALE

50 METERS

APPROXIMATELY CAVE



MAY 3AP BIOLOGICAL SUMMARY FORM

TEAM # 5
SEGMENT # FL-4
SUBDIVISION A
SEA STATE 0
PHOTOGRAPHS: ROLL #
DATE 6 MAY 1971
TIDAL HEIGHT (Range) +2 to +5
BIOLOGIST CRANK
WIND SPEED/DIRECTION < 5 knots / 110°
FRAME #

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

(A) Area is 8m x 6m 'bath turning' located in the MITZ along a vertical rock face. There is a moderate concentration of barnacles, a sparse concentration of Littorina, a sparse concentration of Fucus, and a sparse concentration of limpets. Biota cover is ~30%.

(B) Area is located in the MITZ along a pocket beach. Within the site there is black lichen and moss covering <1% of the surface sediments. The MITZ has ~50% biota cover. Barnacles are dominant with a moderate concentration of adults and recent set. Fucus is present at the water's edge ~+4'. Littorina and limpets are sparse.

(C) Areas are located in the MITZ along a vertical rock face. There is approximately a 20% biota cover within the sites including: a sparse concentration of adult barnacles, a rare concentration of barnacles, a sparse concentration of Littorina, a rare concentration of juvenile (post-spawning) mussels and a sparse concentration of Fucus with sporadic and maturing conceptacles present. Approx. 5% of the Fucus plants appear unhealthy with torn blades and 'stipe-only' plants, the remaining 95% appear healthy. Directly below sites biota cover is ~30%. The increase is mainly attributed to an increase in barnacle concentrations. In 'D' mussels are sparse, various age classes present.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	
Seabirds	1	2	
Waterfowl	1	1	
Gulls/Kittiwakes	1	1	
Shorebirds	1	2	
Corvids	2	3	
Other birds	1 hummingbird	2	

LAND MAMMALS

MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters	4 (1 pup)		
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

Team # 5

Date: 12 May 1991

pg 2 of 8

Segment # FL-4

Tidal Height +2 → +5

Subdivision A

Biologist Crank

Sea State 0

Wind Speed / Direction < 5 knots / West

Comments (cont.)

The MITZ below areas (C) and (D) has ~50% biota cover. Barnacles dominant the surface sediments with a mod. concentration. Limpets and Littorina also have moderate concentrations. Littorina egg masses are common. Fucus and Endocladia (algae) are both sparsely concentrated. Around the boulder bases, various ages of intergravel mussels are sparsely concentrated. Nematode and Oligochaete worms are also present.

(E) Area is located in the UITZ. There is ~10% barnacle cover on the surface sediments with the site. Below site 1m, there is a Fucus patch with sporlings and mature conceptacles. The MITZ is similar to that described for areas (C) and (D).

(F) Area is located in the SUPRA on a boulder on a tombelow. There is less than 1% biota cover within the site including: Littorina, Limpets, and Fucus. The Fucus plants are not yet reproductively active. MITZ biota similar to that described for (C) and (D). Fucus is a bit more prominent. Biota cover ranges from 30-50%, increasing in density toward area G.

Team # 5

Date: 12 May 1991

pg 3 of 8

Segment # FL-4

Tidal Height +2 → +5

Subdivision A

Biologist Crank

Sea State 0

Wind Speed / Direction < 5 knots / W

Comments (cont.)

(G) Area is located in the UITZ; also includes pit 6.

There is ~10% biota cover within the site including: sparse barnacles that tightly seal their inner plates when stimulated, and sparse intergravel mussels of various age classes. Directly below site to the water (~+2 t_{LC}) mussel bed density increases to moderate. About a 1/3 of the mussels are juveniles (post-spill age). The LIT₂ is a clam bed dominated by Macoma (bent-nose clams); Prototheca (little-neck) is also present. Other digs are prominent throughout clam bed.

Clam and mussel beds are sensitive to trampling. If treatment should occur in this area, transportation to the sites in the UITZ should be done at a +6' tide or higher to protect the beds.

(H) Area is located in the UITZ on the exposed face of a boulder.

Biota within the site is ~20% including: sparse barnacles with spat. Barnacles tightly sealed their inner plates when stimulated. Sparsely concentrated Littorina and rare juvenile mussels also present in site. Limpets were observed on oil. Ten centimeters below site there are sparse Fucus sporlings. Two meter below, in the MITZ, biota cover is ~40%. Algae is dominant with Fucus, Scytosiphon, Odonthalia, Ulva and filamentous greens.

Team # 5
Segment # FL-4
Subdivision A
Sea State 0

Date 12 May 1991 pg 4 of 8
Tidal Height +2 → +5
Biologist Crank
Wind Speed / Direction <5 knots / West

Comments (cont.)

- (I) Area is a band, across boulders, in the ULTZ. Biota cover is ~20% including: a sparse concentration of mussels with various ages; a rare to sparse concentration of barnacles with a recent spat settlement; moderate Littorina; sparse limpets and patches of Fucus. Below the site, from the base of the boulder, crossing the beach, is a moderate to densely concentrated intergravel mussel bed with various age classes.
- (Pit 5) Within 10 m of the pit there are rare to sparsely concentrated barnacles. 10 m below pit is the top of the intergravel mussel bed described in (I). The ULTZ is a clam bed foraged by otters.
- (J) Area is located in the ULTZ. Biota within site is similar to area (I). Below the site there is a patch of 'stipe-only' Fucus 1x2 m. Fucus sporophytes are present around the edges of the stipe patch. Also present below the site are dense to moderately concentrated limpets and Littorina. Littorina egg masses are common.

Team # 5

Segment # FL-4

Subdivision A

Sea State 0

Date 12 May 1991

Tidal Height +2 to +5

Biologist Crank

Wind Speed / Direction < 5 knots / w

pg 5 of

Comments (cont.)

(K) Area is located in the ULTZ and MITZ. Within the site there is ~50% biota cover of barnacles, Littorina and mussels. Lower in the MITZ cover increases to moderate and cover increases to ~50%. Littorina and mussels are common. Rare Fucus is also present.

(L) Area is located in the ULTZ. Within the site, sparsely concentrated barnacles, limpets and Littorina and rarely concentrated mussels and Fucus are present. Biota cover is 20%. Percent biota cover remains constant to water line. At the +2' + seaward Fucus and mussels increase to a sparse concentration and Littorina are dense.

(M, N) Areas are found in the SUPRA and high ULTZ. Sprouting rye grass, moss and black lichen are found within the site. In the MITZ, below the sites, there is a moderately concentrated, intergrated mussel bed; a sparse concentration of barnacles and a 20x15m Fucus bed NE of stream with dense Littorina and limpets. Before the Fucus bed biota cover is ~30%. In the Fucus bed biota cover is ~50%. Below the Fucus is a clam bed with other digs. Young Macoma clams were present.

Team # 5

Date 12 May 1991

pg 6 of 8

Segment # FL-4

Tidal Height +2 → +5

Subdivision A

Biologist Crank

Sea State 0

Wind Speed / Direction <5k/w

Comments (cont.)

(O) Area is in the UITZ above Fucus patch described in (M: N). Within the site, Bista is similar to area (I). Barnacles are the dominant species. Bista cover is 20%.

(P) Area is located in the MITZ. There are: sparse barnacles (several age class); moderate Littorina and limpets; a sparse to moderately concentrated intercobble mussel bed (several age classes). Just below the site is the top edge of the clam bed. The area is covered with many empty clam and mussel shells and hash. Typical of a low energy beach.

Pit #9. Pit is located in the UITZ. There are rare to sparsely concentrated barnacles located within 15m of the pit.

(X) Area is located in the UITZ (includes pit #9). There are barnacles within the site covering from <1% to 10% of the surface sediments. Two meters below the site, barnacles cover ~20% of the surface. Sparse Littorina, limpets and mussels are also present. Ten meters below the site, in the MITZ, there is a moderate to sparsely concentrated intercobble mussel bed and barnacle cover. Littorina are dense to moderate and Fucus is sparse to rare with maturing conceptacles. Bista cover is 30-50%.

Team # 5
Segment # FL-4
Subdivision A
Sea State 0

Date 12 May 1991
Tidal Height +2 → +5
Biologist Frank
Wind Speed / Direction <5 knots/W

pg 7 of 1

Comments (cont.)

(R) Area is located in the ULTZ. Within the area there is a sparse barnacle concentration. Biota cover is 10%.

Below the site, in the MLTZ, there is moderately concentrated intercobble mussels and Littorina and sparsely concentrated barnacles and Fucus. Biota cover is 50%.

(S) Area is on a gravel/cobble pocket beach, located high in the ULTZ. No macrobiota was located in the area or around pit #10. Below the site there is a rare barnacle concentration. Low in the MLTZ there are intercobble mussels, and along the bordering rock faces are barnacles, and sparsely concentrated mussels and Fucus cover ~30% of the rock face.

(T) Area is located in the SUPAA and ULTZ. Sparse concentrated biota cover ~20% of the sediment surface. Recruits were observed in the barnacle, mussel and Littorina populations. In the nearshore there is an eelgrass and a Laminaria kelp bed.

Team # 5
Segment # FL-4
Subdivision A
Sea State 0

Date 12 May 1991 pg 8 of.
Tidal Height +2 $\rightarrow$ +5
Biologist Crank
Wind Speed / Direction < 5 knots, w

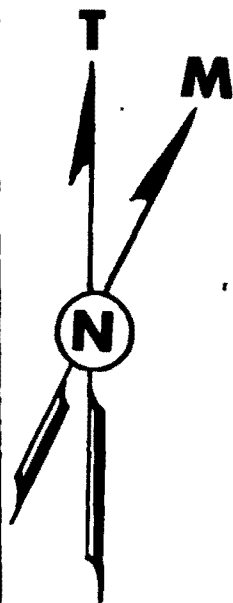
Comments (cont.)

- (U) Area is a bank in the ULTZ along a rockface. Sparse Coralliophila aggregations are the dominant species at the site. The animals tightly sealed their inner valves when stimulated and a recent spat settlement is present. Tar spat algae and sparse Littorina are also present. Biota cover varies between 10-20%. Within 1 m below the site there are mussels of various ages and a moderate barnacle concentration. Biota cover is 50%.
- (V) Area is located in the ULTZ. Within the site there are rare barnacles covering < 1% of the surface. Seaweed below the site, barnacles are sparse to moderate, a recent settlement is present; Littorina are in dense aggregates with egg masses and in association with hermit crabs; mussels are sparse. Biota cover is 50%. On bedrock there is sparse Fucus with sporeling.

In this subdivision recruitment was observed in the Fucus, Littorina, barnacle, mussel and clam populations.

MAYBAP 1991
 06 SKETCH MAP : Bio Sketch Map
 GREG CHANEY : Crank
 TEAM 5

SEGMENT: FL 4 A
 DATE: MAY 12 1991
 AIR P.#: PIMC 005 193



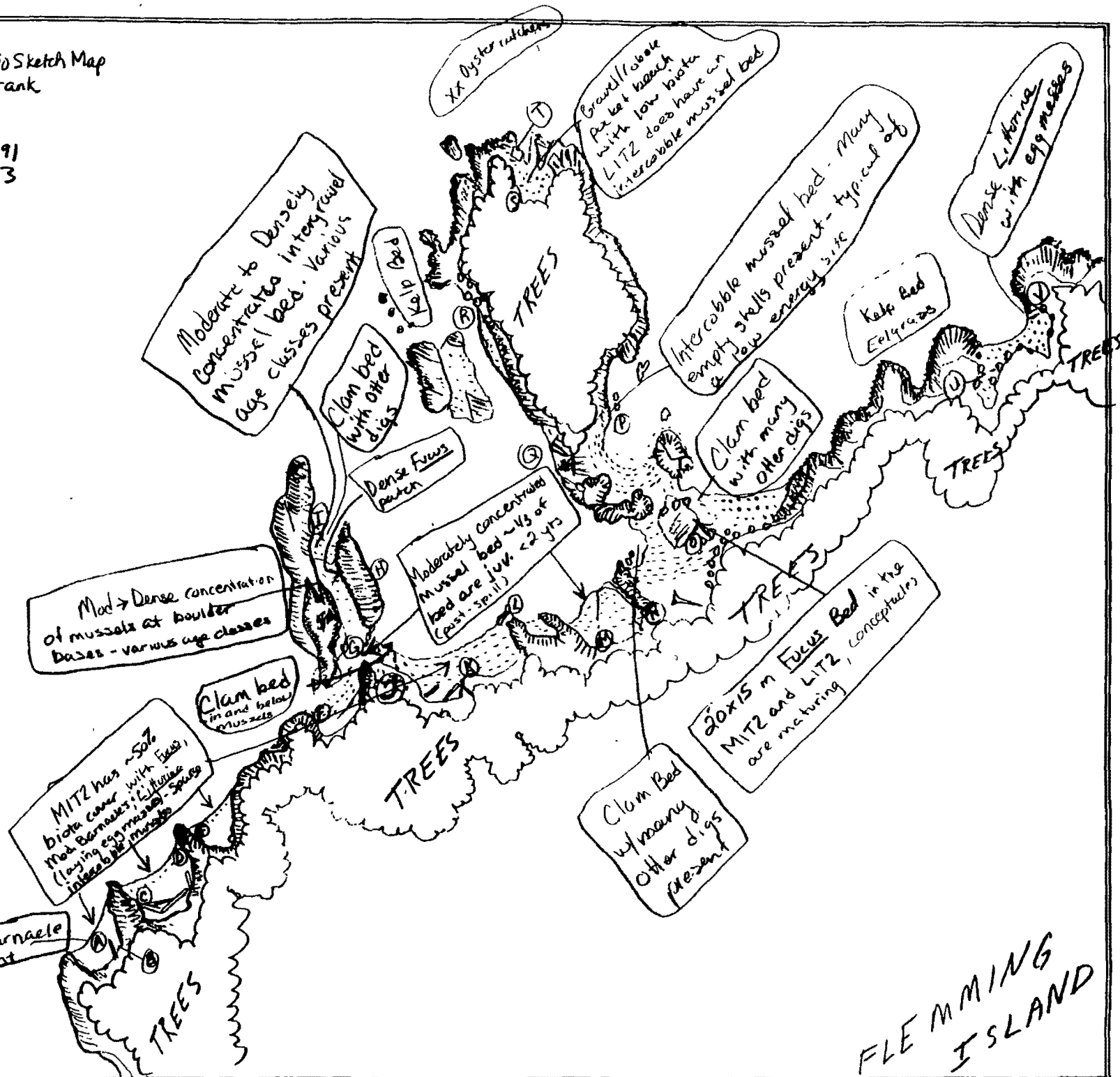
LEGEND

BEDROCK	
BOULDERS	
FINE BED.	
DRIFT LOG	
GRASS	
BRUSH	
FOREST	
OILED PIT	
NO OIL PIT	
PHOTO	

SCALE

80 METERS

APPROXIMATELY



FLEMMING ISLAND

revised 5.19.91 ty
Reviewed: F.W. 5/24/91

1991 MAYSAP EVALUATION

SEGMENT: FL 004 SUB: A REGION: PWS SURVEY DATE: 5/12/91**ENVIRONMENTAL SENSITIVITIES:**Work Window(s) RESTRICTED 3/1 - 9/15Ecological/Constraints (see page two for details) Eagle nest, Anadromous stream**ARCHAEOLOGICAL CONSTRAINTS:**If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.SHPO Signature: Timothy O SmithDate: 5/31/91**RECOMMENDATIONS:**

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

COMMENTS:INITIAL: TAG:

FOSC: OIL ID SITES M + N TOO EXTENSIVE TO RECOVER DURING SURVEY - RETURN TO COMPLETE CUSTODY OF PATCHY + SPASH AP AT AREAS M + N AND REMOVAL OF OP AT PIT 5. EEP

TAG APPROVAL DATE: MAY 31 1991FOSC APPROVAL DATE: 5/11/91ADEC JDH BanFOSC EXXON

E. E. PAGE, SDR, USCG

USCG

CHIEF OF STAFF, FOSC

NOAA

The state will reevaluate the need for treatment on this subdivision

JDH Ban



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

PRINCE WILLIAM SOUND

Maysap-N

2264016381

SEGMENT: FL004
anadromous fish stream

SUBDIVISION: A

SITE:

RECOMMENDED TREATMENT:

- In areas M and N:
- Manually remove AP/HSOR.
In area of pit 5:
- Manually remove OP.

