

EV-017A#3 ASC 16630
LITTLE SHELTER BAY

ACE 1369557



- Prince William Sound -
DOCUMENTS IN STREAM FILES

ASC# _____ Segment # _____

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

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



Pre ANAD SCAT-90 ^{ATW}

ADF&G MULTI-ASSESSMENT DATA FORM

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

2 REGION: PWS KP, CI K, AP

METHOD: Aerial Ground Boat

3 DATE: 4/12 15 HIGH TIDE TIMES: 1 21 TEAM RECORDER: _____

4 START TIME: 0854 16 HIGH TIDE HTS: 1 22 OBSERVERS: Tom Crowe

5 STOP TIME: 0906 17 LOW TIDE TIMES: 1 23 AGENCY: ADF TG

6 SEGMENT #: RUI 17 18 LOW TIDE HTS: 1 24 PHOTOS TAKEN: Y (N)

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

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

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

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

12 SOURCE: Map Loran 011 _____

13 LOCATION: _____ Sediment _____

14 DESCRIPTION: _____ Biological _____

EXTENT OF OIL

27 SURFACE COVERAGE

SHORELINE				STREAM			
L	W	M ²	%	L	W	M ²	%

36 CATALOGED ANAD. FISH STREAM? (Y) N 226-40-25W

37 CATALOG #: 16630

38 STREAM NAME: _____

28 SURFACE THICKNESS

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

39 OIL IN STREAM BED? (Y) N

29 PENETRATION

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

40 OIL ON STREAM BANKS? (Y) N

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

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

31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain

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

32 OILED DEBRIS? Y N Where: _____

33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cove

34 WAVE EXPOSURE: High Moderate Low

43 ANADROMOUS FISH PRESENT? Y N

35 SUBSTRATE TYPE: Bedrock _____ Boulder _____ Cobble X

Gravel _____ Sand _____ Mud/silt _____

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

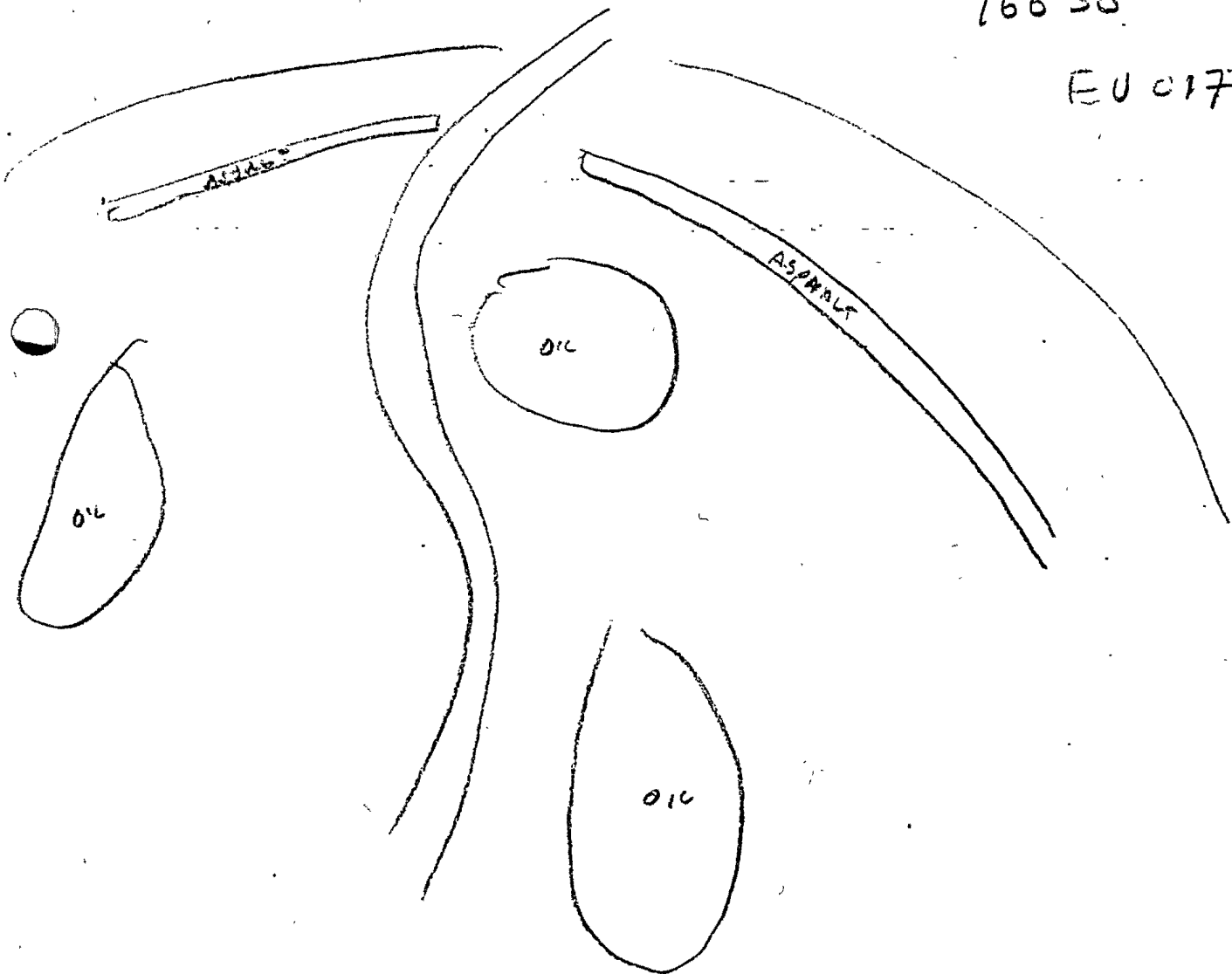
COMMENTS: DEAD OIL ON THE BEACH (ANADROMOUS)

HEAVY ASPHALT/TAR IN STREAM BED AND 2 FT BAND ON BEACH

NAME(S)	DESCRIPTION

48 OIL DISTRIBUTION DIAGRAM

4/12/93
 006-40-NEW
 16630 TWC
 EU 017



= Sample taken
 = Photo frame # and
 shot direction.

WAVE EXPOSURE:

Counter Start:

3.
6.

SITE 5

-SUBSTRATE-

Veget.

COUNT

COMMENTS:

ADF&G MULTI-ASSESSMENT DATA FORM

Pre ANAD - 90

1 SURVEY TYPE: BS SS CS TS AVS SCBA MMS PTA

2 REGION: PWS KP, CI K, AP

METHOD: Aerial Ground Boat

3 DATE: 4/21/90

15 HIGH TIDE TIMES: 1109, 2344

21 TEAM RECORDER: M. WIEDMER

4 START TIME: 1600

16 HIGH TIDE HTS: 9.4, 10.3

22 OBSERVERS: T. CROWE

5 STOP TIME: 1700

17 LOW TIDE TIMES: 0512, 1730

23 AGENCY: ADF&G

6 SECTENT #: EV-017

18 LOW TIDE HTS: 2.9, 1.1

24 PHOTOS TAKEN: Y N

7 STATION #: 226-40-16630

19 TIDE HT AT SURVEY: 2.31'

Roll #: _____ Frame: _____

8 K-UNIT: _____

Ebb Slack Flood Slack

25 VIDEO TAKEN: Y N TAPES: 90TNKCOOIAN

9 STAT AREA: _____

20 USCG QUAD: SEWARD A3

Start: 0824 End: 1168

10 LAT: _____

11 LONG: _____

26 SAMPLES TAKEN? Y N Number

12 SOURCE: Map Loran

13 LOCATION: SHELTER COVE, N. END EVANS IS.

14 DESCRIPTION: _____

Oil _____

Sediment _____

Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	W	M ²	%	L	W	M ²	%
27 SURFACE COVERAGE	300	150		15	200	10		2

28 SURFACE THICKNESS	2mm	1mm	<1mm	1mm				
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29 PENETRATION	5cm	5cm	10cm	3cm				
----------------	-----	-----	------	-----	--	--	--	--

30 OVERALL OIL IMPACT: N VL L M H

31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain

32 OILED DEERIS? Y N

33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cove

34 WAVE EXPOSURE: High Moderate Low

35 SUBSTRATE TYPE: Bedrock _____ Boulder 30 Cobble 30
Gravel 30 Sand 10 Mud/silt _____

36 CATALOGED ANAD. FISH SKEAM? Y N

37 CATALOG #: 226-40-16630

38 STREAM NAME: _____

39 OIL IN STREAM BED? Y N

40 OIL ON STREAM BANKS? Y N

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

42 OIL WITHIN 1 MILE OF STREAM? Y N

Where: _____

43 ANADROMOUS FISH PRESENT? Y N

FRY PRESUMED

44 ANADROMOUS FISH OBSERVATION
Species Aerial Ground

COMMENTS: THIS IS A LARGE INTERTIDAL ZONE WITH WIDELY DISTRIBUTE PATCHES OF OILED SUBSTRATE. THE OIL THAT REMAINS IS PREDOMINANT TAR SOAKED GRAVELS AND SAND UNDERNEATH AND BETWEEN RELATIVELY CLEAN COBBLES AND BOULDERS. TREATMENT AT THIS SITE WILL BE DIFFICULT. A LOW CONCENTRATION OF OIL IS PRESENT THROUGHOUT THE INTERTIDAL ZONE. AGE 7237918 +15

EV-017

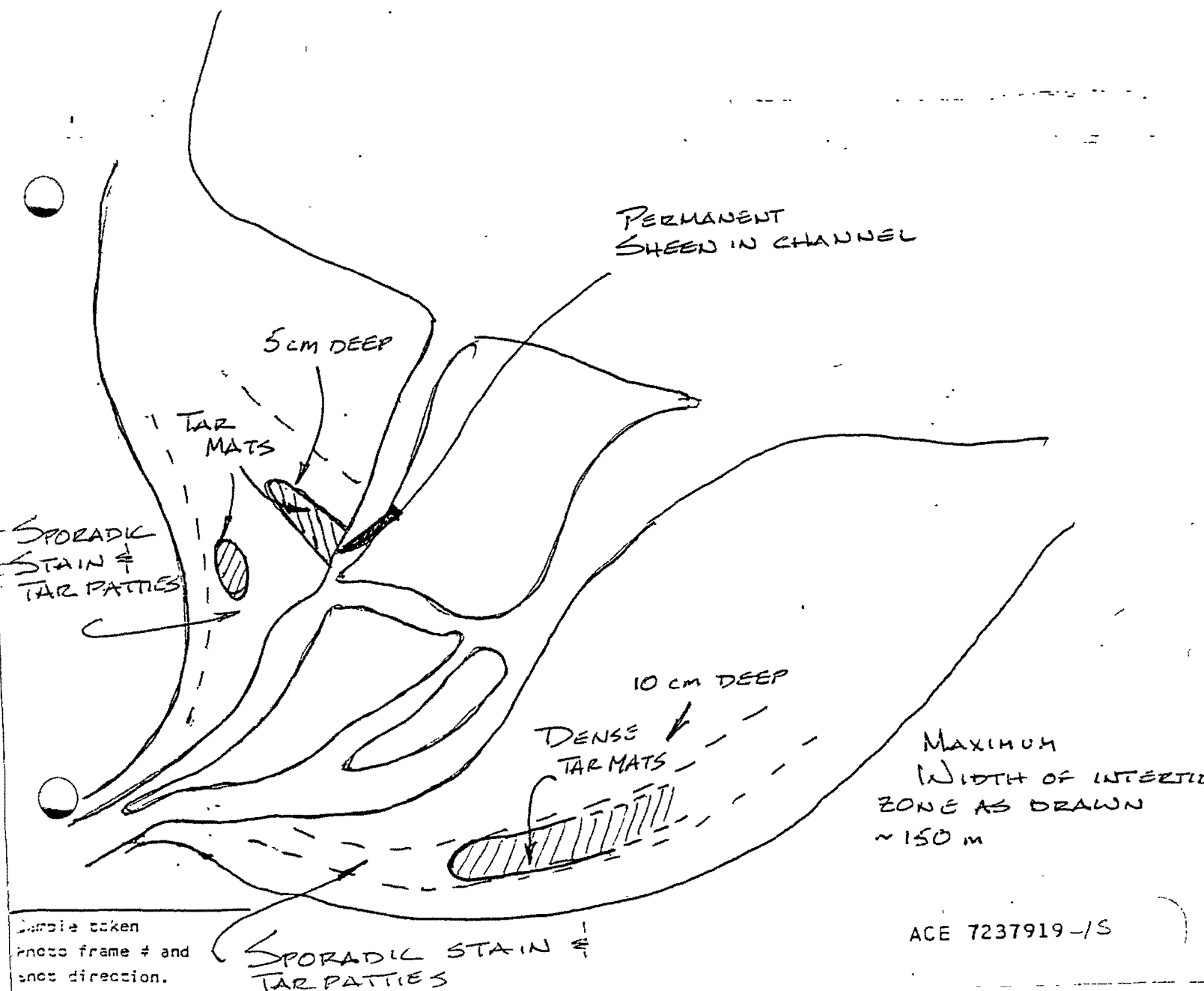
226-40-16630

45 PHOTOLOG

FORM(S)

MANUALLY DESCRIPTION

RECOMMENDATIONS: ~~THIS~~ REMOVE SURFACE TAR MATS WHERE SHOWN IN DIAGRAM. BAG AND REMOVE ONLY OILED SUBSTRATE SMALLER THAN 5 CM. MANUALLY TILL LARGER SUBSTRATE TO SPEED WEATHERING.

48 OIL DISTRIBUTION DIAGRAM

ACE 7237919-15

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

ASC NUMBER: 226-40-16630 TEAM RECORDER:
 SURVEY TYPE: OBSERVERS:
 METHOD:
 DATE: 4/21/90 AGENCY(IES):
 START TIME: PHOTOS TAKEN?
 Roll #: Frames:
 STOP TIME: VIDEO TAKEN? Tape Number:
 Counter Start:

SAMPLES TAKEN?

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

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN ^m cm	OIL TYPE
SITE 1						1.0 1.0	AP/SOL
SITE 2							TB/ST
SITE 3						.05	AP/SOL
SITE 4							TB/ST
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: Re ANADSCAT - 90

- (u) Oil on stream banks
- (u) Oil within 1 mile of stream



ANADROMOUS FISH STREAMS/OILING CONDITION
PWS

Segment # 2V12 ASC# 2264046630 Location Shelter Cove

Date 8/5/90 Recorder/Observer Aimee Weseman

Oil in streambed yes Oil on streambanks yes

Oil within 50m of mouth yes Anadromous Fish present jumpers offshore

video taken AW 1063-1207

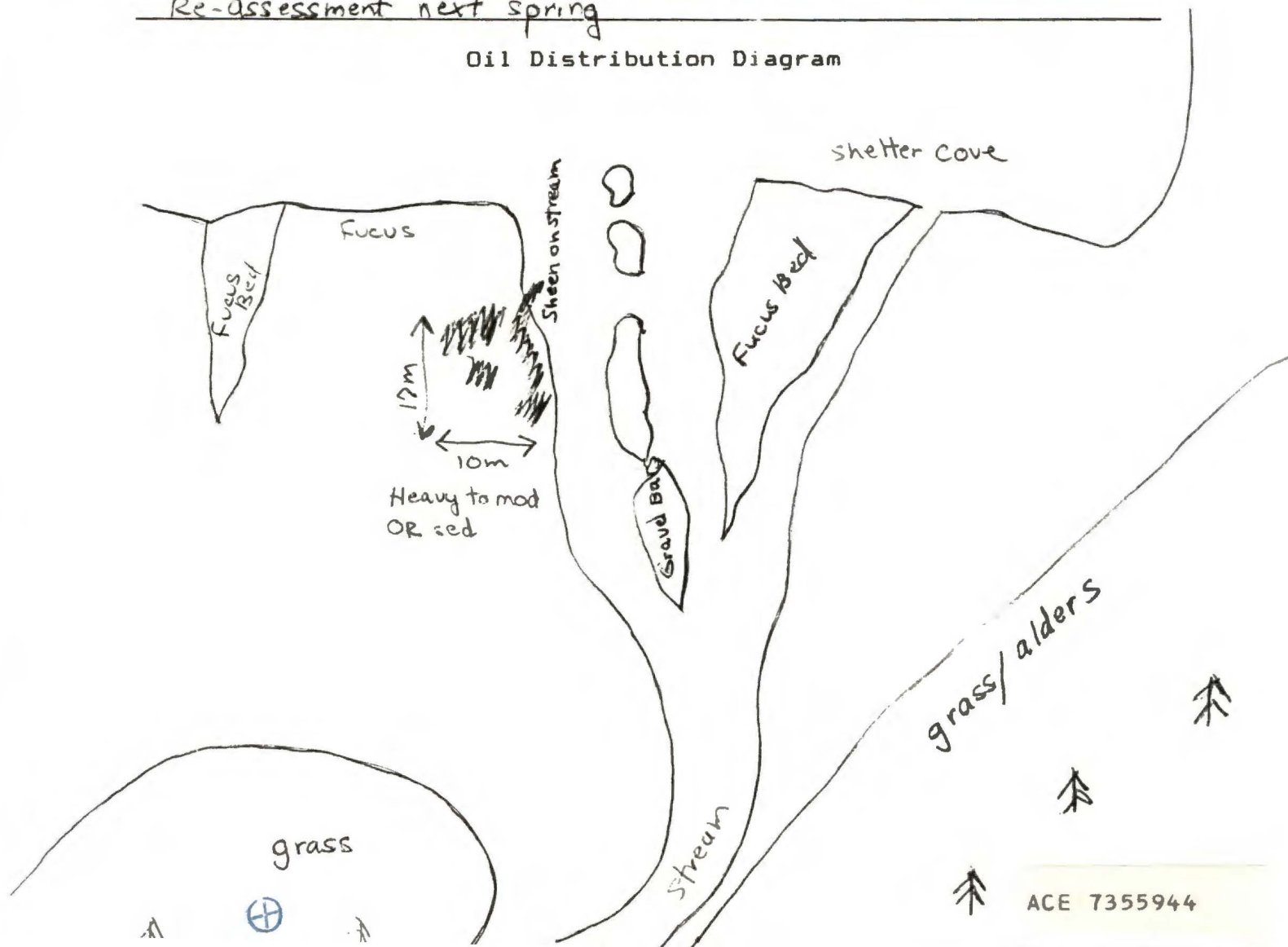
Description of oil and comments

West stream bank - A 10m long x 10m wide patch of heavy to moderate OR / intermittent tar mat is located along the west stream bank just above the fucus line. The oiled sediments continue into the streambed, releasing sheen into the stream when agitated.

Rec - manual removal of the heavier sediments & manual tilling of lighter remaining sediments

Re-assessment next spring

Oil Distribution Diagram



* Dup

ANADROMOUS FISH STREAMS/OILING CONDITION
PWS

Segment # 2V17 ASC# 22640-16630 Location Shelter Cove
East Shelter Bay

Date 8/5/90 Recorder/Observer Aimee Linsman

Oil in streambed yes Oil on streambanks yes

Oil within 50m of mouth yes Anadromous Fish present jumpers offshore

Video taken NW 1063-1207

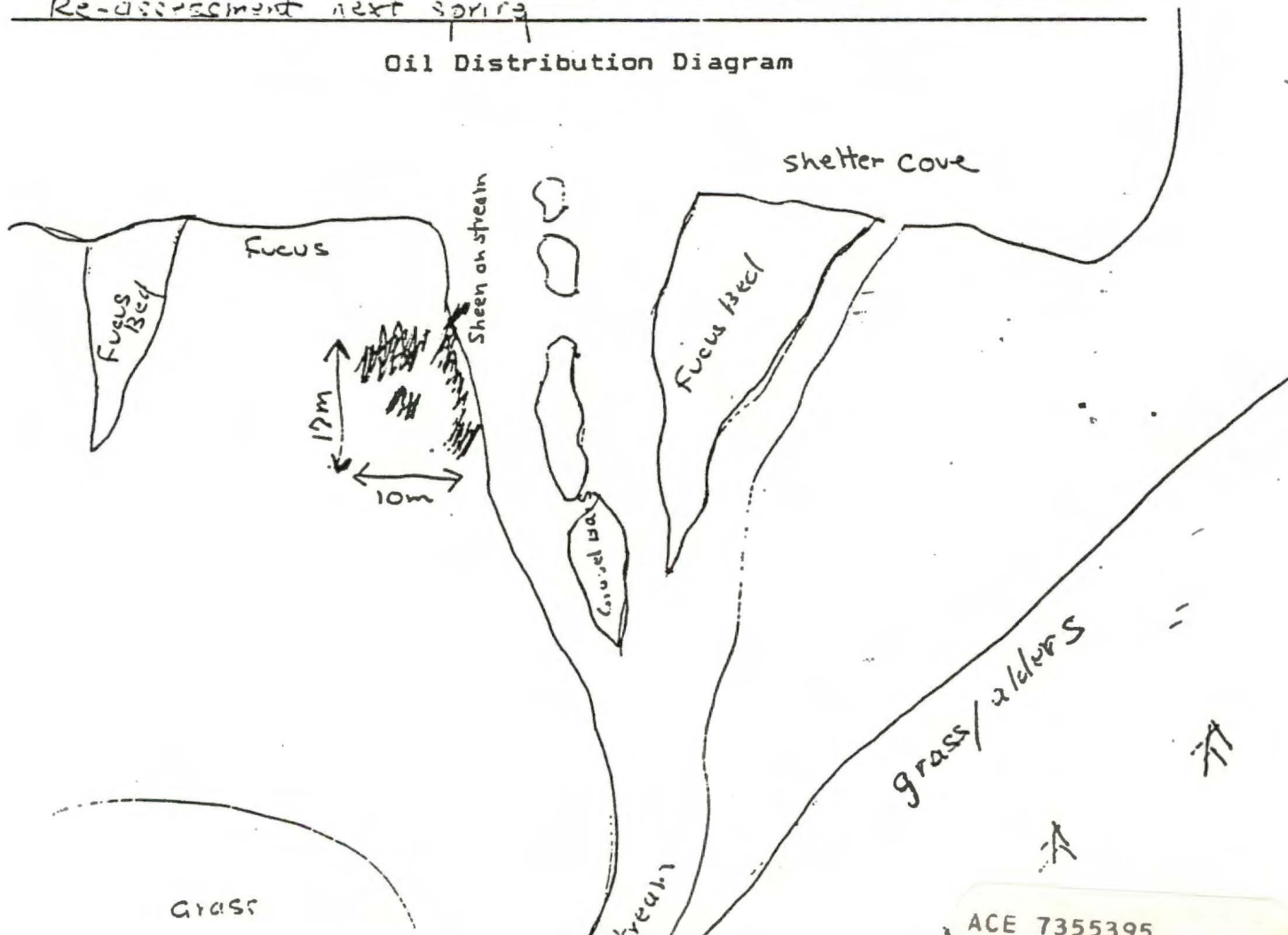
Description of oil and comments

West stream bank - A 10m long x 10m wide patch of heavy to moderate UR/intermittant oil is located along the west stream bank just above the focus line. The oiled sediments continue into the streambed releasing sheen into the stream when agitated

Rec - manual removal of the heavier sediments & manual filling of lighter remaining sediments

Re-assessment next spring

Oil Distribution Diagram



ANADROMOUS FISH STREAMS/OILING CONDITION
PWS

Segment # 2V17 ASC# 226-40-16630 Location Shelter Cove

Date 8/5/90 Recorder/Observer James L. Casman

Oil in streambed yes Oil on streambanks yes

Oil within 50m of mouth yes Anadromous Fish present jumper offshore

video taken LW 1063-1207

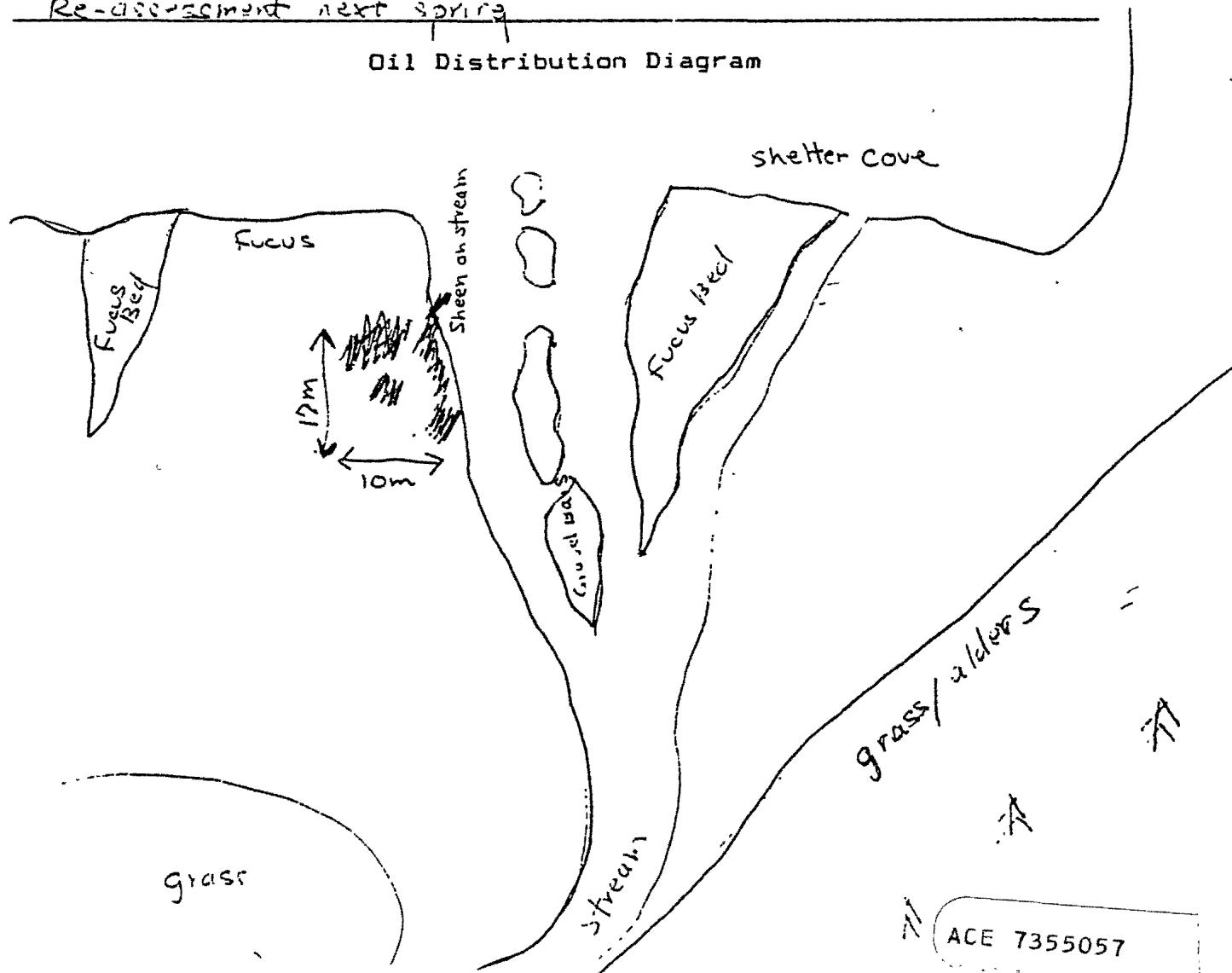
Description of oil and comments

West stream bank - A 10m long x 10m wide patch of heavy to moderate OR / intermittent tartrate is located along the west stream bank just above the focus line. The oiled sediments continue into the streambed releasing sheen into the stream when agitated

Rec - manual removal of the heavier sediments & manual filling of lighter remaining sediments

Re-assessment next spring

Oil Distribution Diagram



CATALOG NUMBER: 2264016630 SEGMENT#: EV017 A LOCATION: EVANS ISLAND, LITTLE SHELTER BAY							
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
04/12/90	PRE-ANADS CAT	1	SURFACE			AP	
MAD vs. OG: COMMENTS: DEAD OTTER ON THE BEACH (DECOMPOSED). HEAVY ASPHALT/TAR IN STORM BERM AND 2 FEET BAND ON BEACH. THREE DISTINCT OIL PATCHES BELOW ASPHALT BAND. OIL ON STREAM BANKS.							

CATALOG NUMBER: 2264016630 SEGMENT#: EV017 A LOCATION: EVANS ISLAND, LITTLE SHELTER BAY							
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
04/21/90	ANADSCAT	1	SURFACE		5	AP SOR	EXTENDS INTO STREAM, ON WEST SIDE OF THE DELTA. WEST STREAM BANK AND INTO STREAM, AP BAND IN MITZ. SHEEN IN CHANNEL.
04/21/90	ANADSCAT	2	SURFACE		10	AP PT ST 10	EAST SIDE: DENSE AP BANK GRADING INTO SPORADIC TAR PATTIES IN UITZ, STAIN. <10CM THICK AP.
04/21/90	ANADSCAT	3	SURFACE	11-50		TB ST	WEST SIDE: SPORADIC TP AND STAIN IN UITZ.
MAD vs. OG: COMMENTS: THIS IS A LARGE INTERTIDAL ZONE WITH WIDELY DISTRIBUTED PATCHES OF OILED SUBSTRATE. THE OIL THAT REMAINS IS PREDOMINANTLY TAR SOAKED GRAVELS AND SAND UNDERNEATH AND BETWEEN RELATIVELY CLEAN COBBLES AND BOULDERS. TREATMENT AT THIS SITE WILL BE DIFFICULT. A LOW CONCENTRATION OF OIL IS PROBABLY PRESENT THROUGHOUT THE INTERTIDAL ZONE. OIL ON STREAM BANKS. RECOMMENDATIONS: MANUALLY REMOVE SURFACE TARMATS WHERE SHOWN IN DIAGRAM. BAG AND REMOVE ONLY OILED SUBSTRATE SMALLER THAT 5 CM. MANUALLY TILL LARGER SUBSTRATE TO SPEED WEATHERING.							

CATALOG NUMBER: 2264016630 SEGMENT#: EV017 A LOCATION: EVANS ISLAND, LITTLE SHELTER BAY							
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
04/21/90	OG'S ANADSCAT	1	10 x 20 BOTH	91-100	10	CT OR	EAST BANK. PIT 2 SHOW PENETRATION 10CM. PITS 1, 4, 3 DELINEATE SUBSURFACE.

04/21/90	OG'S ANADSCAT	2	25 x 25 BOTH	51-90	5	CT OR	PIT 5 - 5CM PENETRATION. ON WEST SIDE OF STREAM DELTA, SKETCH SHOWS IT PARTIALLY IN STREAMBED.
04/21/90	OG'S ANADSCAT	3	SURFACE	51-90		CT	NOT SHOWN ON MAD. SMALL PATCH ON WEST SIDE OF DELTA, BY MOUTH.

MAD vs. OG: MORE DETAILED THAN MAD, BUT DOES NOT SHOW PERMANENT SHEEN BY AREA 1.
COMMENTS:

CATALOG NUMBER: 2264016630 SEGMENT#: EV017 A LOCATION: EVANS ISLAND, LITTLE SHELTER BAY

DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
08/05/90	PRE-ASAP	1	10 x 17 BOTH			AP OR	WEST BANK: PATCH OF HEAVY TO MODERATE OR, AND INTERMITTENT TARMAT LOCATED ALONG WEST BANK JUST ABOVE FUCUS LINE. OILED SEDIMENTS CONTINUE INTO STREAM BED, RELEASING SHEEN WHEN AGITATED.

MAD vs. OG:
COMMENTS:
WEST STREAM BANK - A 17M LONG X 10M WIDE PATCH OF HEAVY TO MODERATE OR/INTERMITTENT TARMAT IS LOCATED ALONG THE WEST STREAM BANK JUST ABOVE THE FUCUS LINE. THE OILED SEDIMENTS CONTINUE INTO THE STREAMBED, REALEASING SHEEN INTO THE STREAM WHEN AGITATED. REC - MANUAL REMOVAL OF THE HEAVIER SEDIMENTS AND MANUAL TILLING OF LIGHTER REMAINING SEDIMENTS. REASSESSMENT NEXT SPRING. OIL OBSERVED ON STREAM BANKS.

CATALOG NUMBER: 2264016630 SEGMENT#: EV017 A LOCATION: EVANS ISLAND, LITTLE SHELTER BAY

DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
05/02/91	MAYSAP	1	1 x 15 BOTH	100	5	AP MOR 20	WEST BANK: MITZ.
05/02/91	MAYSAP	2	3 x 50 SURFACE	2	3	AP	EAST BANK: SCATTERED AP/PT IN UITZ.

MAD vs. OG:
COMMENTS:
STREAM #16630 HAD BURIED 'SOR/MOR' ADJACENT TO AND IN STREAMBED. A THOROUGH MANUAL TILLING WOULD BE THE CHOICE AND PROVEN TREATMENT HERE. ALSO SCATTERED 'AP/SOR' TAR PIES SHOULD BE BROKEN UP AND/OR REMOVED FROM THE EAST BANK. THIS AREA DESERVES SPECIAL ATTENTION DUE TO OIL IN STREAMBED.

CATALOG NUMBER: 2264016630 SEGMENT#: EV017 A LOCATION: EVANS ISLAND, LITTLE SHELTER BAY

DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
07/30/91	POST TREATMENT	A	12 x 2 SURFACE	51		LSOR LOR	
07/30/91	POST TREATMENT	A1	PIT			LOR	
07/30/91	POST TREATMENT	B	2 x 9 SURFACE	2		MSOR LOR	

MAD vs. OG:
COMMENTS:
SITES A AND B CONTAIN MAINLY "LIGHT" SURFACE AND SUBSURFACE OIL ALONG STREAM BANK WHICH RELEASE A SILVER SHEEN INTO THE STREAM WHEN AGITATED. SMALL AMOUNTS OF MSOR ARE ALSO PRESENT IN B. AREA WAS TILLED IN 1991, COULD USE ANOTHER MANUAL TILLING. 25-30 PINK SALMON SIGHTED AT MOUTH AT LOW TIDE. NO REASSESSMENT NECESSARY IN 1992. *SURVEY FOCUSED ON DOCUMENTED OIL, TREATED IN 1991.

CATALOG NUMBER: 2264016630

STREAM NAME:

LOCATION: EVANS ISLAND, LITTLE SHELTER BAY

SEGMENT NUMBER: EV017 A

SHORELINE TYPE:

DATE: 04/12/90 TIME: BEACH-0906

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

COMMENTS:

DEAD OTTER ON THE BEACH (DECOMPOSED). HEAVY ASPHALT/TAR IN STORM BERM AND 2 FEET BAND ON BEACH. *3 distinct oil patches below asphalt band.*

OIL ON STREAM BANKS: YES

YES

OIL WITHIN 1 MILE OF STREAM:

CATALOG NUMBER: 2264016630

STREAM NAME:

LOCATION: EVANS ISLAND, LITTLE SHELTER BAY

SEGMENT NUMBER: EV017 A

SHORELINE TYPE:

DATE: 04/21/90 TIME: BEACH-1700

SITE	WIDTH (m)	LENGTH (m)	AREA (sqm)	PERCENT OIL	THICKNESS (cm)	PENETRATION (cm)	SURFACE SUBSURF	OIL TYPES	COMMENTS
<i>2</i> <i>23</i> <i>X1</i> <i>4</i>						10 5	SURFACE SURFACE SURFACE SURFACE	AP SOR TB ST AP SOR TB ST	<i>extends into stream - West side of delta.</i>

COMMENTS:

THIS IS A LARGE INTERTIDAL ZONE WITH WIDELY DISTRIBUTED PATCHES OF OILED SUBSTRATE. THE OIL THAT REMAINS IS PREDOMINANTLY TAR SOAKED GRAVELS AND SAND UNDERNEATH AND BETWEEN RELATIVELY CLEAN COBBLES AND BOULDERS. TREATMENT AT THIS SITE WILL BE DIFFCULT. A LOW CONCENTRATION OF OIL IS PROBABLY PRESENT THROUGHOUT THE INTERTIDAL ZONE. FRY PRESUMED.

RECOMMENDATIONS: MANUALLY REMOVE SURFACE TARMATS WHERE SHOWN IN DIAGRAM. BAG AND REMOVE ONLY OILED SUBSTRATE SMALLER THAT 5 CM. MANUALLY TILL LARGER SUBSTRATE TO SPEED WEATHERING.

OIL WITHIN 1 MILE OF STREAM: YES

OIL ON STREAM BANKS: YES

CATALOG NUMBER: 2264016630

STREAM NAME:

LOCATION: EVANS ISLAND, LITTLE SHELTER BAY

SEGMENT NUMBER: EV017 A

SHORELINE TYPE:

DATE: 05/02/91 TIME: BEACH-1225

SITE	WIDTH (m)	LENGTH (m)	AREA (sqm)	PERCENT OIL	THICKNESS (cm)	PENETRATION (cm)	SURFACE SUBSURF	OIL TYPES	COMMENTS
1 2	1 3	15 50	15 150	100 2	5 3	20	SURFACE SURFACE	AP MOR AP	

COMMENTS:

STREAM #16620 RECOMMEND NO TREATMENT AS STREAM AREA APPEARED OIL FREE. STREAM #16630 HAD BURIED 'SOR/MOR' ADJACENT TO AND IN STREAMBED. A THOROUGH MANUAL TILLING WOULD BE THE CHOICE AND PROVEN TREATMENT HERE. ALSO SCATTERED 'AP/SOR' TAR PIES SHOULD BE BROKEN UP AND/OR REMOVED FROM THE EAST BANK. THIS AREA DESERVES SPECIAL ATTENTION DUE TO OIL IN STREAMBED.

