

FL-1 (undocumented)
WEST SIDE OF ISLAND

ACE 1369602



non-aneel?

- 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. surv.)
____ '90 ASAP Survey ____ ASAP Rec. ____ ADEC Rec. (____)
____ '90 Other Documents _____

ADEC EXXON VALDEZ POST-TREATMENT SURVEY REPORT

SEGMENT#: FL001
LOCATION: N FLEMING ISLAND

DATE: 10/19/89
TIME: 10:25

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

WEATHER AND SEA CONDITIONS

Weather: Cloudy
Sea State: Calm

Wind Direction: variable
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
(H=headland, LR=low-lying rock, B=beach, C=cove, L=lagoon, M=marsh)
Wave Exposure: H (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: VL,L,M,H
(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: 15 mm (1 = 1 mm or less, 0 = no oil)
Max. Oil Penetration: 10 cm (35 = 35 cm or greater)
Percent Segment Categorized as Oiled: 100%
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: FL001-1 / FL001-2 / none / none

DAMAGED OR OILED ORGANISMS

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

SOLID WASTE FOUND

Type: One locality, cleanup debris
Bags Collected: 1

Draft

Printed: 12/12/89 11:23

ACE #7353925
thru #7353927
are laying
loose

Walk-a-thon

ACE 7353925

ASAP Follow-Up Recommendations
TAG Recommendations - August 13, 1990

SEGM I			
CH-00	II	Site 1	Manual pickup of tarmats, rake and bioremediate* H.P.
		Site 2	Manual pickup of tarmats, rake and bioremediate* H.P.
EL-87	II		NTR
EL-88	A		Manual till - mop up mobile oil with snare and bioremediate
			- low priority
EL-50	C		Storm berm relocation (mechanical if necessary)
EL-50	C		NTR - Reassessment in '91
EL-50	D		Customblen application and reassessment in '91
ER-07	A	Site 1	NTR
		Site 2	Manual pickup of tarmat and bioremediation (low priority)
EV-05	A		Limited manual pickup followed by bioremediation -
			Customblen (low priority)
EV-05	II		Manual pickup of mousse/AP followed by bioremediation. Manual
			till in heaviest areas if necessary (H.P.)
EV-12	A		Access and remove heaviest concentration of AP/OP/HOR
			manual removal followed by bioremediate
EV-15	A		Manual removal of MS/AP/OP/HOR where accessible -
			bioremediate (H.P.)
EV-26	A		Manual removal of AP and bioremediate (M.P.)
EV-37	A		Manual pickup of OP/HOR sediments (relocate armor to
			access)
EV-39	A		Bioremediate
FL-01	A		NTR - work done
GR-301	B	Site 1	Manual pickup of mousse (H.P.)
		Site 2	NTR
		Site 3	NTR
GR-301	II	New Site	Manual pickup of mousse (H.P.)
KN-07	A		Manual pickup of AP/OP/mousse and bioremediate (H.P.)
			both areas
KN-08	A		Manual pickup followed by bioremediation (L.P.)
KN-201	A		Manual removal of AP followed by bioremediation (M.P.)
KN-211	I	Site 1	Manual pickup of oiled debris at stream mouth next to
			small pool, use chain saw as necessary to access.
		Site 2	NTR
		Site 3	NTR
		Site 4	NTR
KN-400	A	Site 1	Manual removal of accessible AP followed by rake and
			bioremediation (L.P.)
		Site 3	NTR
KN-404	A		Bioremediate and assessment in '91
KN-405	A		Further TAG evaluation - bioremediate and assessment in
			'91
NK-02	A		Manual pickup AP/mousse - bioremediation (M.P.)
PD-04	A		Manual pickup of mousse patties and bioremediation, Inipol
			and Customblen (M.P.)
PN-01	A		Manual pickup of AP and bioremediation (L.P.)

ANADROMOUS STREAM CONSTRAINT

TAG
 EXXON
 ADEC
 USCG
 NOAA

Andy Tenz
Michael R. [unclear]
[unclear]
[unclear]

DATED

Aug 15 1990

FOSC

DATED

ACE 7353926

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	<u>Andy Ten</u>		
ADEC	<u>Ray Morris</u>		
USCG	<u>D. D. Rome</u>	FOSC:	<u>[Signature]</u>
NOAA	<u>Bur/Wescott</u>	DATED:	<u>11/4/90</u>

NOTE: * - ALREADY SCHEDULED FOR REAPPLICATION

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): Flemming Island West Block

Includes Shoreline Segments: FL-1, FL-2, FL-3

Submitted : (for Exxon) Date: 7/17/89

ISCC Approval: Date: 7/21/89

FOSC Approval: Date:

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative has the authority to approve on-site modifications. The Field Resource Team should be consulted if these actions do not fit within the Ecological Constraints of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:

Exxon Shoreline Coordinator
Exxon Shoreline Supervisor
Exxon SCAT file

FOSC
CDFU
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USDA (FS)
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A.FG
A.DNR
CAC
PWSCA
USFS
SHPO

ALASKA DEPT. OF
FISH & GAME
JUL 21 1989
VALDEZ/R II
HABITAT DIVISION

ACE 7353928+/S/R+/AC

(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 7/16/89

SHORELINE SEGMENT FL-1

LOCATION: (see enclosed map) Northwest tip of Flemming Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/12/89

Recommended Cleanup Activity(ies):

- Manually remove contaminated drift material (fucus), and other debris.
- Flood/flush with warm to hot water (up to 140 F) on low angle pocket beaches.
- Use moderate to high pressure warm to hot water washing on rock and oiled logs.
- Use other approved methods as appropriate.

Priorities Considerations:

Class 2-4: heavy to light oil

Class A: resources present

Small size of pocket beaches could limit use of flood/flush technique.

SLUT NWD: CHENOA VILLAGE WIND

Ecological Constraints (from site survey): Work at mid tide + or take appropriate measures to protect lower intertidal zone. Avoid disturbing healthy fucus, plants are refuge area for smaller invertebrates. If cleanup occurs, use warm water - not hot - to reduce thermal damage to fucus plants. Restrict number of crew members to reduce trampling of intertidal zone. Minimize recontamination of lower intertidal zone.

Archeological Constraints (from site survey):

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.

[Signature]
State Historic Preservation Officer *

Date: July 17, 1989

ISCC: v

Date: 7/21/89

EXXON: _____

Date: _____

FOSC: _____

Date: _____

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

ACE 7353929

Date: 8/12/89 Time: 12:00 - 14:00

Observer: KAROLINE DERUSSCHER

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

LOCATION NE TIP OF FLEMING ISLAND SEGMENT NUMBER FL-1

LENGTH OF SHORELINE SEGMENT: 375 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT

Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B 20% / C 15% / P 5% / G 25% / S 10% / M 0% / R 25%

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type WOOD/ALGAE
TRASH

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Area of Beach Impact: SU / SP / H / M / L

Continuous: Y/N % of Segment 40 Width of Band: .2-8 m

Sporadic: Y/N % of Segment 60

Est. Oil Thickness where > 1cm: - cm Est. Oil Penetration: 5 cm

Pooled Oil: <1% "Free" Oil: 24% Coated: H 35% / M 15% / L 25%

Fresh 60% Mousse 1% Tar Formation: 39%

Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L

Comments:

SEGMENT CONSISTS OF ROCK OUTCROPS AND 2 HEAVILY OILED
POCKET BEACHES. ACCESS IS POSSIBLE ON BEACHES - PROBABLY
NOT FOR HEAVY EQUIPMENT -> BEACH AREA IS SMALL.

DOCUMENTATION:

Map/Aerial photo ☒ marking segment boundaries ☒ ATTACHED

VTR: Y/N Tape Number(s) _____

Photography: Y/N Roll Number(s) 3

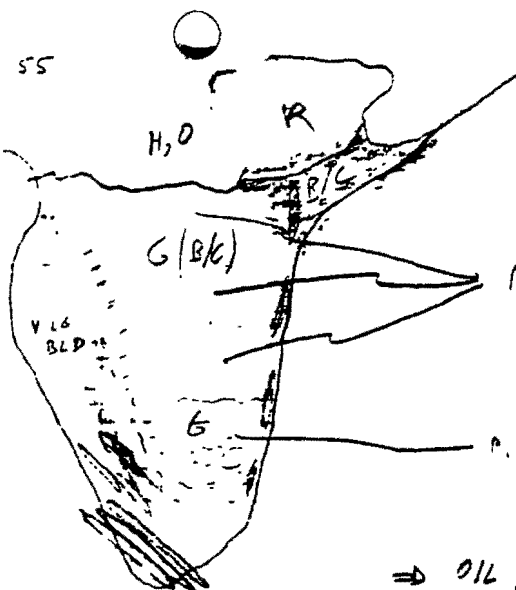
Sample Numbers Collected: _____

FIELD NOTES

7/12/89

FL-1 12 55

LOCATION ①



DRIFT:

WOOD / ALGAE / TWIG IN M/H/SW
→ OILED

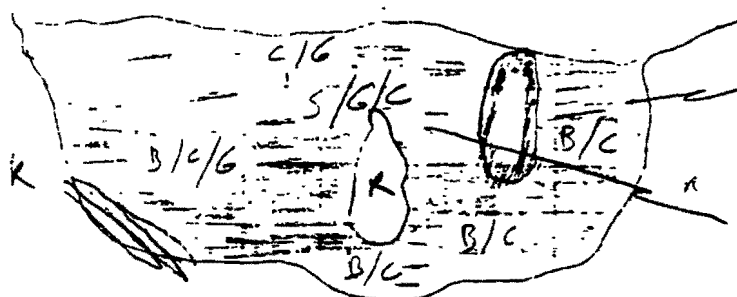
PIT: ON / SURFACE IS OILED

PIT IS CA OIL IN 30 CM PIT (G)

⇒ OIL IN M/H/SW & SPLASH IN SW
OILED FOCUS ON B IN MIDDIE

R SKIFF OUTCROP: THIN LINE OF OIL

LOCATION ②



SOME POOLED

PIT 5 CM S/G
5 CM OILED G-ESSIA

OIL IN M/H/SW
OILED FOCUS IN M

FRESH / FUEL

RDL #3 P① 1335 VIEW OF LOG ② (G)

P② 1335 " " " (W)

END. 14:00

ECOLOGICAL EVALUATION

LOCATION: Prince William Sound SITE: NW tip of Flemming Island OBSERVER: S. L. Dearn
 LOCATION PREFIX: _____ SEG. NO.: FL-1 LENGTH: 375 (M)
 DATE: 07/12/89 TIME (HHMM): 12:55-1400 TIDE HT.: 5.0 - 4. ft (M)
 OILED ZONE: Splash High Medium Low (Low water: 4.3 ft @ 14:14)
 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
Upper 0.5-1.0m of Fucus moderately to heavily oiled. Enteromorpha mats
Fucus in dense, continuous band on vertical rock outcroppings. Fucus patchy (in clumps) on cobbles

Mytilus (Mussels): Patchy (Y/N) Contin. Y/N Dense (Y/N) Sparse (Y/N) None Y/N
No dense beds of any great size. Primarily clusters along cracks in rocks + at bases of cobbles + boulders

Balanus (Barnacles): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None Y/N
Dense covering occurred on larger cobbles on beach + on vertical wall of rocky outcroppings

Littorina
 Patchy (Y/N) Contin. Y/N Dense (Y/N) Sparse (Y/N) None Y/N
Cluskered + sparsely scattered, primarily beneath Fucus blades + around holdfasts. Ocenebra Nucella p.

Limpets: Patchy (Y/N) Contin. Y/N Dense (Y/N) Sparse (Y/N) None Y/N
Primarily Notobranchia scutum (now Notobranchia sp.) (recently settled)
Size range of limpets ranged from very small to 4.5 mm to 2.5 cm. Found predominantly under Fucus

OTHER OBSERVATIONS: Lichen zone very thick + dark - appears very similar to oil but is not (usually misleading)
1 Pisaster + 1 Anthopleura observed. 1 partially articulated deer skeleton found (bones were very clean)
Mid-lower intertidal has few clumps of algae (Fucus, Scytosiphon, Gelidium-like).

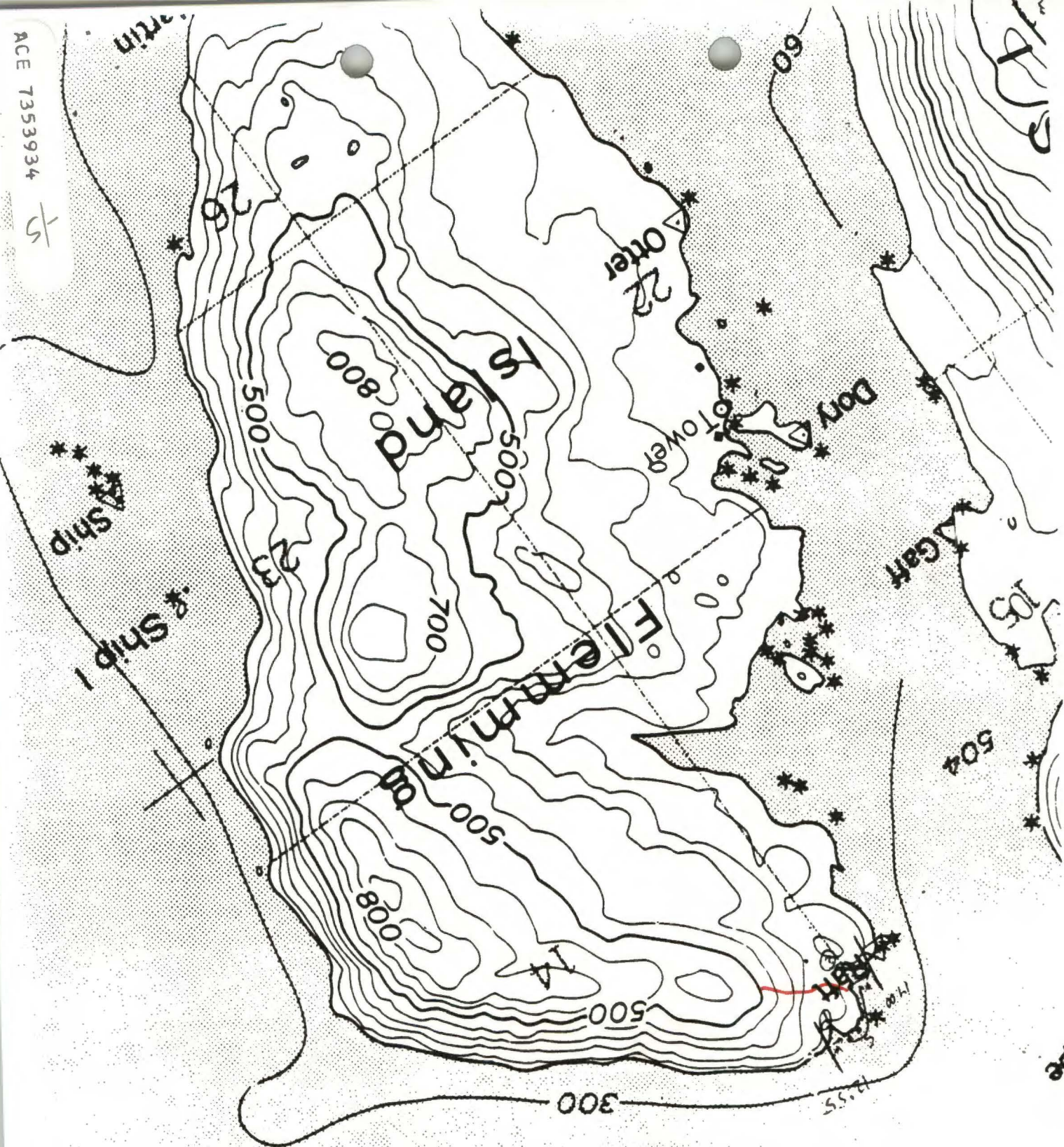
CLEANUP PRECAUTIONS: Minimize as much as possible disturbance to healthy Fucus + invertebrates found associated w/ Fucus plants (ie, under blades + around holdfasts)

MAMMALS: Otters _____ Harbor Seals _____ Sea Lions _____ Whales _____
 Other _____

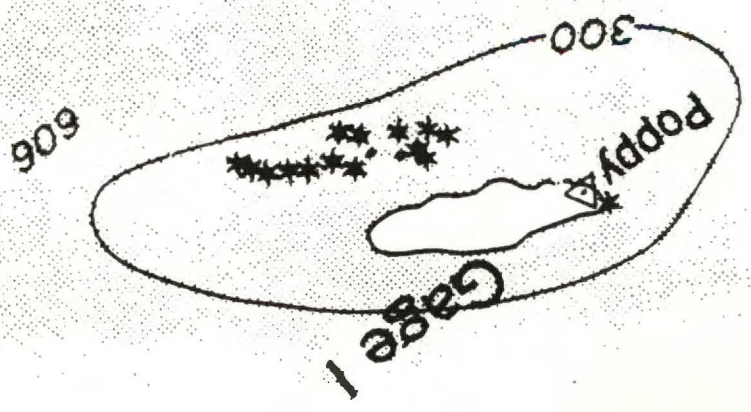
BIRDS: 1 Pigeon Guillemot, several Glaucous-winged gulls + black legged Kittiwake

GENERAL OBSERVATIONS: Oiling has affected upper 1m of Fucus. Invertebrates beneath oiled Fucus blades still present + apparently alive. Mid-low intertidal relative devoid of algae + invertebrates. Ecological diversity here is low, possibly due to tumbling effects of round cobbles + boulders during storms + high wave activity

15



SEGMENT FL-1
JULY 12 1984
12:55 - 14:00
KROKOLIE DEBUSSCHERF
852



Theresa
4/18

RECEIVED
APR 18 1990

DEPT. OF
ENVIRONMENTAL CONSERVATION

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/FL-01

SUBDIVISIONS: A (1 OF 1)

Conservation

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 uncoiled biota and substrate.

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: _____ DATE: _____

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
☒ 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: 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: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

ACE 7353936

FIELD SHORELINE COMMENT SHEET

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

ISCG

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. SAGE SIGNATURE David M Sage

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

- ① MANUALLY REMOVE TAR PATTIES, DEBRIS AND ASPHALT FROM SURFACE AND SUBSURFACE SEDIMENTS, INCLUDING BETWEEN BOULDERS.
- ② REMOVE GROSS CONTAMINATION, COVER OTHER THAN STAIN, FROM BEACH + BOULDERS
- ③ BIOREMEDIATE ONLY WITH CONCURRENCE OF CHENECA 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

OG Richard Marty USCG Larry Fletcher SEGMENT ST/ FL-01
 BIO Bob Lemon LAND REP Leigh G. Gorton SUBDIVISION A (141)
 EXXON Jon Czarnoki ADEC Dave Sale TIME 07:20 to 21:30
 TEAM NO.: 10 TIDE LEVEL: -0.1m (0.4') to +0m (0') DATE 07 April 1990
 EST. SUBDIVISION LENGTH: 527 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot 2' ☒ Boat 1' ☐ Helo WORKING DIRECTION: NE to SW
 SURFACE SEDIMENTS: R 60 % B 10 % C 10 % P 10 % G 5 % S 5 % M 0 % V 0 %
 SLOPE: Long 30 % Hang 70 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 61 m N 336 m VL 15 m NO 115 m

SURFACE OIL

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

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	10	20	30	40	50/55	60/65	70/75	80/85	90/95	SU	UI	M	U
ASPHALT PAVEMENT			X			X					X		
POOLED													
COVER		X						X			X		
COAT		0	✓	X				✓	X		✓	X	
STAIN			✓	✓				✓			✓		
MOUSSE													
PATTIES				X				X		X			
TARBALLS													
FILM													
NO OIL												X	X

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

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

DEBRIS COLLECTED
☐ YES ☒ NOTYPE 0#BAGS 0

Photographs:

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

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL cm - cm (100-100)	BELOW UG UC	OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO			50	60	70	80	90	SU	U	M	L		
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					Gravelly / Pebbles
5	25					X	.							X					Coarse sand
							.												