ENVIRONMENTAL SENSITIVITIES:

Eagle nest must be cleared prior to work.

WORK WINDOW:

-

CLEANUP PLAN AND COST ESTIMATE DUE:

DATE SUBMITTED: 05/30/91

STATE ON SCENE COORDINATOR:

 for E. Piper

(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 7/20/89

SHORELINE SEGMENT FL-4

LOCATION: (see enclosed map) Northwest Coast of Flemming Island,
Southwest Prince William Sound

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/15/89

Recommended Cleanup Activity(ies):

- Manually remove contaminated drift material (fucus), harvest contaminated fucus.
- Breakup and remove asphalt pavement.
- Flood/flush with warm to hot water (up to 140 F) on low angle beaches.
- Use moderate to high pressure warm to hot water washing on rock and boulder/cobble beaches.
- Use other approved methods as appropriate.

Priorities Considerations:

Class 2-3: heavy to moderate oil
Class B: resources absent

Ecological Constraints (from site survey): We are loose
or take appropriate measures to protect lower i papers

Archeological Constraints (from site survey):

No cleanup crew access to historic cabin or sur
heretofore undiscovered cultural materials are uncovered during
cleanup, contact Exxon's Archeological Field Director and take
actions prescribed in the Operational Guidelines for Shoreline
Cleanup dated 4/21/89 as amended.

Donna Regier
State Historic Preservation Officer *

Date: 7/25/89

ISCC: _____

Date: _____

EXXON: _____

Date: _____

FOSC: _____

Date: _____

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

ACE 7354040 +15/AC

(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 7/20/89

SHORELINE SEGMENT FL-4

LOCATION: (see enclosed map) Northwest Coast of Flemming Island,
Southwest Prince William Sound

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/15/89

Recommended Cleanup Activity(ies):

- Manually remove contaminated drift material (fucus), harvest contaminated fucus.
- Breakup and remove asphalt pavement.
- Flood/flush with warm to hot water (up to 140 F) on low angle beaches.
- Use moderate to high pressure warm to hot water washing on rock and boulder/cobble beaches.
- Use other approved methods as appropriate.

ALASKA DEPT. OF
FISH & GAME
JUL 28 1989
VALDEZ/R II
HABITAT DIVISION

Priorities Considerations:

Class 2-3: heavy to moderate oil
Class B: resources absent

Ecological Constraints (from site survey): Work at mid tide +
or take appropriate measures to protect lower intertidal zone.

Archeological Constraints (from site survey):

No cleanup crew access to historic cabin or surrounding area. If
heretofore undiscovered cultural materials are uncovered during
cleanup, contact Exxon's Archeological Field Director and take
actions prescribed in the Operational Guidelines for Shoreline
Cleanup dated 4/21/89 as amended.

Douglas Reger
State Historic Preservation Officer *

Date: 7/25/89

ISCC: _____

Date: _____

EXXON: _____

Date: _____

FOSC: _____

Date: _____

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

ACE 7354040 +15/AC

DOCUMENTATION:

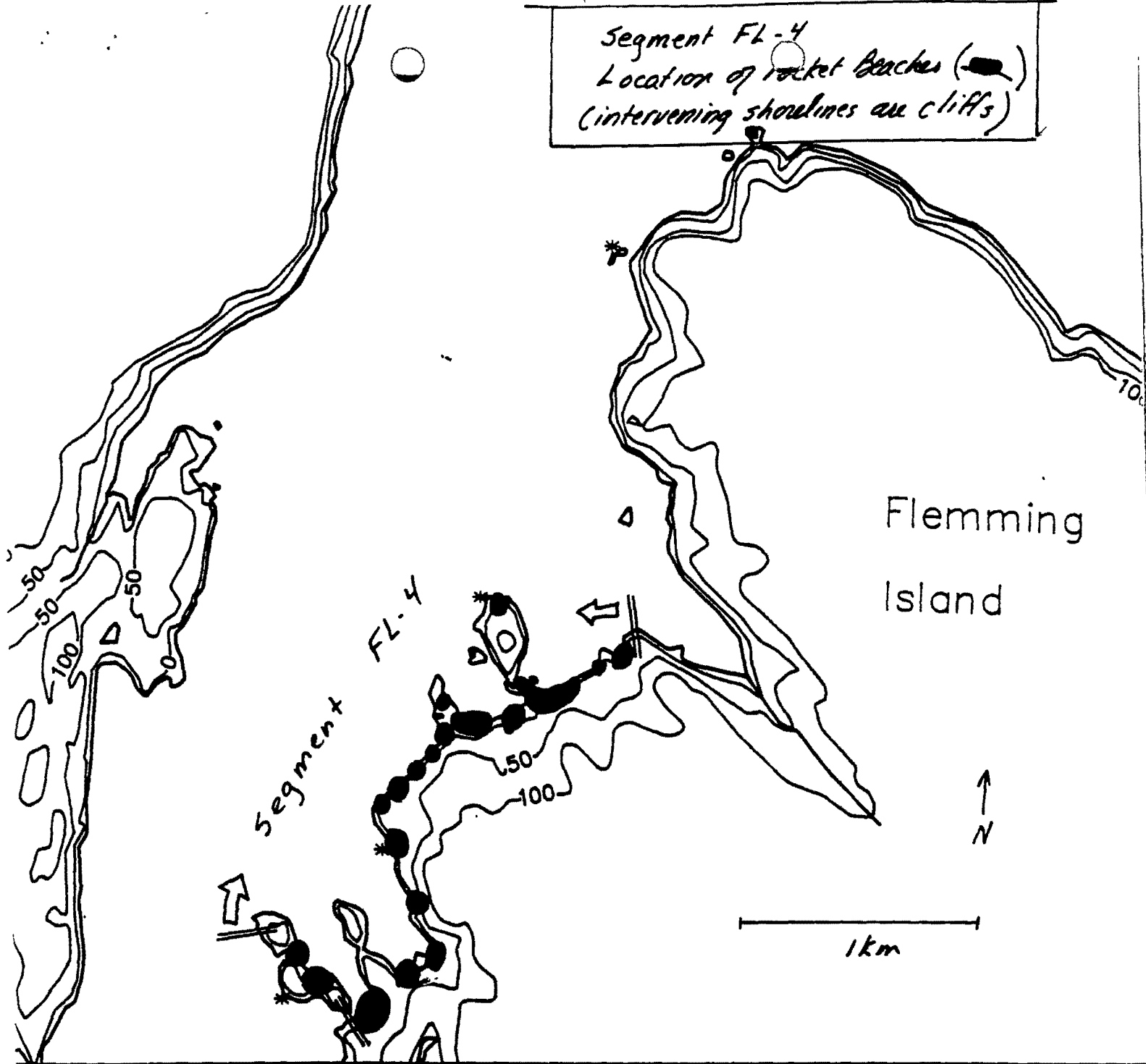
Map/Aerial photo marking segment boundaries _____

VTR: Y/N Tape Number(s) _____

Photography: (Y)/N Roll Number(s) 1-5 _____

Sample Numbers Collected: _____

ACE 7354041



3000'

1 MILE

1	2	3
4	5	6
7	8	9

SEWARD
A-3

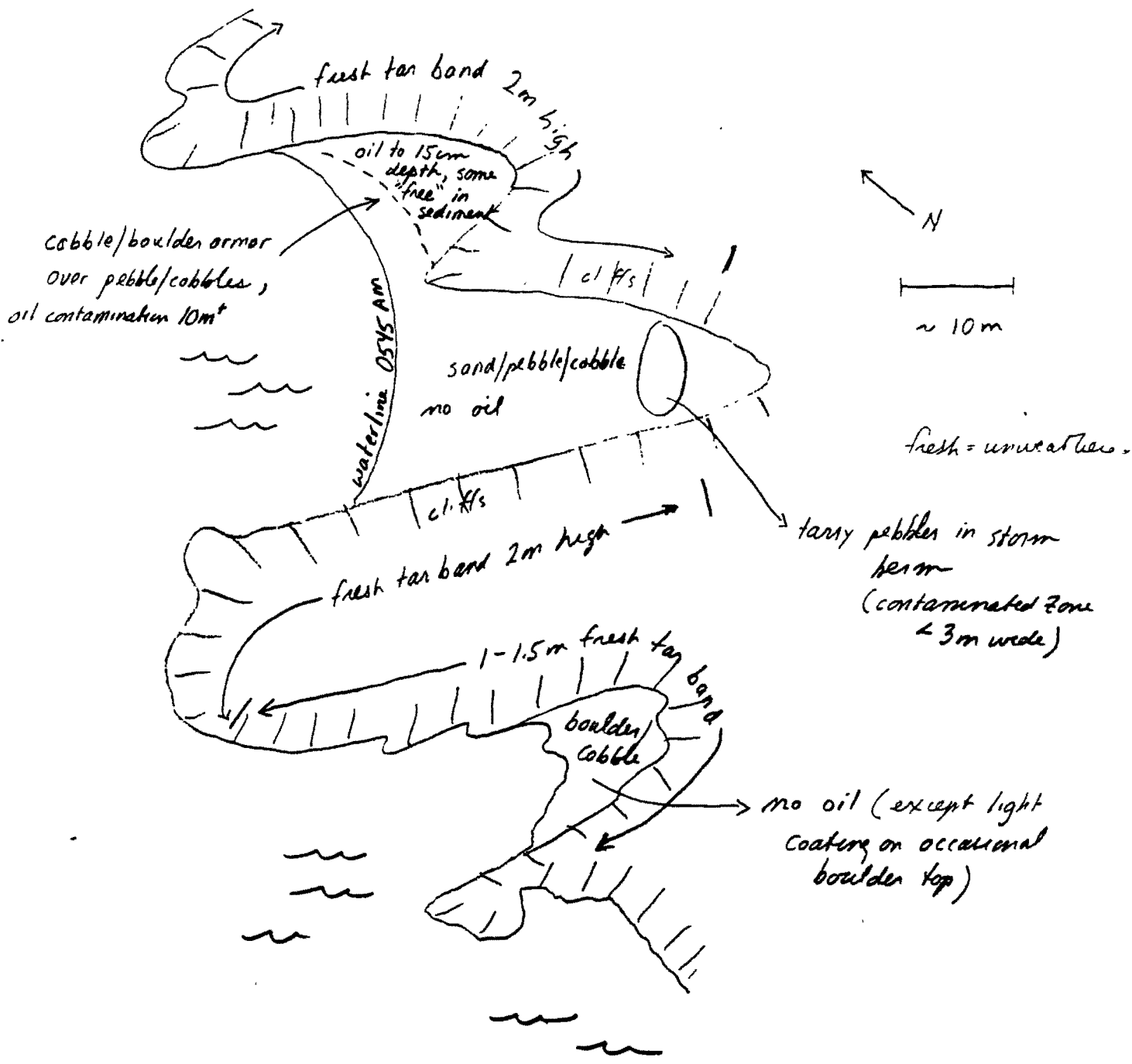
AERIAL TOPOGRAPHY PRINCE WILLIAM SOUND

FROM NASA 1:60,000 PHOTOGRAPHY
MAPPED FOR EXXON CO. U.S.A.
MAPPED BY AEROMAP U.S., ALBUQUERQUE, N.M.