CATALOG NUMBER: 2264016630

SEGMENT NUMBER: EV017 A

STREAM NAME:

SHORELINE TYPE:

LOCATION: EVANS ISLAND, LITTLE SHELTER BAY

DATE: 07/30/91

TIME: BEACH-1020

SITE	WIDTH (m)	LENGTH (m)	AREA (sqm)	PERCENT OIL	THICKNESS (cm)	PENETRATION (cm)	SURFACE SUBSURF	OIL TYPES	COMMENTS
A1							PIT	LOR	
A	12	2		51			SURF	LSOR LOR	
B	2	9	20	2			SURF	MOR LSOR	

COMMENTS:

SITES A AND B CONTAIN MAINLY "LIGHT" SURFACE AND SUBSURFACE OIL ALONG STREAM BANK WHICH RELEASE A SILVER SHEEN INTO THE STREAM WHEN AGITATED. SMALL AMOUNTS OF MSOR ARE ALSO PRESENT IN B. AREA WAS TILLED IN 1991, COULD USE ANOTHER MANUAL TILLING. 25-30 PINK SALMON SIGHTED AT MOUTH AT LOW TIDE. NO REASSESSMENT NECESSARY IN 1992. *SURVEY FOCUSED ON DOCUMENTED OIL, TREATED IN 1991.

CATALOG NUMBER: 2264016630		SEGMENT#: EV017 A		LOCATION: EVANS ISLAND, LITTLE SHELTER BAY		SEQ:	
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
04/12/90	PRE-ANADS CAT	1	SURFACE			AP	
MAD vs. OG: COMMENTS: DEAD OTTER ON THE BEACH (DECOMPOSED). HEAVY ASPHALT/TAR IN STORM BERM AND 2 FEET BAND ON BEACH. THREE DISTINCT OIL PATCHES BELOW ASPHALT BAND. OIL ON STREAM BANKS.							

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DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
04/21/90	PRE-ANADS CAT	1	SURFACE		5	AP SOR	EXTENDS INTO STREAM, ON WEST SIDE OF THE DELTA. <i>west stream bank & into stream - MITZ - AP band. seen in channel</i>
04/21/90	PRE-ANADS CAT	2	SURFACE <i>& subsurface</i>		10	AP SOR PT/ST 10	<i>east side of stream - MITZ - dense AP band grading into sporadic tar patches. stain 40cm thick AP</i>
04/21/90	PRE-ANADS CAT	3	SURFACE	11-50		TB ST	<i>west side of stream - MITZ - sporadic PP stain</i>
04/21/90	PRE-ANADS CAT	4	SURFACE			TB ST	
MAD vs. OG: COMMENTS: THIS IS A LARGE INTERTIDAL ZONE WITH WIDELY DISTRIBUTED PATCHES OF OILED SUBSTRATE. THE OIL THAT REMAINS IS PREDOMINANTLY TAR SOAKED GRAVELS AND SAND UNDERNEATH AND BETWEEN RELATIVELY CLEAN COBBLES AND BOULDERS. TREATMENT AT THIS SITE WILL BE DIFFCULT. A LOW CONCENTRATION OF OIL IS PROBABLY PRESENT THROUGHOUT THE INTERTIDAL ZONE. OIL ON STREAM BANKS. RECOMMENDATIONS: MANUALLY REMOVE SURFACE TARMATS WHERE SHOWN IN DIAGRAM. BAG AND REMOVE ONLY OILED SUBSTRATE SMALLER THAT 5 CM. MANUALLY TILL LARGER SUBSTRATE TO SPEED WEATHERING. NOTE: SITE NUMBERS WERE CHANGED TO CORRESPOND TO SITE NUMBERS ON THE OG SKETCH: SITE 1 IS NOW SITE 2, SITE 2 IS NOW SITE 3, AND SITE 3 IS NOW SITE 1.							

CATALOG NUMBER: 2264016630		SEGMENT#: EV017 A		LOCATION: EVANS ISLAND, LITTLE SHELTER BAY		SEQ:	
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS

04/21/90	OG'S ANADSCAT	Q	25 x 25 SURF/SUB	51-90	5	CT OR	PIT 5 - 5CM PENETRATION. ON WEST SIDE OF STREAM DELTA, SKETCH SHOWS IT PARTIALLY IN STREAMBED.
04/21/90	OG'S ANADSCAT	1	10 x 20 SURF/SUB	91-100	10	CT OR	EAST BANK. PIT 2 SHOW PENETRATION 10CM. PITS 1, 4, 3 DELINEATE SUBSURFACE.
04/21/90	OG'S ANADSCAT	3	SURFACE	51-90		CT	NOT SHOWN ON MAD. SMALL PATCH ON WEST SIDE OF DELTA, BY MOUTH.

MAD vs. OG: MORE DETAILED THAN MAD, BUT DOES NOT SHOW PERMANENT SHEEN BY AREA 1.
COMMENTS:

CATALOG NUMBER: 2264016630 SEGMENT#: EV017 A LOCATION: EVANS ISLAND, LITTLE SHELTER BAY							SEQ:
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
08/05/90	PRE-ASAP	1	10 x 17 SURF/SUB			AP OR	WEST BANK: PATCH OF HEAVY TO MODERATE OR, INTERMITTENT TAR MAT LOCATED ALONG WEST BANK JUST ABOVE FUCUS LINE. OILED SEDIMENTS CONTINUE INTO STREAM BED,

MAD vs. OG:
COMMENTS:

WEST STREAM BANK - A 17M LONG X 10M WIDE PATCH OF HEAVY TO MODERATE OR/INTERMITTENT TARMAT IS LOCATED ALONG THE WEST STREAM BANK JUST ABOVE THE FUCUS LINE. THE OILED SEDIMENTS CONTINUE INTO THE STREAMBED, RELEASING SHEEN INTO THE STREAM WHEN AGITATED. REC - MANUAL REMOVAL OF THE HEAVIER SEDIMENTS AND MANUAL TILLING OF LIGHTER REMAINING SEDIMENTS. REASSESSMENT NEXT SPRING. OIL OBSERVED ON STREAM BANKS.

CATALOG NUMBER: 2264016630 SEGMENT#: EV017 A LOCATION: EVANS ISLAND, LITTLE SHELTER BAY							SEQ:
DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL(cm)	SITE SPECIFIC COMMENTS
05/02/91	MAYSAP	1	1 x 15 SURFACE Subsurface	100	5 20	AP MOR	West stream bank - U#T2
05/02/91	MAYSAP	2	3 x 50 SURFACE	2	3	AP	east stream bank - U#T2 - scattered AP/PT

MAD vs. OG:
COMMENTS:
STREAM #16620 RECOMMEND NO TREATMENT AS STREAM AREA APPEARED OIL FREE. STREAM #16630 HAD BURIED 'SOR/MOR' ADJACENT TO AND IN STREAMBED. A THOROUGH MANUAL TILLING WOULD BE THE CHOICE AND PROVEN TREATMENT HERE. ALSO SCATTERED 'AP/SOR' TAR PIES SHOULD BE BROKEN UP AND/OR REMOVED FROM THE EAST BANK. THIS AREA DESERVES SPECIAL ATTENTION DUE TO OIL IN STREAMBED.

OG states that no subsurface oil was found on the site, mad has MOR to 20cm
OG has 10x10m 55% SOR & 1x4m 40% SOR where mad has 1x15m 100% AP & 1 pit with MOR to 20cm

OG MAD = site 1 = no sub surf. oil. Has 2 SOR sites corresponding to mad site 1.

CATALOG NUMBER: 2264016630 SEGMENT#: EV017 A LOCATION: EVANS ISLAND, LITTLE SHELTER BAY SEQ:

DATE	SURVEY	SITE	W x L (m) SITE TYPE	PERCENT OIL	THICKNESS & PENETR. (cm)	OIL TYPES, DEPTH INTERVAL (cm)	SITE SPECIFIC COMMENTS
07/30/91	POST TREATMENT	A	12 x 2 SURF	51		LSOR LOR	
07/30/91	POST TREATMENT	A1	PIT			LOR	
07/30/91	POST TREATMENT	B	2 x 9 SURF	2		MOR, LOR msor LOR	

MAD vs. OG:
COMMENTS:
SITES A AND B CONTAIN MAINLY "LIGHT" SURFACE AND SUBSURFACE OIL ALONG STREAM BANK WHICH RELEASE A SILVER SHEEN INTO THE STREAM WHEN AGITATED. SMALL AMOUNTS OF MSOR ARE ALSO PRESENT IN B. AREA WAS TILLED IN 1991, COULD USE ANOTHER MANUAL TILLING. 25-30 PINK SALMON SIGHTED AT MOUTH AT LOW TIDE. NO REASSESSMENT NECESSARY IN 1992. *SURVEY FOCUSED ON DOCUMENTED OIL, TREATED IN 1991.

ANADSCAT 90

ADF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS SS OS TS AVS SCHA MMHS PTA2 REGION: PWS KP, CI K, APMETHOD: Aerial Ground Boat3 DATE: 4/21/9015 HIGH TIDE TIMES: 1109, 234421 TEAM RECORDER: M. WIEDMER4 START TIME: 160016 HIGH TIDE HTS: 9.4, 10.322 OBSERVERS: T. CROWE5 STOP TIME: 170017 LOW TIDE TIMES: 0512, 173023 AGENCY: ADF&G6 SEGMENT #: EV-01718 LOW TIDE HTS: 2.9, 1.124 PHOTOS TAKEN: Y (N)7 STATION #: 226-40-1663019 TIDE HT AT SURVEY: 2.31'

Roll #: _____ Frame: _____

8 K-UNIT: _____

Ebb (Ebb) Slack Flood Slack25 VIDEO TAKEN: (Y) N TAPE#: 90TWC001AND

9 STAT AREA: _____

20 USCG QUAD: SEWARD A3Start: 0824 End: 1168

10 LAT: _____

11 LONG: _____

26 SAMPLES TAKEN? Y (N) Number

12 SOURCE: Map Loran

Oil _____

13 LOCATION: SHELTER COVE, N. END EVANS IS.

Sediment _____

14 DESCRIPTION: _____

Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	W	M ²	%	L	W	M ²	%
27 SURFACE COVERAGE	300	150		15	200	10		2

36 CATALOGED ANAD. FISH STREAM? (Y) N37 CATALOG #: 226-40-16630

38 STREAM NAME: _____

	SURFACE THICKNESS				PENETRATION			
	2mm	1mm	<1mm	1mm	5cm	5cm	10cm	3cm
28 SURFACE THICKNESS								
29 PENETRATION								

39 OIL IN STREAM BED? (Y) N40 OIL ON STREAM BANKS? (Y) N30 OVERALL OIL IMPACT: N VL L M (H)41 OIL ON BEACH ADJACENT TO MOUTH? (Y) N
(within 50 meters)

31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain

42 OIL WITHIN 1 MILE OF STREAM? (Y) N32 OILED DEBRIS? Y (N)

Where: _____

33 SHORELINE TYPE: Headland Low-lying Rocks Beach (Cove)
Lagoon Marsh43 ANADROMOUS FISH PRESENT? (Y) N

FRY PRESUMED

34 WAVE EXPOSURE: High (Moderate) Low

44 ANADROMOUS FISH OBSERVATION

Species Aerial Ground

35 SUBSTRATE TYPE: Bedrock Boulder 30 Cobble 30

Species	Aerial	Ground

Gravel 30 Sand 10 Mud/silt _____

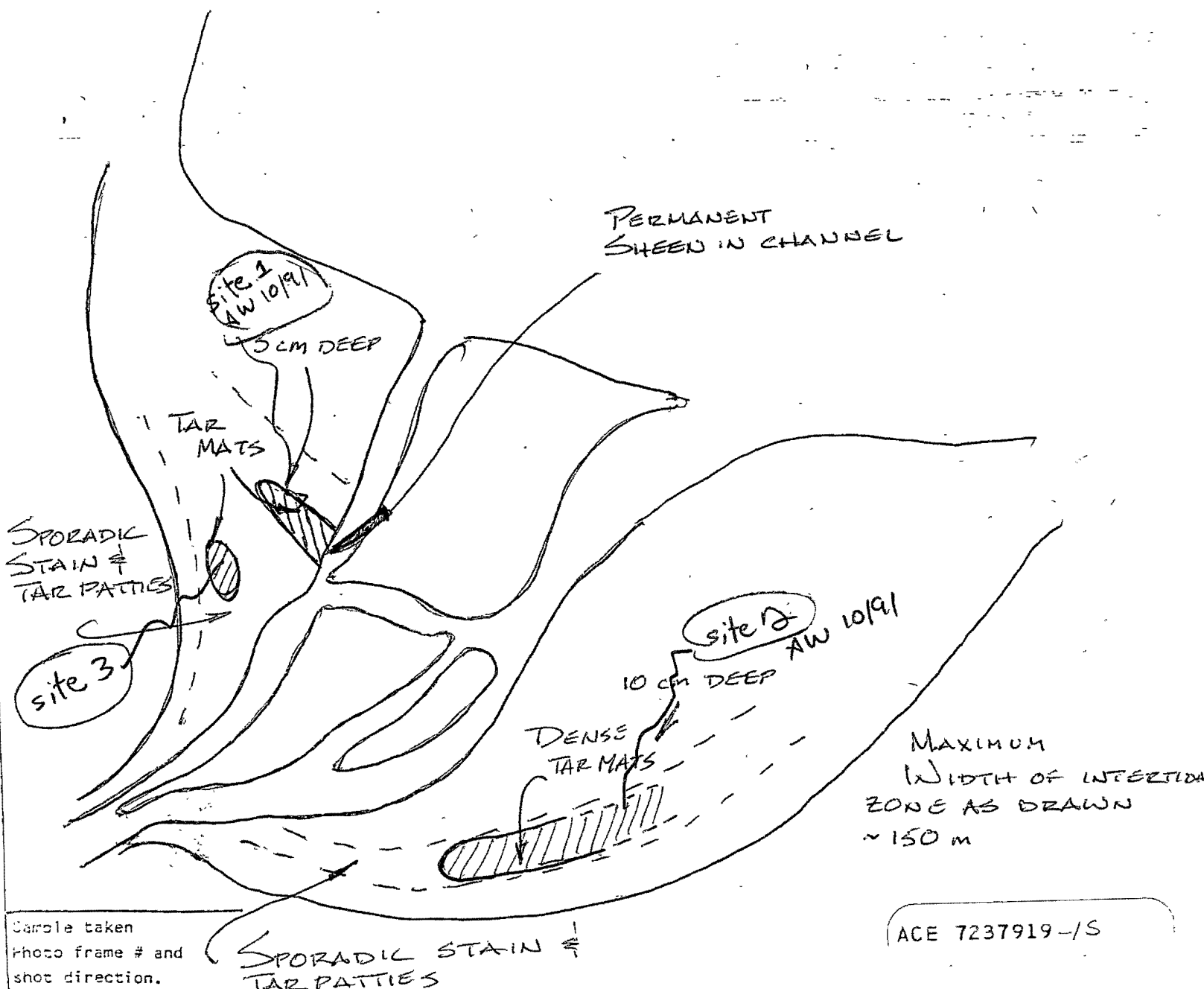
COMMENTS: THIS IS A LARGE INTERTIDAL ZONE WITH WIDELY DISTRIBUTED PATCHES OF OILED SUBSTRATE. THE OIL THAT REMAINS IS PREDOMINANTLY TAR SOAKED GRAVELS AND SAND UNDERNEATH AND BETWEEN RELATIVELY CLEAN COBBLES AND BOULDERS. TREATMENT AT THIS SITE WILL BE DIFFICULT. A LOW CONCENTRATION OF OIL IS PROBABLY PRESENT THROUGHOUT THE INTERTIDAL ZONE. [ACE 7237918 +15]

FRAME(S)

MANUALLY DESCRIPTION.

RECOMMENDATIONS: ~~THE~~ REMOVE SURFACE TAR MATS WHERE SHOWN IN DIAGRAM. BAG AND REMOVE ONLY OILED SUBSTRATE SMALLER THAN 5 CM. MANUALLY TILL LARGER SUBSTRATE TO SPEED WEATHERING.

46 OIL DISTRIBUTION DIAGRAM



Treatment Recommendations The observed quantity of oil and its distribution relative to the stream channel do not appear to place salmon or other organisms at serious risk. If future observations do not reveal significant quantities of buried oil, no treatment is recommended.

ASC # 226-40-16630

Segment EV-017

Observations A large, gently sloping intertidal zone surrounds the outlet of this braided stream channel. Except for the upper intertidal, surface substrates are cobbles, gravels, and sands over sands and muds. Along the upper-intertidal, boulders and large cobbles overlay gravels.

3 Oil saturated (tarry) patches of gravels, sands, and muds occur widely throughout the upper- and mid-intertidal zones. In all zones, the majority of larger materials surrounding and overlying the oiled fine-grained sediments are relatively clean.

Oil saturated (to 5 cm) fine-grained sediments in the mid-intertidal zone are breached by the stream channel. Undisturbed sediments at this site bleed sheen into the channel.

Large tar mats (to 10 cm) occur through the upper-intertidal zone primarily to the east of the channel. These tar mats saturate gravels and sands and are covered by large cobbles and boulders.

Treatment Recommendations Tar mats, particularly those in the mid-intertidal zone adjacent to the stream channel, should be manually removed, bagged, and taken from the beach for safe disposal. Only materials smaller than 5 cm should be removed. Larger materials can be left on site. Four-wheelers should be used to facilitate removal of material from beach. In the mid-intertidal zone, excavation should begin on the side of the patch most distant from the stream channel. Immediately after removal of the oiled substrate adjacent to the stream, cobbles and boulders should be placed along the bank to prevent migration of the channel into the treated area. All activities must occur between 15 May and 15 July, 1990.

ASC # 226-40-16620

Segment EV-017

2 Observations An upper-intertidal band of tar mats (to at least 4 cm.) extends along the east side of the channel. At this location, relatively clean boulders and large cobbles are interspersed through and on the oiled finer grained sediments.

OG WILLIAM REID USCG McMAHON SEGMENT ST/ EV017
 BIO MICHAEL FAWCETT LAND REP STREAM 226-A0-1663A OF 1
 EXXON GUS GARCIA ADFG MIKE WIEDMER TIME 15:50 to 16:00
 TEAM NO. 15 TIDE LEVEL + 2 FT DATE 21 APR 190
 EST. SUBDIVISION LENGTH: 150 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 0 % B 1 % C 50 % P 40 % G 9 % S 0 % M 0 % V 0
 SLOPE: Long 100 % Hang 0 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 10 m M 35 m N 0 m VL 0 m NO 105 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	FC	FB	FP	FS	BR	OR	RY	GY	SL	BL	TL	LR	SU	U	M	L
ASPHALT PAVEMENT	X	X					X								X	X
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL																

PAVEMENT H (F) S 625 sq. m by 1.0PATTIES / TARBALLS 0 BAGNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

Did you COLLECT DEBRIS
☐ YES ☒ NO

TYPE _____

#BAGS _____

Photographs:

Roll No. A5-15-2Frames 17-26

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 SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	BR	OR	RY	GY	SL	BL	TL	LR	SU	U	M	L				
1	35					X	.												X				N		G/P
2	35	X					0-10	X		X									X				Y	15	G/P
3	30					X	.												X				N		G/P
4	35					X	.												X				N		G/P/C
5	25	X					0-5	X		X										X			Y	20	G/C/P
							.																		

COMMENTS

REVIEWED _____ DATE _____

OG WILLIAM REID

SEGMENT ST/ EVQ17

STREAM 226-40-16630

DATE 21 APR 90

CHECKLIST

☐ N Arrow
☐ Approx. Scale
☐ Seg/Sub Entry
☐ Oil Dist.
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. HRR/LVR
☐ SBL
☐ Profile Location(s)
☐ Profile(s)
☐ PI Location(s)
☐ Photo Location(s)

LEGEND

1 ▲
PI - No Subsurface Oil

2 ▲
PI - Subsurface Oil

CT/C
Continuous Distribution

CT/D
Broken Distribution

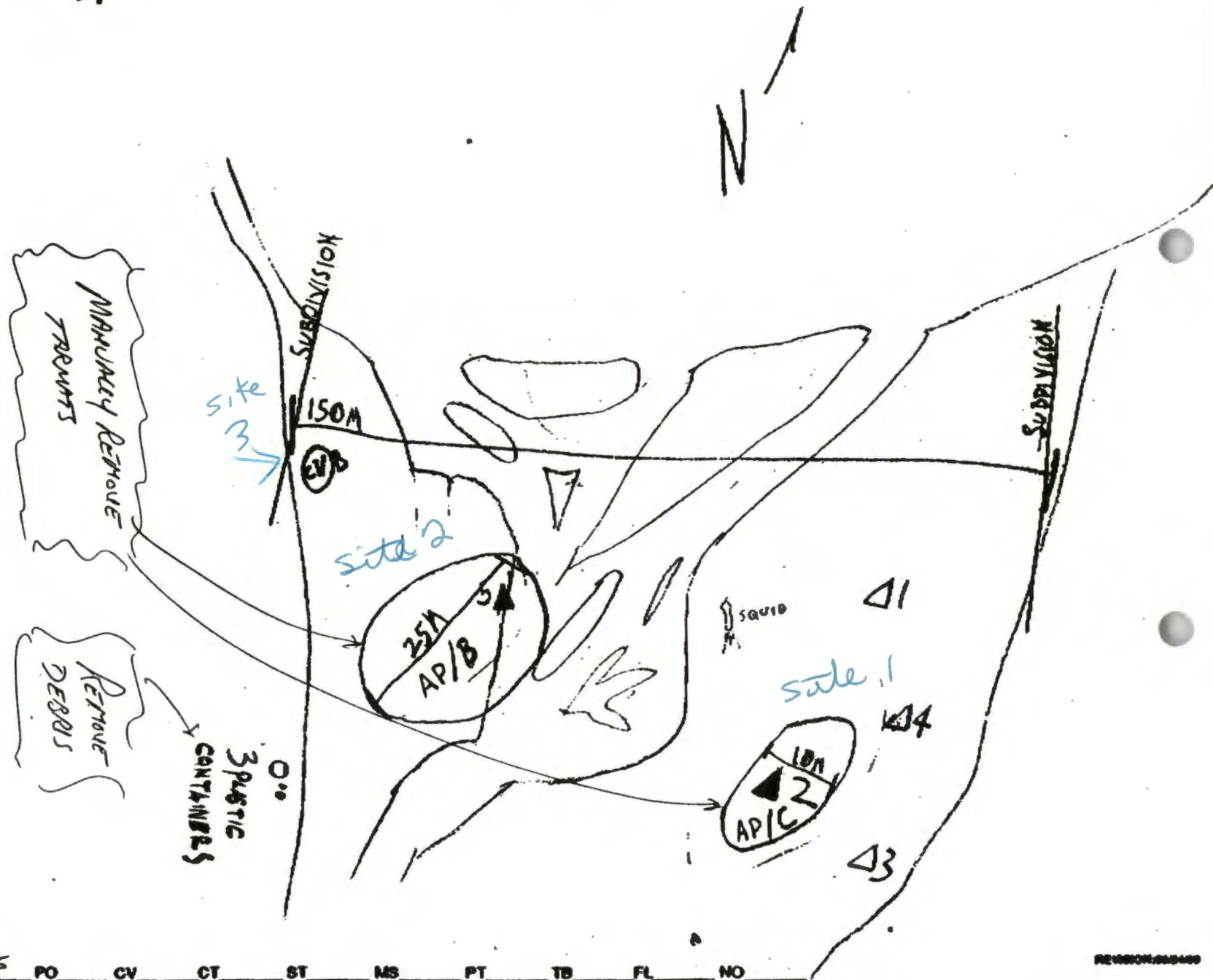
CT/P
Patchy Distribution

CT/S
Splashed Distribution

lll
Oiled Vegetation

1 ●
Photo location, direction,
and number

SKETCH MAP



Oil Character Length (m): AP 45 PO CV CT ST MS PT TB FL NO

REVISION 000400

Segment EV 17

Stream 226-40-16630

Ecological Summary

4/21/90

Michael Fawcett

This stream has a fairly broad delta composed of shale cobbles/pebbles/sand, with dense beds of Fucus and mussels near the mouth, with clams and other infauna beneath the mussels in MTZ and LTZ. Splatters, stains, and surface tar mats were found in a wide area of UTZ among boulders and cobbles on SE side of the stream. Other intermittent surface oil and sheen was found among cobbles and sand in the MTZ of the stream delta, on north side of stream, directly above dense Fucus and mussel beds. Two sea otters were seen feeding nearshore. Manual pickup and bio-remediation recommended, with avoidance of trampling and disturbance below the oiled areas.

M Fawcett

FIELD SHORELINE COMMENT SHEET

52/52

SEGMENT ST EV 017 SUBDIVISION: 16630 DATE 4/21/90

USCG

NAME Chris J. McArthur SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

1. BIOREMEDIATION (SELECTED AREAS PER MAP)

ADFG
ADEG
NAME Michael Wiedmer SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

MANUAL REMOVAL ONLY. NO BIOREMEDIATION
RECOMMENDED. SEE ADFG OBSERVATIONS
AND RECOMMENDATION SUMMARY FOR THIS
DATE. (EXXON REP. CONCURS WITH ADFG'S
RECOMMENDATION)

LAND MANAGER

NAME No team member SIGNATURE _____

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

33/52

OPERATIONS FIELD NOTES

See Back for Instructions

SEGMENT ID ANAD EV-17
 STREAM ID # 226-40-16630
 ANNOTATED MAP INCLUDED YIN

DATE 4-21-90
 NAME GARCIA
 TEAM # 15

	Quantities in Meters			Treatment Recommendation						
	Length	Width	Area	None	Bioremediation		Tilling		Spot Hot Water	
SURFACE OIL					Y/N	% Treat	Y/N	% Treat	Y/N	% Treat
Wide Band <u>AREA 1</u>	<u>25</u>	<u>25</u>	<u>625</u>		<u>Y</u>	<u>100</u>	<u>N</u>		<u>N</u>	
Medium Band <u>AREA 2</u>	<u>20</u>	<u>10</u>	<u>200</u>		<u>Y</u>	<u>100</u>	<u>N</u>		<u>N</u>	
Narrow Band										
Very Light										
TOTAL MANDAYS						<u>2</u>		<u>0</u>		<u>0</u>

SUBSURFACE OIL YES, 0-10 CM IN DEPTH IN AREAS 1 & 2. REFER TO MAP.

Other (Describe)?	

	Quantities in Meters			Treatment Rec			# of Bags	Mandays Required	
	Length	Width	Thick(cm)	None	Breakup	Remove		Breakup	Remove
TARMATS									
Area #1	<u>VERY SMALL</u>	<u>SPORADIC</u>			<u>✓</u>		<u>0</u>	<u>10</u>	
Area #2									
Area #3									
Area #4									
Sporadic Mats									

	Type of Debris			In Meters			# of Bags	Pickup Y/N	Manday Estimate
	Mousse Tarballs	Oiled Veget	Cleanup Debris	Length	Width				
MANUAL PICKUP									
Pocket #1		<u>NE</u>							
Pocket #2	<u>NO</u>								
Pocket #3									
Random/Continuous									

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

Is there Other Debris on the Beach? YIN How Many Bags? 1 Is it mingled with the Oiled Debris YIN

3 PLASTIC CONTAINERS AS PER ATTACHED MAP.

GENERAL

Snow covering 10 % 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? YIN # of Times N/A

COMMENTS:

AREA 2 - NO TARMATS FOUND. BIOREMEDIATION RECOMMENDED FOR THIS AREA.

AREA 1 - BREAK-UP AND SCATTER SPORADIC TARMATS. BIOREMEDIATION RECOMMENDED FOR THIS AREA.

ACE 7237908 +15

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ EV-17 STREAM NO: 226-40-16630 DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Two catalogued anadromous streams are in EV-17:

226-40-16630 and 226-40-16620

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

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

7II Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Avoid trampling and disturbance below the oiled areas in the dense beds of fucus and mussels.

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: [Signature] DATE: 5/8/90

Subsurface Oil Observed: Yes X No Maximum Depth 10 cm

RECOMMENDATIONS:

 No Treatment Recommended

 X Treatment Recommended

 X Manual Pickup

 Bioremediation

 X Tarmat Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

 Spot Washing: Wands

 Beach Cleaner

 Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of tarmat and debris. Work should be conducted between 5/15 and 7/10 based on salmon constraints.

TAG COMMENTS: FOLLOWING MANUAL REMOVAL OF ASPHALT + SMALL ASHALT PATCHES MONITORS TO ASSESS THE NEED TO RAKE IN CUSTOMER FOR ANY REMAINING OILED AREAS.

TAG APPROVAL DATE: 5/7/90.

ADEC ART WEINER Art Weiner

EXXON ANDY [Signature]

NOAA Gary Petrac Gary Petrac

USCG G.A. REITER G.A. Reiter

FOSC: [Signature] DATE: 5-18-90

NOTIFY OUR 24 HRS IN ADVANCE OF WORK

ACE 7237889+15

Processed
5-7-90
MK

RECEIVED

MAY 03 1990

DEPT. OF
ENVIRONMENTAL CONSERVATION

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: EV-17

STREAM NO: 226-40-16630

*no concur - manual tillage
or raking + bio.*

*TAG: Manual remove - monitor
arsers need for additional
spot treatment - either manual
removed or bio.*

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

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

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

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

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

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

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

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

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

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

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

1H Remote release site

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ADF&G Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Roth 267-2208

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

7H 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

ACE 7237893

39/52

SSAT DATA ENTRY FORM

PAGE 1 OF 2

GENERAL DATA

226-40-16630
SEG ID: EV017 ^{STREAK} SUBDIV: ANADIS TEAM: ANADIS SURVEY DATE: 21 APRIL 90
PAVEMENT: CHAR F AREA 625 THICKNESS 10 TARBALLS 0
OILED: LGS - VEG - TRH - DBR - WAVE EXP: LW - MD X HG -
FAX RCVD: - DT: - AGENCY DISAGREE: -
EST SUBDIV LGTH: 150 OIL CATEGORY: W 10 M 35 N 0 VL 0 NO 105 U

SURFACE DATA

SURFACE SEDIMENT: BRK 0 BLD 1 COB 50 PEB 40 GRN 9 SAN 0 MUD 0 VEG 0

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

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 -

SSAT DATA ENTRY FORM

SUBSURFACE DATA

PAGE 2 OF 2SEGMENT ID: EV017 ^{STREAM} SUBDIV: 226-40-16630

PIT # 1 PIT DEPTH 35 OIL CHARACTER NO OIL INTVAL: FROM — TO —
 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 35 OIL CHARACTER OR OIL INTVAL: FROM 0 TO 10
 QUANT: UC OIL CLR: DBL FLM CLR: — ZONE: SU — UI — MI X LI —
 SUBSURF SEDIMENT: BRK — BLD — COB — PEB X GRN X SAN — MUD — VEG —

PIT # 3 PIT DEPTH 30 OIL CHARACTER NO OIL INTVAL: FROM — TO —
 QUANT: — OIL CLR: — FLM CLR: — ZONE: SU — UI — MI X LI —
 SUBSURF SEDIMENT: BRK — BLD — COB — PEB X GRN X SAN — MUD — VEG —

PIT # 4 PIT DEPTH 35 OIL CHARACTER NO OIL INTVAL: FROM — TO —
 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 # 5 PIT DEPTH 25 OIL CHARACTER OR OIL INTVAL: FROM 0 TO 5
 QUANT: UC OIL CLR: DBL FLM CLR: — ZONE: SU — UI — MI — LI X
 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 —

PROBLEMS: —

ANADROMOUS FISH STREAMS/OILING CONDITION
PWS

Pre-ASAP

Segment # SV17 ASC# 226-40-16630 Location Shelter Cove
east Shelter Bay

Date 8/5/90 Recorder/Observer Aimee Weseman

Oil in streambed yes Oil on streambanks yes

Oil within 50m of mouth yes Anadromous Fish present jumpers offshore
videotaken AW 1063-1207

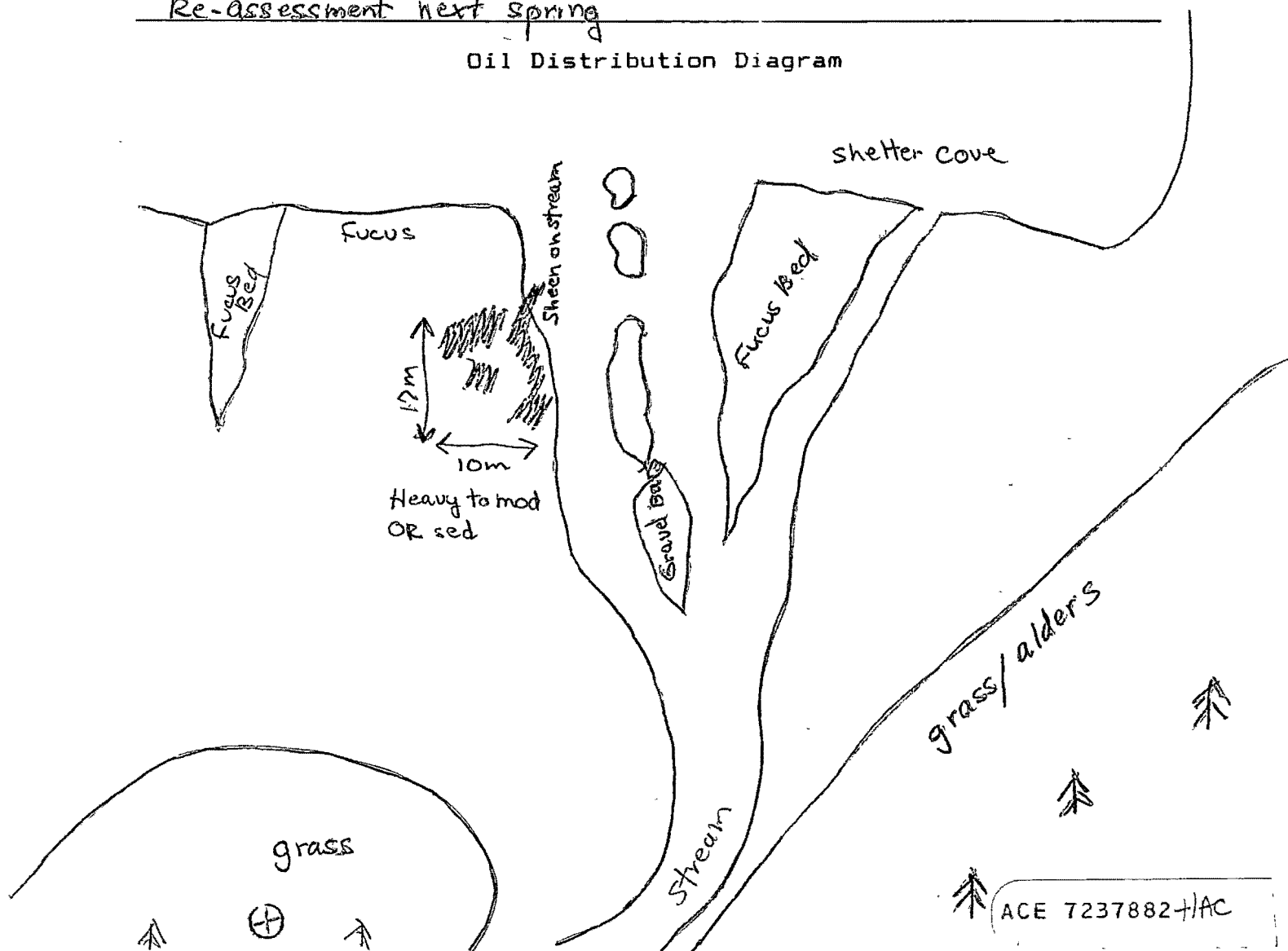
Description of oil and comments

West stream bank - A 12m long x 10m wide patch of heavy
to moderate OR / intermittent tar mat is located along the west
stream bank just above the fucus line. The oiled sediments
continue into the streambed, releasing sheen into the stream
when agitated.

Rec - manual removal of the heavier sediments & manual tilling
of lighter remaining sediments

Re-assessment next spring

Oil Distribution Diagram



ACE 7237882+IAC

ASAP survey -90

JAB

SEGMENT AS / EV-17 SUBDIVISION: A SITE: 3 DATE 22 AUGUST 90

ANAD. STREAM 226-40-16630

USCGNAME DON ORVIS (USCG) SIGNATURE [Signature]
David Roe (NOAA)☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

3-4 m SQ AREA OF "OR" WITH PENETRATION FROM 8-30 CM OBSERVED.
 AREA SHOULD BE RAKED UP AND MONITORED TO ALLOW WEATHERING. WINTER MAY
 TAKE CARE OF A MAJORITY OF THE SUBSURFACE OILING. RECOMMEND REASSESSMENT
 FOR 1991.

No further 1990 treatment. Reassess in 1991. - DCN

ADECNAME BOB MC CREARY SIGNATURE [Signature]☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Approx 50m from East end segment is on area with weathered
 mounds in between rocks and boulders. Reassessment recommended for '91
 and treatment in '91 if oiling remains after winter cleaning. Area mounds
 require manual removal (a small amount) and raking.

LAND MANAGERNAME [Signature] CVC SIGNATURE [Signature]☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Asphalt Remaining From Previous Work Sites WARRANT A MAJOR 1991
 Sub Surface Check. 3 Sites ALL ON EV-17 HAVE BEEN WORKED
 Re bio

EXXONNAME RANDALL K. BOYER SIGNATURE [Signature]☐ YES☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

NO FURTHER TREATMENT IN 1990. NO RECOVERABLE OIL
 IN 1991. NO REASSESSMENT REQUIRED IN 1991.