COMMENTS

DATE 9 April 90

SKETCH MAP

CHECKLIST

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

LEGEND

- Fig - No Subsurface Oil

- 2 ▲
Pn - Subsurface Oil

CT/C
Continuous Distribution

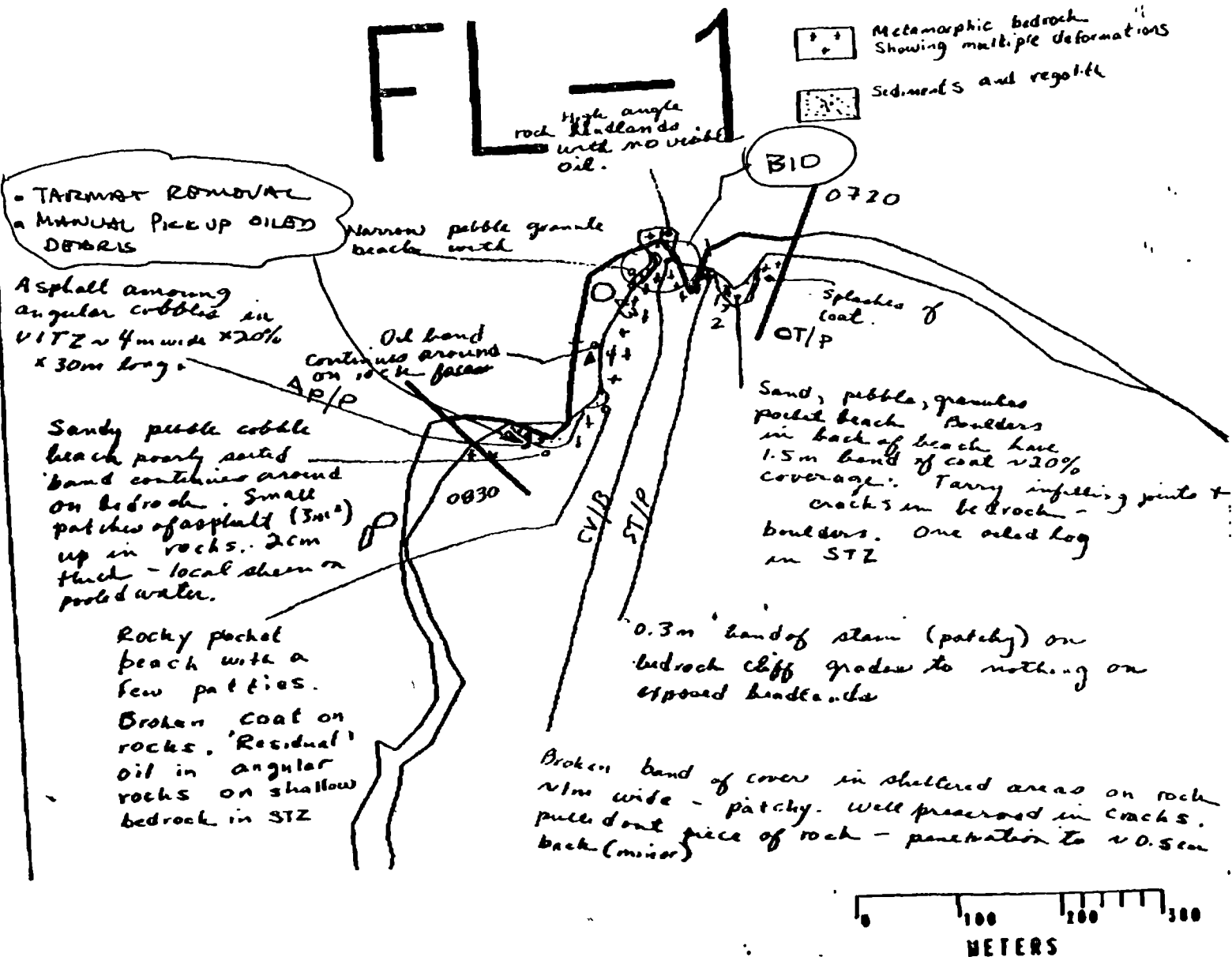
CT/B
Proton Distribution

CT/P
Patchy Distribution

CT/S
Slashed Distribution

Cold Vegetation

Photo location, direction,
and number



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

ACE-7353939

THE WORKS OF

SHORELINE ECOLOGICAL SUMMARY

REVISION: 05/22/90

Segment ST/FL 1 Subdivision A Date: mo/day/yr 4/4/91

Time (24 hr) 0715 - 1000 Biologist 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/10/11Frames 27-36

BARNACLES

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

MYTILUS

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

GASTROPODS

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

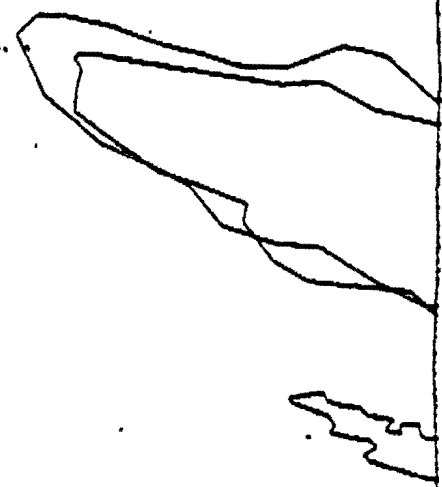
FUCUS

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

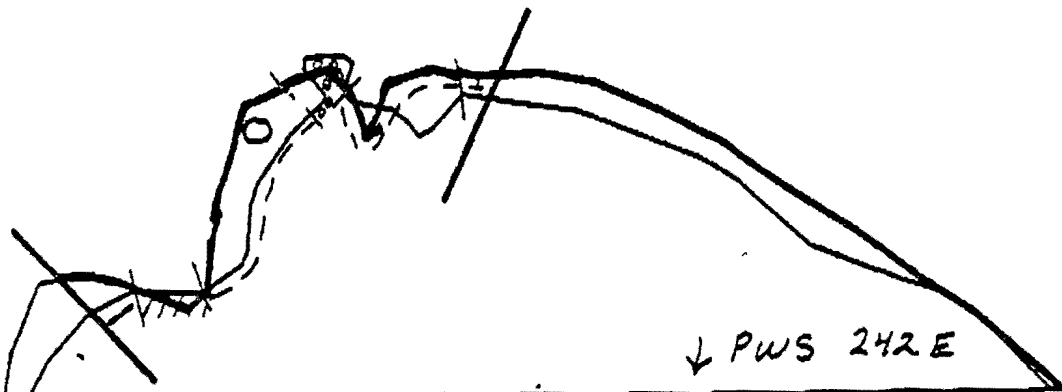
Wildlife Observations/ General Comments: 1 eagle sighting. Low zone also had mixed red algae, Purpuraceae Dermosyllas (ASTEROIDEA), Katharina, Hiatella (MOLLUSCS), Alexia (BRACHIOPODA) and Zostera (MARINE PLANT). The mid zone also had Dermosyllas, (brown algae), Nereis (ANNULIDA), Anthopleura (ANTHOZOA) and Siphonaria (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"	15 m	15 m
Light	22"	330 m	336 m
Medior	0.4"	60 m	61 m
		<u>518 m</u>	<u>527 m</u>



FL-1A



↓ PWS 242E

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

FL-51

ADEC Segment Length: 5357m



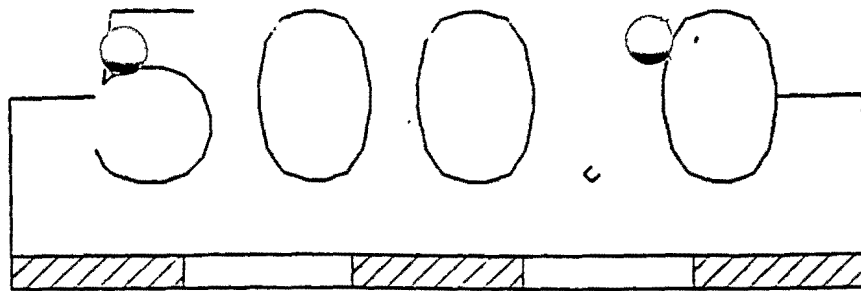
Map Key: PWS-242g.

Name: Richard Mandy

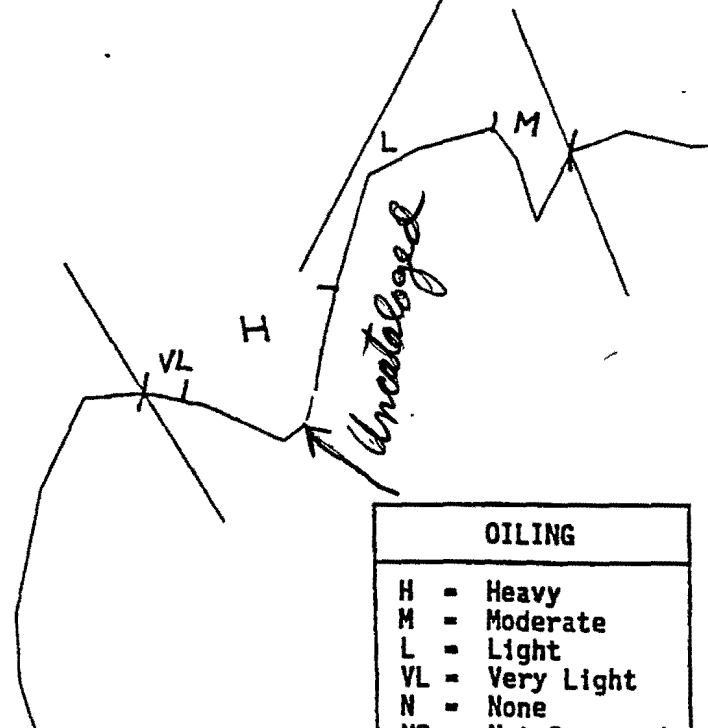
Date: 9 April 1990

Data Entered:

ACE 7353941 -15



FL001



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

ACE 7353942 -/L/AC/FF

FL-002 ASC 16384
WEST COAST FLEMMING ISLAND

ACE 1369603



- 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. 2000)
____ '90 ASAP Survey ____ ASAP Rec. ____ ADEC Rec. (____)
____ '90 Other Documents _____

+/F/S/L/H/F/H/L/S/L
ACE 7353943

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 226-10-16908					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						



OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ

DATE: 09/19/89

TIME: -0-

SEGMENT#: -0-

STATION#: -0-

LOCATION: FLEMING ISLAND

REASON FOR TAKING PHOTO: PHOTO DID NOT DEVELOP.

TAKEN BY: RICK GUSTIN

INITIALS: _____

ROLL #: 89RLG009V FRAME #: 06

EVIDENCE ID#: 10212

ACE 7353945

SEGMENT FL-2

JULY 12, 1989

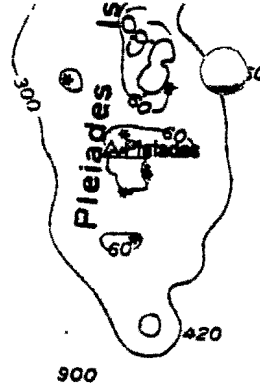
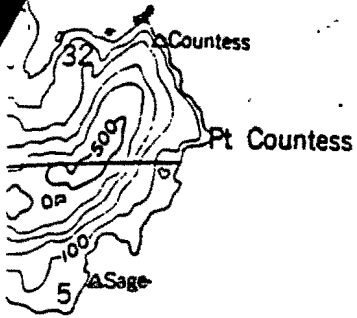
14:00 - 15:15

KIRKOLICH DEBUSSCHERE



936

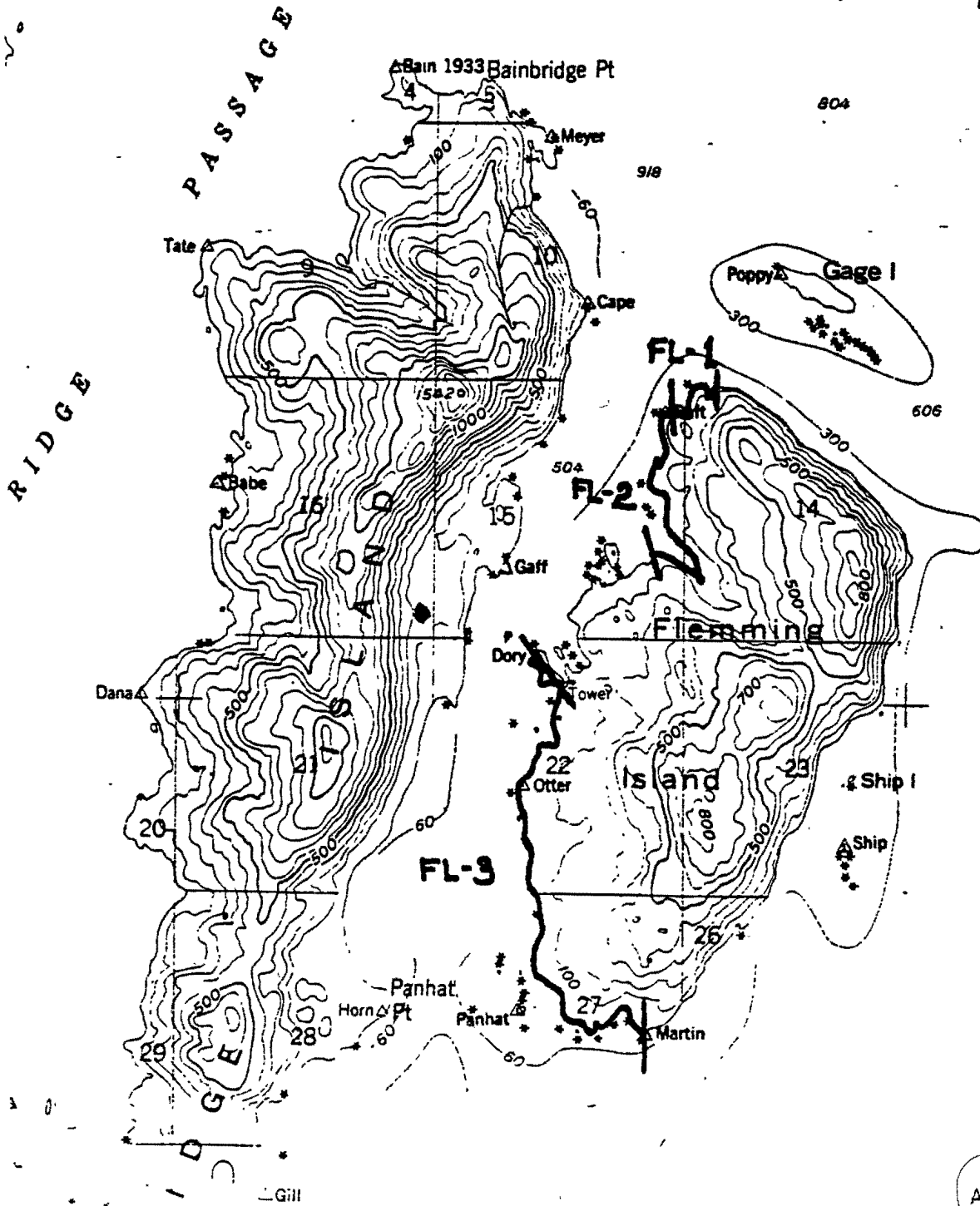
1062



FLEMMING ISLAND WEST BLOCK

FL-1, FL-2, FL-3

1316

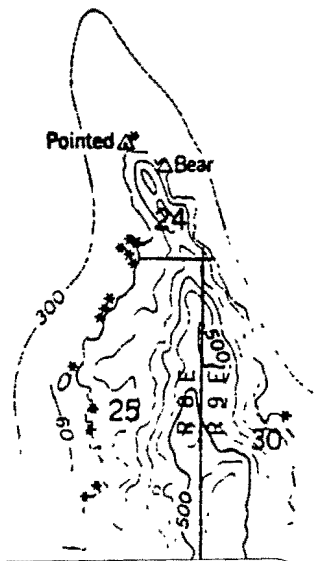


804

918

1440

852



ACE 7353948

(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 7/16/89

SHORELINE SEGMENT FL-2

LOCATION: (see enclosed map) Northwest Flemming Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/12/89

Recommended Cleanup Activity(ies):

- Manually remove contaminated drift material (fucus).
- Use moderate to high pressure warm to hot water washing on rock and oiled logs.
- Because the contaminated beach sediments are fine grained, diskings or relocating them into the lower intertidal zone would accelerate cleaning. This is an exposed beach in which the sediments would be reworked and redistributed back up the intertidal zone.
- Use other approved methods as appropriate.

*IF PARKING FEASIBILITY IS USED, ADVISE THAT LITTERS. RISK TO SEEDING
CANNOT BE POSSIBLE.*

Priorities Considerations:

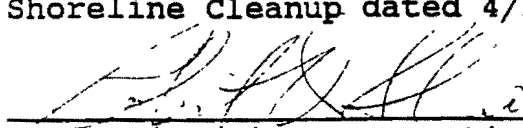
- Class 2-4: heavy to light oil
- Class A: resources present

Ecological Constraints (from site survey): Work at mid tide + or take appropriate measures to protect lower intertidal zone. Three potential anadromous fish streams located at sites 1 and 2. ~~Confirm with ADF&G and notify ADF&G and RAT within 48 hours prior to beginning any cleanup.~~ Avoid disturbing healthy fucus to ensure sufficient numbers of plants for reseeding. Minimize boat traffic to avoid disturbing the subtidal eelgrass.

SL: - NOTE: CHERRYLAND.

Archeological Constraints (from site survey):

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.