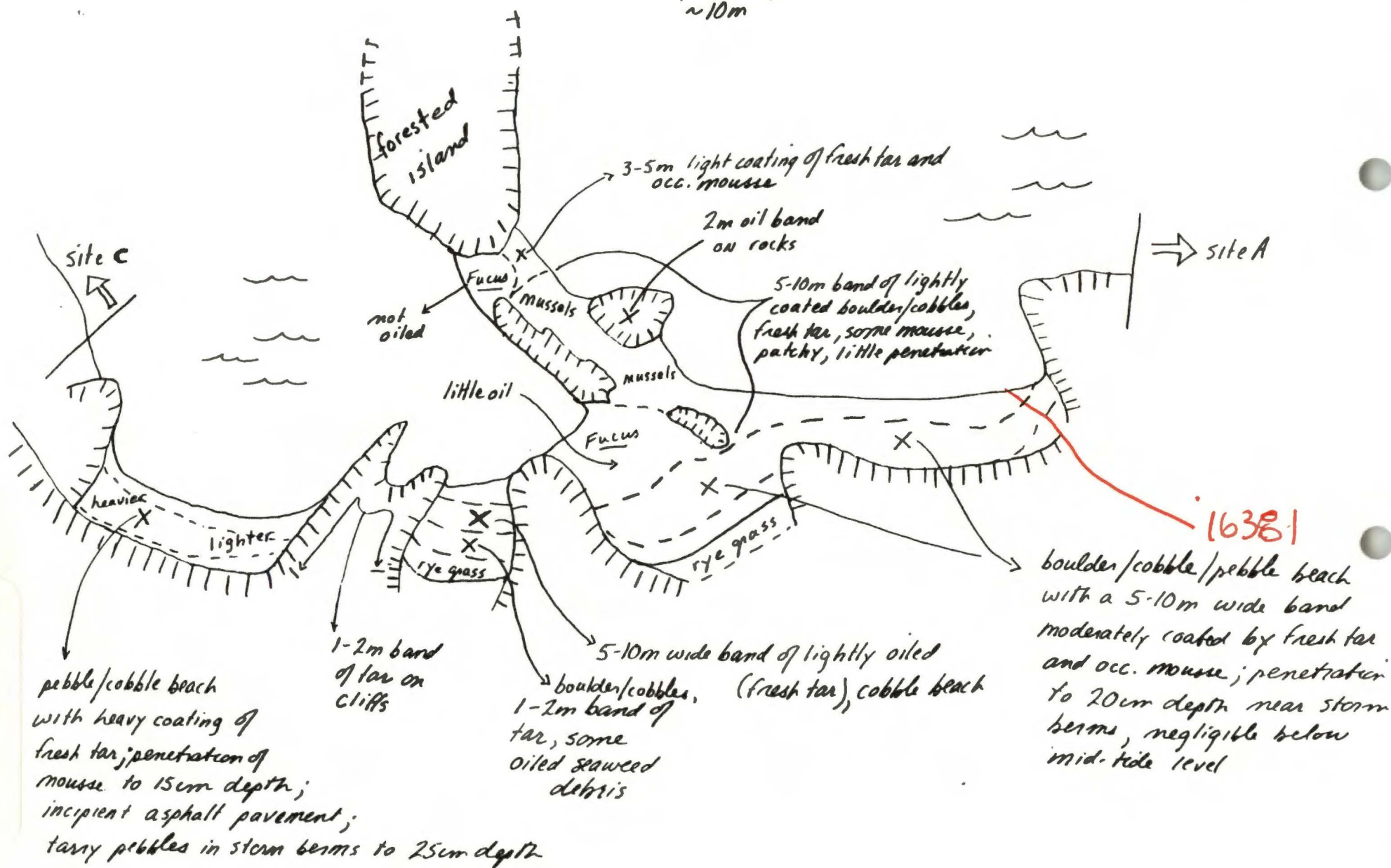
ACE 7354042

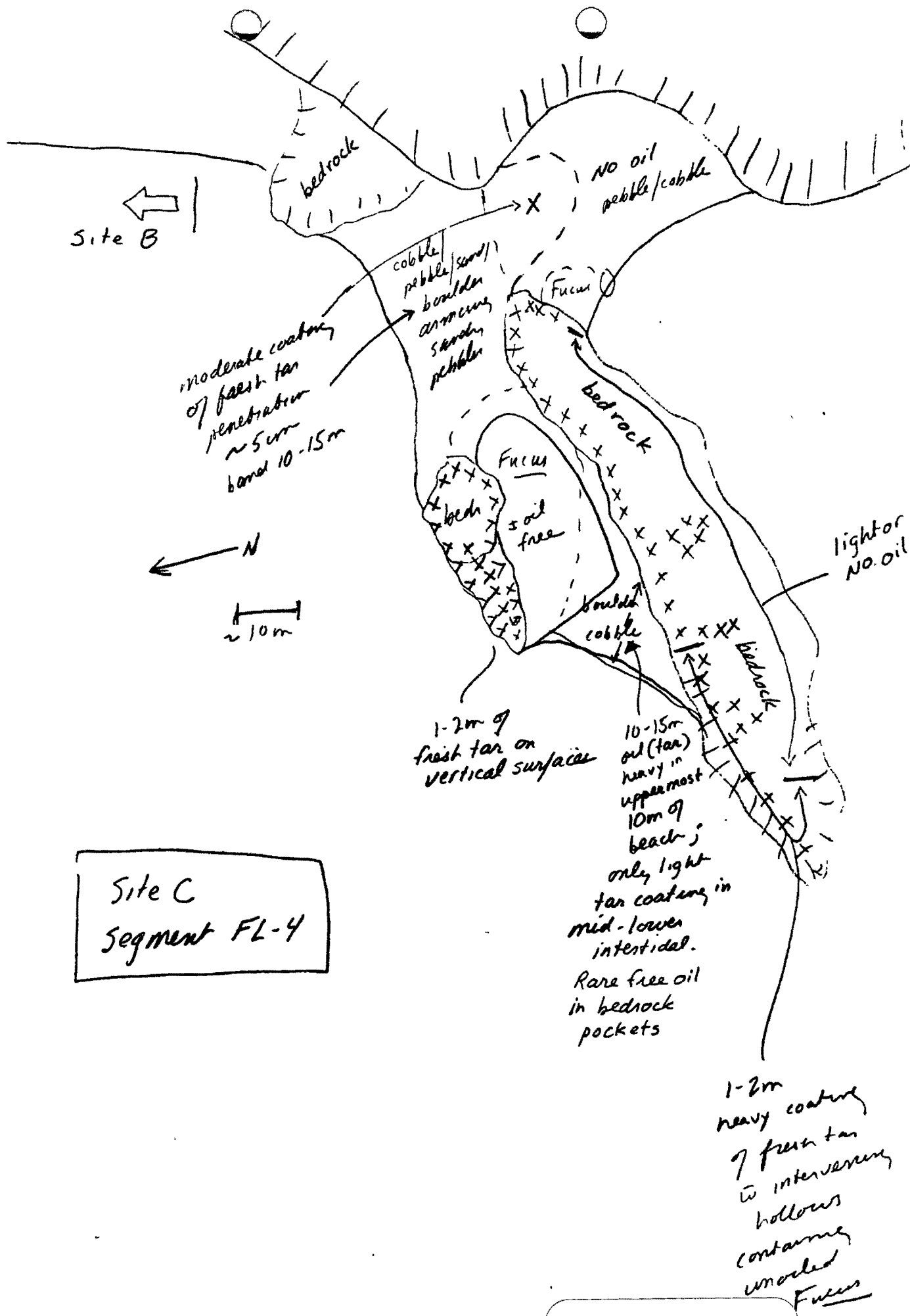
SHEET

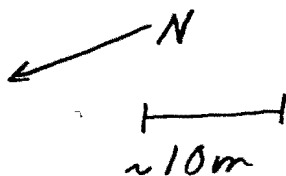
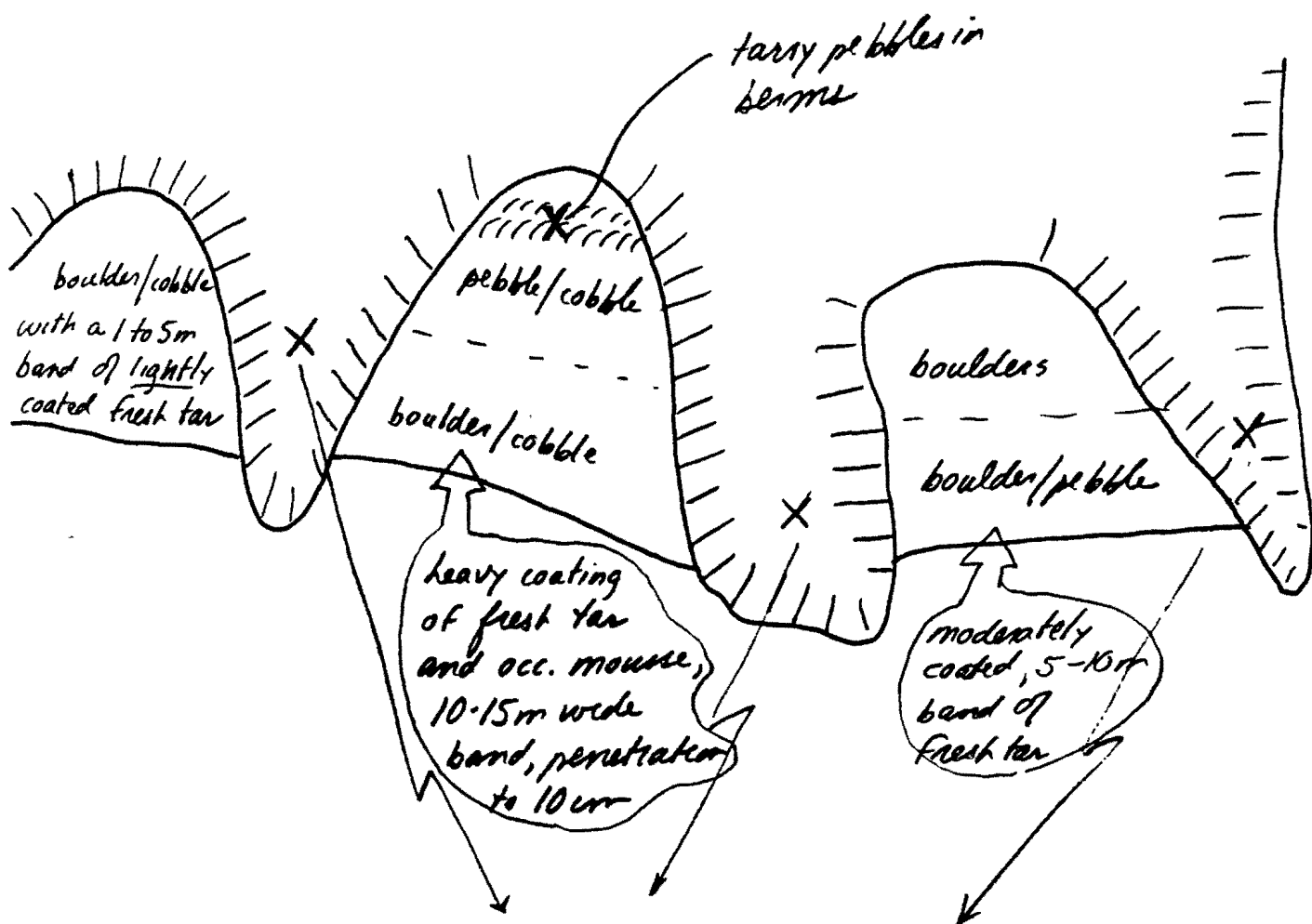
Site A, Segment FL-4



Site B, Segment FL-4
Plan View

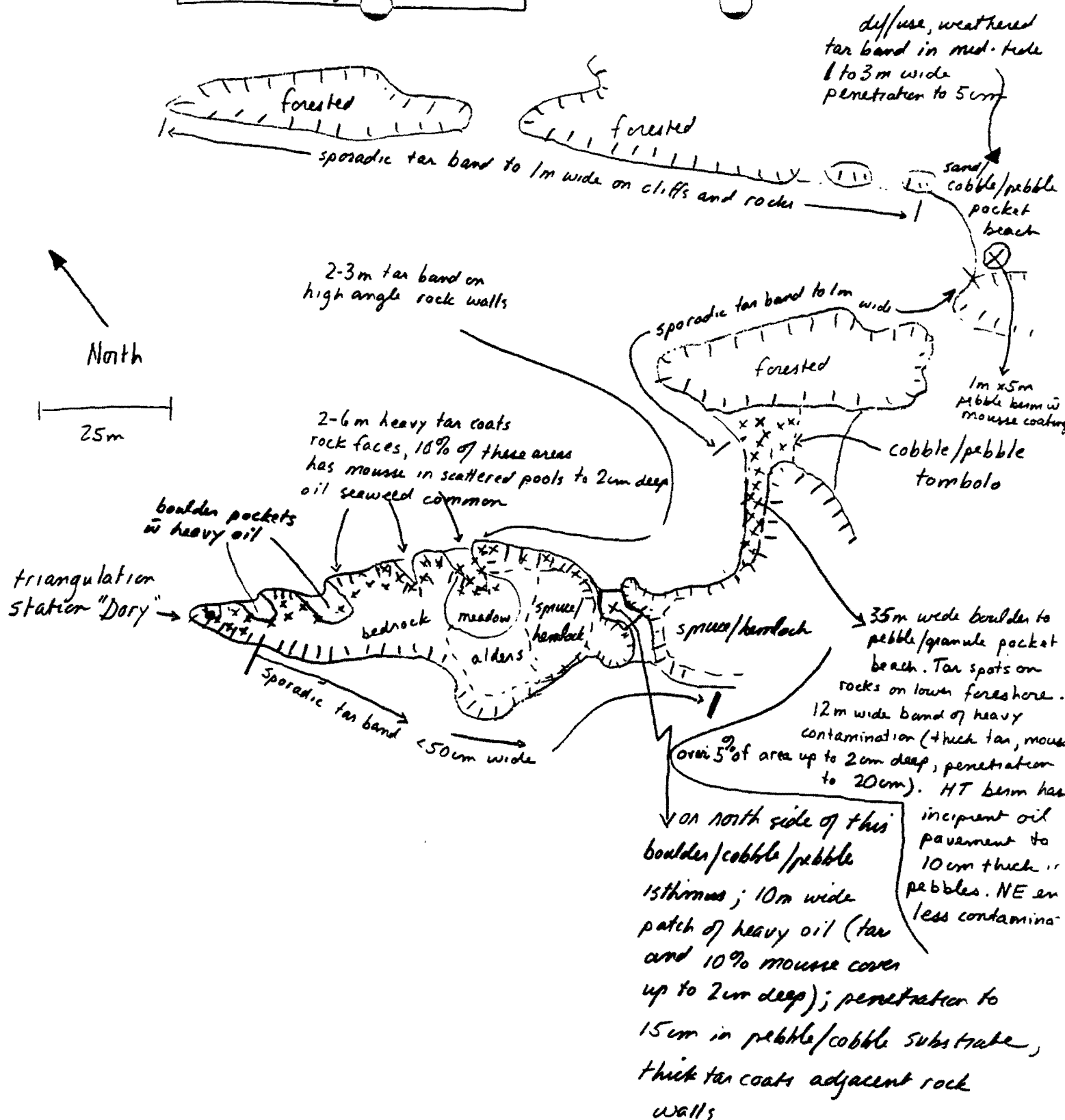




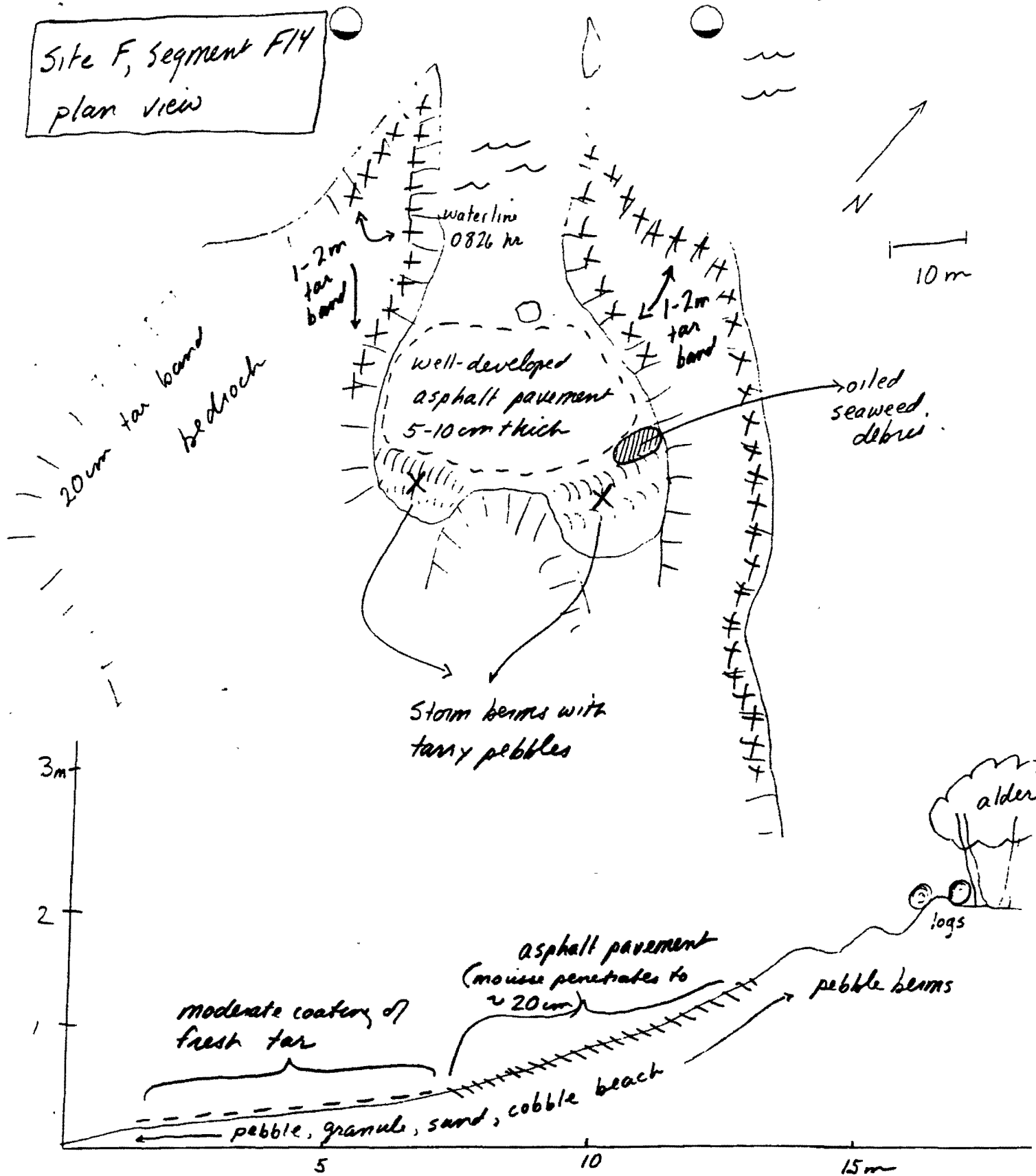


Site d, Segment
FL-4
plan view

Site E, Segment FL-4



Site F, Segment F14
plan view



X-section of Site F

ECOLOGICAL EVALUATION

LOCATION: FLEMMING ISLAND SITE: NW Side; PWS OBSERVER: MEYER

LOCATION PREFIX: FL SEG. NO.: 4 LENGTH: 5.5 KM (M)

DATE: 07/15/89 TIME (HHMM): 0520 TIDE HT.: +0.6 to +3.0 FT (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Small
Patches of heavily mounded Fucus throughout oiled zones of segment. Several dense beds of un-oiled Fucus on boulder/cobble/pebble beaches (at Sites B & C). However, Fucus generally patchy/sparse on cobble beaches and continuous/dense on rock faces and outcrops (in

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Small
Mytilus beds in flat cobble/gravel beach, on lower edges of boulders, on rock. Young Mytilus patchy in Fucus.