DAY 11-12K
 DATE 8/2/90 TIME 0940 1055 USCG
 LAND REP STEVE WARD TOTAL NO SITES 3
 TOTAL EST LENGTH OF SHORELINE SURVEYED: 650/614 DOJ OR VIS
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WEATHER: ☐ Sun ☐ Clouds ☐ Fog ☒ Rain ☐ Snow
 OIL CATEGORY LENGTH: W — m M 8 m N — m VL 25 m NO 617 m US 904 m
 #1581

SURFACE OIL

SITE 1

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SU	UI	MI	LI
ASPHALT								
SOR				X	X			
POOLED								
COVER								
COAT								
STAIN				X	X			
MOUSSE								
PATTIES/T.B.								
FILM								
NO OIL		X			X	X	X	X
EST. SITE LENGTH					120m			

SITE 2

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SU	UI	MI	LI
ASPHALT								
SOR								
POOLED								
COVER								
COAT								
STAIN				X	X			
MOUSSE								
PATTIES/T.B.								
FILM								
NO OIL		X			X	X	X	X
EST. SITE LENGTH					150m			

SITE 3

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SU	UI	MI	LI
ASPHALT			X	X		X		
SOR			X		X			
POOLED								
COVER								
COAT								
STAIN								
MOUSSE								
PATTIES/T.B.								
FILM								
NO OIL		X			X	X	X	X
EST. SITE LENGTH					380m			

JBSURFACE OIL

750 (FW)

350 (FW)

514 (FW)

SITE NO	PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER				OILED INTERVAL (CM-CH)	CLEAN BELOW (Y/N)	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS
			OP	OR	OF	NO			SU	UI	MI	LI	
1	1	15		X			0.4	Y		X			P/G/BEADROCK
2	1	30		X			0.5	Y		X			P/G/C
3	1	20				X	—	—		X			P/G/C/BOULDER
							.						
							.						
							.						
							.						
							.						
							.						
							.						
							.						
							.						

Photographs:

Roll No 0001

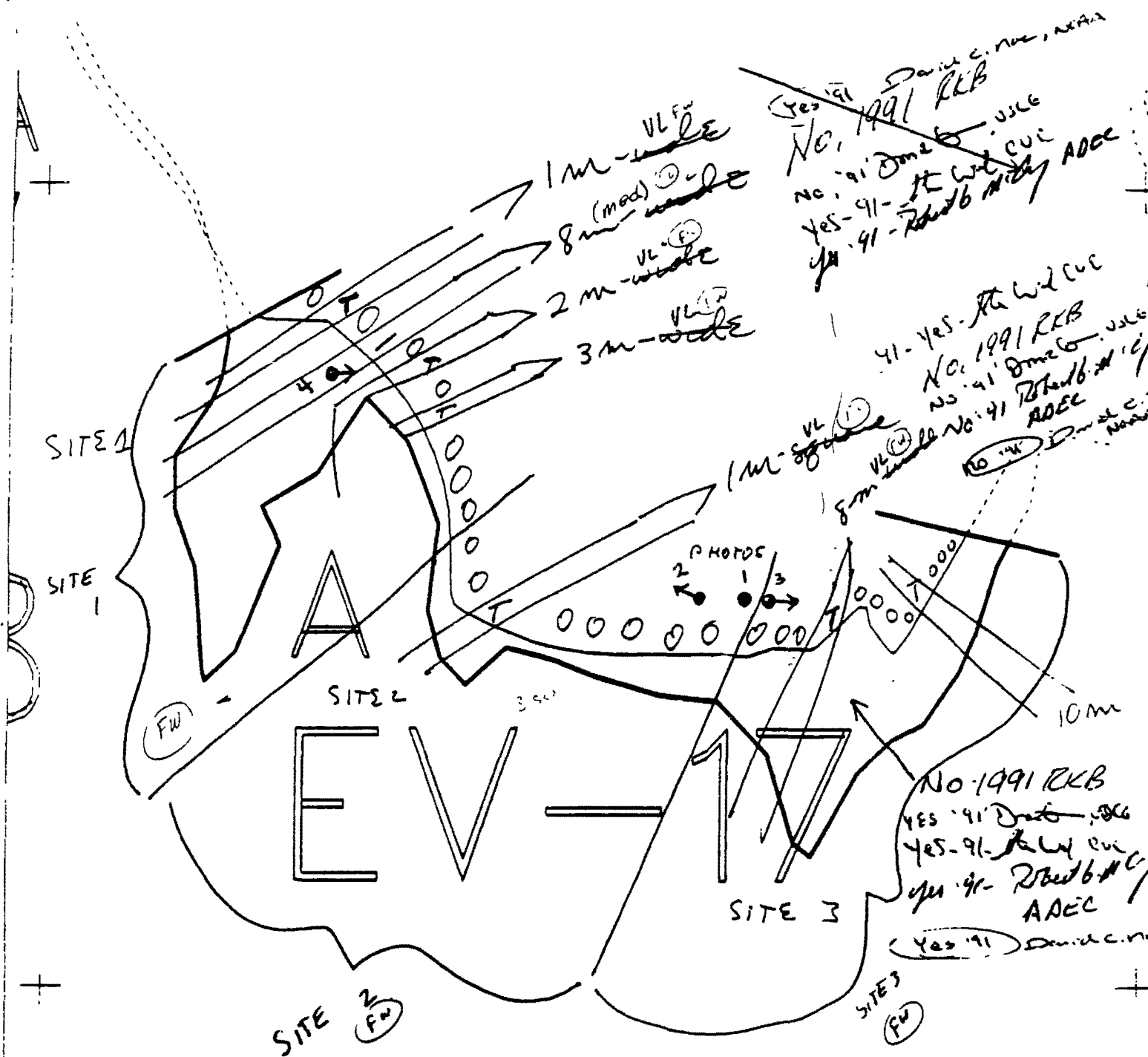
Frames 04

Reviewed FW

COMMENTS → 3 SITES AT 3 STREAMSIDES WERE EXAMINED WITHIN A LARGE BAYHEAD
 → SITE 1 CONTAINED SPORADICALLY DISTRIBUTED STAIN & SOR OVER SMALL AREAS
 of 1m-square & 8m x 3m, respectively

→ SITE 2 DISPLAYED FILM & ST/5 OVER A SMALL 1m-square area

→ SITE 3 SHOWED SOR/S, AP/S & AP/P OVER SMALL AREAS.



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

EV-17 A

ADEC Subsegment Length: 1614m
 METERS

0 120 252

AK State Plane Zone 4 1:4097
 pev-17a



Subdivision Field Map

Map Key: PWSEV-17A

Name: NAKASHIMA

Date: 8/2/90

Date Entered

ACE 7237886
 1/5

STREAM TREATMENT REPORT
Alaska Department of Fish and Game
Tom Crowe

June 19, 1990

ASC # 226-40-16630

Segment EV-017

Observations

A large, gently sloping intertidal zone and braided stream channel. The upper intertidal, surface substrates are cobbles, gravel, and sands over sands and muds. The UITZ consists of boulders and large cobbles overlaying gravel.

Oil saturated patches of gravel, sands, and muds are sporadic and distributed throughout the UITZ and MITZ. Oil saturated fine-grained sediments in the MITZ are breached by the stream channel. Sediments at this site bleed sheen into the channel. Large tar mats occur through the UITZ on right side of the channel. These tar mats are covered by large cobbles and boulders.

June 19, 1990

Work began at 1245 at this stream site. Two crews with four wheeler and trailer began removing oiled sediment from both sides of this stream.

An oiled lenze of fine sediment/sand was discovered on the right side and in the stream channel. This lenze was removed by the crew and the stream was diverted to the worked area to flush it into deployed pom poms. This method proved a very effective means of recovering oil from the stream substrate. Sporadic tar pies were then removed from the right and left side of the stream. Another small lens of oiled sediment was removed from the left side and adjacent to the stream.

Since the areas worked on entered the stream itself bioremediation was not recommended and not used at this site. The crews were demanned at 1730.

The work accomplished was satisfactory and above and beyond the call upon work order. The monitor DEC in agreement with the ADF&G monitor approved the demobing of this site.

6 supersacks of oiled sediment were removed along with 1 super sack of oiled debris.



ACE 7237887

Anadromous Stream # 226-40-16630

WORK PLAN ADDENDUM

Segment EV-017
Evans I, PWS

Subdivision: _____

Dated: 5-22-90MODIFICATION

1. REASON FOR MODIFICATION

This stream area was worked on and demobilized
before an Anadromous Stream Evaluation work plan
was issued. Consequently treatment was insufficient.

2. ADJUSTMENT TO WORK PLAN

Crews should return to the site and accomplish
additional treatment. See page 2 and sketch for
specifics. This site was inspected by John Bauer ADEC
and Aimee Weseman ADF&G after demobilization and
additional treatment was agreed upon - Aimee Weseman

SHPO APPROVAL NEEDED YES _____
NO _____

SHPO SIGNATURE _____

TAG APPROVAL DATE _____

ADEC _____

EXXON _____

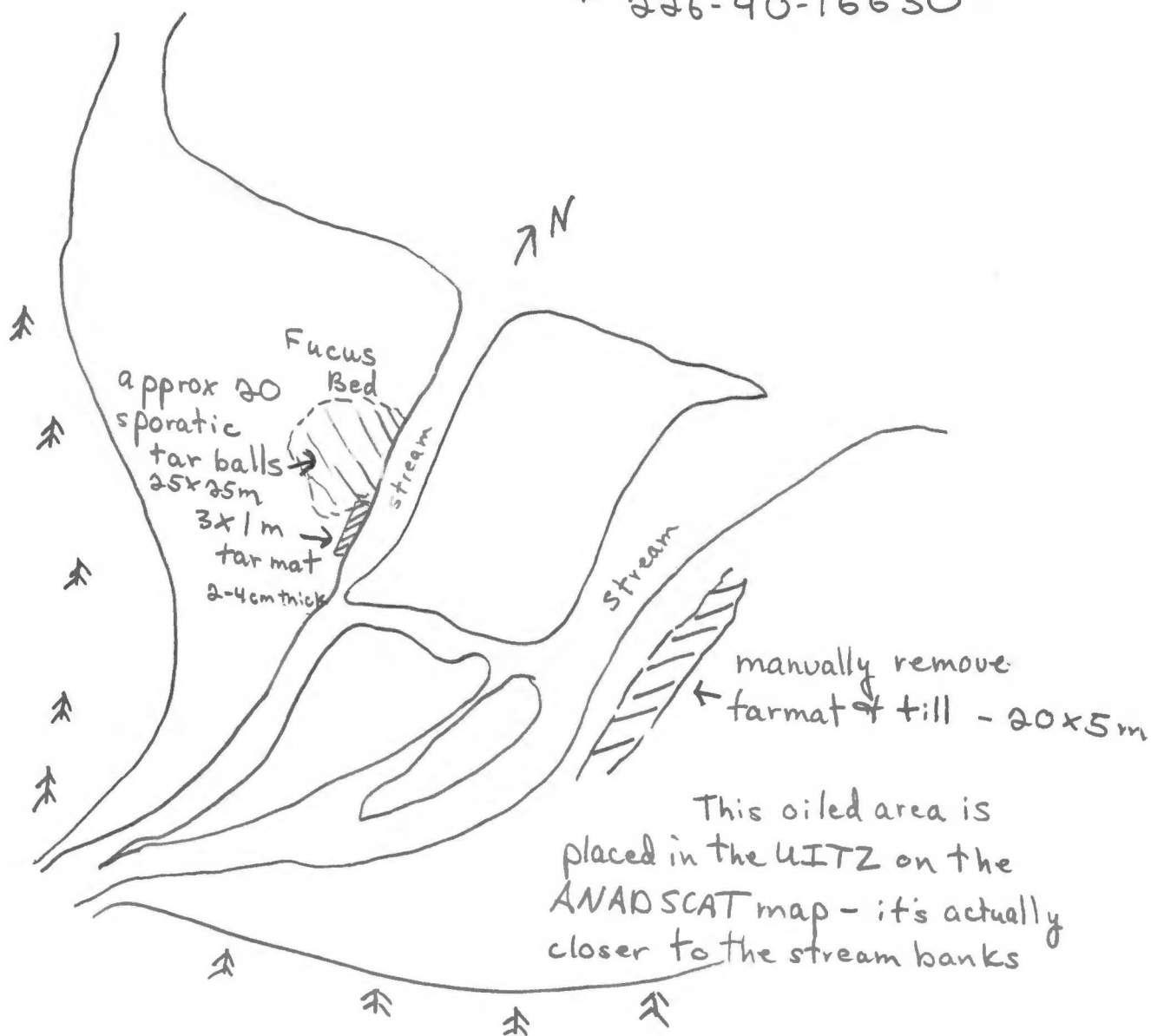
NOAA _____

USCG _____

FOSC _____ DATE _____

EV 017 Anad Stream # 226-40-16630

p2



Treatment -

West bank - remove 3x1m tar mat along stream bank in MITZ, also approx 20 tar balls in LMITZ above dense fucus bed.

East bank - remove tar mat band in MITZ & till to aerate

State of Alaska
Department of Fish and Game
Habitat Division

Page 1 of 2

Field Inspection Report

Date 5-16-90 Time 1200

Location: (Logging unit/Road/Waterbody) Evans I PWS EV 017
Anadromous Stream # 226-40-16630

Operator/Contractor: Exxon/VECO

Individuals present at time of inspection:

Name Representing

John Bauer, John Hayes - ADEC
Ray Berger - ADNR
Aimee Weseman - ADF&G

Activity/Situation Observed: This stream area was worked on
and demobilized before an Anadromous Stream evaluation
work plan was issued. Consequently treatment was
insufficient.

Pertinent Statutes/Regulations: _____

Recommended/Required Action (Specify): _____

Crews should return to the site and accomplish
additional treatments. See page 2 & sketch for
specifics.

By (date) _____ (if applicable)

Please note: This is not a final inspection report. It is intended to provide the operator/contractor with a notice of problems or concerns which require immediate attention. If necessary, a final inspection report will be issued at a subsequent date.

Aimee Weseman/F&G Tech.
Fish and Game Representative/Title Company Representative/Title

State of Alaska
Department of Fish and Game
Habitat Division

Page of

Field Inspection Report

Date MAY 15 1990 Time 1400

Location: (Logging unit/Road/Waterbody) EVANS IS. EV 17 SHELTER BAY

Operator/Contractor: EXXON / VECO

Individuals present at time of inspection:

Name

Representing

DALE GARDNER / DEC

JAN KRIEGER / ADEC

TOM CROWE / ADFG

JOHN

RICK GUSTIN / ADFG

Activity/Situation Observed: INSPECTION AFTER CLEANUP BY EXXON CREW
LARGE AREAS OF TARMAT + OILED GRAVEL LEFT ON BANK OF
(POOR UNDOCUMENTED) STREAM (SOUTH + EAST OF) 16620. STREAM 16630
IS INADEQUATELY CLEANED AND NEEDS TO BE RETURNED TO.

Pertinent Statutes/Regulations: AK. STATUTES TITLE 16

Recommended/Required Action (Specify):

RETURN TO BOTH 16630 AND THE UNDOCUMENTED STREAM NORTH 16620
OF IT AND REMOVE WITH SHOVELS / TROWELS TARMATS, AND
LARGE PATCHES OF OILED GRAVELS ON BOTH BANKS OF BOTH
STREAMS TO BE SPECIFIED VISUALLY / VERBALLY ON SITE BY
ADFG REP.

By (date) MAY 15 1990 (if applicable)

Please note: This is not a final inspection report. It is intended to provide the operator/contractor with a notice of problems or concerns which require immediate attention. If necessary, a final inspection report will be issued at a subsequent date.

Richard J Gustin TECH 3
Fish and Game Representative/Title

Company Representative/Title

ACE 7238001

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

STEVE COWPER, GOVERNOR

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

EXXON Valdez Oilspill Cleanup

Anadromous Fish Stream Authorization

Date 6/14/90

EXXON Authorized Representative _____

Shoreline Segment EV-017

Anadromous Fish Stream Number(s) 226-40-16630

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

Approved Cleanup Period 5/15/90 to 7/10/90

Alaska Department of Fish and Game

Walter General
Authorized Officer

R. L. Drogich
Permittee's Signature

Approved Cleanup techniques have been reviewed and complied with: _____

EXXON Authorized Field Representative

Date _____

ACE 7237888 +150

Final Anadromous Stream Treatment Information

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

PreANAD SCAT-90 ^{ATW}

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: 4/12

15 HIGH TIDE TIMES: /

21 TEAM RECORDER: Tom Crowe

4 START TIME: 0854

16 HIGH TIDE HTS: /

22 OBSERVERS: Tom Crowe

5 STOP TIME: 0906

17 LOW TIDE TIMES: /

23 AGENCY: ADF & G

6 SEGMENT #: 2U 17

18 LOW TIDE HTS: /

24 PHOTOS TAKEN: Y (N)

7 STATION #:

19 TIDE HT AT SURVEY:

Roll #: Frame:

8 K-UNIT:

Ebb Slack Flood Slack

25 VIDEO TAKEN: Y (N) TAPE#:

9 STAT AREA:

20 USCG QUAD:

Start: End:

10 LAT:

11 LONG:

26 SAMPLES TAKEN? Y (N) Number

12 SOURCE: Map Loran

13 LOCATION:

14 DESCRIPTION:

EXTENT OF OIL

27 SURFACE COVERAGE

SHORELINE				STREAM			
L	W	M ²	%	L	W	M ²	%

28 SURFACE THICKNESS

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

29 PENETRATION

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

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

31 OIL TYPE: Pooled Mousse Tar Asphalt Sticky Stain

32 OILED DEBRIS? Y N

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

34 WAVE EXPOSURE: High Moderate Low

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

36 CATALOGED ANAD. FISH STREAM? (Y) N

37 CATALOG #: 226-40-16630 ^{ATW}

38 STREAM NAME:

39 OIL IN STREAM BED? (Y) N

40 OIL ON STREAM BANKS? (Y) N

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

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

Where:

43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION
Species Aerial Ground

COMMENTS: DEAD OIL ON THE BEACH (PREMOSSES)

HEAVY ASPHALT/TAR IN STREAM BED AND 2 FT BAND ON BEACH

ACE 7237920+15

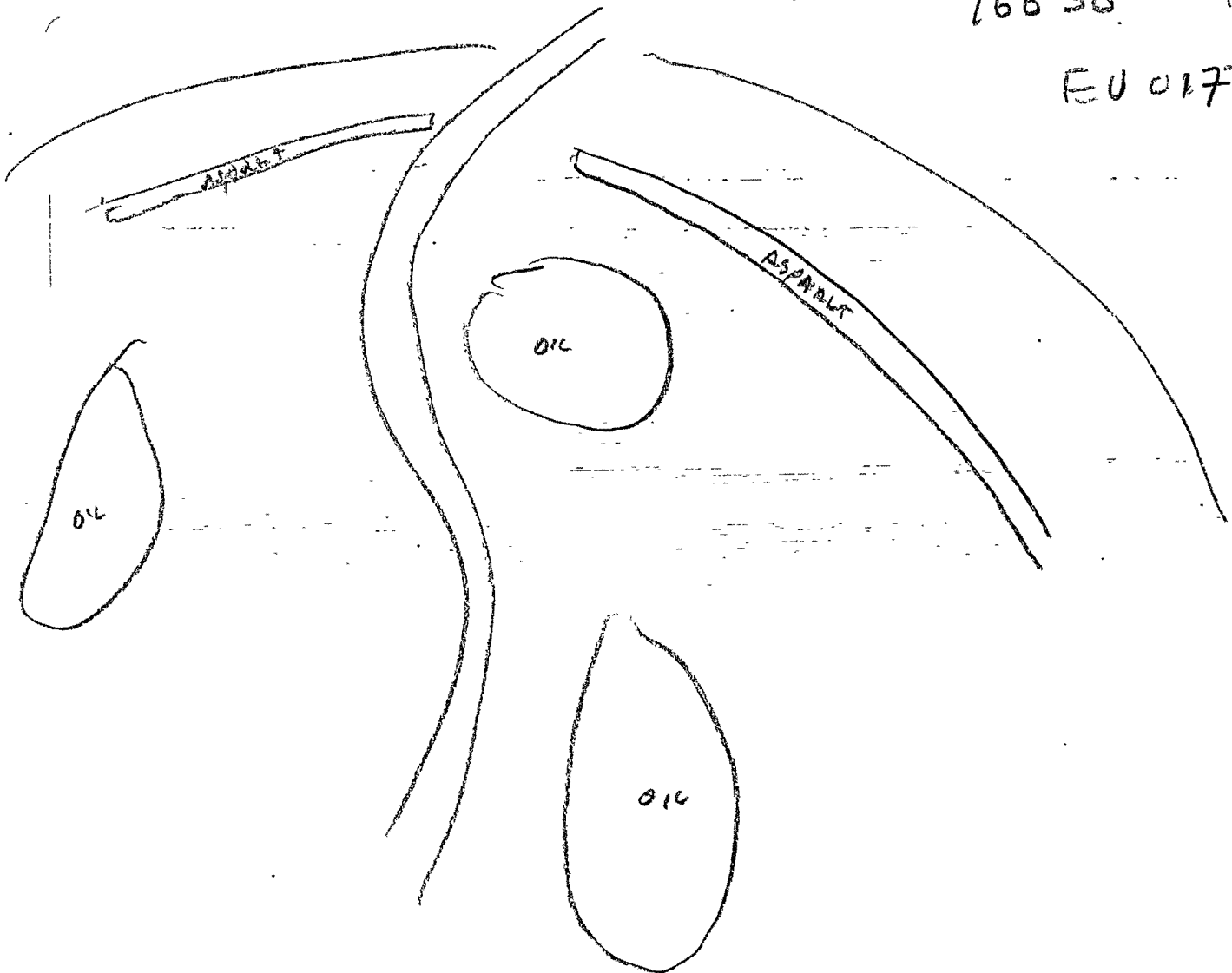
FRAME(S)

DESCRIPTION

48 OIL DISTRIBUTION DIAGRAM

4/12/90
 2-26-40-ATW
 16630 TWC

EU 017



= Sample taken
 = Photo frame # and
 shot direction.

ACE 7237921-15

ADF&G HABITAT STUDY SITE DESCRIPTION FORM

STUDY SITE # EVO176634M

INITIAL LAYOUT DATE 11/6/89

Team Members Ben, East, Talvi

Time (start/stop) 1100-1400

Low Tide (time/ht.) 1224 5.9 ft.

High Tide (time/ht.) 1834 9.17 ft.

Weather: (sunny) cloudy/ rain/ fog/ snow) Seas: (rough) moderate/ calm)

Wave Ht: 2' Wind Dir.: (N-NE-E-SE-S-SW-W-NW) Knots: (0-10) (10-20) 20-30 30+)

LAYOUT AND BEACH PROFILE

67.5° true N

TRANSECT LAYOUT: Compass bearing: 42° mag N Length of transect: 145 M

STUDY AREA LOCATION AND DIMENSIONS (see maps): Lat. 60° 7' 24" Long. 147° 55' 18"

Shallow cove east of Shelter Bay; wide low angle beach-stream at back, east side.
100 M LONG, X 75 M wide.

LOCATION OF TRANSIT POINT; distance and bearing to local features, etc.: On high tide berm, left bank

Rebar driven into end of stump 91.15°, 2.8 M;

Rebar driven into end of stump 248°, 19.9 M.

*BEACH ELEVATION PROFILE: Bearing from transit point: 308° 15' Inst. height: 1.37 M

Point # Location	Total elevation	Actual Elev. (tot-inst ht)	Distance from transit point	Slope (el/dist)
high tide line	1.8	.43	2.0 M	
left bank	3.5	2.10	27.9	
midstream point - left channel	3.7	2.3	42.9	
LTP Midstream (Lower trans midstr			75.5 M	3.6%

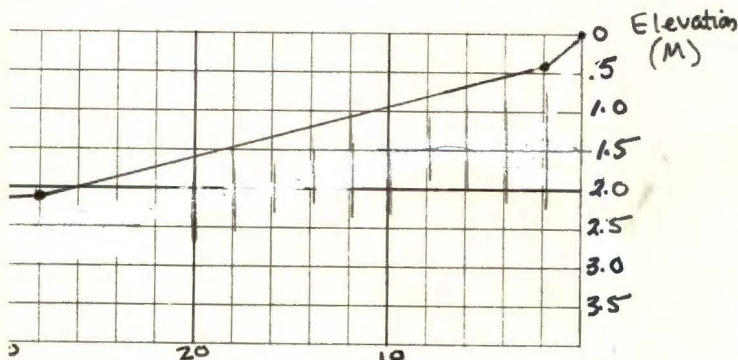
Elevation Profile

~~RITE IN THE RAIN~~

FIELD COPY

EVO176634M

Very low angle, wide intertidal delta.



GENERAL CHAR

BEACH EXPOSURE

SHORELINE DE

e Exposure: Hi X Mod Lo

stream at back, east side. Wide, low angle

beach; braided channel. Stream banks not well defined as spreads out over intertidal

SUBSTRATE TYPES (%EA): Rock Boulder (>10") 5 Cobble (2.5"-10") 30

Pebble (.06"-2.5") 40 Sand/Mud (<.06") 25 angular cobble.

GENERAL OILING CONDITIONS: Mod-heavy oil band on left bank in L-MITZ adjacent
to stream - all along streambank. Similar conditions on right bank. Mod-
heavy oil. Very fine black sand on right bank prevented deeper penetration.

BIOLOGICAL/OTHER OBSERVATIONS: Substrate type has a significant effect on oil
penetration - the finer the substrate, the less the penetration. Right bank has fine black
sands widespread; not found as much on left bank.

Ace 6332034/B +1/P

ADF&G HABITAT STUDY SITE DESCRIPTION FORM

STUDY SITE # EVO176634M

INITIAL LAYOUT DATE 11/6/89

Team Members Ben, East, Talvi

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100 M LONG, X 75 M wide.

LOCATION OF TRANSIT POINT; distance and bearing to local features, etc.: _____

On high tide berm, left bank. Rebar driven into end of stump 91.15°, 2.8 M;

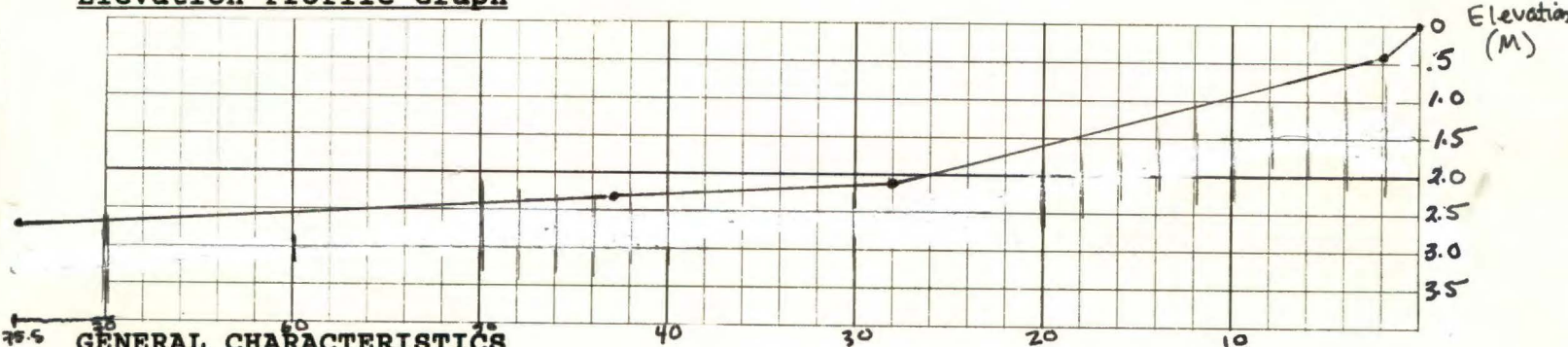
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Point # Location	Total elevation	Actual Elev. (tot-inst ht)	Distance from transit point	Slope (el/dist)
high tide line	1.8	.43	2.0 M	
left bank	3.5	2.10	27.9	
midstream point - left channel	3.7	2.3	42.9	
LTP Midstream (Lower transect point) midstream	4.1	2.7	75.5 M	3.6%

Very low angle, wide intertidal delta.

Elevation Profile Graph



GENERAL CHARACTERISTICS

BEACH EXPOSURE: Aspect North Wave Exposure: Hi X Mod _____ Lo _____

SHORELINE DESCRIPTION Wide, shallow bay, stream at back, east side. Wide, low angle beach; braided channel. Stream banks not well defined as spreads out over intertidal

SUBSTRATE TYPES (%EA): Rock - Boulder (>10") 5 Cobble (2.5"-10") 30

Pebble (.06"-2.5") 40 Sand/Mud (<.06") 25 angular cobble.

GENERAL OILING CONDITIONS: Mod-heavy oil band on left bank in L-MITZ adjacent to stream - all along streambank. Similar conditions on right bank. Mod-heavy oil. Very fine black sand on right bank prevented deeper oil penetration.

BIOLOGICAL/OTHER OBSERVATIONS: Substrate type has a significant effect on oil penetration - the finer the substrate, the less the penetration. Right bank has fine black sands widespread; not found as much on left bank.

Acc 6332034/B71P

ADF&G STREAM HABITAT EVALUATION

STUDY SITE # EVO17663AM DATE 11/6/89
 Location Cove East of Shelter Bay, Evans I. Lat. 60° 7' 24" Long. 147° 55' 18"
 Team Members Ben, East, Talvi Time (start/stp) 1100 - 1400
 Low Tide (time/ht.) 1224 5.90 High Tide (time/ht.) 1834 9.17'
 Weather: (sunny) cloudy/ rain/ fog/ snow)
 Seas: (rough) moderate/ calm) Wave Height: 1 - 2 ft.
 Wind direction: (N)NE-E-SE-S-SW-W-(NW) Knots: (0-10 (10-20) 20-30 30+)

STREAM MORPHOLOGY

Instream Pt. Locations	Bearing from Transit Pt.	Distance from Transit Pt.	Distance to L.Streambank	Distance to R.Streambank
On Transect	<u>0°</u>	<u>26.6 M</u>	<u>14.4 M</u>	<u>55.2 M</u>
Upper ITZ	<u>82.15'</u>	<u>23.0 M</u>	<u>18.5 M</u>	<u>27.3 M</u>
Low-Mid ITZ	<u>318.45'</u>	<u>75.5 M</u>	<u>27.9 M</u>	<u>no measurement possible</u>

Observations: (berms, tide pools, etc.)

Wide streambed at LITZ - main channel appears to have migrated east
- Vivert box study is no longer in main channel.

PHOTO AND VIDEO DOCUMENTATION (taken from transit point; transect line 0°)

<° <u>82.15'</u> upper midstream pt.	photo: roll#/frame <u>P-89WP003-V</u>	<u>24</u>
<° <u>30°</u>	photo: roll#/frame <u>"</u>	<u>25</u>
<° <u>0°</u> transect line	photo: roll#/frame <u>"</u>	<u>26</u>
<° <u>318.45'</u> lower midstream pt.	photo: roll#/frame <u>"</u>	<u>27</u>
<°	photo: roll#/frame <u>"</u>	

Video scan (cassette #, footage) 1177-1461 V89WP004V

Additional video footage LB & RB ASSESSMENT 1177-1633 V89WP004V

Aerial video (cassette #, footage) 1009-1176 V89WP004V height 600 ft.

Aerial photo (roll #, frame) polaroid only

OIL MEASUREMENT, OBSERVATIONS (see map for details)

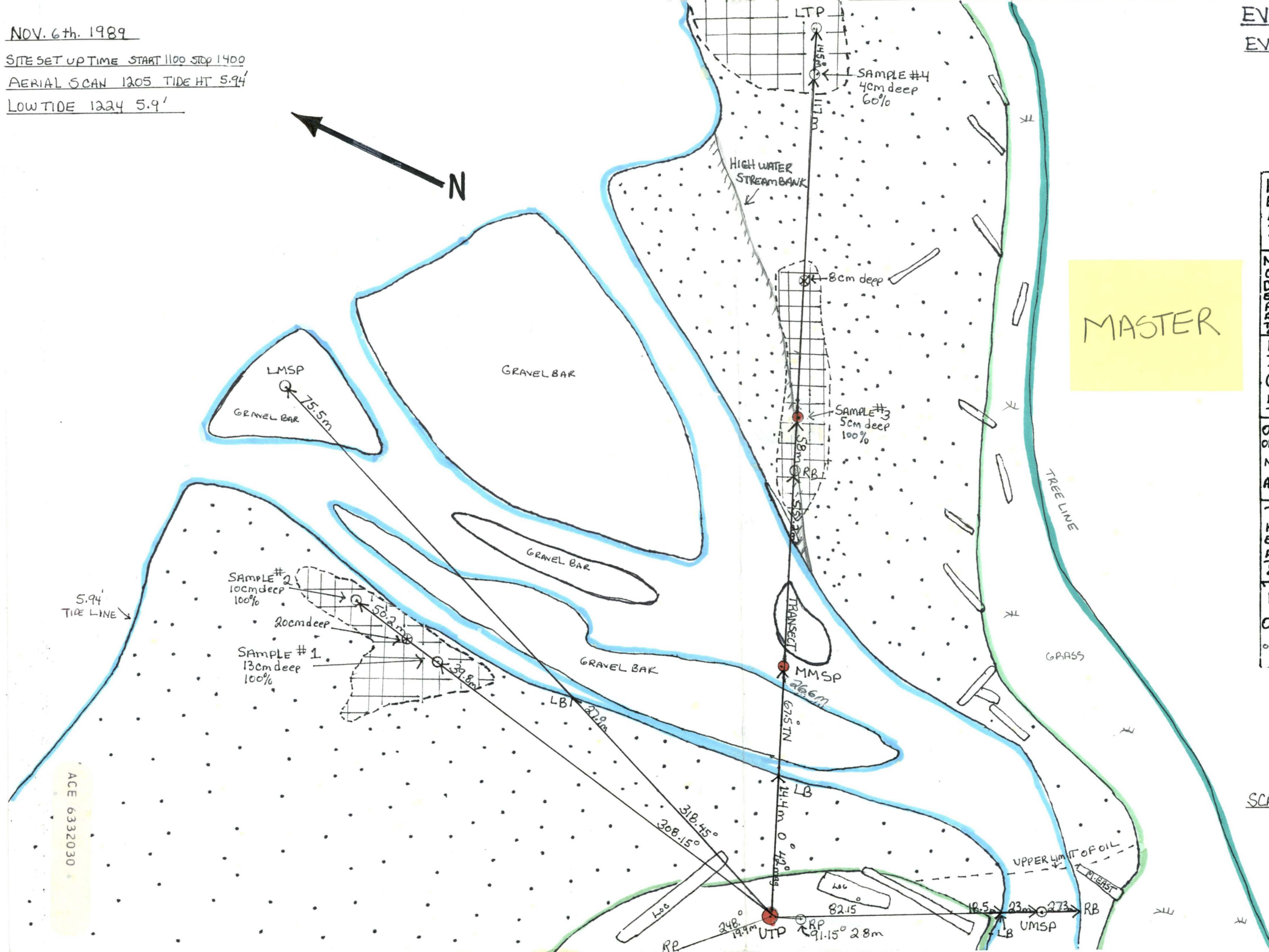
Location (tidal zone, bank)	Width and Length of oil band (Meters)	%Coverage	Subsurface/surface/depth
<u>low mid ITZ left bank</u>	<u>20(L) x 3 to 10 M (W)</u>	<u>100</u>	<u>both, 13 cm</u>
<u>mid ITZ right bank</u>	<u>24(L) x 5 (W)</u>	<u>100</u>	<u>both, 5-8 cm</u>
<u>light-mid ITZ, right bank</u>	<u>13 M (W) x 7 M (Length only to end of transect)</u>	<u>60-70</u>	<u>both, 4 cm</u>

Remaining portions of beach lightly oiled to water line. No oil found on gravel bars.