State Historic Preservation Officer *

Date: July 11, 1989

ISCC: v

Date: 7/12/89

EXXON: _____

Date: _____

FOSC: _____

Date: _____

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

ACE 7353949 +/s

DOCUMENTATION:

Map/Aerial photo marking segment boundaries ATTACHED

VTR: Y/N Tape Number(s) _____

Photography: Y/N Roll Number(s) 3

Sample Numbers Collected: _____

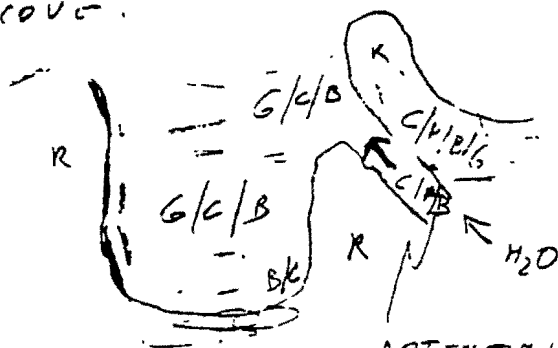
FIELD NOTES

ACE 7353950

FL-2 14:00 7/12/89

R SHIFF OUTCROP, SOME B & SOME OIL - THIN LIME TO THICK COATING.
 R LOCATION ①

2 LITTLE POCKET BERRIES N OUTCROP/CLIFF IN BETWEEN
 ONE-POCKET.



⇒ SPORADIC OIL (TR) ON SURFACE - LIGHT
 SOME HEAVIER PATCHES
 , ITS → OIL IF SPND ± 10 CM / LIGHT TR
 , SPORADIC OIL ON R (OILED FOCUS)

ACE 7353951

POTENTIAL ANHEDROMOUS STAGM

7/12/89

FL-2 CONT

- SW-COUL SAME MORPHOLOGY AS NO
LITTLE MORE OIL ON B & FOCUS → SOME MOUSSE
WOOD IN M/SP, FURGE IN M/H
PIT IN H-TIDE : 10 CM IN G OIL (TRK)
M - " : 5 CM IN G " "
OIL (TRK) ON R & V LG BLD AT HIGH TIDE - OFF SHORE

P(3) 14:22: VIEW OF SW-COUL

* SKIFF OUTCROP & SOME B, LITTLE CRULLERS & B-BEACHES (TOO S.
FOR EQUIPMENT

→ I CONT BAND OF OIL ; SPORADIC 3 DISTINCTIVE OIL BAND

* LOCATION (2)

- LARGE BAY / BEACH AREA W SAME GENERAL MORPHOLOGY AS (1)
 - 2 CREEKS. ONE POTENTIAL AMADROGEOUS
 - DEBRIS ALONG IN M/T/SP, WOOD IN M/H/SP
- OIL I CONT BAND OF TRK ON H-TIDE → LIGHT TRK, SPORADIC HEAVY OIL
SPLASH IN SP
SPORADIC OIL IN M

PITS M & H → OIL 5-20 CM DEEP

P(4) 15:03 VIEW OF LOC (2)

* SKIFF. OUTCROP / CLIFF OIL KING

END 15:15

FL-3 15:15 7/12/89

- LAND IN FIRST BEACH; H₂O IS TO M/H-LINE
OIL IS DEEP-PENETRATION & EXTENDS TO MID-TIDE AS FUR
AS VISIBLE
→ H₂O TOO HIGH TO WORK IN !

ECOLOGICAL EVALUATION

LOCATION: Prince William Sound SITE: NW tip of Fleming Island OBSERVER: S.L. Dearn

LOCATION PREFIX: _____ SEG. NO.: FL-2 LENGTH: 1970 (M)

DATE: 07/12/89 TIME (HHMM): 1400-1510 TIDE HT.: 5.0 - 4.5 ft (M)

OILED ZONE: Splash High Medium Low (Low Water: 4.3 ft @ 14:14)

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)
Upper 1m of Fucus oiled (light to heavy oiling) Enteromorpha mats
Fucus - dense + continuous on vertical rock outcroppings; patchy + sparse on cobbles + boulders.

Mytilus (Mussels): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)
Some larger individuals gaping (~ < 5%)
In clusters at bases of smaller boulders on beach + cracks of vertical rock outcroppings.

Balanus (Barnacles): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)
Dense on larger boulders + larger cobbles. Scattered on cobbles across beach.

Littorina

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

Nucella present

Clustered under Fucus blades + in cracks + crevices of boulders. Often associated in numbers with Enteromorpha mats.

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

Primarily Notoacmaea setacea. Generally found taking refuge under Fucus blade.

OTHER OBSERVATIONS: 3 potential anadromous fish streams located (see map). Shall
subtidal eelgrass beds at location (2). Oiled drift Fucus in wrack line. Juvenile fish (rockfish type)
at water's edge at location (1). Eelgrass, Halosaccion, Enteromorpha, Fucus in drift.

CLEANUP PRECAUTIONS: Disturbance of possible anadromous fish streams should be avoided
(ADF+G maps not presently available to me. Please confirm w/ ADF+G.)
Care should also be taken to avoid recolonization of shallow subtidal eelgrass beds. If bioremediation occurs, tidal flushing of area should decrease problems associated w/ water quality. Inc. nutrients may affect algal growth + eelgrass growth thereby.

MAMMALS: Otters _____ Harbor Seals 1 on nearshore Sea Lions _____ Whales _____

Other _____

BIRDS: 1 Bald Eagle (not on beach, flew by over water), several Black-legged Kittiwakes, several crows

GENERAL OBSERVATIONS: Streams, although not running very much, are potential salmon spawning
areas, particularly for pink salmon. Mid-high intertidal region has relatively low diversity +
abundance of organisms, possibly due primarily to cobble/boulder substratum. Shallow subtidal eelgrass
(eelgrass) beds appear relatively dense. These should be considered ecologically
important habitats.

CULTURAL RESOURCE EVALUATION

SEWARD (A-3) QUAD

Date 7/12/89 Location NW 1/4 PART OF FLEMING I. Site

Location Prefix FL- Segment # 2 Length 1970 M

Survey Method:

Air (A - indicate on map) Boat ✓(80%) (A - indicate on map)

Ground ✓(20%) (G - indicate on map)

Known cultural resources (AHRS #) NONE Data Source AHRS FILE

Oil conditions/beach visibility LIGHT TO MODERATE OILING, FAIR BEACH VISIB

Width of beach zone surveyed 20 M m Tree fringe surveyed 0-5 m

Cultural resources observed in beach zone (AHRS code) NONE

Cultural resources observed in tree fringe (AHRS code) NONE

General observations justifying survey method and segment's site probability

Shore Profile ROCKY HEADLANDS WITH SMALL ROCKY BEACHES, NARROW LA
w/s

Fresh Water Sources SMALL STREAMS

Sea Exposure OPEN TO PRINCE OF WALES PASSAGE

Access/Safety GOOD TRAIL ACCESS, ALSO SKIFFS, LCV'S

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 # PEBTMY 10 Frames 13, 14

Observer(s) P. BUCK, R. MACK

Time survey started 1348 Time survey ended 1503

Cultural resource considerations/restraints:

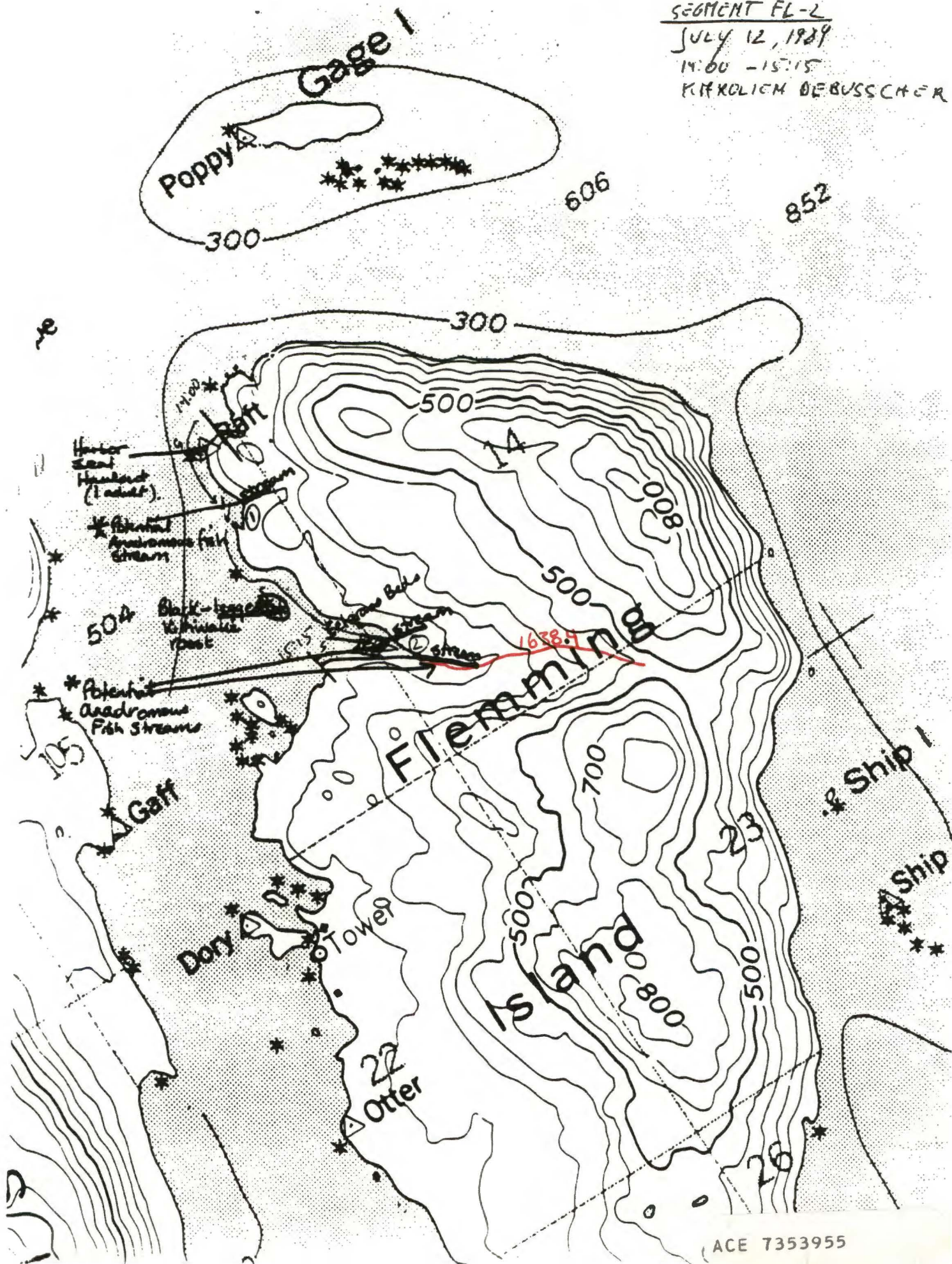
"STANDARD CONSTRAINTS"

SEGMENT FL-2

JULY 12, 1989

14:00 - 15:15

KIRKOLICH DEBUSSCHER



(version 5/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): Flemming Island West Block

Includes Shoreline Segments: FL-1, FL-2, FL-3

Submitted :

(for Exxon)

Date: 7/17/89

ISCC Approval:

Date: 7/21/89

FOSC Approval:

Date: _____

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative has the authority to approve on-site modifications. The Field Resource Team should be consulted if these actions do not fit within the Ecological Constraints of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:

Exxon Shoreline Coordinator
Exxon Shoreline Supervisor
Exxon SCAT file

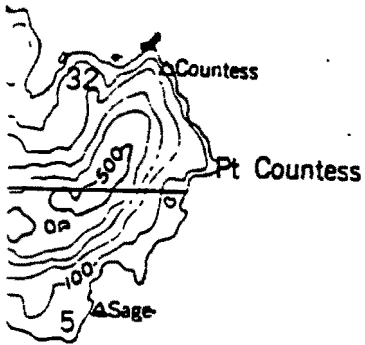
FOSC
CDFU
NOAA
EPA
USDA (FS)
USFW
A.DEC
A.FG
A.DNR
CAC
PWSCA
USFS
SHPO

ALASKA DEPT. OF
FISH & GAME
JUL 21 1989
VALDEZ/R II
HABITAT DIVISION

936



1062

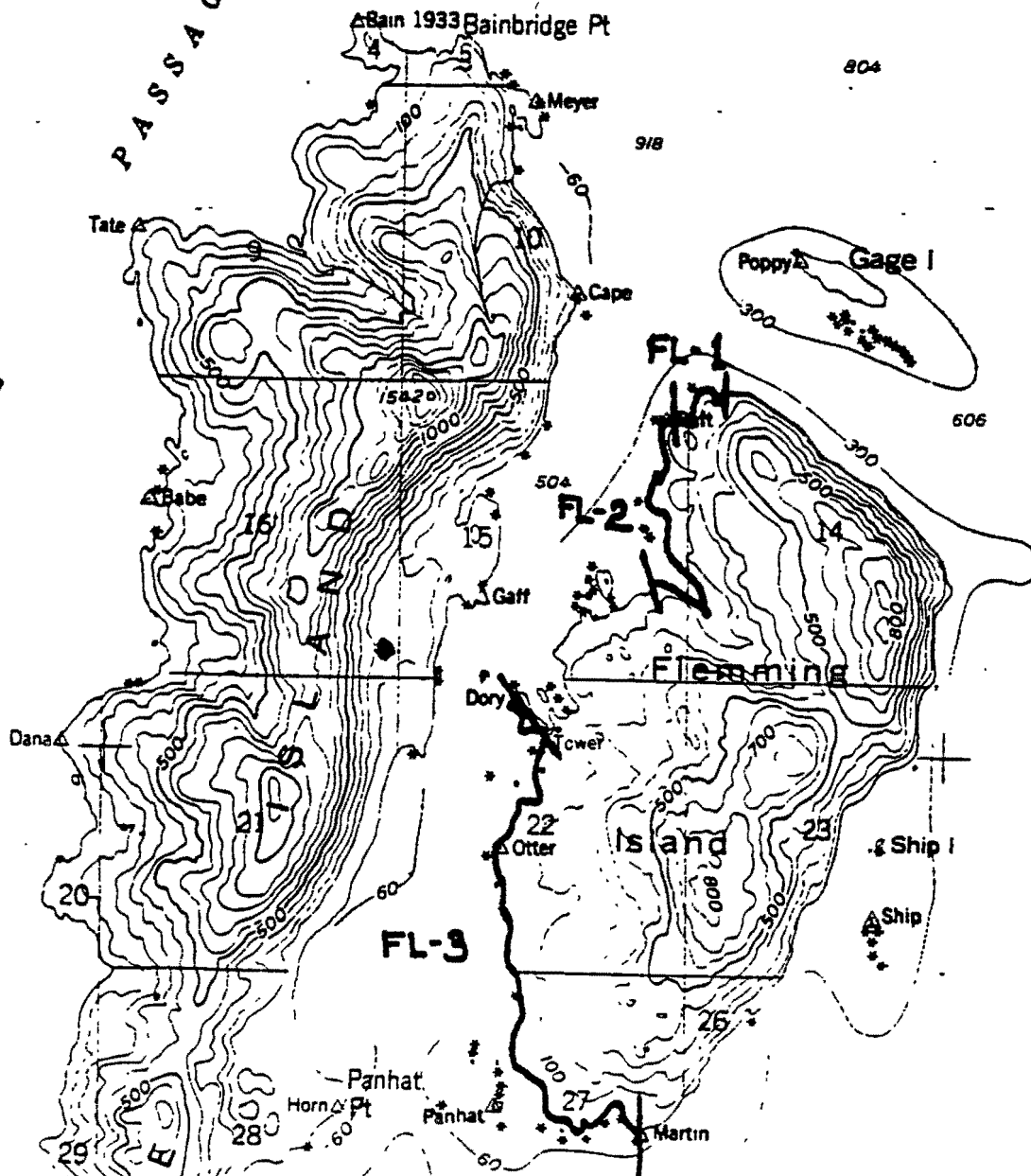


FLEMMING ISLAND WEST BLOCK

FL-1, FL-2, FL-3

1314

RIDGE
PASSAGE



Pointed Bear

ACE 7353957-4/S/RT/AC

FL-002 ASC 16388
WEST SIDE OF FLEMMING ISLAND

ACE 1369604 ★

- 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. Survey)
____ '90 ASAP Survey ____ ASAP Rec. ____ ADEC Rec. (____)
____ '90 Other Documents _____

+1F13/LT/FF 1-13/LT
ACE 7353984/A



OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ

DATE: 09/19/89

TIME: -0-

SEGMENT#: -0-

STATION#: -0-

LOCATION: FLEMING ISLAND

REASON FOR TAKING PHOTO: B. AERIAL INTERTIDAL
(148°02'00"/60°10'47")

TAKEN BY: RICK GUSTIN

INITIALS: _____

ROLL #: 89RLG009V FRAME #: 05

EVIDENCE ID#: 10212

ACE 7353984/C

ADEC EXXON VALDEZ POST-TREATMENT SURVEY REPORT

SEGMENT#: FLOOZ
LOCATION: W FLEMMING ISLAND

DATE: 10/19/89
TIME: 11:05

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

WEATHER AND SEA CONDITIONS

Weather: Cloudy
Sea State: Calm

Wind Direction: variable
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: N,VL,L
(N=none, VL=very light, L=Light, M=moderate, H=heavy)
Area of Impact: H,M,L
(S=supratidal, H=high intertidal, M=mid tidal, L=low intertidal)

Max. Oil Thickness: 3 mm (1 = 1 mm or less, 0 = no oil)
Max. Oil Penetration: 5 cm (35 = 35 cm or greater)

Percent Segment Categorized as Oiled: 80%
Presence of Oiled Driftwood (y/n): n
Oil Types: SY,T,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): n
Dead Mammals: 0 Dead Birds: 0

SOLID WASTE FOUND

Type: Few localities, cleanup debris
Bags Collected: 1

Draft

Printed: 12/12/89 11:23

Walk-a-thon

ACE 7353985

(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 7/16/89

SHORELINE SEGMENT FL-2

LOCATION: (see enclosed map) Northwest Flemming Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/12/89

Recommended Cleanup Activity(ies):

- Manually remove contaminated drift material (fucus).
- Use moderate to high pressure warm to hot water washing on rock and oiled logs.
- Because the contaminated beach sediments are fine grained, disking or relocating them into the lower intertidal zone would accelerate cleaning. This is an exposed beach in which the sediments would be reworked and redistributed back up the intertidal zone.
- Use other approved methods as appropriate.

IF DISKING TECHNOLOGY IS USED, ADVISE THAT 4-8 HRS. PRIOR TO BEGINNING CLEAN-UP IS POSSIBLE.

Priorities Considerations:

Class 2-4: heavy to light oil

Class A: resources present

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

Three potential anadromous fish streams located at sites 1 and 2. Confirm with ADF&G and notify ADF&G and RAT within 48 hours prior to beginning any cleanup. Avoid disturbing healthy fucus to ensure sufficient numbers of plants for reseeding. Minimize boat traffic to avoid disturbing the subtidal eelgrass.

SCOT NOTE: CHENEGA LAND.

Archeological Constraints (from site survey):

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.

