

OIL SPILL PUBLIC INFO. CENTER



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EVOS
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1991
v.49

[Shoreline evaluations, 1991].

Prince William Sound KN-106 to KN-112

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ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-106 STREAM NO: 226-10-16890 DATE 4/27/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6Y Recreation: Special use destination
6V Recreation: Anchorages (6/1 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. Subject stream is located within an unsurveyed subdivision (U, one of 4 unsurveyed subdivisions and 5 surveyed subdivisions).

ARCHAEOLOGICAL CONSTRAINT: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact Exxon's Cultural Resource Program immediately (564-3274 (Anchorage) or 229-1508 (24 hrs.)).

SHPO SIGNATURE: Lachle Jean Oser DATE: 5/15/90

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: _____

TAG COMMENTS: MANUAL PICKUP OF TARPATTIES / TARBALLS AS INDICATED ON SKETCH.

TAG APPROVAL DATE: 5/9/90.

ADEC Art Weimer Ditt Weimer

EXXON Andy EAL Deal

NOAA Burt Wescott Ralph Lundquist

USCG D.D. ROME D.D. Home

FOSC: W L DATE: 6 June 90

STREAM 1689

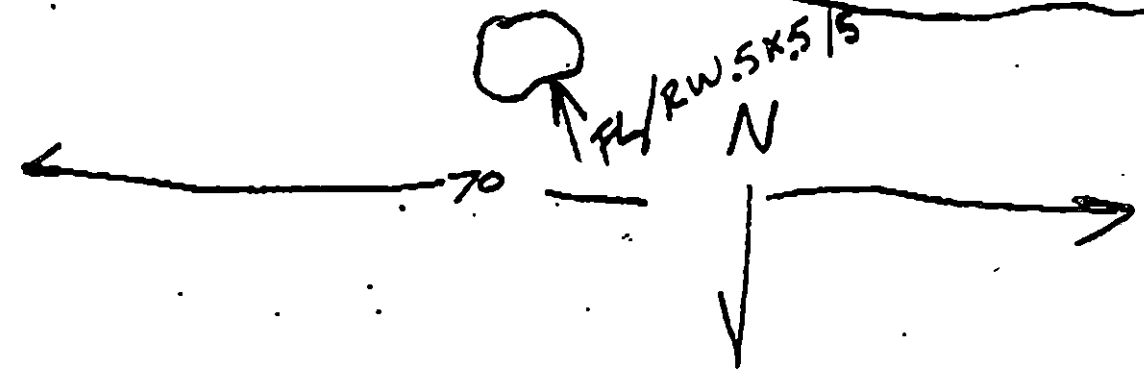
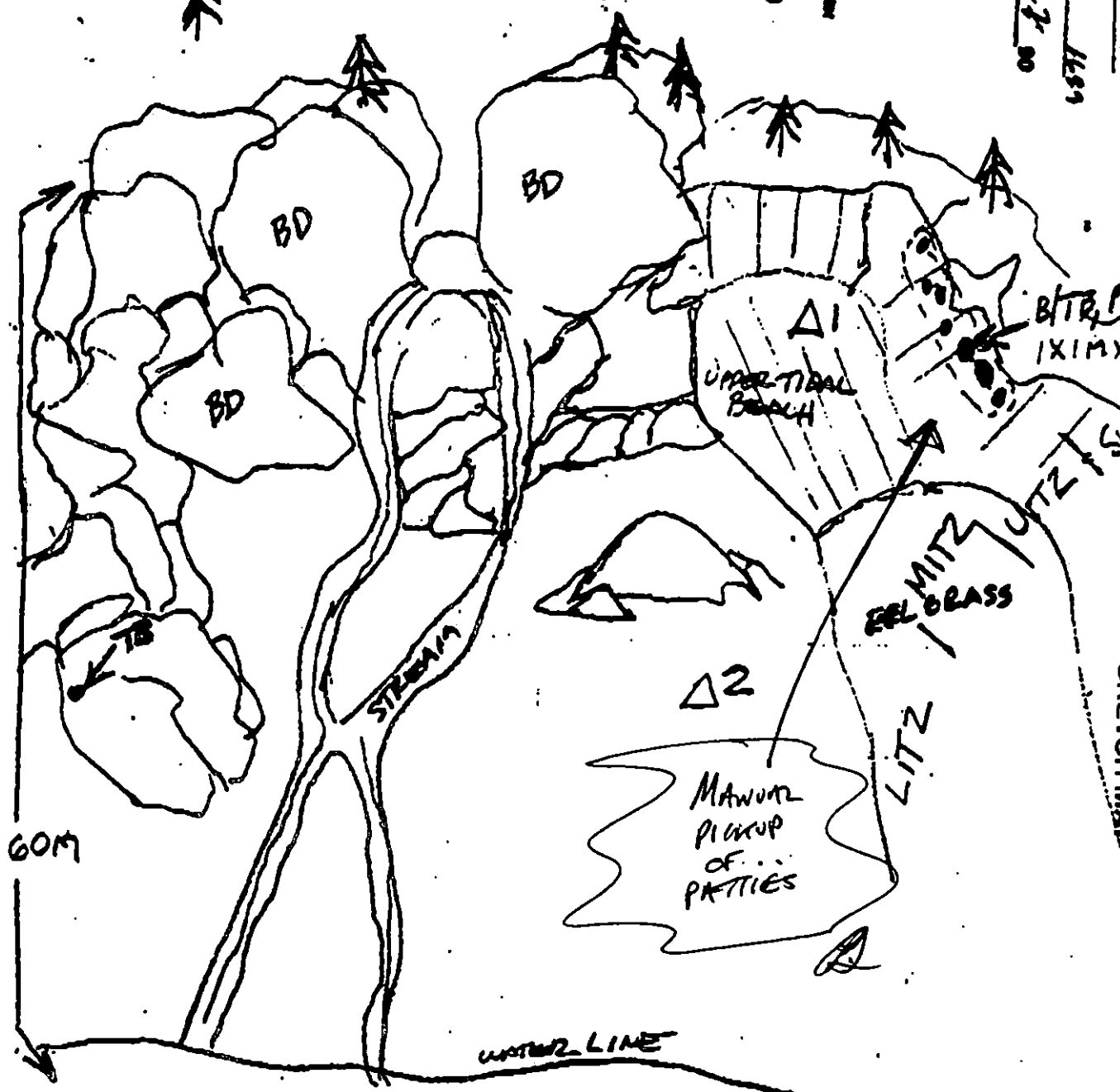
DATE 4/27/80

CHECKLIST

- ✓ 1. Area
- ✓ 2. Approx. Date
- ✓ 3. Surface Entry
- ✓ 4. Data
- ✓ 5. Notes
- ✓ 6. Length
- ✓ 7. Center
- ✓ 8. Substrate Character
- ✓ 9. Size
- ✓ 10. Depth
- ✓ 11. Location
- ✓ 12. Photo Location

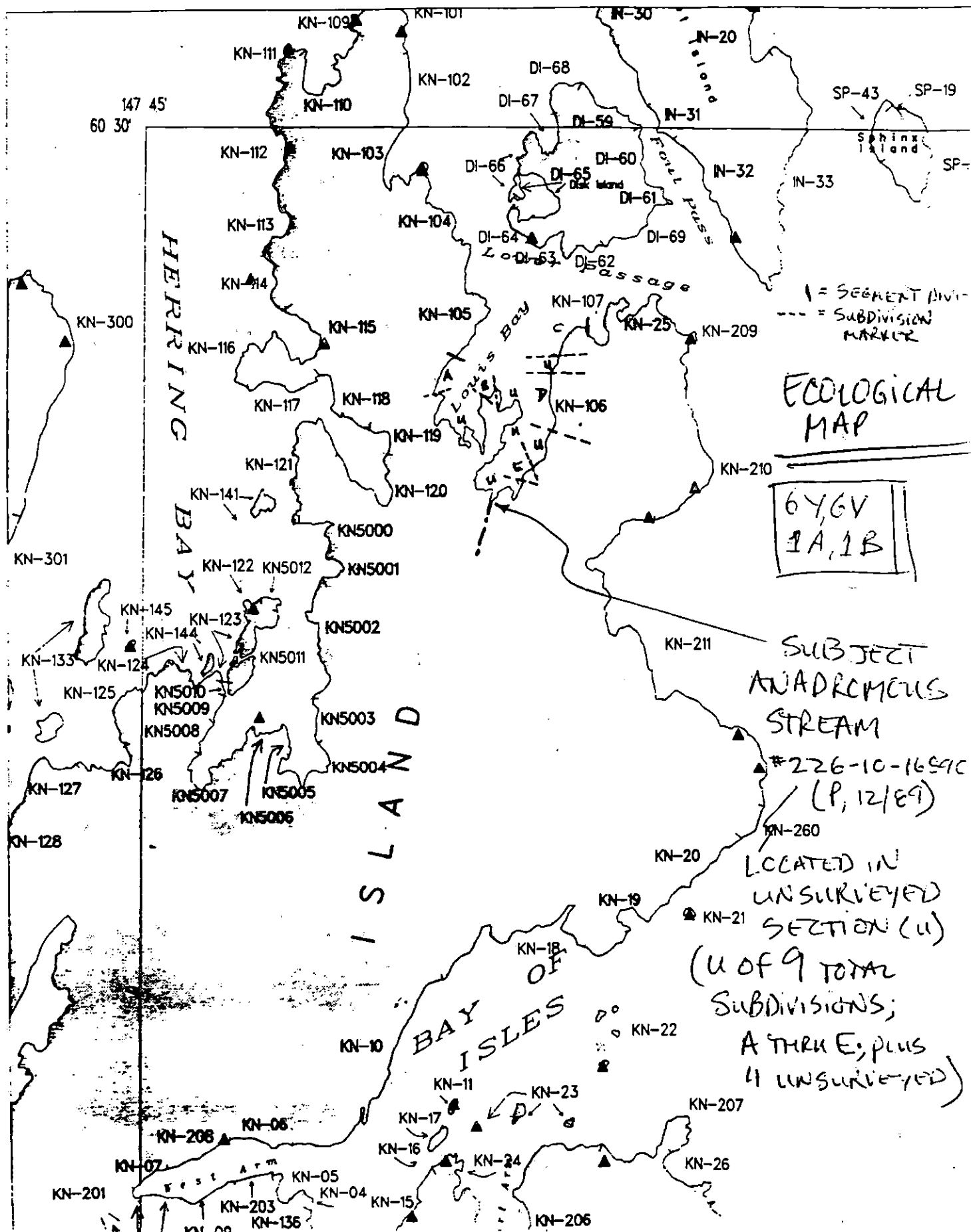
LEGEND

- 1. A
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SEWARD EAGLE NESTS AND



48 PHOTOLOG

KN 106

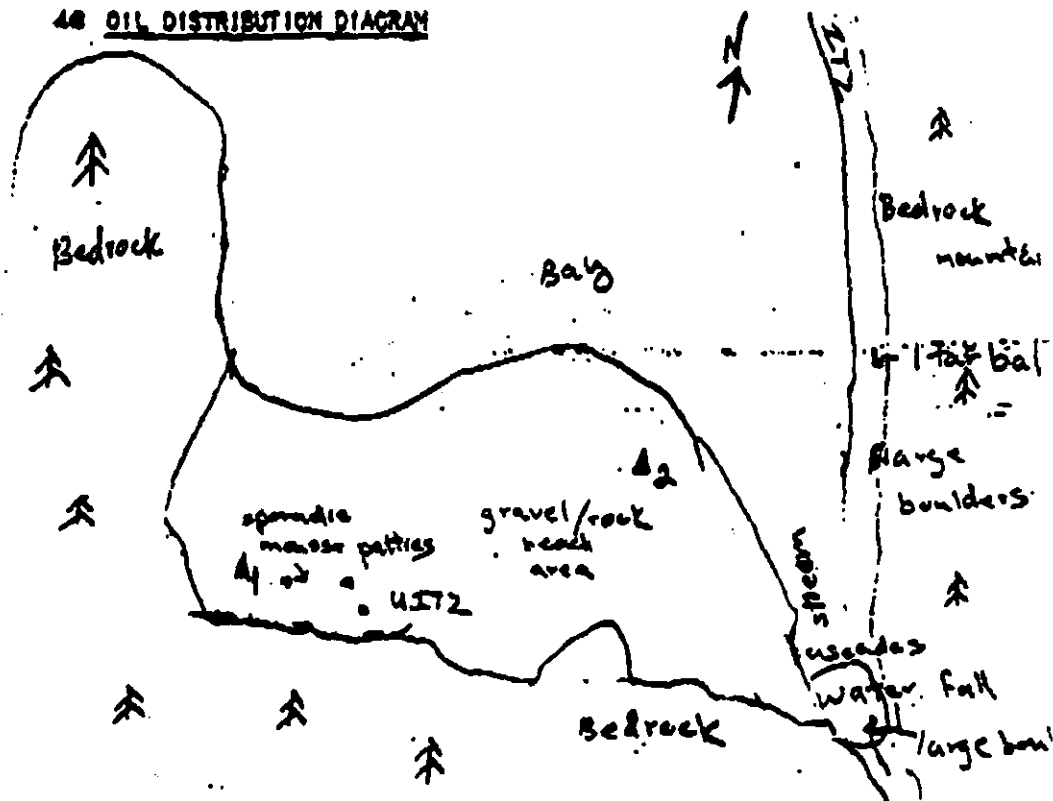
226-10-1680

FRAME(S)

DESCRIPTION

	pit 1 - 12cm - no oil
	pit 2 - 15cm - no oil

48 OIL DISTRIBUTION DIAGRAM



No treatment recommended

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16890

SEGMENT KN-106 SUBDIVISION A

WORK WINDOW	
Manual Pickup	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16890) is in this Subdivision. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. Avoid any unnecessary disturbance or damage to uncolled biota and substrate.

SEE SUBDIVISION CONSTRAINT ADDENDUM KN-106A
FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC

[Signature]

Date

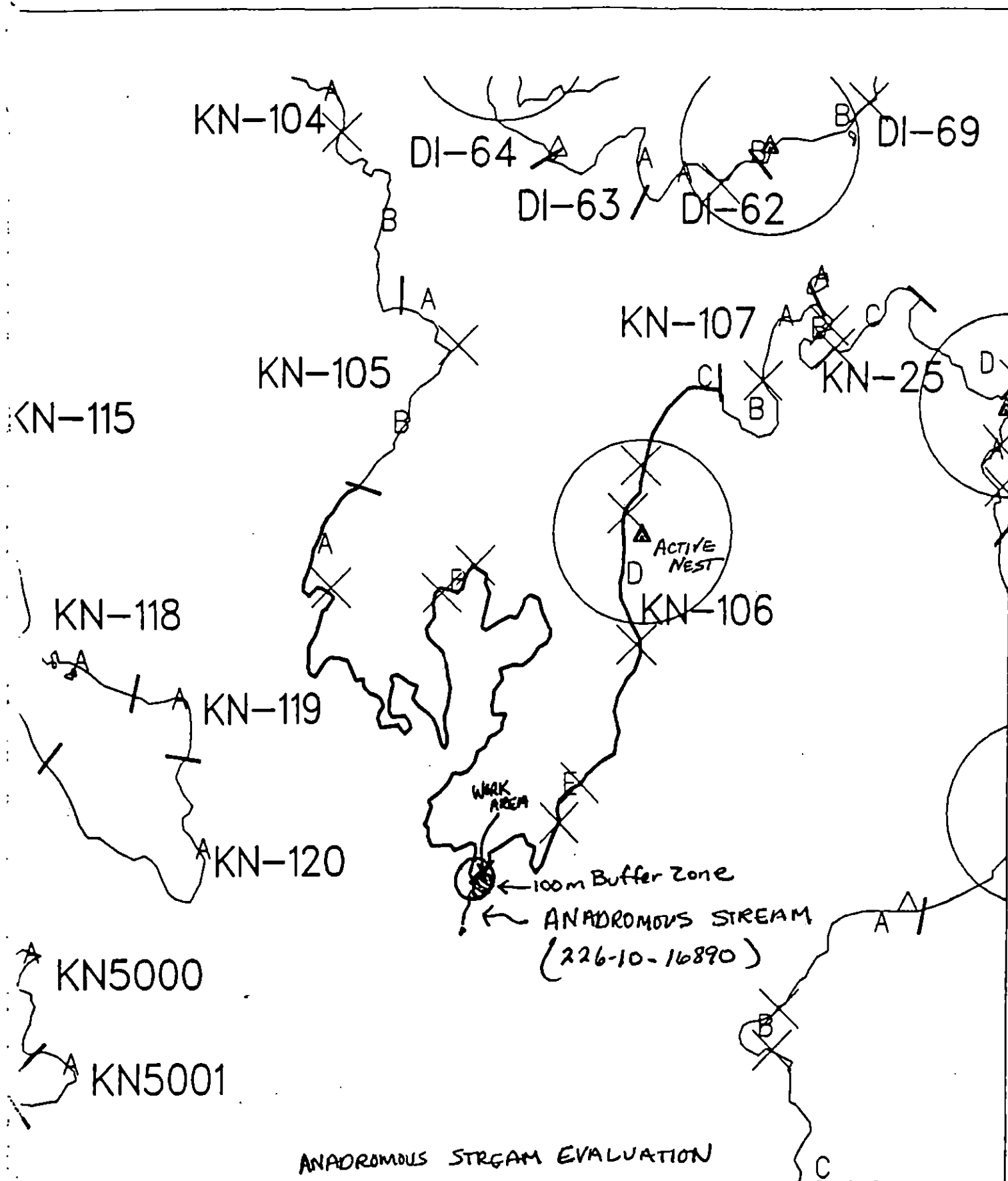
6/13/90

Prepared by

[Signature]

Date

6/12/90



Exxon Company, USA

Map Key: PWS-KN-106

June 09, 1990



ECOLOGY MAP
SEGMENT KN-106
SUBDIVISION *unsurveyed section*

METERS

0 500 1150

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

1 inch = 1902 feet

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-106 STREAM NO: 226-10-16890 DATE 4/27/90

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

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

6Y Recreation: Special use destination

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. Subject stream is located within an unsurveyed subdivision (U, one of 4 unsurveyed subdivisions and 5 surveyed subdivisions).

ARCHAEOLOGICAL CONSTRAINT: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact Exxon's Cultural Resource Program immediately (564-3274 (Anchorage) or 229-1508 (24 hrs.)).

SHPO SIGNATURE: Lachle Jean D. Lee DATE: 5/18/90

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: SEE CONSTRAINT ADDENDUM dated 6/12/90

TAG COMMENTS: MANUAL PICKUP OF TARPATTIES / FARDALLS AS INDICATED IN SKETCH.

TAG APPROVAL DATE: 5/9/90.

ADEC Art Wenne D. D. ROME

EXXON Art Wenne D. D. ROME

NOAA Burt Wessitt D. D. ROME

USCG D. D. ROME D. D. ROME

FOSC: W L DATE: 6 June 90

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-106

STREAM NO: 226-10-16890

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-106 STREAM NO: 226-10-16890 DATE 4/27/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Subject stream is located within an unsurveyed subdivision (U, one of 4 unsurveyed subdivisions and 5 surveyed subdivisions).

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

X No Treatment Recommended

_____ Treatment Recommended

_____ Manual Pickup

_____ Bioremediation

_____ Tarmat Removal

_____ Snare/Absorbent Booms

_____ Oil Snares (pom poms)

_____ Absorbents (pads, rolls, etc)

_____ Spot Washing: _____ Wands

_____ Beach Cleaner

_____ Other (see comments)

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

17/5

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN-106 SUBDIVISION: ASC#10 226-~~22~~-16890 DATE 27 APR 96

USCG

NAME Kerwin L. Droher SIGNATURE CWO K. L. Droher

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

ADEC → **ADPCC**

NAME Aimee Weseman SIGNATURE Aimee Weseman

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

LAND MANAGER → **NONE**

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

STATIONLINE OILING SUMMARY (ANAD)

REVISION NO. 2

OG GAL LARSON USCG DREHER, CWE SEGMENT STI KN/06
 BIO KEN CATCHLOW LAND REP 3PT STREAM 226-30-16871 OF
 EXXC: AL SWIRE ADFG KA-KAYEN-AMEE WEXMAN TIME 10:15 to 11:45
 TEAM NO. 74 TIDE LEVEL _____ DATE 4/27/90
 EST. SUBDIVISION LENGTH: 70 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 10 % B 30 % C 20 % P 20 % G 10 % S 10 % M _____ % V _____
 SLOPE: Long 70 % Hang 30 % Vert _____ % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W _____ m M _____ m N _____ m VL _____ m NO 69

SURFACE OIL

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

PAVEMENT H F S _____ sq. m by _____

PATTIES / TARBALLS _____ BAG

NEAR SHORE SHEEN? NO BR RW SL T

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

Did You Collect DEBRIS
☐ YES ☐ NO

TYPE _____

#BAGS _____

Photographs:

Roll No. 10

Frames 1-8

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE SUBSURFACE SEDIMENT
		OP	ON	OL	OF	NO		UO	UO	1	2	3	4	SU	U	M	U				
1	12					✓	.							✓					N		PG, GR, SO PB, GR, SO
2	15					✓	.									✓			N	✓	PB, SP, P PB, SP, P
							.														
							.														
							.														
							.														

COMMENTS OBSERVED 5 SURF OILERS, IN OUTER COVE AREA.
 OBSERVED SMALL RAIN BOW SHEEN 30 METERS FROM SHORE
 .5X.5²

REVIEWED JW DATE 4-29-90

SEGMENT STI LN 106

STREAM 1689

DATE 4/27/90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Rep/Sub Entry
- ☐ Ctl Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. INVA/INL
- ☐ SSI
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pn Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
Pn - No Subsurface Ctl

2 Δ
Pn - Subsurface Ctl

CT/C
Continuous Distribution

CT/B
Broken Distribution

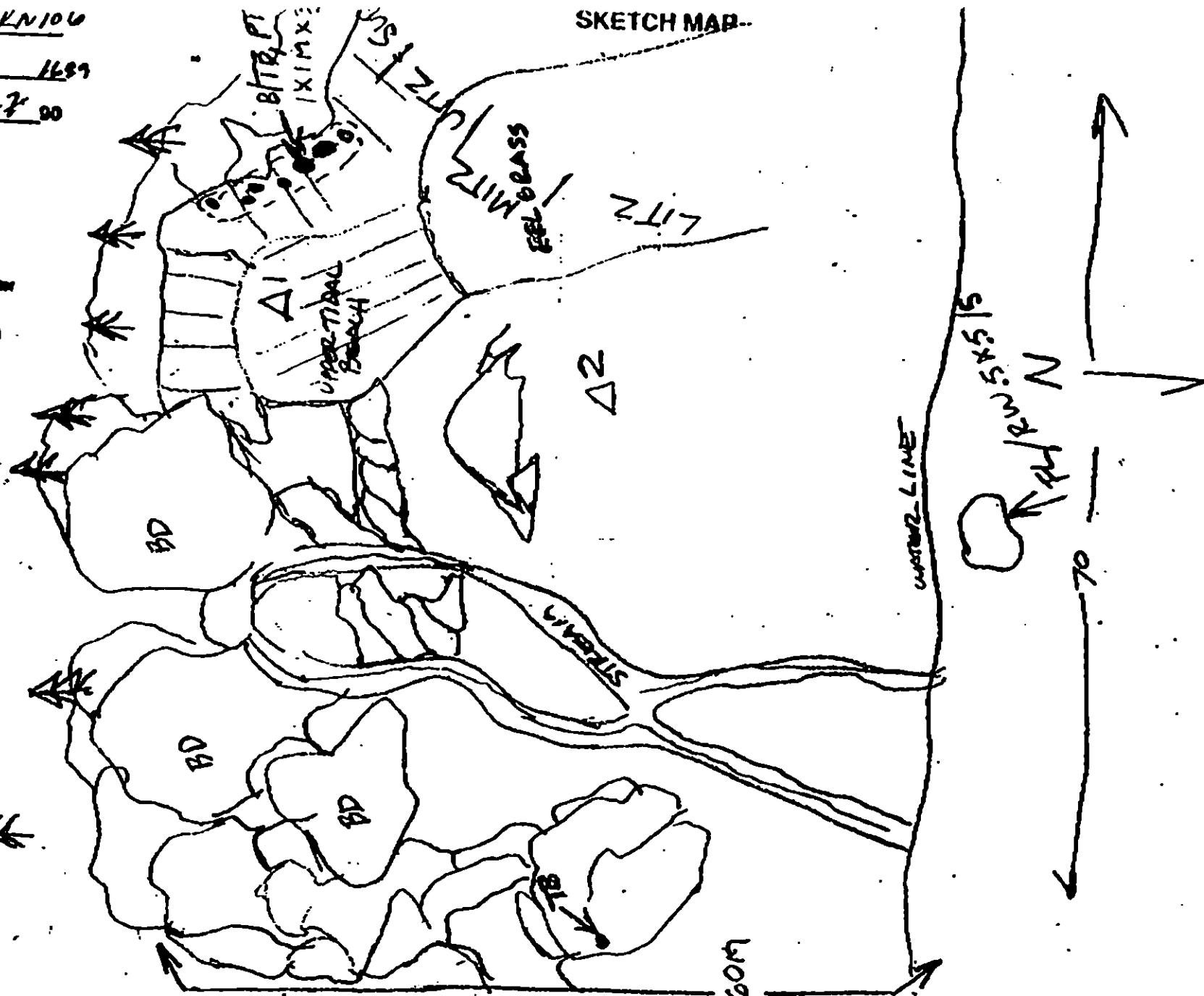
CT/P
Patchy Distribution

CT/S
Spatched Distribution

eee
Oiled Vegetation

1 ●
Photo location, direction, and number

SKETCH MAP



Character Length (m): AP _____ PO _____ CV _____ CT _____ ST _____ MS _____ PT .5 _____ TB .5 _____ FL _____ NO _____

NEWTON 000000

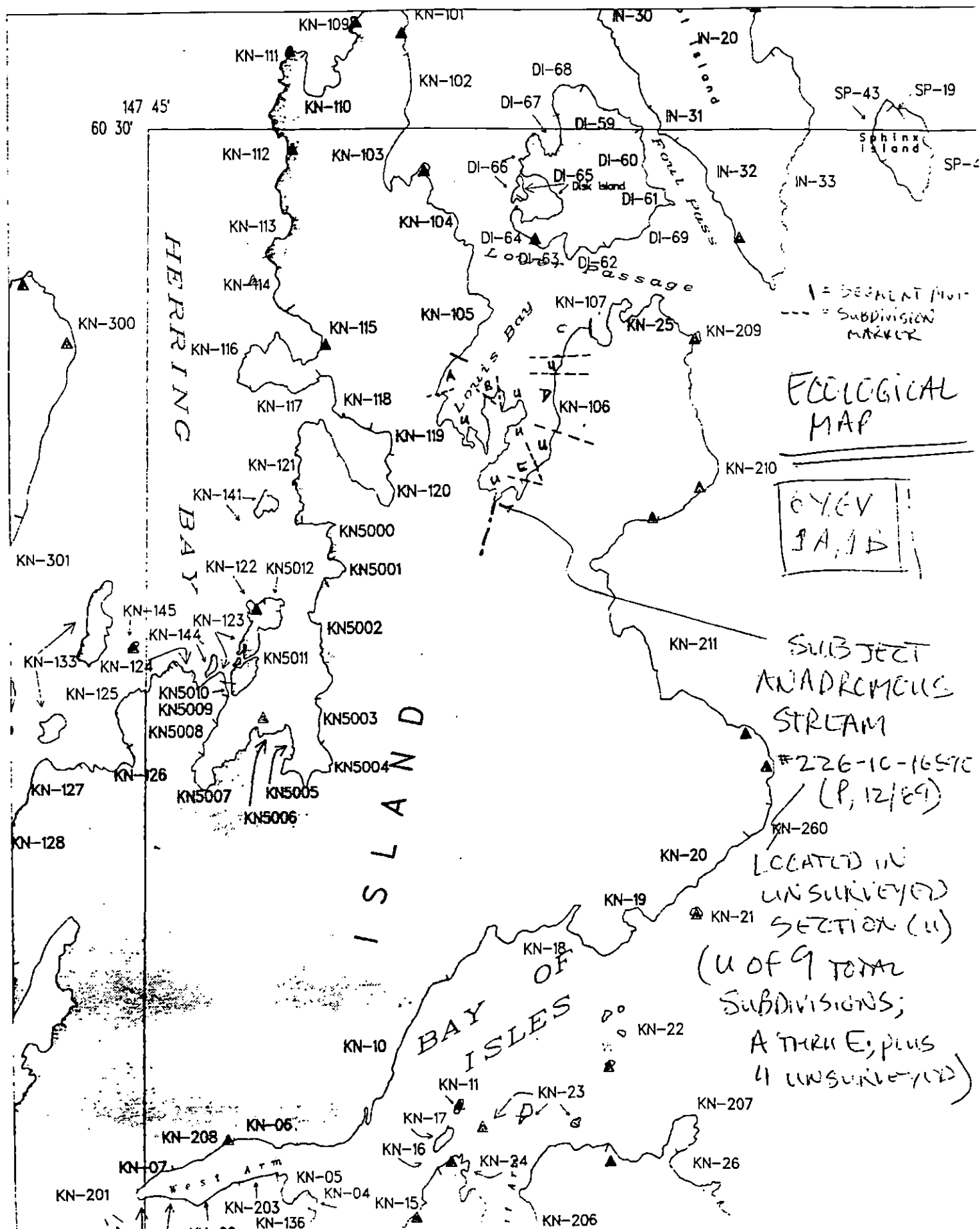
10/5/90
Seg ID: KN-106 Subdiv: 226-10-16890
Survey Date: 4/27/90
Comments by: Ken Critchlow

This stream site is characterized by a narrow band of broken patties and tarballs in the ST. on the right side of the stream. The pocket beach containing the stream is a very productive and diverse intertidal area.