Acc 6332034/C-7

LOW TIDE 1224 5.9'

EVO17663 HM
EVANS ISLAND NORTH END

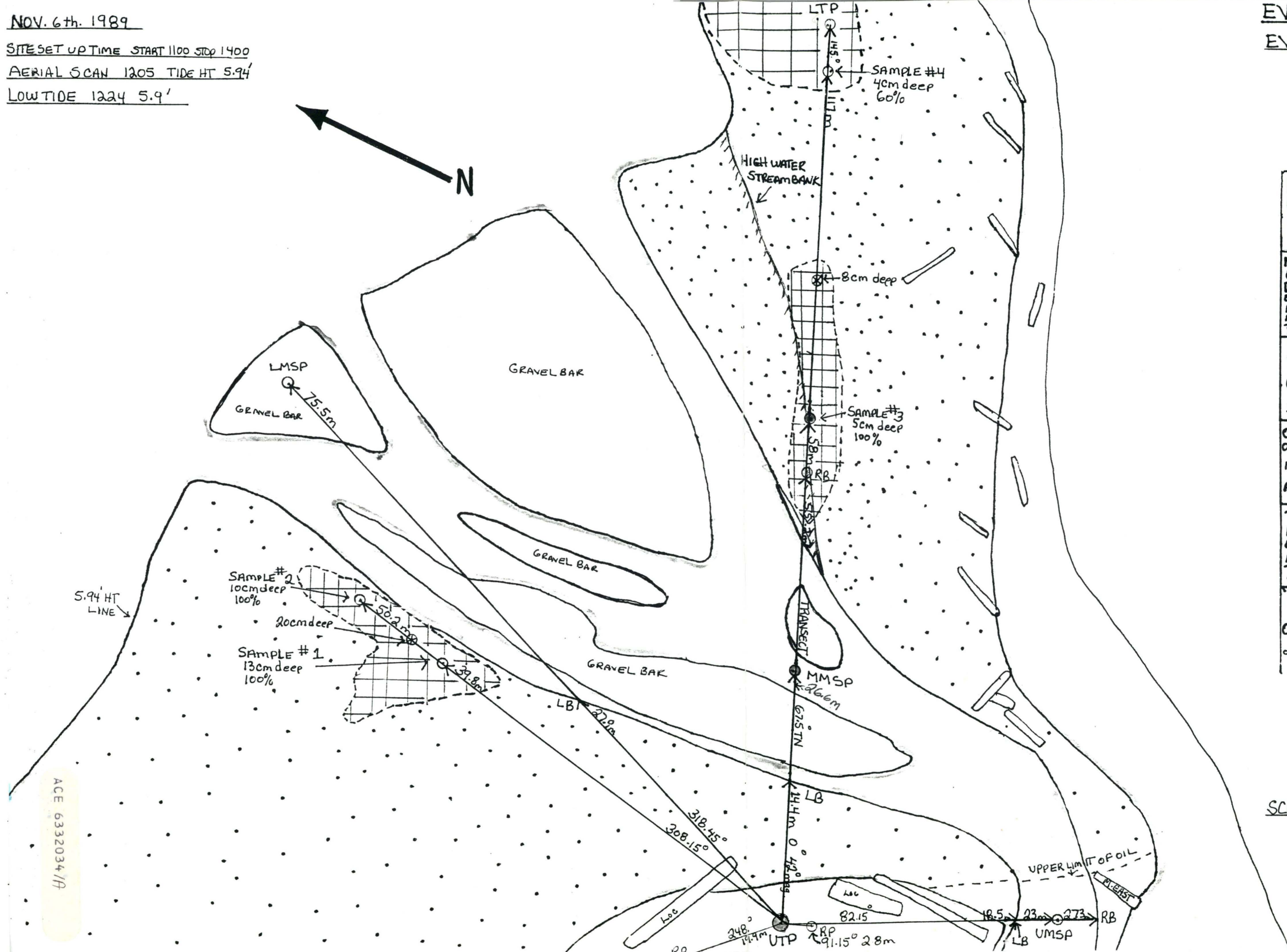


HEAVY									
MODERATE	Diagonal lines from top-left to bottom-right								
LIGHT	Dotted pattern								
OIL OBSERVED NOT ASSESSED	Scattered 'x' marks								
TREATED									
NO OIL OBSERVED									

SCALE: VERTICAL 1cm = 3.5m
HORIZONTAL 1cm = 2.9m

LOW TIDE 1224 5.9'

EVANS ISLAND NORTH E



HEAVY									
MODERATE									
LIGHT									
OIL OBSERVED NOT ASSESSED									
TREATED									
NO OIL OBSERVED									

SCALE: VERTICAL 1cm = 3.5m
HORIZONTAL 1cm = 2.9m

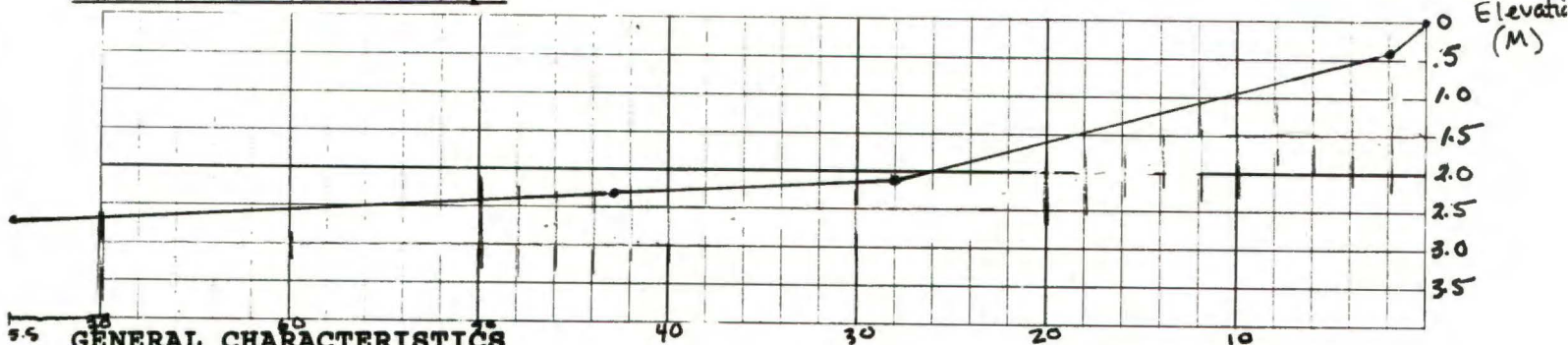
STUDY SITE # EVO176034MINITIAL LAYOUT DATE 11/6/89Team Members Ben, East, TalviTime (start/stop) 1100-1400Low Tide (time/ht.) 1234 5.9 ft.High Tide (time/ht.) 1834 9.17 ft.Weather: (sunny) cloudy/ rain/ fog/ snow) Seas: (rough) moderate/ calm)Wave Ht: 2' Wind Dir.: (N-NE-E-SE-S-SW-W-NW) Knots: (0-10 10-20 20-30 30+)LAYOUT AND BEACH PROFILE

67.5° true N

TRANSECT LAYOUT: Compass bearing: 42° mag N Length of transect: 145 MSTUDY AREA LOCATION AND DIMENSIONS (see maps): Lat. 60° 7' 24" Long. 147° 55' 18"Shallow cove east of Shelter Bay; wide low angle beach-stream at back, east side.
100 M LONG, X 75 M wide.LOCATION OF TRANSIT POINT; distance and bearing to local features, etc.: On high tide berm, left bankRebar driven into end of stump 91.15°, 2.8 M;Rebar driven into end of stump 248°, 19.9 M.*BEACH ELEVATION PROFILE: Bearing from transit point: 308° 15' Inst. height: 1.37 M

Point # Location	Total elevation	Actual Elev. (tot-inst ht)	Distance from transit point	Slope (el/dist)
high tide line	1.8	.43	2.0 M	
left bank	3.5	2.10	27.9	
midstream point <u>left channel</u>	3.7	2.3	42.9	
LTP <u>Midstream</u> (Lower transit point) <u>midstream</u>	4.1	2.7	75.5 M	3.6%

Very low angle, wide intertidal delta.

Elevation Profile GraphGENERAL CHARACTERISTICSBEACH EXPOSURE: Aspect North Wave Exposure: Hi X Mod Lo SHORELINE DESCRIPTION Wide, shallow bay, stream at back, east side. Wide, low angle beach; braided channel. Stream banks not well defined as spreads out over intertidalSUBSTRATE TYPES(%EA): Rock Boulder(>10") 5 Cobble(2.5"-10") 30Pebble(.06"-2.5") 40 Sand/Mud(<.06") 25 angular cobble.GENERAL OILING CONDITIONS: Mod-heavy oil band on left bank in L-MITZ adjacent to stream - oil along streambank. Similar conditions on right bank. Mod-heavy oil. Very fine black sand on right bank prevented deeper oil penetration.BIOLOGICAL/OTHER OBSERVATIONS: Substrate type has a significant effect on oil penetration - the finer the substrate, the less the penetration. Right bank has fine black sands widespread; not found as much on left bank.

ADP STREAM HABITAT EVALUATION

STUDY SITE # EVO17663HM DATE 11/6/89
 Location Cove East of Shelter Bay, Evans I. Lat. 60° 7' 24" Long. 147° 55' 18"
 Team Members Ben, East, Talvi Time (start/stp) 1100 - 1400
 Low Tide (time/ht.) 1224 5.90 High Tide (time/ht.) 1834 9.17'
 Weather: (sunny) cloudy/ rain/ fog/ snow
 Seas: (rough) moderate/ calm Wave Height: 1 - 2 ft.
 Wind direction: (N) NE-E-SE-S-SW-W-(NW) Knots: (0-10) (10-20) 20-30 30+)

STREAM MORPHOLOGY

Instream Pt. Locations	Bearing from Transit Pt.	Distance from Transit Pt.	Distance to L. Streambank	Distance to R. Streambank
On Transect	<u>0°</u>	<u>26.6 M</u>	<u>14.4 M</u>	<u>55.2 M</u>
Upper ITZ	<u>82° 15'</u>	<u>23.0 M</u>	<u>18.5 M</u>	<u>27.3 M</u>
Low-Mid ITZ	<u>318° 45'</u>	<u>75.5 M</u>	<u>27.9 M</u>	<u>no measurement possible</u>

Observations: (berms, tide pools, etc.)

Wide streambed at LITZ - main channel appears to have migrated east
- Vivert box study is no longer in main channel.

PHOTO AND VIDEO DOCUMENTATION (taken from transit point; transect line 0°)

<° <u>82° 15'</u> upper midstream pt.	photo: roll#/frame <u>P-89WP003-V</u>	<u>24</u>
<° <u>30°</u>	photo: roll#/frame <u>"</u>	<u>25</u>
<° <u>0°</u> transect line	photo: roll#/frame <u>"</u>	<u>26</u>
<° <u>318° 45'</u> lower midstream pt.	photo: roll#/frame <u>"</u>	<u>27</u>
<°	photo: roll#/frame	

Video scan (cassette #, footage) 1177 - 1461 V89WP004V

Additional video footage LB & RB ASSESSMENT 1177 - 1633 V89WP004V

Aerial video (cassette #, footage) 1009 - 1176 V89WP004V height 600 ft.

Aerial photo (roll #, frame) polaroid only

OIL MEASUREMENT, OBSERVATIONS (see map for details)

Location (tidal zone, bank)	Width and Length of oil band (Meters)	% Coverage	Subsurface/ surface/depth
<u>low mid ITZ left bank</u>	<u>20(L) x 3 to 10 M (W)</u>	<u>100</u>	<u>both, 13 cm</u>
<u>mid ITZ right bank</u>	<u>24(L) x 5 (W)</u>	<u>100</u>	<u>both, 5-8 cm</u>
<u>light-mid ITZ, right bank</u>	<u>13 M (W) x 7 M (Length only to end of transect)</u>	<u>60-70</u>	<u>both, 4 cm</u>

Remaining portion of beach lightly oiled to water line. No oil found on gravel bars.

P. 2 - Stream Habitat Evaluation

1 M Radius

#	Sample Plot Location, °, dist. from transit pt.	%Coverage	Avg. Depth	Oil Type, Consistency
1	308° 15', 39.8 M	100%	13 cm	pooled_mousse_coated_Xmobile_tarry_Xasphalt_stain
2	308° 15', 50.2 M	100%	10 cm	pooled_mousse_coated_Xmobile_tarry_Xasphalt_stain
3	0°, 58.0 M	100%	5 cm	pooled_mousse_coated_Xmobile_tarry_Xasphalt_Xstain
4	0°, 117.0 M	60%	2.4 cm	pooled_mousse_coated_mobile_tarry_asphalt_stain
				pooled_mousse_coated_mobile_tarry_asphalt_stain
				pooled_mousse_coated_mobile_tarry_asphalt_stain

% of Transect Line Intercepting Oil: 75%; Heavy 30 Moderate — Light 45

SAMPLES TAKEN: Sediment (S), Gross Oil (GO), or Indicator Organism (ORG)

Type	Sample#	Location (°, dist.), Description	Documentation
S	89WP019V+VD	sample plot 1, left bank MITZ	P-89WP003-V, 28+29
S	89WP020V+VD	sample plot 2, left bank L-MITZ	P-89WP003-V, 30+31
S	89WP021V+VD	sample plot 3, right bank M-UITZ	P-89WP003-V, 33+34
S	89WP022V+VD	sample plot 4, right bank m-UITZ	P-89WP003-V, 35+36
misc. photos		oil adjacent to sample plot #3	" #32

Biological Damage, Other Observations: large numbers of littleneck clam and mussel shells scattered on the beach. Solid mat of dead seaweed, fucus and other vegetation forms low berm at high tide line.

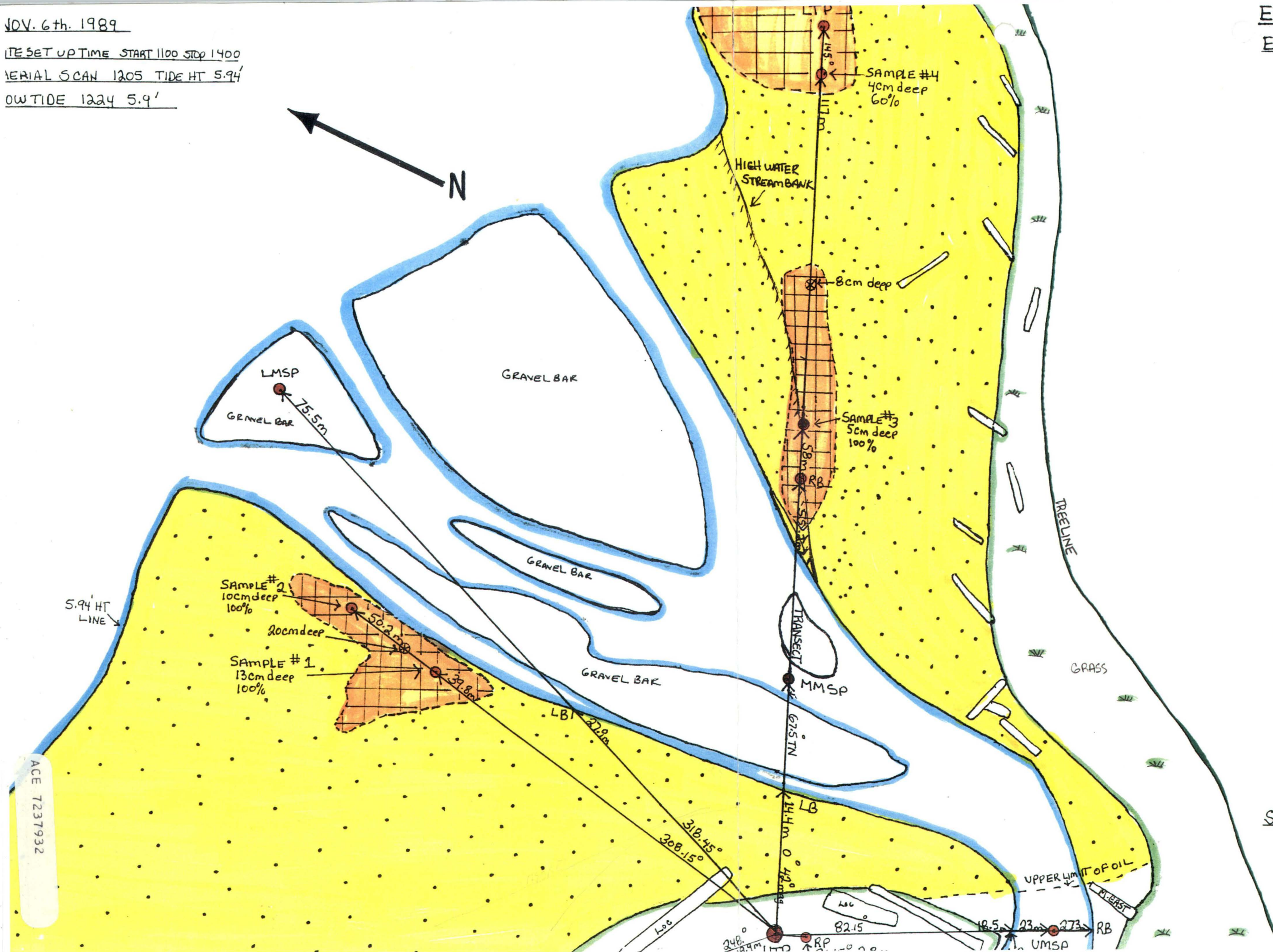
NOV. 6th. 1989

ITE SET UP TIME START 1100 STOP 1400

SERIAL SCAN 1205 TIDE HT 5.94'

LOW TIDE 1224 5.9'

EV017663 HM
EVANS ISLAND NORTH



HEAVY	
MODERATE	
LIGHT	
OIL OBSERVED	
NOT ASSESSED	
TREATED	
NO OIL OBSERVED	

ASC 16630

SCALE: VERTICAL 1cm = 3.5
HORIZONTAL 1cm = 2.9

NOV. 6th. 1989

SITE SET UP TIME START 1100 STOP 1.00

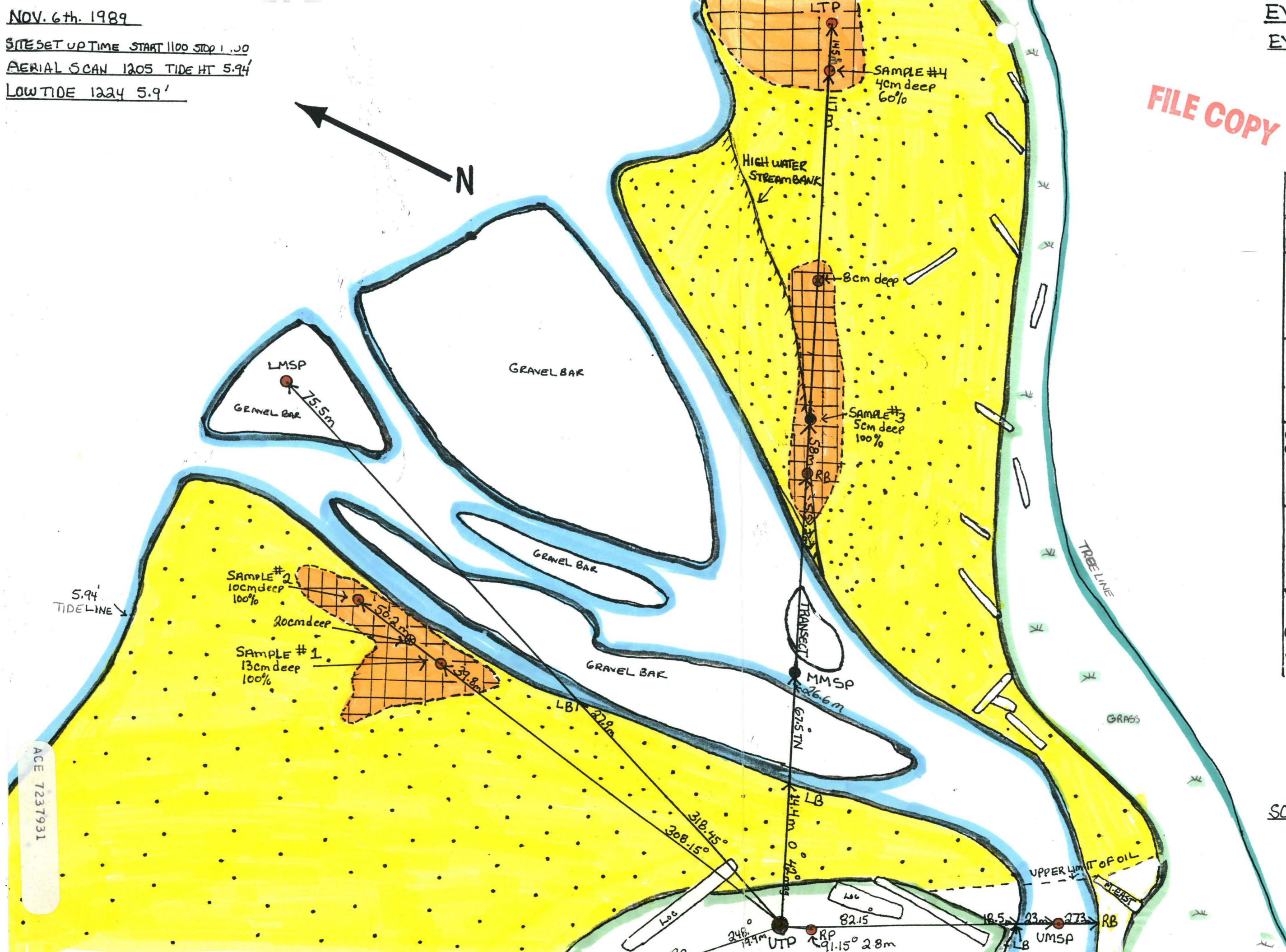
AERIAL SCAN 1205 TIDE HT 5.94'

LOW TIDE 1224 5.9'

EV017663 HM

EVANS ISLAND NORTH E

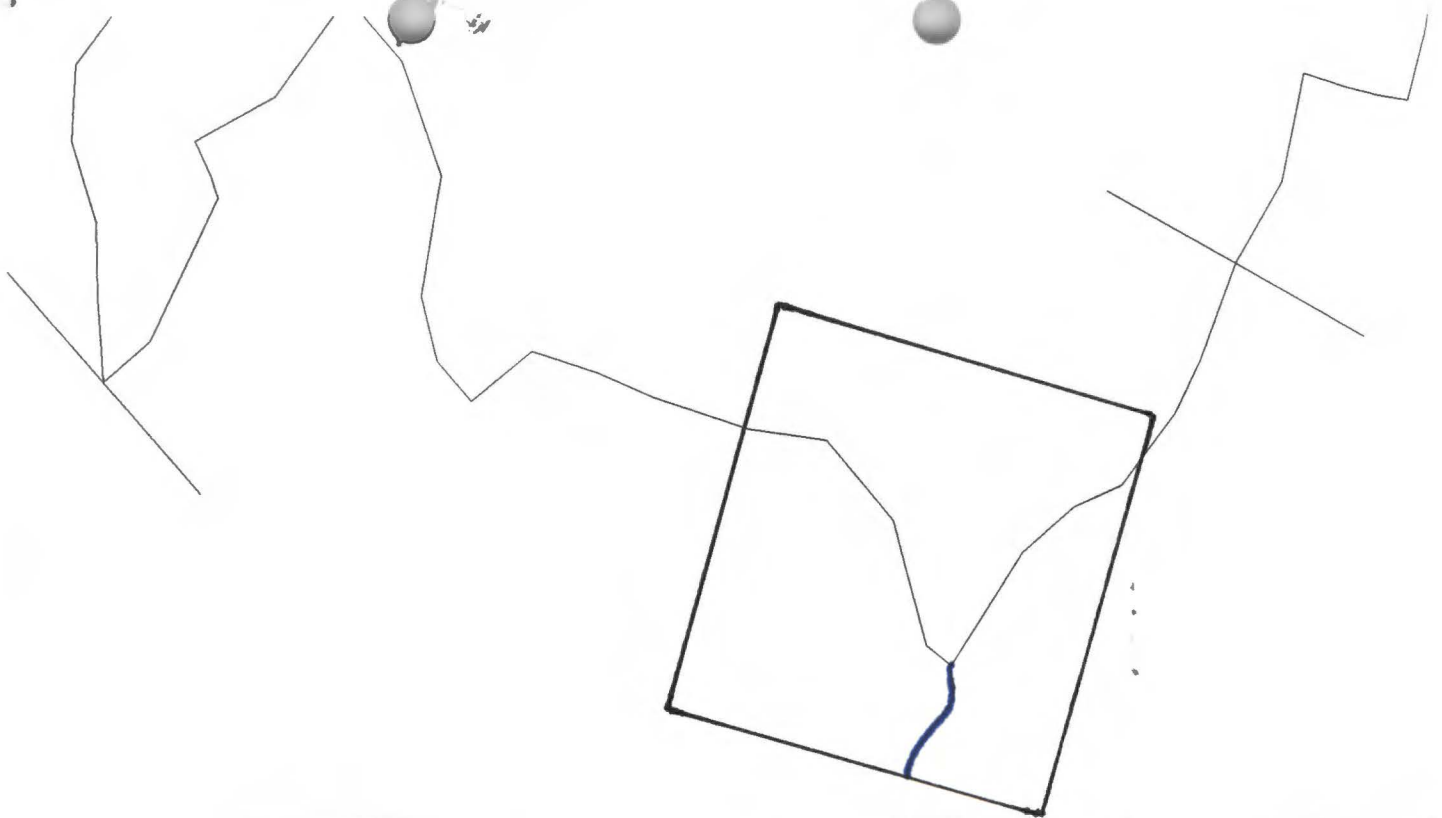
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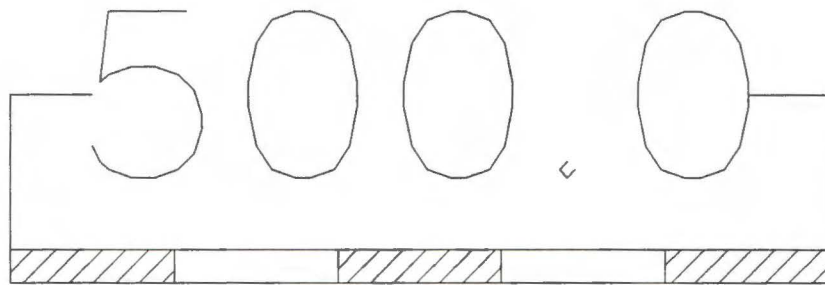
HEAVY	
MODERATE	
LIGHT	
OIL OBSERVED	
NOT ASSESSED	
TREATED	
NO OIL OBSERVED	

SCALE: VERTICAL 1cm = 3.5m
HORIZONTAL 1cm = 2.9m

ACE 7237931



EV017





EV0176634M

11/6/89



10818120181-3

ACE 7237927+1S1-1S

THE COBBLE DECK AND THE WEST SIDE OF THE
Cove had visible oil on some rock surfaces.

We then went to Steep Bay and
observed the stream there. No further
work had occurred since my last visit, Robin
Willis was on-site, but bored due to the
lack of activity to monitor.

We then flew to Cordova to drop off
Norm Cohen and returned to Valdez at
approx. 1800.

Marilyn Sigmund

NOTE: SEE p. 63 for
Field Observations

7/3/89 - 7/6/89

7/10/89

1320 LEE ROGERS AND CHARLOTTE CRAIG DEPART RIDE
LAKE AT 1300. 3 HR. DELAY DUE TO FOG. PILOT IS
BUTCH TOBESON. 500 FT. CEILING NECESSITATES FLYING
THE DECK AND AVOIDING HEAVY HELICOPTER TRAFFIC.
WE ARE UNABLE TO LAND AT MARSHA BAY, CITONBA,
EVANS, OR GROWN ISLAND DUE TO FOG AND/OR HELICOPTER
TRAFFIC. PILOT TOBESON DECIDES AGAINST LANDING
AT SLOOPY BAY DUE TO IRREGULAR WIND PATTERNS.

1430 LANDED AT EVANS ISLAND - EVIT AS WEATHER CLEARING

STORM #26-40-1630 (#5)

WINDS: 10% CALM

WINDS NE 0-10 MPH.

CEILING: 1000

VISIBILITY: UNLIMITED

BEACH COMPLETELY UNOCCUPIED. HEAVY OIL SAND ABOUT
50 YDS. WIDE CIRCUMSCRIBED THE STREAM MOUTH. DEPTH OF
OIL = 1/2" FLEES AND DRIFTWOOD AT MOUTH OF CREEK
AND OIL SAND WITH THE COBBLE AND SAND. GRASSES
ON THE OIL SAND AND OIL SAND.

1 RPD LAKE FLEW OVERHEAD NB → SW.

RECOMMENDED TREATMENT = RIPPING AND SKIMMING OF OIL
MATERIALS, HAS WATER WASH, REMOVAL OF OIL SANDS & COBBLES

1 SEA OTTER CHANGING IN AREA.

OIL SAMPLES COLLECTED. PHOTOS #5, 6

Charlotte
Craig

ACE 7237935

putting it in the lower ^{1000' - 1500' interval} zone which was unlined and they proposed to put it in already oiled areas. I agreed.

At 10:00 a.m., I left with Jim O'Brien, Exxon, and the RAT foreman to develop workplan for salmon streams to be treated before 7/10/89.

We went to S. Marsha Bay^{and 3} S. Marsha Bay streams on N. Evans Island
(-16620, -16630, -16640).

We met Bill Stillings and John Caldwell, Exxon at the North Evans streams. We developed work plans which have been included in the field authorizations issued, with one exception. It appeared that very little work was needed at -16630, which did not agree with notes & recommendations from the RAT the night before, so I did not write a field authorization.

I observed a murre off N. Evans and a humpback whale between the Bay of Isles & Marsha Bay.

Additional time was spent ferrying the RAT foreman & O'Brien back to Bay of Isles and flying "environmental surveys" for Exxon, so did not return to Valdez until 1800.

Marilyn Sigmund

7/5/89

Leave Valdez @ 7:45 a.m. w/ Charlotte Craig, Jim O'Brien, Exxon, & Ken Critchlow, Woodward-Clyde

Low overcast

Green Island, Stream #227-20-17780: This

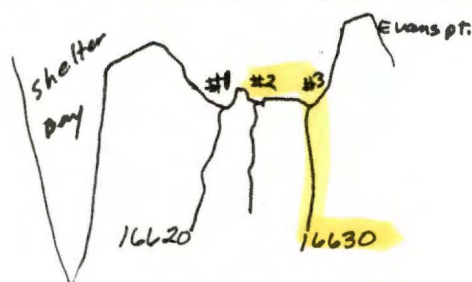
stream was also at low flow and subsurface at the mouth. We developed a workplan to remove oiled sediments adjacent to the channel and use

7/3/89
Marilyn
Sigmund

6/13/85. Flight to Evans and Lataouche Is. via North
west Bay and Bay of Isles. Mark Sutton (CAC)
and Lewis Sharman (DEC) along. Dropped
Lewis off at the Ocean Ranger in Bay of Isles
and picked up Aimee Weseman.
Northwest Bay still has uncontained oil
and oil escaping booms from cleaning
operations.

EVANS IS. - flew into Shelter Bay on
North Evans. Oiled fucus mat floating
in the center of the Bay. Landed at the
head of the bay alongside the pink salmon
stream. @ 1335 hrs. Did not see any evidence
of oiling along or in the stream. It was
nice to walk on an unoiled shoreline. Mark
found some small ~~and~~ patches of mousse in a
band 2-5 m wide along the shore east of the
stream. This bay is Chenega Bay village lands.

Left Shelter Bay @ 1400 hrs and headed east
to the next designated pink stream,
226-40-16620, about $\frac{1}{2}$ mi east of Shelter Bay
and landed at this site.



Stream #1. - scattered tarballs, thin scattered
film of tar and mousse east of the stream.
A layer of black, still fluid layer of oil
is present if you turn over rocks. Mousse
band along the stream extends down several
cm into the gravels. Mats of tarry fucus
and oiled sand/small rock on the east bank
of the stream. Patties of tar/fucus are
present along the stream bank down to

in stream surface. Several lines of oiled fucus are present near the tide e.

Stream #2. did a shoreline transect here on the east bank of the stream. Wide band of ^{mod-heavy} oil, ~~was~~ from high to low tide starting about 150m W of the stream. 5m band of thin mousse about mid tidal adjacent to the stream. Adjacent to the stream is a 2-5m wide band of fine rock at the high tide line that is heavily oiled. Oiled patchy fucus present in the mid intertidal. We estimated the depth of oil penetration to be $\pm$ 5m along the transect except near the high tide line in the drift of fine ~~for~~ rock where it was much deeper. Of the 3 streams we looked at in this group, this is the most heavily oiled.

6-13-81

Stream #3. has a band of oil at the midintertidal zone about 5m. wide. Patches of lightly oiled fucus were present but still appeared alive.

Exxon (Dames and Moore has a study site marker site #65 between stream #2 and #3

departed Evans Is to Latouche. flew down the east side of Evans Is. Johnson Cove just N of Sawmill Bay and then crossed the channel to Latouche. Evans Is stream #4 (#16640) didn't appear to have much oil nearby (low & slow hover). The two streams between Evans Pt and Johnson Cove (#16650 and #16652) also appeared free of oil (low flyby at cruise speed).

(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 6/17/89

SHORELINE SEGMENT EV-17

LOCATION: (see enclosed map) EVANS ISLAND-WEST OF EVANS POINT

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/14/89

Recommended Cleanup Activity(ies):

- Manually remove contaminated drift material (fucus).
Flood/flush with warm to hot water (up to 140 F) on low angle beaches.

Use moderate to high pressure ^{warm to hot} washing on rock and oiled logs.
Use other approved methods as appropriate.

Do not use high pressure in the stream channels.

Priorities/Considerations:

- Class 2-3: heavy to moderate oil/time sensitive.
- Class A: subsistence resources present.

Ecological Constraints (from site survey): Cataloged anadromous streams are present on beach 1 (#16620) and beach 5 (#16630). Advise ADF&G and RAT 48 hours in advance of cleanup activities on these beaches. Beach 4 contains an Exxon study site, treat unless otherwise advised by Coast Guard. Work at midtide + or take appropriate measures to protect lower intertidal zone.

Protect stream from shear

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: June 20, 1989

ISCC: _____

Date: _____

EXXON: _____

Date: _____

FOSC: _____

Date: _____

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

ACE 7237940

SHORELINE OIL EVALUATION

Date: 6/14/89 Time: 07:00

Observer: RICK GILLIE

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/F

LOCATION

LOCATION EVANS ISLAND SEGMENT NUMBER EV-17

LENGTH OF SHORELINE SEGMENT: 850 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: B10 / c40 / p40 / G10 / s__ / M__ / R__ Logs

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

OIL

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

Area of Beach Impact: SU / SP H M L

Continuous: Y/N % of Segment 80 Width of Band: 30 m

Sporadic: Y/N % of Segment _____

Est. Oil Thickness where > 1cm: _____ cm Est. Oil Penetration: 10 cm

Pooled Oil: _____ % "Free" Oil: _____ % Coated: H50 / M30 / L20

Fresh 80 % Mousse 10 % Tar Formation: 10 %

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

Comments:

- Moderate to Heavy oiled beaches around three streams

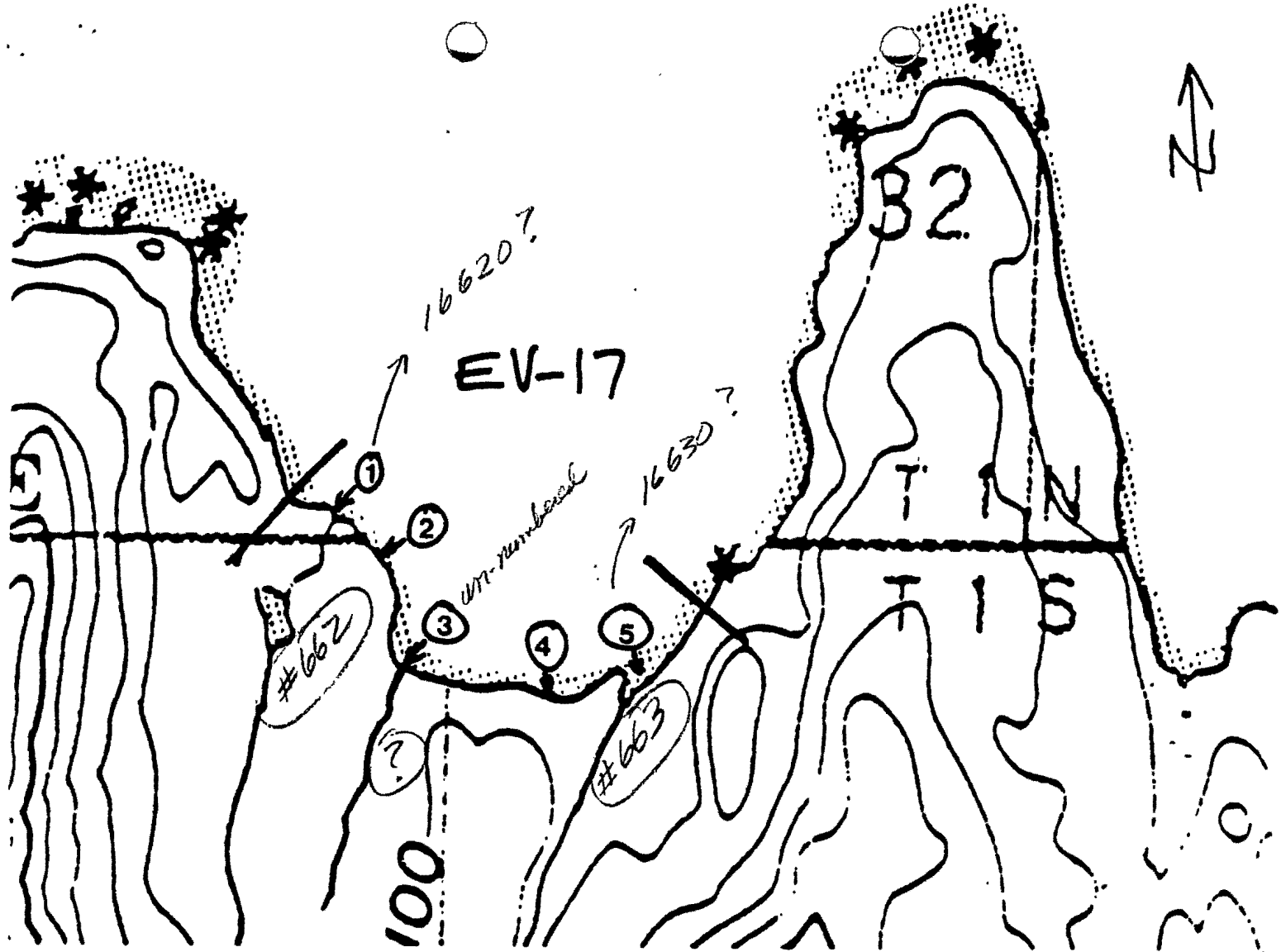
- 1

Map Aerial photo marking segment boundaries EV-17, Attached Map

VTR: Y/N Tape Number(s) _____

Photography: Y/N Roll Number(s) T4G-1

Sample Numbers Collected: N/A



1) Moderately oiled band (20-30m wide) of cobble/pebble substrate at mid to high tide zone.