[Signature]
State Historic Preservation Officer *

Date: July 17, 1989

ISCC: ✓

Date: 7/21/89

EXXON: _____

Date: _____

FOSC: _____

Date: _____

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

ACE 7353986 4/5/AC

SHORELINE OIL EVALUATION

Date: 7/12/89 Time: 14:00 - 15:15

Observer: KAROLIN DE BUSSCHE

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

LOCATION NE FLEMING ISLAND

SEGMENT NUMBER FL-2

LENGTH OF SHORELINE SEGMENT: 1970 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT

Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B 10 % / C 10 % / P 25 % / G 10 % / S 5 % / M 0 % / R 40 %

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type WOOD/ALGAE

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Area of Beach Impact: SU / SP / H / M / L

Continuous: Y/N % of Segment 60 Width of Band: .2 - 6 m

Sporadic: Y/N % of Segment 40

Est. Oil Thickness where > 1cm: — cm Est. Oil Penetration: ≤ 20 cm

Pooled Oil: 0 % "Free" Oil: 0 % Coated: H 10 % / M 40 % / L 50 %

Fresh 4 % Mousse 1 % Tar Formation: 95 %

Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L

Comments:

MOST OF SEGMENT IS ROCK OUTCROP WITH 2 SMALL POCKET BEACHES
AND ONE LARGER BEACH AREA IN LOCATION (2). OIL IS FOUND SPORADIC
AT SURFACE IN BEACHES BUT CONTINUOUS IN SUBSURFACE AS LIGHT TAR
COATING (5-20 CM). BEACHES ARE ACCESSIBLE BUT 2 BEACHES AT
LOCATION (1) ARE PROBABLY TOO SMALL FOR TO ALLOW FOR
LARGE EQUIPMENT

DOCUMENTATION:

Map/Aerial photo marking segment boundaries HTTMO 459

VTR: Y/N Tape Number(s) _____

Photography: Y/N Roll Number(s) 3

Sample Numbers Collected: _____

FIELD NOTES

FL-2 14:00 7/12/89

* SKIFF OUTCROP, SOME 3" - 4" DIAM OIL - THIN LIME TO THICK COATINGS
* LOCATION ①

2 LITTLE POCKET BEECHES W OUTCROP/CLIFF IN BETWEEN

→ NE - 10VC.



⇒ SPERMATIC OIL (THR) ON SURFACE - LIGHT
SOME HEAVIER PATTERNS

SOME HEAVIER THINGS: F. CONT
 , ITS → OIL 1/4 SPND ± 10 CM (LIGHT TAY)
 , SPORADIC OIL ON R (OILED FUCUS)

POTENTIAL ANADROMOUS STREAM

7/12/89

FL-2 CONT

- SW-COVE SAME MORPHOLOGY AS NO
LITTLE MORE OIL ON B & FOCUS → SOME MOUSSE
1000 IN M/SP, PEBBLE IN M/H
PIT IN M-TIDE: 10 CM IN G: OIL (TRK)
M - " 5 CM IN G " "
OIL (TRK) ON R & V LG BLD AT HIGH TIDE - OFF SHORE

P③ 14:22: VIEW OF SW-COVE

* SKIPPED OUTCROP & SOME B, LITTLE CRACKS & B-BEACHES (TOO SMALL FOR EQUIPMENT)

→ I CONT BAND OF OIL; SPORADIC 3 DISTINCTIVE OIL BANDS

* LOCATION ②

- LARGE BAY / BEACH AREA W SAME GENERAL MORPHOLOGY AS ①
- 2 CREEKS ONE POTENTIAL AMADRONGUS
- DEBRIS ALONG IN M/T/SP; WOOD IN M/H/SP
- OIL I CONT BAND OF TRK ON M-TIDE → LIGHT TRK, SPORADIC HEAVY PATCHES:
SPLASH IN SP
SPORADIC OIL IN M

PITS M & H → OIL 5-20 CM DEEP

P④ 15:03 VIEW OF LOC ②

* SKIPPED OUTCROP / CLIFF OIL RING

END 15:15

FL-3 15:15 7/12/89

- LAND IN FIRST BEACH; H₂O IS TO M/H-LINE
OIL IS DEEP PENETRATION & EXTENDS TO MID-TIDE AS FAR AS VISIBLE
→ H₂O TOO HIGH TO WORK IN

ECOLOGICAL EVALUATION

LOCATION: Prince William Sound SITE: NW tip of Fleming Island OBSERVER: S.L. Dearn
 LOCATION PREFIX: _____ SEG. NO.: FL-2 LENGTH: 1970 (M)
 DATE: 07/12/89 TIME (HHMM): 1400-1510 TIDE HT.: 5.0 - 4.5 ft (M)
 OILED ZONE: Splash High Medium Low (Low Water: 4.3 ft @ 14:14)
 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
^{Upper 1m of Fucus oiled (light to heavy oiling)}
Fucus - denser + continuous on vertical rock outcroppings; patchy + sparse on cobbles + boulders.

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
^{Some larger individuals gaping (~ < 5%)}
In clusters at bases of smaller boulders on beach + cracks of vertical rock outcroppings

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Dense on larger boulders + larger cobbles. Scattered on cobbles across beach

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
^{Nucella present}
Clustered under Fucus blades + in cracks + crevices of boulders. Often associated in high numbers with Enteromorpha mats.

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Primarily Notopacmaea scutum. Generally found taking refuge under Fucus blades.

OTHER OBSERVATIONS: 3 potential anadromous fish streams located (see map). Shallow
subtidal eelgrass beds at location (2). Oiled drift Fucus in wrack line. Juvenile fish (rockfish type) seen
at water's edge at location (1). Eelgrass, Halosaccion, Enteromorpha, Fucus in drift.

CLEANUP PRECAUTIONS: Disturbance of possible anadromous fish streams should be avoided.
^(ADF+G maps not presently available to me. Please confirm w/ ADF+G.)
Care should also be taken to avoid recolonization of shallow subtidal eelgrass beds. If bioremediation occurs, tidal flushing of area should decrease problems associated w/ water quality. Increased nutrients may fuel algal growth + eelgrass growth thereby.

MAMMALS: Otters _____ Harbor Seals 1 on nearshore rock Sea Lions _____ Whales _____

BIRDS: 1 Bald Eagle (not on beach, flew by over water), several Black-legged Kittiwakes, several crows

GENERAL OBSERVATIONS: Streams, although not running very much, are potential salmon spawning
areas, particularly for pink salmon. Mid-High Intertidal region has relatively low diversity +
abundance of organisms, possibly primarily to cobble/boulder substratum. Shallow subtidal Zostera
(eelgrass) beds appear relatively dense. These should be considered ecologically
important habitats.

CULTURAL RESOURCE EVALUATION

SEWARD (A-3) QUAD

Date 7/12/89 Location NW 1/4 PART OF FLEMING I. Site _____Location Prefix FL- Segment # 2 Length 1970 M

Survey Method:

Air _____ (A - indicate on map) Boat ✓ (80%) (A - indicate on map)Ground ✓ (20%) (G - indicate on map)Known cultural resources (AHRS #) NONE Data Source AMES FILESOil conditions/beach visibility LIGHT TO MODERATE OILING, FAIR BEACH VIBILITYWidth of beach zone surveyed 20 M Tree fringe surveyed 0-5 MCultural resources observed in beach zone (AHRS code) NONECultural resources observed in tree fringe (AHRS code) NONE

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

Shore Profile ROCKY HEADLANDS WITH SMALL ROCKY BEACHES, NARROW LAGOON w/SMEFresh Water Sources SMALL STREAMSSea Exposure OPEN TO PRINCE OF WALES PASSAGEAccess/Safety GOOD TRAIL ACCESS, ALSO SKIPS, LCV'SProbability of undiscovered sites in beach zone (circle one) (1) 2 3 4 5Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # _____ Frames _____

B/W Roll # PEBTM4 10 Frames 13, 14Observer(s) P. BUCK, R. MACKTime survey started 1348 Time survey ended 1503

Cultural resource considerations/restraints:

"STANDARD CONSTRAINTS"

SEGMENT FL-2

JULY 12, 1989

14:00 - 15:15

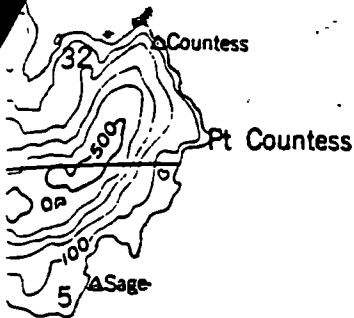
KIRKOLICH DEBUSSCHERE



936



1062



FLEMMING ISLAND WEST BLOCK

FL-1, FL-2, FL-3

1316

Bain 1933 Bainbridge Pt

804

PASSAGE

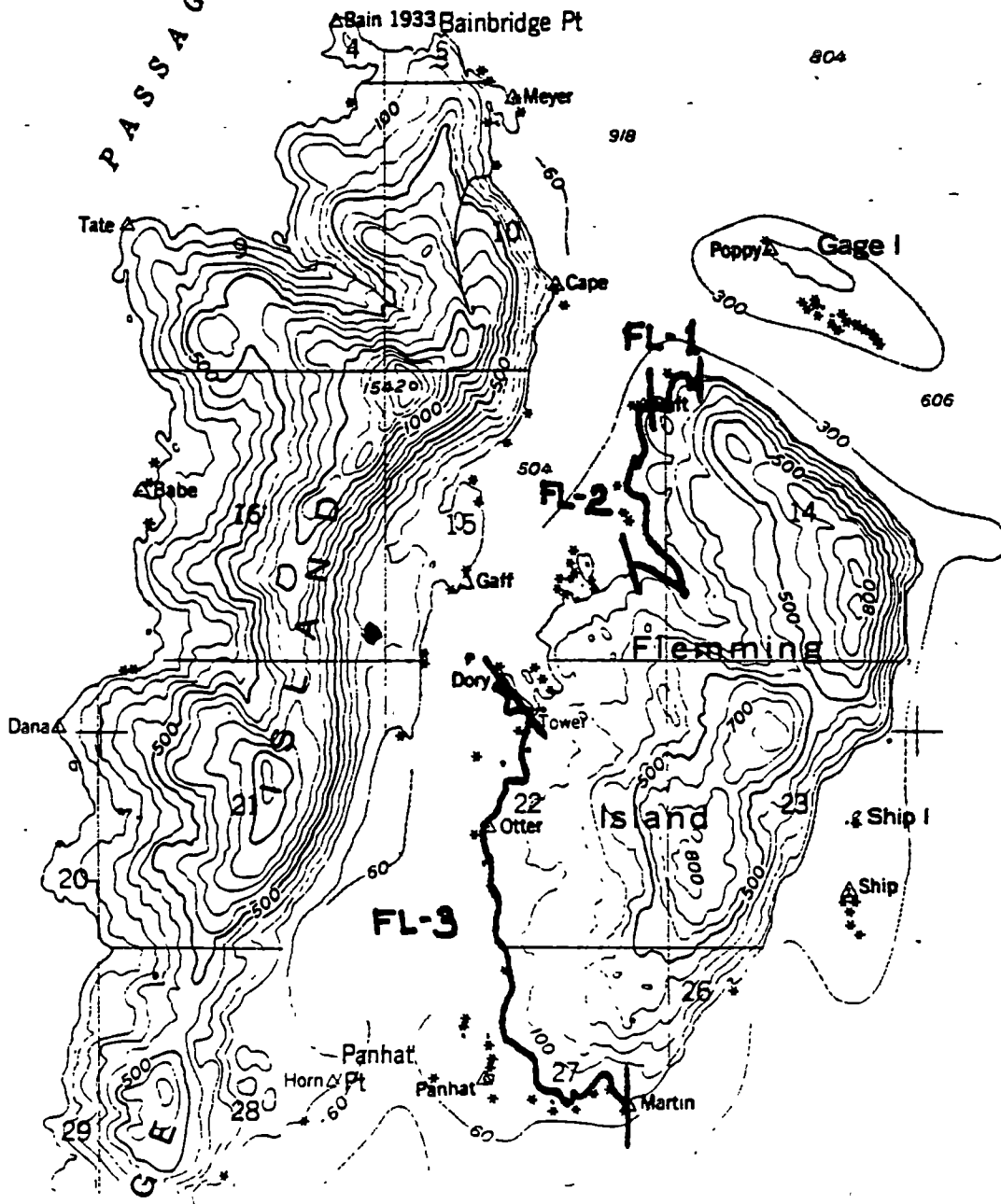
918

Tate

Poppy Gage I

1440

RIDGE



852

Pointed Bear

FL-002A ASC 16390
WEST COAST FLEMMING ISLAND

ACE 1369605



- 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. 2000)
____ '90 ASAP Survey ____ ASAP Rec. ____ ADEC Rec. (Feb)
____ '90 Other Documents _____



AJW
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: 4/11/90 15 HIGH TIDE TIMES: 1 21 TEAM RECORDER: R. Gush

4 START TIME: 1103 16 HIGH TIDE HTS: 1 22 OBSERVERS: 1

5 STOP TIME: 1113 17 LOW TIDE TIMES: 1 23 AGENCY: MPG LNO

6 SEGMENT #: FL 001 18 LOW TIDE HTS: 1 24 PHOTOS TAKEN: Y (1)

7 STATION #: _____ 19 TIDE HT AT SURVEY: _____ Roll #: _____ Frame: _____

8 K-UNIT: _____ Ebb Slack Flood Slack 25 VIDEO TAKEN: Y (1) 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: Fleming Is. Sediment _____

14 DESCRIPTION: NE tip pocket area Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	W	M ²	%	L	W	M ²	%
27 SURFACE COVERAGE	10	2						
28 SURFACE THICKNESS								
29 PENETRATION		mt						

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 #: 296-40-ASW
296390

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: large boulders
lucus beds

43 ANADROMOUS FISH PRESENT? (Y) N

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

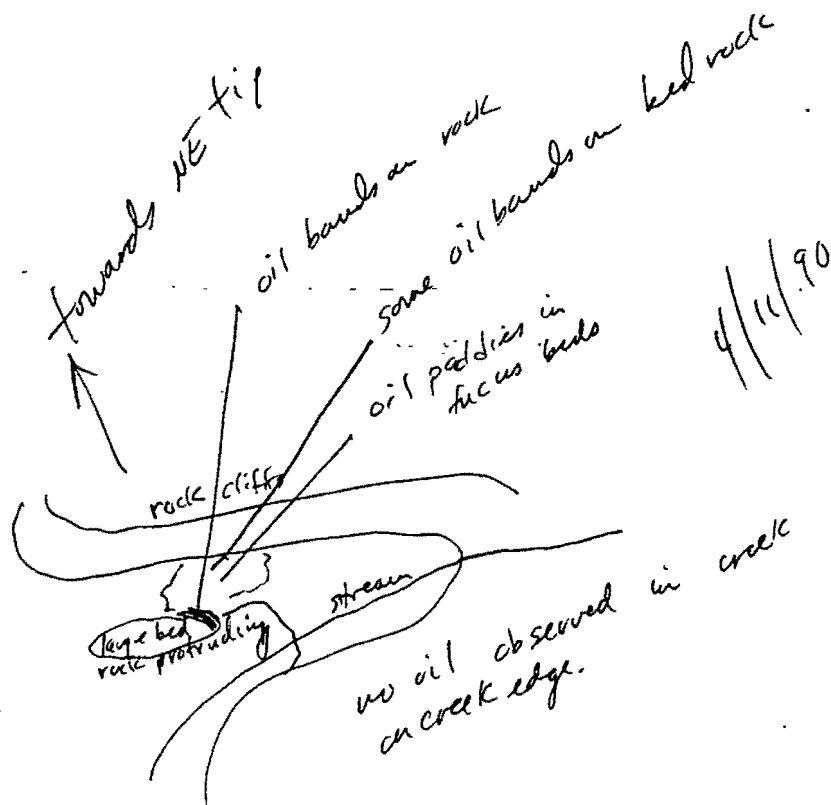
Recommend for Anadscat

COMMENTS: oil located to left of salmon stream as you face
in towards beach. 10 meters. 1/4 - 1" thick bands of
mousse & tar on large boulders and bed rock cliffs.
Some pliable mousse patches in lucus beds.
No oil noted in stream bed or on immediate
banks. penetration 2-3"

FRAME(S)

DESCRIPTION

46 OIL DISTRIBUTION DIAGRAM



recommended -
 shovel remove puddles
 steam clean rock -

FL-004002
 226-40-16390

Sample taken
 Photo frame # and
 shot direction.

SC 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:	TEAM RECORDER:
SURVEY TYPE:	OBSERVERS:
METHOD:	
DATE: / /	AGENCY(IES):
START TIME:	
STOP TIME:	PHOTOS TAKEN?
	Roll #:
	Frames:
WAVE EXPOS:	VIDEO TAKEN? Tape Number:
	Counter Start:

SAMPLES TAKEN?

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

	LENGTH	WIDTH	M2	%	THICK	PEN	OIL TYPE
SITE 1	10	2		50%	2 cm 6 cm		AP/MS
SITE 2							MS
SITE 3							
SITE 4							
SITE 5							

OVERALL OIL IMPACT:

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

SUBSTRATE	
Bedrock	Granule
Boulder	Sand
Cobble	Silt
Pebble	Veget.