I suggest that no treatment be done; however if the site is cleaned, a two person crew using shovels and trowels could accomplish the job in two hours.

KR Critchlow

SEWARD EAGLE NESTS AND S



18/4

ADFG MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: RS SS DS TS AVS SCHM MMS PTA2 REGION: PW KP, CI X, APMETHOD: Aerial Ground Boat3 DATE: 4-27-9015 HIGH TIDE TIMES: 121 TEAM RECORDER: Aimee Wesemo4 START TIME: 105016 HIGH TIDE HTS: 122 OBSERVERS: Rick Gustin5 STOP TIME: 111517 LOW TIDE TIMES: 123 AGENCY: ADFG6 SEGMENT #: KN-10618 LOW TIDE HTS: 124 PHOTOS TAKEN: Y N

7 STATION #: _____

19 TIDE HT AT SURVEY: _____

Roll #: _____ Frames: _____

8 K-UNIT: _____

Ebb Slack Flood Slack

25 VIDEO TAKEN: Y N TAPES: _____

9 STAT AREA: _____

20 USCG QUAD: S-B2

Starts: _____ Ends: _____

10 LAT: _____

11 LONG: _____

26 SAMPLES TAKEN Y N Number12 SOURCE: Map Locan

Oil _____

13 LOCATION: Knight I - southern arm Louis Bay

Sediment _____

14 DESCRIPTION: _____

Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	V	N	S	L	V	N	S
27 SURFACE COVERAGE	.5-	.6-						
28 SURFACE THICKNESS								
29 PENETRATION								

36 CATALOGED ANAD. FISH BREAST? Y N37 CATALOG #: 226-10-16890

38 STREAM NAME: _____

39 OIL IN STREAM BED? Y R40 OIL ON STREAM BANKS? Y N41 OIL ON BEACH ADJACENT TO MOUTH? Y N
(within 50 meters)42 OIL WITHIN 1 MILE OF STREAM? Y N

Where: _____

43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION

Species Aerial Ground

30 OVERALL OIL IMPACT: N VL L N H31 OIL TYPE: Pooled Mousse TSP Asphalt Sticky Stain32 OILED DEBRIS? Y N33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cove
Lagoon Marsh

34 WAVE EXPOSURE: High Moderate Low

35 SUBSTRATE TYPE: Bedrock 40 Boulder 20 Cobble 15Gravel 25 Sand _____ Mud/silt _____COMMENTS: very rich intertidal zoneseveral small mussel patches were noted in the LITZ on west side of stream & 1 patch on the east side

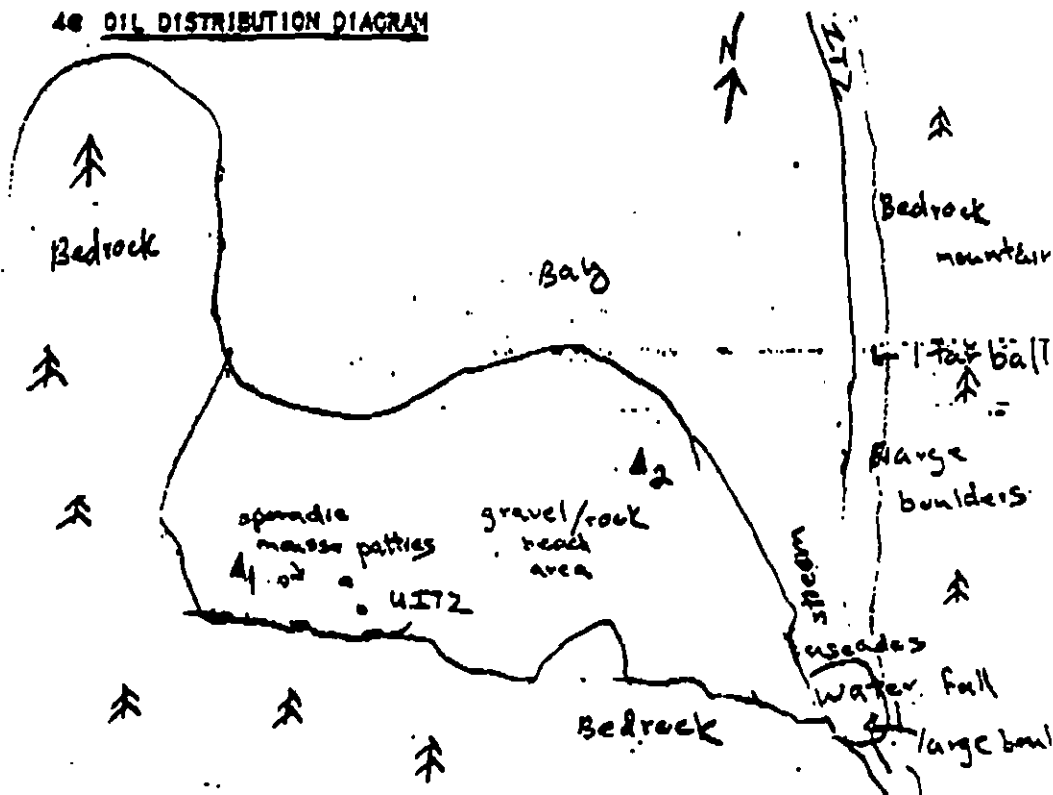
48 PHOTOLCG

KN 106

226-10-1689

FRAME(S)	DESCRIPTION
	pit 1 - 12cm - no oil
	pit 2 - 15cm - no oil

48 OIL DISTRIBUTION DIAGRAM



No treatment recommended

1991 MAYSAP EVALUATION

SEGMENT: KN 106 SUB: B REGION: PWS SURVEY DATE: 5/19/91ENVIRONMENTAL SENSITIVITIES:Work Window(s) OPENEcological/Constraints (see page two for details) NONEARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Timothy A. Smith Date: 6/03/91RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

NNN

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: 11/4/91FOSC APPROVAL DATE: 6/5/91

ADEC

FOSC

EXXON

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC

USCG

NOAA

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2 SEGMENT KN-106 SUBDIVISION B DATE 5/19/91

ADEC
NAME

Peter Montesano

SIGNATURE

[Signature]

☒ NTR ☐ TREATMENT RECOMMENDED

Short and relatively unvoiled subdivision. Most treatable
Remnants Removed or Broken up.

EXXON

NAME

FRANK A. Box

SIGNATURE

[Signature]

☐ NTR

Nothing was found on this segment other than
a few toe splashes and some light coat splatters.
No treat.

LANDMANAGER

NAME

DENNIS S. KENNEDY OF USFS

SIGNATURE

[Signature]

☒ NTR

almost no oiling remains.

USCG/NOAA

NOAA D. SIMONEK-BEATTY D. Simonek Beatty

NAME

BRI M.P. ZENONE USCG

SIGNATURE

[Signature]

☐ NTR

Minimal amount of oil within this segment. MAYSAP team
members removed old, weathered fuel barrels. No treatment
recommended. -PS-13

CG. RECOMMEND NO TREATMENT. 3

PAGE 1 OF 1

DATE 5 / 19 / 91

EST. OIL CATEGORY LENGTH: W m M m N m VL m NO 247 m US m

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

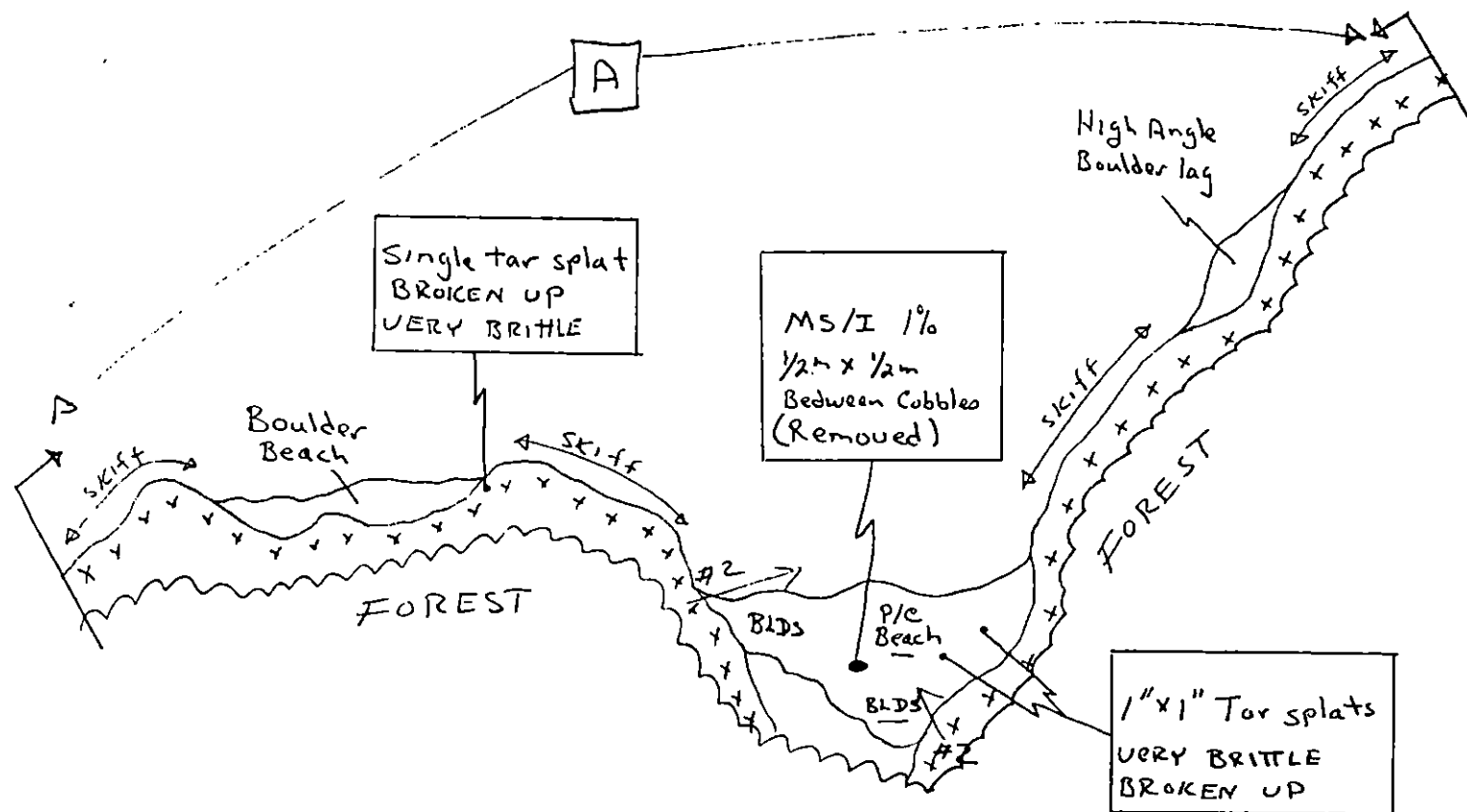
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 2 - 21 FRAMES 12

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

REVIEWED: MC 5/22/91

Reviewed 5.22.90

OG SKETCH
 KN 106 B
 MAY 19, 1991
 08:35 - 08:54
 Doug Reimer



reviewed 5.22.97
 REVISOR: 5/22/97 MC

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 19 May 91
 SEGMENT # KN-106 TIDAL HEIGHT(Range) +6 ft.
 SUBDIVISION B BIOLOGIST SM BAN
 SEA STATE Calm WIND SPEED/DIRECTION Calm
 PHOTOGRAPHS: ROLL # FRAME #

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

All oil on this coast segment was high in ITC - generally in the lichen zone. All ITC and mst was removed or broken up by survey team.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/kittiwakes			
Shorebirds			
Corvids			
Other Birds			

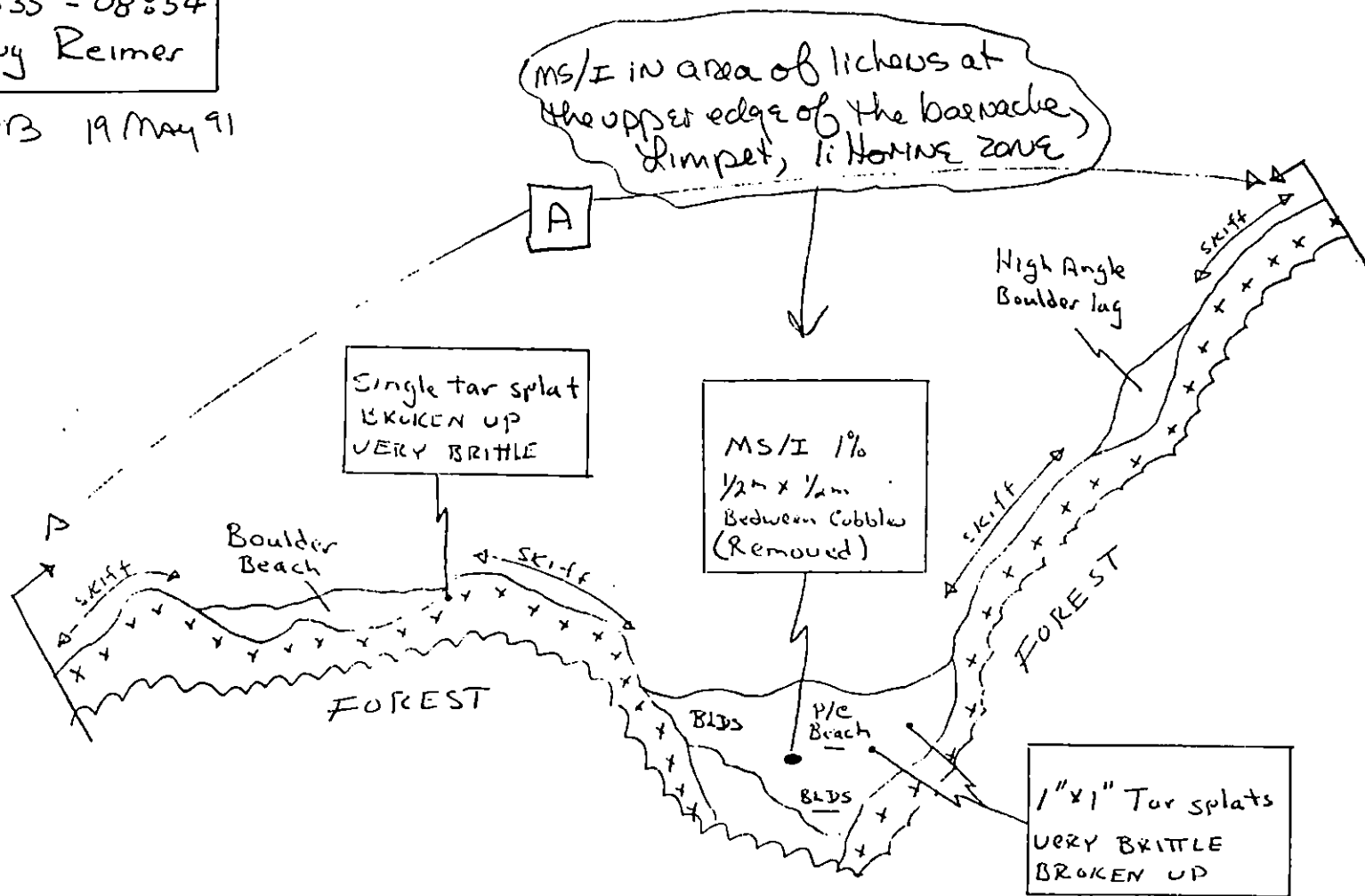
MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds(specify)			
les(specify)			

Shoreline subdivision map showing important biological features attached.

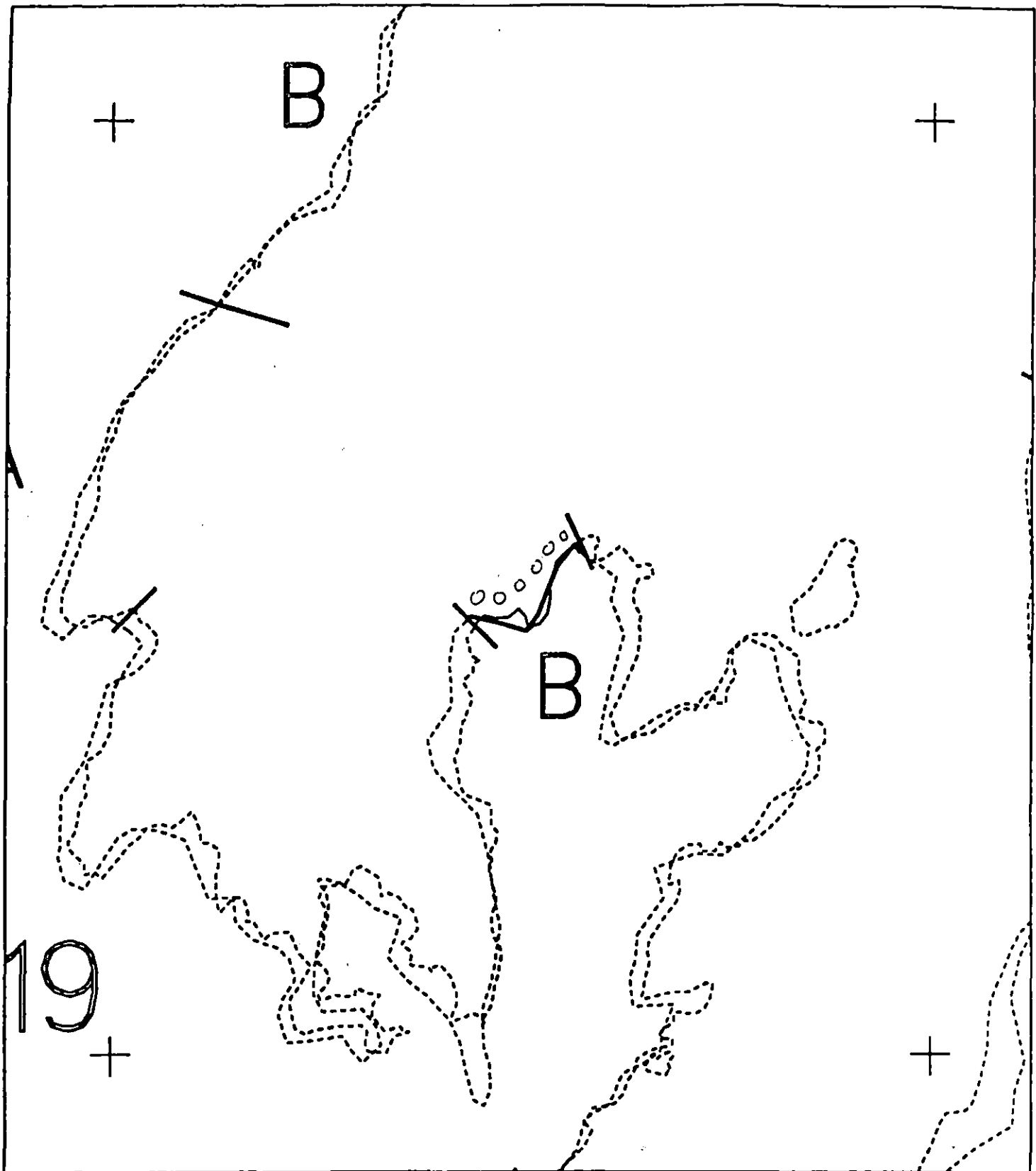
Reviewed M.B. 5/22/91

OG SKETCH
 1CN 106 B
 MAY 19, 1991
 08:35 - 08:54
 Doug Reimer

8MB 19 May 91



Reviewed M.B. 5/22/91



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

KN0106 B

ADEC Subsegment Length: 247m

METERS

0 200 400

AK State Plane Zone 4
kn0106b



Subdivision Field Map

Map Key: KNKN0106B

Name: Reimer

Date: 5/19/91

Date Entered:

Reviewed: mc 5/22/91
 reviewed 5.22 7y

SEGMENT: KN 106 SUB: A REGION: PWS SURVEY DATE: 5/19/91

Work Window(s) _____ OPEN

Ecological/Constraints (see page two for details) NONE

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

SHPO Signature: L. Mott Date: 6/83/91

FOSC

N

Other

INITIAL:

TAG:

FOSC:

TAG APPROVAL, DATE: MAY 31 1991

FOSC APPROVAL DATE: 6/5/91

ADEC

FOSC

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC

EXXON

USCG

NOAA

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2 SEGMENT KN-106 SUBDIVISION A DATE 5/19/91

ADEC

AME Peter MontesanoSIGNATURE Peter Montesano☒ NTR

TREATMENT RECOMMENDED

Dead Eagle Found and Flagged above area "C". The AP/SOR in area 'G' was Partially picked up. Overall the area is well documented by OG. The degree, distribution and sediment types forbid further treatment.

EXXON

NAME FRANK A. BoxSIGNATURE Frank A. Box☒ NTR

Very little oil observed on this segment. I believe clean-up would not yield any net benefit.

LANDMANAGER

NAME Dennis S. Kennedy OF USFSSIGNATURE D.S. Kennedy☒ NTR

oilings found in the upper intertidal was minimal, needs no treatment

USCG/NOAA NOAA P SIMONEK-BENTLEY

NAME Bruce M. P. Zenone USCGSIGNATURE Bruce M. P. Zenone☐ NTR

Very little oil observed on surface and only trace amounts subsurface. (SEE ADEC for about 2400 barrels). No treatment recommended. -DS-B

CG - NO TREATMENT RECOMMENDED. 3

REVIEWED: MC 5/22/91 revised 5.22 7y

OG SKETCH
KN 106 A
MAY 19, 1991
08:55 - 09:55
Doug Reimer

CT < 1%
MS/I < 0.01%
in crevices
1/2 x 40

2 x 4 meters
SOR/AP 10%
matrix between
cobbles / bbbk

CT (BTR) 2% Rock/BLDS/cob
SOR/I < 1% Interstitial Matrix
2 x 20

CT < 1%
MS/I < 0.01%
in crevices
1/2 x 200 meters

High angle Boulder Beach
(Beach width 8 meters)

KNIGHT ISLAND

Beach width 5-8 meters
Except by STREAM where
15-20 meters

Boulder Beach

~ WATER ~
LOUIS BAY

High angle
Boulder LAG

1 x 40m
VERY SPURADIC
TAR SPLATS < 1%
hard / brittle may
not be Exxon Valdez

POMPOMS
(2) Removed

POMPOM
Removed

Tar SPLATS < 1%
VERY hard / brittle
CT < 1%
MS/I < 1% Interstitial
between Boulders
UIT 2 1 x 30 meters

FRESH WATER
STREAM

CT/CU 20%
MS 5% Interstitial
2 x 10 meters
BLDS/ROCK NITZ

CT/SOR < 1% - mostly
under sides BLDS / interstitial
TB (splats) - hard < 1%
Broken up 3 x 30 meters

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 19 May 91
 SEGMENT # EN-106 TIDAL HEIGHT (Range) +6 to +3 Ft
 SUBDIVISION A BIOLOGIST SM BAN
 IEA STATE Calm WIND SPEED/DIRECTION Calm
 PHOTOGRAPHS: ROLL # _____ FRAME # _____

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

All oil in this Subsegment was found high in the mid to upper ITZ. This zone is generally the lichen to upper edge of barnacles and li. Horses. Dense mussel beds were found seaward of area "E" and the FU streams near areas "B" and "G" should not be disturbed.