2) Lightly oiled boulders

3) HEAVILY OILED stream mouth / beach. Oil band 50m wide. Thick (30cm) accumulations of oiled debris and gravel at high tide

4) Moderately oiled cobble/pebble shoreline.
N.B. - EXXON STUDY SITE Sign.

5) Heavy oil in 50m wide band on cobble/pebble substrate at stream mouth. Penetration to 10cm Low angle beach.

ECOLOGICAL EVALUATION

LOCATION: Evans Island SITE: _____ OBSERVER: MEYER

LOCATION PREFIX: EV SEG. NO.: 17 LENGTH: 850 (M)

DATE: 06 / 14 / 89 TIME (HHMM): 0700 TIDE HT.: +3 FT (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

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

Fucus beside stream in area ① lush and unoiled.

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

Band of mytilus on flat gravel and lower edge of cobbles in LTZ ③

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

Area ① lots of spot in LTZ; Area ③ little spot, few barnacles.

Littorina

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

Tiny baby Littorina throughout LTZ, particularly ①

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

Limpets in LTZ fucus.

OTHER OBSERVATIONS: ^{USGS} Three streams in segment, two show on map and in ADFG and stream catalogue (Pink Salmon Spawning areas). Stream in ①: water beaded on cobbles right to stream edge.

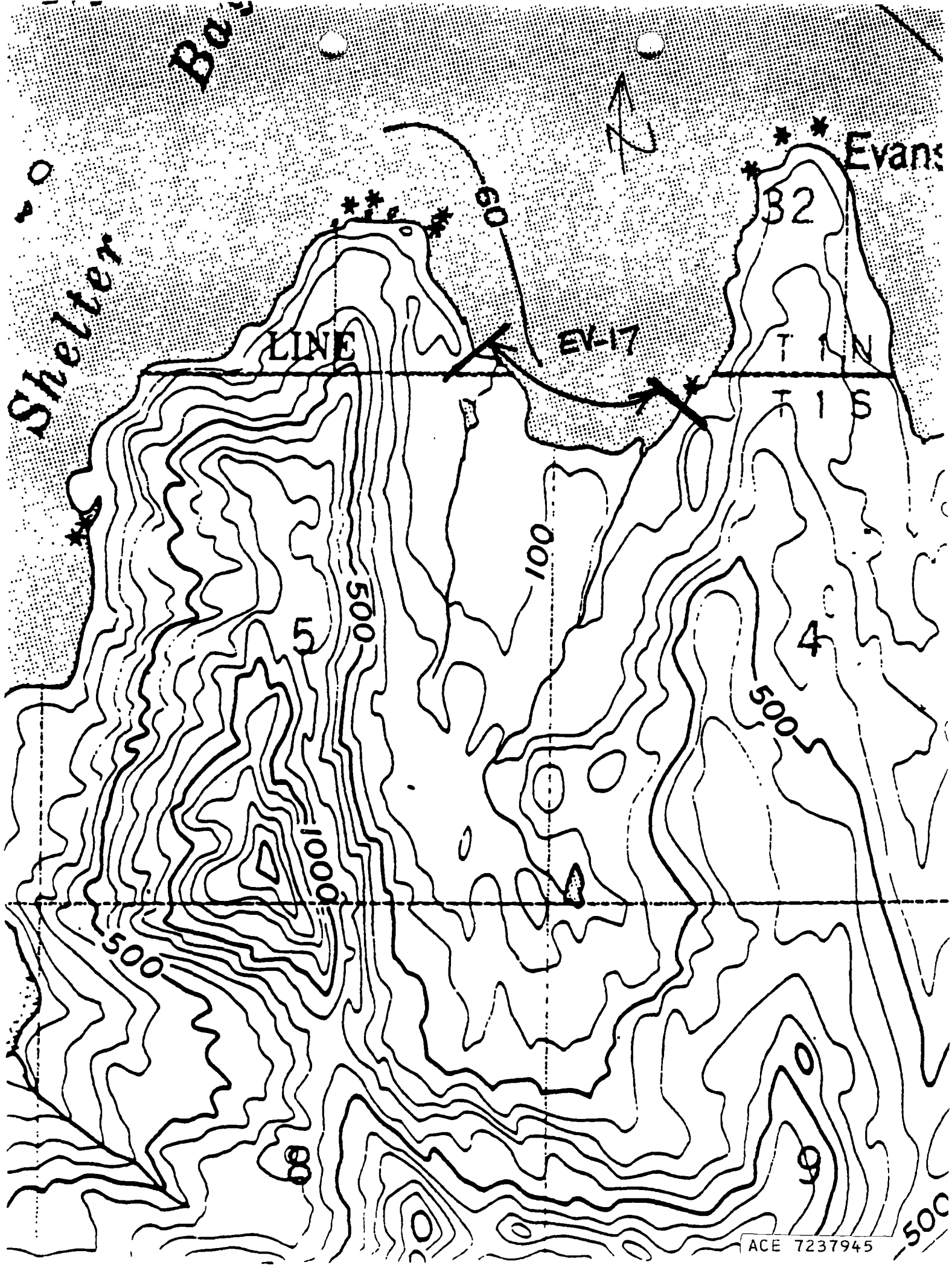
CLEANUP PRECAUTIONS: Advise ADFG and RAT 48 hours prior to beginning any cleanup activities in subareas ①, ③ and ⑤. Exxon study site in area ① must not be disturbed.

Also present: Pisaster, green anemones

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

BIRDS: 3 murrelet sp.

GENERAL OBSERVATIONS: Subsection ④: Dunes! Moore Site #65, NO DISTURBANCE 50 yards on either side of marker.



(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 6/14/89 Location Evans Island Site _____

Location Prefix EV Segment # EV 17 Length 850m

Survey Method:

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

Ground ✓ (G - indicate on map)

Known cultural resources (AHRS #) None Data Source None

Oil conditions/beach visibility moderate to heavy

Width of beach zone surveyed 10-12m Tree fringe surveyed 10m

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 broad, flat beach

Fresh Water Sources three salmon streams

Sea Exposure open to north

Access/Safety good

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 # None Frames _____

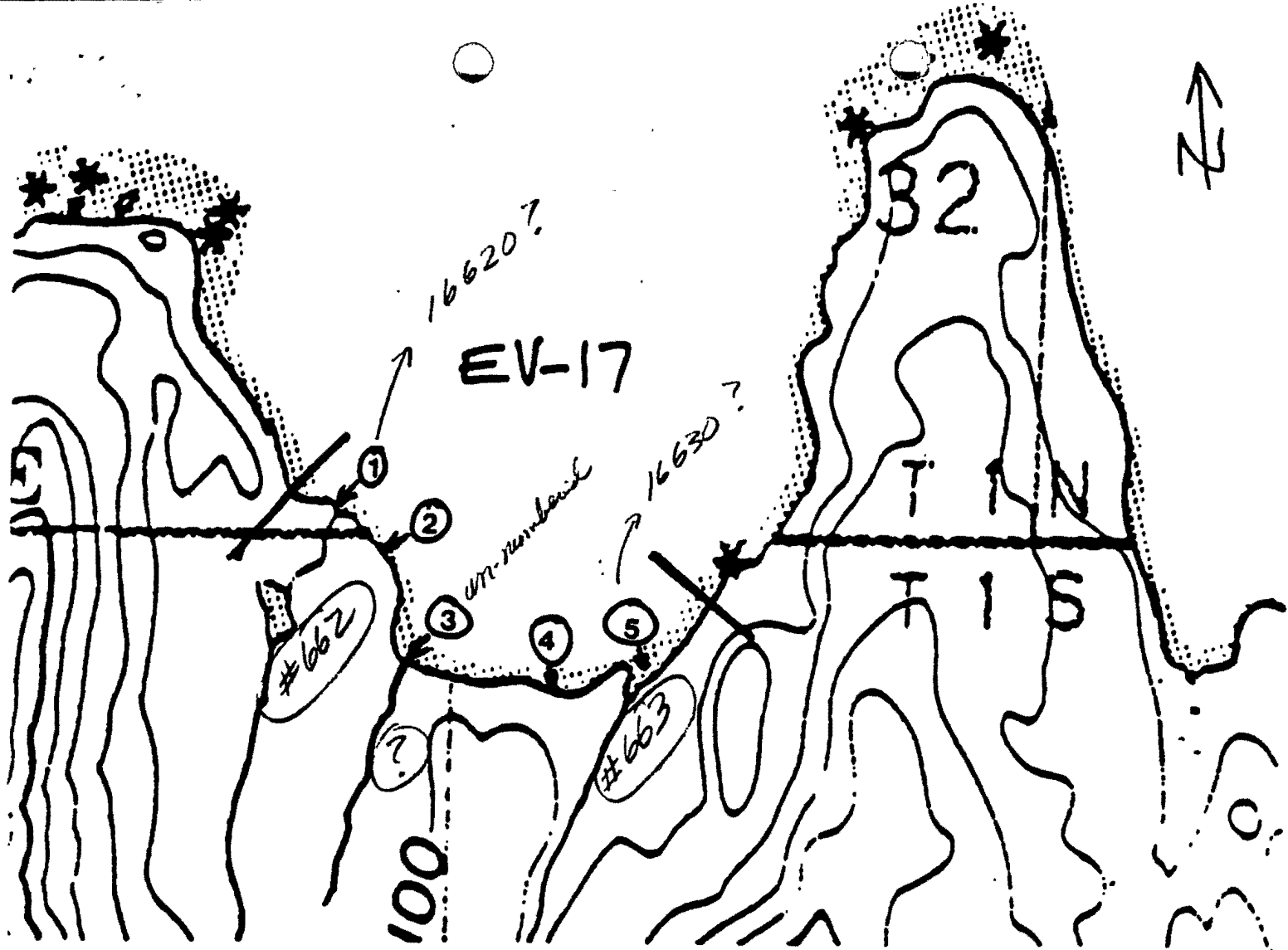
B/W Roll # _____ Frames _____

Observer(s) C. Walker

Time survey started 0705 Time survey ended 0855

Cultural resource considerations/restraints:

I p heretofore undiscovered cultural resources as identified during cleanup notify Evans arch-aeologist, C. Walker, immediately.



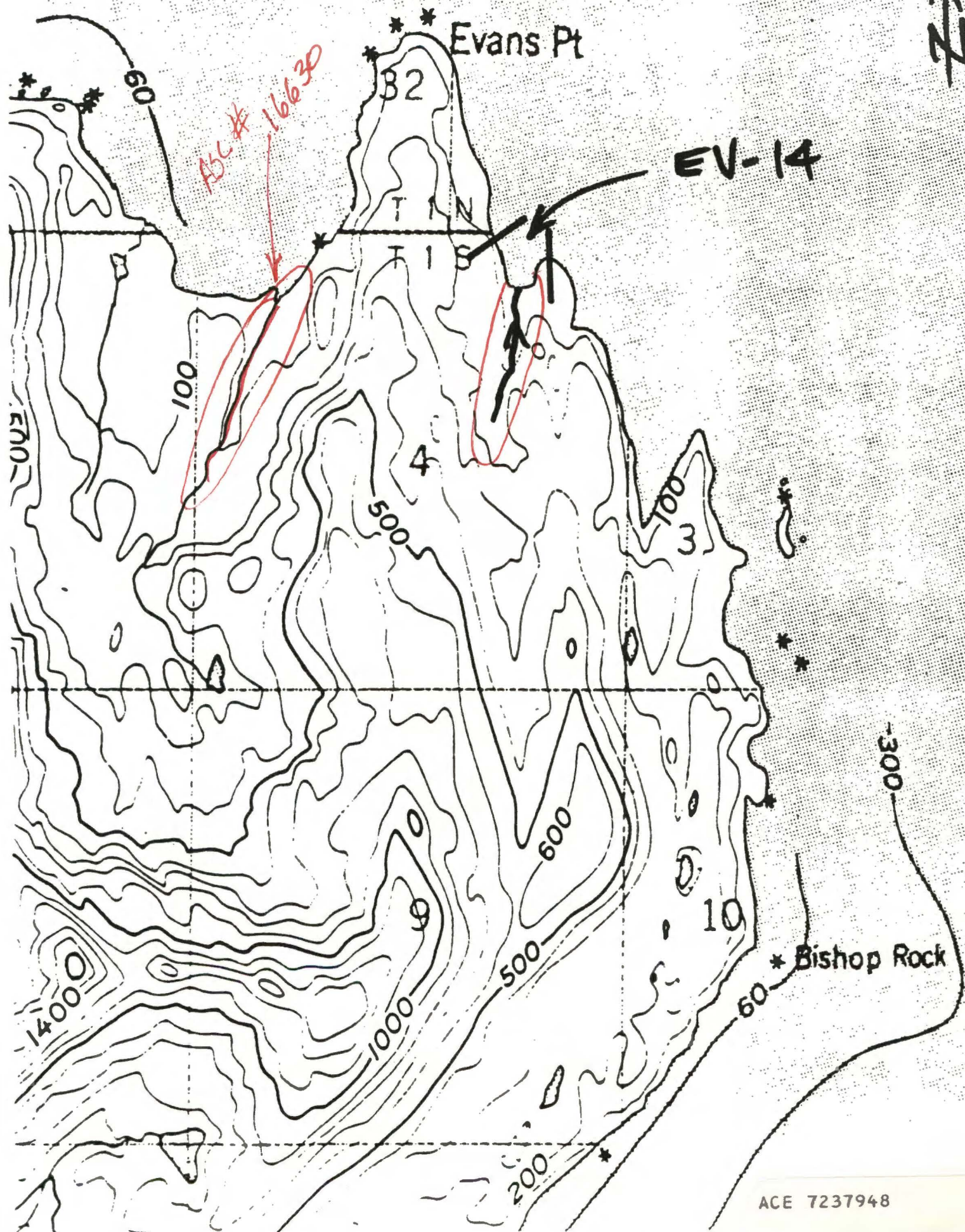
① Moderately oiled band (20-30m wide) of cobble/pebble substrate at mid to high tide zone.

② Lightly oiled boulders

③ HEAVILY OILED stream mouth / beach. Oil band 50m wide. Thick (30cm) accumulations of oiled debris and gravel at high tide

④ Moderately oiled cobble/pebble shoreline.
N.B. - EXXON STUDY SITE Sign.

⑤ Heavy oil in 50m wide band on cobble/pebble substrate at ~~se~~ stream mouth. Penetration to 10cm Low angle beach.



ACE 7237948

PROFILE

57

LOCATION

N. Eads I.

DATE

7/16/87

RECORDERS

CR, LAR

PHOTOGRAPHS

CR 54/8-18

TIME

1035

TIDE STAGE

mid

WEATHER

clear

WIND SPEED

WIND DIRECTION

PROFILE ANGLE

252

WAVE HT.

SAMPLES TAKEN: BIO

CHEM

SED

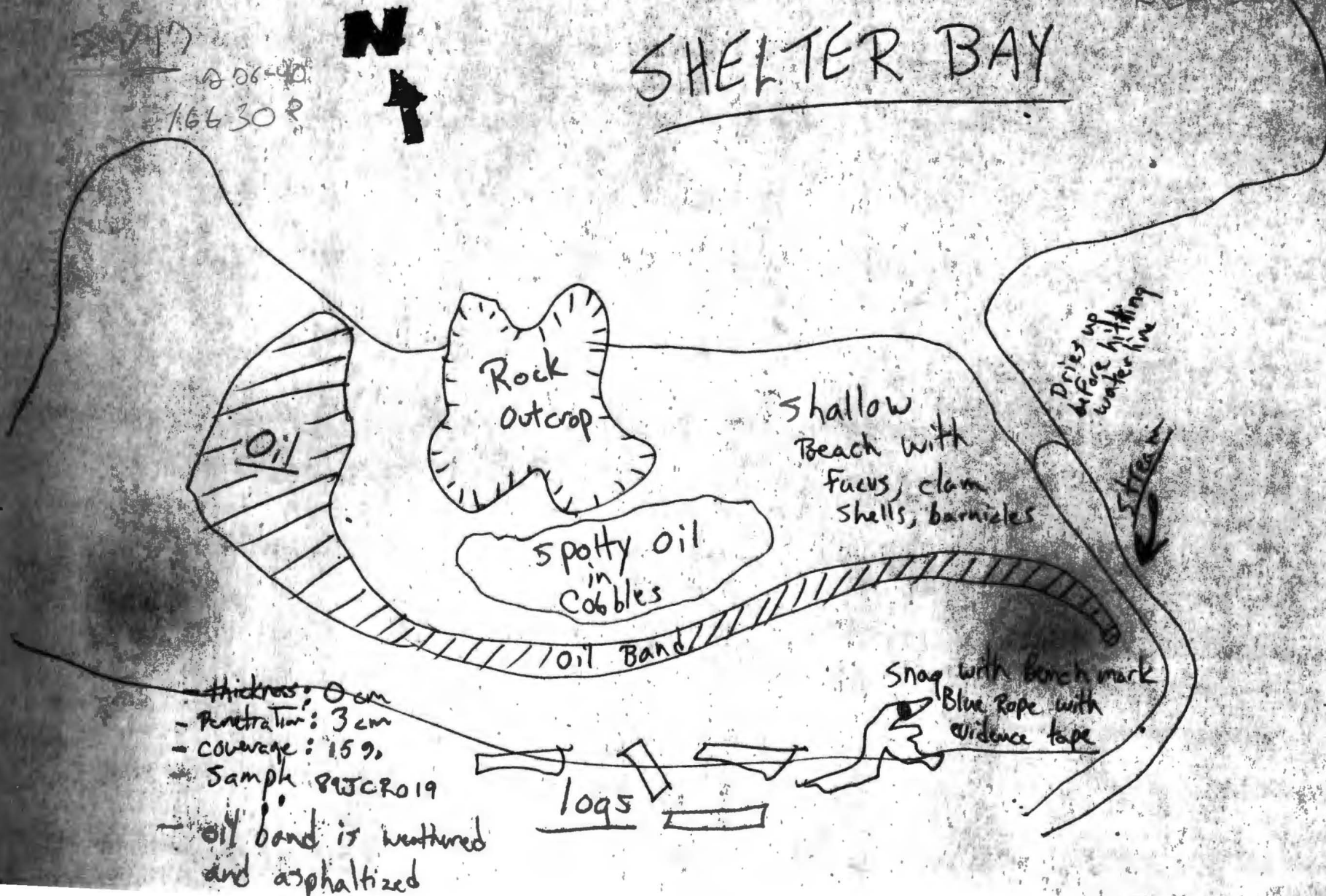
SEDIMENT TYPE

cobble, Gravel

Ground back

DEC. 1987

SHELTER BAY







OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: ANCHORAGE

DATE: 07/03/89

TIME: -0-

SEGMENT#: EV-17

STATION#: -0-

LOCATION: Evans Island

REASON FOR TAKING PHOTO: Looking west toward Shelter Bay from the mouth of cataloged stream (226-40-16630). NOAA research vessels in distance.

TAKEN BY: Robin Willis

INITIALS: Rmw

ROLL #: 89RMW007V FRAME #: 21

EVIDENCE ID#: _

ACE 7237880 - 1/24



OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: ANCHORAGE DATE: 07/03/89 TIME: -0-

SEGMENT#: EV-17
LOCATION: Evans Island

STATION#: -0-

REASON FOR TAKING PHOTO: Cataloged anadromous fish stream
(226-40-16630). Photo taken during minus tide. Stream
is flowing subsurface. Oil appeared at high tide line.

TAKEN BY: Robin Willis

INITIALS: Rmw

ROLL #: 89RMW007V FRAME #: 18

EVIDENCE ID#: _

ACE 7237878



OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: ANCHORAGE

DATE: 07/03/89

TIME: -0-

SEGMENT#: EV-17

STATION#: -0-

LOCATION: Evans Island

REASON FOR TAKING PHOTO: Looking out from cataloged stream
(226-40-16630) toward NOAA research vessel. Photo
illustrates the gradual slope from the stream to the oce

TAKEN BY: Robin Willis

INITIALS: Rm

ROLL #: 89RMW007V FRAME #: 20

EVIDENCE ID#: _

ACE 7237879



OFFICIAL PHOTOGRAPH

ADEC

Date: 13 June 1989 Time: _____

Location (segment #): EVANS IS (EV-17)

#3 stream east of Shelter Bay

Reason for taking photo: anadromous fish

stream #226-40-16630

Taken by: Jack F. Winters

Roll #: 89-JFW-009-V Frame #: 10

ACE 7237877 +/pk4





OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: ANCHORAGE

DATE: 07/08/89

TIME: 1440

SEGMENT#: EV17

STATION#: 226-40

LOCATION: SHELTER BAY, EVANS ISLAND

16630

REASON FOR TAKING PHOTO: SEDIMENT SAMPLE SITE 001.

TAKEN BY: LEE ROGERS

INITIALS: LR

ROLL #: 89LBR003V FRAME #: 05

EVIDENCE ID#: _

ACE 7237874+1RC



OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: ANCHORAGE

DATE: 07/08/89

TIME: 1440

SEGMENT#: EV17

STATION#: 226-40

LOCATION: SHELTER BAY, EVANS ISLAND

16630

REASON FOR TAKING PHOTO: SEDIMENT SAMPLE SITE 001.

TAKEN BY: LEE ROGERS

INITIALS: LR

ROLL #: 89LBR003V FRAME #: 06

EVIDENCE ID#: _

ACE 7237875-1pkt



OFFICIAL PHOTOGRAPH

ADEC

OFFICIAL PHOTOGRAPH ADF&G EXXON VALDEZ OIL SPILL

OFFICE: VALDEZ

DATE: 08/24/89

TIME: -0-

SEGMENT#: EV017

STATION#: 2264016630

LOCATION: EVANS ISLAND

REASON FOR TAKING PHOTO: AERIAL VIEW - LOCATION OF STREAM SEDIMENT
SAMPLE SITE. (MAP 11)

TAKEN BY: RICK GUSTIN

INITIALS: _____

ROLL #: 89RLG004V FRAME #: 31

EVIDENCE ID#: 10251

Roll #: _____ Frame #: _____

ACE 7237876 +/- 1pk+

ADFC Sport/Com Fish Survey - spring 89

ASSESSMENT OF INTERTIDAL SPAWNING AREAS AFFECTED
BY THE PRINCE WILLIAM SOUND OIL SPILL

NAME: EVANS Isl. W. of Evans Pt.

USGS MAP: Seward A-3

MAP #:

DATE: 4-17-89

TIME OF SURVEY: 19:12

LOW TIDE 41.4 TIME 1826

COLLECTORS: SM + DR

ASC # 226-40-16630

NO OIL
SHEEN
MOUSSE
BLACK OIL

OIL TYPES PRESENT (1 2 3 4)

PHOTO #: 8+9 Roll #6 Roll #6

STREAM CATALOG #: 16630

SCALE: ONE GRID EQUALS

seg EV 17 A #3



COLOR CODE: 1) NO OIL - BLANK 2) SHEEN - GREEN 3) MOUSSE - BROWN 4) BLACK OIL - BLACK

COMMENTS:

ACE 7237949

ASSESSMENT OF INTERTIDAL SPAWNING AREAS AFFECTED BY THE PRINCE WILLIAM SOUND OIL SPILL

NAME: EVANS Isl. W. of Evans pt.

USGS MAP: Seward A-3

MAP #:

DATE: 4-17-89

TIME OF SURVEY: 19:12

LOW TIDE +1.4 TIME 1926

COLLECTORS: SM + DR

HEAVY

OIL TYPES PRESENT (1 2 3 4)

PHOTO #: 8+9 Roll # 6 Roll # 6

STREAM CATALOG #: 16630

SCALE: ONE GRID EQUALS EV-17

NO OIL
SHEEN
MOUSSE
BLACK OIL



COLOR CODE: 1) NO OIL - BLANK 2) SHEEN - GREEN 3) MOUSSE - BROWN 4) BLACK OIL - BLACK

COMMENTS:

Post-treatment assessment
ADF&G MULTI-ASSESSMENT DATA FORM

226-40-16630
EVO17A

- 1) SURVEY TYPE: BS SS 2) REGION: PWS KP, CI K, AP
- 3) METHOD: Aerial Ground Boat
- 4) DATE: 7/30/91 16) HIGH TIDE TIME: 0350 22) TEAM RECORDER: A. Weseman
- 5) START TIME: 9:30 17) HIGH TIDE HTS: 11.1ft 23) OBSERVERS: Fink, Kuwada, Middleton
- 6) STOP TIME: 10:20 18) LOW TIDE TIMES: 1013 24) AGENCY: ADF&G
- 7) SEGMENT #: EVO17A 19) LOW TIDE HTS: - .7ft 25) PHOTOS TAKEN: Y N
- 8) K-UNIT: _____ 20) TIDE HT AT SURVEY: -3--7ft ROLL #: _____ FRAMES: _____
- 9) LAT: _____ Ebb Slack Flood Slack 26) VIDEO TAKEN: Y N
- 10) LONG: _____ 21) USCG QUAD: _____ TAPE #: _____
- 11) ASC #: 226-40-16630 START: _____ STOP: _____
- 12) STREAM NAME: _____ 27) SAMPLES TAKEN? Y N
- 13) LOCATION: Shelter Cove, N Evans I SAMPLE I.D. _____
- 14) WAVE EXPOSURE: High Moderate Low _____
- 15) SHORELINE TYPE: Headland Low-lying Rocks Beach _____
- Cove Lagoon Marsh _____

28) EXTENT OF OIL

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1A	2	12		51	?		LSOR/LOR
SITE 2B	9	2		20	2		M/LSOR
SITE 3							
SITE 4							
SITE 5							

- 29) OVERALL OIL IMPACT: 33) ANADROMOUS FISH PRESENT: Y N
- H = >6m band with ≥50% oil coverage
- M = >6m band with ≤50% oil coverage or ≥3m to ≤6m with ≥10% oil coverage
- L = <3m band with >10% oil coverage
- VL = ≤10% oil coverage regardless of band width
- N = No oil observed
- 34) WILDLIFE OBSERVATION
- Species Number
- Bear-Black 2 adults

- 30) OIL IN STREAMBED: Y N
- 31) OIL ON BEACH ADJACENT TO MOUTH: Y N
- 32) SUBSTRATE TYPE (PERCENT):

Bedrock _____ Boulder _____ Gravel ✓ Sand ✓ Cobble ✓ Mud/Silt ✓

- 35) COMMENTS: Sites A & B contain mainly "light" surface & subsurface oil along stream bank which release a silver sheen into the stream when agitated. Small amounts of MSOR are also present in B.
- Area was tilled in '91, could use another manual tilling.

25-30 pink salmon sighted at mouth at low tide

No re-assessment necessary in '92

Survey focused on documented oil, treated in 1991

36) PHOTOLOG

FRAME(S)

DESCRIPTION

▲
 2/ = Sample Taken
 = Photo Frame # and
 Shot Direction

PAGE 1 OF 2

SEGMENT EV017

SUBDIVISION A

Ken Middleton

DATE 7 / 30 / 91

Mark Fink

TIDE LEVEL -1/2 ft. to -1 ft.

ENERGY LEVEL: ☐ H ☒ M ☐ L

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

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

EST. OIL CATEGORY LENGTH: W_____m M_____m N_____m VL_____m NO_____m US_____m

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

SLOPE: V = VERTICAL: H = HIGH ANGLE: M = MEDIUM ANGLE: L = LOW ANGLE

PHOTO ROLL #

FRAMES

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

OG COMMENTS:

LOC A - 12m x 2 along area of L50R on streambank

LOC B 2m x 9m long area of Mth-SOR from stream bank west 9m

Location A was recently tilled & we were unable to determine exact oil lense - area sheened silver into stream when agitated.

25
Pink salmon at mouth.

We filled near stream area & diverted waters thru some of it.

No re-assessment necessary in '90.

No re-assessment necessary in '90. It could use (more) tillage by stream bank
Survey focused on documented oil, treated in 1991

Post-treatment assessment
 EV- 017-A 7/30/91
 226-40-16630
 9:30-10:20 A. Weseman



KNIGHT ISLAND
 PASSAGE

0 25 50
 meters

Location A
 12x2m LSOR
 Broken

B.
 2x9 LSOR
 Patchy

SWASH BARS

T.B.

AWAD
 FISH STREAM

EVANS ISLAND

#	cm	oil	clean	segs	w/t	sheen	zone
PIT	TD		below				
1)	20	LOR	?	SGP	2cm surface	S	MITZ
2)							
3)							
4)							
5)							
6)							
7)							

ADF&G MULTI-ASSESSMENT DATA FORM

- 1) SURVEY TYPE: BS SS 2) REGION: PWS KP, CI K, AP
- 3) METHOD: Aerial Ground Boat
- 4) DATE: 5/2/91 16) HIGH TIDE TIME: _____ 22) TEAM RECORDER: TOM CROWL
- 5) START TIME: 1025 17) HIGH TIDE HTS: _____ 23) OBSERVERS: AMIEE WISEMAN
- 6) STOP TIME: 1225 18) LOW TIDE TIMES: 1000-1035 24) AGENCY: ADF&G
- 7) SEGMENT #: EV 17A 19) LOW TIDE HTS: - .5 25) PHOTOS TAKEN: Y N
- 8) K-UNIT: _____ 20) TIDE HT AT SURVEY: -.3 to +3 ROLL #: _____ FRAMES: _____
- 9) LAT: _____ Ebb Slack Flood Slack 26) VIDEO TAKEN: Y N
- 10) LONG: _____ 21) USCG QUAD: _____ TAPE # _____
- 11) ASC #: TWO STREAMS 226-40-16630 START: _____ STOP: _____
- 12) STREAM NAME: _____ 27) SAMPLES TAKEN? Y N
- 13) LOCATION: OUTER SHELTER BAY EVANS ISLAND SAMPLE I.D. _____
- 14) WAVE EXPOSURE: High Moderate Low _____
- 15) SHORELINE TYPE: Headland Low-lying Rocks Beach _____
- Cove Lagoon Marsh _____

28) EXTENT OF OIL

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	15 m	1 m	15	100	5 cm	20 cm	AP/MOR
SITE 2	50 m	3 m	150	29%	3 cm		AP
SITE 3							
SITE 4							
SITE 5							

29) OVERALL OIL IMPACT:

H = >6m band with ≥50% oil coverage

M = >6m band with ≤50% oil coverage or ≥3m to ≤6m with ≥10% oil coverage

L = <3m band with >10% oil coverage

VL = ≤10% oil coverage regardless of band width

N = No oil observed

33) ANADROMOUS FISH PRESENT: Y N

30) OIL IN STREAMBED: Y N31) OIL ON BEACH ADJACENT TO MOUTH: Y N

32) SUBSTRATE TYPE (PERCENT):

Bedrock _____ Boulder _____ Gravel 30% Sand 30% Cobble 40% Mud/Silt _____

35) COMMENTS: STREAM # 16620 RECOMMEND NO TREATMENT AS STREAM AREA APPEARED OIL FREE. STREAM # 16630 HAD BURIED SOL/MOR ADJACENT TO AND IN STREAM BED. A THOROUGH MANUAL TILLING WOULD BE THE CHOICE AND PROVEN TREATMENT HERE. ALSO SCATTERED AP/SOL TAR PIES SHOULD BE BROKEN UP AND/OR REMOVED FROM THE EAST BANK. THIS AREA DESERVES SPECIAL ATTENTION DUE TO OIL IN STREAM BED

34) WILDLIFE OBSERVATION

Species _____ Number _____

36) PHOTOLOG

FRAME(S)

DESCRIPTION

[illegible]

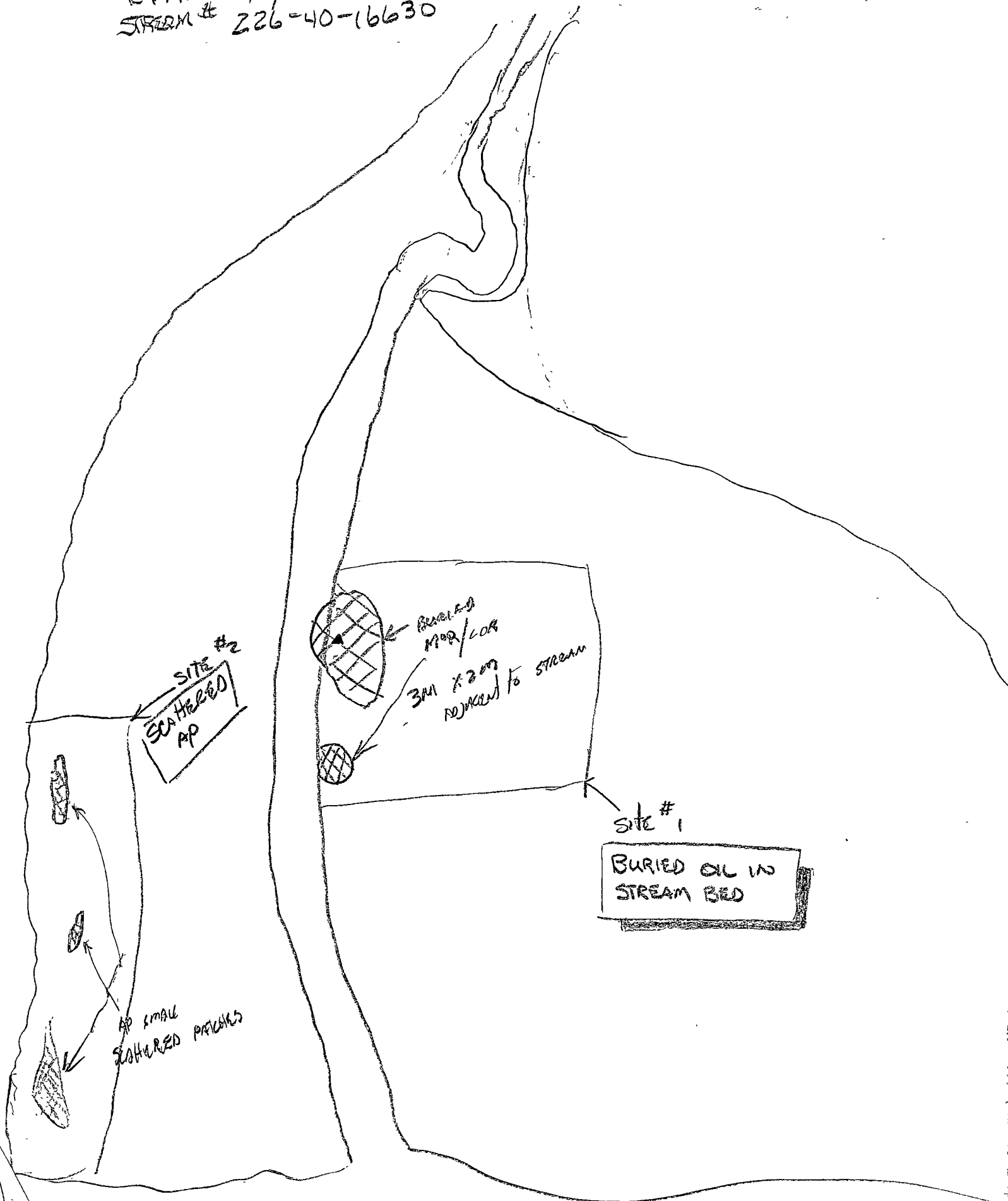
2 ↗

14

Sample Taken
Photo Frame # and
Shot Direction

A:EDDATFO
April 3, 1991

EV 17A 5/2/91
STREAM # 226-40-16630



PAGE 1 OF 1

Most surface oil was found in MITZ to UITZ as AP and SOR deposits. These were picked up and removed, leaving only a light oil residue. Outside of these areas occasional patches were found (locations A, C, E, H), usually in high UITZ/sUTZ. These deposits of surface oil did not extend below 5 cm in depth, thus, no subsurface oil was logged.