SPECIES					
COUNT					

COMMENTS:

ANADSLAT-90

ADF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS ☒ SS ☐ CS ☐ TS ☐ AVS ☐ SCHA ☐ MMHS ☐ PTA2 REGION: ☒ PWS ☐ KP, CI ☐ K, APMETHOD: Aerial ☒ Ground ☐ Boat

3 DATE: 4/23/90

15 HIGH TIDE TIMES: 0021 / 1257

21 TEAM RECORDER: M. WIEDMER

4 START TIME: 1710

16 HIGH TIDE HTS: 11.5' / 10.5'

22 OBSERVERS: T. CROWE

5 STOP TIME: 1725

17 LOW TIDE TIMES: 0648 / 1855

23 AGENCY: ADF&G

6 SEGMENT #: FL-002

18 LOW TIDE HTS: -0.8' / 0.5'

24 PHOTOS TAKEN: Y ☒ N

7 STATION #: 226-40-16390

19 TIDE HT AT SURVEY: 2.28'

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 Number12 SOURCE: Map ☐ Loran ☐

Oil _____

13 LOCATION: Flaming Island

Sediment _____

14 DESCRIPTION: _____

Biological _____

Water _____

EXTENT OF OIL

27 SURFACE COVERAGE

SHORELINE				STREAM			
L	M	H	%	L	M	H	%
30	25		<1	25	1		0

36 CATALOGED ANAD. FISH SREAM? Y ☒ N

37 CATALOG #: 226-40-16390

38 STREAM NAME: _____

28 SURFACE THICKNESS

<1mm							
0							

39 OIL IN STREAM BED? Y ☒ N40 OIL ON STREAM BANKS? Y ☒ N

29 PENETRATION

41 OIL ON BEACH ADJACENT TO MOUTH? Y ☒ N
(within 50 meters)42 OIL WITHIN 1 MILE OF STREAM? Y ☒ N30 OVERALL OIL IMPACT: N ☒ VL ☐ L ☐ M ☐ H31 OIL TYPE: Pooled ☐ Mousse ☐ Tar ☐ Asphalt ☐ Sticky ☒ Stain32 OILED DEBRIS? Y ☒ N33 SHORELINE TYPE: Headland ☐ Low-lying Rocks ☐ Beach ☒ Cove ☐
Lagoon ☐ Marsh ☐34 WAVE EXPOSURE: High ☐ Moderate ☐ Low ☒35 SUBSTRATE TYPE: Bedrock 10 Boulder _____ Cobble 80Gravel 10 Sand _____ Mud/silt _____43 ANADROMOUS FISH PRESENT? Y ☒ N

ALEVINS PRESUMED

44 ANADROMOUS FISH OBSERVATION

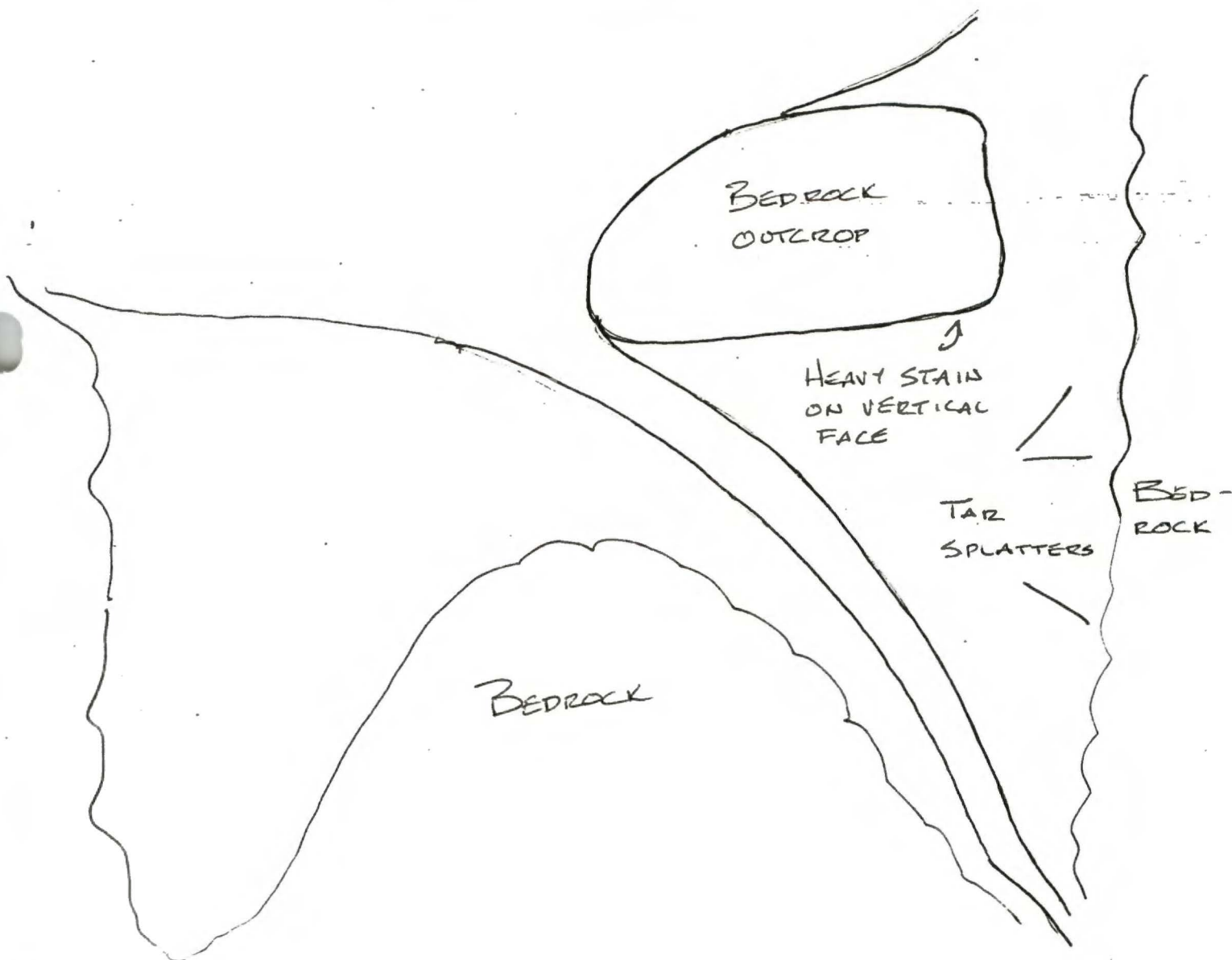
Species Aerial Ground

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

FRAME(S)

DESCRIPTION

RECOMMENDATIONS: NO TREATMENT REQUIRED.

46 OIL DISTRIBUTION DIAGRAM

YR CATALOGED:

LOCATION: FLAMMINGO IS

STREAM NAME:

KODIAK K-UNIT:

LOCAL STREAM #:

LATITUDE:

LONGITUDE:

USGS QUADRANGLE:

LEGAL: S

SHORELINE TYPE:

ALL SEGMENTS:

ASC NUMBER: 24-40-16390

TEAM RECORDER:

SURVEY TYPE:

OBSERVERS:

METHOD:

AGENCY (IES) :

DATE: 4/23/90

START TIME:

PHOTOS TAKEN?

STOP TIME:

Roll #:

Frames:

WAVE EXPOS:

VIDEO TAKEN? Tape Number:

Counter Start:

SAMPLES TAKEN?

SAMPLE I.D. NUMBERS: 1.

2.

3.

4.

5.

6.

	LENGTH	WIDTH	M2	%	THICK	PEN	OIL TYPE
SITE 1							ST
SITE 2							CT/CV
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: 2264016390 SEGMENT#: FL002 A LOCATION: FLEMMING ISLAND, WEST COAST

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-ANADS CAT	1	2 x 10 SURFACE		2	MS	NORTH SIDE: THICK BANDS OF MS AND TAR ON BOULDERS AND CLIFFS.
04/11/90	PRE-ANADS CAT	2	SURFACE		5-8	MS	NORTH SIDE: MOUSSE PATCHES IN FUCUS BEDS.

MAD vs. OG:
 COMMENTS:
 RECOMMEND FOR ANADSCAT. OIL LOCATED TO LEFT OF SALMON STREAM AS YOU FACE IN TOWARDS BEACH. 10 METERS 1/4 - 1" THICK BANDS OF MOUSSE & TAR ON LARGE BOULDERS AND BEDROCK CLIFFS. SOME PLIABLE MOUSSE PATCHES IN FUCUS BEDS. NO OIL NOTED IN STREAM BED OR ON IMMEDIATE BANKS. PENETRATION 2-3". RECOMMENDATIONS: SHOVEL REMOVE PATTIES. STEAM CLEAN ROCK.

90° : L

CATALOG NUMBER: 2264016390 SEGMENT#: FL002 A LOCATION: FLEMMING ISLAND, WEST COAST

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			ST	NORTH SIDE OF STREAM, ON VERTICAL FACE OF BEDROCK OUTCROP.
04/23/90	ANADSCAT	2	SURFACE			ST CT	NORTH SIDE OF STREAM, TAR SPLATTERS ON BEDROCK WALLS OF COVE.

MAD vs. OG:
 COMMENTS:
 HEAVY STAIN ON PROTECTED VERTICAL WALLS OF BEDROCK OUTCROP. VERY SCATTERED STAINS ELSEWHERE. SKETCH SHOWS NO OILING ON SOUTH SIDE OF STREAM. RECOMMENDATIONS: NO TREATMENT REQUIRED.

CATALOG NUMBER: 2264016390 SEGMENT#: FL002 A LOCATION: FLEMMING ISLAND, WEST COAST

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	1-10		CT	NORTH BANK: SPLASH OF CT IN UITS.

MAD vs. OG: DOES NOT SHOW TAR STAINS ON
COMMENTS:

CATALOG NUMBER: 2264016390 SEGMENT#: FL002 A LOCATION: FLEMMING ISLAND, WEST COAST 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	2 x 10 SURFACE		2	AP MS	North side of stream - thick bands of MS & tar on boulders & cliffs
04/11/90	PRE-ANADSCAT	2	SURFACE		5-8cm	MS	North side of stream - Mousse patches in fucus beds

MAD vs. OG:

COMMENTS:

RECOMMEND FOR ANADSCAT. OIL LOCATED TO LEFT OF SALMON STREAM AS YOU FACE IN TOWARDS BEACH. 10 METERS 1/4 - 1" THICK BANDS OF MOUSSE & TAR ON LARGE BOULDERS AND BEDROCK CLIFFS. SOME PLIABLE MOUSSE PATCHES IN FUCUS BEDS. NO OIL NOTED IN STREAM BED OR ON IMMEDIATE BANKS. PENETRATION 2-3". RECOMMENDATIONS: SHOVEL REMOVE PATTIES. STEAM CLEAN ROCK.

CATALOG NUMBER: 2264016390 SEGMENT#: FL002 A LOCATION: FLEMMING ISLAND, WEST COAST 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			ST	NORTH SIDE OF STREAM, ON VERTICAL FACE OF BEDROCK OUTCROP.
04/23/90	ANADSCAT	2	SURFACE			ST CT	NORTH SIDE OF STREAM, TAR SPLATTERS ON BEDROCK WALLS OF COVE.

MAD vs. OG:

COMMENTS:

HEAVY STAIN ON PROTECTED VERTICAL WALLS OF BEDROCK OUTCROP. VERY SCATTERED STAINS ELSEWHERE. SKETCH SHOWS NO OILING ON SOUTH SIDE OF STREAM. RECOMMENDATIONS: NO TREATMENT REQUIRED.

CATALOG NUMBER: 2264016390 SEGMENT#: FL002 A LOCATION: FLEMMING ISLAND, WEST COAST 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	1-10		NONE CT	SOUTH BANK: NO OIL SHOWN. PIT 1: NO OIL. North bank - MITZ - splash of CT

04/23/90	OG'S ANADSCAT	1	SURFACE			CT	BATHTUB RING COAT ON EAST WALL OF ROCKY OUTCROP. PIT 2 ON NORTH BANK SHOWS NO OIL.
----------	------------------	---	---------	--	--	----	--

pete

MAD vs. OG: DOES NOT SHOW TAR STAINS ON
COMMENTS:

OG SUPPLEMENTAL INFO TO MAD

RECORDER: *JS*

REC-DATE: 10/4/91

PAGE

CATALOG NUMBER: 2264016390

STREAM NAME:

LOCATION: Fleming Island, West Coast

SEGMENT NUMBER: *FL002A*

SHORELINE, TYPE:

DATE: 4/23/90

OG vs. MAD: Does not show tap staining on Canyon wall (North side of stream).

[illegible]

ADF&G MULTI-ASSESSMENT DATA FORM

ATW
Pre-ANADSCAT-90

1 SURVEY TYPE: BS SS OS TS AVS SCHA MMHS PTA2 REGION: PWS KP,CI K,APMETHOD: Aerial Ground Boat3 DATE: 4/11/9015 HIGH TIDE TIMES: 121 TEAM RECORDER: R. Gustin4 START TIME: 110316 HIGH TIDE HTS: 122 OBSERVERS: 15 STOP TIME: 111317 LOW TIDE TIMES: 123 AGENCY: ACE 11006 SEGMENT #: FL 00118 LOW TIDE HTS: 124 PHOTOS TAKEN: Y N7 STATION #: 00219 TIDE HT AT SURVEY: 1Roll #: 1 Frame: 18 K-UNIT: 1

Ebb Slack Flood Slack

25 VIDEO TAKEN: Y N TAPE#: 19 STAT AREA: 120 USCG QUAD: 1Start: 1 End: 110 LAT: 111 LONG: 126 SAMPLES TAKEN? Y N Number 112 SOURCE: Map Loran13 LOCATION: Fleming Is.14 DESCRIPTION: NE tip pocket coveOil 1Sediment 1Biological 1Water 1

EXTENT OF OIL

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 Stain32 OILED DEBRIS? Y N33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cove
Lagoon Marsh34 WAVE EXPOSURE: High Moderate Low35 SUBSTRATE TYPE: Bedrock ✓ Boulder ✓ Cobble 1Gravel ✓ Sand 1 Mud/silt 136 CATALOGED ANAD. FISH SREAM? Y N37 CATALOG #: 7639038 STREAM NAME: 139 OIL IN STREAM BED? Y N40 OIL ON STREAM BANKS? Y N41 OIL ON BEACH ADJACENT TO MOUTH? Y N
(within 50 meters)42 OIL WITHIN 1 MILE OF STREAM? Y NWhere: Large boulders43 ANADROMOUS FISH PRESENT? Y N44 ANADROMOUS FISH OBSERVATION
Species Aerial Ground

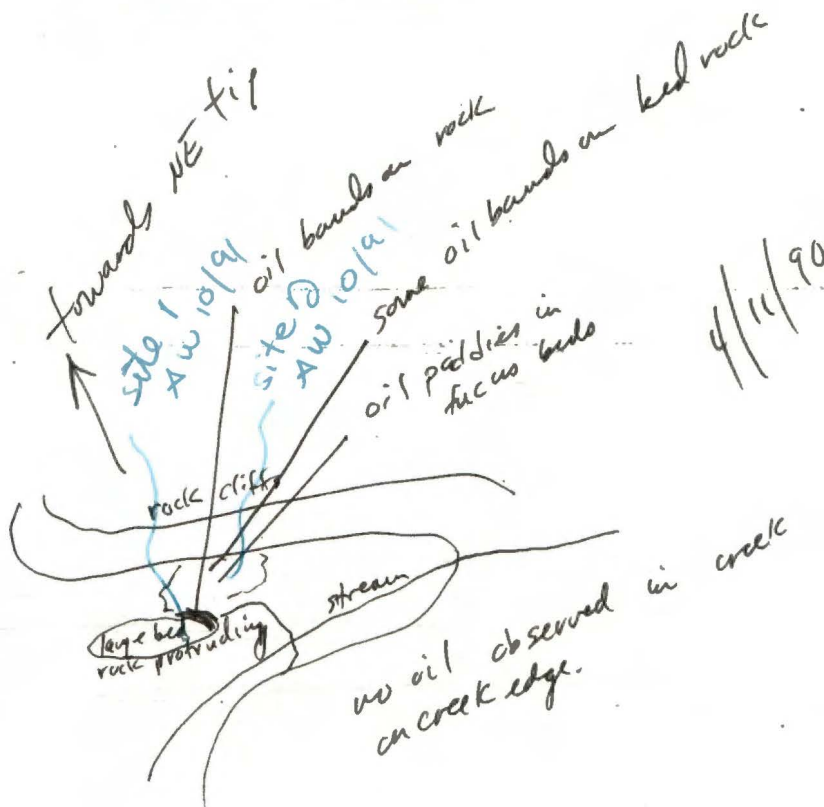
COMMENTS: Recommend for mud-scatoil located to left of salmon stream as you face
in towards beach. 10 meters. 1/2 - 1" thick bands ofmousse & tar on large boulders and bed rock cliffs.Some pliable mousse patches in Lucas beds.No oil noted in stream bed or on immediatebanks penetration 2-3"

ACE 7354023 +/5

FRAME(S)

DESCRIPTION

46 OIL DISTRIBUTION DIAGRAM



recommended -
 shovel remove puddles
 stream clean rock.

FL-001002
 226-40-16390

Sample taken
 Photo frame # and
 shot direction.

ACE 7354024 -15

ANADSCAT
90

ADF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS SS CS TS AVS SCHM MMHS 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: 1710 16 HIGH TIDE HTS: 11.5' / 10.5' 22 OBSERVERS: T. CROWE
5 STOP TIME: 1725 17 LOW TIDE TIMES: 0648, 1855 23 AGENCY: ADF&G
6 SEGMENT #: FL-002 18 LOW TIDE HTS: -0.8' / 0.5' 24 PHOTOS TAKEN: Y N
7 STATION #: 226-40-16390 19 TIDE HT AT SURVEY: 2.28' 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: _____ Sediment _____
14 DESCRIPTION: _____ Biological _____
Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	W	M ²	%	L	W	M ²	%
27 SURFACE COVERAGE	30	25		<1	25	1		0
28 SURFACE THICKNESS	<1mm							
29 PENETRATION	0							

30 OVERALL OIL IMPACT: N VL L M H 39 OIL IN STREAM BED? Y N
31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain 40 OIL ON STREAM BANKS? Y N
32 OILED DEBRIS? Y N 41 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 43 ANADROMOUS FISH PRESENT? Y N
Lagoon Marsh 44 ANADROMOUS FISH OBSERVATION
Species Aerial Ground
34 WAVE EXPOSURE: High Moderate Low
35 SUBSTRATE TYPE: Bedrock _____ Boulder _____ Cobble _____
Gravel _____ Sand _____ Mud/silt _____

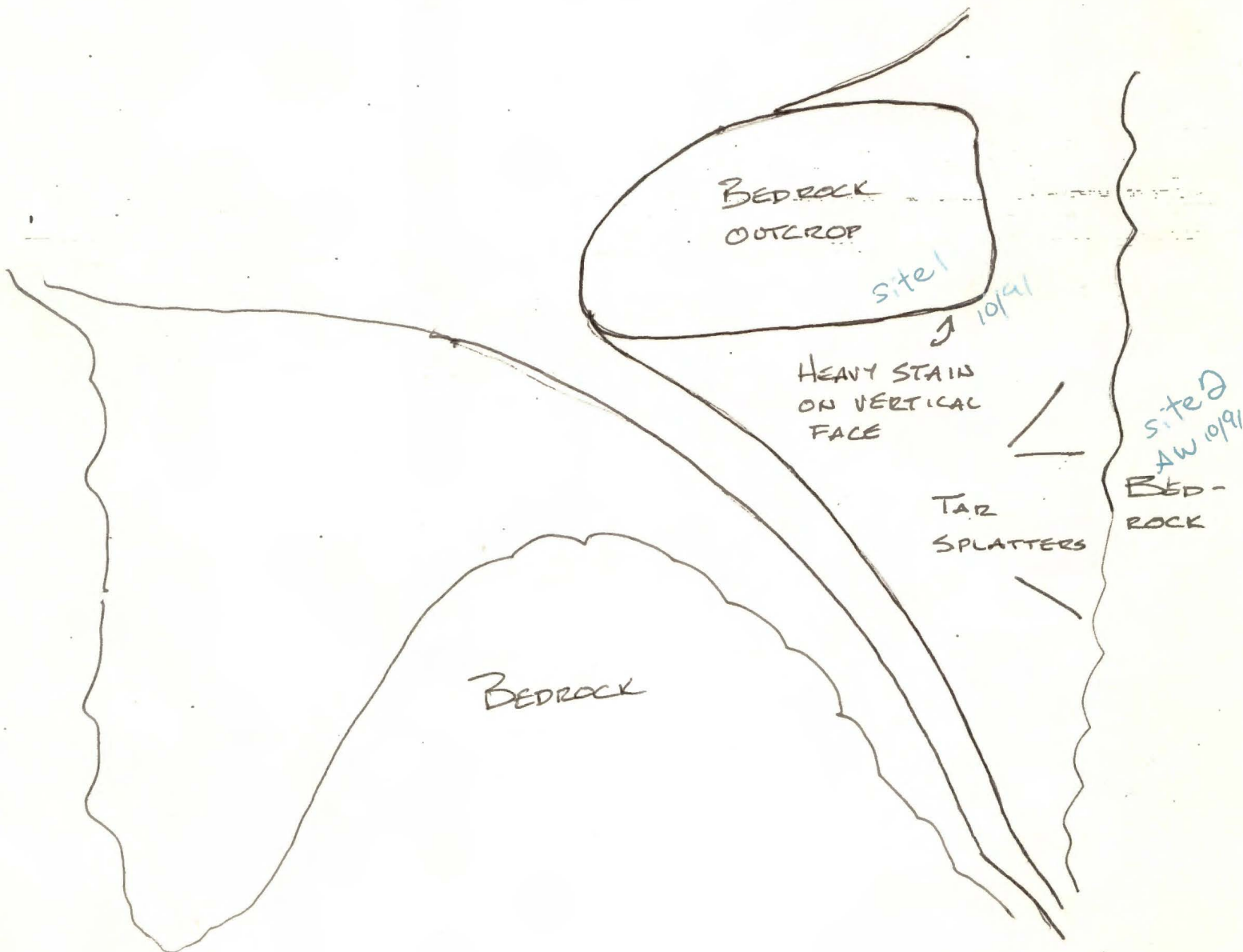
COMMENTS: HEAVY STAIN ON PROTECTED VERTICAL WALLS OF
BEDROCK OUTCROP. VERY SCATTERED STAINS ELSEWHERE.