A dead eagle was found in the stream between areas "B" & "C". The USCG Representative flagged the carcass and reported it to those responsible.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/Kittiwakes			
Shorebirds			
Corvids			
Other Birds			

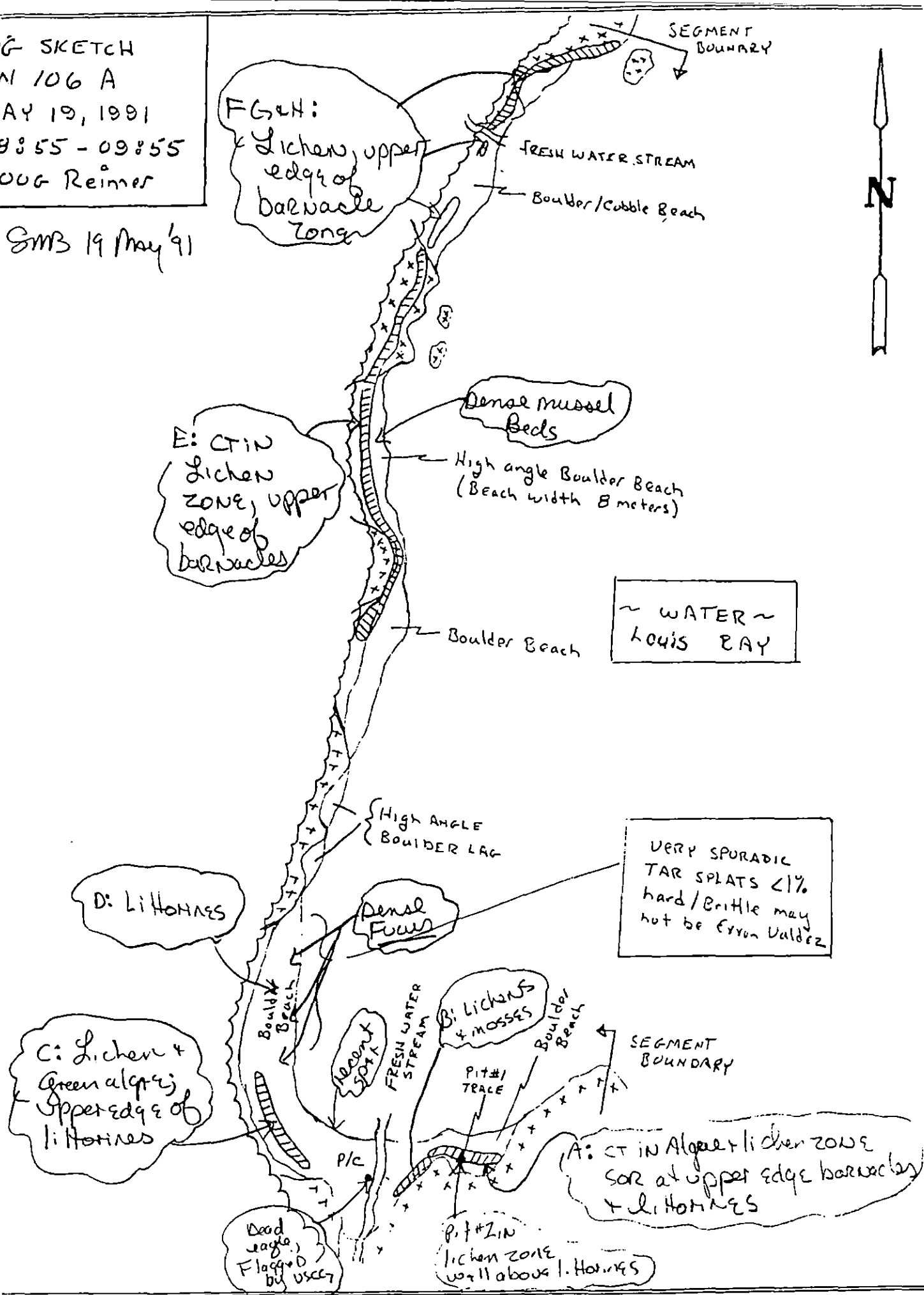
MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

Reviewed M.B. 5/22/91

OG SKETCH
 KN 106 A
 MAY 19, 1991
 08:55 - 09:55
 DOUG Reimer

SMB 19 May '91



Reviewed M.B. 5/22/91

KN-105

B

A

Narrow
10 meters

B

A

KN-119

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

KN0106 A
ADEC Subsegment Length: 688m
METERS

AK State Plane Zone 4
460106a



Subdivision Field Map

Map Key: KNKN0106A

Name: Reimer

Date: 5/19/91

Date Entered:

REVIEWED: MC 5/24/91
revised 5.22 9y

1991 MAYSAP EVALUATION

SEGMENT: KN 106 **SUB:** A **REGION:** PWS **SURVEY DATE:** 5/19/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) OPEN

Ecological/Constraints (see page two for details) NONE

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N) N _____

Manual Pickup (Check as Req.) _____

Spot Washing _____

Bio-Customblen Only _____

Bio-Inipol/Customblen _____

Other _____

Other _____

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____ FOSC APPROVAL DATE: _____

ADEC _____ FOSC _____

EXXON _____

USCG _____

NOAA _____

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2 SEGMENT KN-106 SUBDIVISION A DATE 5/19/91

ADEC

NAME Peter MontanoSIGNATURE Peter Montano

NTR



TREATMENT RECOMMENDED

Dead Eagle Found and Flagged above area "C". The AP/SOR in area 4 was Partially picked up. Overall the area is well documented by BG. The degree, distribution and sediment types forbid further treatment.

EXXON

NAME FRANK A. RexSIGNATURE Frank A. Rex

NTR

Very little oil observed on this segment. I believe clean-up would not yield any net benefit.

LANDMANAGER

NAME Dennis S. Kennedy OF USFSSIGNATURE D.S. Kennedy

NTR

oilings found in the upper intertidal was minimal, needs no treatment

USCG/NOAA NOAA D SIMONEK-BENTLEY

NAME Bm. M. P. ZENONE

USCG

SIGNATURE Bm. M. P. Zenone

NTR

Very little oil observed on surface and in tide pools adjacent to submergence. (SEE ADEC and site log for more). No treatment recommended. -DJB

CG - NO TREATMENT RECOMMENDED. 3

MAYSAP SHORELINE OILING SUMMARY

PAGE 1 OF 1

TEAM NO. 2

OG A. Reimer

BIO S. BAW

SEGMENT KN 106

ADEC P. Montesano

LANDMANAGER D. Kennedy for USFS

SUBDIVISION A

EXXON F. Box

USCG/NOAA B. S. S. - B. H. H.

DATE 5/19/91

TIME 08:55 to 09:55

TIDE LEVEL 5.67 R. to 2.94 R.

ENERGY LEVEL: ☐ H ☒ M ☐ L

SURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELO

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

TOTAL LENGTH SHORELINE SURVEYED: 688 m

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

EST. OIL CATEGORY LENGTH: W — m M — m N 10 m VL 364 m NO 314 m US — m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A			T	T		T					B	H	3.0	30		X			
B		S			P	P					BB	H	2.0	10		X			
C		T	T			T					B	H	1.0	30		X			
D	T										B	H	1.0	40		X			
E		T				T					B	H	0.5	200		X			
F				T		S					RBC	M	2.0	20		X			
G	S			S							CP	M	2.0	4		X			
H		T				T					B	H	0.5	40		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- 2-21 FRAMES 3-6

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	20						X		0-15	Y	-	-		X			B-CB	CT on large clots
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SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

OG COMMENTS: Predominantly Rocky shoreline with narrow high angle Boulder beaches and lag deposits, except for southern end of Segment where a pocket P/C beach has formed at fresh water stream. Oiling consists mostly of sporadic remains of drip line along NITZ on Rock and Blds. Small amounts of MS/SOR/AP were found in crevices in Rock and forming matrix between cobbles/Blds. The concentrations were < 1% over most of Segment, except for locations B and C. A lot of the Tar splats noted are very brittle and may NOT be Exxon Valdez.

REVIEWED: MC 5/21/91 Revised 5.22 fy

OG SKETCH
KN 106 A
MAY 19, 1991
08:55 - 09:55
DOUG Reimer

CT < 1%
MS/I < 0.01%
in CREVICES
1/2 x 40

2 x 4 meters
SOR/AP 10%
matrix between
Cobble / Abbk

CT (BTR) 2% Rock/BLDS/Cob
SOR/I < 1% Interstitial Matrix
2 x 20

CT < 1%
MS/I < 0.01%
in crevices
1/2 x 200 meters

KNIGHT ISLAND

Beach width 5-8 meters
Except by STREAM where
15-20 meters

~ WATER ~
LOUIS BAY

POMPOMS
(G) Removed

Tar splats < 1%
very hard / brittle
CT < 1%
MS/I < 1% Interstitial
between boulders
1/2 x 30 meters

FRESH WATER
STREAM

Pit #1
TRACE

CT/CU 20%
MS 5% Interstitial
2 x 10 meters
BLDS/ROCK HITZ

1 x 40m
VERY SPORADIC
TAR SPLATS < 1%
hard / brittle mass
not de from valdez

SEGMENT
BOUNDARY

CT/SOR < 1% - mostly
under sides BLDS / -
TB (splats) - hard < 1%
Broken up 3 x 20 meters

REVIEWED: MC 5/24/91, revised 5.22.94

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 19 May 91
 SEGMENT # EN-106 TIDAL HEIGHT(Range) +6 to +3 Ft
 SUBDIVISION A BIOLOGIST SMBAN
 SEA STATE Calm WIND SPEED/DIRECTION Calm
 PHOTOGRAPHS: ROLL # FRAME #

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

All oil in this Subsegment was found high in the mid to upper ITZ. This zone is generally the lichen to upper edge of barnacles and Littorines. Dense mussel beds were found seaward of area "E" and the FW streams near areas "B" and "G" should not be disturbed.

A dead eagle was found in the stream between areas "B" & "C". The USCG Representative flagged the carcass and reported it to those responsible.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/kittiwakes			
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds(specify)			
ales(specify)			

Shoreline subdivision map showing important biological features attached.

Reviewed M.B. 5/22/91

OG SKETCH
KN 106 A
MAY 19, 1991
08:55 - 09:55
DOUG Reimer

SMB 19 May '91



FGH:

Lichen, upper
edge of
barnacle
zone

FRESH WATER STREAM

Boulder/Cobble Beach

SEGMENT
BOUNDARY

E: CTIN
Lichen
zone, upper
edge of
barnacles

Dense mussel
beds

High angle Boulder Beach
(Beach width 8 meters)

Boulder Beach

~ WATER ~
LOUIS BAY

HIGH ANGLE
BOULDER LAG

D: LITHOMES

Dense
Fucus

VERY SPURADIC
TAR SPLATS <1%
hard/brittle may
not be from under

C: Lichen +
Green algae;
upper edge of
Lithomes

Boulder
Beach

Recent
SOL

FRESH WATER
STREAM

B: LICHENS
+ MOSSES

PIT #1
TRACE

Boulder
Beach

SEGMENT
BOUNDARY

Dead
algae
Flagged
by us

PIT #2 in
Lichen zone
well above L. HOMES

A: in Algae + lichen zone
SOL at upper edge barnacle
+ L. HOMES

Reviewed M.B. 5/22/91

KN-105

+

+

B

A

Narrow
10 meters

B

A

KN-119

XXXX
////

TTTT
0000

Wide
Medium
Narrow
Very Light
No Oil

KN0106 A

ADEC Subsegment Length: 688m

METERS

0 200 400

AK State Plane Zone 4
16001000



Subdivision Field Map

Map Key: KN1KN0106A

Name: Reimer

Date: 5/19/91

Date Entered:

REVIEWED: MC 5/24/91
revised 5.22 9y

1991 MAYSAP EVALUATION

SEGMENT: KN 106 SUB: B REGION: PWS SURVEY DATE: 5/19/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) OPEN

Ecological/Constraints (see page two for details) NONE

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N) N _____

Manual Pickup (Check as Req.) _____

Spot Washing _____

Bio-Customblen Only _____

Bio-Inipol/Customblen _____

Other _____

Other _____

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____ FOSC APPROVAL DATE: _____

ADEC _____ FOSC _____

EXXON _____

USCG _____

NOAA _____

TEAM NO. 2 SEGMENT KN-106 SUBDIVISION B DATE 5/19/91

ADEC

NAME

Peter Montesano

SIGNATURE

[Signature]

NTR



TREATMENT RECOMMENDED

Short and relatively uncoiled subdivision. Most treatable
Remnants Removed or Broken up.

EXXON

NAME

FRANK A. Box

SIGNATURE

[Signature]

NTR

Nothing was found on this segment other than
a few toe splashes and some light coat splatters.
No treat.

LANDMANAGER

NAME

DENNIS S. KENNEDY OF USFS

SIGNATURE

[Signature]

NTR

almost no oiling remains.

USCG/NOAA NOAA D. SINGER-BEATTY D. SINGER-BEATTY

NAME

BRI M.P. ZENONE USCG

SIGNATURE

[Signature]

NTR

Minimal amount of oil within this segment. MAYSAP team
members, removed old, weathered tie balls. No treatment
required. LCB - PS-13

CB. RECOMMEND NO TREATMENT. 3

DATE 5/19/91

ENERGY LEVEL: ☐ H ☒ M ☐ L

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

EST. OIL CATEGORY LENGTH: W m M m N m VL m NO 247 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

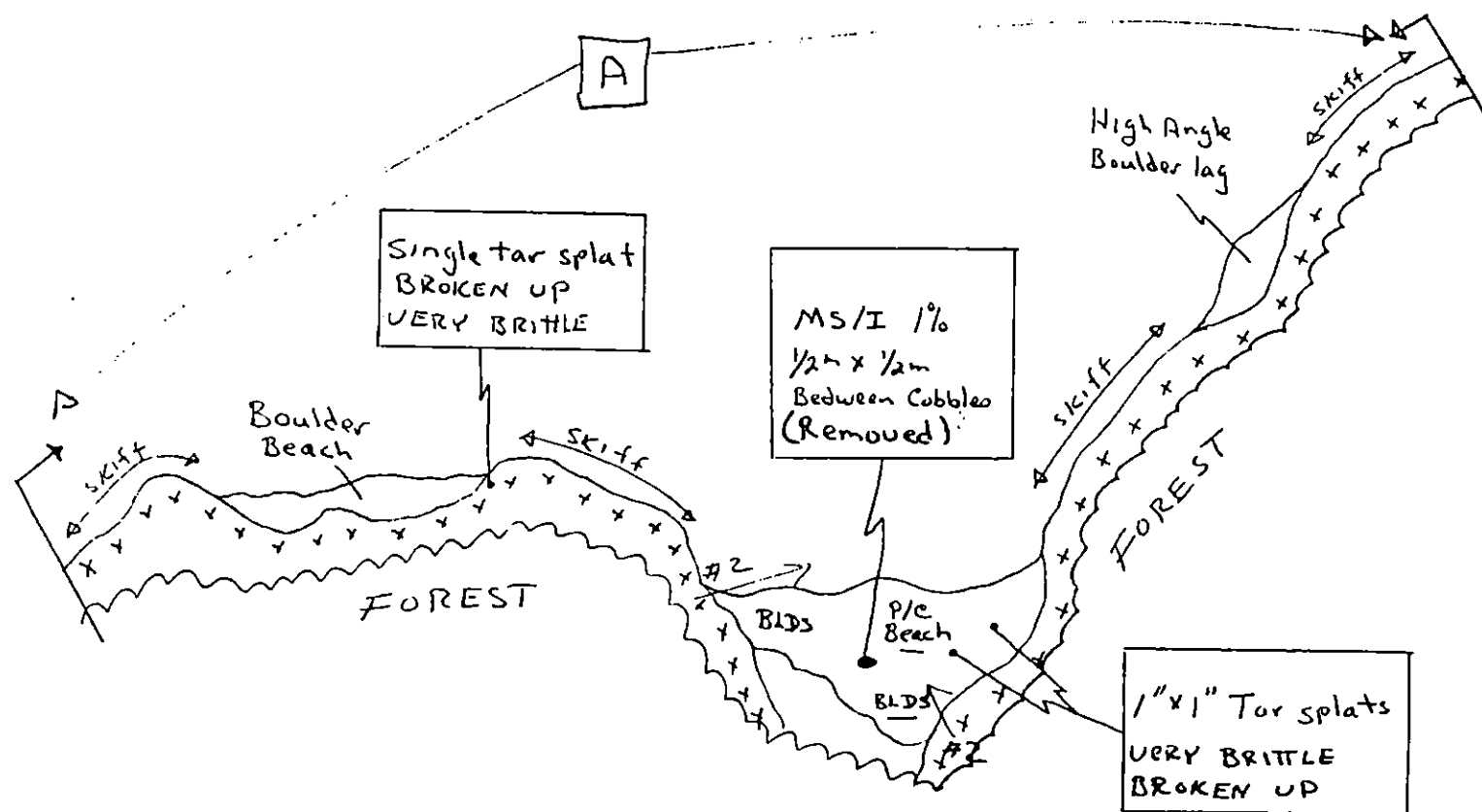
PHOTO ROLL # MAYSAP- 2 - 21 FRAMES 1-2

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

OG COMMENTS: Rocky Shoreline with high angle Boulder Beaches and Lag deposits over Rock. One small pocket P/C Beach. The only oil found were three tar splats (very brittle - possibly NOT Exxon Valdez) and one small patch of Interstitial Mousse (1%). These were broken up and or Removed. The entire Segment is coded as Location "A" and is marked as No oil remaining.

REVIEWED: MC 5/22/91
reviewed 5.22.91

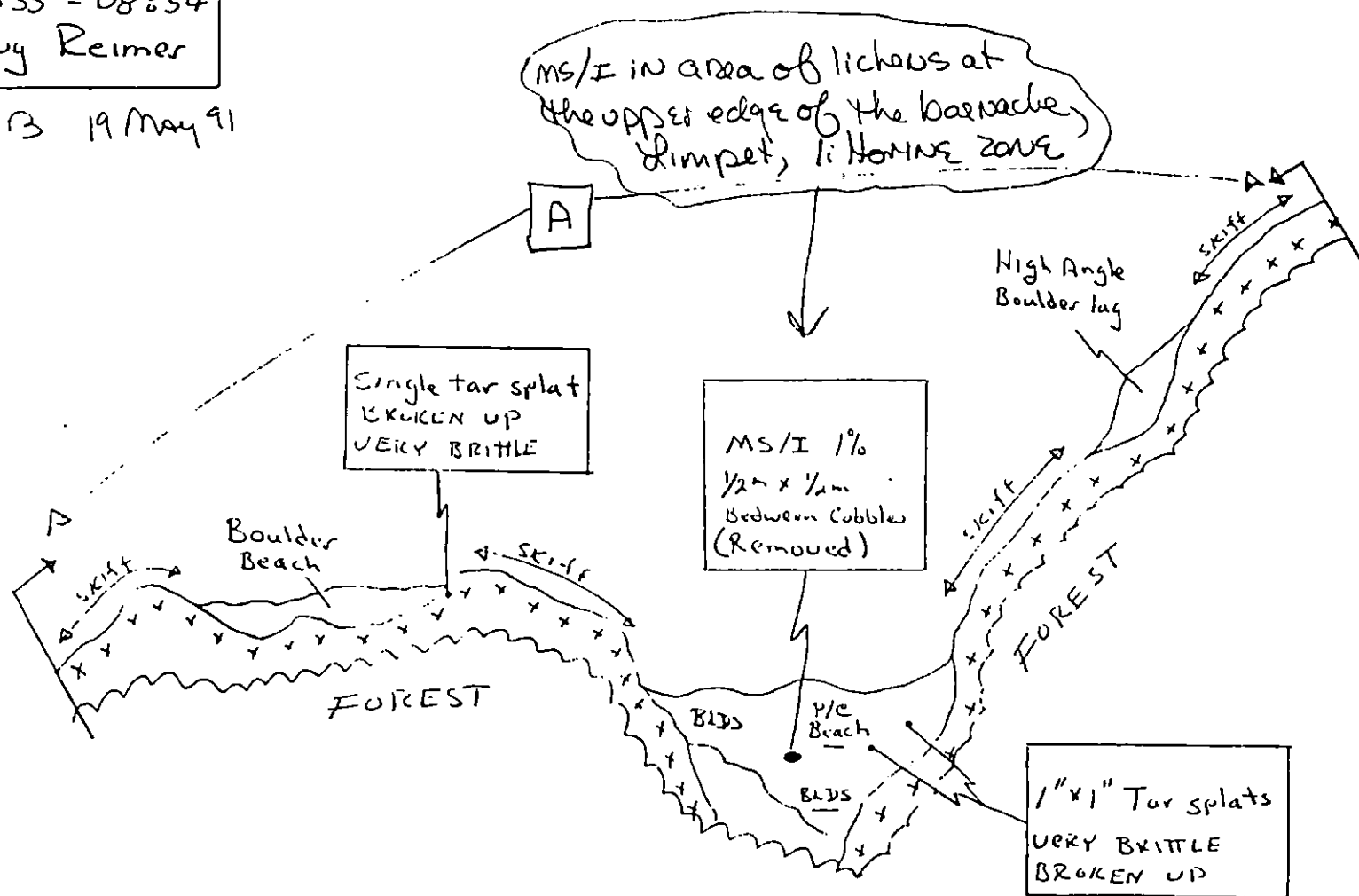
OG SKETCH
KN 106 B
MAY 19, 1991
08:35 - 08:54
Doug Reimer



revised 5.22.97

OG SKETCH
 KN 106 B
 MAY 19, 1991
 08:35 - 08:54
 Doug Reimer

Site B 19 May 91



Revised M.B. 5/22/91

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 12 May 91
 SEGMENT # KN-106 TIDAL HEIGHT(Range) +6 ft.
 SUBDIVISION B BIOLOGIST SM BAN
 SEA STATE Calm WIND SPEED/DIRECTION Calm
 PHOTOGRAPHS: ROLL # FRAME #

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

All oil on this seab segment was high in ITZ - generally in the lichen zone. All TB and M/S was removed or broken up survey team.

WILDLIFE OBSERVATIONS

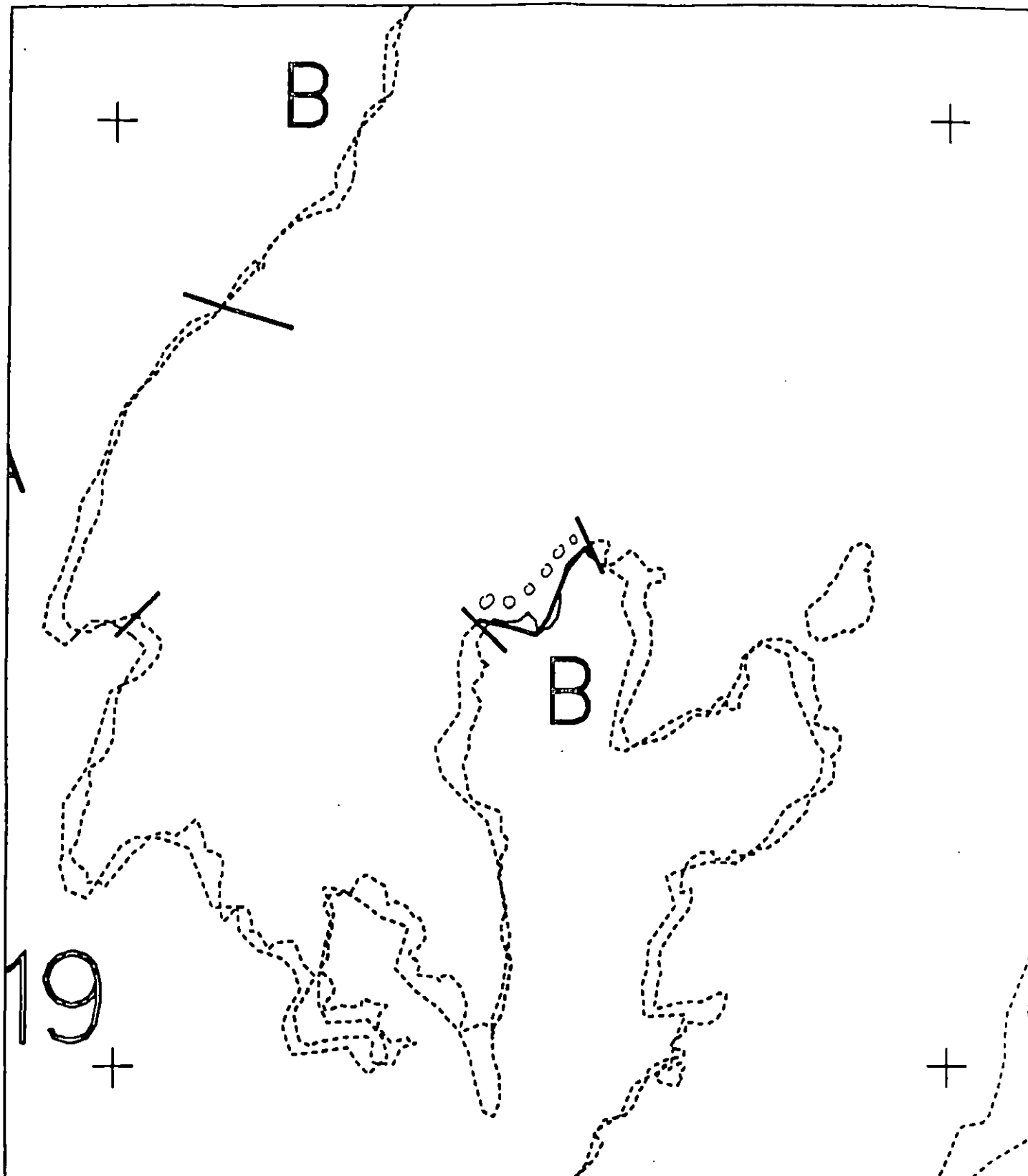
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/Kittiwakes			
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds(specify)			
Whales(specify)			

Shoreline subdivision map showing important biological features attached.

Reviewed M.B. 3/22/91



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

KNO106 B
 ADEC Subsegment Length: 247m
 METERS

0 200 400
 AK State Plane Zone 4
 1400106B



Subdivision Field Map
 Map Key: KNIKNO106B
 Name: Reimer
 Date: 5/19/91
 Date Entered:

Reviewed: Mc 5/22/91
 reviewed 5.22 7y

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION C (3 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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

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

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

Cultural resource survey in progress. Shoreline treatment cannot proceed until field data have been assessed and a formal archaeological constraint entered on the shoreline evaluation form.

SHPO SIGNATURE: [Signature] DATE: 4/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 13 m: V.Light 117 m: No Oil 418 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of areas indicated on sketch map.
Do not bioremediate within 100m of anadromous fish stream.

TAG COMMENTS: NTR Recommended due to lack of significant oil +
dense biota.