EV-017-A 05/02/91
OG. Map D.I. Little
1030 — 1230

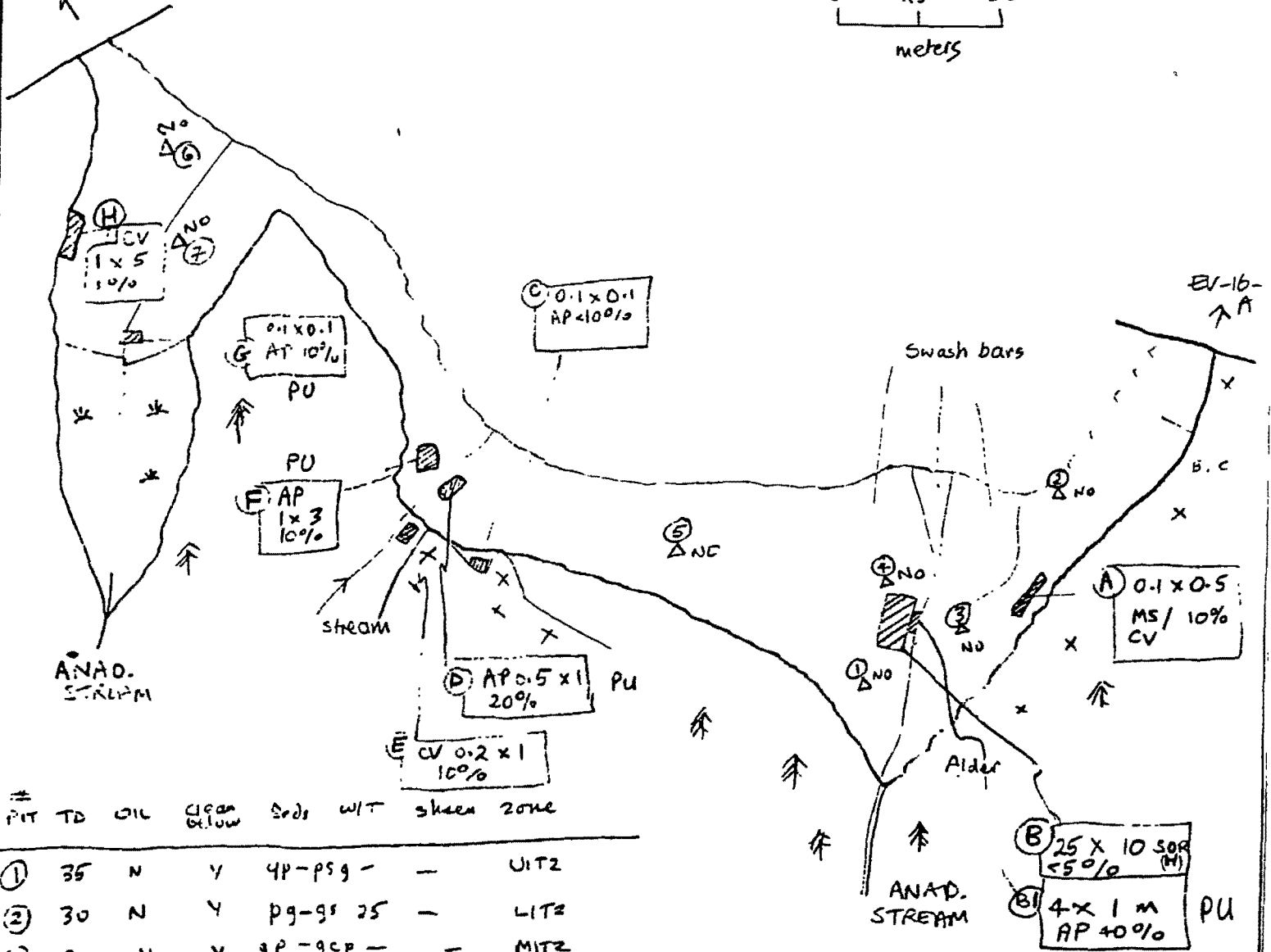


0 25 50
meters

KNIGHT ISLAND PASSAGE

EV-18-A
↑

EV-16-A
↑



≡ PIT TD OIL CIGAR Bedd WIT shcen zone

①	35	N	Y	4P-psg	-	UITZ
②	30	N	Y	pg-gs	25	LITZ
③	20	N	Y	gp-gcp	-	MITZ
④	25	N	Y	rg-gs	-	MITZ
⑤	20	N	Y	cp-gsp	-	MITZ
⑥	20	N	Y	plg-gsp	-	LITZ
⑦	25	N	Y	cb-gsp	-	MITZ

EVANS ISLAND

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6 DATE 5/2/91
 SEGMENT # EU-017 TIDAL HEIGHT (Range) - 3/4 to + 2 1/2 feet
 SUBDIVISION A BIOLOGIST T. A. Schroeder
 SEA STATE 2 foot chop WIND SPEED/DIRECTION N.E. 20 mph +
 PHOTOGRAPHS: ROLL # FRAME #

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

- (A, B & B₁) = Most of beach area is very unproductive. Small sand and gravel provide unstable substrate for algae and other life forms. Two weather buoys and mussel beds are located in the MIT-2 to LIT-2 behind swash berms below oil but do not appear to be affected. Any treatment should be as least intrusive possible to protect these areas.
- (C, D, E, F) = One large area of fucus, wrackage and mussels is thriving below these concentrations of oil. Remainder of beach area is very low in productivity and existing beds.
- (H & G) = Scattered fucus and sporlings present throughout beach but not thick. Very few mussels present.

In general most of this subdivision is very low in productivity due to shifting, unstable beach sand and gravel and the overall exposure to northerly storms. Areas of productivity are behind swash berms and along protective reef or rock outcroppings.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			Jack Runny, sculpin
Seabirds			
Waterfowl	2	3	
Gulls/Kittiwakes	2	4	
Shorebirds	1	3	
Corvids			
Other Birds			

LAND MAMMALS

MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)	1 Harbor Seal		
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

0 25 50
meters



EV-017-A 5/2/91
Bio. Map T.R. Schrock
1030-1230

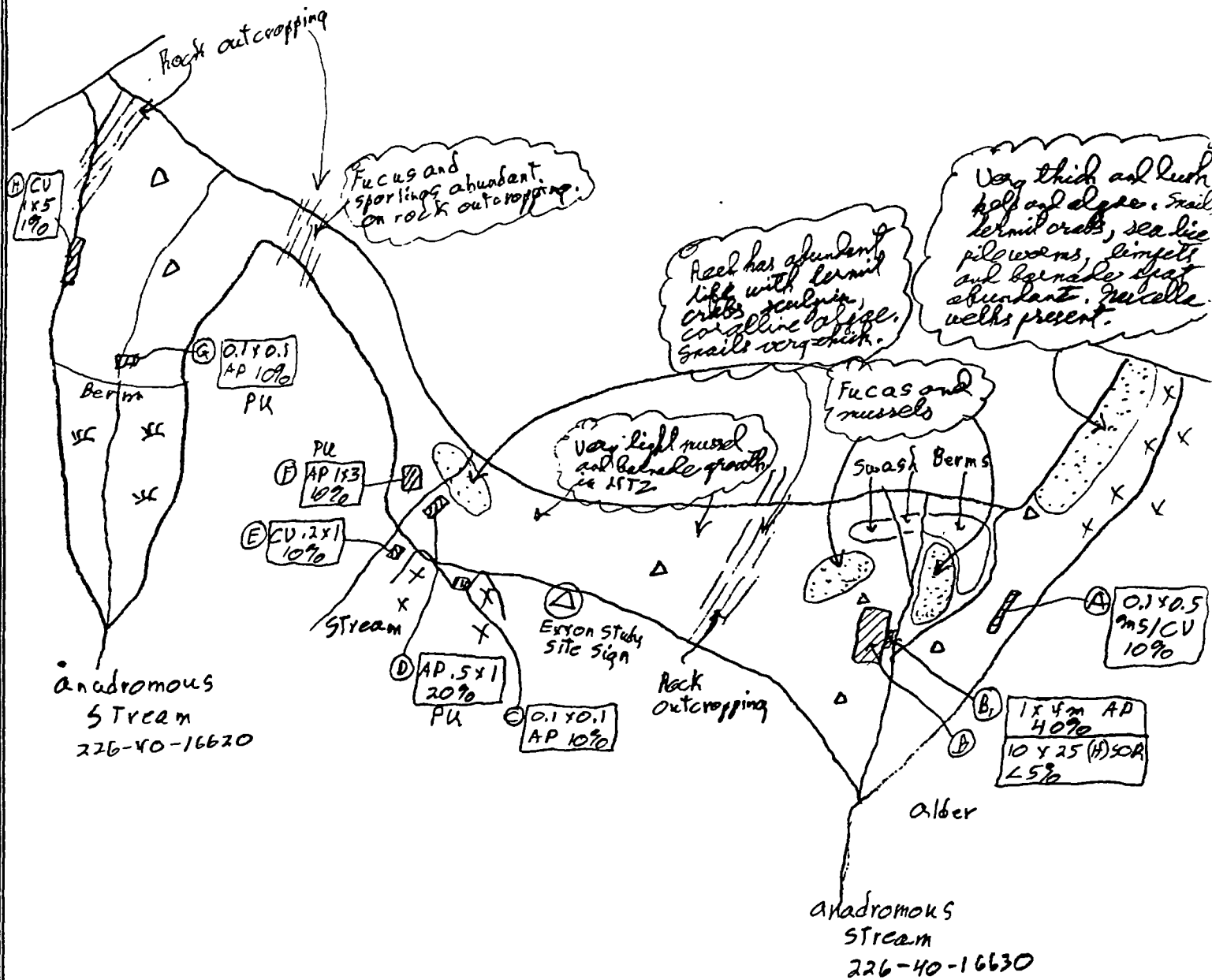
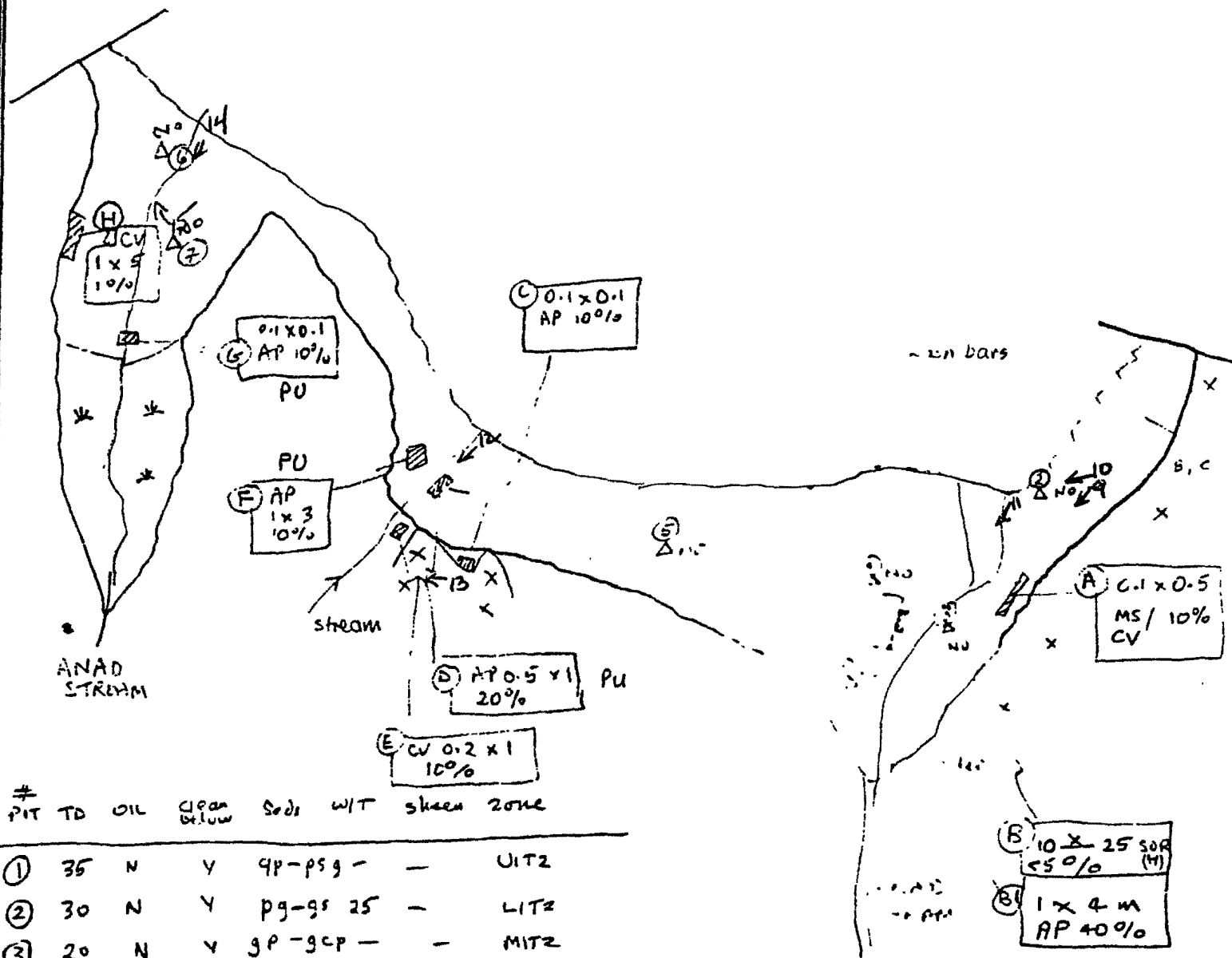


Photo Locations

Mayap 6-05 # 9-15

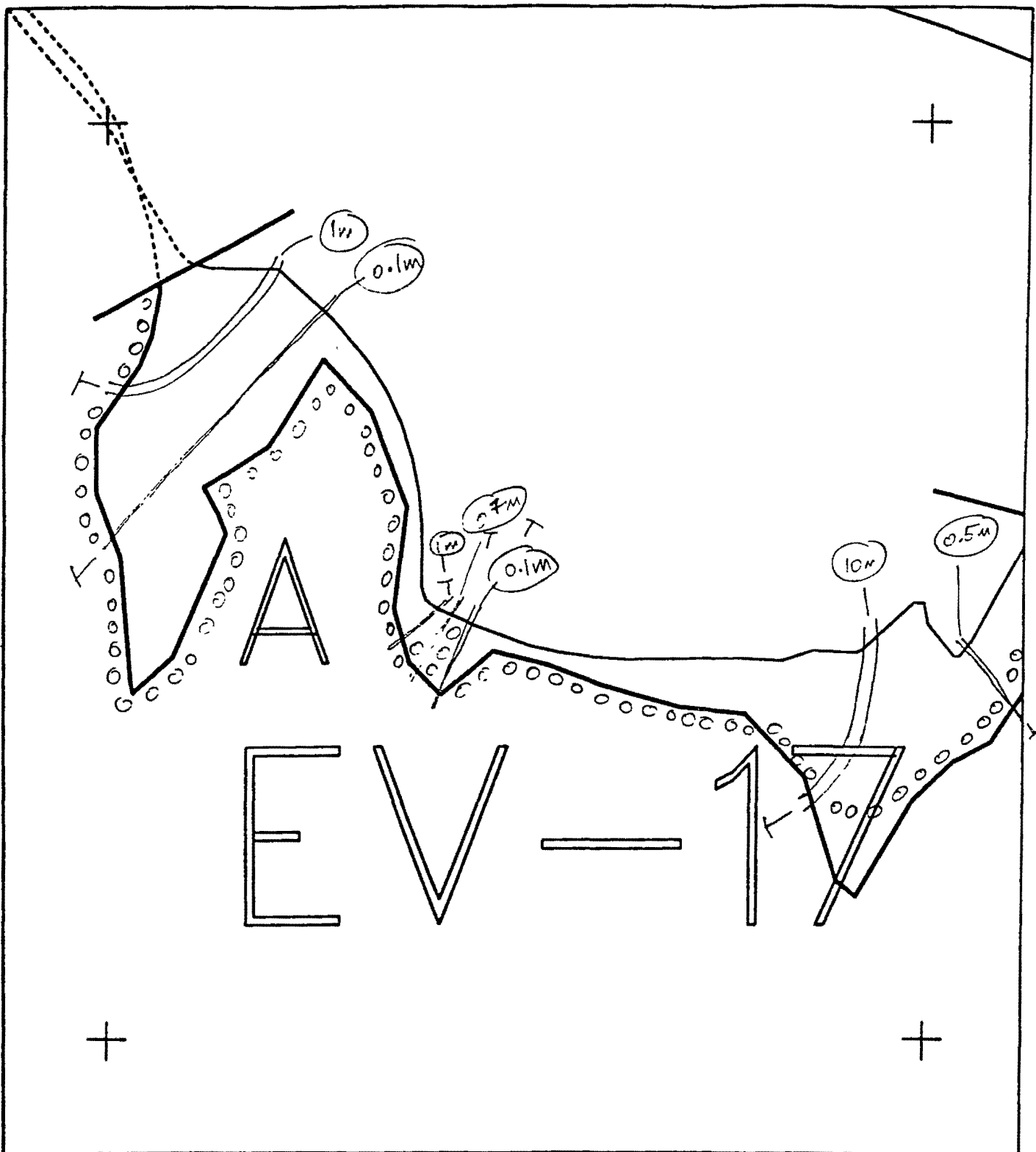


EV-017-A 05/02/91
OG Map D.I. Little
1030 — 1230



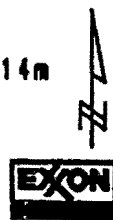
PIT TD OIL CLON Sods WIT shewn zone

#	PIT	TD	OIL	CLON	Sods	WIT	shewn	zone
①	35	N	Y	4P-psg	-	-	UITZ	
②	30	N	Y	pg-gs	25	-	LITZ	
③	20	N	Y	gp-gcp	-	-	MITZ	
④	25	N	Y	rg-gs	-	-	MITZ	
⑤	20	N	Y	cp-gsp	-	-	MITZ	
⑥	20	N	Y	plg-gsp	-	-	LITZ	
⑦	25	N	Y	cp-gsp	-	-	MITZ	
⑧								
⑨								

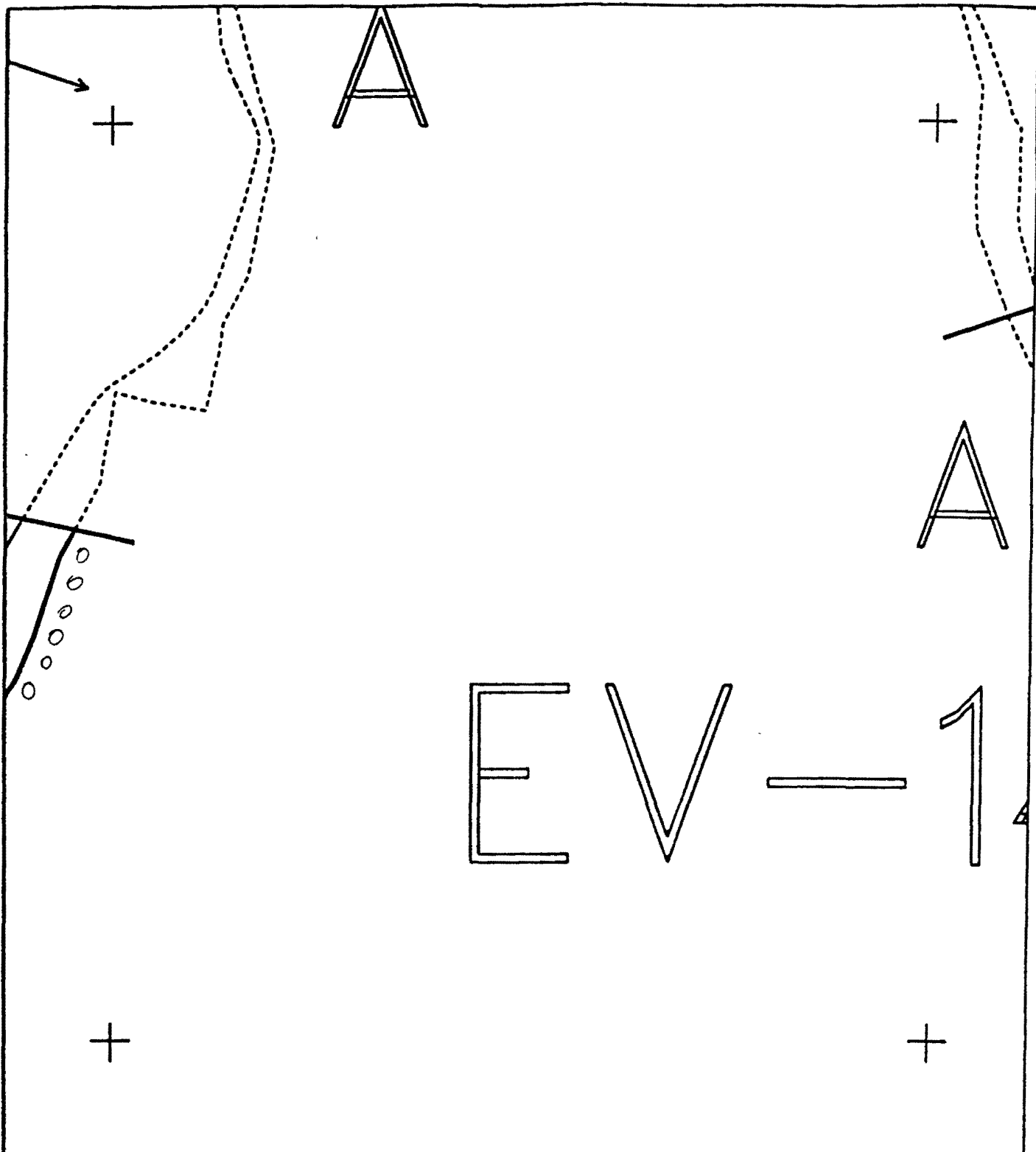


XXXX Wide
 //// Medium
 ---- Narrow
 TTTT Very Light
 0000 No Oil

EV017 A
 ADEC Subsegment Length: 1814m
 METERS
 0 100 200
 AK State Plane Zone 4
 49081700



Subdivision Field Map
 Map Key: PWSEV017Aa
 Name: DAVID LITTLE
 Date: 05/2/91
 Date Entered:



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

EV017 A
ADEC Subsegment Length: 1614m
METERS
0 100 200
AK State Plane Zone 4
psv017ab



Subdivision Field Map
Map Key: PWSEV017Ab
Name: DAVID LITTLE
Date: 05/02/91
Data Entered:

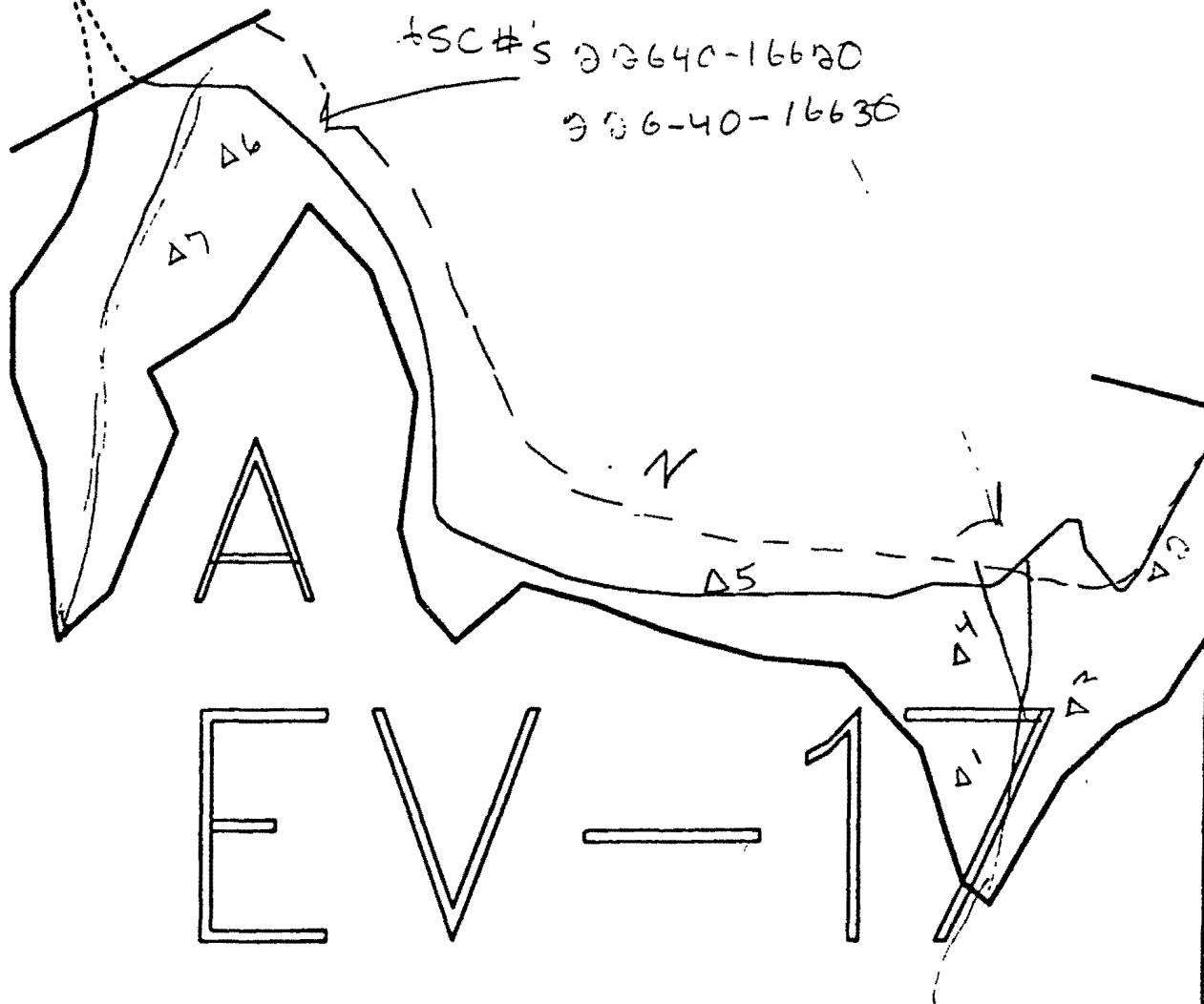
ADEC comments cont...

EV17A - Maysap

subsurface oil

ASC#s 33640-16620

336-40-16635



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

EV017 A

ADEC Subsegment Length: 1814m

METERS

0 100 200

AZ State Plane Zone 4
proj17a



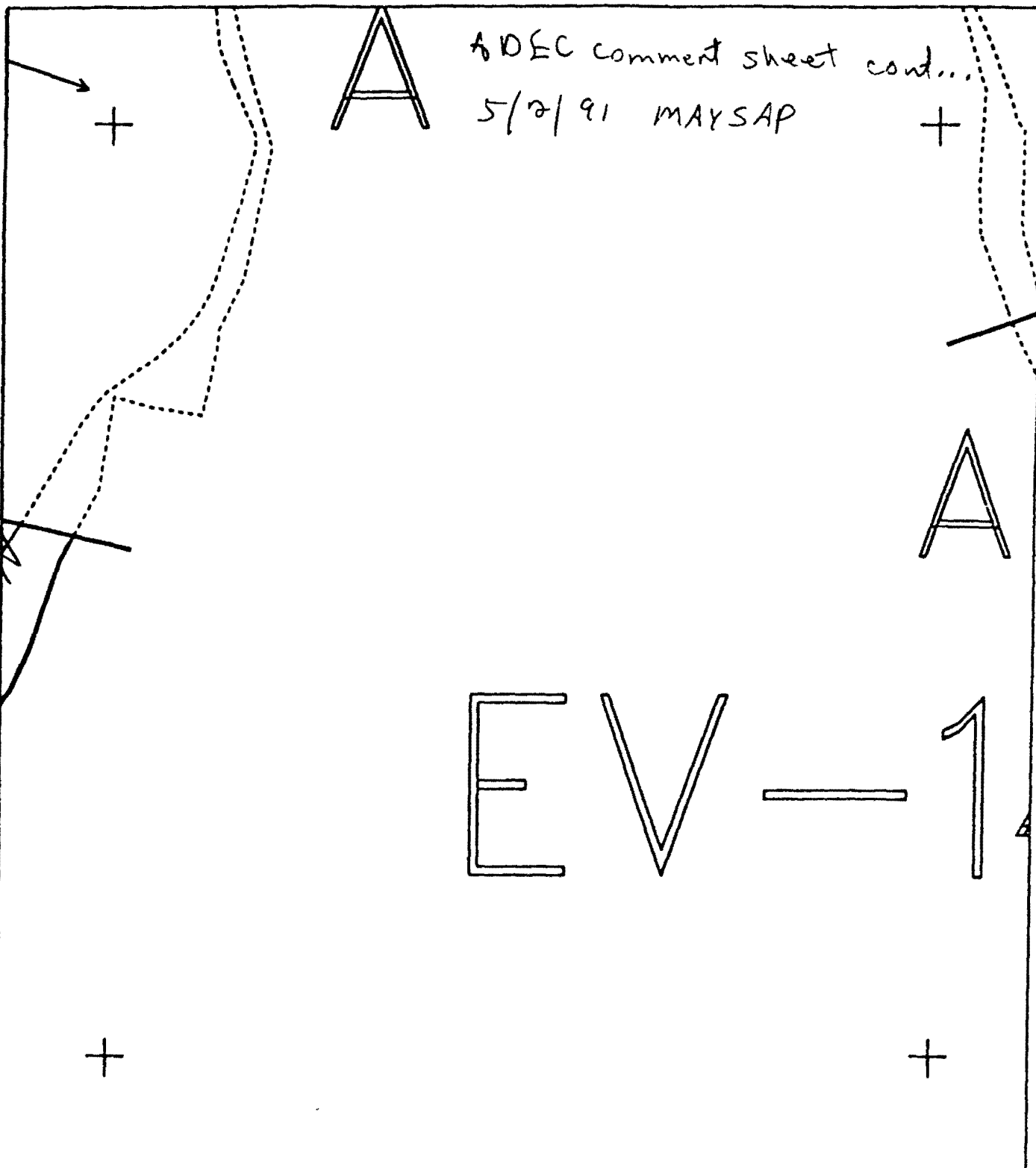
Subdivision Field Map

Map Key: PWSEV017Aa

Name: Aimee Weseman

Date: 5/2/91

Date Entered:



XXXX	Wide	EVO17 A	Subdivision Field Map
////	Medium	ADEC Subsegment Length: 1814m	Map Key: PSSEV017Ab
----	Narrow	METERS	Memo: <u>Ameelesman</u>
TTTT	Very Light	0 100 200	Date: <u>5/2/91</u>
0000	No Oil	AK State Plane Zone 4 psr017ab	Data Entered:

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 6 SEGMENT EV-017-A SUBDIVISION A DATE 05/02/91

ADEC / ADF+G

NAME Aimee Weseman

SIGNATURE Aimee Weseman

☐ NTR ☒ Treatment Recommended Anadromous Fish Stream, Commercial Tourism
Of the 3 streams in this subdivision, only 1 requires further treatment. ASC# 226-40-
16630. An oiled area, sites B & B1 on the west bank of the stream, extends up to the waters
edge & produces a steady sheen into the stream when agitated. A small amount of the oiled
material was removed. The potential oil contamination of developing salmon eggs & fry
exists if this material remains on the bank, or if the stream diverts into the oil patch.
Treatment should consist of the manual removal of the AP/HSOR and a thorough
manual tilling. Surface run-off has not removed oil to date. Little or no adverse impacts
to mid & lower intertidal zones would occur. Stream area would be returned to healthy
state.

EXXON

NAME RANDALL K. BOYER

SIGNATURE Randall K. Boyer

☒ NTR Area of AP - 1x4m - B1 was collected by the VECO crew.
The Area B - SOR - was not of concentrations that would warrant
pick up. The surface was disrupted to allow natural weathering.
The two small areas of AP near the middle stream were collected
along with the .1 meter x .1 meter patch of AP near the west most
stream. No subsurface oiling was detected. Overall, the subdivision
looks healthy with minimal oiling. No further reassessment is necessary.

LANDMANAGER

NAME CHARLES SELANOFF OF CHENEGA BAY

SIGNATURE Charles Selanoff

☐ NTR Oil sheen was seen in the stream with tar balls
approximately sixty feet from both sides. Just walking on it
produced a sheen. Scraping the gravel showed a visible trace of
oil. Did not want to dig any farther for fear of disturbing
the terrain. I strongly recommend this area be worked
over manually and thoroughly tilled.

USCG/NOAA

NAME CWO R. SPURR / Rebecca Hoff

SIGNATURE R. Spurr / Rebecca Hoff

☒ NTR Small patches of asphalt in the upper intertidal were picked up, and
remaining surface oil should weather quickly. Area B on map in the
mid intertidal should also be left to weather naturally. This area has lots
of freshwater runoff which should promote weathering. No physical disturbance
of the sediments should be done in B since bistro in mid & lower intertidal
zones ~~would~~ be adversely impacted.

ADF&G MULTI-ASSESSMENT FORM
1991 GENERAL ENTRY CHECKLIST

STREAM#: 2264016630
SEGMENT: EV017

PAGE 10

DATE PRINTED: 08/26/91

LOCATION: EVANS ISLAND, LITTLE SHELTER BAY

SURVEY TYPE: 91 POST TREATMENT - SS

METHOD: GROUND

DATE: 07/30/91

TEAM RECORDER: WESEMAN

START TIME: 0930
END TIME: 1020 *-3 to -.7*

OBSERVERS: FINK KUWADA MIDDLETON

TIDES: ~~(-3) - (-.7)~~ *slack*
OG/HAB DISCREPANCIES: -

AGENCY: FG

PHOTOS TAKEN: N

STATION: 2264016630

ROLL#: -0-

FRAME: -0-

VIDEO TAKEN: N

TAPE#: -0-

START: -0-

END: -0-

SAMPLES TAKEN: N

SAMPLE NUMBERS: -0-

-0-

-0-

-0-

-0-

-0-

OIL IN STREAM BED: Y

OVERALL OIL IMPACT: -0-

OIL ON BEACH BY MOUTH: Y

WAVE EXPOSURE: MOD

SHORELINE TYPE: BEACH COVE

SUBSTRATE TYPE: BEDROCK -0- BOULDER -0- COBBLE Y VEGETAT -0-

GRAVEL Y SAND Y MUD/SILT Y GRANULE -0-

ANADROMOUS FISH PRESENT: Y

SPECIES: BLACK BEAR - ADULT
PINK SALMON

COUNT:

2
30

-0-
-0-
-0-

-0-
-0-
-0-

ADF&G MULTI-ASSESSMENT FORM
1991 OILING ENTRY CHECKLIST

PAGE 15

DATE PRINTED: 08/26/91

STREAM# : 2264016630
SEGMENT#: EV017

SURVEY TYPE : 91 POST TREATMENT - SS LOCATION: EVANS ISLAND, LITTLE SHELTER BAY
DATE: 07/30/91
TIMES: 0930 - 1020 TEAM RECORDER: WESEMAN

-- OILING EXTENT --

SITE#	SITE TYPE	DEPTH (cm)	LENGTH (m)	WIDTH (m)	AREA (m)	%	THICK (cm)	PEN (cm)	OIL TYPE CODES
A	SURF	-0-	2	12	-0-	51	-0-	-0-	LSOR LOR
B	SURF	-0-	9	2	20	2	-0-	-0-	MOR LSOR

COMMENTS:

SITES A AND B CONTAIN MAINLY "LIGHT" SURFACE AND SUBSURFACE OIL ALONG STREAM BANK WHICH RELEASE A SILVER SHEEN INTO THE STREAM WHEN AGITATED. SMALL AMOUNTS OF MSOR ARE ALSO PRESENT IN B. AREA WAS TILLED IN 1991, COULD USE ANOTHER MANUAL TILLING. 25-30 PINK SALMON SIGHTED AT MOUTH AT LOW TIDE. NO REASSESSMENT NECESSARY IN 1992. *SURVEY FOCUSED ON DOCUMENTED OIL, TREATED IN 1991.

ADF&G MULTI-ASSESSMENT FORM
1991 POST TREATMENT PIT INFO

PAGE 7

DATE PRINTED: 08/26/91

STREAM# : 2264016630
SEGMENT#: EV017

SURVEY TYPE : 91 POST TREATMENT - SS LOCATION: EVANS ISLAND, LITTLE SHELTER BAY
DATE:
TIMES: 0930 - 1020

TEAM RECORDER: -0-

-- PIT DETAILS --

SITE#	SITE TYPE	TOT DP (cm)	OIL DP (cm)	CLEAN BELOW	SHEEN	W/T (cm)	SEDIM CODES	TIDE ZONE	OIL TYPE CODES	PIT-SPECIFIC COMMENTS
A1	PIT	20	-0-	U	S	1	SGP	MITZ	LOR	-0-

DATE: 10/16/91

REGION: PWS

PAGE 6

STREAM#: 2264016620
PURPOSE: CLEANUP

SEGMENT#: EV017 A

LOCATION: EVANS ISLAND, LITTLE SHELTER BAY

STREAM NAME:

DATE	OBSERVER OTHER REPS	WORK ORDER DATE	DEMOBIL. DATE	SURFACE OIL SUBSURFACE OIL	TREATMENTS	AMOUNT REMOVED	REMAINING OIL
06/28/91	MONTESANO (ADEC) EXX BOYER NAUMAN, USCG MCMAHON		06/28/91	AP ST HSOR	MANUAL REMOVAL	3 GEO BAGS	SURFACE: LSOR

COMMENTS:

HELO TEAM WORKING UNDER A STATE WORK ORDER, ADF&G PERMIT ISSUED AS WORK WAS ALONG AND IN THE STREAM. WE WORKED AN 8*3 M AREA ALONG THE STREAM BANK AND ALSO REMOVED A COUPLE OF RANDOM AP PATCHES AWAY FROM THE STREAM. THE REMAINING AP AND HSOR WAS REMOVED AND THE REMAINING OILED SEDIMENTS WERE WORKED VIGOROUSLY WITH RAKES AND SHOVELS IN THE STREAM. A HEAVY COPPER AND SILVER SHEEN, HEAVIER THAN ANTICIPATED, CAME OUT OF THE TILLING AREA. THE RAKING/TILLING CONTINUED UNTIL THE SHEEN THINNED CONSIDERABLY TO SILVER. THE STREAM WAS CHanneled OVER THE OIL AND THE OILED AREA WAS FLOODED TO UTILIZE THE STREAM FLOW. MORE OILED SEDIMENTS COULD HAVE BEEN REMOVED, BUT THIS WAS NOT REALIZED UNTIL THE TILLING WAS WELL UNDERWAY. IDEALLY SNARE LINE SHOULD HAVE BEEN USED - THE SHEENS BACKED UP INTO THE SMALL MOUSSE DEPOSITS BEHIND A FEW COBBLES EN ROUTE DOWN THE STREAM, WHICH MR. NAUMAN KNOCKED FREE. TAG WORK ORDER COMPLETED. NO WORK ORDER MODIFICATION REQUESTED. NOT RECOMMENDED FOR FUTURE REASSESSMENT. FROM 1125 TO 1230. WEATHER CLOUDY TO SUNNY. WAVE EXPOSURE LOW TO MODERATE. MID TO UPPER TIDAL ZONE. SURFACE SEDIMENTS: C 5%, P 35%, G 30%, S 30%. SUBSURFACE SEDIMENTS: P 20%, G 40%, S 40%.