ACE 7354012 +/5

FRAME(S)

DESCRIPTION

RECOMMENDATIONS : NO TREATMENT REQUIRED.

48 OIL DISTRIBUTION DIAGRAM

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 SURVIVANT ST/ FLOOD 8/53
 BIO MICHAEL FAWCETT LAND REP TOM CROWE STREAM 226-40-1630 OF 1
 EXXON GUS GARCIA ADFG MIKE WIEDMER TIME 17:15 to 17:25
 TEAM NO. 15 TIDE LEVEL 2.5 FT DATE 23 APR 190
 EST. SUBDIVISION LENGTH: 25 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 30 % B 60 % C 10 % P 0 % G 0 % S 0 % M 0 % V 0
 SLOPE: Lang 50 % Hang 50 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 2 m M 2 m N 2 m VL 2 m NO 2 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR							IMPACTED ZONES			
	C	B	P	S	BR PR	OR RY	GY	SL BL	TL LR		SU	U	M	L	
ASPHALT PAVEMENT															
POOLED															
COVER															
COAT				X		X							X		
STAIN															
MOUSSE															
PATTIES															
TARBALLS															
FILM															
NO OIL															

PAVEMENT H F S 0 sq. m by 0PATTIES / TARBALLS 0 BAG

NEAR SHORE SHEEN? NO BR RW SL T

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
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)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SHEEN (Y/N)	F	SURFACE SUBSURFACE SEDIMENT	
		OP	OR	OL	OF	NO		UO	UC	SP	BR	ORL	FW	GY	SL	DR	TL	LR	SU	U	M					L
1	35					X	.												X				N			P/G
2	25					X	.												X				N			P/G/C
							.																			
							.																			
							.																			
							.																			
							.																			
							.																			

COMMENTS

REVIEWED 0 DATE 0

ACE 7354018

9/53

OG WILLIAM REID

SEGMENT ST/ FL 002

STREAM 226-40-16390

DATE 73 / 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 $\blacktriangle$
Pit - Subsurface Oil
- CT/C

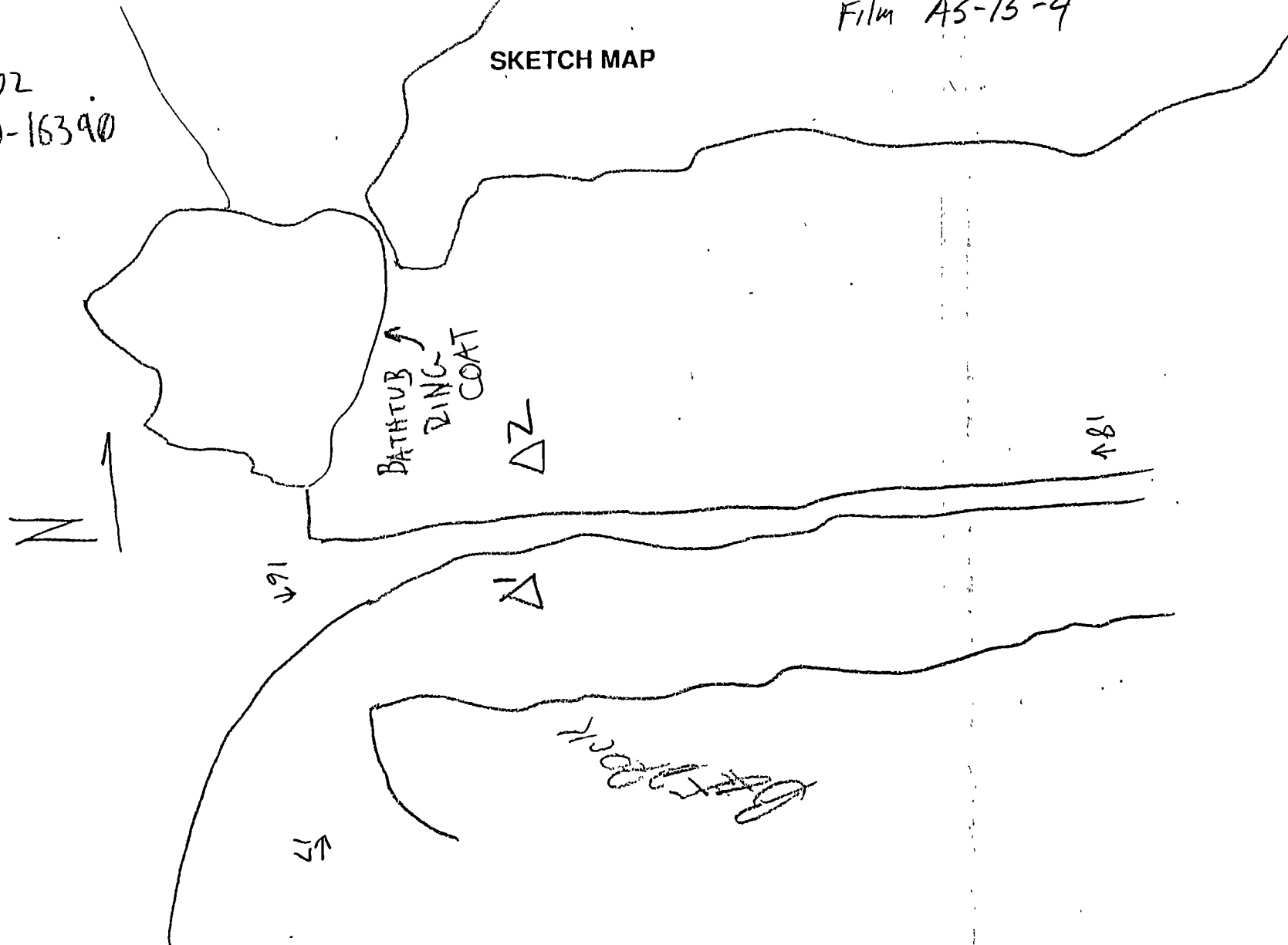
Continuous Distribution
- CT/B

Broken Distribution
- CT/P

Patchy Distribution
- CT/S

Splashed Distribution
- eee
Oiled Vegetation
- 1 $\bullet$
Photo location, direction, and number

SKETCH MAP



Film AS-15-4

ACE 7354019

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

REVISION: 03/24/90

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 boring found consists of stains on the bedrock, cleanup not advised.

M. Fawcett

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 FL 002 SUBDIVISION: 16390 DATE 4/23/90

USCG
NAME CWO MC NATION SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

ADEC ADFTS
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

4/53

OPERATIONS FIELD NOTES

See Back for Instructions

SEGMENT ID ANAD FL-002

STREAM ID # 226-40-K390

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	SPORADIC		None						
Medium Band	STAINING ON									
Narrow Band	LARGE BOULDERS									
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.

ADROMOUS 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 uncoiled biota and substrate.

Subject stream is located within Subdivision FL-002A

ARCHAEOLOGICAL CONSTRAINTS:

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

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

Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

X No Treatment Recommended

 Treatment Recommended

 Manual Pickup

 Bioremediation

 Tarmat: Breakup

 Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

 Spot Washing: Wands

 Beach Cleaner

 Other (see comments)

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 5/7/90

ADEC ART WEINER Art Weiner

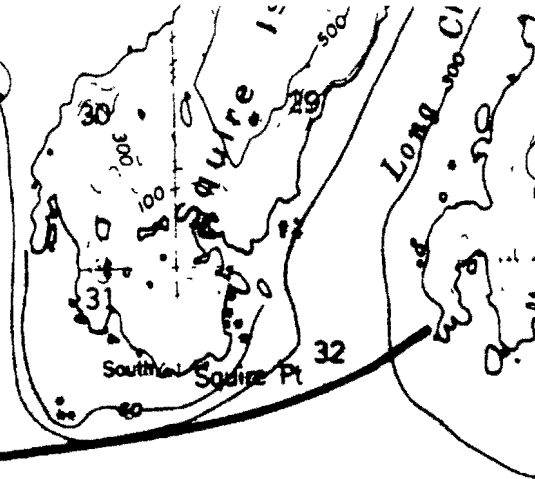
EXXON ANDY TEAL Andy Teal

NOAA GARY PETROS Gary Petros

USCG G.A. BEITER G.A. Beiter

FOSC: W L

DATE: 5-18-90



226-20

226-40

ECOLOGY MAP

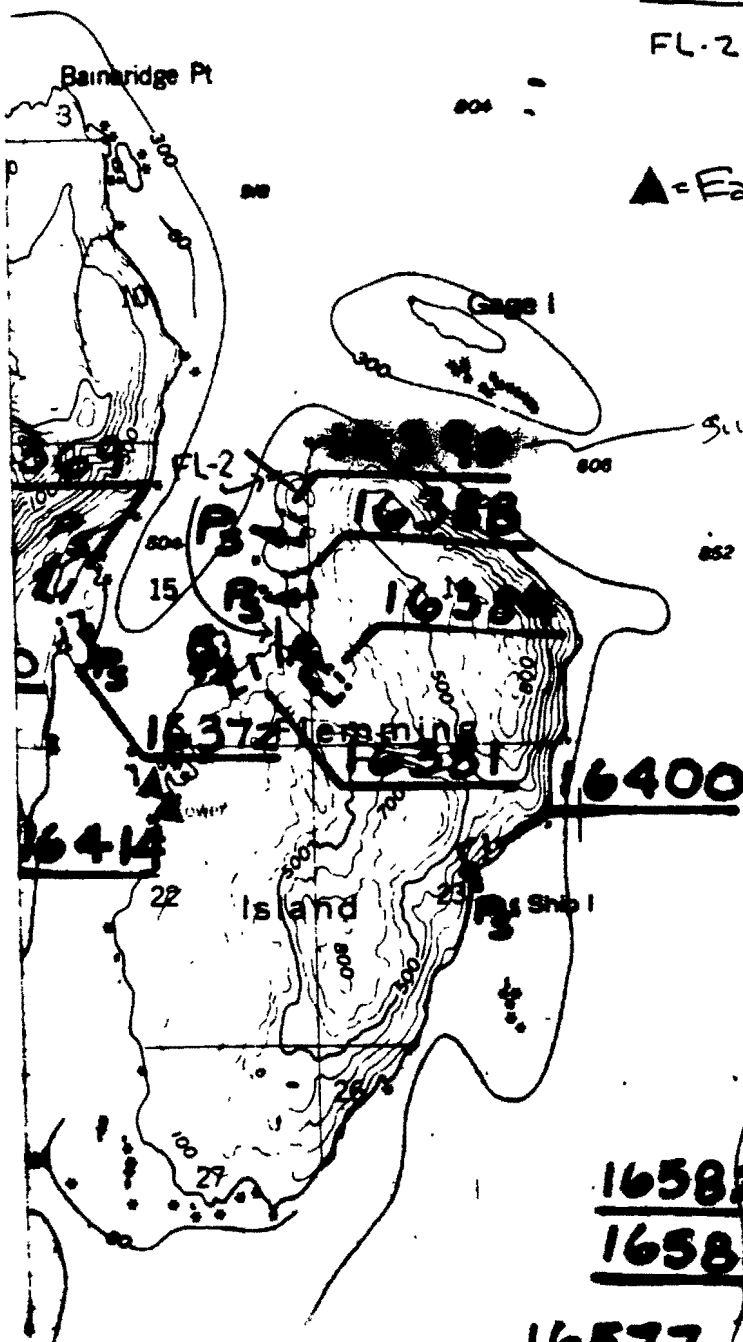
FL-2 ASC#

226-40-16390

▲ = Eagle Nest

KNIGHT

SUBJECT STREAM LOCATION



ACE 7354011 -15

10/53

SSAT DATA ENTRY FORM

PAGE 1 OF 2

GENERAL DATA

226-40-
SEG ID: FL 002 SUBDIV: 16390 TEAM: AS-15 SURVEY DATE: 4/23/90
PAVEMENT: CHAR — AREA 0 THICKNESS 0 TARBALLS 0
OILED: LGS SM VEG — TRH — DBR — WAVE EXP: LW — MD X HG —
FAX RCVD: — DT: — AGENCY DISAGREE: —
EST SUBDIV LGTH: 25 OIL CATEGORY: W 0 M 0 N 0 VL 2 NO 23 U 0

SURFACE DATA

SURFACE SEDIMENT: BRK 0 BLD 0 COB 30 PEB 60 GRN 10 SAN 0 MUD 0 VEG 0

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

11/53

PAGE 2 OF 2

PIT # 1 PIT DEPTH 35 OIL CHARACTER - OIL INTVAL: FROM 0 TO 0
QUANT: - OIL CLR: - FLM CLR: - ZONE: SU - UI - MI X LI -
SUBSURF SEDIMENT: BRK - BLD - COB - PEB X GRN X SAN - MUD - VEG -

PIT # 2 PIT DEPTH 25 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 # _____ PIT DEPTH _____ OIL CHARACTER _____ OIL INTVAL: FROM _____ TO _____
 QUANT: _____ OIL CLR: _____ FLM CLR: _____ ZONE: SU _____ UI _____ MI _____ LI _____
 SUBSURF SEDIMENT: BRK _____ BLD _____ COB _____ PEB _____ GRN _____ SAN _____ MUD _____ VEG _____

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

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

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

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

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

PROBLEMS: _____

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

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

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

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

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

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

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

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

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

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

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

1H Remote release site

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ADF&G Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom 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

Processed
5-7-90
MK

RECEIVED
MAY 03 1990

DEPT. OF
ENVIRONMENTAL CONSERVATION

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: FL-02

STREAM NO: 226-40-16390

Concur

ACE 7354001

ADFG MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: ES (SS) ES TS AVS SOA HNS PTA2 REGION: (PWS) KP, CI K, APMETHOD: Aerial (Ground) Boats3 DATE: 4/23/9018 HIGH TIDE TIMES: 0031 / 125721 TEAM RECORDER: M. W. LIGDNER4 START TIME: 171019 HIGH TIDE HTS: 11.5' / 10.5'22 OBSERVERS: T. GEORG5 STOP TIME: 172517 LOW TIDE TIMES: 0648 / 185523 AGENCY: ADFG6 SEGMENT #: EL-00216 LOW TIDE HTS: -0.8' / 0.5'24 PHOTOS TAKEN: Y (N)7 STATION #: 226-40-1639010 TIDE HT AT SURVEY: 2.28'

Roll #: _____ Frame: _____

8 K-UNIT: _____

Ebb Slack Flood Slack

25 VIDEO TAKEN: (N) TAPES: _____

9 STAT AREA: _____

20 USCG QUAD: _____

Starts: _____ Ends: _____

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

27 SURFACE COVERAGE

SHORELINE				STREAM			
L	Y	N		L	Y	N	
30	25		21	25	1		0

36 CATALOGED ANAG. FISH SKELET? (Y) N

28 SURFACE THICKNESS

1	MA						
0							

37 CATALOG #: 226-40-16390

29 PENETRATION

38 STREAM NAME: _____

30 OVERALL OIL IMPACT: N (NL) L N N39 OIL IN STREAM BED? Y (N)31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky (Stain)40 OIL ON STREAM BANKS? Y (N)32 OILED DEBRIS? Y (N)41 OIL ON BEACH ADJACENT TO MOUTH? (Y) N
(within 30 meters)42 OIL WITHIN 1 MILE OF STREAM? (Y) N33 SHORELINE TYPE: Headland Low-lying Rocks Beach (Cave)

Lagoon Marsh

43 ANAGROPHOUS FISH PRESENT? (Y) N34 WAVE EXPOSURE: High Moderate (Low)ALGAL PRESUMED

35 SUBSTRATE TYPE: Bedrock Boulder Cobble

44 ANAGROPHOUS FISH OBSERVATION

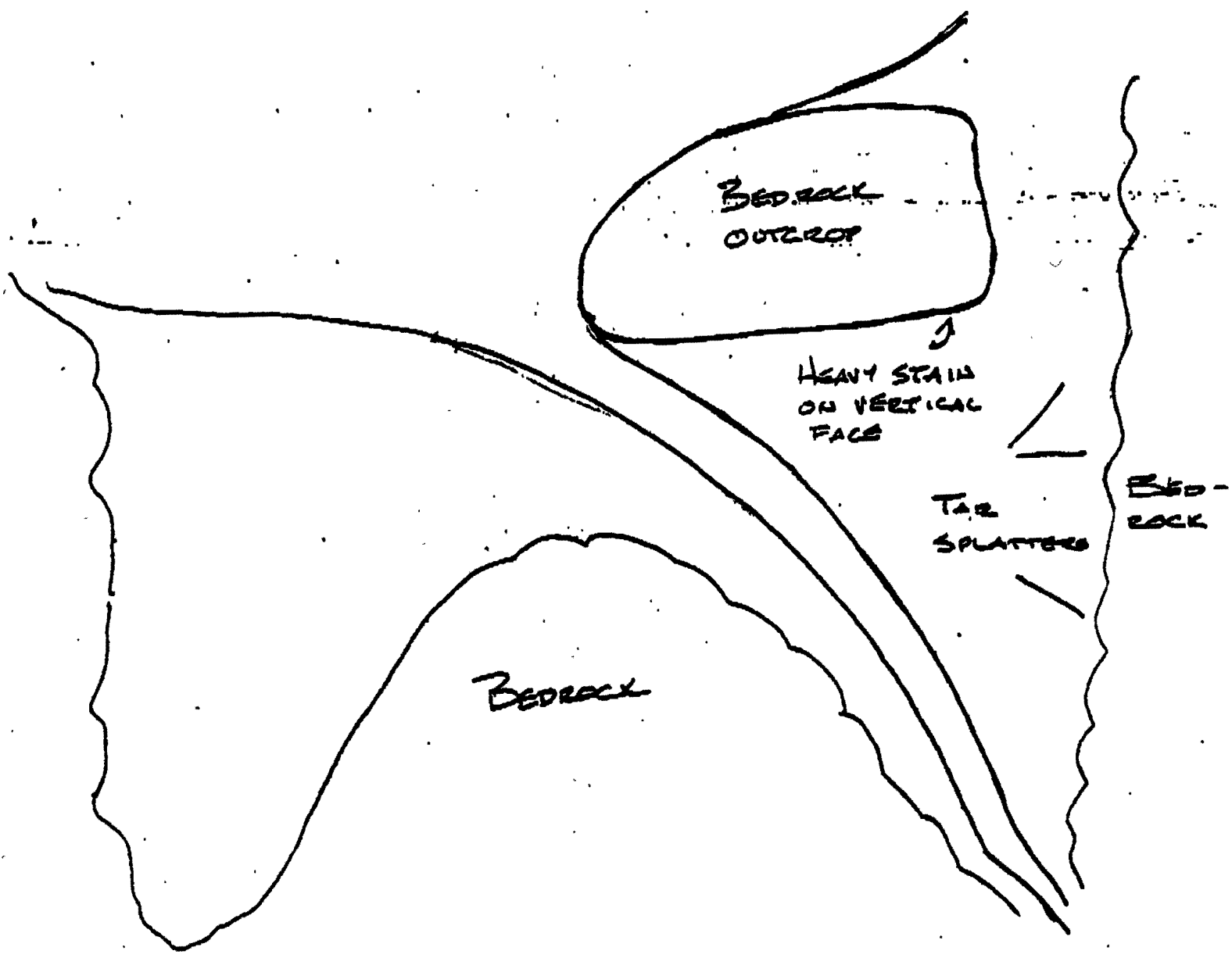
Gravel Sand Mud/silt

Species Aerial Ground

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

E(S)	DESCRIPTION
	<u>RECOMMENDATIONS: NO TREATMENT REQUIRED.</u>
	<u>I agree with recommendations. M. J. Smith</u>

48 OIL DISTRIBUTION DIAGRAM



ole taken
ro frame 8 and
it direction.

segment FL002
Stream 226-40-16390
Ecological Summary

4/23/90
Michael Fawcett

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 boring found consists of stauris on the bedrock, cleanup not advised.