TAG APPROVAL DATE: 4/23/90.
ADEC ART WEINER
EXXON AMY COLE
NOAA Joseph Talbot
USCG KENNETH KEANE

FOSC: [Signature] DATE: 5-6-90

OGI: NGFA

SEGMENT ST/ KY-106

SUBDIVISION C

DATE 04/10/90

CHECKLIST

- ☒ N Area
- ☒ Approx. Scale
- ☒ Seg/Sub Bndry
- ☒ Oil Dist.
 - Width
 - Length
 - % Cover
- Substrate Character
- ☒ Est. HW/LWL
- SSL
- Profile Location(s)
- Profile(s)
- Pt Location(s)
- Photo Location(s)

LEGEND

1 Δ

PH - No Subsurface Oil

2 Δ

PH - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

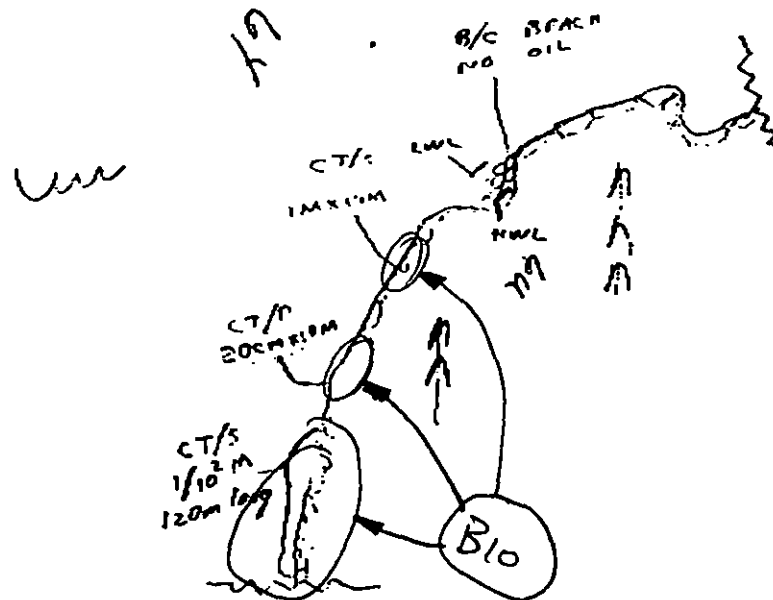
Splashed Distribution

Oil Vegetation

1 $\Rightarrow$

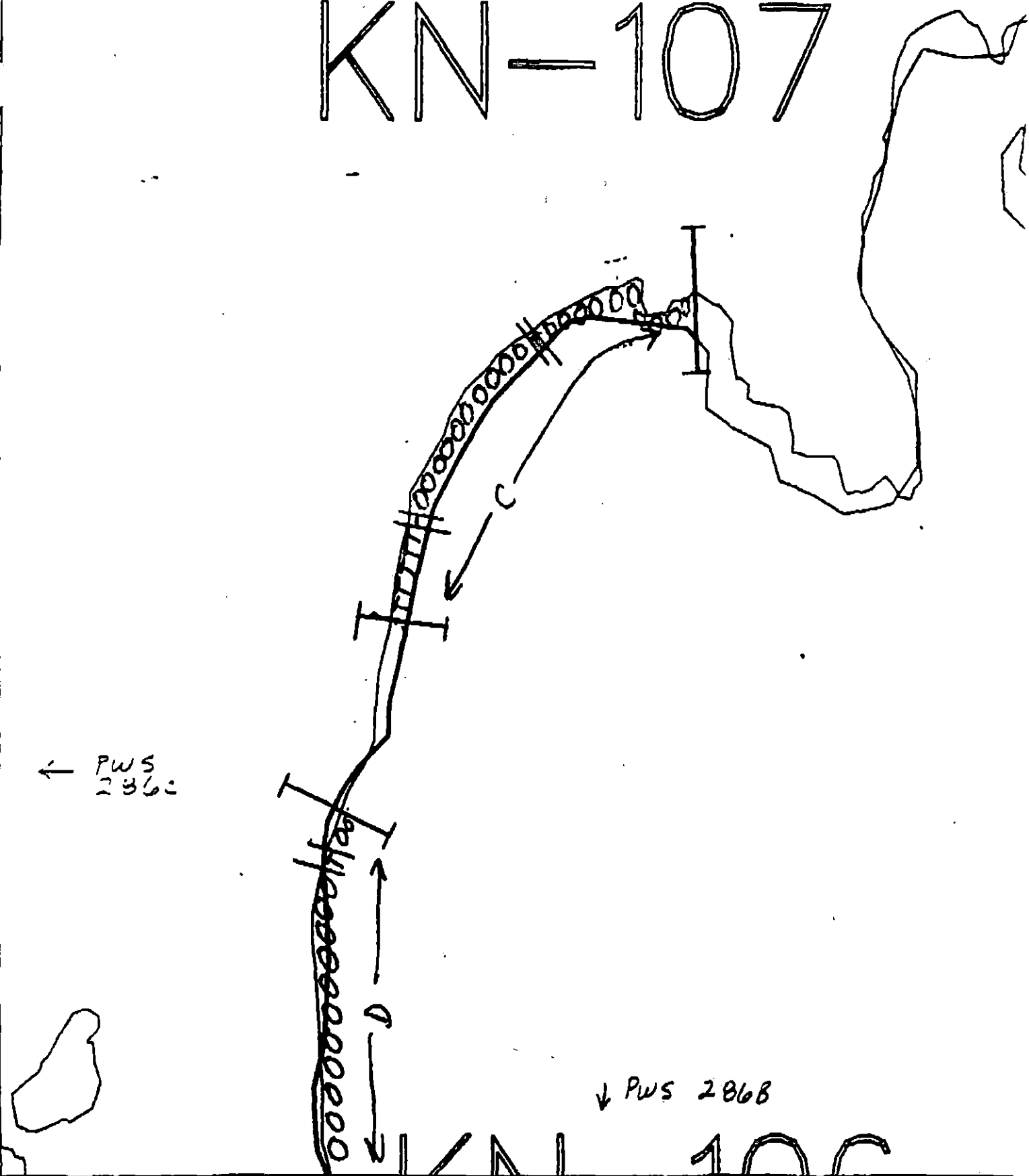
Photo location, direction,
and number

SKETCH MAP



Oil Character Length (m): AP _____ PO _____ CV _____ CT 150 ST _____ MS _____ PT _____ TB _____ FL _____ NO 350

KN-107



XXXX Wide

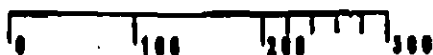
//// Medium

--- Narrow

TTTT Very Light

KN-106

ADEC Segment Length: 9214m



Map Key: PWS-286d

Name: James Springe

Date: 4/10/90

Note: Colored.

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION B (2 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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

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

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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).

d
1

SHPO SIGNATURE: Charles J. H. [Signature] DATE: 5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 25 m: No Oil 222 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

+ TARBALLS.

COMMENTS: Manual pick up of mousse, followed by bioremediation as indicated on sketch map. Work should be conducted between 5/16 and 7/9 based on constraints.

TAG COMMENTS: • DELETE BIOREMEDIATION DUE TO LACK OF OIL AND DENSE BIOTA

TAG APPROVAL DATE: 4/23/90

ADEC ART WEINER [Signature]

EXXON ANDY [Signature]

NOAA Joseph Talbot [Signature]

USCG KENNETH KEANE [Signature]

FOSC: [Signature] DATE: 5-8-90

OG J. SPHINXER
SEGMENT ST/KN-106
SUBDIVISION B
DATE 04/09/90

SKETCH MAP

CHECKLIST

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

LEGEND

1 Δ

Pit - No Substrate Oil

2 Δ

Pit - Substrate Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

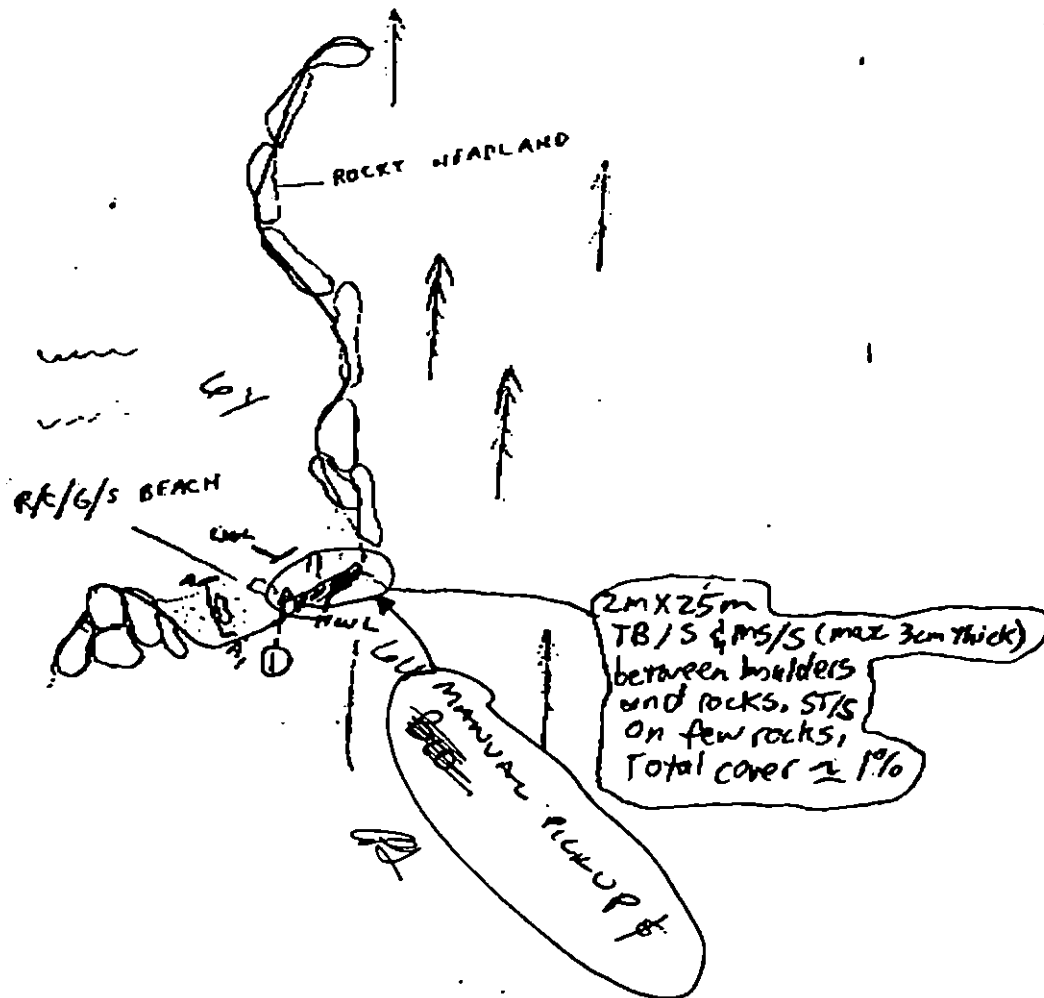
CT/S

Splashed Distribution

Oil Vegetation

1 ●→

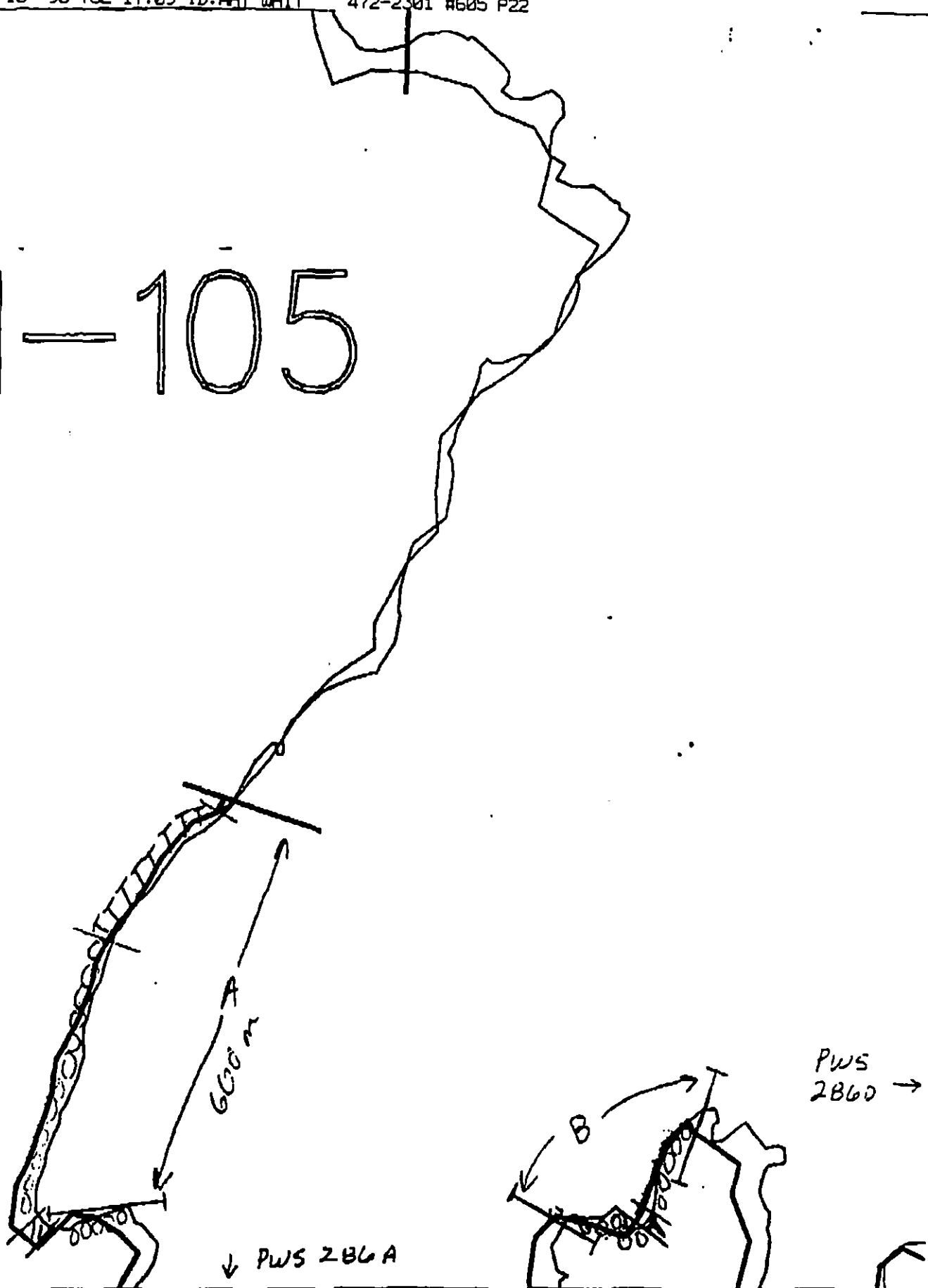
Photo location, direction, and number



100
METERS

Character Length (m): AP _____ PO _____ CV _____ CT _____ ST _____ MS _____ PT _____ TB 25 FL _____ NO 195

KN-105



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

KN-106

ADEC Segment Length: ~~800m~~ 10152

0 100 200 300

Map Key: PWS-286c
Name: James Springer
Date: 04/09/90
Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION D (4 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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

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

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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).

sd
sl

SHPO SIGNATURE: Charles Ziff DATE: 5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 12 m: V.Light 24 m: No Oil 550 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommend asphalt removal. Work should be conducted between 5/16 and 7/9 based on salmon constraints if closer than 100m of to anadromous fish stream.

MANUAL PICKUP NOT TIME RESTRICTED

TAG COMMENTS:

TAG APPROVAL DATE: 4/25/90.
ADEC Art Wenzel
EXXON Amy Tol
NOAA Joseph Talbot
USCG Kenneth Kethune

FOSC: ML DATE: 5-8-90

EGMENT ST/ N-106

SI CH MAP

UBDIVISION D

ATE 04/10/90

CHECKLIST

- ☒ N/Areas
- ☒ Approx. Scale
- ☒ Map/Sub Bndry
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Ext. HML/LWL
- ☒ PSL
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ P/L Location(s)
- ☒ Photo Location(s)

LEGEND

1 Δ
v - No Subsurface Oil

2 Δ
x - Subsurface Oil

CT/C
on Shallow Distribution

CT/B
on Distribution

CT/P
on Distribution

CT/S
on Distribution

CT/S
on Distribution

ed Vegetation

1 $\Rightarrow$
100 location, direction,
of number

Low energy
shoreline by

Boulder
beach

LWL
at shore

HWL

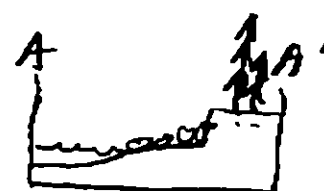
Rock
face
HML

30mX3m
AP/S
~5% cover

TARMAT
REMOVAL

7mX2m
ST/B/LBR
w/few TB
between boulders.
(~ 1n² TB)

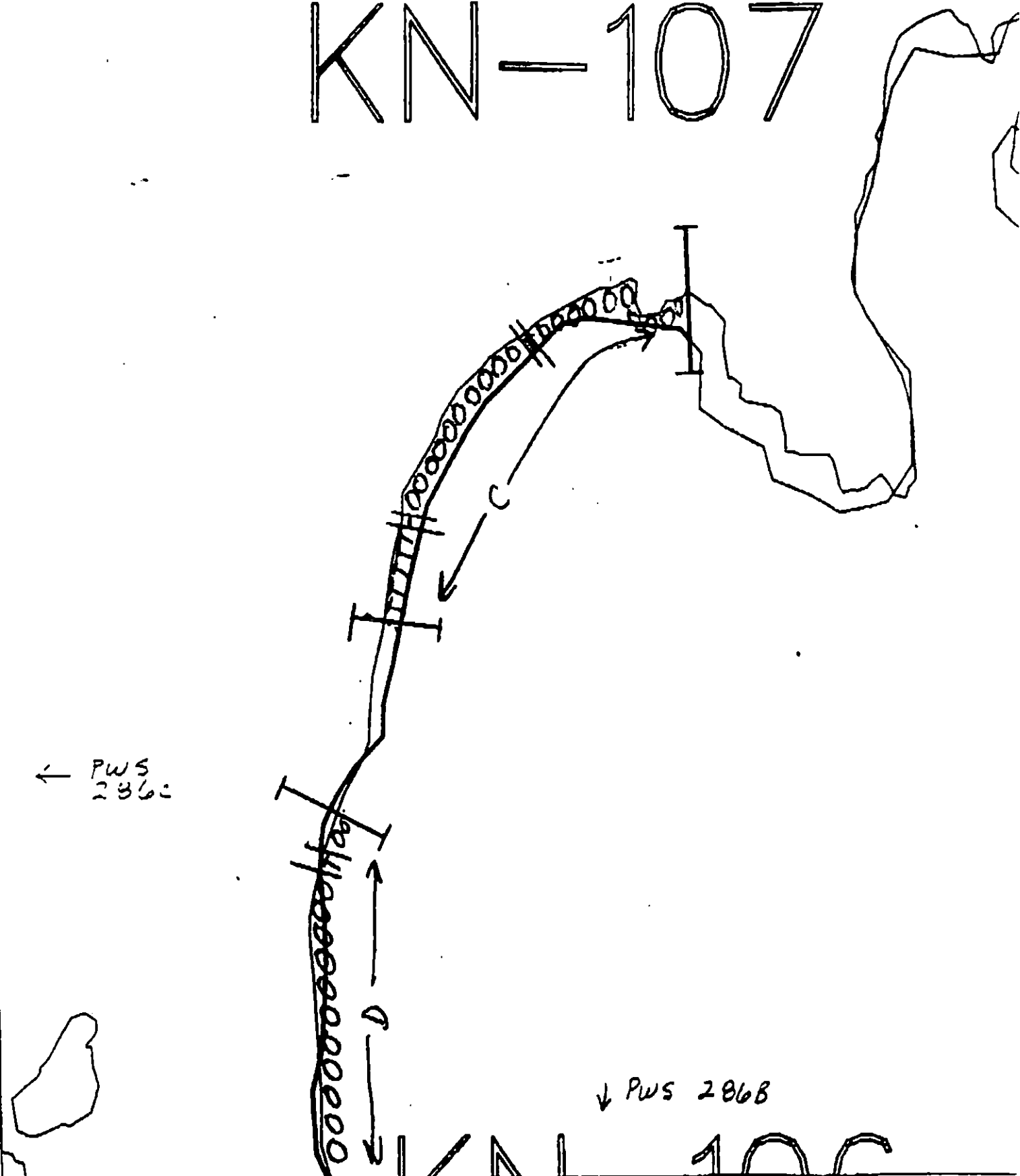
N
0 100m
APPROX



Character Length (m): AP 30 PO CV CT ST 7 MS PT TB FL NO 563

REVISIONS/2/90

KN-107



XXXX Wide

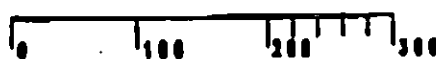
//// Medium

--- Narrow

TTTT Very Light

KN-106

ADEC Segment Length: 9214m

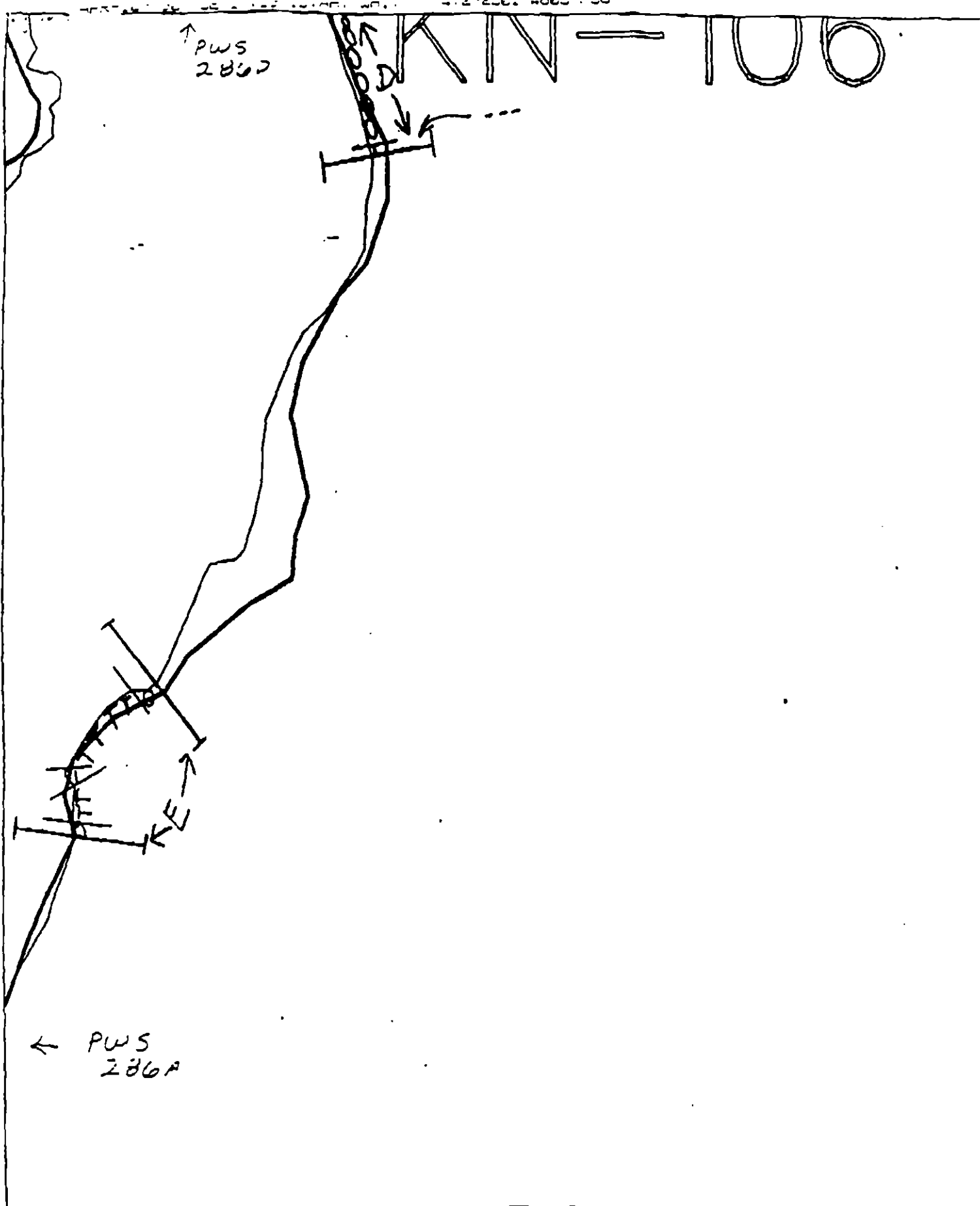


Map Key: PWS-286d

Name: James Springe

Date: 4/10/90

Data Entered:



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

KN-106
 ADEC Segment Length: 9214m

0 100 1,000 1,000

Map Key: PWS-2866
 Name: James Springer
 Date: 4/10/90

SEGMENT ST/ KN-106 SUBDIVISION E (5 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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

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

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: J. Paul M. Mahan DATE: 9/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 24 m: V.Light 151 m: No Oil 48 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

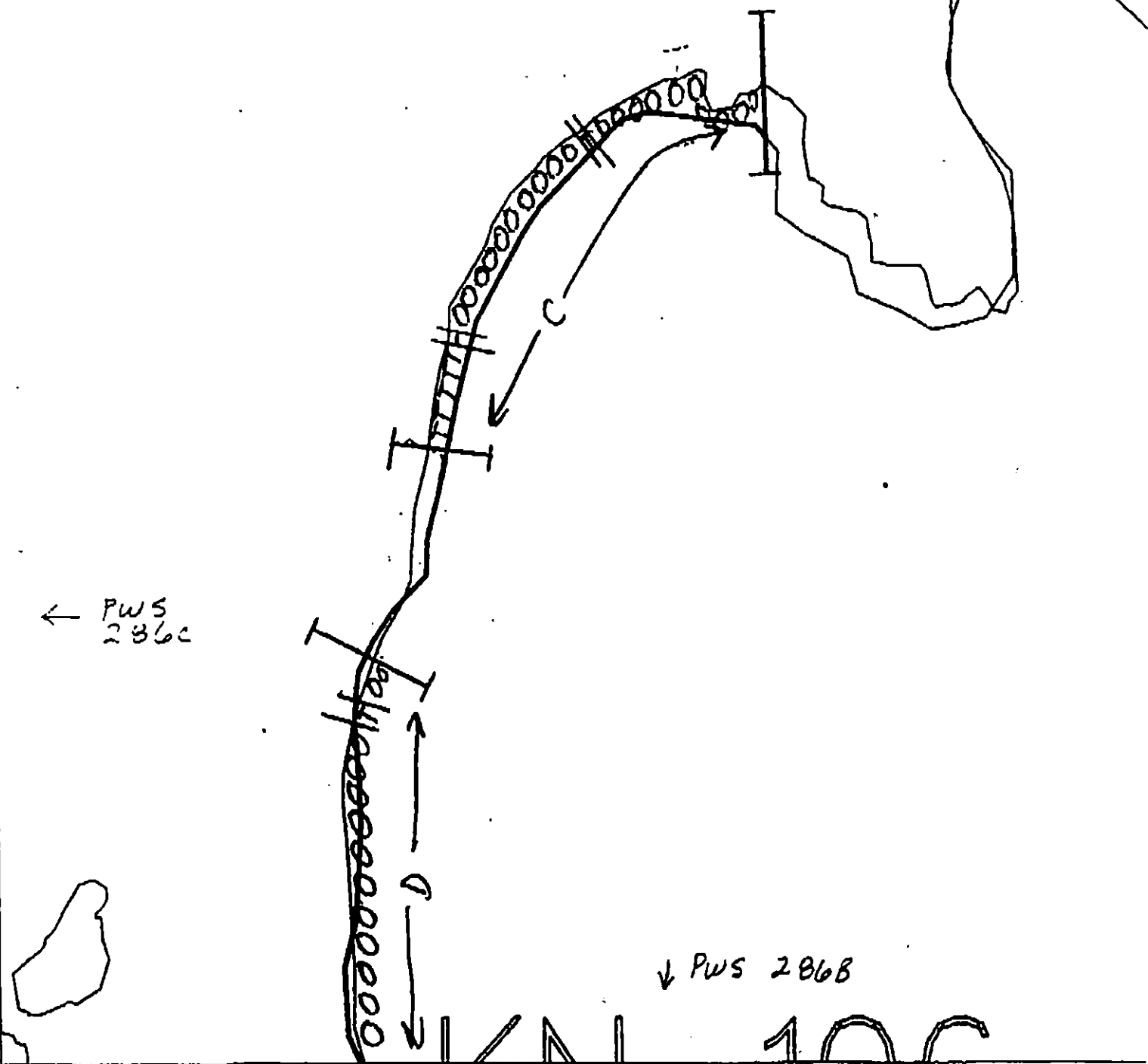
COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/23/10.
ADEC Art Weimer
EXXON Art Weimer
NOAA Joseph Talbott
USCG Kenneth Keane