STREAM#: 2264016630
PURPOSE: CLEANUP

SEGMENT#: EV017 A

LOCATION: EVANS ISLAND, LITTLE SHELTER BAY

STREAM NAME:

DATE	OBSERVER OTHER REPS	WORK ORDER DATE	DEMOBIL. DATE	SURFACE OIL SUBSURFACE OIL	TREATMENTS	AMOUNT REMOVED	REMAINING OIL
06/28/91	MONTESANO (ADEC) EXX BOYER NAUMAN, USCG MCMAHON		06/28/91	AP ST HSOR	MANUAL REMOVAL	3 GEO BAGS	SURFACE: LSOR

COMMENTS:

HELO TEAM WORKING UNDER A STATE WORK ORDER, ADF&G PERMIT ISSUED AS WORK WAS ALONG AND IN THE STREAM. WE WORKED AN 8*3 M AREA ALONG THE STREAM BANK AND ALSO REMOVED A COUPLE OF RANDOM AP PATCHES AWAY FROM THE STREAM. THE REMAINING AP AND HSOR WAS REMOVED AND THE REMAINING OILED SEDIMENTS WERE WORKED VIGOROUSLY WITH RAKES AND SHOVELS IN THE STREAM. A HEAVY COPPER AND SILVER SHEEN, HEAVIER THAN ANTICIPATED, CAME OUT OF THE TILLING AREA. THE RAKING/TILLING CONTINUED UNTIL THE SHEEN THINNED CONSIDERABLY TO SILVER. THE STREAM WAS CHanneled OVER THE OIL AND THE OILED AREA WAS FLOODED TO UTILIZE THE STREAM FLOW. MORE OILED SEDIMENTS COULD HAVE BEEN REMOVED, BUT THIS WAS NOT REALIZED UNTIL THE TILLING WAS WELL UNDERWAY. IDEALLY SNARE LINE SHOULD HAVE BEEN USED - THE SHEENS BACKED UP INTO THE SMALL MOUSSE DEPOSITS BEHIND A FEW COBBLES EN ROUTE DOWN THE STREAM, WHICH MR. NAUMAN KNOCKED FREE. TAG WORK ORDER COMPLETED. NO WORK ORDER MODIFICATION REQUESTED. NOT RECOMMENDED FOR FUTURE REASSESSMENT. FROM 1125 TO 1230. WEATHER CLOUDY TO SUNNY. WAVE EXPOSURE LOW TO MODERATE. MID TO UPPER TIDAL ZONE. SURFACE SEDIMENTS: C 5%, P 35%, G 30%, S 30%. SUBSURFACE SEDIMENTS: P 20%, G 40%, S 40%.

check DSA

Should
just be

16630

If looks like #16620
was NTR

Post treatment assessment
ADF&G MULTI-ASSESSMENT DATA FORM

- 1) SURVEY TYPE: BS SS 2) REGION: PWS KP, CI K, AP
- 3) METHOD: Aerial Ground Boat
- 4) DATE: 7/30/91 16) HIGH TIDE TIME: 0350 22) TEAM RECORDER: A. Weseman
- 5) START TIME: 9:30 17) HIGH TIDE HTS: 11.1ft 23) OBSERVERS: Fink, Kuwada, Middleton
- 6) STOP TIME: 10:20 18) LOW TIDE TIMES: 1013 24) AGENCY: ADF&G
- 7) SEGMENT #: EVOIDA 19) LOW TIDE HTS: - .7ft 25) PHOTOS TAKEN: Y N
- 8) K-UNIT: _____ 20) TIDE HT AT SURVEY: -.3--.7ft ROLL #: _____ FRAMES: _____
- 9) LAT: _____ Ebb Slack Flood Slack 26) VIDEO TAKEN: Y N
- 10) LONG: _____ 21) USCG QUAD: _____ TAPE #: _____
- 11) ASC #: 226-40-16630 START: _____ STOP: _____
- 12) STREAM NAME: _____ 27) SAMPLES TAKEN? Y N
- 13) LOCATION: Shelter Cove, N Evans I SAMPLE I.D. _____
- 14) WAVE EXPOSURE: High Moderate Low _____
- 15) SHORELINE TYPE: Headland Low-lying Rocks Beach _____
- Cove Lagoon Marsh _____

28) EXTENT OF OIL

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1A	<u>2</u>	<u>12</u>		<u>51</u>	<u>? -0-</u>		<u>LSOR / LOR</u>
SITE 2B	<u>9</u>	<u>2</u>		<u>20</u>	<u>2</u>		<u>m/LSOR</u>
SITE 3							
SITE 4							
SITE 5							

29) OVERALL OIL IMPACT:

- H = >6m band with $\geq 50\%$ oil coverage
- M = >6m band with $\leq 50\%$ oil coverage or $\geq 3m$ to $\leq 6m$ with $\geq 10\%$ oil coverage
- L = <3m band with $> 10\%$ oil coverage
- VL = $\leq 10\%$ oil coverage regardless of band width
- N = No oil observed

33) ANADROMOUS FISH PRESENT: Y N

34) WILDLIFE OBSERVATION

Species	Number
<u>Bear-Black</u> ^(adult)	<u>2 adult</u>
<u>PINK SALMON</u>	<u>30</u>

30) OIL IN STREAMBED: Y N

31) OIL ON BEACH ADJACENT TO MOUTH: Y N

32) SUBSTRATE TYPE (PERCENT):

Bedrock _____ Boulder _____ Gravel ✓ Sand ✓ Cobble ✓ Mud/Silt ✓

35) COMMENTS: Sites A & B contain mainly "light" surface & subsurface oil along stream bank which release a silver sheen into the stream when agitated. Small amounts of MSOR are also present in A & B.
Area was tilled in '91, could use another manual tilling.

25-30 pink salmon sighted at mouth at low tide
No re-assessment necessary in '92
survey focused on documented d.i., treated in 1991

PAGE 1 OF 12

SEGMENT EV017

SUBDIVISION A

DATE 7, 130, 91

ENERGY LEVEL: ☐ H ☒ M ☐ L

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

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

EST. OIL CATEGORY LENGTH: W_____m M_____m N_____m VL_____m NO_____m US_____m

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

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

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

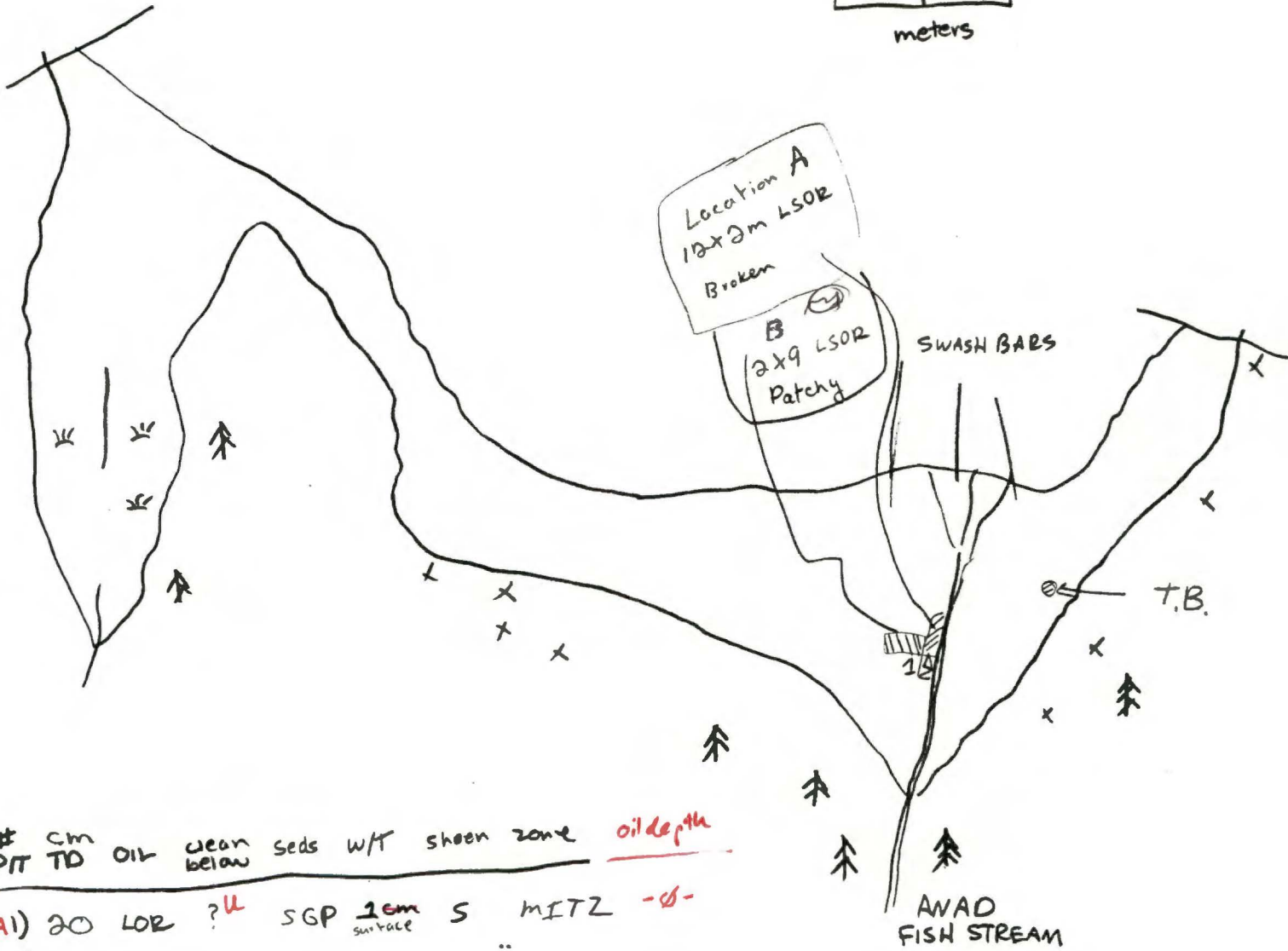
NO re-assessment necessary in '90. It could use (more tillage by stream bank)
Complete forestation documented oil spill treated in 1991

Post-treatment assessment
 EV-017-A 7/30/91
 226-40-16630
 9:30-10:20 A. Weseman



KNIGHT ISLAND
 PASSAGE

0 25 50
 meters



#	cm	Oil	clean	seas	W/T	sheen	zone	oil depth
PIT	TD		below					
A1)	20	LOB	? U	SGP	1cm surface	S	MITZ	-6-
2)								
3)								
4)								
5)								
6)								
7)								

EVANS ISLAND



Date: 5/02/91 No. 868

Title: EV017A





Segment No EVD17 Subdivision A
Date 5/2/91 Log Frame No 15
Photographer Rebecca Hoff
Location _____
Comments Overview of core with
anadromous stream from east side
of stream

Roll No MAYSAP- 605 Neg. No 14
Control No 868 (Office Use Only)



Segment No EVO17 Subdivision A
Date 5/2/91 Log Frame No 13
Photographer Rebecca Hoff
Location _____
Comments Close-up of asphalt patch
on east side of 2nd stream
(picked up) (area D on map)

Roll No MAYSAP- 6-05 Neg. No 12
Control No 868 (Office Use Only)



Segment No EVO17 Subdivision A
Date 5/2/91 Log Frame No 14
Photographer Rebecca Hoff
Location _____
Comments View upstream of 3rd stream
(and stream)

Roll No MAYSAP- 605 Neg. No 13
Control No 868 (Office Use Only)

ADF&G MULTI-ASSESSMENT DATA FORM

- 1) SURVEY TYPE: BS SS 91-MAX AP 2) REGION: PWS KP, CI K, AP
- 3) METHOD: Aerial Ground Boat
- 4) DATE: 5/2/91 16) HIGH TIDE TIME: _____ 22) TEAM RECORDER: Tom Crowe
- 5) START TIME: 1025 17) HIGH TIDE HTS: _____ 23) OBSERVERS: Aimee Williams
- 6) STOP TIME: 1225 18) LOW TIDE TIMES: 1000-1035 24) AGENCY: ADF&G
- 7) SEGMENT #: EV 17A 19) LOW TIDE HTS: -.5 25) PHOTOS TAKEN: Y N
- 8) K-UNIT: _____ 20) TIDE HT AT SURVEY: -.3 to +.3 ROLL #: _____ FRAMES: _____
- 9) LAT: _____ Ebb Slack Flood Slack 26) VIDEO TAKEN: Y N
- 10) LONG: _____ 21) USCG QUAD: _____ TAPE #: _____
- 11) ASC #: TWO STREAMS 226-40-16630 START: _____ STOP: _____
- 12) STREAM NAME: _____ 27) SAMPLES TAKEN? Y N
- 13) LOCATION: OUTER SHELTER BAY EVANS ISLAND SAMPLE I.D. _____
- 14) WAVE EXPOSURE: High H/M Moderate Low _____
- 15) SHORELINE TYPE: Headland Low-lying Rocks Beach _____
- Cove Lagoon Marsh _____

28) EXTENT OF OIL

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	15 m	1 m	15	100	5 cm	20 cm	AP/MOR
SITE 2	50 m	3 m	150	29%	3 cm		AP
SITE 3							
SITE 4							
SITE 5							

29) OVERALL OIL IMPACT:

- H = >6m band with ≥50% oil coverage
- M = >6m band with <50% oil coverage or ≥3m to <6m with ≥10% oil coverage
- L = <3m band with >10% oil coverage
- VL = ≤10% oil coverage regardless of band width
- N = No oil observed

33) ANADROMOUS FISH PRESENT: Y N

34) WILDLIFE OBSERVATION

Species Number

30) OIL IN STREAMBED: Y N

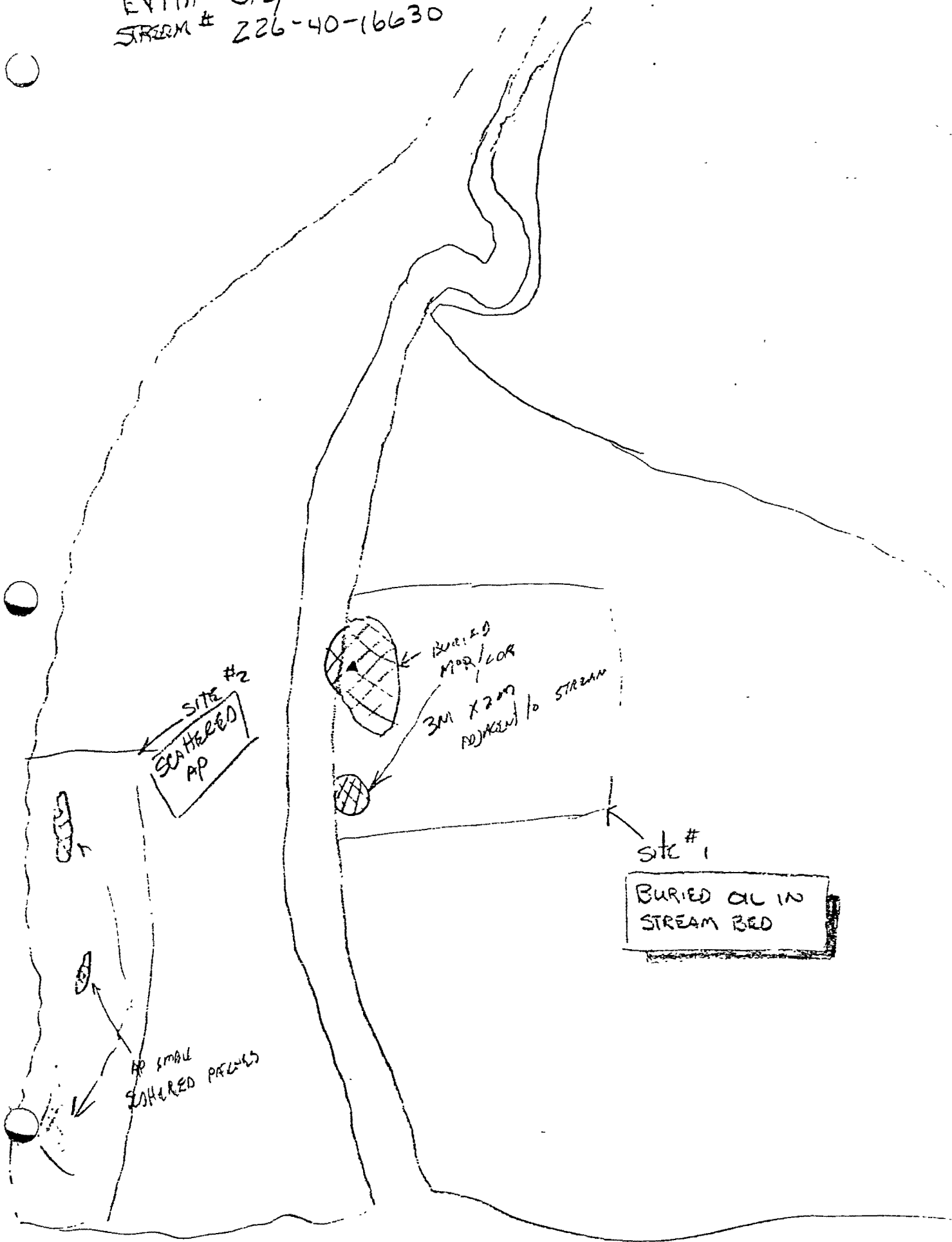
31) OIL ON BEACH ADJACENT TO MOUTH: Y N

32) SUBSTRATE TYPE (PERCENT):

Bedrock _____ Boulder _____ Gravel 30% Sand 30% Cobble 40% Mud/Silt _____

35) COMMENTS: STREAM # 16620 RECOMMEND NO TREATMENT AS STREAM AREA APPEARED OIL FREE. STREAM # 16630 HAD BURIED SOL/MOR ADJACENT TO AND IN STREAM BED. A THOROUGH MANUAL TILLING WOULD BE THE CHOICE AND PROVEN TREATMENT HERE. ALSO SOLIDIFIED AP/SOL TAR PILES SHOULD BE SPOOKED UP AND/OR REMOVED FROM THE EAST BANK. THIS AREA DESERVES SPECIAL ATTENTION DUE TO OIL IN STREAM BED

EVITA 5/2/91
STREAM # 226-40-16630



entered 7/9/91
26.40 16620 AND
16630 (2 forms)

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

LOCATION Evans IS. SEGMENT EV17 SUBSEG A
DATE 6-28-91 TIME: Begin 1125 End 1230 SITE B+B1
WEATHER: cloudy Rain Fog Snow Sunny Other _____
MONITOR(S) Peter Montesano
ENVIRONMENTAL CONSTRAINTS Anad stream #5 226-40-16620
226-40-16630

DESCRIPTION OF TREATMENT SITE:

SHORE COMPOSITION
Surface sediments: R _____ % B _____ % C 5 % P 35 % G 30 % S 30 %

Subsurface sdmnts: R _____ % B _____ % C _____ % P 20 % G 40 % S 40 %

Wave Exposure: Low Moderate High

OIL CHARACTERISTICS Before Treatment

Surface: Mousse Tarball/Patty Pavement Cover Coat Stain H/SOR

Subsurface: OP HOR MOR LOR OF Depth: _____ Thickness: _____

Across Tidal Zone: Low Mid Upper Supra

TREATMENT PERFORMED:

MANUAL REMOVAL Type: MS TB AP SOR OP OR OF

MANUAL RAKING MECHANICAL TILLING - WITH/WITHOUT TIDAL FLUSH

BERM RELOCATION BIOREMEDIATION granular _____ lbs Inipol _____ gal

OTHER _____

EQUIPMENT USED Shovels + Rakes

WORKERS ON SITE: # ORTS 1 OTHER _____

OTHER REPRESENTATIVES: EXXON Boyer + Naumen

USCG M. Mahon

OTHER _____

METHOD TO CONTAIN/COLLECT OIL _____

NUMBER OF BAGS COLLECTED: Oiled Sediments 3 Geo bags Oiled Debris _____
Oiled Vegetation _____ Unoiled Debris _____ Oiled Logs Present _____

SEGMENT EV17A MONITOR Montesano DATE 6-28-91

PHOTOGRAPHS: Roll # _____ Frames _____ Reason _____

VIDEO: TAPE # _____ Reason _____

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

Helo team working under a state work order, APF+G permit issued as work was done along and in the stream. We work an 8x3 m area along the stream bank and also removed a couple of Random AP patches away from the stream. The remaining AP+HSOR was removed and the remaining oiled sediments were worked vigorously w/ Rakes + shovels in the stream. a heavy copper + silver sheen, heavier than anticipated, came out of the tilling area. The Raking/Tilling continued until the sheen thinned considerably to silver. The stream was channeled over the oil and the oiled area was flooded to utilize the stream flow. More oiled sediments could have been removed, but this was not realized until the tilling was well underway. Ideally Swathline.

OIL CHARACTERISTICS After Treatment

Surface: Mousse Tarball/Patty Pavement Cover Coat Stain 250R

Subsurface: OP HOR MOR LOR OF Depth: _____ Thickness: _____

TAG WORK ORDER COMPLETED? NO ☒ YES COMMENTS _____

WORK ORDER MODIFICATION REQUESTED? ☒ NO ☐ YES DATE _____

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

SIGNATURE _____

Should have been used - the sheen's backed up into small mousse deposits behind a few cobbles en route down the stream, which Mr. Nauman knocked free.

EXXON Valdez Oilspill Cleanup

Anadromous Fish Stream Authorization

Date June 28 1991

EXXON Authorized Representative Scott Nauman

Shoreline Segment EU017A

Anadromous Fish Stream Number(s) 226-40-16620

226-40-16630

Approved Cleanup Techniques Manual removal and filling
of oiled sediments

Approved Cleanup Period May 10 to July 10, 1991

Alaska Department of Fish and Game

M. and Fred
Authorized Officer

[Signature]
Representative's Signature

EXXON Valdez Oilspill Cleanup

Anadromous Fish Stream Authorization

Date June 28 1991

EXXON Authorized Representative Scott Nauman

Shoreline Segment EV017A

Anadromous Fish Stream Number(s) 226-40-16620

226-40-16630

Approved Cleanup Techniques Manual removal and filling
of oiled sediments

Approved Cleanup Period May 10 to July 10, 1991

Alaska Department of Fish and Game

13th Feb
Authorized Officer

[Signature]
Permittee's Signature

EXXON Valdez Oilspill Cleanup

Anadromous Fish Stream Authorization

Date

June 11, 1991

EXXON Authorized Representative

Scott Anderson

Shoreline Segment

FOOTPA

Anadromous Fish Stream Number(s)

016-7021162

016-7021163

Approved Cleanup Techniques

Hand-dredging and filling

Approved Cleanup Period

August 1, 1991 to August 31, 1991

Alaska Department of Fish and Game

Authorized Officer

Permittee's Signature

1991 MAYSAP EVALUATION

SEGMENT: EV 017 **SUB:** A **REGION:** PWS **SURVEY DATE:** 5/2/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) OPEN 5/1 - 7/10; RESTRICTED 7/10 - 9/15

Ecological/Constraints (see page two for details) Anadromous stream, Subsistence - Deer harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ **Date:** _____

RECOMMENDATIONS:

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

COMMENTS:

INITIAL: Remove SP/Hezop area B - till the
rest.

TAG: Site to reevaluate.

FOSC: _____

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

ADEC _____ **FOSC** _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.

ADF&G MULTI-ASSESSMENT DATA FORM

- 1) SURVEY TYPE: BS SS 2) REGION: PWS KP, CI K, AP
- 3) METHOD: Aerial Ground Boat
- 4) DATE: 5/2/91 16) HIGH TIDE TIME: _____ 22) TEAM RECORDER: TOM CROWL
- 5) START TIME: 1025 17) HIGH TIDE HTS: _____ 23) OBSERVERS: AIMEE WISEMAN
- 6) STOP TIME: 1225 18) LOW TIDE TIMES: 1000-1035 24) AGENCY: ADF&G
- 7) SEGMENT #: EV 17A 19) LOW TIDE HTS: -.5 25) PHOTOS TAKEN: Y (N)
- 8) K-UNIT: _____ 20) TIDE HT AT SURVEY: -.3 to +3 ROLL #: _____ FRAMES: _____
- 9) LAT: _____ Ebb Slack Flood Slack 26) VIDEO TAKEN: Y (N)
- 10) LONG: _____ 21) USCG QUAD: _____ TAPE # _____
- 11) ASC #: TWO STREAMS 226-40-16630 START: _____ STOP: _____
- 12) STREAM NAME: _____ 27) SAMPLES TAKEN? Y (N)
- 13) LOCATION: OUTER SHELTER BAY EVANS ISLAND SAMPLE I.D. _____
- 14) WAVE EXPOSURE: High / Moderate Low _____
- 15) SHORELINE TYPE: Headland Low-lying Rocks Beach _____
- Cove Lagoon Marsh _____

28) EXTENT OF OIL

	LENGTH m	WIDTH m	M2	%	THICK cm	PEN cm	OIL TYPE
SITE 1	15 m	1 m	15	100	5 cm	20 cm	AP/MOR
SITE 2	50 m	3 m	150	29%	3 cm		AP
SITE 3							
SITE 4							
SITE 5							

29) OVERALL OIL IMPACT:

- H = >6m band with $\geq 50\%$ oil coverage
- (M) = >6m band with $\leq 50\%$ oil coverage or $\geq 3m$ to $\leq 6m$ with $\geq 10\%$ oil coverage
- L = <3m band with >10% oil coverage
- VL = $\leq 10\%$ oil coverage regardless of band width
- N = No oil observed

33) ANADROMOUS FISH PRESENT: Y N

30) OIL IN STREAMBED: (Y) N31) OIL ON BEACH ADJACENT TO MOUTH: (Y) N

32) SUBSTRATE TYPE (PERCENT):

Bedrock _____ Boulder _____ Gravel 30% Sand 30% Cobble 40% Mud/Silt _____

34) WILDLIFE OBSERVATION

Species _____ Number _____

- 35) COMMENTS: STREAM # 16620 RECOMMEND NO TREATMENT AS STREAM AREA APPEARED OIL FREE. STREAM # 16630 HAD BURIED SOL/MOR ADJACENT TO AND IN STREAM BED. A THOROUGH MANUAL TILLING WOULD BE THE CHOICE AND PROVEN TREATMENT HERE. ALSO SCATTERED AP/SOL TAR PILES SHOULD BE BROKEN UP AND/OR REMOVED FROM THE EAST BANK. THIS AREA DESERVES SPECIAL ATTENTION DUE TO OIL IN STREAM BED

4)

5/13/91 discrepancy amounts $\frac{1}{2}$

Review

EVO17A 22640 16620

HAB

Site 1

.5 * .5 m

90%

3 cm penetr.

OG

Site H

1 * .5 m

10%

—

EVO17A 22640 16630

HAB

Site 1

15 * 1 m

100%

20 cm penetr.

OG

Sites B, B1

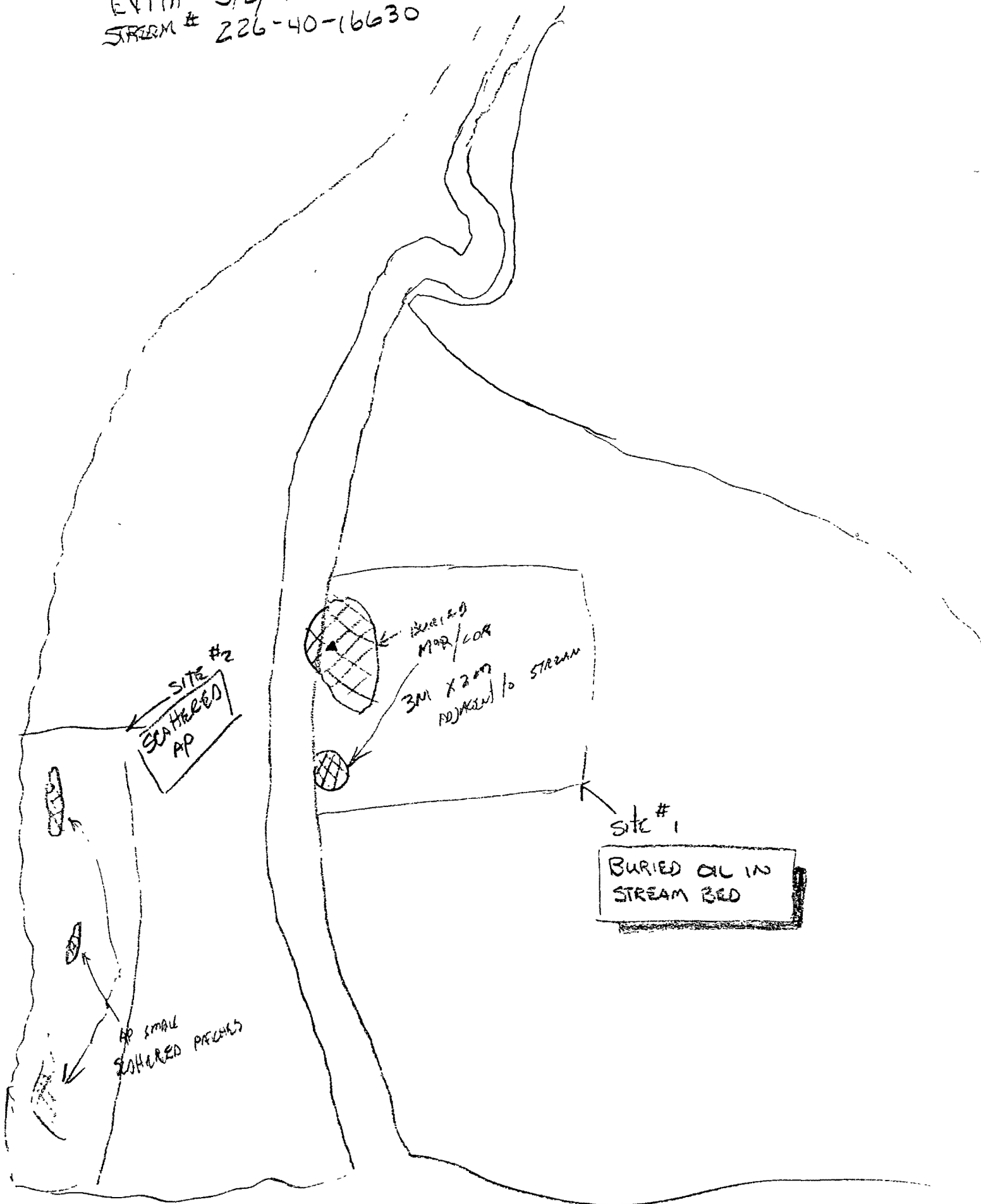
25 * 10 m, 4 * 1 m

<5%, 40%

pits (at fringes of site) : $\emptyset$ penetr.

SI

EVITA 5/2/91
STREAM # 226-40-16630



TEAM NO. 6OG D.I. LITTLEBIO TOM SCHROEDERSEGMENT EV-017ADEC TOM CROWE/A. WEEMANLANDMANAGER CHARLES SELANOFF for CVCSUBDIVISION AEXXON RANDY BOYERUSCG/NOAA CWO SPURR/REBECCA HOFFDATE 05/02/91TIME 10:30 to 12:30TIDE LEVEL -0.5 ft. to 2.5 ft.ENERGY LEVEL: ☐ H ☒ M ☐ LSURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELOWEATHER: ☐ SUN ☐ CLOUDS ☐ FOG ☒ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 1500 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONEEST. OIL CATEGORY LENGTH: W — m M 1 m N 6 m VL 15 m NO 1478 m US — m

LOG	SURFACE OIL CHARACTER										SURFACE	SHORE	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO	SEDIMENT	SLOPE	WIDTH	LENGTH	S	UI	MI	LI	
											TYPE	VHML	m	m					
A		S			S						rock c	M	0.1	0.5		X			
B				S							cp g	L	25	10			X		Heavy SOR/disrupted
B ₁				P							pcg	L	4	1			X		AP picked up / SOR remaining
C	S										cbp	M	0.1	0.1	X				AP
D				P							p, g b	L	0.5	1		X			AP picked up / SOR remaining
E					S						pg	M	0.2	1	X				AP
F				S							gpc	L	1	3		X			AP picked up / SOR remaining
G				S							gp	M	0.1	0.1					AP picked up / SOR remaining
H					S						cpb	M	1	5		X			

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

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE

PHOTO ROLL # MAYSAP-

6-05FRAMES 9-15

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE	CLEAN BELOW	H ₂ O LEVEL	SHEEN COLOR	PIT ZONE				SURFACE- SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	35							X	—	Y	—	N		X			gp - ps g	
2	30							X	—	Y	25	N				X	pg - gs	
3	20							X	—	Y	—	N			X		gp - gcp	
4	25							X	—	Y	—	N			X		pg - gs	
5	20							X	—	Y	—	N			X		cp - gsp	
6	20							X	—	Y	—	N				X	pg - gsp	
7	25							X	—	Y	—	N			X		cp - gsp	

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

OG COMMENTS:

Most Surface oil was found in MTTZ to UITZ as AP and SOR deposits. These were picked up and removed, leaving only a light oil residue. Outside of these areas occasional patches were found (locations A, C, E, H), usually in high UITZ/SUTZ. These deposits of surface oil did not extend below 5cm in depth, thus, no subsurface oil was logged.

Revised: MC 5/9/91
revised 5/8.

PAGE 1 OF 1

DATE 05 / 02 / 91

ENERGY LEVEL: ☐ H ☒ M ☐ L

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

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

EST. OIL CATEGORY LENGTH: W m M m N m VL 13.5 m NO m US m

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

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 10 - 05 FRAMES 9-15

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

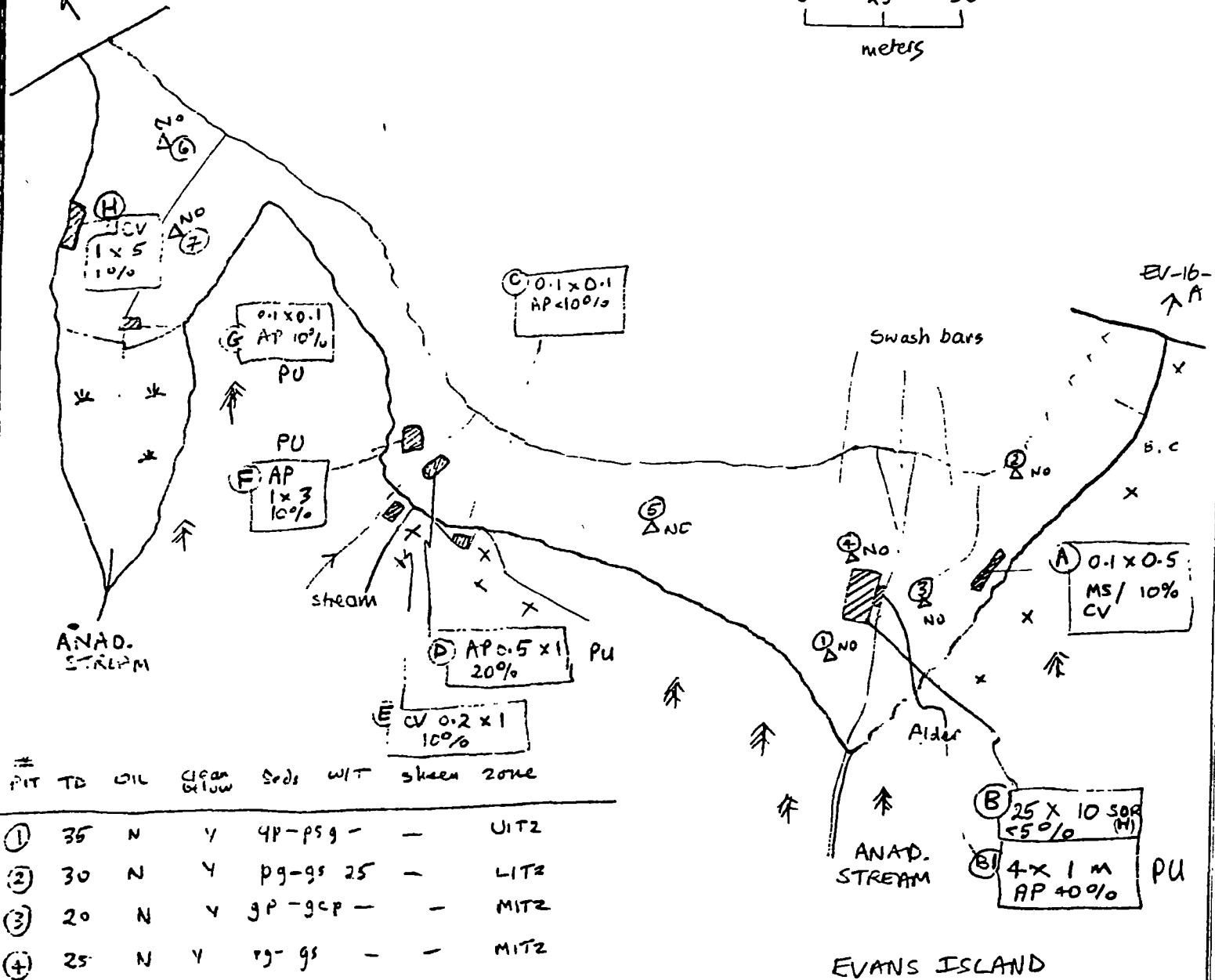
Most surface oil was found in MITZ to UITZ as AP and SOR deposits. These were picked up and removed, leaving only a light oil residue. Outside of these areas occasional patches were found (locations A, C, E, H), usually in high UITZ/sUTZ. These deposits of surface oil did not extend below 5 cm in depth, thus, no subsurface oil was logged.