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Dense on rock faces and large boulders, scattered on cobbles across beach.

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Primarily under Fucus; also present, oiled, and alive in oiled Fucus. Nucella patchy in distribution, some Nucella eggs.

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets common under Fucus and in tide pools (primarily Notoacmea).

OTHER OBSERVATIONS: Pycnopodia common; one Evasterias, a few Dermasterias. Hermit crabs

abundant but patchy in distribution, primarily under lower Fucus. Oil throughout grassy area (Site B). Eelgrass common in shallow subtidal. Oil sheen on water off oiled beaches.

CLEANUP PRECAUTIONS: Heavily oiled Fucus could be a source of recontamination; there is abundant adjacent Fucus and removal of oiled Fucus is encouraged.

MAMMALS: Otters 1 Harbor Seals 1 Sea Lions 3 Whales _____

Other Deer tracks on beach.

Oystercatcher - 1; 1 empty Oystercatcher Nest (Site F).

BIRDS: ~35 Black-legged Kittiwakes offshore; Ravens - 2; Stellers Jay - 1; Heard: 1 Eagle, Crows.

GENERAL OBSERVATIONS: Ecological diversity and abundance of biota is generally low in this segment.

the area is a low energy system and natural recovery may be slow. However, there is little 'free' oil on these beaches/rocky shorelines, and cleanup efforts will likely yield little recoverable oil.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 7/15/89 Location Fleming Island Site _____

Location Prefix FL Segment # FL-4 Length 5.5 Km
5.4 km

Survey Method:

Air _____ (A - indicate on map) Boat ✓ (A - indicate on map)

Ground ✓ (G - indicate on map)

Known cultural resources (AHRS #) None Data Source None

Oil conditions/beach visibility none to moderate / good to fair

Width of beach zone surveyed 0-15m Tree fringe surveyed 10-15

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) CBN, CMT

General observations justifying survey method and segment's site probability:

Shore Profile Beaches 1, 2 and 3 good, gravel and moderate slope

Fresh Water Sources one small stream on beach 1

Sea Exposure protected to east

Access/Safety Beaches 1, 2 & 3 good - the rest poor

Probability of undiscovered sites in beach zone (circle one) 1 (2) 3 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # _____ Frames _____

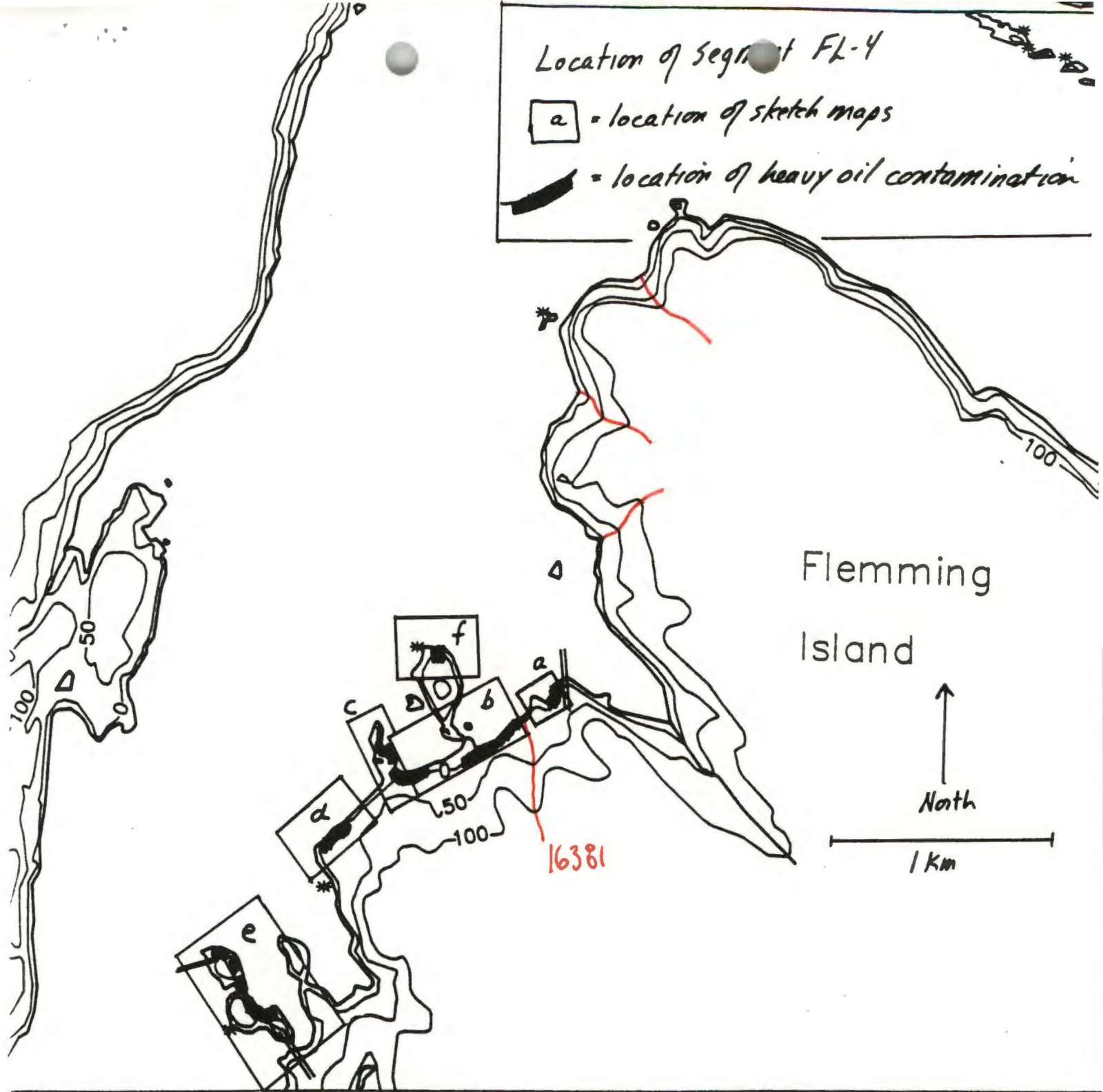
B/W Roll # _____ Frames _____

Observer(s) C. Wilson

Time survey started 0515 Time survey ended 0930

Cultural resource considerations/restraints:

standard restraints. Both the CBN and the CMT location are far enough from the beach that restricting access to the uplands should adequately protect them.



1	2	3
4	5	6
7	8	9

3000'

AERIAL TOPOGRAPHIC MAP
PRINCE WILLIAM SOUND

ACE 7354051 -15

FROM NASA 1:60,000 PHOTOGRAPH

MAPPED FOR EXXON CO. USA, VANCOUVER

MAPPED BY MERCATOR U.S. ANCHORAGE

A hand-drawn map showing a route with various oiling points. The route is marked with letters: H, M, L, VL, N, NS. A road labeled "ASC 1638" branches off to the right. A legend box titled "OILING" defines the labels:

OILING	
H	- Heavy
M	- Moderate
L	- Light
VL	- Very Light
N	- None
NS	- Not Sure

A
N

FL-005 ASC: 226-40-16400
Eastside, Flemming Island

ACE 1369607



- Prince William Sound -
DOCUMENTS IN STREAM FILES

ASC# _____ Segment # _____

____ '89 Intertidal Assessment Survey, Sport/Com. Fish .
____ '89 Shoreline Clean-Up Program (SAT)
____ '89 Anadromous Fish Stream Authorization, for instream work
____ '89 Stream Treatment Reports
____ '89 Demobilization Reports ____ Bioremediation ____ other
____ '89 RLS Sheet ____ Oil sed. sample ____ Egg sample
____ '89 Fall Walk-a-thon Survey, ADEC
____ '89 Winter Assess. Study Site ____ Winter Stream Survey Form
____ '89 Other Documents _____

____ '90 Pre-Anadscat Survey, multi-assessment form
____ '90 Anadscat Survey
____ '90 Anadromous Fish Stream Evaluation (work order)
____ '90 Anadromous Fish Stream Addendum to work order
____ '90 Shoreline Evaluation, SAT and work order for segment
____ '90 Anadromous Fish Stream Authorization, Title 16 permit
____ '90 Stream Treatment Report
____ '90 ADEC Demobilization Report for Bio
____ '90 ADF&G Oiling Condition Survey, for ASAP use (Aug. 5, 1990)
____ '90 ASAP Survey ____ ASAP Rec. ____ ADEC Rec. (7-7-90)
____ '90 Other Documents _____



AJW
Pre-ANADSCAT-90

ADF&G MULTI-ASSESSMENT DATA FORM

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

2 REGION: PWS KP,CI K,AP

METHOD: Aerial Ground Boat

3 DATE: 4/11/90

15 HIGH TIDE TIMES: 1

21 TEAM RECORDER: R. Custer

4 START TIME: 1052

16 HIGH TIDE HTS: 1

22 OBSERVERS: 1

5 STOP TIME: 1100

17 LOW TIDE TIMES: 1

23 AGENCY: ADEG HAB

6 SEGMENT #: FL005

18 LOW TIDE HTS: 1

24 PHOTOS TAKEN: Y (N)

7 STATION #:

19 TIDE HT AT SURVEY:

Roll #: Frame:

8 K-UNIT:

Ebb Slack Flood Slack

25 VIDEO TAKEN: Y (N) TAPE#:

9 STAT AREA:

20 USCG QUAD:

Start: End:

10 LAT:

11 LONG:

26 SAMPLES TAKEN? Y (N) Number

12 SOURCE: Map Loran

13 LOCATION: Fleming Is.

14 DESCRIPTION: Low on south west

Oil
Sediment
Biological
Water

EXTENT OF OIL

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

30 OVERALL OIL IMPACT: N VL L M H

31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain

32 OILED DEBRIS? (Y) N

33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cave
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 #: 296-40-ASW
76400

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: Big boulder/rock upper

43 ANADROMOUS FISH PRESENT? Y (N)

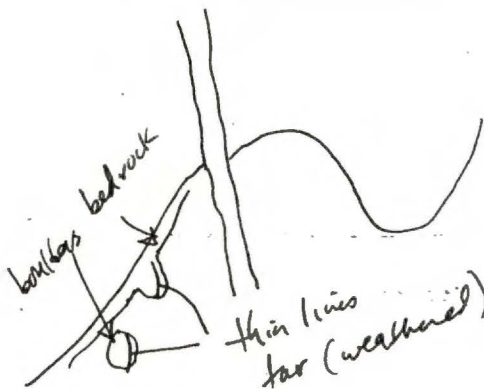
44 ANADROMOUS FISH OBSERVATION
Species Aerial Ground

Recommend for anad scat

COMMENTS: oil tar - drip weathered on upper intertidal
large boulders & rock bands lefty salmon stream
no oil observed in stream some oiled nodules
thickness - 1/4" or less penetration none observed

FRAME(S)

DESCRIPTION

46 OIL DISTRIBUTION DIAGRAM

4/11/90

recommendations - nothing in stream
could be steamed off.

FL005
226-40-16400 AJW

Sample taken
Photo frame # and
shot direction.

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

ASC NUMBER:
 SURVEY TYPE:
 METHOD:
 DATE: / /
 START TIME:
 STOP TIME:

TEAM RECORDER:
 OBSERVERS:

AGENCY(IES):

PHOTOS TAKEN?

Roll #:

Frames:

VIDEO TAKEN?

Tape Number:

Counter Start:

SAMPLES TAKEN?

SAMPLE I.D. NUMBERS: 1.
 4.

2.
 5.

3.
 6.

	LENGTH	WIDTH	M2	%	THICK	PEN	OIL TYPE
SITE 1	2m	4m					SOR/CT
SITE 2							
SITE 3							
SITE 4							
SITE 5							

OVERALL OIL IMPACT:

OIL IN STREAM CHANNEL?

SUBSTRATE

OIL ON BEACH WITHIN 50M OF STREAM MOUTH?

Bedrock	Granule
Boulder	Sand
Cobble	Silt
Pebble	Veget.

SPECIES					
COUNT					

COMMENTS:



ANASCAT-90

ADF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS SS DS TS AVS SCHA MMHS PTA2 REGION: PWS KP,CI K,APMETHOD: Aerial Ground Boat3 DATE: 4/23/9015 HIGH TIDE TIMES: 0021 1125721 TEAM RECORDER: M. WIEDMER4 START TIME: 163016 HIGH TIDE HTS: 11.5' 10.5'22 OBSERVERS: T. CROWE5 STOP TIME: 170017 LOW TIDE TIMES: 0648 1185523 AGENCY: ADF&G6 SEGMENT #: FL-00518 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 Slack25 VIDEO TAKEN: Y (N) TAPE#: _____

9 STAT AREA: _____

20 USCG QUAD: _____

Start: _____ End: _____

10 LAT: _____

11 LONG: _____

26 SAMPLES TAKEN? Y (N) Number

12 SOURCE: Map Loran

Oil _____

13 LOCATION: EAST SIDE, FLEMING IS.

Sediment _____

14 DESCRIPTION: _____

Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	W	M ²	%	L	W	M ²	%
27 SURFACE COVERAGE	50	50		<1				

36 CATALOGED ANAD. FISH SREAM? (Y) N37 CATALOG #: 226-40-16400

38 STREAM NAME: _____

28 SURFACE THICKNESS

29 PENETRATION

30 OVERALL OIL IMPACT: N (VL) L M H41 OIL ON BEACH ADJACENT TO MOUTH? (Y) N

(within 50 meters)

31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain42 OIL WITHIN 1 MILE OF STREAM? (Y) N32 OILED DEBRIS? Y (N)

Where: _____

33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cove43 ANADROMOUS FISH PRESENT? (Y) NFRY PRESUMED

Lagoon Marsh

44 ANADROMOUS FISH OBSERVATION

34 WAVE EXPOSURE: High Moderate Low

Species Aerial Ground

35 SUBSTRATE TYPE: Bedrock 10% Boulder 80% Cobble 10%

Gravel _____ Sand _____ Mud/silt _____

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

FRAME(S)

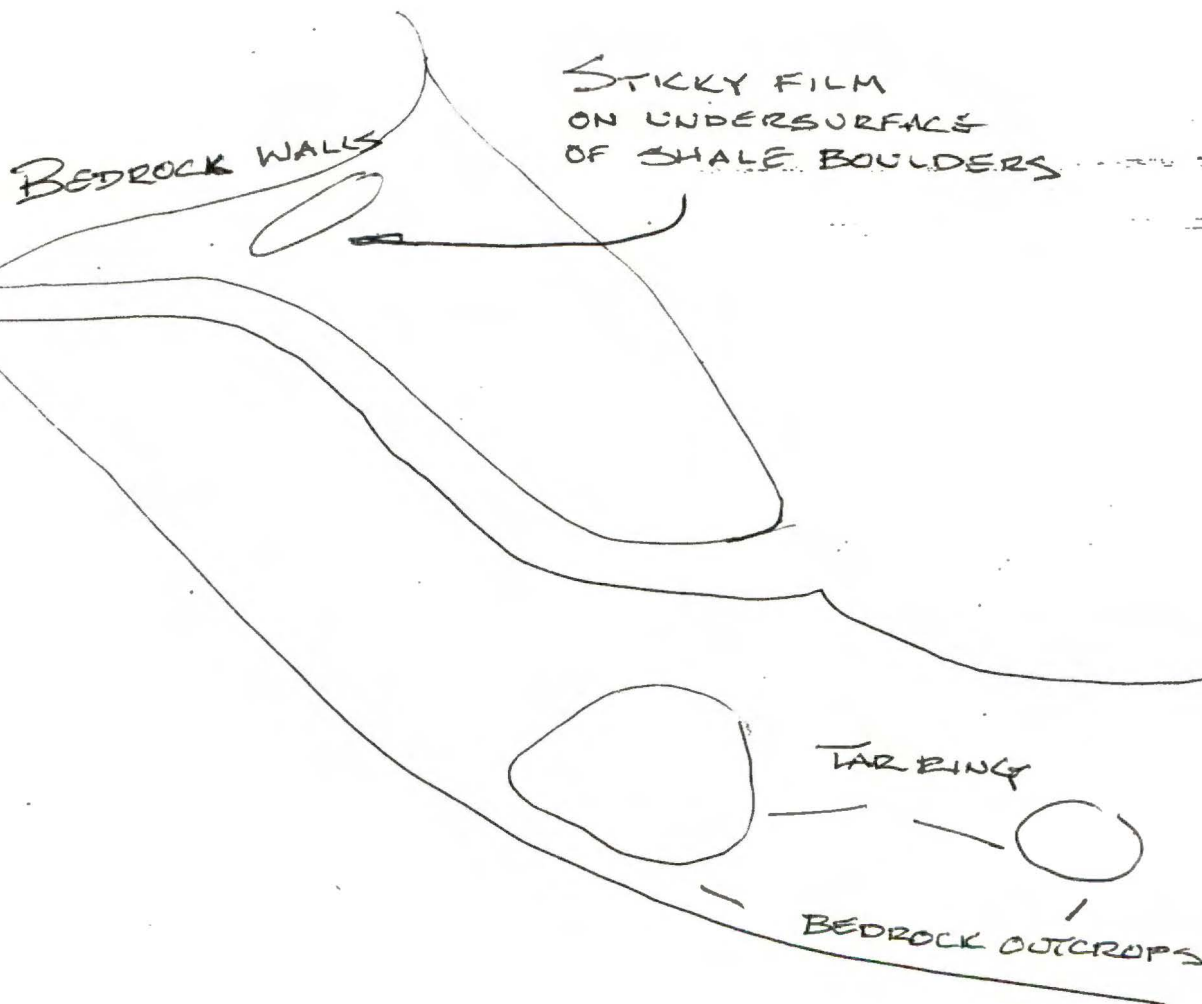
DESCRIPTION

RECOMMENDATIONS: DO NOT TREAT TAR RINGS
ON BEDROCK.