FOSC: WGL DATE: 4-27-90

KN-107



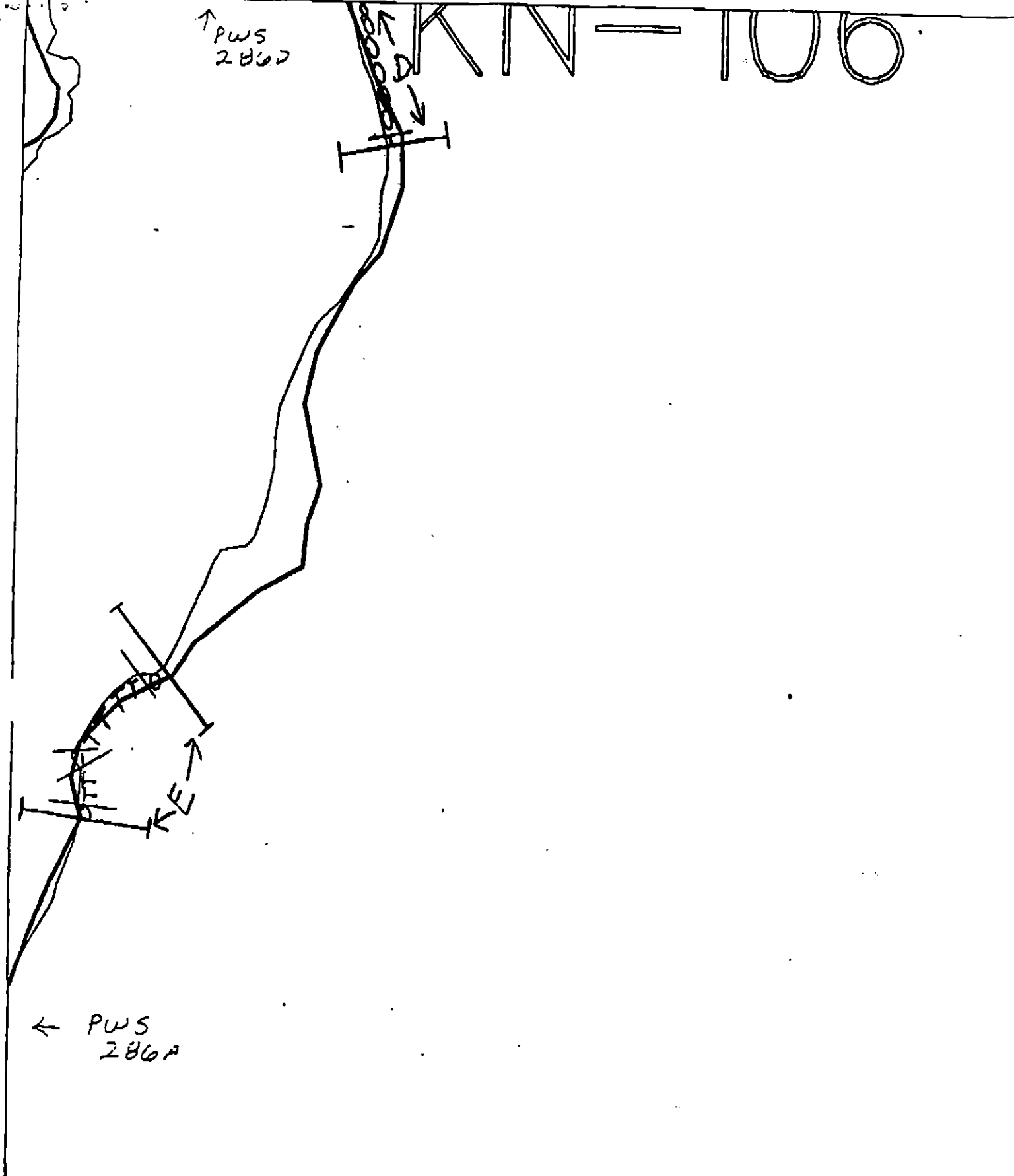
XXXX Wide
 //// Medium
 --- Narrow
 TTTT Very Light
 OOOO No Oil

KN-106

ADEC Segment Length: 9214m



Map Key: PWS-286d
 Name: James Springer
 Date: 4/10/90
 Data Entered:



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-106

ADEC Segment Length: 9214m



Map Key: PWS-286b

Name: James Springer

Date: 4/10/90

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-106 SUBDIVISION A (1 of 5)

WORK WINDOW	
Manual Pickup	OPEN
Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A, 1B Salmon Stream

ADF&G catalogued stream (226-10-16890) is not located in Subdivision A. No Constraint to Manual Pickup and Bioremediation.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to unrolled substrate and biota. Do not trample or otherwise damage mussel beds.

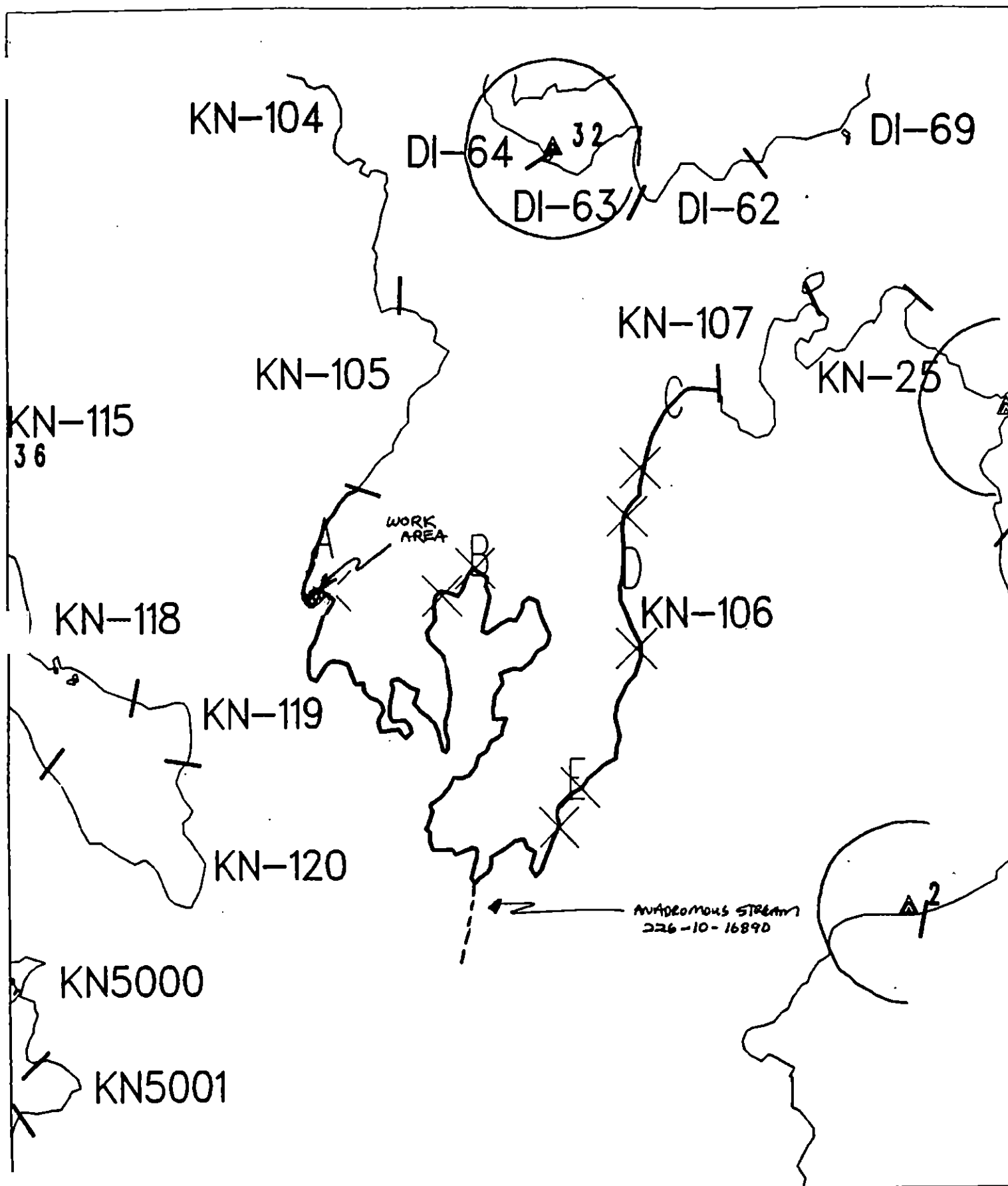
TAG ADDENDUM DATE 5/18/90
ADEC Art Weir
EXXON Art Weir
NOAA John Talbot
USCG G.A. Reiter

FOSC

DATE 5-18-90

Prepared by: Art Weir

Date: 5/18/90



Exxon Company, USA



ECOLOGY MAP
SEGMENT KN-106
SUBDIVISION A (1 of 5)

- ★ Seabird Colony
- ▲ Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION A (1 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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

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

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. Do not trample or otherwise damage mussel bed.

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 *CEH*
(564-3657; 564-3658 or 564-3276).

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SHPO SIGNATURE: *Charles E. Homan* DATE: 5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 53 m: Narrow 23 m: V. Light 177 m: No Oil 435 m
Subsurface Oil Observed: Yes X No Maximum Depth 20 cm

RECOMMENDATIONS:

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

COMMENTS: Manual pick up of mousse followed by bioremediation as indicated on sketch map. Work should be conducted between 5/16 and 7/9 based on above salmon constraints. Contact ADF&G for salmon constraints.
For Dates, See Addendum 5/17/90 wk

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90

ADEC *Art Weimer*

EXXON *Andy Ren*

NOAA *Joseph Blunt*

USCG *KENNEDY KEANE*

FOSC: *[Signature]* DATE: 5-6-90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-106 SUBDIVISION B (2 of 5)

WORK WINDOW	
Manual Pickup	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B

Salmon Stream

ADF&G catalogued anadromous stream (226-10-16890) is located outside Subdivision B in an unsurveyed portion of Segment KN-106. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

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

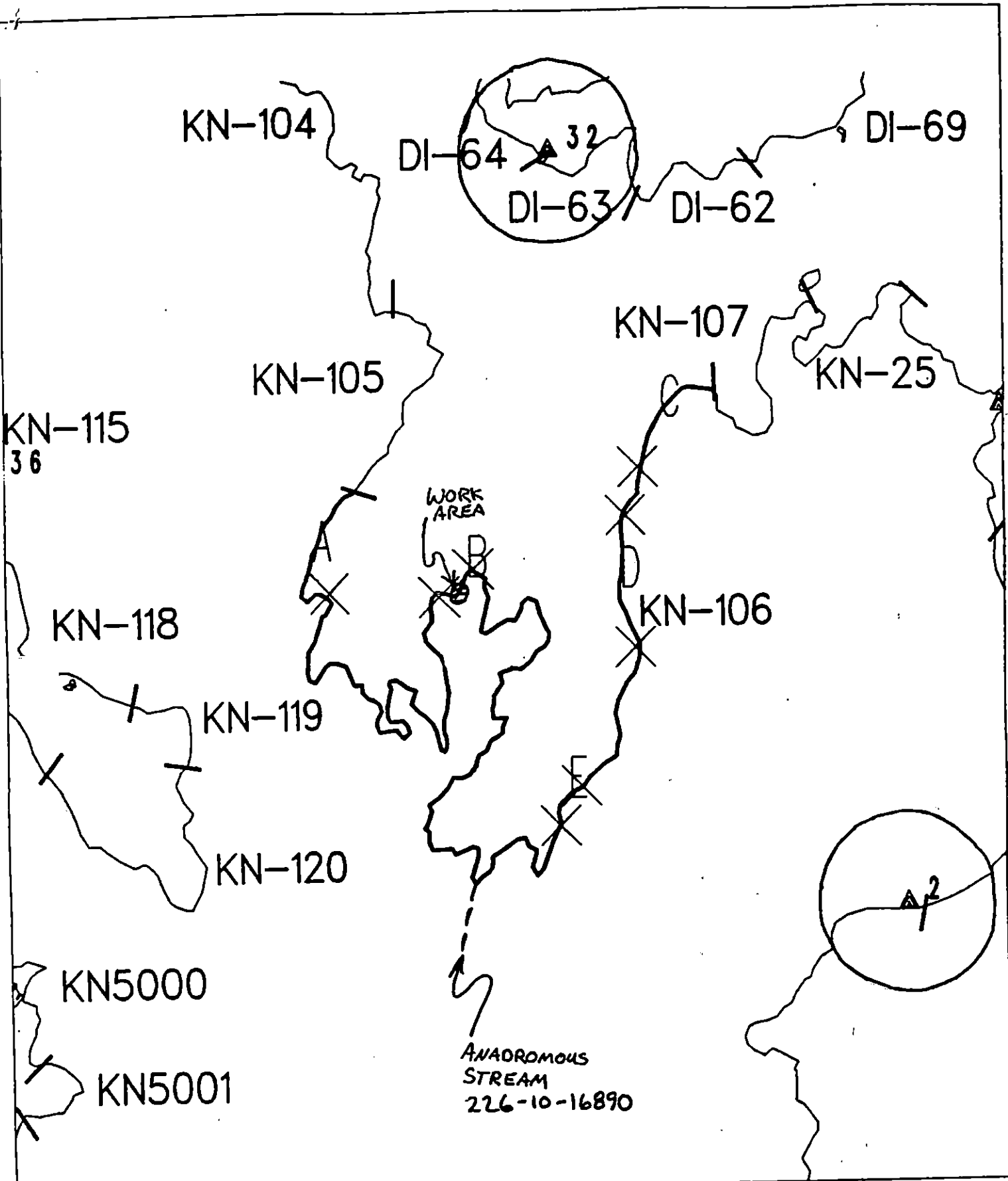
TAG ADDENDUM DATE 5/21/90.
ADEC Art Womack Art Womack
EXXON Andy Tish Andy Tish
NOAA Joseph J. Galt Joseph J. Galt
USCG W. J. Hall W. J. Hall

FOSC

DATE 5-21-90

Prepared by: Andre Meyer

Date: 5/19/90



Exxon Company, USA
Map Keys KNI-KN-106
M. 11 1000



ECOLOGY MAP
SEGMENT KN-106
SUBDIVISION B (2 of 5)
METERS
0 500 1150

- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1902 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION B (2 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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

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

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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

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SHPO SIGNATURE: Charles J. Hume DATE: 5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 25 m: No Oil 222 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

+ TARBALLS

COMMENTS: Manual pick up of mousse followed by bioremediation as indicated on sketch map. Work should be conducted between 5/16 and 7/9 based on constraints.

See Appendix DATED 5/9/90
Ken C.

TAG COMMENTS: • DELETE BIOREMEDIATION DUE TO LACK OF OIL AND DENSE BIOTA

TAG APPROVAL DATE: 4/23/90

ADEC Art Weimer
EXXON Art Weimer
NOAA Joseph T. Keane
USCG Kenneth Keane

FOSC: W L DATE: 5-8-90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-106 SUBDIVISION D (4 of 5)

WORK WINDOW

Manual Pickup
Tarmat Removal

OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B

Salmon Stream

ADF&G catalogued anadromous stream (226-10-16890) is located outside Subdivision D in an unsurveyed portion of Segment KN-106. No constraint to manual pickup or tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG ADDENDUM DATE

ADEC

EXXON

NOAA

USCG

5/21/90
Art Weimer
Ann T. Galt
Joseph T. Galt
M. J. Hall, Jr.

FOSC

DATE

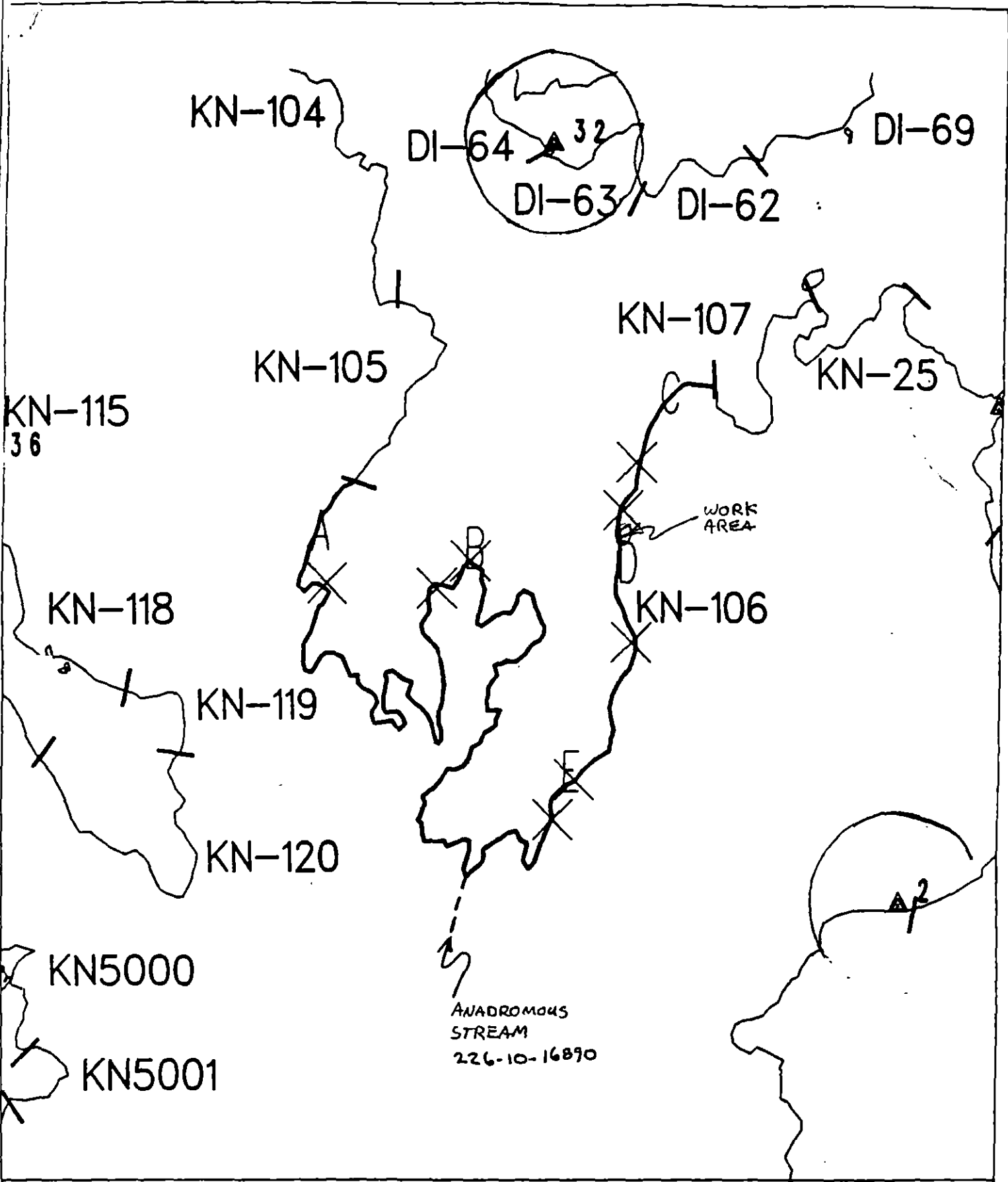
5-21-90

Prepared by:

Anders Meyer

Date:

5/19/90



Exxon Company, USA
 Map Key: KNI-KN-106
 May 11, 1990



ECOLOGY MAP
 SEGMENT KN-106
 SUBDIVISION D (4 of 5)
 METERS
 0 500 1150

- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1902 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION D (4 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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

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

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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).

sd
il

SHPO SIGNATURE: Charles J. H. [Signature] DATE: 5/9/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 12 m: V.Light 24 m: No Oil 550 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommend asphalt removal. Work should be conducted between 5/16 and 7/9 based on salmon constraints if closer than 100m of to anadromous fish stream.

MANUAL PICKUP NOT TIME RESTRICTED

SEE ADDENDUM DATED 5/19/90 RAC.

TAG COMMENTS:

TAG APPROVAL DATE: 7/25/90.
ADEC [Signature]
EXXON [Signature]
NOAA [Signature]
USCG [Signature]

FOSC: [Signature] DATE: 5-8-90

24 10

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-106 SUBDIVISION D (4 of 5)

WORK WINDOW	
Manual Pickup Tarmat Removal	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16890) is located outside Subdivision D in an unsurveyed portion of Segment KN-106. No constraint to manual pickup or tarmat removal.

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision D. Closed to manual pickup and tarmat removal within 400m of active nest.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

Date

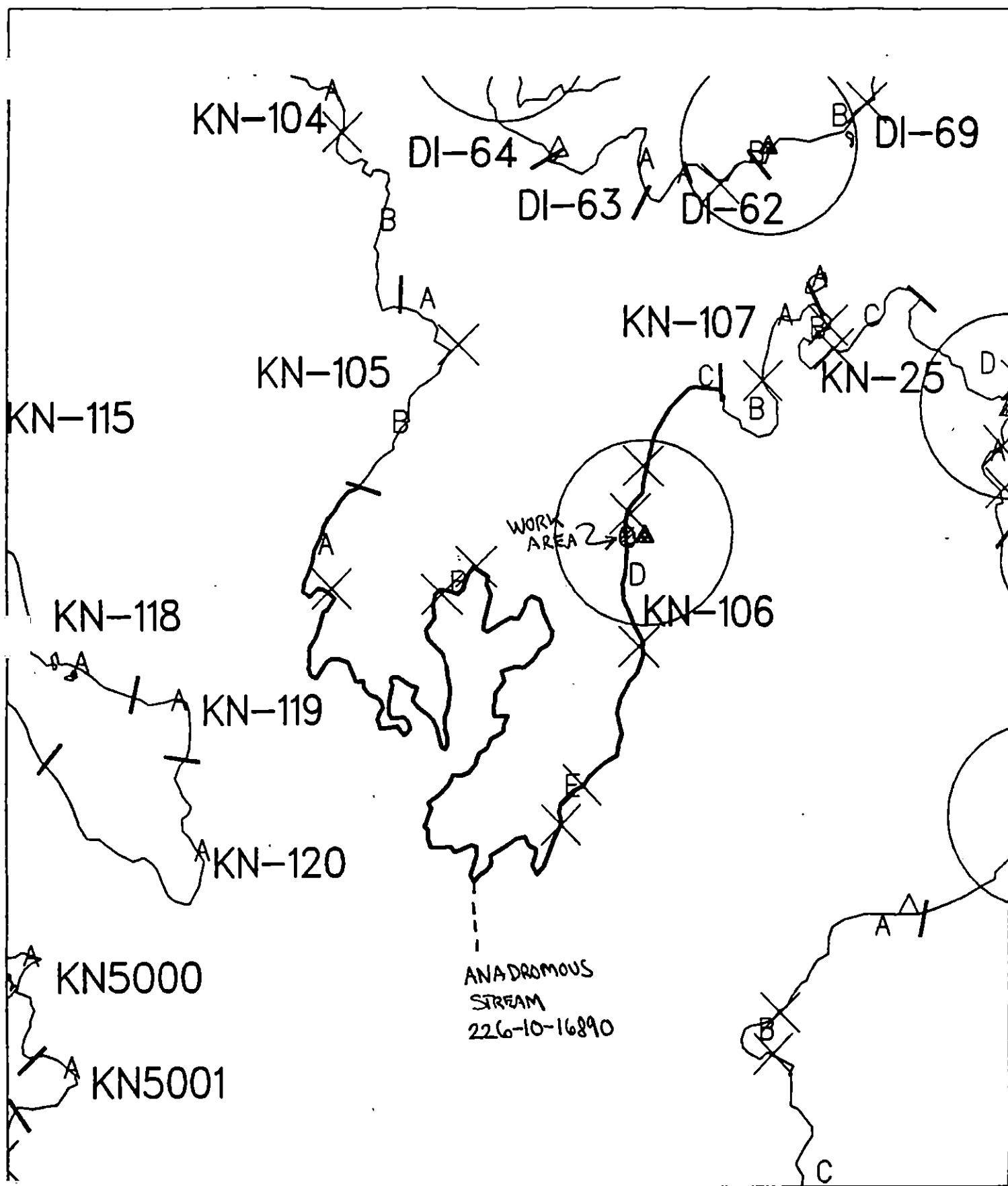
6-10-90

Prepared by

J. P. Phillips
6-10-90 amm

Date

6/10/90



Exxon Company, USA
Map Key: PUS-KN-106



ECOLOGY MAP
SEGMENT KN-106
SUBDIVISION D (4 of 5)
METERS

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

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION D (4 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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

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

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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

ad
al

SHPO SIGNATURE: Charles Z. H. [Signature] DATE: 5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 12 m: V. Light 24 m: No Oil 550 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommend asphalt removal. Work should be conducted between 5/16 and 7/9 based on salmon constraints if closer than 100m of to anadromous fish stream.

MANUAL PICKUP NOT TIME RESTRICTED

SEE ADDENDUM DATED 5/19/90
REX C.

TAG COMMENTS:

SEE REVISION 1, ADDENDUM DATED 6/10/90 JPP

TAG APPROVAL DATE: 7/23/90.

ADEC Act W. [Signature]

EXXON AMY TOL [Signature]

NOAA Joseph Talbot [Signature]

USCG KENNETH KENNEDY [Signature]

FOSC: My L DATE: 5-8-90

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION A (1 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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

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

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unopened biota and substrate. Do not trample or otherwise damage mussel bed.