M. Fawcett

SHORELINE OILING SUMMARY (ANAD.)

REVISION NO. 01

OG WILLIAM REO USCG McMAHON SEGMENT ST/ FL002 8/53
 BIO MICHAEL FAWCETT LAND REP TOM CROWE STRAB 226-48-1340 OF
 EXXON GUS GARCIA ADFG MIKE WARDNER TIME 17:15 to 17:25
 TEAM NO. 15 TIDE LEVEL 2.5 ft DATE 23 / APR / 90
 EST. SUBDIVISION LENGTH: 2.5 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 50 % B 30 % C 10 % P 10 % G 10 % S 0 % M 0 % V 0
 SLOPE: Long 50 % Hang 50 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 2 m M 2 m N 2 m VL 2 m NO 2

SURFACE OIL

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

PAVEMENT H F S 0 sq. m by 0PATTIES / TARBALLS 0 BA

NEAR SHORE SHEEN? NO BR RW SL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
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	BELOW		OIL / FILM COLOR					PIT ZONE					A N A	NUMBER OF	Y	SURFAC SUBSURF. SEDIMENT
		OP	OR	OL	OF	NO		UO	VO	1	2	3	4	5	SU	M	U	U	U				
1	35					X	.									X					N		P/G
2	25					X	.									X					N		P/G/L
							.																
							.																
							.																
							.																
							.																

COMMENTS

REVIEWED TWDATE 4-25-90

ACE 7354006

9/53

OG WILLIAM REID

SEGMENT ST/ FL 002

STREAM 226-40-16340

DATE 23 / APR 80

CHECKLIST

- ☐ N Area
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Char.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. INWLA/VOL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Photo(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
Pt - No Subsurface Oil

2 Δ
Pt - Subsurface Oil

CT/C
Continuous Distribution

CT/D
Broken Distribution

CT/P
Patchy Distribution

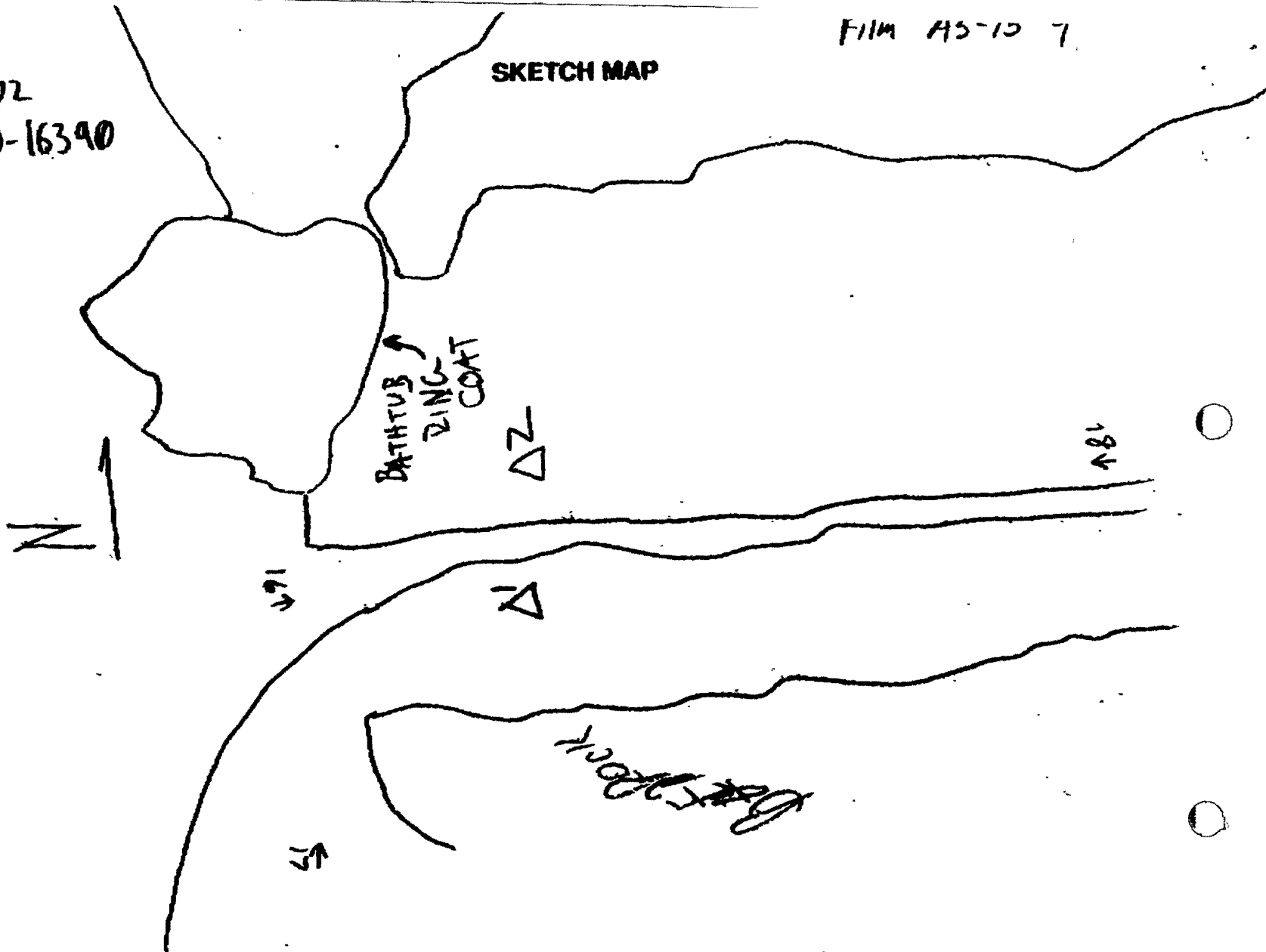
CT/S
Isolated Distribution

eee
No Vegetation

1 ●→
Map location, direction,
and number

SKETCH MAP

Film 45-15 7



Alaska Department of Fish and Game

ANADSCAT Observations and Recommendations
Team 15 - Michael Wiedmer and Tom Crowe

23 April 1990

ASC # 226-40-16431

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

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 uncoiled biota and substrate.

Subject stream is located within Subdivision FL-002A

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: _____ Breakup	_____ Beach Cleaner
_____ Removal	_____ Other (see comments)

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

ACE 7354002

ADF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: ES SS CS TS AVS SCHA MMS PTA

2 REGION: PXS 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: 1710

16 HIGH TIDE HTS: 11.5' / 10.5'

22 OBSERVERS: T. CROWE

5 STOP TIME: 1725

17 LOW TIDE TIMES: 0648 / 1855

23 AGENCY: ADF&G

6 SEGMENT #: FL-002

18 LOW TIDE HTS: -0.8' / 0.5'

24 PHOTOS TAKEN: Y N

7 STATION #: 226-40-16390

19 TIDE HT AT SURVEY: 2.28'

Roll #: _____ Frame: _____

8 K-UNIT: _____

Ebb Slack Flood Slack

25 VIDEO TAKEN: 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: _____

Sediment _____

14 DESCRIPTION: _____

Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	W	M ²	%	L	W	M ²	%
27 SURFACE COVERAGE	30	25		<1	25	1		0
28 SURFACE THICKNESS	<1mm							
29 PENETRATION	0							

30 OVERALL OIL IMPACT: N VL L M H

36 CATALOGED ANAD. FISH STREAM? Y N

31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain

37 CATALOG #: 226-40-16390

32 OILED DEBRIS? Y N

38 STREAM NAME: _____

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

39 OIL IN STREAM BED? Y N

34 WAVE EXPOSURE: High Moderate Low

40 OIL ON STREAM BANKS? Y N

35 SUBSTRATE TYPE: Bedrock _____ Boulder _____ Cobble _____

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

Gravel _____ Sand _____ Mud/silt _____

42 OIL WITHIN 1 MILE OF STREAM? Y N

Where: _____

43 ANADROMOUS FISH PRESENT? Y N

ALEVINS PRESUMED

44 ANADROMOUS FISH OBSERVATION

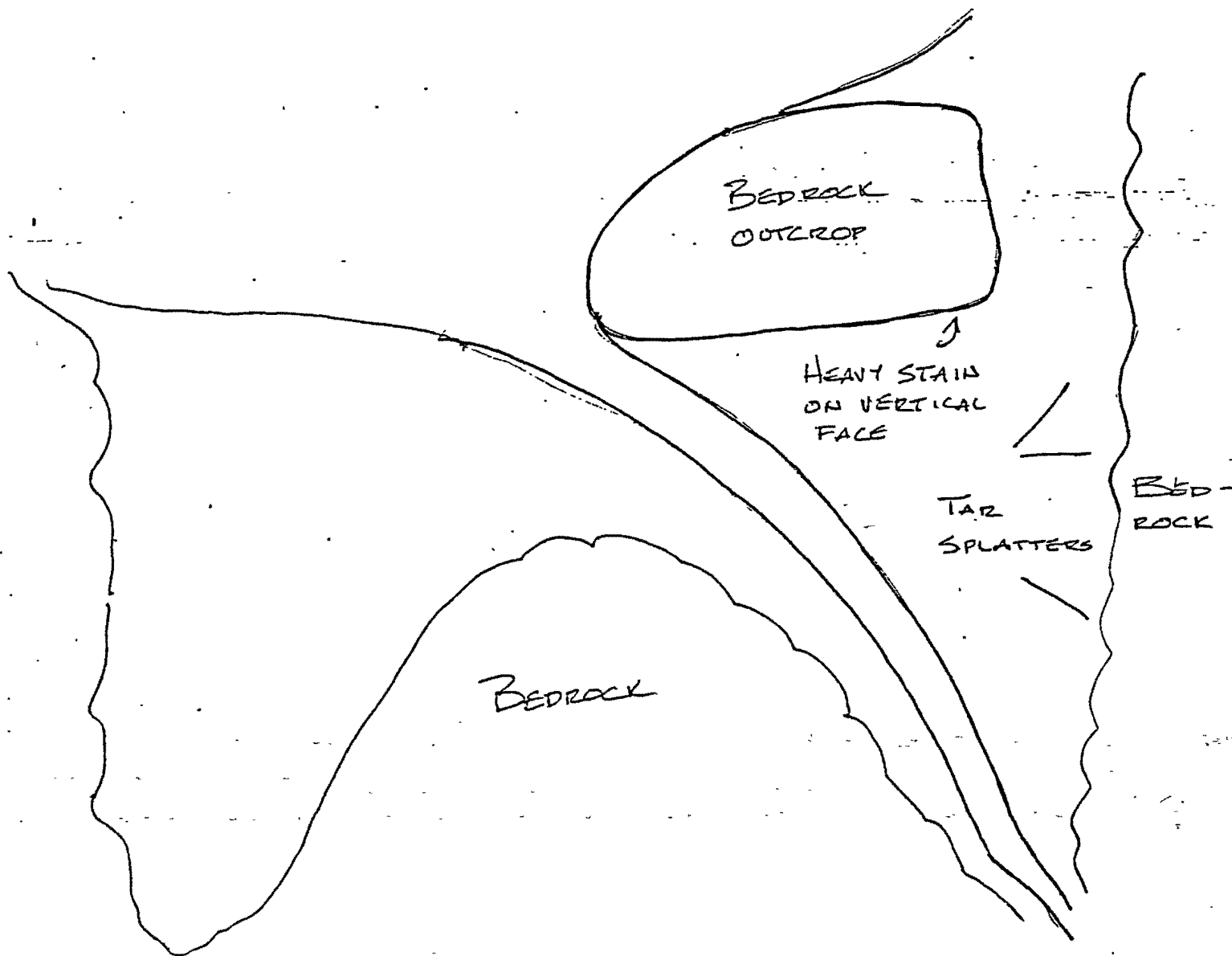
Species Aerial Ground

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

DESCRIPTION

I agree with recommendations. Mr. S. Farley

46 OIL DISTRIBUTION DIAGRAM



note taken
of frame # and
of direction.

ACE 7354017

FIELD SHORELINE COMMENT SHEET

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

USCG
NAME CWO MC MATTON SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

ADEC 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



OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ

DATE: 09/19/89

TIME: -0-

SEGMENT#: -0-

STATION#: -0-

LOCATION: FLEMING ISLAND

'REASON FOR TAKING PHOTO: A. AERIAL INTERTIDAL
(148°01'48"/66°10'58")

TAKEN BY: RICK GUSTIN

INITIALS: _____

ROLL #: 89RLG009V FRAME #: 04

EVIDENCE ID#: 10212

ACE 7353997

CATALOG NUMBER: 2264016390
 STREAM NAME:
 LOCATION: FLEMMING ISLAND, WEST COAST

SEGMENT NUMBER: FLO02 A
 SHORELINE TYPE:
 DATE: 04/11/90 TIME: COVE -1113

SITE	WIDTH (m)	LENGTH (m)	AREA (sqm)	PERCENT OIL	THICKNESS (cm)	PENETRATION (cm)	SURFACE SUBSURF	OIL TYPES	COMMENTS
1 2	2	10			2	2	SURFACE SURFACE	AP MS MS	

COMMENTS:

RECOMMEND FOR ANADSCAT. OIL LOCATED TO LEFT OF SALMON STREAM AS YOU FACE IN TOWARDS BEACH. 10 METERS 1/4 - 1" THICK BANDS OF MOUSSE & TAR ON LARGE BOULDERS AND BEDROCK CLIFFS. SOME PLIABLE MOUSSE PATCHES IN FUCUS BEDS. NO OIL NOTED IN STREAMBED OR ON IMMEDIATE BANKS. PENETRATION 2-3".

RECOMMENDATIONS: SHOVEL REMOVE PATTIES. STEAM CLEAN ROCK.

STREAM BANKS: NO

MILE OF STREAM: YES, LARGE BOULDERS, FUCUS BEDS

OIL ON
OIL WITHIN 1

CATALOG NUMBER: 2264016390
 STREAM NAME:
 LOCATION: FLEMMING ISLAND, WEST COAST

SEGMENT NUMBER: FLO02 A
 SHORELINE TYPE:
 DATE: 04/23/90 TIME: COVE -1725

SITE	WIDTH (m)	LENGTH (m)	AREA (sqm)	PERCENT OIL	THICKNESS (cm)	PENETRATION (cm)	SURFACE SUBSURF	OIL TYPES	COMMENTS
1 2							SURFACE SURFACE	ST LI-OR	OUTCROP ON VERTICAL FACE OF BEDROCK, NORTH SIDE OF STREAM TAR PLATTERS ON BEDROCK WALLS, NORTH SIDE OF STREAM.

COMMENTS:

HEAVY STAIN ON PROTECTED VERTICAL WALLS OF BEDROCK OUTCROP. VERY SCATTERED STAINS ELSEWHERE. ALEVINS PRESUMED.

RECOMMENDATIONS: NO TREATMENT REQUIRED.

STREAM BANKS: YES

MILE OF STREAM: YES

Sketch shows no
oiling on SOUTH SIDE OF STREAM.

OIL ON
OIL WITHIN 1

FLO02: 2264016384 : no H&B surveys.
16388 : "

FLO04:

(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 7/16/89

SHORELINE SEGMENT FL-2

LOCATION: (see enclosed map) Northwest Flemming Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/12/89

Recommended Cleanup Activity(ies):

- Manually remove contaminated drift material (fucus).
- Use moderate to high pressure warm to hot water washing on rock and oiled logs.
- Because the contaminated beach sediments are fine grained, diskings or relocating them into the lower intertidal zone would accelerate cleaning. This is an exposed beach in which the sediments would be reworked and redistributed back up the intertidal zone.
- Use other approved methods as appropriate.

IF DISKING TECHNIQUE IS USED, ADVISE THAT 4-8 HRS. PRIOR TO BEGINNING CLEANUP - DISKING POSSIBLE.

Priorities Considerations:

Class 2-4: heavy to light oil

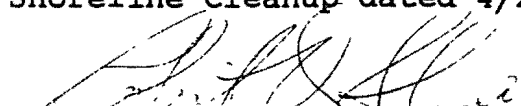
Class A: resources present

Ecological Constraints (from site survey): Work at mid tide + or take appropriate measures to protect lower intertidal zone. Three potential anadromous fish streams located at sites 1 and 2. ~~Confirm with ADF&G and notify ADF&G and RAT within 48 hours prior to beginning any cleanup.~~ Avoid disturbing healthy fucus to ensure sufficient numbers of plants for reseeding. Minimize boat traffic to avoid disturbing the subtidal eelgrass.

SLIT NOTE: CHERRY LAND.

Archeological Constraints (from site survey):

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.