TURN OVER SHALE BOULDERS TO EXPOSE OIL TO
ENHANCED WEATHERING

TASK ~~AT~~ ACCOMPLISHED BY SURVEY CREW - RETURN
VISIT NOT REQUIRED.

46 OIL DISTRIBUTION DIAGRAM



ASC NUMBER:	SEGMENT NUMBER:	YR CATALOGED:
LOCATION: <i>FLAMMING IS</i>		
STREAM NAME:		LATITUDE:
KODIAK K-UNIT:	LOCAL STREAM #:	LONGITUDE:
USGS QUADRANGLE:		LEGAL: S
SHORELINE TYPE:	ALL SEGMENTS:	

ASC NUMBER: *22640-16400*
 SURVEY TYPE:
 METHOD:
 DATE: *4/23/90*
 START TIME:
 STOP TIME:

TEAM RECORDER:
 OBSERVERS:

AGENCY(IES):

PHOTOS TAKEN?

Roll #:

Frames:

VIDEO TAKEN?

Tape Number:

Counter Start:

WAVE EXPOS:

SAMPLES TAKEN?

SAMPLE I.D. NUMBERS: 1.
 4.

2.
 5. 3.
 6.

	LENGTH	WIDTH	M2	%	THICK	PEN	OIL TYPE
SITE 1							<i>OFF/CT</i>
SITE 2							
SITE 3							
SITE 4							
SITE 5							

OVERALL OIL IMPACT:

OIL IN STREAM CHANNEL?

SUBSTRATE

Bedrock	Granule
Boulder	Sand
Cobble	Silt
Pebble	Veget.

OIL ON BEACH WITHIN 50M OF STREAM MOUTH?

SPECIES					
COUNT					

COMMENTS:

CATALOG NUMBER: 2264016400 SEGMENT#: FL005 LOCATION: FLEMMING ISLAND, EAST SHORE							
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
04/11/90	PRE-ANADSCAT	1	SURFACE			CV	WEST SIDE: BATHTUB RING ON BEDROCK/BOULDERS IN UITZ. OILED NEEDLES.

MAD vs. OG:
 COMMENTS:
 RECOMMEND FOR ANADSCAT. OIL TAR-DRIP WEATHERED IN UPPER INTERTIDAL. LARGE BOULDERS & ROCK BANDS LEFT OF SALMON STREAM. NO OIL OBSERVED IN STREAM, SOME OILED NEEDLES. THICKNESS - 1/4" OR LESS, PENETRATION - NONE OBSERVED. NO OIL ON STREAM BANKS.

CATALOG NUMBER: 2264016400 SEGMENT#: FL005 LOCATION: FLEMMING ISLAND, EAST SHORE							
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
04/23/90	ANADSCAT	1	SURFACE			OF CT	SOUTHWEST SIDE: TAR RING ON BEDROCK OUTCROPS. NORTHWEST SIDE: STICKY RING ON UNDER SURFACE OF SHALE BOULDERS IN UITZ.

MAD vs. OG:
 COMMENTS:
 STICKY FILM ON UNDER SURFACE OF SHALE BOULDERS ALONG UPPER INTERTIDAL ZONE. BATHTUB RING ON BEDROCK OUTCROPS. OIL ON STREAM BANKS. RECOMMENDATIONS: DO NOT TREAT TAR RINGS ON BEDROCK. TURN OVER SHALE BOULDERS TO EXPOSE OIL TO ENHANCE WEATHERING. TASK ACCOMPLISHED BY SURVEY CREW. RETURN VISIT NOT REQUIRED.

CATALOG NUMBER: 2264016400 SEGMENT#: FL005 LOCATION: FLEMMING ISLAND, EAST SHORE							
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
04/23/90	OG'S ANADSCAT	1	SURFACE		0	ST	SOUTHWEST SIDE: BOULDERS WITH SPLASHES AND STAINS WITHIN APPROXIMATELY 10-20M FROM MOUTH (PER SKETCH). SOME STICKY OIL ON UNDERSIDES OF BOULDERS.
04/23/90	OG'S ANADSCAT	2	SURFACE		0	ST	NORTHEAST SIDE: BOULDER FIELD. SOME STICKY OIL ON UNDERSIDE OF BOULDERS. PER SKETCH, BOULDERS APPEAR 10M DISTANCE FROM STREAM.

MAD vs. OG: GENERALLY AGREE.
COMMENTS:

CATALOG NUMBER: 2264016400		SEGMENT#: FLO05		LOCATION: FLEMMING ISLAND, EAST SHORE			SEQ:
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
04/11/90	PRE-ANADSCAT	1	SURFACE			SCR-CT C	west side of stream - UFTZ - bathtubting on bedrock / boulders. Oiled needles

MAD vs. OG:

COMMENTS:

RECOMMEND FOR ANADSCAT. OIL TAR-DRIP WEATHERED IN UPPER INTERTIDAL. LARGE BOULDERS & ROCK BANDS LEFT OF SALMON STREAM. NO OIL OBSERVED IN STREAM, SOME OILED NEEDLES. THICKNESS - 1/4" OR LESS, PENETRATION - NONE OBSERVED. NO OIL ON STREAM BANKS. RECOMMENDATIONS: NOTHING IN STREAM COULD BE STEAMED OFF.

CATALOG NUMBER: 2264016400		SEGMENT#: FLO05		LOCATION: FLEMMING ISLAND, EAST SHORE			SEQ:
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
04/23/90	ANADSCAT	1	SURFACE			OF CT	<u>UFTZ</u> SOUTHWEST SIDE: TAR RING ON BEDROCK OUTCROPS. NORTHWEST SIDE: STICKY RING ON UNDER SURFACE OF SHALE BOULDERS.

MAD vs. OG:

COMMENTS:

STICKY FILM ON UNDER SURFACE OF SHALE BOULDERS ALONG UPPER INTERTIDAL ZONE. BATHTUB RING ON BEDROCK OUTCROPS. OIL ON STREAM BANKS. RECOMMENDATIONS: DO NOT TREAT TAR RINGS ON BEDROCK. TURN OVER SHALE BOULDERS TO EXPOSE OIL TO ENHANCE WEATHERING. TASK ACCOMPLISHED BY SURVEY CREW. RETURN VISIT NOT REQUIRED.

CATALOG NUMBER: 2264016400		SEGMENT#: FLO05		LOCATION: FLEMMING ISLAND, EAST SHORE			SEQ:
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
04/23/90	OG'S ANADSCAT	1	SURFACE		0	ST	SOUTHWEST SIDE: BOULDERS WITH SPLASHES AND STAINS WITHIN APPROXIMATELY 10-20M FROM MOUTH (PER SKETCH). PIT 4: NO OIL. NO DIMENSIONS AVAILABLE. S
04/23/90	OG'S ANADSCAT	2	SURFACE		0	ST	NORTHEAST SIDE: BOULDER FIELD. SOME STICKY OIL ON UNDERSIDE OF BOULDERS. PER SKETCH, BOULDERS APPEAR 10M DISTANCE FROM STREAM. PITS NEAR BANKS SHOW

DATE PRINTED: 10/17/91

NON-DUCK STREAMS

PAGE 31

MAD vs. OG: GENERALLY AGREE.
COMMENTS:

OG SUPPLEMENTAL INFO TO MAD

RECORDER: *Sundt*

REC-DATE: 10/7/91

PAGE

CATALOG NUMBER: 22640-16400

STREAM NAME:

LOCATION:

SEGMENT NUMBER: *FL005*

SHORELINE TYPE:

DATE: 01/23/90

OG vs. MAD: *generally agree.*

[illegible]

1st floor right

ADF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS SS DS TS AVS SCHA MMS PTA2 REGION: PWS KP, CI K, APMETHOD: Aerial Ground Boat3 DATE: 4/23/9015 HIGH TIDE TIMES: 0021 1125721 TEAM RECORDER: M. WIEDMER4 START TIME: 163016 HIGH TIDE HTS: 11.5' 10.5'22 OBSERVERS: T. CROWE5 STOP TIME: 170017 LOW TIDE TIMES: 0648 1185523 AGENCY: ADF&G6 SEGMENT #: FL-00518 LOW TIDE HTS: -0.8' 0.5'24 PHOTOS TAKEN: Y N7 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 USCG QUAD: _____

Start: _____ End: _____

10 LAT: _____

11 LONG: _____

26 SAMPLES TAKEN? Y N Number

12 SOURCE: Map Loran

Oil _____

13 LOCATION: EAST SIDE, FLEMING IS.

Sediment _____

14 DESCRIPTION: _____

Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	W	M ²	%	L	W	M ²	%
27 SURFACE COVERAGE	50	50		<1				

36 CATALOGED ANAD. FISH SREAM? Y N

	L	W	M ²	%	L	W	M ²	%
28 SURFACE THICKNESS	0							
29 PENETRATION	1mm	<1mm						

37 CATALOG #: 226-40-16400

38 STREAM NAME: _____

30 OVERALL OIL IMPACT: N VL L M H39 OIL IN STREAM BED? Y N31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain40 OIL ON STREAM BANKS? Y N32 OILED DEBRIS? Y N41 OIL ON BEACH ADJACENT TO MOUTH? Y N
(within 50 meters)42 OIL WITHIN 1 MILE OF STREAM? Y N

Where: _____

33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cove
Lagoon Marsh43 ANADROMOUS FISH PRESENT? Y NFRY PRESUMED34 WAVE EXPOSURE: High Moderate Low44 ANADROMOUS FISH OBSERVATION
Species Aerial Ground

35 SUBSTRATE TYPE: Bedrock Boulder Cobble

Gravel Sand Mud/silt

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

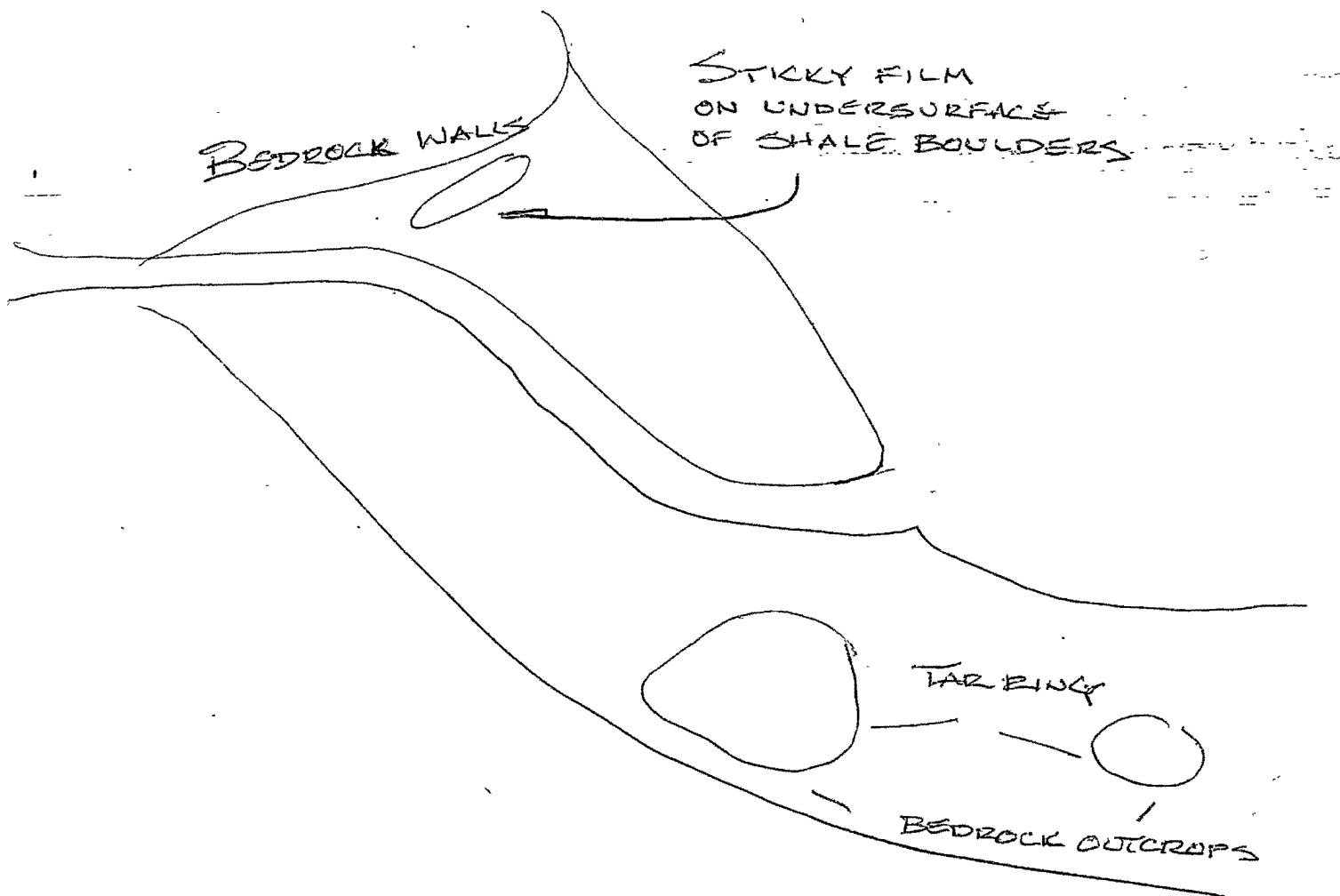
FRAME(S)

DESCRIPTION

RECOMMENDATIONS: DO NOT TREAT TAR RINGS
ON BEDROCK.

TURN OVER SHALE BOULDERS TO EXPOSE OIL TO
ENHANCED WEATHERING

TASK ~~IS~~ ACCOMPLISHED BY SURVEY CREW - RETURN
VISIT NOT REQUIRED.

46 OIL DISTRIBUTION DIAGRAM

Sample taken
 Photo frame # and
 shot direction.