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 *clerk*
(564-3657; 564-3658 or 564-3276).

d
1

SHPO SIGNATURE: *Charles E. H. Simon* DATE: 5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 53 m: Narrow 23 m: V.Light 177 m: No Oil 435 m
Subsurface Oil Observed: Yes X No Maximum Depth 20 cm

RECOMMENDATIONS:

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

COMMENTS: Manual pick up of mousse followed by bioremediation as indicated on sketch map. Work should be conducted between 5/16 and 7/9 based on above salmon constraints. Contact ADF&G for salmon constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90
ADEC ART WEINER
EXXON ANDY TAT
NOAA Joseph E. Burt
USCG KENNETH KEANE

FOSC: DATE: 5-6-90

OG J. SP 2ER

SEGMENT ST/ KN-106

SUBDIVISION A

DATE 04 109 / 90

CHECKLIST

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

LEGEND

1 Δ

Plt - No Subsurface Oil

2 ▲

P11 - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

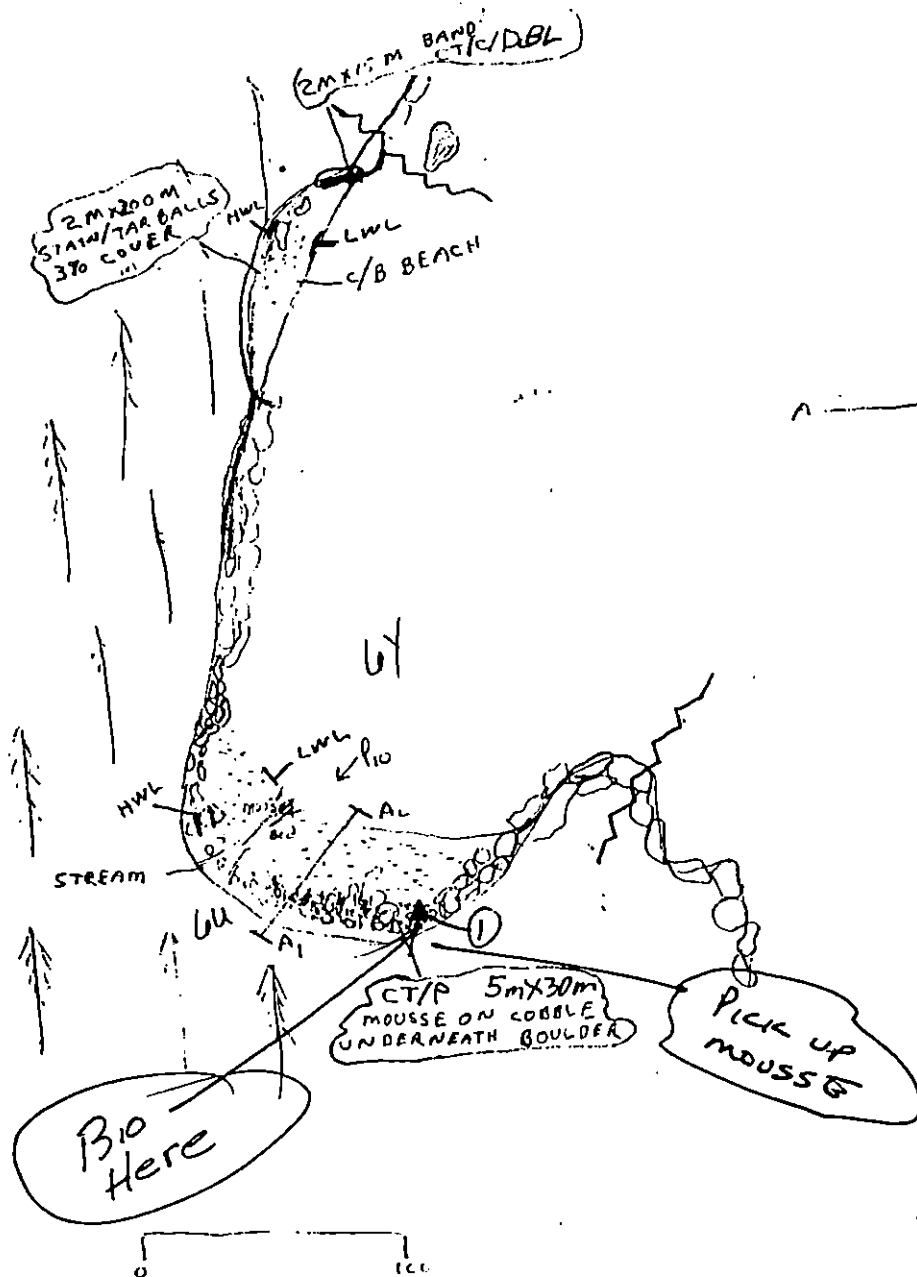
CT/S

Splashed Distribution

Older Vegetation

1. **Introduction**Photo location, direction,
and number

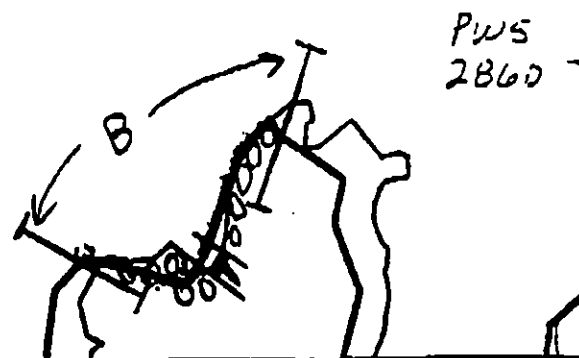
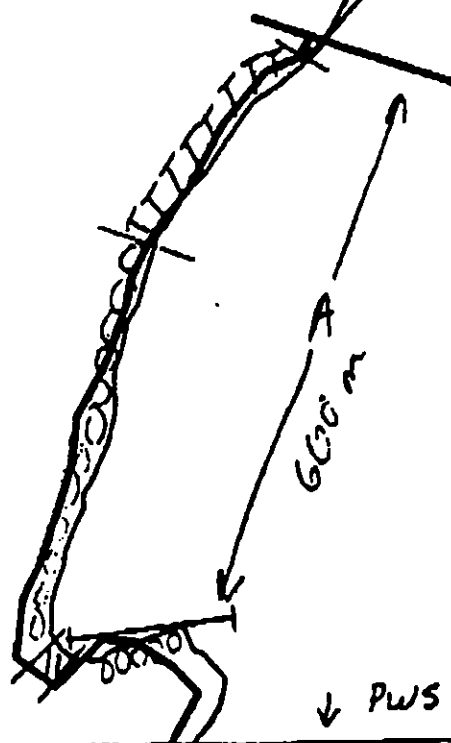
SEARCH MAP



Oil Character Length (m): AP _____ PO _____ CV _____ CT 45 ST 200 MS _____ PT _____ TB _____ FL _____ NO 355

REVISION: 03/24/99

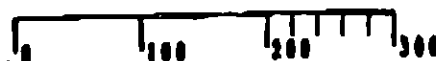
KN-105



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

KN-106

ADEC Segment Length: ~~10152~~ 10152m



Map Key: PWS-286c
Name: James Spring
Date: 04/09/93
Data Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-106

SUBDIVISIONS: C (3 OF 5)

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION C (3 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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

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

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

Cultural resource survey in progress. Shoreline treatment cannot proceed until field data have been assessed and a formal archaeological constraint entered on the shoreline evaluation form.

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 13 m: V.Light 117 m: No Oil 418 m
Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of areas indicated on sketch map.
Do not bioremediate within 100m of anadromous fish stream.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN 106 SUBDIVISION: C DATE 10 April 90

USCG

NAME AEC Vandepels SIGNATURE AEC Vandepels

☒ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

I recommend no treatment.

ADEC

NAME Michele Baer SIGNATURE M Baer

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Occasional CT/s and patches need manual scrubbing to a stain. No other treatment necessary. Low Priority segment.

LAND MANAGER

NAME DAN LOGAN SIGNATURE Dan Logan

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

*NO TREATMENT WERE ON BEACH. PATROL SOUTHERN HALF FOR SPLASHES.
I RANK THIS AS A VERY LOW PRIORITY*

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG J. Springer USCG R. Vandepels SEGMENT ST/ KN-106
 BIO P. Crank LAND REP D. Logan SUBDIVISION C(3 of 5)
 EXXON T. Tomblin ADEC M. Baet TIME 08:15 to 08:30
 TEAM NO.: 5 TIDE LEVEL: -1 to -1 DATE 04/10/1990
 EST. SUBDIVISION LENGTH: 500 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 40 % B 50 % C 10 % P 0 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Lang 10 % Hang 70 % Vert 20 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 20 m VL 130 m NO 352 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	IC	IB	IP	IS	SBL	DBL	FW	GY	SL	DBR	TL	LSR	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT			X	V			X						X			
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL													X		X	X

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE 0#BAGS 0Photographs: No photos

Roll No. _____

Frames _____

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SBL	DBL	FW	GY	SL	DBR	TL	LSR	SU	U	M	U		
							-																
							-																
							-																
							-																
							-																
							-																

COMMENTS

No pits dug. Boulders too large.

SHORELINE ECOLOGICAL SUMMARY pg 1 of 2

REVISION: 03/22/90

Segment ST/ KN106 Subdivision C Date (mo / day / yr) 4 / 10 / 90

Time (24 hr) 0810 - 0830 Biologist Crank

(A) Substrate type and % of segments:
(1) Bedrock 40 (2) Boulder 50 (3) Cobble 10 (4) Pebble (5) Sand (6) Silt

(B) Overall % cover of biota (% of segment): Dense 30 Moderate 50 Low 20

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

Photographs: No photos

Roll No.

Frames

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT
LITZ

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

1. Grac

- Most of subdivision is a steep, rocky slope.
- The LITZ has a strong, diverse plant community.
- Gastropods are the dominant fauna with a high recruitment.
- Encrusting alga and corals are present in LITZ. This may be due to specific competitors in the area.
- Mangroves are rare, found in a small area.
- Bivalve species - healthy

Ecological Considerations:

LU-Tenting

LY-Special Use Destination

1. Not in this subdivision

SEGMENT: ST/ KN 101 SUBDIVISION C LENGTH 500m BIOLOGIST Crank

DATE 4/10/90 TIME 0810-0830 TIDE HEIGHT -1 ft

pg 2 of 2

1 - BEDROCK 2 - BOULDER 3 - COBBLE 4 - PEBBLE 5 - SAND 6 - SILT

FLORA:

SPECIES	UTZ	MITZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP			2	
COSTARIA SPP				
ENDOCLADIA MURICATA				
FILAMENTOUS GREENS	123	123	123	
FILAMENTOUS REDS			123	
GLOIOPELTIS FURCATA		123		
HALOSACCION GLANDIFORME		23	123	
LAMINARIA SPP			123	
LITHOTHAMNION			123	
NEREOCYSTIS SPP				
PORPHYRA SPP				
RALPHSIA/HILDENBRANDIA				
RHODOMELA LARIX			123	
RHODOMENIA PALMATA			123	
SCYTOSIPHON SPP				
ULVA SPP			123	
ZOSTERA MARINA				
Yellia	123	123		

FAUNA:

ANTHOPELEURA SPP				
(SEMI) BALUNUS CARIOSUS		12	12	
B. GLANDULA	123	123	123	
BRYOZOANS				
CHITONS (OTHER THAN K TUNICATU)				
CLAMS				
CRABS				
DERMASTERIAS IMBRICATA			123	Dense concentration 3-5/m ²
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS				
LIMPETS	123	123	123	Dense
LITTORINA SPP	123	123	123	Dense
NUCELLA SPP		123	123	Dense
PAGURUS SPP		3	23	
PISASTER OCHRACEUS				
POLYCHAETES				
PYCNOPODIA HELIANTHOIDES			3	
SEARLESIA DIRA				
SERPULIDS				
SIPHONARIA THERSITES		23		
TEALIA				
Yellia			3	Dense

OG J NGFA

SEGMENT ST/ KN-106

SUBDIVISION C

DATE 04/10/90

CHECKLIST

- ☒ N Area
- ☒ Approx. Scale
- ☒ Seg/Sub Bdry
- ☒ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☒ Est. HW/L/LWL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pt Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ

Pt - No Subsurface Oil

2 Δ

Pt - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

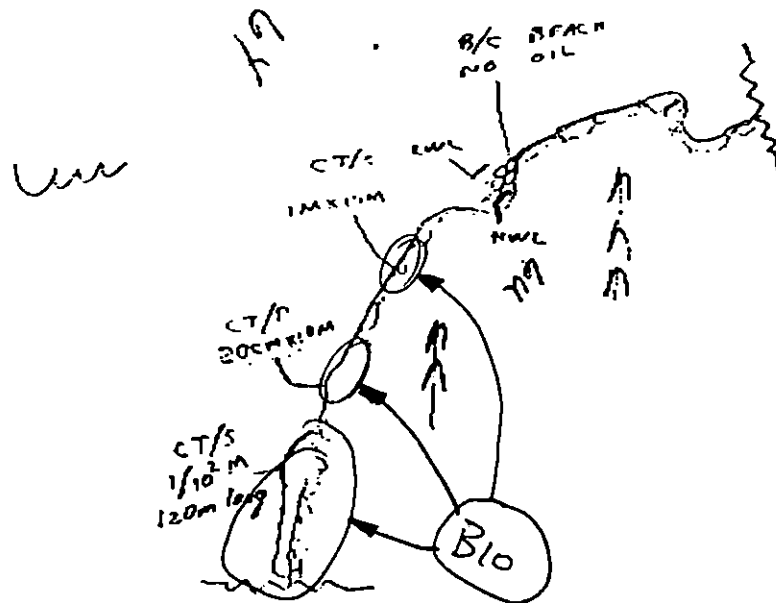
Splashed Distribution

Oil Vegetation

1 $\Rightarrow$

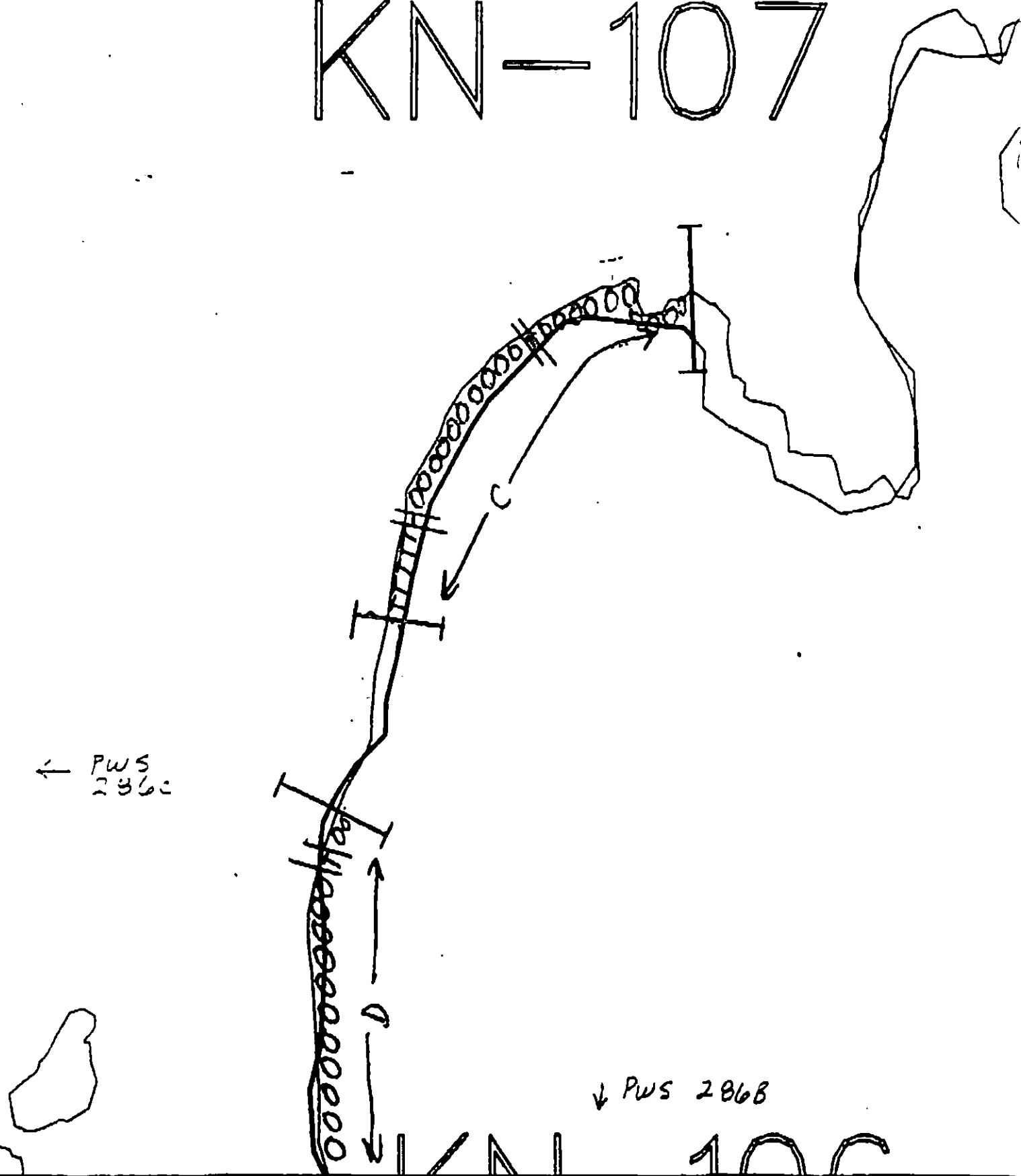
Photo location, direction,
and number

SKETCH MAP



Oil Character Length (m): AP _____ PO _____ CV _____ CT 150 ST _____ MS _____ PT _____ TB _____ FL _____ NO 350

KN-107



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-106

ADEC Segment Length: 9214m

0 100 200 300

Map Key: PWS-286d

Name: James Springe

Date: 4/10/90

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-106

SUBDIVISIONS: D (4 OF 5)

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION D (4 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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

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

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

Cultural resource survey in progress. Shoreline treatment cannot proceed until field data have been assessed and a formal archaeological constraint entered on the shoreline evaluation form.

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 12 m: V.Light 24 m: No Oil 550 m
Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: Recommend asphalt removal. Work should be conducted between
5/16 and 7/9 based on salmon constraints if closer than 100m of to
anadromous fish stream.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 106 SUBDIVISION: D DATE 04-10-90

USCG

NAME AEC Vandepels SIGNATURE AEC Vandepels☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

I recommend no treatment in KN106
 Sub. D. To labor intensive to remove the
 few tar balls and ^{small} asphalt patch there.

ADEC

NAME Michelle Baer SIGNATURE M Baer☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

For this area, I recommend manual pick-up
 of ap/p & tb/p mentioned on the map. There are
 only a few in this area. No ^{sub-}surface oil was found
 and splash's did not penetrate the upper shale surface.
 This area is low priority.

LAND MANAGER

NAME DAN LOGAN SIGNATURE D Logan☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

REMOVE T.O. IN SOUTHERN PORTION OF SEGMENT SUBDIVISION
 REMOVE ASPHALT IN 3MX30M SECTION
 VERY LOW PRIORITY

SHORELINE OILING SUMMARY

REVISION NO. 02/02/90

OG J. Springer USCG R. Vandepels SEGMENT ST/ KN-106
 BIO P. Crank LAND REP P. Legan SUBDIVISION D (4 of 5)
 EXXON T. Tomblin ADEC M. Boer TIME 08:30 to 08:50
 TEAM NO.: 5 TIDE LEVEL: -1 to -1 DATE 04/10/90
 EST. SUBDIVISION LENGTH: 600 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 30 % B 60 % C 10 % P 0 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 20 % Hang 10 % Vert 70 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 7 m VL 30 m NO 563 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR										IMPACTED ZONES			
	R	B	P	N	1	2	3	4	5	6	7	8	9	10	SU	U	M	U
ASPHALT PAVEMENT				X	X										X			
POOLED																		
COVER																		
COAT																		
STAIN		X												X	X			
MOUSSE																		
PATTIES																		
TARBALLS				X										X	X			
FILM																		
NO OIL															X	X	X	

PAVEMENT: H F (S) 5 sq. m by 2 c

PATTIES / TARBALLS 3 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NO

TYPE 0

#BAGS 0

Photographs:

Roll No. _____

Frames _____

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR										PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UC	UC	1	2	3	4	5	6	7	8	9	10	SU	U	M	U		
1	20					X	-		X														X		BCP

COMMENTS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/90

Segment ST/KN106 Subdivision D Date (mo / day / yr) 4/10/90Time (24 hr) 0830 - 0855 Biologist Crank

pg 1 of 2

(A) Substrate type and % of segments:
(1) Bedrock 30 (2) Boulder 40 (3) Cobble 10 (4) Pebble (5) Sand (6) Silt (B) Overall % cover of biota (% of segment): Dense 30 Moderate 50 Low 20

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

Photographs: No photos

Roll No. Frames

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments: Subdivision approx. 150m S of KN106 C. Subdivided species distribution remained consistent from KN106 C through KN106 D, as do the algae. This area favors Mussels in KN106 D and in KN106 C, but more Littorina and Pyrosoma.

Gold Eagle - Adult
A pair of Barnacles Goldeneye

Ecological Considerations:

Littorina Tardus - this proximity
- Special Wet Disturbance- Bivalve area when a moderate exposure of Littorina and Pyrosoma were seen.
- Littorina and Pyrosoma are dense in 1977 estimate.
- Littorina and Pyrosoma are dense in 1977 estimate.

SEGMENT: ST/ KN 104 SUBDIVISION D LENGTH 400m BIOLOGIST Crank

DATE 4/10/90 TIME 0830-0855 TIDE HEIGHT -1 ft

1 - BEDROCK 2 - BOULDER 3 - COBBLE 4 - PEBBLE 5 - SAND 6 - SILT

FLORA:

SPECIES	UNITZ	MITZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP			2	
COSTARIA SPP				
ENDOCLADIA MURICATA				
FILAMENTOUS GREENS	123	123	123	
FILAMENTOUS REDS			123	
GLOIOPELTIS FURCATA		23		
BALOSACCION GLANDIFORME		23	123	
LAMINARIA SPP			123	
LITHOTHAMNION			123	
NEREOCYSTIS SPP				
PORPHYRA SPP				
RALPHSIA/HILDENBRANDIA				
RHODOMELA LARIX			123	
RHODOMENIA PALMATA			123	
SCYTOSIPHON SPP				
ULVA SPP			123	
ZOSTERA MARINA				
Peltia	123	123		
ANTHOPLEURA SPP				
(SEM) BALUNUS CARIOSUS		12	11	
B. GLANDULA	123	123	123	
BRYOZOANS		3	3	
CHITONS (OTHER THAN K. TUNICATU)				
CLAMS		3	3	Protheca; Saniclorus
CRABS				
DERMASTERIAS IMBRICATA			123	Dense concentrations 2/m ²
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS		23	23	Browsing
LIMPETS	123	123	123	Dense
LITTORINA SPP	123	123	123	Dense Spot
NUCELLA SPP		123	123	Dense
PAGURUS SPP		3	3	
PISASTER OCHRACEUS				
POLYCHAETES				
PYRNOPODIA HELIANTHOIDES			3	
SEARLESIA DIRA				
SERPULIDS				
SIPHONARIA THERSITES		23		
TEALIA				
Quercus Cala			5	Dense

FAUNA:

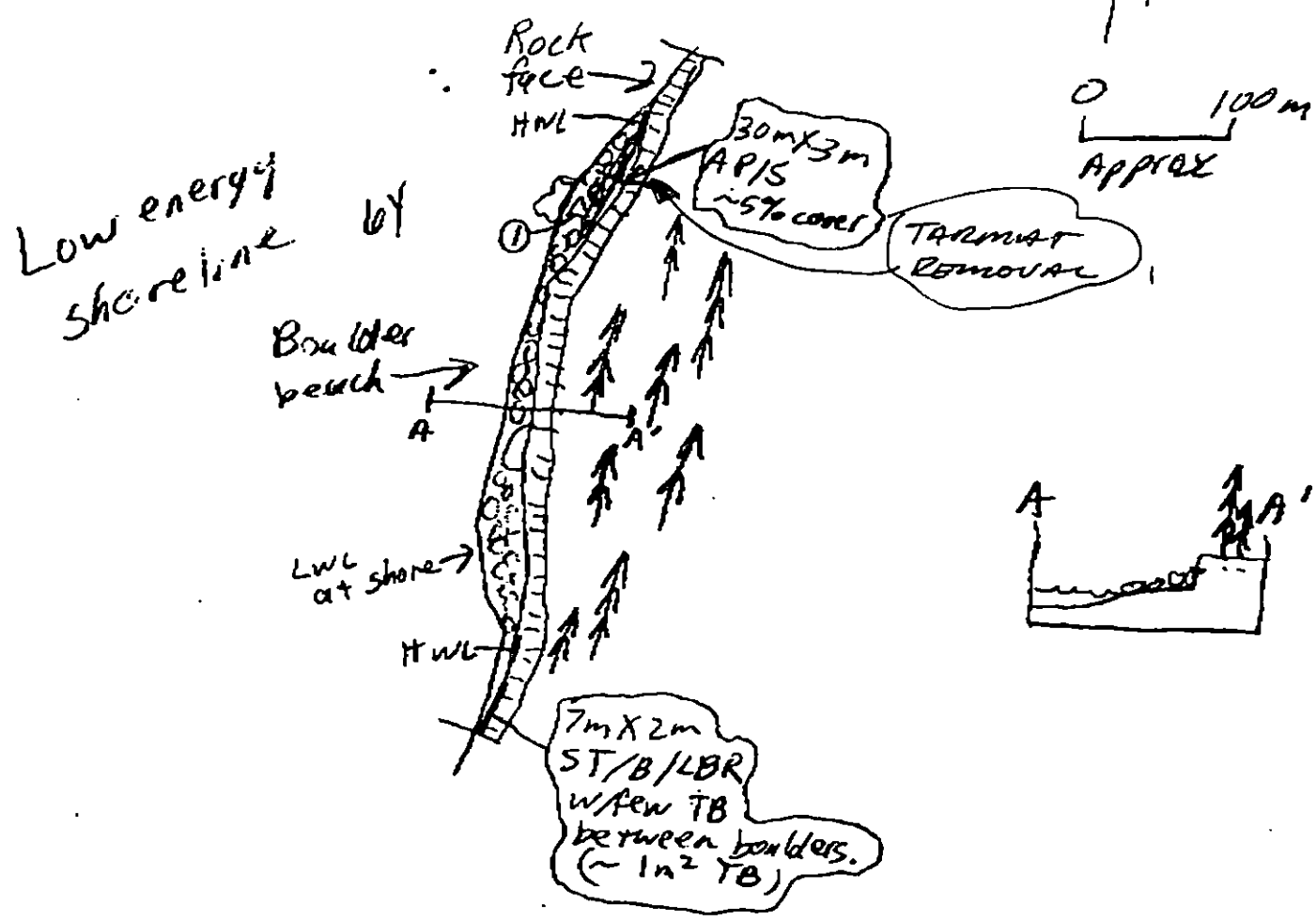
APR-10-'90 TUE 17:04 ID:PHIT WHIT 472-2301 #605 P14