State Historic Preservation Officer *

Date: July 12, 1989

ISCC: ✓

Date: 7/21/89

EXXON: _____

Date: _____

FOSC: _____

Date: _____

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

ACE 7354025 +15

DOCUMENTATION:

Map/Aerial photo ☐ Working segment boundaries ☒ ATTACHED

VTR: Y/N ☒ Tape Number(s) _____

Photography: Y/N ☒ Roll Number(s) 3

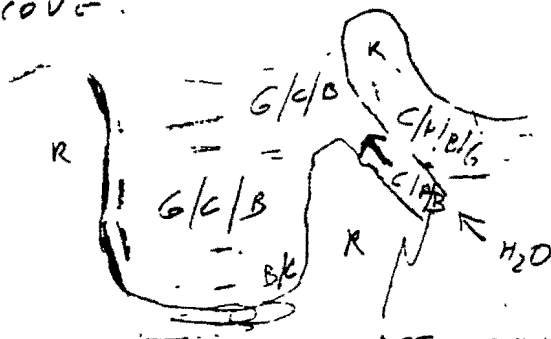
Sample Numbers Collected: _____

FIELD NOTES

FL-2 14:00 7/12/89

R SHIFF OUTCROP, SOME B → SHOWS OIL - THIN LINE TO THICK COATINGS
LOCATION ①

2 LITTLE POCKET BERCHES N OUTCROP/CLIFF IN BETWEEN
ONE-POCKET



⇒ SPORADIC OIL (TR) ON SURFACE - LIGHT
SOME HEAVIER PATTERNS
PITS → OIL IN SPND ± 10 CM (LIGHT TR),
SPORADIC OIL ON R (OILED FOCUS)

ACE 7354027

POTENTIAL RHADROMOUS STAGM

7/12/89

FL-2 CONT

→ SW-COUL SAME MORPHOLOGY AS NO
LITTLE MORE OIL ON B & FOCUS → SOME MOUSSE
WOOD IN M/SP, DEBRIS IN M/H
PIT IN H-TIDE: 10 CM IN G OIL (TRK)
M - " = 5 CM IN G " "
OIL (TRK) ON R & V LG BLD AT HIGH TIDE - OFF SHORE

P③ 14:22: VIEW OF SW-COUL

* SKIPPED OUTCROP & SOME B, LITTLE CREVICES & B-BEACHES (TOO SM
FOR EQUIPMENT

→ I CONT BAND OF OIL; SPORADIC 3 DISTINCTIVE OIL BANDS

* LOCATION ②

- LARGE BRY / BEACH AREA W SAME GENERAL MORPHOLOGY AS ①
- 2 CREEKS. ONE POTENTIAL ANADROMOUS
- DEBRIS ALONG IN M/T/SP; WOOD IN M/H/SP

OIL I CONT BAND OF TRK ON H-TIDE → LIGHT TRK, SPORADIC HEAVY PATCH
SPLASH IN SP
SPORADIC OIL IN M

PITS M & H → OIL 5-20 CM DEEP

P④ 15:03 VIEW OF LOC ②

* SIMIL. OUTCROP / CLIFF OIL KING

END 15:15

FL-3 15:15 7/12/89

→ LAND IN FIRST BEACH; H₂O IS TO M/H-LINE
OIL IS DEEP-PENETRATION & EXTENDS TO MID-TIDE AS FUR
AS VISIBLE
→ H₂O TOO HIGH TO WORK IN!

ECOLOGICAL EVALUATION

LOCATION: Prince William Sound SITE: NW tip of Flemming Island OBSERVER: SL Dearn

LOCATION PREFIX: _____ SEG. NO.: FL-2 LENGTH: 1970 (M)

DATE: 07/12/89 TIME (HHMM): 1400-1510 TIDE HT.: 5.0 - 4.5 ft (M)

OILED ZONE: Splash High Medium Low (Low Water: 4.3 ft @ 14:14)

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

Upper 1m of Fucus oiled (light to heavy oiling) Enteromorpha mats
Fucus - dense + continuous on vertical rock outcroppings; patchy + sparse on cobbles + boulders.

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

Some larger individuals gapping (~ < 5%)
In clusters at bases of smaller boulders on beach + cracks of vertical rock outcroppings

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

Dense on larger boulders + larger cobbles. Scattered on cobbles across beach

Littorina

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

Nucella present
Clustered under Fucus blades + in cracks + crevices of boulders. Often associated in numbers with Enteromorpha mats.

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

Primarily Notosacma sentum. Generally found taking refuge under Fucus blades

OTHER OBSERVATIONS: 3 potential anadromous fish streams located (see map). Shallow

subtidal eelgrass beds at location (2). Oiled drift ^(oiled) Fucus in wrack line. Juvenile fish (rockfish type) seen at water's edge at location (1). Eelgrass, Halosaccion, Enteromorpha, Fucus in drift.

CLEANUP PRECAUTIONS: Disturbance of possible anadromous fish streams should be avoided

(ADF+G maps not presently available to me. Please confirm w/ ADF+G.)
Care should also be taken to avoid recontamination of shallow subtidal eelgrass beds. If bioeroded occurs, tidal flushing of area should decrease problems associated w/ water quality. Increased nutrients may ^{possibly} algal growth + eelgrass growth thereby.

MAMMALS: Otters _____ Harbor Seals 1 ^{on nearshore rocks} Sea Lions _____ Whales _____

BIRDS: 1 ^{2nd} Eagle ^(not on beach, flew by over water), several Black-legged Kittiwakes, several crows

GENERAL OBSERVATIONS: Streams, although not running very much, are potential salmon spawning

areas, particularly for pink salmon. Mid-High Intertidal region has relatively low diversity +
abundance of organisms, due primarily to cobble/boulder substratum. Shallow subtidal zone
(eelgrass) beds appear relatively dense. These should be considered ecologically
important habitats.

CULTURAL RESOURCE EVALUATION

SEWARD (A-3) QUAD

Date 7/12/89 Location NW PART OF FLEMING I. Site

Location Prefix FL- Segment # 2 Length 1970 M

Survey Method:

Air (A - indicate on map) Boat ✓(80%) (A - indicate on map)

Ground ✓(20%) (G - indicate on map)

Known cultural resources (AHRS #) NONE Data Source AMES FILE

Oil conditions/beach visibility LIGHT TO MODERATE OILING, FAIR BEACH VISIBLE

Width of beach zone surveyed 20 M m Tree fringe surveyed 0-5 M

Cultural resources observed in beach zone (AHRS code) NONE

Cultural resources observed in tree fringe (AHRS code) NONE

General observations justifying survey method and segment's site probability

Shore Profile ROCKY HEADLANDS WITH SMALL ROCKY BEACHES, NARROW LAGOON W/SPK

Fresh Water Sources SMALL STREAMS

Sea Exposure OPEN TO PRINCE OF WALES PASSAGE

Access/Safety GOOD MAGE ACCESS, ALSO SKIPS, LCV'S

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 # PEBTMY 10 Frames 13, 14

Observer(s) P. BUCK, R. MACK

Time survey started 1348 Time survey ended 1503

Cultural resource considerations/restraints:

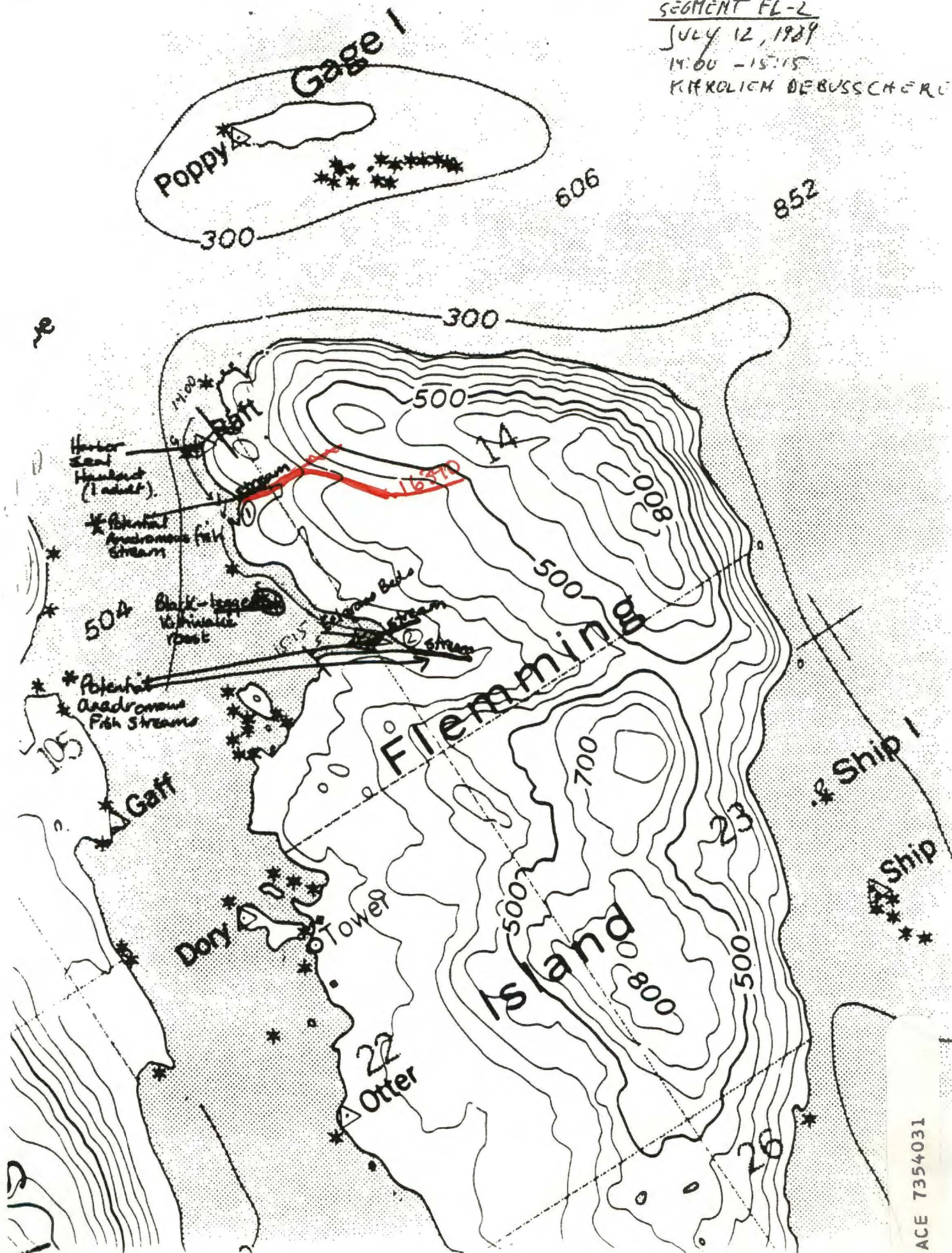
"STANDARD CONSTRAINTS"

SEGMENT FL-2

JULY 12, 1989

14:00 - 15:15

KIRKOLICH DEBUSSCHERE



(version 5/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): Flemming Island West Block

Includes Shoreline Segments: FL-1, FL-2, FL-3

Submitted :

[Signature]
(for Exxon)

Date: 7/17/89

ISCC Approval:

Date: 7/21/89

FOSC Approval:

Date: _____

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative has the authority to approve on-site modifications. The Field Resource Team should be consulted if these actions do not fit within the Ecological Constraints of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:

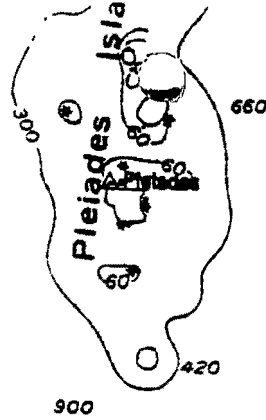
Exxon Shoreline Coordinator
Exxon Shoreline Supervisor
Exxon SCAT file

FOSC
CDFU
NOAA
EPA
USDA (FS)
USFW
A.DEC
A.FG
A.DNR
CAC
PWSCA
USFS
SHPO

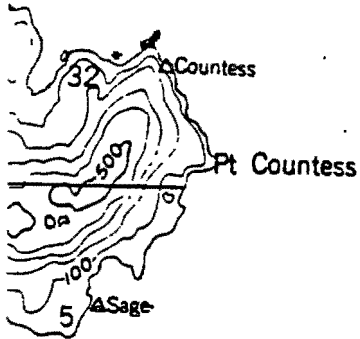
ALASKA DEPT. OF
FISH & GAME
JUL 21 1989
VALDEZ/R II
HABITAT DIVISION

ACE 7354032

936



1062



FLEMMING ISLAND WEST BLOCK

FL-1, FL-2, FL-3

1314

PASSAGE

Bain 1933 Bainbridge Pt

804

Meyer

918

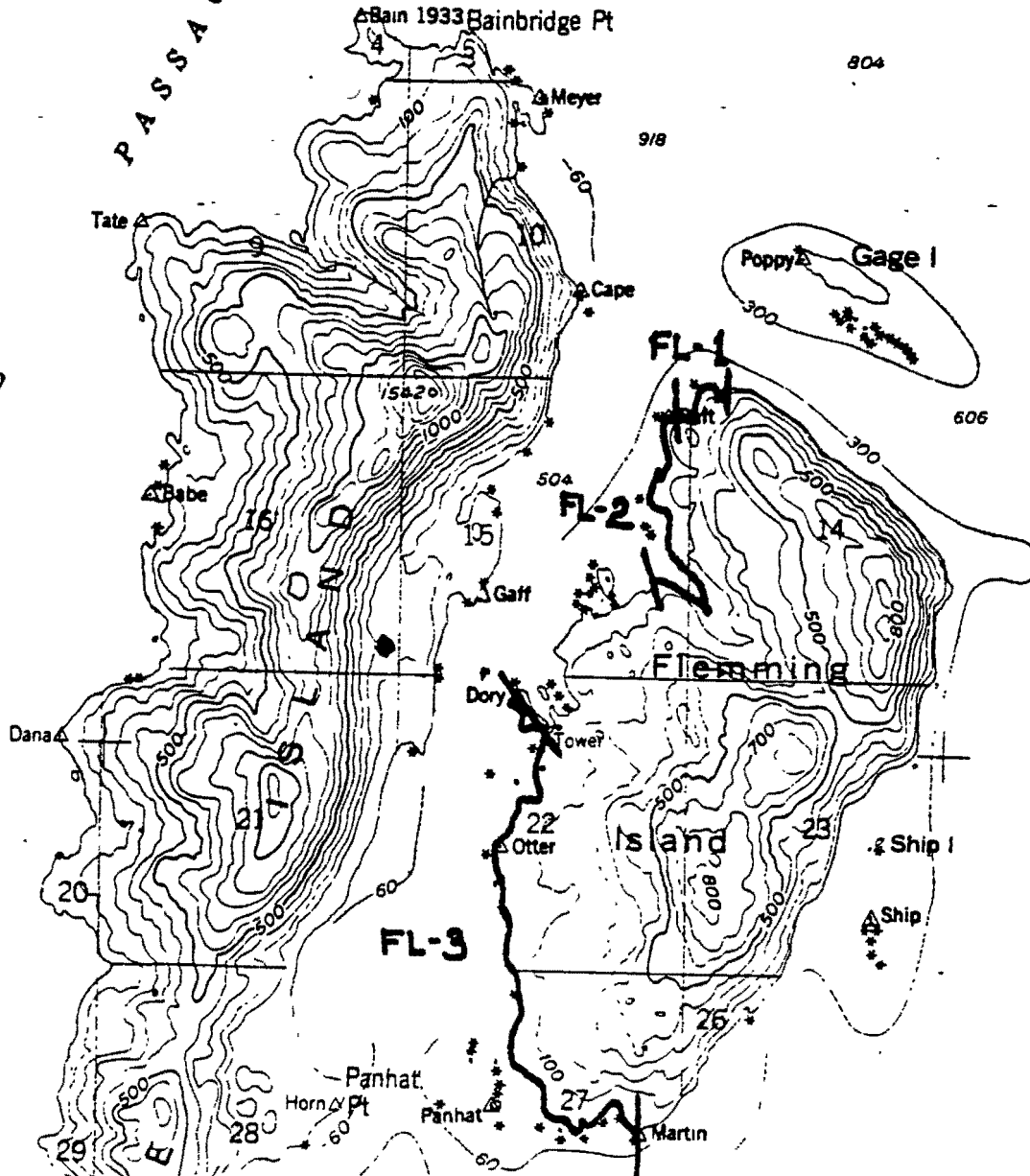
Tate

Cape

Poppy Gage I

1440

RIDGE



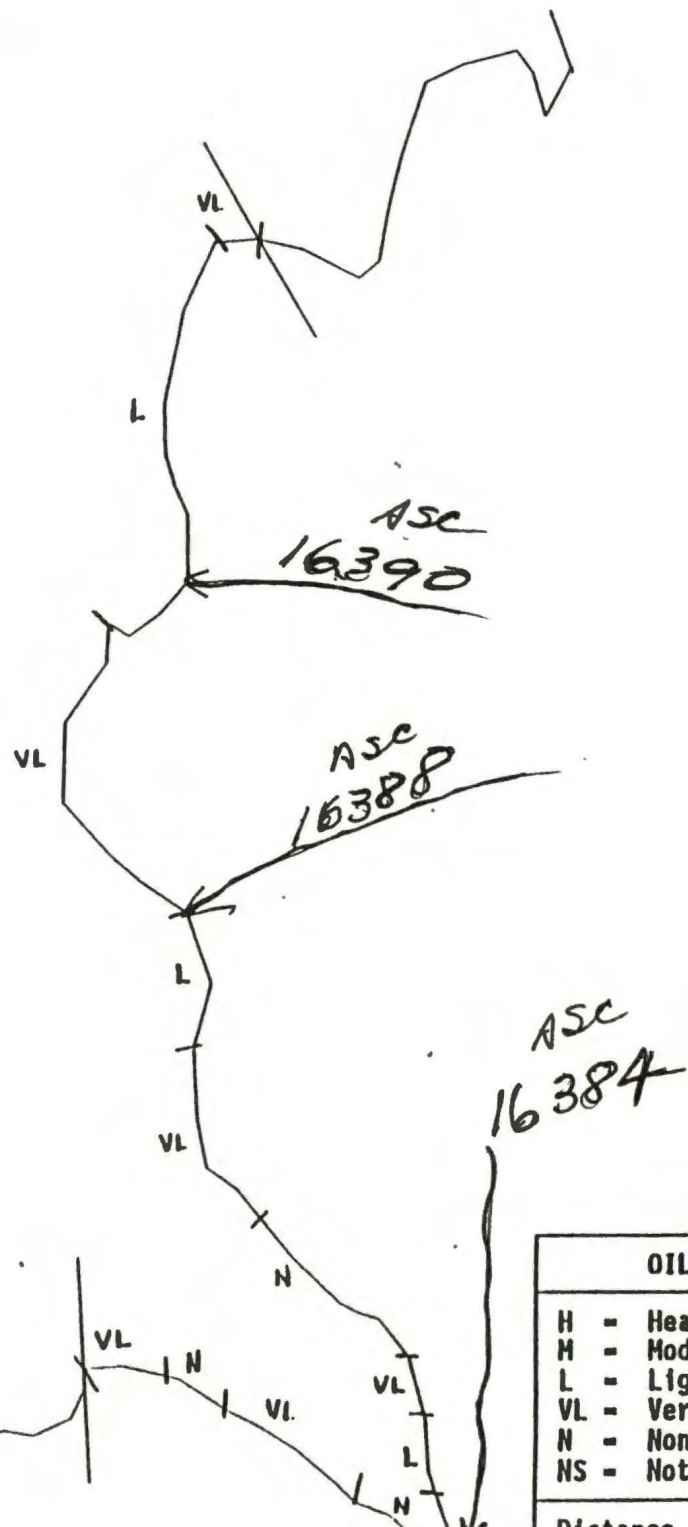
852

ACE 7354033-15

Gill

FL002

500.0



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



ACE 7354034-1L/AC/FF