ACE 7354073 -15

Alaska Department of Fish and Game
ANADSCAT Observations and Recommendations
Team 15 - Michael Wiedmer and Tom Crowe

23 April 1990

ASC # 226-40-16451

Segment BA-002

2
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.

1
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

I 1
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 NO. 04-1

OG WILLIAM REID USCG McMAHON SEWMENT ST/ FL005 18/53
 BIO MICHAEL FAWCETT LAND REP TOM CROWE ADFG 5 STREAM 226-40-164001 OF
 EXXON GUS GARCIA ADFG MIKE VIEDMER TIME 16:35 to 16:55
 TEAM NO. 15 TIDE LEVEL AFT 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 10 % B 10 % C 75 % P 15 % G 0 % S 0 % M 0 % V
 SLOPE: Lang 40 % Hang 60 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 30 m NO 20

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	B	P	S	BR	OR	OL	OF	NO	SU	U	M	L
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT													
STAIN			X			X					X		
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL													

PAVEMENT H F S 0 sq. m by 0PATTIES / TARBALLS 0 BAGNEAR SHORE SHEEN? ☒ NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

Did you collect
DEBRIS
☐ YES ☒ NO

TYPE 0#BAGS 0

Photographs:

Roll No. 0Frames 0

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CL)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (Y/N)	T	SURFACE SUBSURFA SEDIMENT
		OP	OR	OL	OF	NO		UO	UC	BR	OR	OL	OF	NO	SU	U	M	L				
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 0 DATE 0

ACE 7354079

BOG WILLIAM REID

SKETCH MAP

SEGMENT ST/ FL005

STREAM 226-40-16400

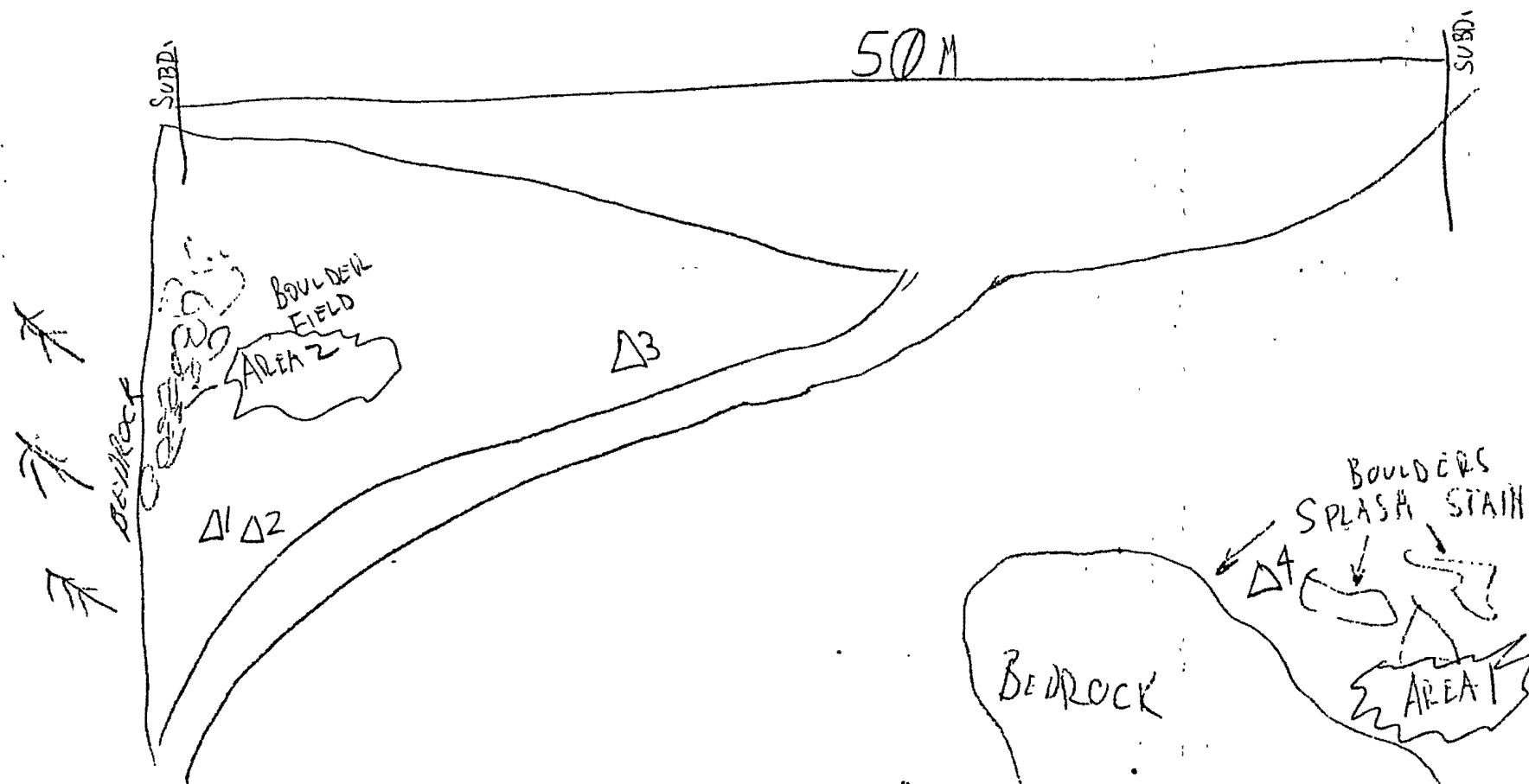
DATE 23 / APR 90

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



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

REVISION: 03/24/90

ACE 7354075

Segment F1005

4/23/90

Stream 226-40-16400

Michael Fawcett

Ecological Summary

This is a small stream with a short beach (25-30m 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. Orling consists of light splashes on bedrock, and some coot beneath boulders. Two sea lions swimming nearby.

Michael Fawcett

OPERATIONS FIELD NOTES

See Back for Instructions

SEGMENT ID ANAD FL-005

STREAM ID # 226-40-16400

ANNOTATED MAP INCLUDED Y/N

DATE 4-23-90

NAME GARCIA

TEAM # 15

SURFACE OIL	Quantities in Meters			None	Treatment Recommendation					
	Length	Width	Area		Bioremediation		Tilling		Spot Hot Water	
					Y/N	% Treat	Y/N	% Treat	Y/N	% Treat
Wide Band	VERY	SPORADICALLY		NONE						
Medium Band	STAINED	IN AREAS								
Narrow Band	1 & 2.									
Very Light										
TOTAL MANDAYS						0		0		0

SUBSURFACE OIL NONE

Other (Describe)?	

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

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

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

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

GENERAL

Snow covering 0 % of the Supratidal Zone?

Wave Exposure H(M)L

Access Limitations: NONE

Snare Boom/Pom Poms Recommended? NO

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

COMMENTS:

NO TREATMENT RECOMMENDED FOR THIS STREAM. ROCKS IN AREA 2 WERE TURNED OVER TO SPEED NATURAL CLEANING.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 FL005 SUBDIVISION: 16400 DATE 4/23/90

USCG

NAME CWO MCNAHON SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC

NAME NO TEAM MEMBER SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

LAND MANAGER

NAME NO TEAM MEMBER SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

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 uncoiled biota and substrate. No additional ecological constraints. Subject stream is located in Subdivision A (1 of 2).

ARCHAEOLOGICAL CONSTRAINTS:

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

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

Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

DATE: 5-18-90

ECCOLOGICAL
MAP

16395

16397

1A, 1B
ST (1)
3NP, 300
1K

226-20

226-40

16351

BALD

EAGLE
NEST

16337

16335

16332

16328

16324

16319

16317

16315

16305

16303

16301

16390

16388

16384

16372

16381

16400

16414

16582

16580

16577

Processed
5/6/90
mk

RECEIVED
MAY 03 1990

DEPT. OF
ENVIRONMENTAL CONSERVATION

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: FL-05

STREAM NO: 226-40-16400

Concurrence

ACE 7354061

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

Salmon stream mouth - spawning (4/10 to 8/31)

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

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

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

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

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

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

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

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

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

1H Remote release site

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

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

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

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

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

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

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

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

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

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

Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unloiled 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

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

Harbor seal and sea lion molting (8/15 to 9/15)

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

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

ADF&G Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Roth 267-2208

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

20/53

SSAT DATA ENTRY FORM

PAGE 1 OF 2

GENERAL DATA

SEG ID: FL005 ²²⁶⁻⁴⁰ SUBDIV: 16400 TEAM: A5-15 SURVEY DATE: 4/23/90
PAVEMENT: CHAR - AREA 0 THICKNESS 0 TARBALLS 0
OILED: LGS - VEG - TRH - DBR - WAVE EXP: LW - MD X HG -
FAX RCVD: - DT: - AGENCY DISAGREE: -
EST SUBDIV LGTH: 50 OIL CATEGORY: W 0 M 0 N 0 VL 30 NO 20 U 0

SURFACE DATA

SURFACE SEDIMENT: BRK 0 BLD 10 COB 75 PEB 15 GRN 0 SAN 0 MUD 0 VEG 0

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

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

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

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

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

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

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

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

21/53

SSAT DATA ENTRY FORM

SUBSURFACE DATA

PAGE 2 OF 2

SEGMENT ID: FL005 SUBDIV: 226-40-16400

PIT # 1 PIT DEPTH 25 OIL CHARACTER — OIL INTVAL: FROM 0 TO 0
QUANT: — OIL CLR: — FLM CLR: — ZONE: SU — UI X MI — LI —
SUBSURF SEDIMENT: BRK — BLD — COB X PEB X GRN X SAN — MUD — VEG —

PIT # 2 PIT DEPTH 35 OIL CHARACTER — OIL INTVAL: FROM 0 TO 0
QUANT: — OIL CLR: — FLM CLR: — ZONE: SU — UI X MI — LI —
SUBSURF SEDIMENT: BRK — BLD — COB X PEB X GRN X SAN — MUD — VEG —

PIT # 3 PIT DEPTH 30 OIL CHARACTER — OIL INTVAL: FROM 0 TO 0
QUANT: — OIL CLR: — FLM CLR: — ZONE: SU — UI — MI X LI —
SUBSURF SEDIMENT: BRK — BLD — COB X PEB X GRN X SAN — MUD — VEG —

PIT # 4 PIT DEPTH 35 OIL CHARACTER — OIL INTVAL: FROM 0 TO 0
QUANT: — OIL CLR: — FLM CLR: — ZONE: SU — UI X MI — LI —
SUBSURF SEDIMENT: BRK — BLD — COB X PEB X GRN X SAN — MUD — VEG —

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

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

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

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

PROBLEMS: —

ADW
Pre-ANADSCAT-90

ADF&G MULTI-ASSESSMENT DATA FORM

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

2 REGION: PWS KP,CI K,AP

METHOD: Aerial Ground Boat

3 DATE: 4/11/00

15 HIGH TIDE TIMES: 1

21 TEAM RECORDER: R. Custer

4 START TIME: 1032

16 HIGH TIDE HTS: 1

22 OBSERVERS: 1

5 STOP TIME: 1100

17 LOW TIDE TIMES: 1

23 AGENCY: ADEG HAB

6 SEGMENT #: FL005

18 LOW TIDE HTS: 1

24 PHOTOS TAKEN: Y (N)

7 STATION #:

19 TIDE HT AT SURVEY:

Roll #: Frame:

8 K-UNIT:

Ebb Slack Flood Slack

25 VIDEO TAKEN: Y (N) TAPE#:

9 STAT AREA:

20 USCG QUAD:

Start: End:

10 LAT:

11 LONG:

26 SAMPLES TAKEN? Y (N) Number

12 SOURCE: Map Loran

13 LOCATION: Fleming Is.

14 DESCRIPTION: low on south west

Oil _____
Sediment _____
Biological _____
Water _____

EXTENT OF OIL

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

30 OVERALL OIL IMPACT: N VL L M H

31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain

32 OILED DEBRIS? (Y) N

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

34 WAVE EXPOSURE: High Moderate Low

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

36 CATALOGED ANAD. FISH SREAM? (N)

37 CATALOG #: 226-40-ADW
76400

38 STREAM NAME:

39 OIL IN STREAM BED? Y (N)

40 OIL ON STREAM BANKS? Y (N)

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

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

Where: Big boulder/rock upper

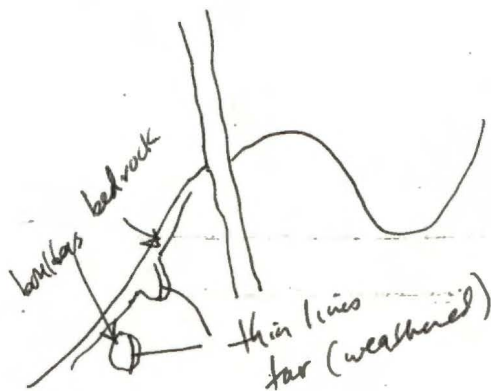
43 ANADROMOUS FISH PRESENT? Y (N)

44 ANADROMOUS FISH OBSERVATION
Species Aerial Ground

Recommend for anad. set

COMMENTS: oil tar - drip weathered on upper intertidal
large boulders & rock bands left of salmon stream
no oil observed in stream some oiled rocks
thickness - 1/4" or less penetration none observed

FRAME(S)	DESCRIPTION

46 OIL DISTRIBUTION DIAGRAM

4/11/90

recommendations — nothing in stream
could be steamed off.

FL003
226-40-16400 AJW

16/53

Extra Copies
Anadscal 90

ADF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS SS CS TS AVS SCMA MMS PTA 2 REGION: PWS KP,CI K,AP

METHOD: Aerial Ground Boat

3 DATE: 4/23/90 15 HIGH TIDE TIMES: 0021 / 1257 21 TEAM RECORDER: M. WIEDMER

4 START TIME: 1630 16 HIGH TIDE HTS: 11.5' / 10.5' 22 OBSERVERS: T. CROWE

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 TAPES: _____

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

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

12 SOURCE: Map Loran 011 _____

13 LOCATION: EAST SIDE, FLEMING IS. Sediment _____

14 DESCRIPTION: _____ Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	W	M ²	%	L	W	M ²	%
27 SURFACE COVERAGE	50	50		<1				
28 SURFACE THICKNESS	0							
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. ~~RING~~ BATHUB RING
ON BEDROCK OUTCROPS

17/53

FRAME(S) DESCRIPTION

RECOMMENDATIONS: DO NOT TREAT TAR RINGS
ON BEDROCK.

TURN OVER SHALE BOULDERS TO EXPOSE OIL TO
ENHANCED WEATHERING

TASK ~~AS~~ ACCOMPLISHED BY SURVEY CREW - RETURN
VISIT NOT REQUIRED.

46 OIL DISTRIBUTION DIAGRAM

I agree with recommendations.
M. H. Farley

BEDROCK WALLS

STICKY FILM
ON UNDERSURFACES
OF SHALE BOULDERS

TAR RING

BEDROCK OUTCROPS

Segment FL005
Stream 226-40-16400
Ecological Summary

4/23/90
Michael Fawcett

This is a small stream with a short beach (25-30m 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. Orling consists of light splashes on bedrock, and some coat beneath boulders. Two sea lions swimming nearby.