SEGMENT SI N-106
SUBDIVISION D
DATE 04/10/90

SITCH MAP

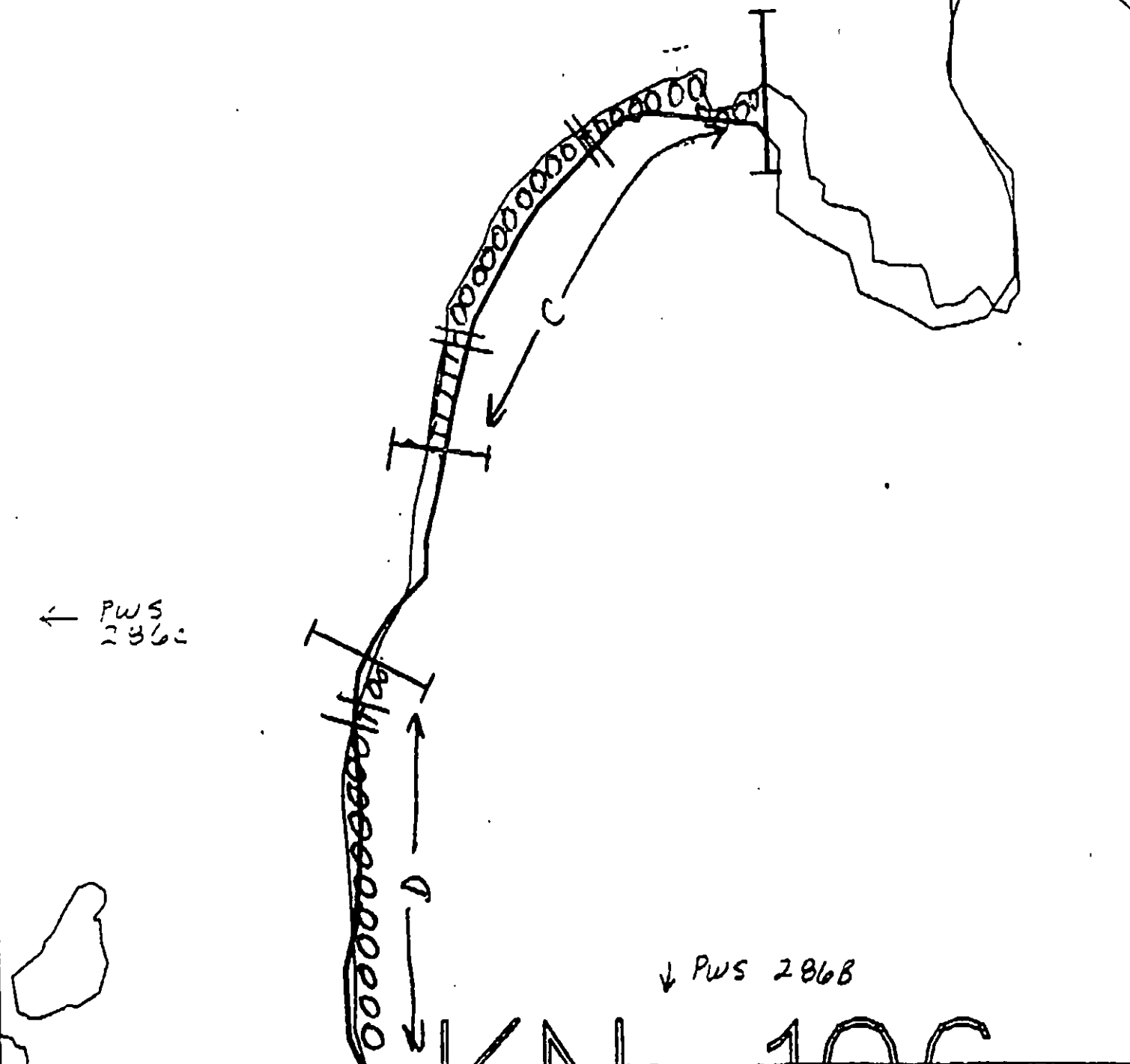
- CHECKLIST
- ☒ Arrow
 - ☒ Approx. Scale
 - ☒ Top/Sub Boundary
 - ☒ On Dist.
 - ☒ Width
 - ☒ Length
 - ☒ % Cover
 - ☒ Substrate Character
 - ☒ Ext. HML/LWL
 - ☒ Profile Location(s)
 - ☒ Profile(s)
 - ☒ Pit Location(s)
 - ☒ Photo Location(s)

- LEGEND
- 1 Δ
1 - No Subsurface Oil
 - 2 Δ
2 - Subsurface Oil
 - CT/C
Continuous Distribution
 - CT/B
Patchy Distribution
 - CT/P
Patched Distribution
 - CT/S
Scattered Distribution
 - ed Vegetation
 - 1 $\Rightarrow$
oil location, direction, number



Character Length (m): AP 30 PO _____ CV _____ CT _____ ST 7 MS _____ PT _____ TB _____ FL _____ NO 563

KN-107



XXXX Wide

//// Medium

----- Narrow

TTTT Very Light

KN-106

ADEC Segment Length: 9214m

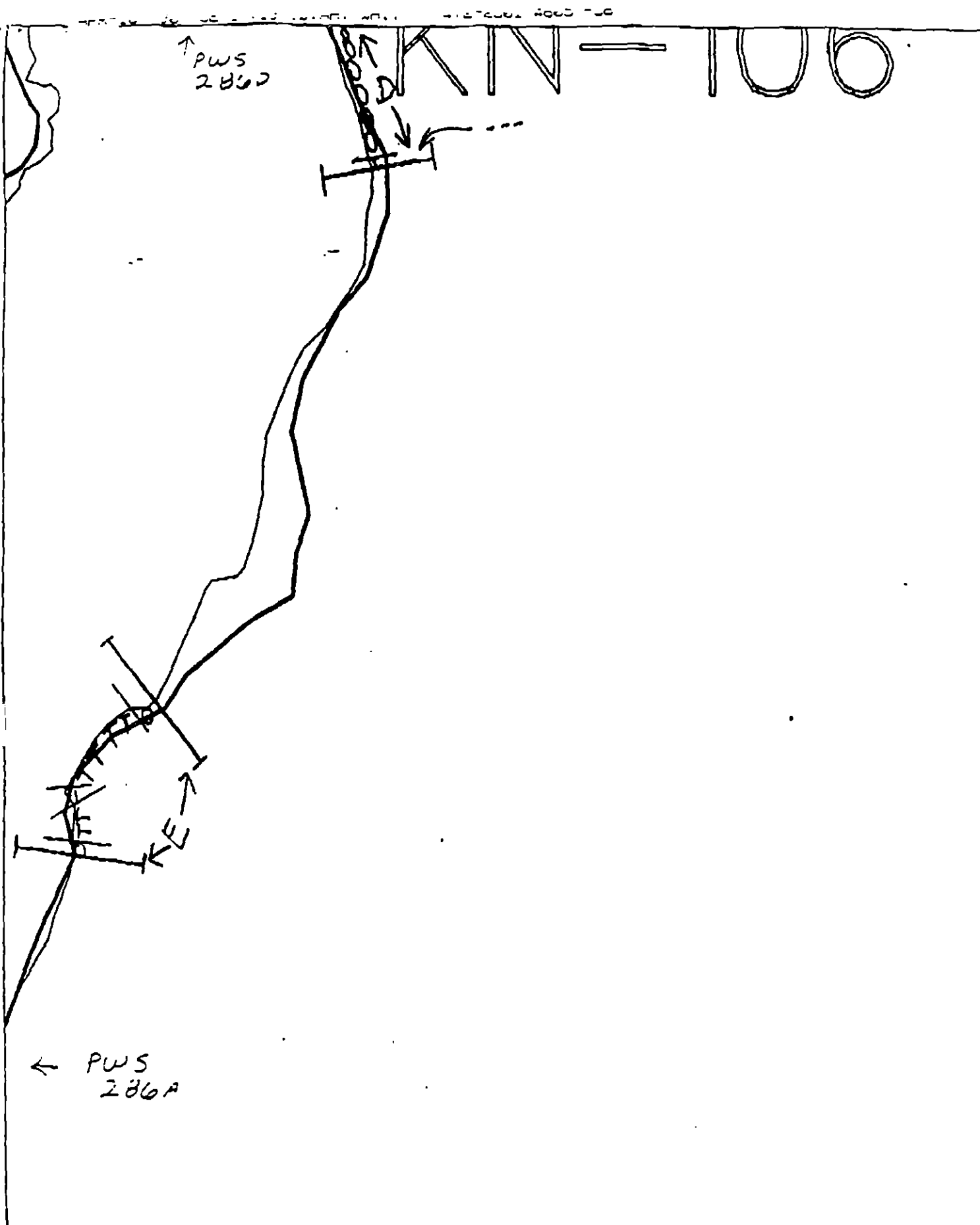


Map Key: PWS-285d

Name: James Springe

Date: 4/10/90

Not to Scale



XXXX Wide

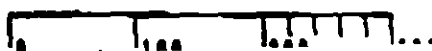
//// Medium

---- Narrow

TTTT Very Light

KN-106

ADEC Segment Length: 9214m



Map Key: PWS-286b

Name: James Springer

Date: 4/10/90

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-106

SUBDIVISIONS: E (5 OF 5)

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION E (5 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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

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

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 24 m: V.Light 151 m: No Oil 48 m
Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 KN-106 SUBDIVISION: E DATE 04-10-90USCGNAME AEC Vandepels SIGNATURE AEC Vandepels☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

I recommend no treatment.

ADECNAME Michelle Baer SIGNATURE MBaer☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

*Manual scrubbing on the coats/p and splashes to bring until they are only a stain.
No other treatment required.*

LAND MANAGERNAME DAN HOGAN SIGNATURE Dan Hogan☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 05/90

OG J. Springer USCG R. Vandepels SEGMENT ST/ KN-106
 BIO P. Crank LAND REP M. Baer SUBDIVISION EL50P5
 EXXON T. Tomblin ADEC M. Baer TIME 07:00 to 07:15
 TEAM NO.: 5 TIDE LEVEL: -1 to 0 DATE 04/10/90
 EST. SUBDIVISION LENGTH: 240 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 30 % B 40 % C 25 % P 5 % G 0 % S 0 % M 0 % V 0
 SLOPE: Long 15 % Hang 85 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 20 m VL 200 m NO 20 m

SURFACE OIL

CHARACTER	DISTRIBUTION					OIL / FILM COLOR					IMPACTED ZONES			
	C	N	P	S	W	Y	OR	GR	BL	TR	SU	U	M	L
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT				X		X					X			
STAIN			X			X					X			
MOUSSE														
PATTIES														
TARBALLS														
FILM														
NO OIL											X	X	X	X

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE 0#BAGS 0Photographs: No photos

Roll No. _____

Frames _____

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	W	Y	OR	GR	BL	SU	U	M	L		
1	20					X	.		X								X			PGS
2	25					X	.		X								X			PGS
							.													
							.													
							.													
							.													

COMMENTS

Jul 4/13/90

SEGMENT ST/KN - 106

SUBDIVISION E

DATE 04 / 10 / 90

CHECKLIST

N Arrow
 Approx. Scale
 Seg/Sub Endry
 Off Dist.
 Width
 Length
 % Cover
 Substrate Character
 Est. HWA/L/WL
 SSL
 Profile Location(s)
 Profile(s)
 PK Location(s)
 Photo Location(s)

LEGEND

1

PK - No Subsurface Oil

2. **PR - Subsurface Oil****CT/C**

Continuous Distribution

CT/B

Breakout Distribution

CT/P

Patchy Distribution

CT/S

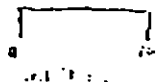
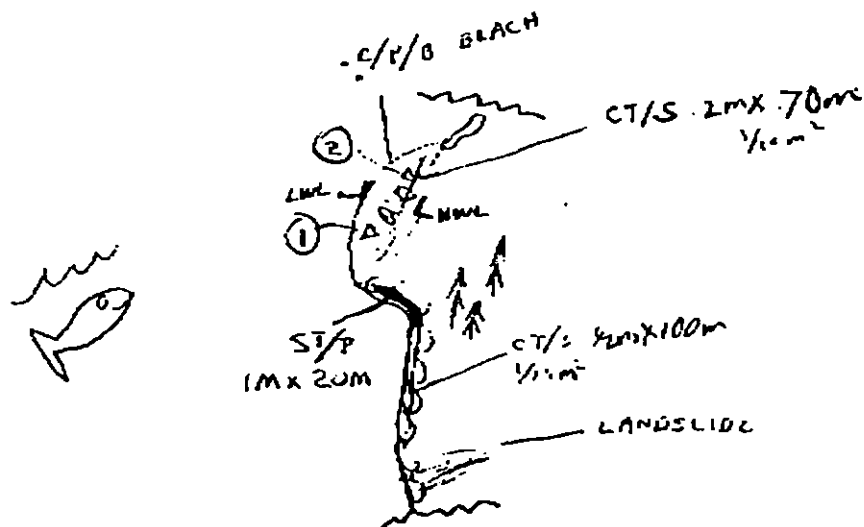
Splashed Distribution

Chief Vegetation

1. **Introduction**

Photo location, direction,
and number

SKETCH MAP



Oil Character Length (m): AP _____ PO _____ CV _____ CT 170 ST 20 MS _____ PT _____ TB _____ FL _____ NO 50

REVISION 3/24/88

SHORELINE ECOLOGICAL SUMMARY

Segment ST / KN 106 Subdivision E Date (mo / day / yr) 4/10/90
 Time (24 hr) 0855 - 0920 Biologist Crunk

- (A) Substrate type and % of segments:
 (1) Bedrock 30 (2) Boulder 40 (3) Cobble 25 (4) Pebble 5 (5) Sand (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 30 Moderate 50 Low 20
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (S)
- Photographs: no photo
 Roll No.
 Frames

BARNACLES

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

NOT PRESENT

4

MYTILUS

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

NOT PRESENT

4

GASTROPODS

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

NOT PRESENT

4

FUCUS

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

NOT PRESENT

4

Wildlife Observations/ General Comments:

8. 1 juvenile double-crested cormorant (one pair alone)

3. 100% coverage

3. 100% coverage

Ecological Considerations:

6. 11. Tenth Sites

6. 11. Special Use Designation

10. 1st location on this substation is

- Substation is a sample of random location S of KN106 D. 100% coverage similar to KN106C: D.
- There appears to have been a change in species composition over time and in association and at the present is in association with the substation.
- There are 100% coverage of the substation.
- Gastropods are not a dominant species with L. 100% coverage of the substation.
- Pyrosoma, 100% coverage and at the present is in association with the substation.
- 100% coverage of the substation.
- 100% coverage of the substation.

SEGMENT: ST/ KN 106 SUBDIVISION E LENGTH _____ BIOLOGIST Cramer

DATE 4/10/42 TIME 0855-0920 TIDE HEIGHT

pg 2 of 2

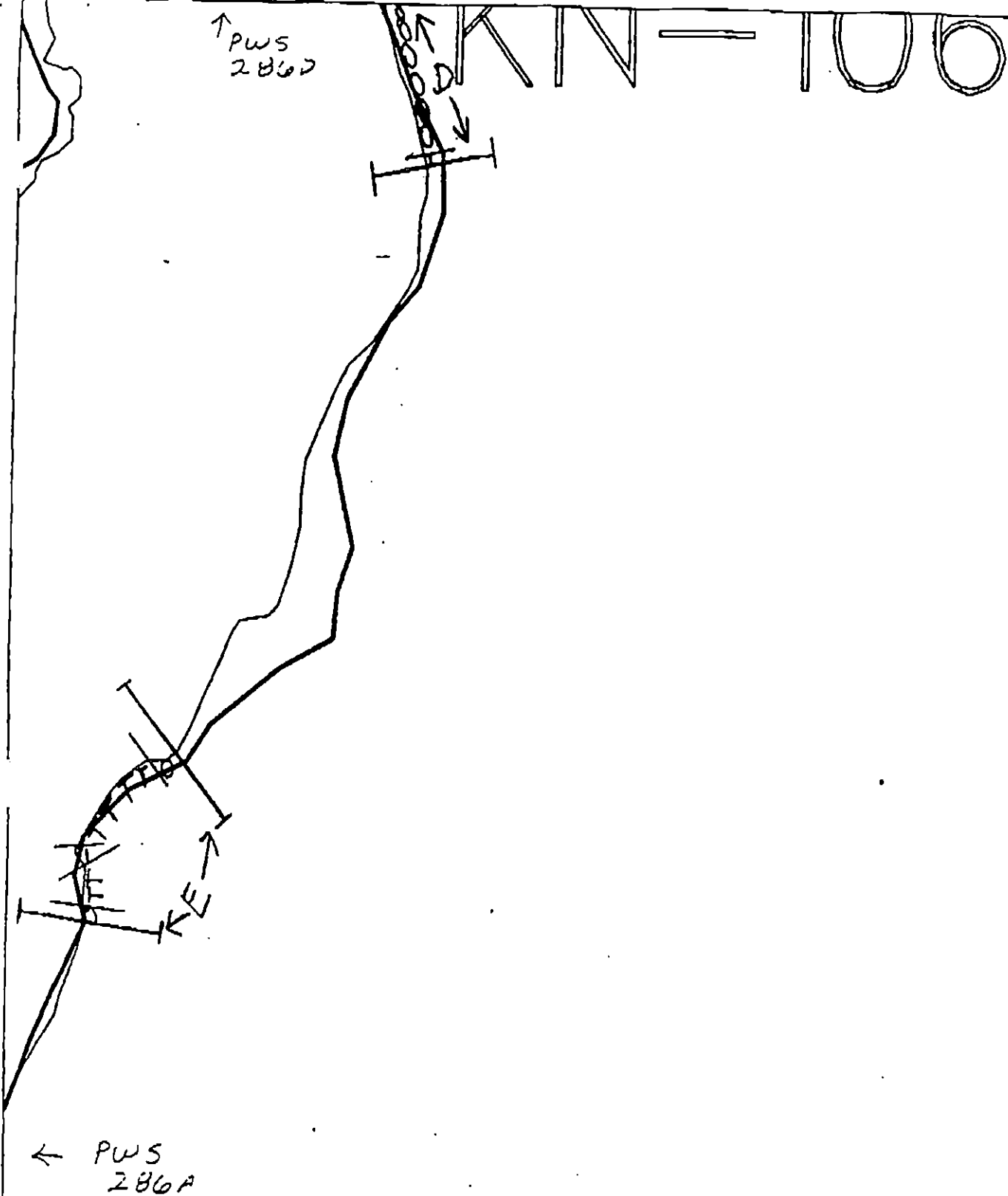
1 - BEDROCK 2 - BOULDER 3 - COBBLE 4 - PEBBLE 5 - SAND 6 - SILT

FLORA:

[illegible]

FAUNA:

Data Entered:



XXXX Wide

//// Medium

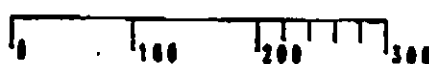
--- Narrow

TTTT Very Light

OOOO No Oil

KN-106

ADEC Segment Length: 9214m



Map Key: PWS-286b

Name: James Springer

Date: 4/10/90

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-106

SUBDIVISIONS: A (1 OF 5)

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION A (1 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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

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

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Do not trample or otherwise damage mussel bed.

ARCHAEOLOGICAL CONSTRAINTS:

Cultural resource survey in progress. Shoreline treatment cannot proceed until field data have been assessed and a formal archaeological constraint entered on the shoreline evaluation form.

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 53 m: Narrow 23 m: V.Light 177 m: No Oil 435 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 20 cm

RECOMMENDATIONS:

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

COMMENTS: Manual pick up of mousse followed by bioremediation as indicated on sketch map. Work should be conducted between 5/16 and 7/9 based on above salmon constraints. Contact ADF&G for salmon constraints.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 KN106 SUBDIVISION: A DATE 04-09-90

USCG

NAME

SIGNATURE

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

I suggest bio. sprayed around cobbles and boulders

ADEC

NAME

SIGNATURE

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

KN106 is in good condition. Sub-segment A + B has the heaviest coverage with 5-10 cm of mousse penetrating under the Bs. The mousse is only under the Bs, not in between or on top, so the fertilizer would have to be concentrated into the spaces rather than a coat on the surface of the Bs. Manual scrubbing is recommended on the 2 m x 15 m C/E band at the end of the sub-segment A. This area is low energy and had a wide band of coverage reported in fall. The only visible oil upon entering the beach is a 5 cm drip of TAR and STAIN at the waterline. The tarballs and mousse patches are infrequent throughout the rest of KN106. With the exception of sub-segment A, I would consider the rest of the segment low priority.

LAND MANAGER

NAME

SIGNATURE

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

HAND REMOVE TAR BALLS AND SCRUB BAND ON NORTH BEACH

THE MOUSSE ON THE SOUTHERN BEACH IS ON COBBLES UNDERNEATH CLEAN BOULDER AND ROCKS. THE COBBLES ARE WELL AGGATED AND THE MOUSSE PENETRATES TO A DEPTH OF 5 CM. I THINK A FERTILIZER APPLICATION THAT IS CAREFULLY SPRAYED UNDER THE BOULDERS WILL BE ADEQUATE.

SHORELINE OILING SUMMARY

REVISION NO. 02/22/90

OG J. Springer USCG R. Vandepels SEGMENT ST/ KN-106
 BIO P. Clark LAND REP D. Logan SUBDIVISION AC1095
 EXXON T. Tomblin ADEC M. Baer TIME 20:00 to 20:15
 TEAM NO.: 5 TIDE LEVEL: +1 to +1 DATE 04/09/90
 EST. SUBDIVISION LENGTH: 600 m ☐ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED-FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: NW to SE
 SURFACE SEDIMENTS: R 40 % B 30 % C 20 % P 10 % G % S % M % V %
 SLOPE: Long 50 % Hang 45 % Vert 5 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 30 m N 15 m VL 200 m NO 355 m

SURFACE OIL

CHARACTER	DISTRIBUTION					OIL / FILM COLOR					IMPACTED ZONES			
	IC	IR	IP	IM	IN	1	2	3	4	5	SU	U	M	L
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT	X		✓			X	X				X			
STAIN				X		X					X			
MOUSSE				X				X			X			
PATTIES														
TARBALLS														
FILM														
NO OIL											X	X	X	

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NOTYPE #BAGS

Photographs:

Roll No. ST-5-5Frames 10

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	SU	U	M	L		
1	20	X					5-20	X				X			X					BC
							.													
							.													
							.													
							.													
							.													

COMMENTS Surveyed north ~200 m. from 17:45 to 18:15.REVIEWED DATE

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/97

Segment ST / KN 106 Subdivision A Date (mo / day / yr) 4/9/70

Time (24 hr) 2000-2020 Biologist Carb

pg 1 of 2

(A) Substrate type and % of segments:
(1) Bedrock 40 (2) Boulder 30 (3) Cobble 20 (4) Pebble 10 (5) Sand (6) Silt

(B) Overall % cover of biota (% of segment): Dense 40 Moderate 20 Low 40

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

Photographs: 110 p
Roll No.

Frames

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

2 Grebes
2 Mergansers
1 pair Barrow's Goldeneye

- Dense intertidal mussel bed in and around fresh H₂O stream. Low recruitment.
- Much is a drift collection pocket. Many logs in SUPRA and dense drift Fucus in URTZ.
- Moderate silt bed - Protozoa: *Sabiniana*

Ecological Considerations:

6Y - Special Use Designation
6U - Tenting

1B - ^{Salmon Stream} reported for Segment, Although Freshwater stream was located on subdivision Salmon potential was low.