EV-017-A 05/02/91
OG. Map D.I. Little
1030 — 1230

0 25 50
meters

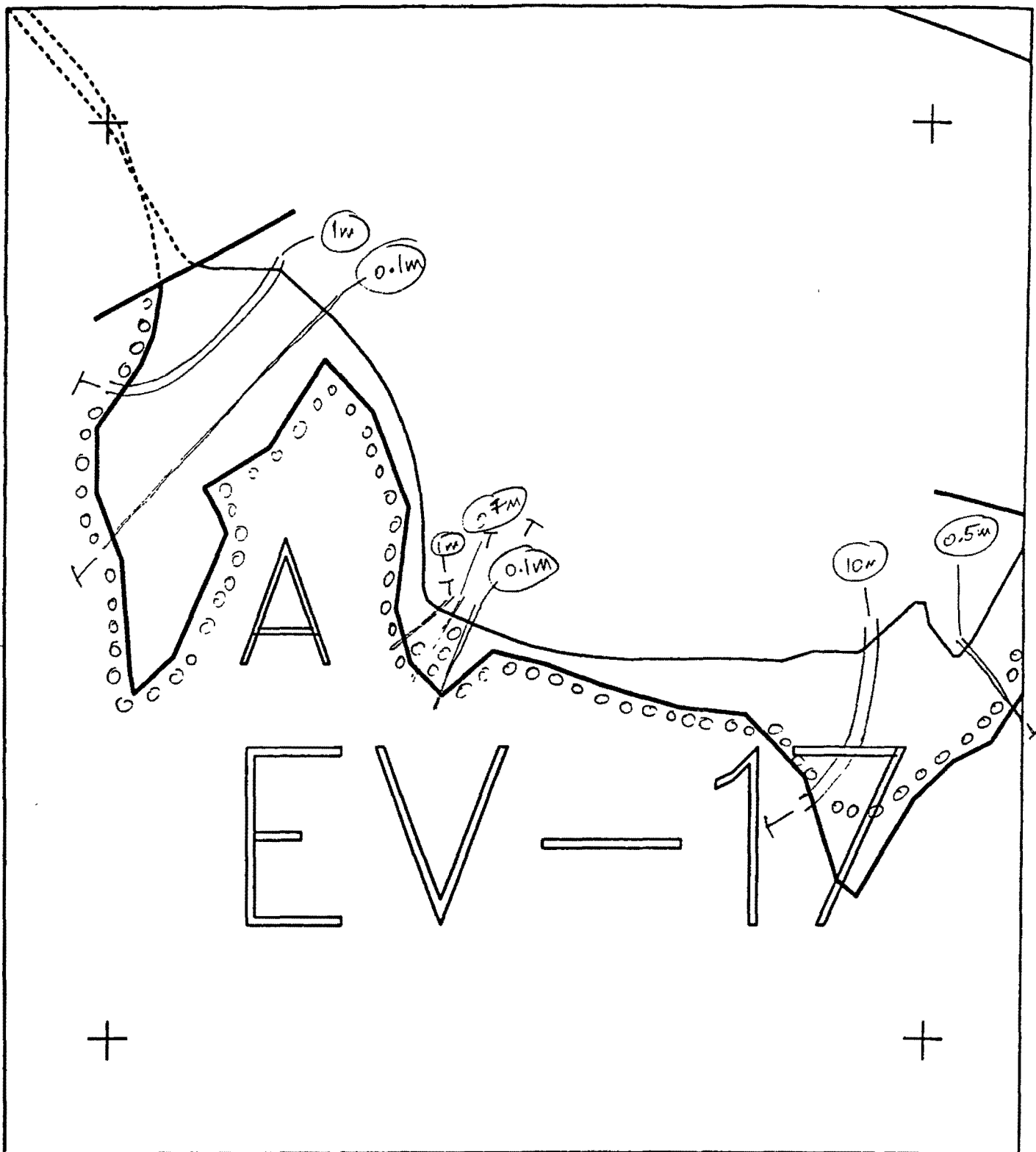
KNIGHT ISLAND
PASSAGE

EV-18-A



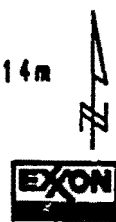
≡ PIT TD OIL Clean Seds WIT shaken zone

①	35	N	Y	4P-psg	-	-	UITZ
②	30	N	Y	pg-gs	25	-	LITZ
③	20	N	Y	gp-gcp	-	-	MITZ
④	25	N	Y	rg-gs	-	-	MITZ
⑤	20	N	Y	cp-gsp	-	-	MITZ
⑥	20	N	Y	plg-gsp	-	-	LITZ
⑦	25	N	Y	cp-gsp	-	-	MITZ

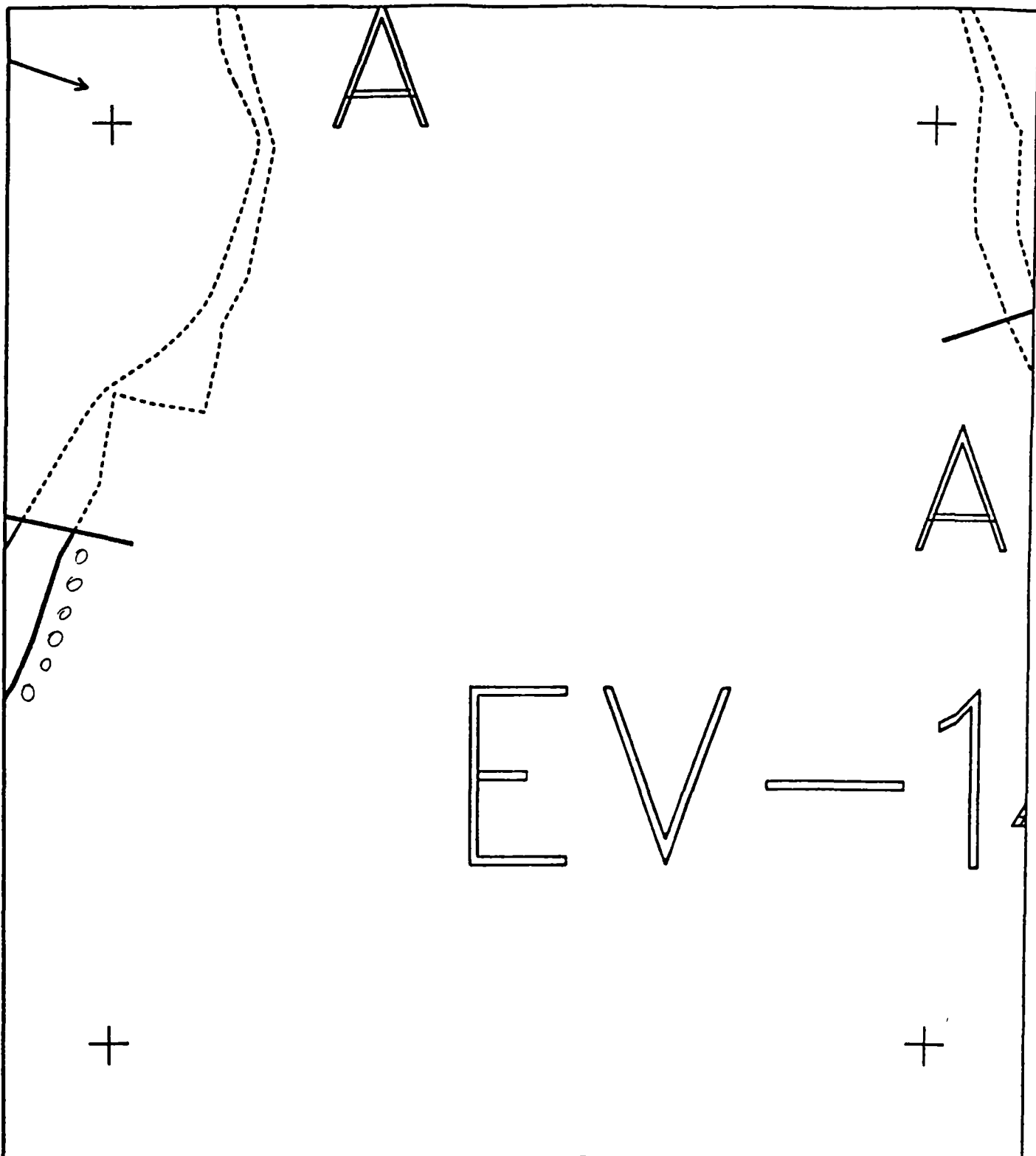


XXXX Wide
 //// Medium
 ---- Narrow
 TTTT Very Light
 0000 No Oil

EV017 A
 ADEC Subsegment Length: 1614m
 METERS
 0 100 200
 AK State Plane Zone 4
 proj17aa

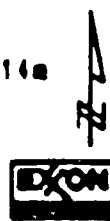


Subdivision Field Map
 Map Key: PWSEV017Aa
 Name: DAVID LITTLE
 Date: 05/2/91
 Date Entered:



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

EV017 A
 ADEC Subsegment Length: 1814m
 METERS
 5 100 200
 AK State Plane Zone 4
 pvd17ab



Subdivision Field Map
 Map Key: PWSEV017Ab
 Name: DAVID LITTLE
 Date: 05/02/91
 Date Entered:

KAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6 DATE 5/2/91
 SEGMENT # EU-017 TIDAL HEIGHT(Range) - 3/4 to + 2 1/2 feet
 SUBDIVISION A BIOLOGIST T. A. Schroeder
 SEA STATE 2 foot chop WIND SPEED/DIRECTION N.E. 20 mph +
 PHOTOGRAPHS: ROLL # FRAME #

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

(A, B & B,) = Most of beach area is very unproductive. Small sand and gravel provide suitable substrate for algae and other life forms. Two healthy fungus and mussel beds are located in the MITZ to LITZ behind swash berms below oil but do not appear to be effected. Any treatment should be the least intrusive possible to protect these beds.

(C, D, E, F) = One large area of fungus, sporlings and mussels is thriving below these concentrations of oil. Remainder of beach area is very low in productivity and existing biota.

(H & G) = Scattered fungus and sporlings present throughout beach but not thick. Very few mussels present.

In general, most of this subdivision is very low in productivity due to shifting, unstable beach sand and gravel and the overall exposure to northerly storms. Primary productive areas are behind swash berms and along protective reef or rock outcroppings.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			Rock Bass, sculpin
Seabirds			
Waterfowl	2	18	
Gulls/Kittiwakes	2	4	
Shorebirds	1	3	
Corvids			
Other Birds			

LAND MAMMALS

MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)	1 Harbor Seal		
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

Reviewed: MC 5/9/91

Revised 5/8/91 LDC

0 25 50
meters



EV-017-A 5/2/91
Bio. Map T.R. Schroeder
1030-1230

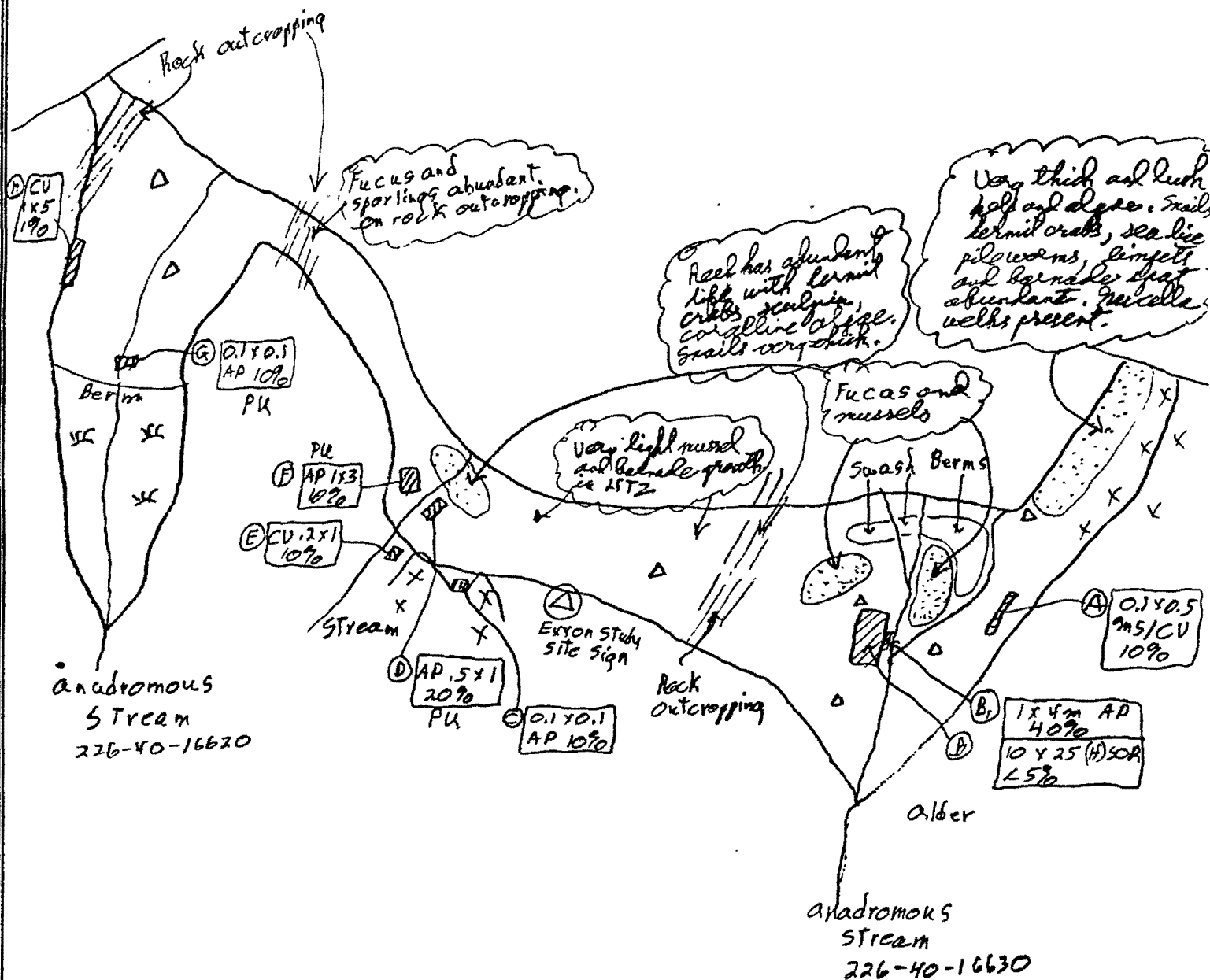
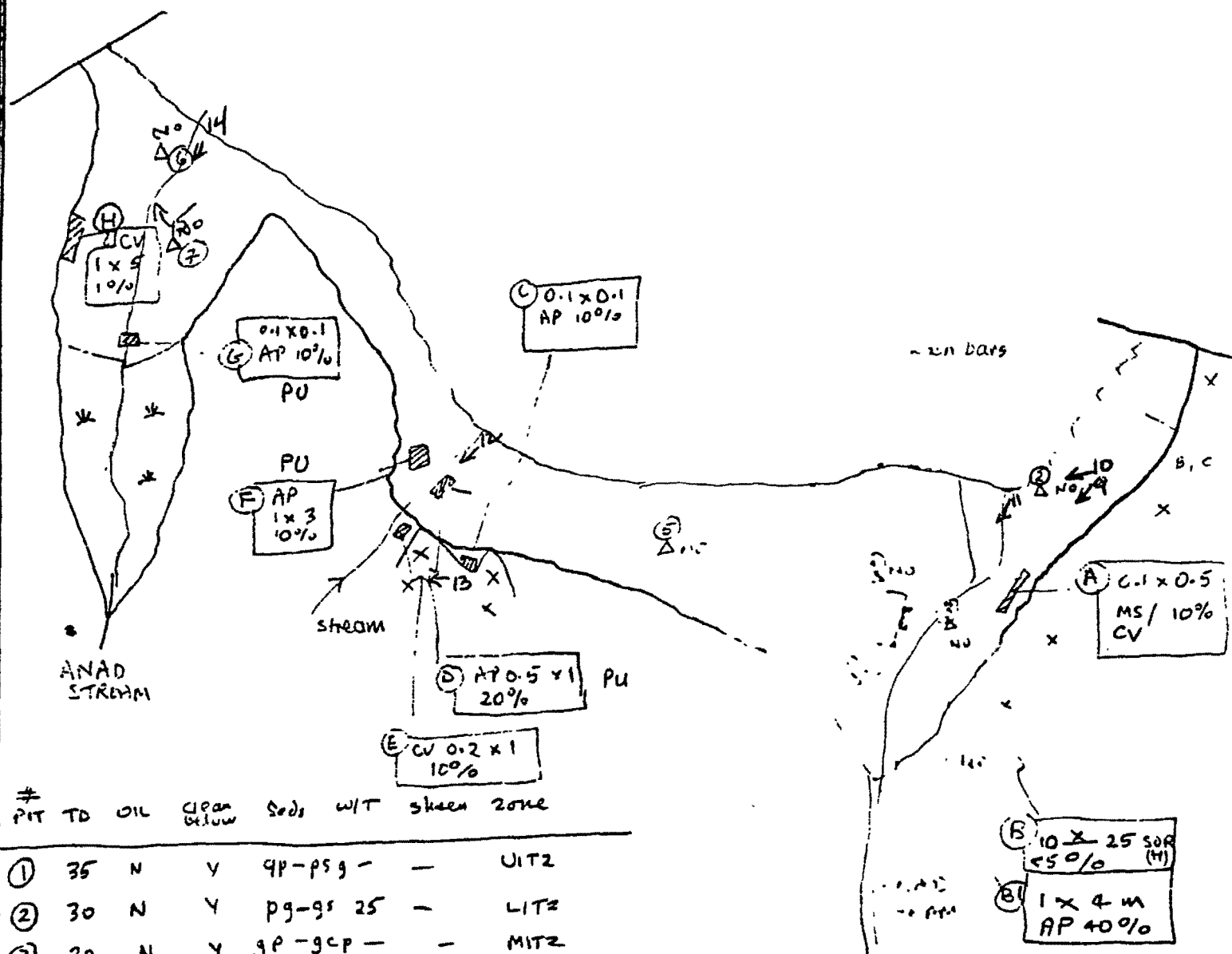


Photo locations

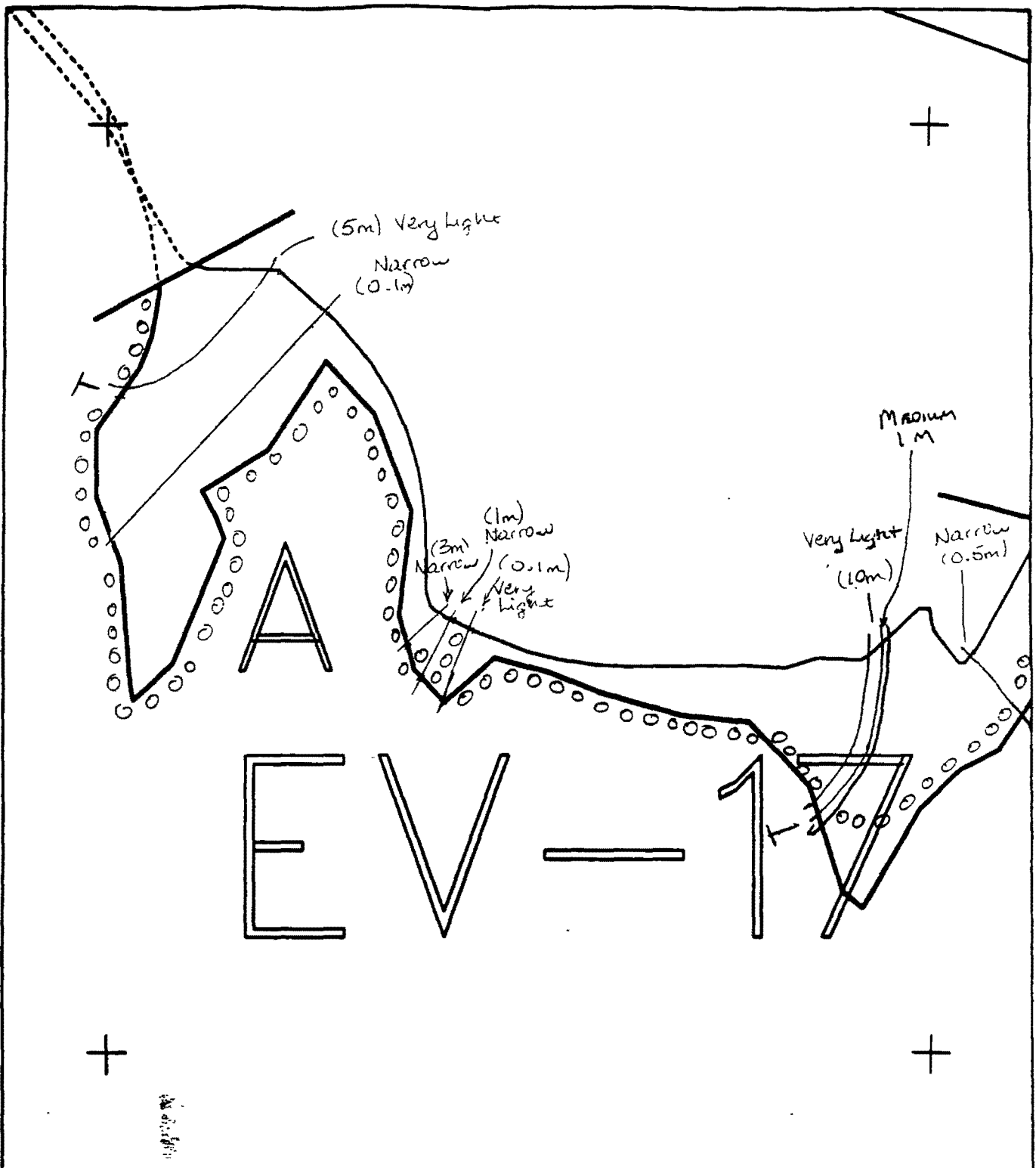
Mayap 6-05 # 9-15



EV-017-A 05/02/91
OG Map D.I. Little
1030 — 1230



#	PIT	TD	OIL	CLIP	Seds	WIT	sketch	zone
①	35	N	V	9P-PSg	-	-	UITZ	
②	30	N	V	pg-gs	25	-	LITZ	
③	20	N	V	gp-gcp	-	-	MITZ	
④	25	N	V	rg-gs	-	-	MITZ	
⑤	20	N	V	cp-gsp	-	-	MITZ	
⑥	20	N	V	plg-gsp	-	-	LITZ	
⑦	25	N	V	cp-gsp	-	-	MITZ	
⑧								
⑨								



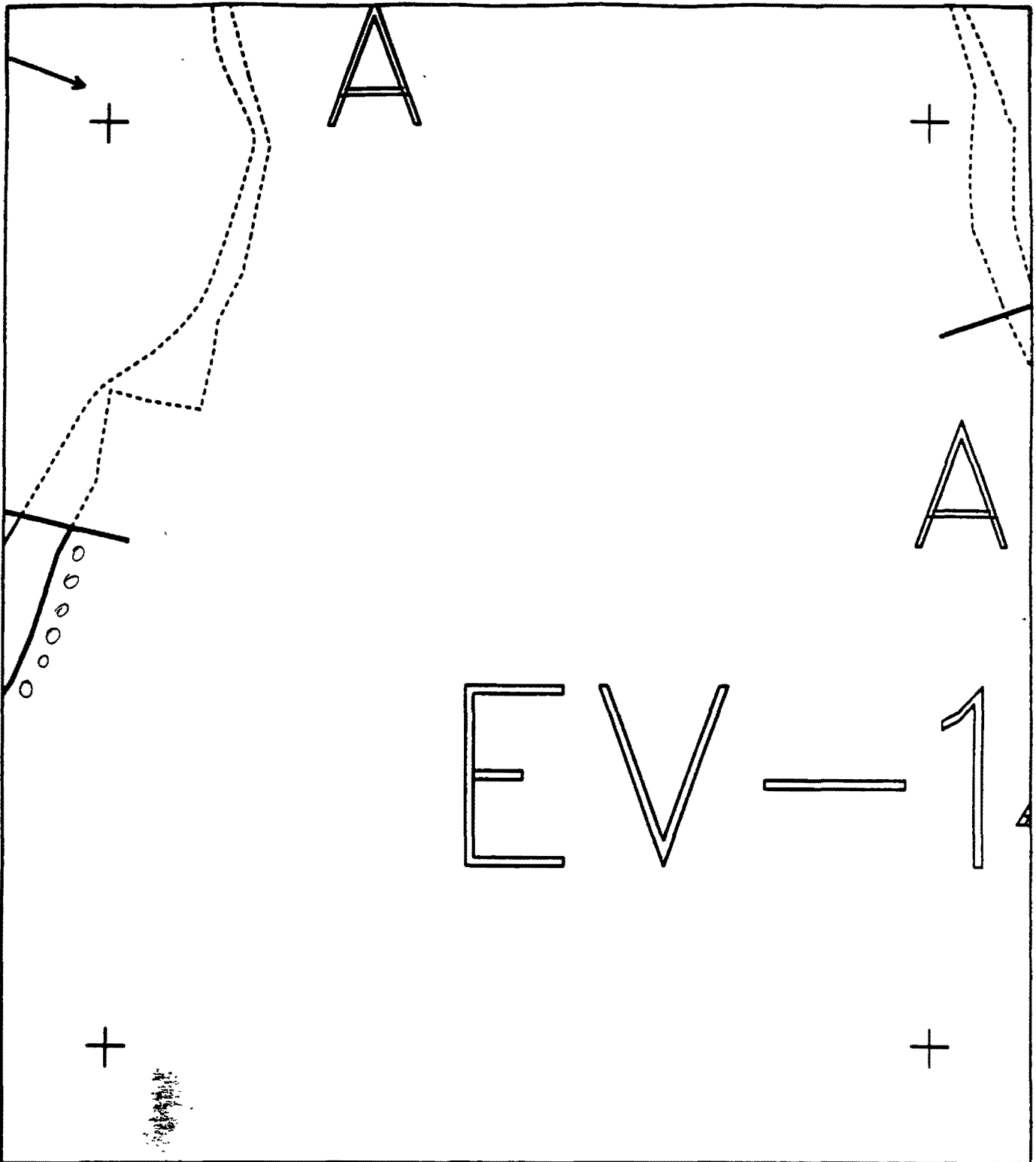
XXXX Wide
 //// Medium
 ---- Narrow
 TTTT Very Light
 0000 No Oil

EV017 A
 ADEC Subsegment Length: 1614m
 METERS
 0 100 200
 AK State Plane Zone 4
 pr01700

Subdivision Field Map
 Map Key: PVSEV017Aa
 Name: DAVID LITTLE
 Date: 05/2/91
 Date Entered:

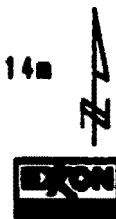


REVISED: MC 5/9/91
 revised 5/8/91 R.



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

EV017 A
ADEC Subsegment Length: 1014m
METERS
5 100 200
AK State Plane Zone 4
psv017ab



Subdivision Field Map
Map Key: PWSEV017Ab
Name: DAVID LITTLE
Date: 05/02/91
Date Entered:

Reviewed: MC 5/19/91
reviewed 5/8/91

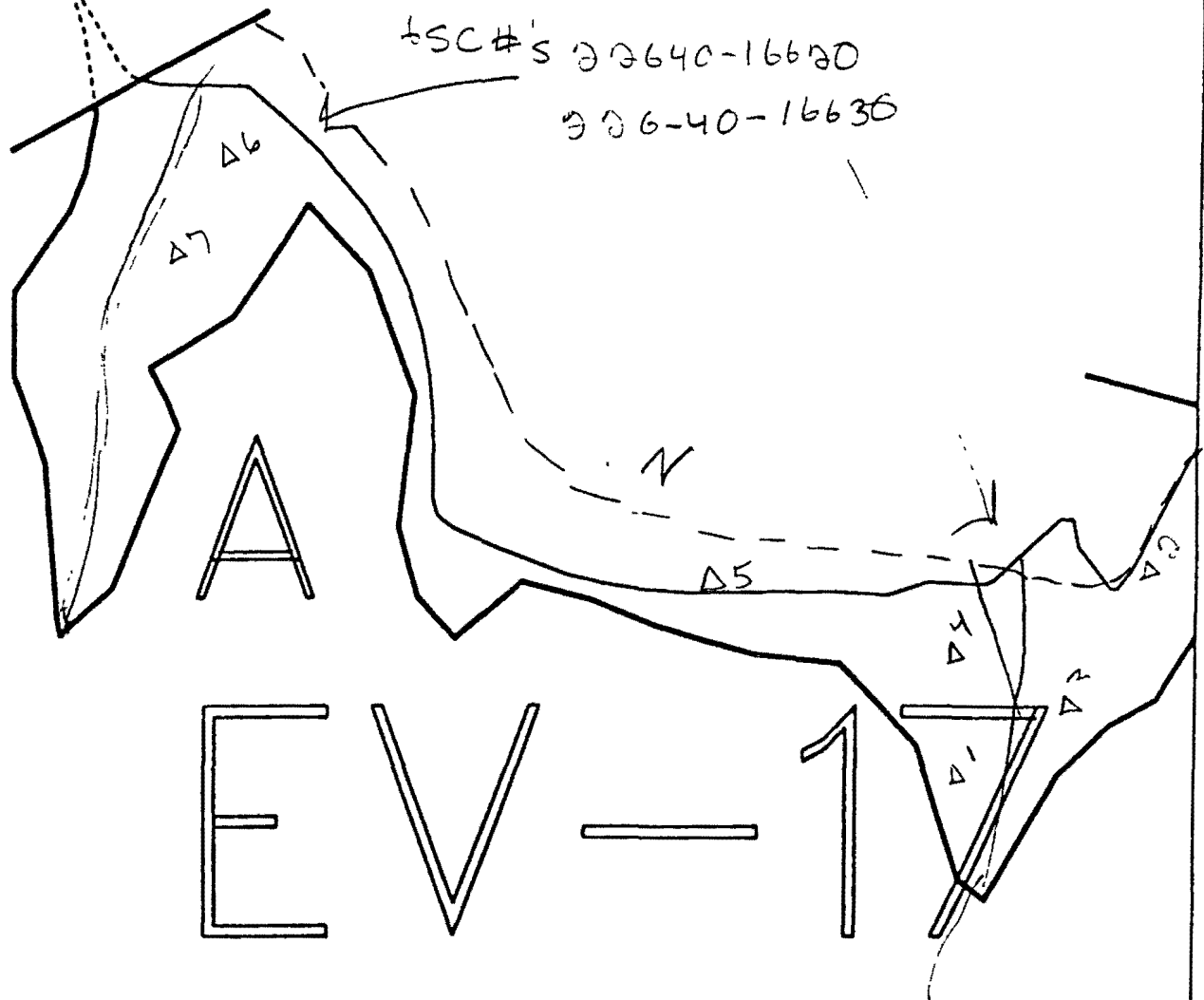
ADEC comments cont...

EV17A - Maysap

subsurface oil

±SCH#s 33640-16630

336-40-16635



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

EVO17 A
ADEC Subsegment Length: 1814m
METERS

0 100 200
AK State Plane Zone 4
pov017aa



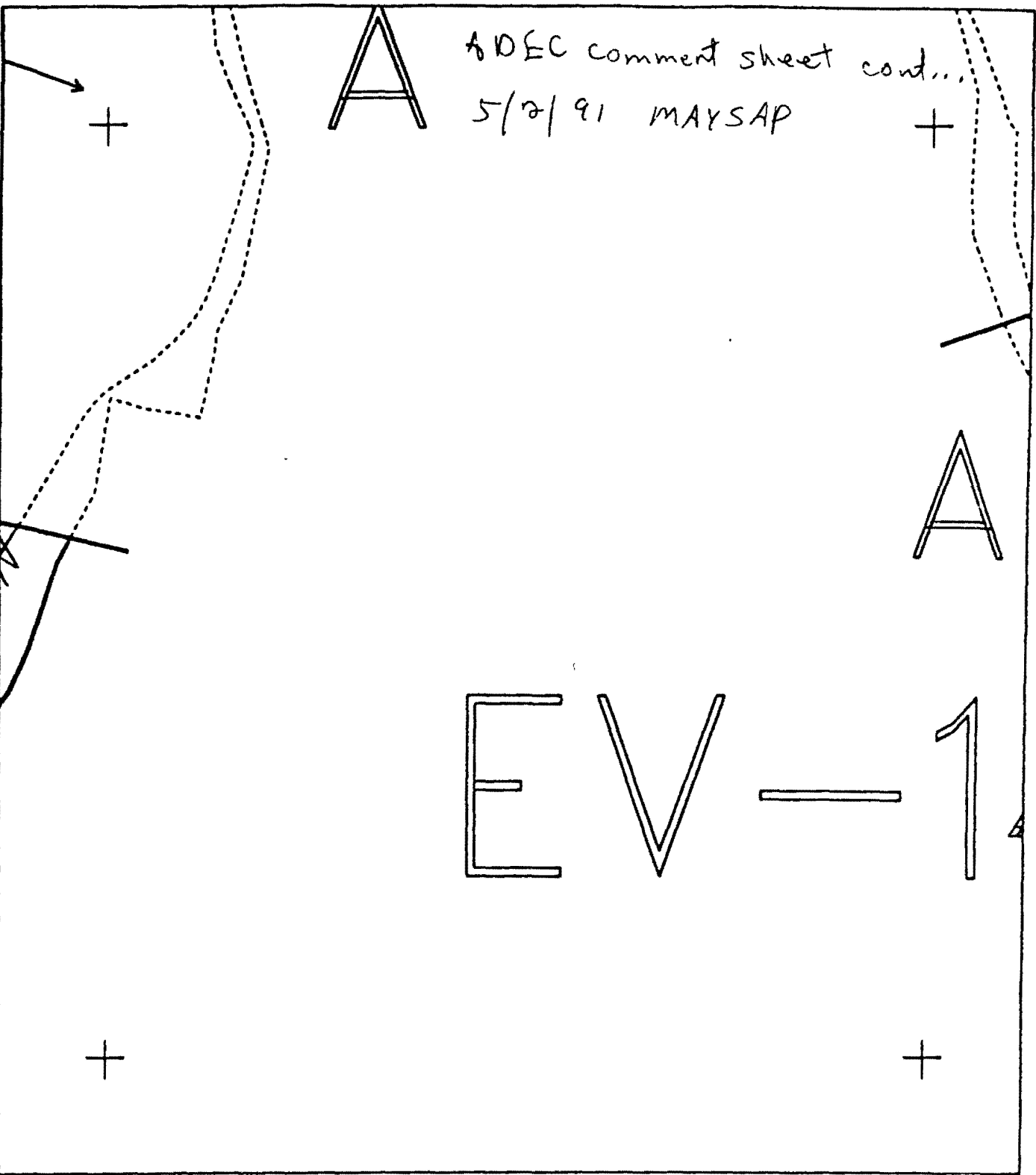
Subdivision Field Map

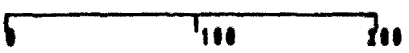
Map Key: PWSEVO17Aa

Name: Aimee Weseman

Date: 5/2/91

Date Entered:



XXXX	Wide	EV017 A			Subdivision Field Map
////	Medium	ADEC Subsegment Length: 1814m			Map Key: PWSEV017Ab
----	Narrow	METERS			Name: <u>Ameeveseman</u>
TTTT	Very Light				Date: <u>5/2/91</u>
0000	No Oil	AK State Plane Zone 4 per 017ab		Data Entered:	

TEAM NO. 6 SEGMENT EV-017-A SUBDIVISION A DATE 05/02/91

ADEC / ADF+G

NAME Aimee WesemanSIGNATURE Aimee Weseman

☐ NTR ☒ Treatment Recommended Anadromous Fish Stream, Commercial Tourism of the 3 streams in this subdivision. only 1 requires further treatment. ASCA 226-40-16630. An oiled area, sites B & B1 on the west bank of the stream, extends up to the waters edge & produces a steady sheen into the stream when agitated. A small amount of the oiled material was removed. The potential oil contamination of developing salmon eggs & fry exists if this material remains on the bank, or if the stream diverts into the oil patch. Treatment should consist of the manual removal of the AP/HSOR and a thorough manual tilling. Surface run-off has not removed oil to date, little or no adverse impacts to mid & lower intertidal zones would occur. Stream area would be returned to healthy state.

EXXON

NAME RANDALL K. BOYERSIGNATURE Randall K. Boyer

☒ NTR Area of AP - 1x4m - B1 was collected by the VECO crew. The Area B - SOR - was not of concentrations that would warrant pickup. The surface was disrupted to allow natural weathering. The two small areas of AP near the middle stream were collected along with the .1 meter x .1 meter patch of AP near the west most stream. No subsurface oiling was detected. Overall the subdivision looks healthy with minimal oiling. No further reassessment is necessary.

LANDMANAGER

NAME CHARLES SELANOFF OF CHENECA BAYSIGNATURE Charles Selanoff

☐ NTR Oil sheen was seen in the stream with tar balls approximately sixty feet from both sides. Just walking on it produced a sheen. Scraping the gravel showed a visible trace of oil. Did not want to dig any further for fear of disturbing the terrain. I strongly recommend this area be worked over manually and thoroughly tilled.

USCG/NOAA

NAME CWO R. SPURR / Rebecca HoffSIGNATURE R. Spurr / Rebecca Hoff

☒ NTR Small patches of asphalt in the upper intertidal were picked up, and remaining surface oil should weather quickly. Area B on map in the mid intertidal should also be left to weather naturally. This area has lots of freshwater runoff which should promote weathering. No physical disturbance of the sediments should be done in B since biota in mid & lower intertidal zones would be adversely impacted.

1991 STREAM FILE LOG HABITAT

STREAM CATALOG # : 226-40-16630
STREAM NAME : Evans Island

LOCATION : P.W.S.
SEGMENT : EV-017A

[illegible]