Michael Fawcett

ASPEC MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: 23 GE TS AVS SCM MMMS PTA 2 REGION: PVS KP, CI X, AP

METHOD: Aerial Ground Boat

3 DATE: 4/23/90 16 HIGH TIDE TIMES: 0021 1125Z 21 TEAM RECORDER: M. W. GEDMER

4 START TIME: 1630 18 HIGH TIDE HTS: 11.5' 10.5' 22 OBSERVERS: T. CROWE

6 STOP TIME: 1700 17 LOW TIDE TIMES: 0648 1855 23 AGENCY: ADFE

8 SEGMENT #: FL-005 19 LOW TIDE HTS: -0.8' 0.5' 24 PHOTOS TAKEN: Y (N)

7 STATION #: 226-40-16400 20 TIDE HT AT SURVEY: 3.23' Roll #: _____ Frames: _____

9 K-UNIT: _____ Ebb Slack Flood Slack 25 VIDEO TAKEN: Y (N) TAPES: _____

10 STAT AREA: _____ 26 USCG QUAD: _____ Starts: _____ Ends: _____

11 LAT: _____ 12 LONG: _____ 28 SAMPLES TAKEN Y (N) Number _____

13 SOURCE: Map Loran Oil _____

14 LOCATION: EAST SIDE, FLEMING IS. Sediment _____

15 DESCRIPTION: _____ Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	V	N	S	L	V	N	S
27 SURFACE COVERAGE	50	50		<1				
28 SURFACE THICKNESS	0							
29 PENETRATION	1mm	<1mm						
30 OVERALL OIL IMPACT:	N	<u>(N)</u>	L	N	N			
31 OIL TYPE:	Pooled	Mousse	Tar	Asphalt	<u>Sticky</u>	<u>Slain</u>		
32 OILED DEBRIS	<u>Y</u>	<u>(N)</u>						
33 SHORELINE TYPE:	Headland	Low-lying Rocks	Beach	<u>Cave</u>				
		Lagoon	Marsh					
34 WAVE EXPOSURE:	High	<u>Moderate</u>	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 SEDT 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

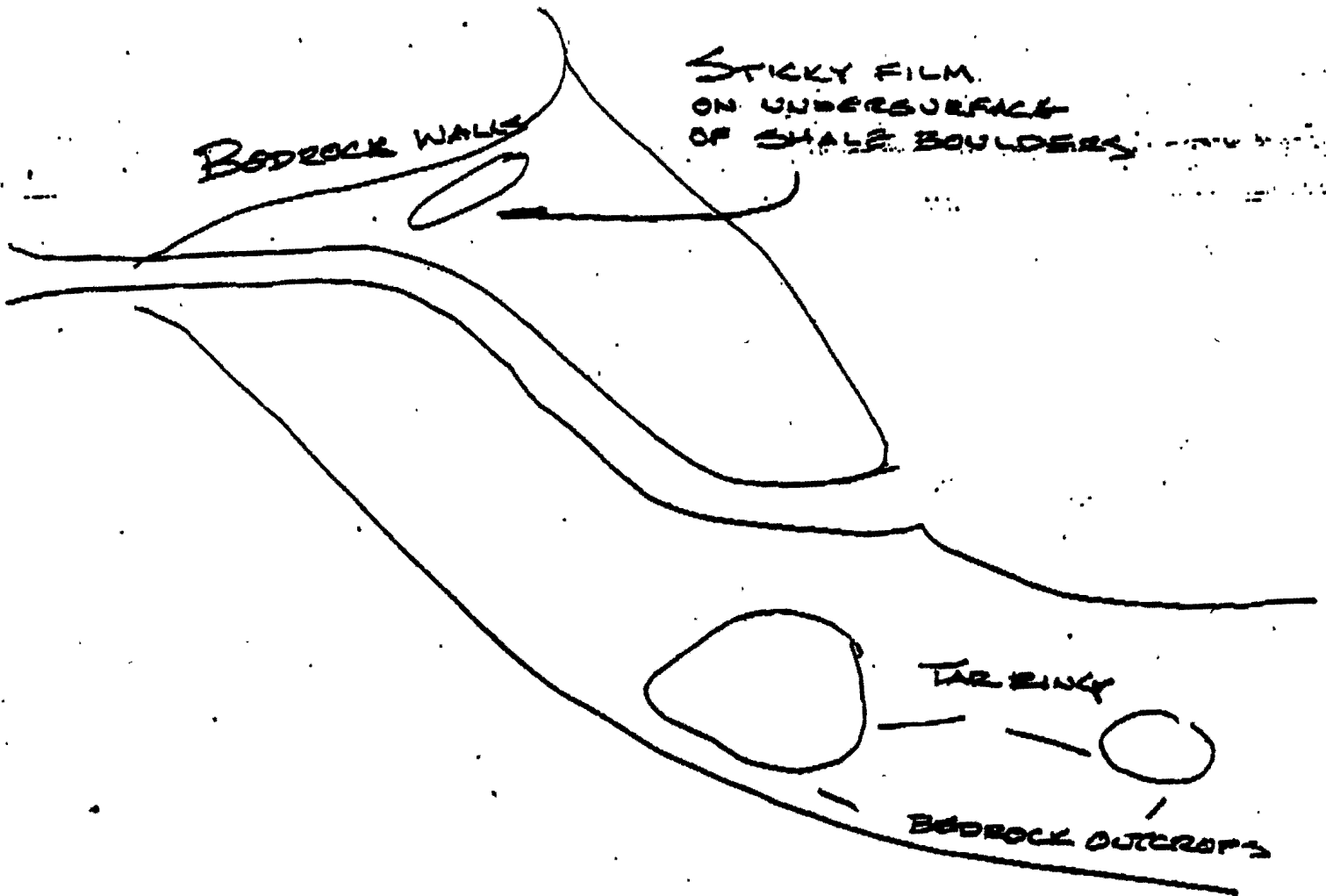
Species	Aerial	Ground

COMMENTS: STICKY FILM ON UNDERSURFACE OF SMALL BOULDERS
ALONG UPPER-INTERSTITIAL ZONE. BROWN BATHUR RING
ON BEDROCK OUTCROPS

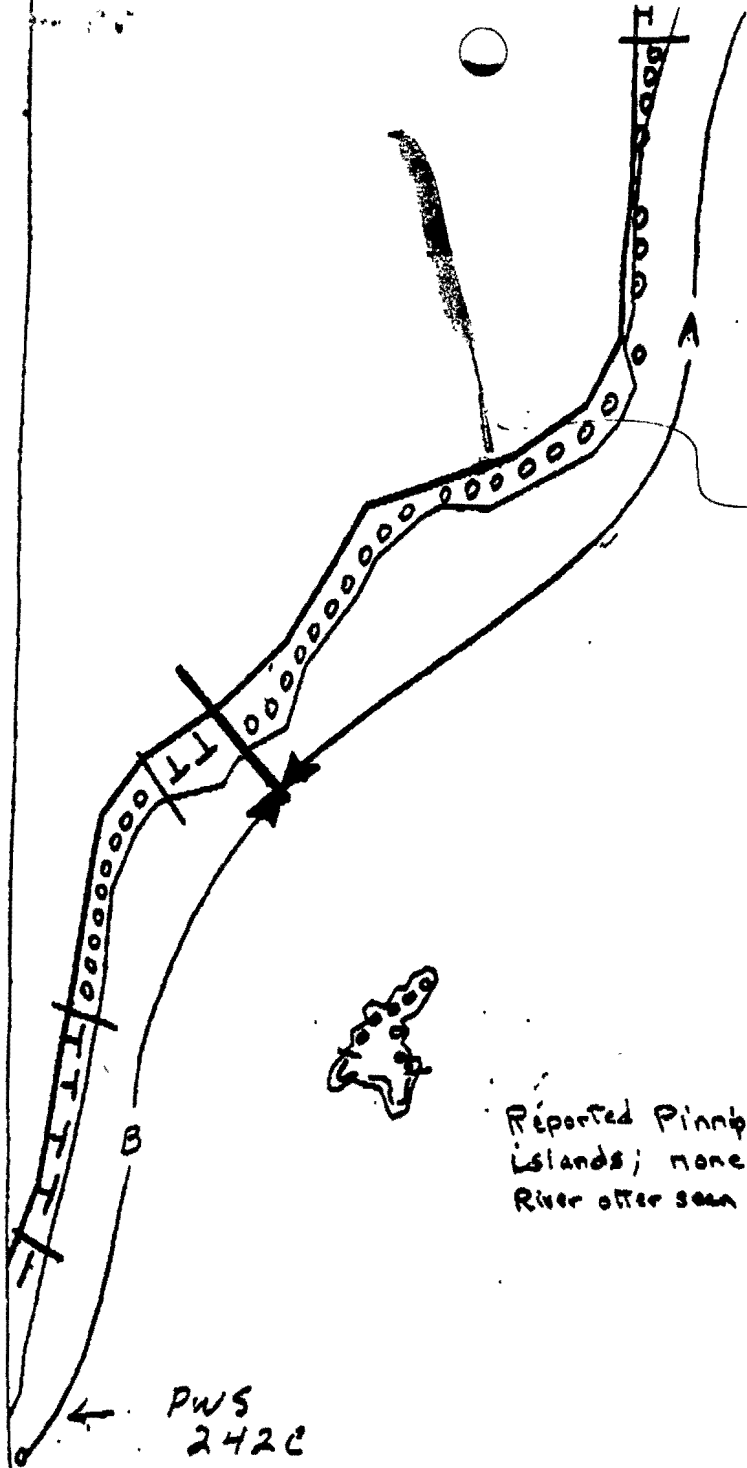
TIME(S)	DESCRIPTION
	RECOMMENDATIONS: DO NOT TREAT TAR RINGS ON BEDROCK.
	TURN OVER SHALE BOULDERS TO EXPOSE OIL TO ENHANCED WEATHERING
	TASK IS ACCOMPLISHED BY SURVEY CREW - RETURN VISIT NOT REQUIRED.

48 OIL DISTRIBUTION DIAGRAM

I agree with recommendation
M. J. F. Smith



↑ PWS 242 F



APPROXIMATE
LOCATION OF
SUBJECT STREAM
LOCATED IN
FL-5A (1 of 2)

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

PWS
242C

1701 29
4/6

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

FL-5

ADEC Segment Length: 5357m



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

ACE 7354071 -/5

SHORELINE OILING SUMMARY (ANAD.)

REVISION NO.

OG WILLIAM L USCG McMAHON SEGMENT ST/ FL005 18/5
 BIO MICHAEL FAWCETT LAND REP Tax Crew AD EG STRAH 226-40-16001 OF
 EXXON Gus Garcia ADPG Mike Warner TIME 16:35 to 16:55
 TEAM NO. 15 TIDE LEVEL 4 FT 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 10 % B 75 % C 15 % G 0 % S 0 % M 0 % V
 SLOPE: Long 40 % Hang 60 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ Hig
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 30 m NO 20

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	C	A	P	R	1	2	3	4	SW	W	W	U
ASPHALT PAVEMENT												
POOLED												
COVER												
COAT												
STAIN			X			X					X	
MOUSSE												
PATTIES												
TARBALLS												
FILM												
NO OIL									X	X	X	

PAVEMENT H F S 0 sq. m by 1PATTIES / TARBALLS 0 BNEAR SHORE SHEEN? ☒ NO BR RW SL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

Did you COL
DEBRIS
☐ YES ☒ NO

TYPE 0#BAGS 0

Photographs:

Roll No. 0Frames 0

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	T	SURFAC SUBSURF. SEDIMENT
		OP	OR	OL	OP	NO		00	00	1	2	3	4	SW	W	W	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 AWDATE 4-26-9

ACE 7354065

19/53

OG WILLIAM REID

SEGMENT ST/ FL 005

STREAM 226-40-164001

DATE 23 / APR 80

CHECKLIST

☐ N Area
☐ Approx. Scale
☐ Map/Plot Study
☐ Oil Spill
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. HRR/LAT/LON
☐ SST
☐ Profile Location(s)
☐ Profile(s)
☐ PB Location(s)
☐ Photo Location(s)

LEGEND

1 Δ

PW - No Subsurface Oil

2 Δ

PW - Subsurface Oil

CT/C

Concentrated Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Spatched Distribution

eee

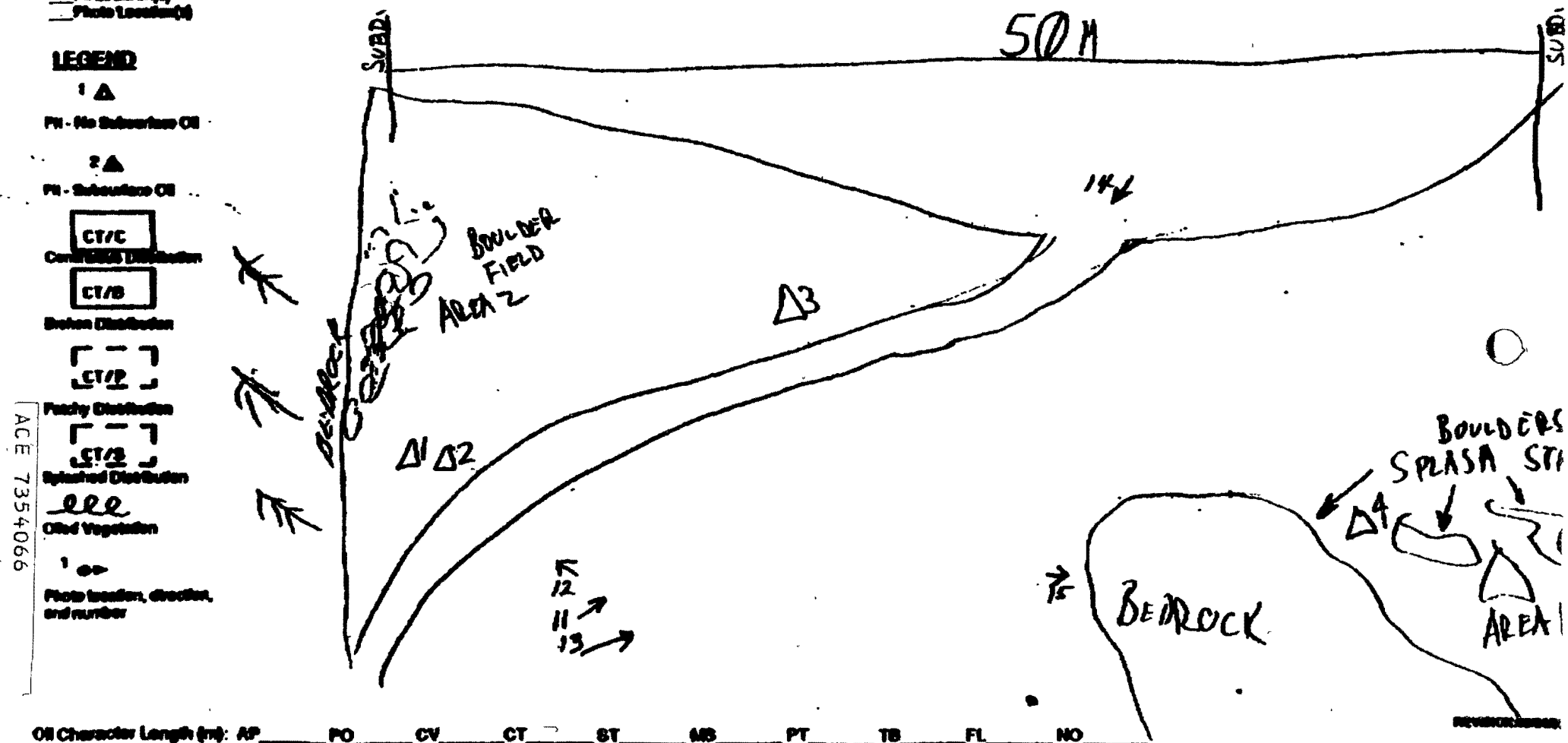
Oiled Vegetation

1 00

Photo location, direction, and number

SKETCH MAP

Film AS-15-4



ACE 7354066

14/53

OG WILLIAM REID

SKETCH MAP

SEGMENT ST/ FL005

Film AS-15-4

STREAM 226-AD-164001

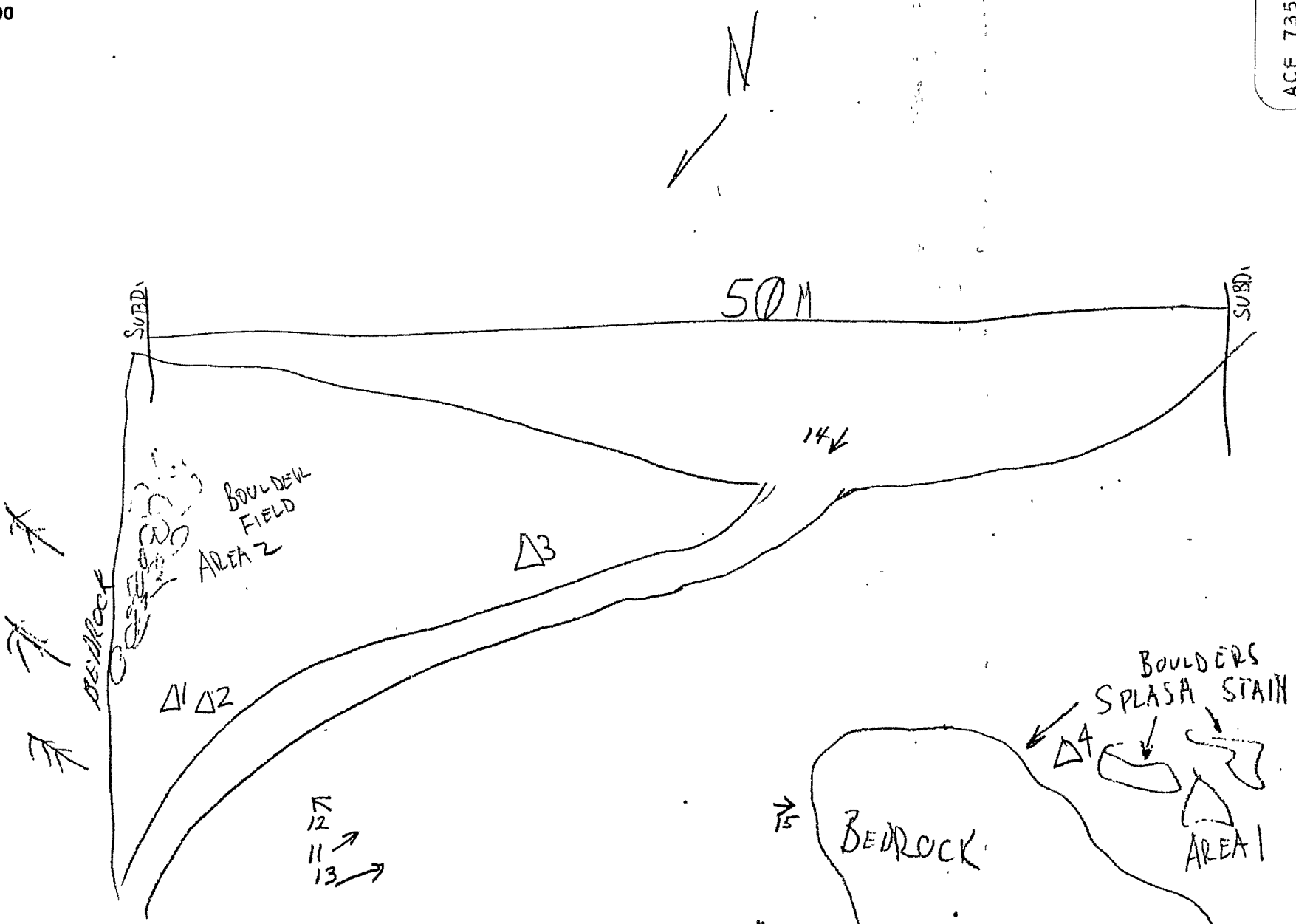
DATE 23 / APR 90

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



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

REVISION: 03/24/90

ACE 7354080

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 FL005 SUBDIVISION: 16400 DATE 4/23/90

USCG

NAME CWO MC NATHONSIGNATURE ☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

ADEC

NAME ADFTG
NO TEAM MEMBERSIGNATURE ☒ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

LAND MANAGER

NAME NO TEAM MEMBER SIGNATURE _____☐ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

DROMOUS 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).

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

<u>X</u> 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: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

ACE 7354062



OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ

DATE: 09/20/89

TIME: -0-

SEGMENT#: -0-

STATION#: -0-

LOCATION: FLEMING ISLAND

REASON FOR TAKING PHOTO: E. AERIAL INTERTIDAL (148°00'32"/60°09'52)

TAKEN BY: RICK GUSTIN

INITIALS: _____

ROLL #: 89RLG009V FRAME #: 10

EVIDENCE ID#: 10212

ACE 7354055

CATALOG NUMBER: 2264016400
 STREAM NAME:
 LOCATION: FLEMMING ISLAND, EAST SHORE

SEGMENT NUMBER: FL005
 SHORELINE TYPE:
 DATE: 04/11/90 TIME: COVE -1100

SITE	WIDTH (m)	LENGTH (m)	AREA (sqm)	PERCENT OIL	THICKNESS (cm)	PENETRATION (cm)	SURFACE SUBSURF	OIL TYPES	COMMENTS
1							SURFACE	SOR CT	

COMMENTS:
 RECOMMEND FOR ANADSCAT. OIL TAR-DRIP WEATHERED IN UPPER INTERTIDAL. LARGE BOULDERS & ROCK BANDS LEFT OF SALMON STREAM. NO OIL OBSERVED IN STREAM, SOME OILED NEEDLES. THICKNESS - 1/4" OR LESS, PENETRATION - NONE OBSERVED.
 RECOMMENDATIONS: NOTHING IN STREAM COULD BE STEAMED OFF.
 STREAM BANKS: NO ~~OIL ON STREAM BED~~
 MILE-OF-STREAM: YES, ~~BIG BOULDER/ROCK IN UPPER INTERTIDAL~~ OIL ON
 OIL WITHIN 1

CATALOG NUMBER: 2264016400
 STREAM NAME:
 LOCATION: FLEMMING ISLAND, EAST SHORE

SEGMENT NUMBER: FL005
 SHORELINE TYPE:
 DATE: 04/23/90 TIME: COVE -1700

SITE	WIDTH (m)	LENGTH (m)	AREA (sqm)	PERCENT OIL	THICKNESS (cm)	PENETRATION (cm)	SURFACE SUBSURF	OIL TYPES	COMMENTS
1							SURFACE	OF CT	SOUTHEAST SIDE: TAR RING ON BEDROCK OUTCROPS, NORTHWEST SIDE: STICKY RING ON UNDERSURFACE OF SHALE BOULDERS.

COMMENTS:
 STICKY FILM ON UNDERSURFACE OF SHALE BOULDERS ALONG UPPER INTERTIDAL ZONE. BATHTUB RING ON BEDROCK OUTCROPS. FRY PRESUMED.
 RECOMMENDATIONS: DO NOT TREAT TAR RINGS ON BEDROCK. TURN OVER SHALE BOULDERS TO EXPOSE OIL TO ENHANCE WEATHERING. TASK ACCOMPLISHED BY SURVEY CREW. RETURN VISIT
 NOT REQUIRED. OIL ON STREAM
 BANKS: YES OIL WITHIN 1 MILE OF
 STREAM: YES

Final Anadromous Stream Treatment Information

Segment ID - Stream ID	NTR	Bio	Bio Start	Bio End	Man	Man Start	Man End
BA002 226-40-16450	X						
BA002 226-40-16451		X	6/22/90	6/23/90	X	6/22/90	6/23/90
BP004 226-20-16388					X	7/1/90	7/2/90
BP004 226-20-16392					X	7/2/90	7/3/90
BP004 226-20-16395					X	7/3/90	7/4/90
BP004 226-20-16397		X	7/7/90	8/27/90	X	7/4/90	7/7/90
CB003 242-20-10190					X	6/14/90	6/14/90
CH001 226-20-16280					X	6/16/90	6/16/90
CH002 226-20-16180		X	7/3/90	9/12/90	X	6/16/90	6/16/90
CH009 226-20-16182		X	7/4/90	9/12/90	X	7/4/90	7/4/90
CH014 226-20-16255					X	6/20/90	6/20/90
CH016 226-20-16258	X						
CH0900 226-20-16200					X	7/3/90	7/3/90
CU001 224-20-12995					X	5/18/90	5/23/90
CU007 224-20-13010	X						
CU013 224-20-13030					X	6/3/90	6/3/90
CU014 224-20-13034					X	6/21/90	6/21/90
CU014 224-20-13036					X	6/21/90	6/21/90
EI001 242-10-10270					X	7/1/90	7/1/90
EL015 226-10-16906					X	6/30/90	6/30/90
EL052 226-10-16902		X	6/28/90	9/4/90			
ER005 226-50-16432					X	6/21/90	6/21/90
ER006 226-50-16430					X	6/20/90	6/20/90
ER007 226-50-16428					X	6/20/90	6/20/90
ER019 226-50-16406	X						
EV003 226-40-16590					X	6/10/90	6/10/90
EV007 226-40-16559	X						
EV012 EV012-UNCAT		X	6/22/90	6/23/90	X	6/22/90	6/23/90
EV014 226-40-16640					X	6/23/90	6/23/90
EV017 226-40-16620					X	6/19/90	6/19/90
EV017 226-40-16630					X	6/19/90	6/19/90
EV025 226-40-16613		X	7/1/90	7/1/90	X	6/9/90	6/9/90
EV027 226-40-16610					X	7/8/90	7/8/90
EV070 226-40-16509		X	6/12/90	9/1/90	X	6/12/90	6/12/90
EV071 226-40-16484		X	7/5/90	9/1/90	X	6/21/90	6/21/90
FL002 226-40-16390	X						
FL005 226-40-16400	X						
GR007 GR007-UNCAT					X	6/27/90	6/27/90
GR013 227-20-17890	X						
GR103 227-20-17880					X	6/24/90	6/26/90
IN031 226-10-16916					X	7/5/90	7/5/90
K0101-SI008 251-81-10010	X						
K0101-SI014 251-82-10090					X	7/3/90	7/3/90
K0112-SS009 251-50-10045					X	7/2/90	7/2/90
K0201-SI013 251-81-812	X						
K0302-IB005 252-31-10020					X	6/5/90	6/5/90
K0911-CD018 262-10-10100					X	7/5/90	7/7/90
K0911-CD020 262-10-10040					X	7/3/90	7/8/90
K0911-CD020 262-10-10070	X						

ADEC EXXON VALDEZ POST-TREATMENT SURVEY REPORT

SEGMENT#: FL005
LOCATION: E FLEMMING ISLAND

DATE: 10/19/89
TIME: 10:30

Survey Type: Boat, Ground
Team: M. Wood, D. Zobrist

WEATHER AND SEA CONDITIONS

Weather: Cloudy Wind Direction: SE
Sea State: Moderate Knots: 0-15

Low Tide: 10:55	Feet: 4.35	High Tide: 16:51	Feet: 13.2
Low Tide: 23:52	Feet: 0.	High Tide: 5:34	Feet: 10.7

SHORELINE DESCRIPTION

Shoretupes: H,LR,B
(H=headland, LR=low-lying rock, B=beach, C=cove, L=lagoon, M=marsh)
Wave Exposure: H,M (H=high, M=moderate, L=low)
Shoreline Composition: R,B,C,G
(R=bedrock, B=boulder, C=cobble, G=gravel, S=sand, M=silt)

OIL CHARACTERISTICS

Degree of Oiling: N,VL,L
(N=none, VL=very light, L=Light, M=moderate, H=heavy)
Area of Impact: H
(S=supratidal, H=high intertidal, M=mid tidal, L=low intertidal)
Max. Oil Thickness: 1 mm (1 = 1 mm or less, 0 = no oil)
Max. Oil Penetration: 0 cm (35 = 35 cm or greater)
Percent Segment Categorized as Oiled: 65%
Presence of Oiled Driftwood (y/n): n
Oil Types: M,T,ST
(P=pooled, M=mousse, SY=sticky, T=tar, A=asphalt, ST=stain)
Samples: FL005-1 / FL005-2 / none / none

DAMAGED OR OILED ORGANISMS

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

SOLID WASTE FOUND

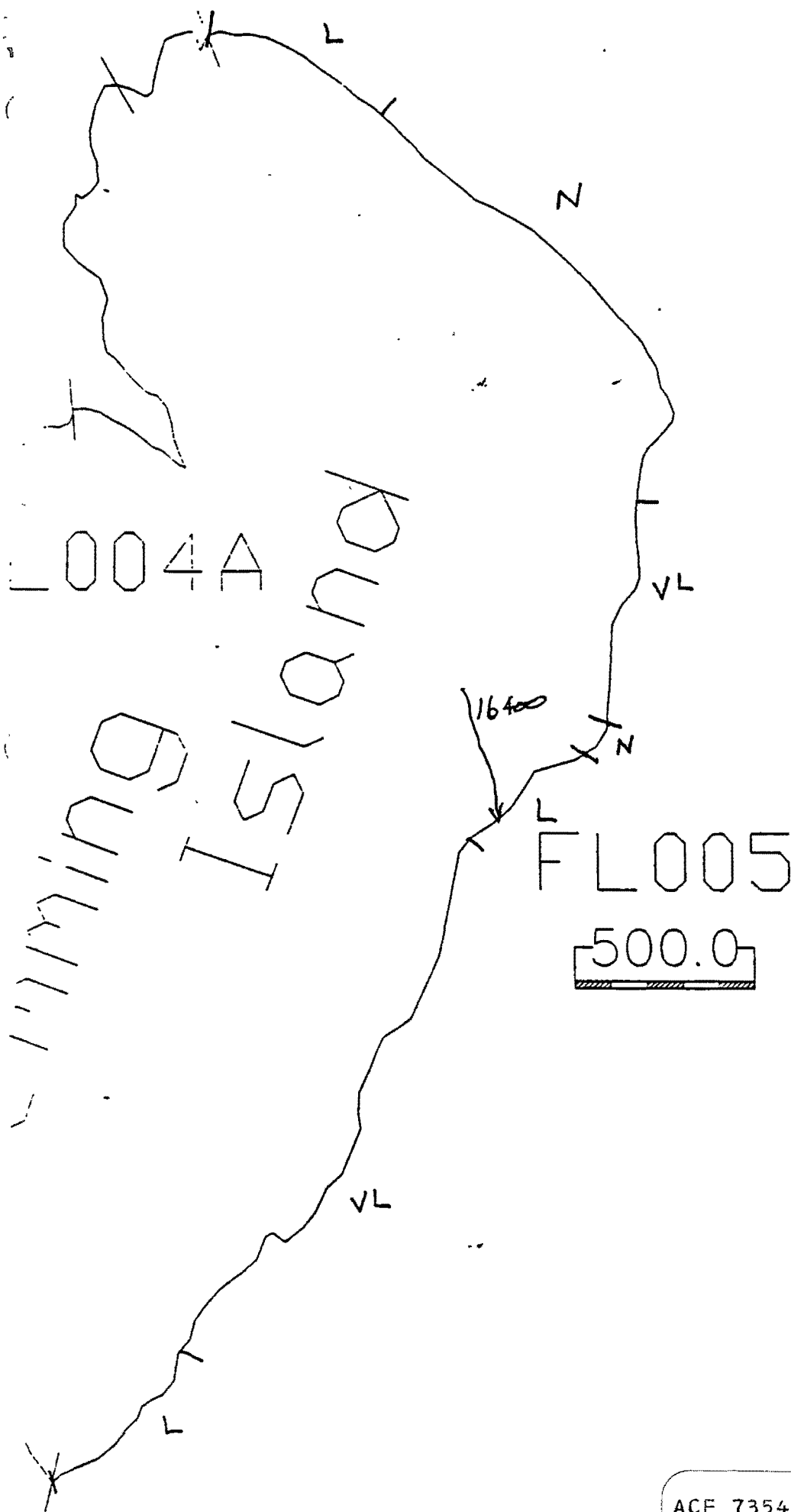
Type: One locality, boom
Bags Collected: 1

Draft

Printed: 12/12/89 11:24

Walk-a-thon

ACE 7354056



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

ACE 7354086 - (L) AC/FF