SEGMENT: ST/KN 106 SUBDIVISION A LENGTH 600 m BIOLOGIST Crant

pg 2 of 2

DATE 7/9/90 TIME 2000-2020 TIDE HEIGHT +1 ft

1 - BEDROCK 2 - BOULDER 3 - COBBLE 4 - PEBBLE 5 - SAND 6 - SILT

	SPECIES	UITZ	MITZ	LITZ	COMMENTS
FLORA:	BOSSIELLA/CORALLINA --				
	CALLIARTHRON/CORALLINA				
	GLADOPHORA SPP				
	COSTARIA SPP				
	ENDOCLADIA MURICATA				
	FILAMENTOUS GREENS				
	FILAMENTOUS REDS				
	GLOIOPELTIS FURCATA				
	GALOSACCION GLANDIFORME				
	LAMINARIA SPP				
	LITHOTHAMNION		2		
	NEREOCYSTIS SPP				
	PORPHYRA SPP				
	RALPHSIA/HILDENBRANDIA		23	2	
	RHODOMELA LARIX		23	23	
	RHODOMENIA PALMATA				
	SCYTOSIPHON SPP				
	ULVA SPP				
	ZOSTERA MARINA				
		<i>Cryptosiphonia</i>		23	23
FAUNA:	ANTHOPELURA SPP				
	(SEMI) BALUNUS CARIOSUS				
	B. GLANDULA	123	123	123	
	BRYOZOANS				
	CHITONS (OTHER THAN K. TUNICATU)				
	CLAMS		3	3	Prototheca / Saxidomus
	CRABS				
	DERMASTERIAS IMBRICATA				
	KATHARINA TUNICATA				
	LEPTASTERIAS HEXACTIS				
	LIMPETS				
	LITTORINA SPP	23	23	23	
	NUCELLA SPP		23	23	Dense Egg Cases in LITZ
	PAGURUS SPP			3	
	PISASTER OCHRACEUS				
	POLYCHAETES			3	
	PYCNOPODIA HELIANTHOIDES				
	SEARLESIA DIRA		23	23	
	SERPULIDS				
	SIPHONARIA THERSITES				
TEALIA					

OG J. SI IGER

TCH MAP

SEGMENT ST/ KN-106

SUBDIVISION A

DATE 04/09/90

CHECKLIST

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

LEGEND

1 ▲

Pit - No Subsurface Oil

2 ▲

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

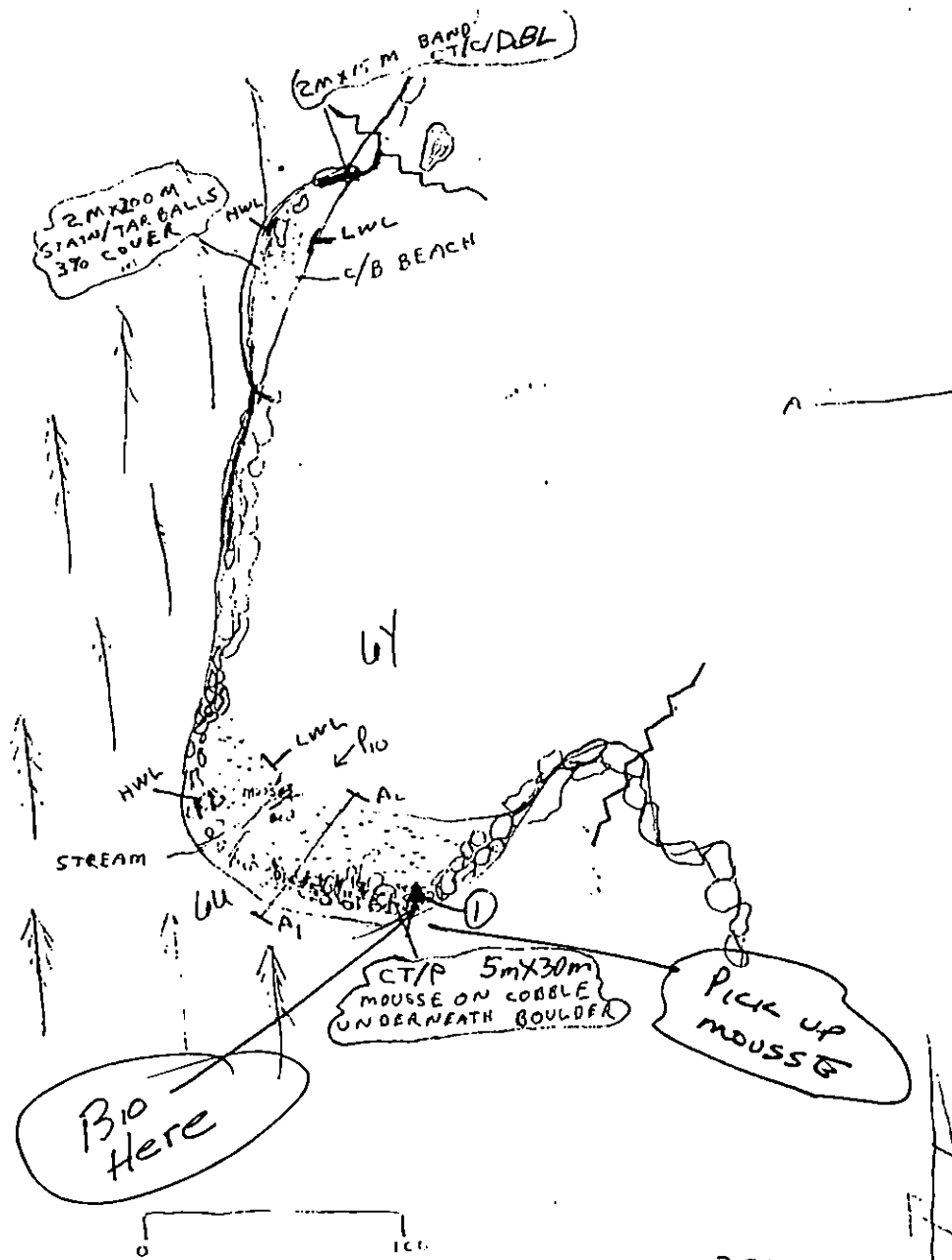
CT/S

Splashed Distribution

Oiled Vegetation

1 ➡

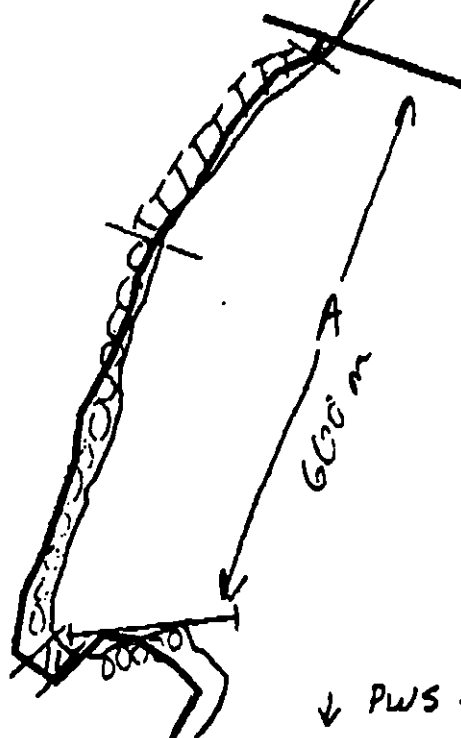
Photo location, direction,
and number



Oil Character Length (m): AP _____ PO _____ CV _____ CT 45 ST 200 MS _____ PT _____ TB _____ FL _____ NO 355

REVISION: 03/24/90

KN-105



PWS
286B -

↓ PWS 286A

XXXX Wide

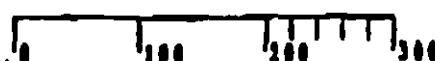
//// Medium

--- Narrow

TTTT Very Light

KN-106

ADEC Segment Length: ~~600~~ 10152 m



Map Key: PWS-286c

Name: James Spring

Date: 04/09/93

Area Calculated:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-106

SUBDIVISIONS: B (2 OF 5)

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION B (2 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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

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

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

Cultural resource survey in progress. Shoreline treatment cannot proceed until field data have been assessed and a formal archaeological constraint entered on the shoreline evaluation form.

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 25 m: No Oil 222 m
Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: Manual pick up of mousse followed by bioremediation as indicated on sketch map. Work should be conducted between 5/16 and 7/9 based on constraints.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN 106 SUBDIVISION: B DATE 10 April 90

USCG

NAME AEC Vandepels SIGNATURE AEC Vandepels☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Manual pickup of mousse patties and bio.

ADEC

NAME Michelle Barr SIGNATURE M Barr☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

- Manual pickup of mousse patties
- Breakup and pickup of tarballs
- In a few areas the tar drips to the underlying B's, but these areas are infrequent and small
- No subsurface oil was found

LAND MANAGER

NAME DAN LOGAN SIGNATURE Dan Logan☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

THIS AREA IS LOCATED IN AN EXCELLENT ANCHORAGE AND MODERATE TO POOR TIDE SITE.

RECOMMEND REMOVING TAR BALLS AND MOUSSE OR APPLYING FERTILIZER

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG J. Springer USCG R. Vandepels SEGMENT ST/ KN-106
 BIO P. Frank LAND REP D. Lagan SUBDIVISION B (2 of 5)
 EXXON T. Tomblin ADEC M. Baer TIME 20:20 to 20:40
 TEAM NO.: 5 TIDE LEVEL: +1 to +2 DATE 04/09/90
 EST. SUBDIVISION LENGTH: 220 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: NE to SW
 SURFACE SEDIMENTS: R 75 % B 15 % C 5 % P 5 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 15 % Hang 15 % Vert 70 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 25 m NO 195 m

SURFACE OIL

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

PAVEMENT: H F S 0 sq. m by 0 cm

PATTIES / TARBALLS 3 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NO

TYPE 0

#BAGS 0

Photographs:

Roll No.

Frames

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	6	7	8	SU	U	M	L		
1	25					X	.		X									X					CPGSM
							.																
							.																
							.																
							.																
							.																

COMMENTS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03-2

Segment ST 1 KN 106 Subdivision B Date (mo / day / yr) 4/9/90Time (24 hr) 2020-2040 Biologist C. Smith

pg 1 of 2

- (A) Substrate type and % of segments:
 (1) Bedrock 75 (2) Boulder 15 (3) Cobble 5 (4) Pebble 5 (5) Sand (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 40 Moderate 40 Low 20
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs: No photosRoll No. Frames

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

None

- LITZ has rich algal covering; MITZ¹¹⁹⁰ is dominated by Cryptosiphonia and Fucus.

- Barnacle recruitment is moderate on bedrock; low and sparse on the underside of cobble.

Ecological Considerations:

- Gastropods are dense with high recruitment.

404 - Special Use Destination - Fucus recruitment was high.

404 - Tenting

IB not in this subdivision

SEGMENT: ST/KN 104 SUBDIVISION B LENGTH 220 BIOLOGIST Crank

DATE 4/9/90 TIME 2030-2040

TIDE HEIGHT +1 ft +2

pg 2 of 2

1 - BEDROCK 2 - BOULDER 3 - COBBLE 4 - PEBBLE 5 - SAND 6 - SILT

FLORA:

SPECIES	UTZ	MITZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA --				
CALLIANTHUS/CORALLINA				
CLADOPHORA SPP				
COSTARIA SPP				
ENDOCLADIA MURICATA				
FILAMENTOUS GREENS			123	
FILAMENTOUS REDS			123	
GLOIOPELTIS FURCATA				
HALOSACCION GLANDIFORME			123	
LAMINARIA SPP				
LITHOTHAMNION				
NEREOCYSTIS SPP				
PORPHYRA SPP				
RALPHSIA/HILDENBRANDIA				
RHODOMELA LARIX				
RHODOMENIA PALMATA			231	
SCYTOSIPHON SPP			23	
ULVA SPP			123	
ZOSTERA MARINA				
Cyrtosiphonia		231		Dense

FAUNA:

ANTHOPLEURA SPP				
(SEM) BALUNUS CARIOSUS				
B. GLANDULA	123	123	123	
BRYOZOANS				
CHITONS (OTHER THAN K. TUNICATU)				
CLAMS				
CRABS				
DERMASTERIAS IMBRICATA				
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS				
LIMPETS	123	123	123	Dense
LITTORINA SPP	123	123	123	Dense
NUCELLA SPP		123	123	
PAGURUS SPP				
PISASTER OCHRACEUS				
POLYCHAETES			3	
PYENOPODIA HELIANTHOIDES			12	
SEARLESIA DIRA		23	123	
SERPULIDS				
SIPHONARIA THERSITES				
TEALIA				
juvenile Fido			3	Dense
Segmented 2cm lg worms	3			

OG I SPRINGER

SEGMENT ST/KN-106

SUBDIVISION B

DATE 04/09/90

CHECKLIST

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

LEGEND

1 Δ

PR - No Subsurface Oil

2 Δ

PR - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

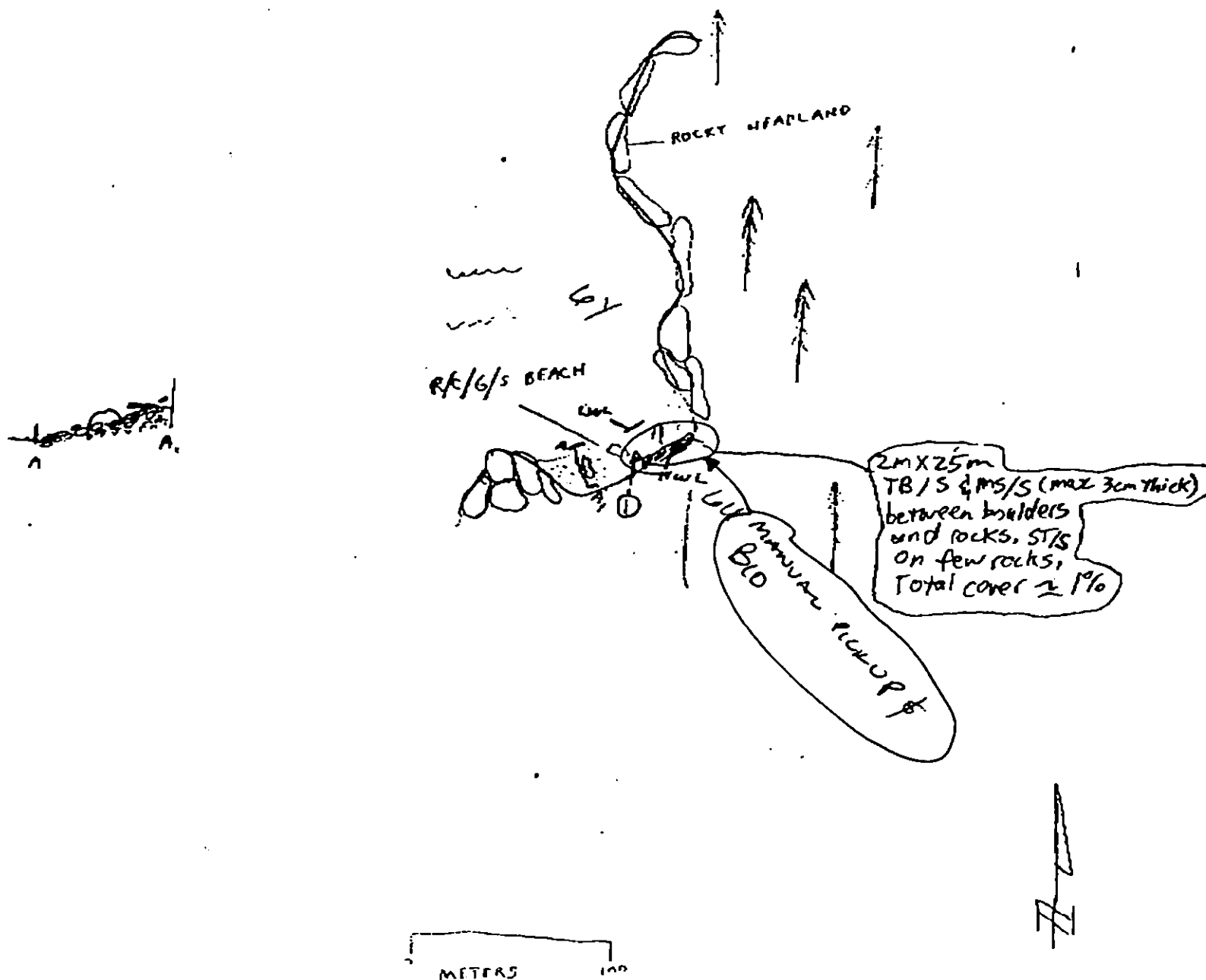
Splashed Distribution

Oiled Vegetation

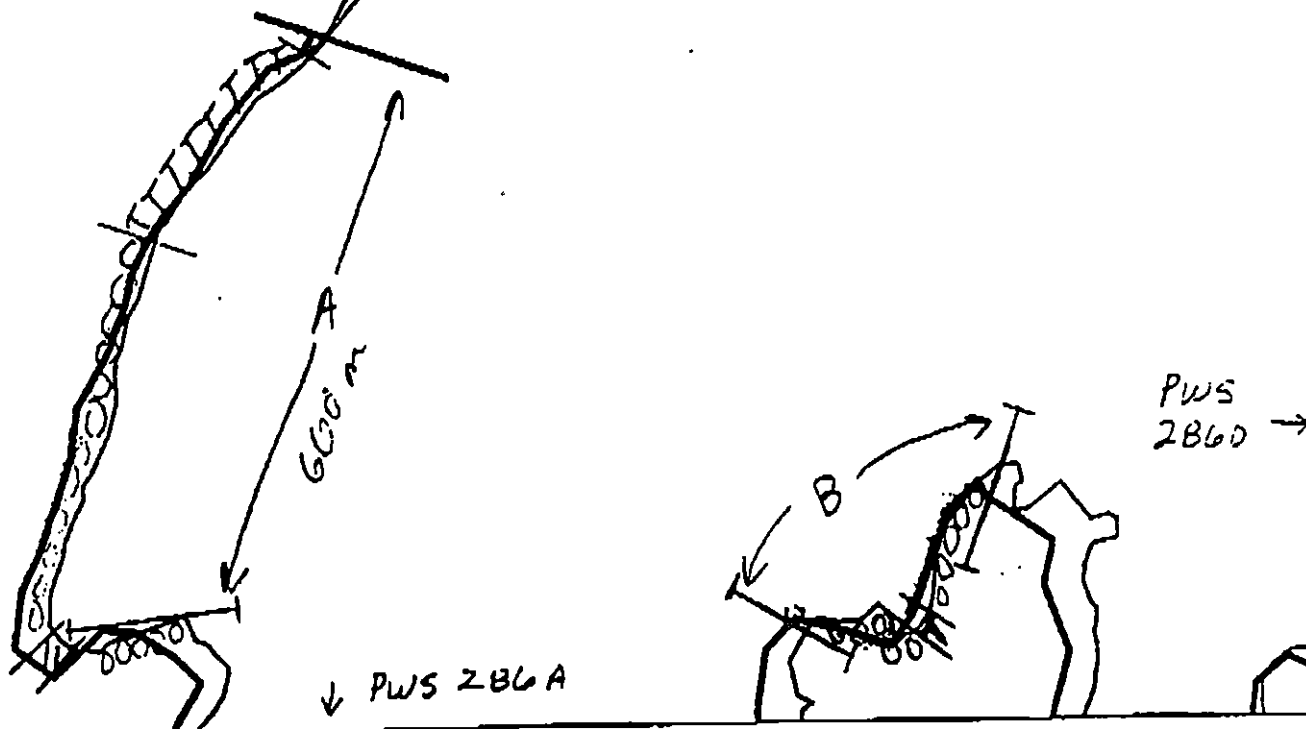
1 →

Photo location, direction,
and number

SKETCH MAP



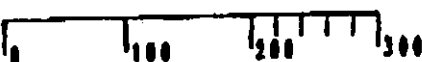
KN-105



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

KN-106

ADEC Segment Length: ¹⁰¹⁵²~~9042~~m



Map Key: PWS-286c
Name: James Springs
Date: 04/09/93
Data Entered:

1991 MAYSAP EVALUATION

SEGMENT: KN 107 SUB: A REGION: PWS SURVEY DATE: 5/13/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) OPEN

Ecological/Constraints (see page two for details) NONE

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Timothy A. Smith Date: 5/30/91

RECOMMENDATIONS:

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

COMMENTS:

INITIAL:

TAG: TAG VISIT CONFIRMED NTR ON 6/12/91.

6/13/91 John Bauer - EXXON

John Bauer - NOAA Ed Macdonald - USCG

John Bauer - ADEC

FOSC:

TAG APPROVAL DATE: MAY 29 1991 FOSC APPROVAL DATE: 6/18/91

ADEC John Bauer FOSC E. E. PAGE, CDR, USCG

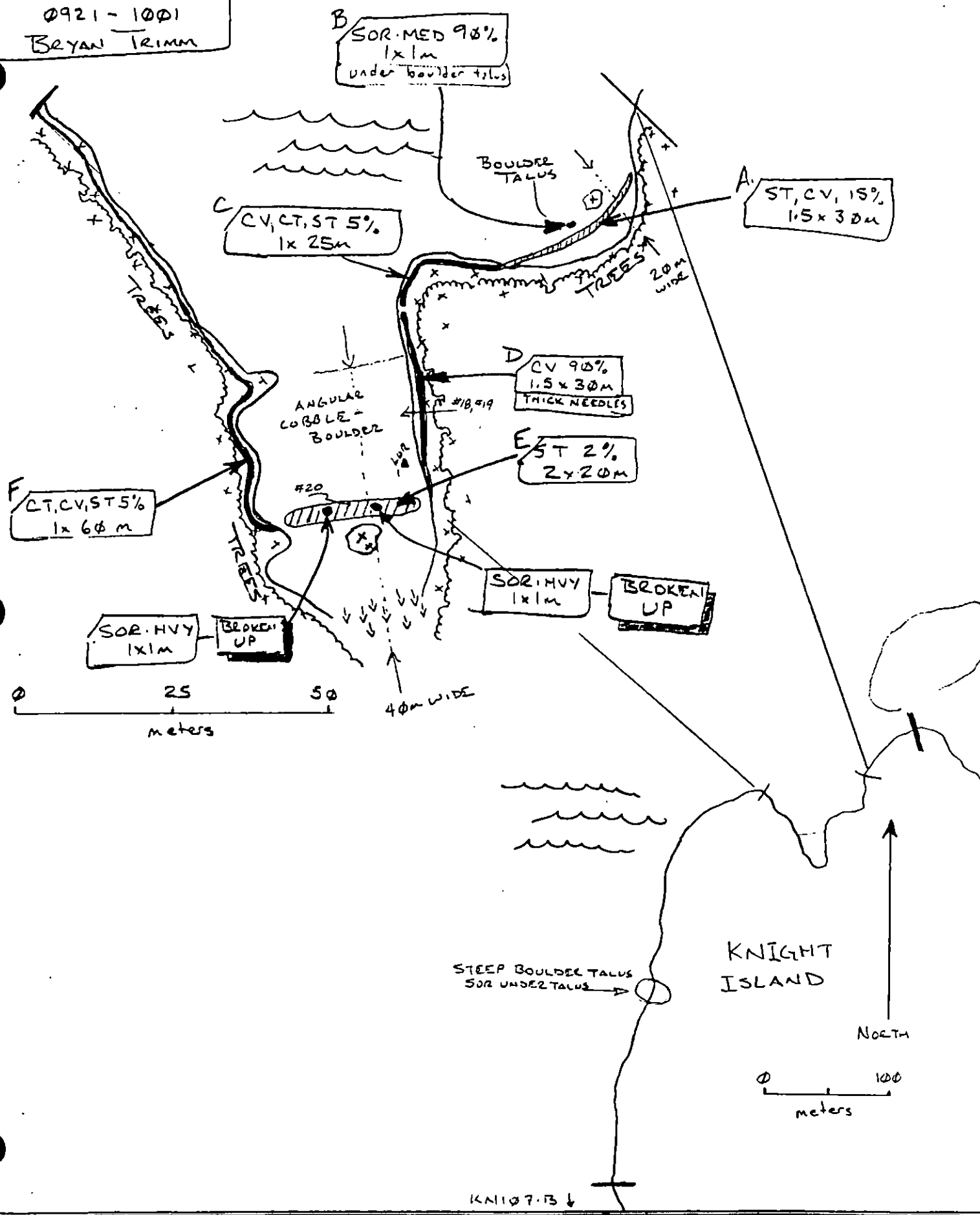
EXXON Real CHIEF OF STAFF, FOSC

USCG Ed Macdonald → The state will evaluate the need for further treatment.

NOAA John Bauer Reassessment conducted - NTR

John Bauer 6/13/91

OG SKETCH MAP
KN107-A
13-MAY-91
0921-1001
BRYAN TRIMM



Reviewed 5/18/91 KG
REVIEWED CD 18 MAY

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 13/May 91
 SEGMENT # KN 107 TIDAL HEIGHT (Range) +1 to +3 ft
 SUBDIVISION A BIOLOGIST S. Ban
 SEA STATE Calm WIND SPEED/DIRECTION Calm
 PHOTOGRAPHS: ROLL # — FRAME # —

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

A+B: Fucus, Ulva, Fucus cordata extremely dense in lower ITZ. Pycnospira and the tube building Polychaete Spirobrachia observed at water-line. Older barnacle spat in SOR zone. Moderately dense recent spat on boulder. Mussels in crevices.

C: Oil band on steep rock face. Fucus + Balanus below oil. Verticaria above oil.

D: oil also on steep rock face with angular boulders/cobbles below Fucus + Balanus on boulders/cobbles. Sparse mussels. Spat is probably fall 1990. V. sparse recent spat.

E: Li Horridus dense on lower ITZ boulders - Adults & juveniles also dense in oiled zone. Li Horridus observed on SOR. Few adult Barnacles but some recent spat observed under rocks. Mussels interbedded with pebbles below oil zone.

F: Green algae in oiled zone. Li Horridus also dense throughout lower ITZ. Li Horridus observed in oiled zone.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

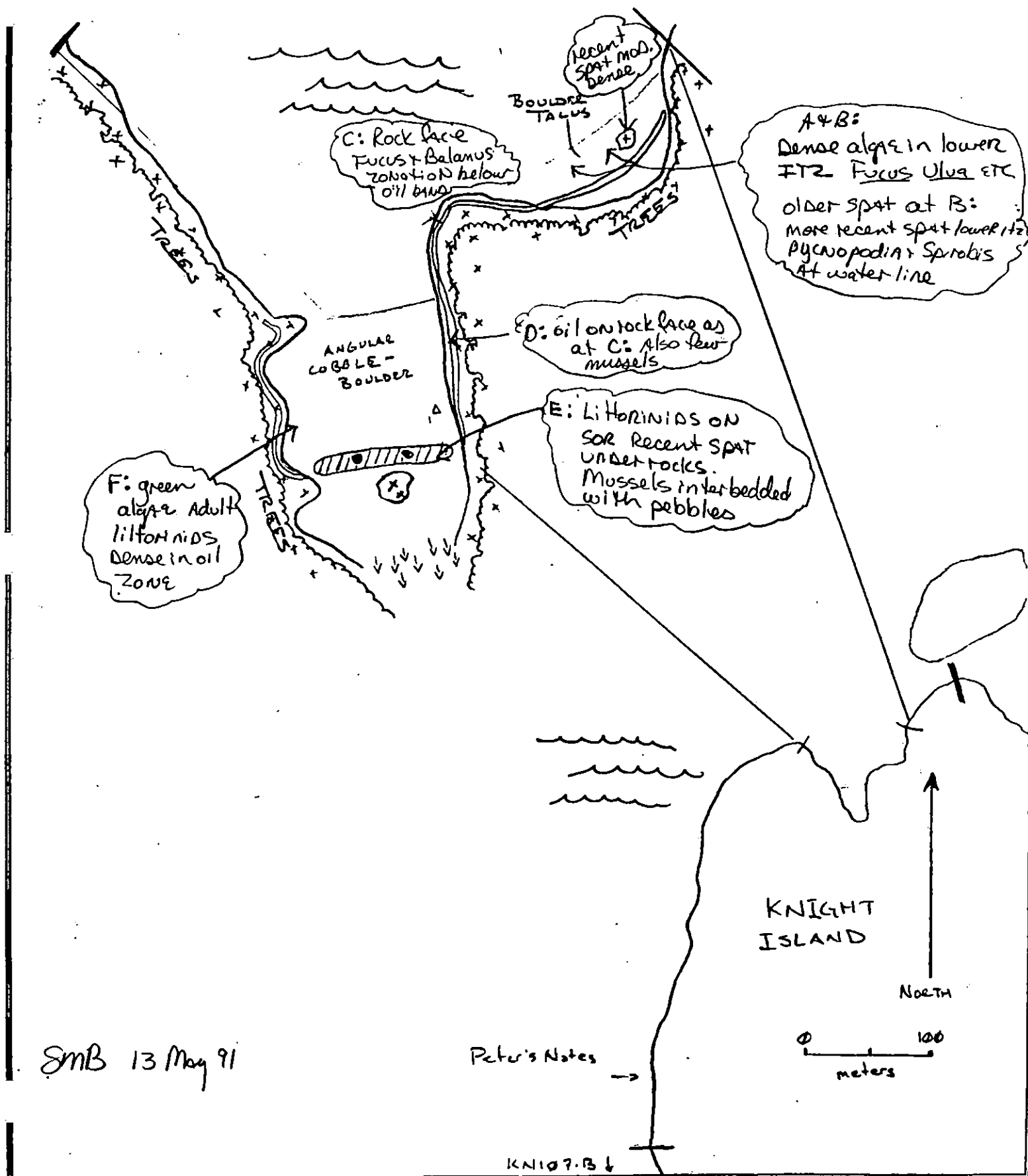
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles (2)	Near Stream - not in nest - no nest visible		
Seabirds			
Waterfowl			
Gulls/Kittiwakes			
Shorebirds			
Corvids			
Other Birds			

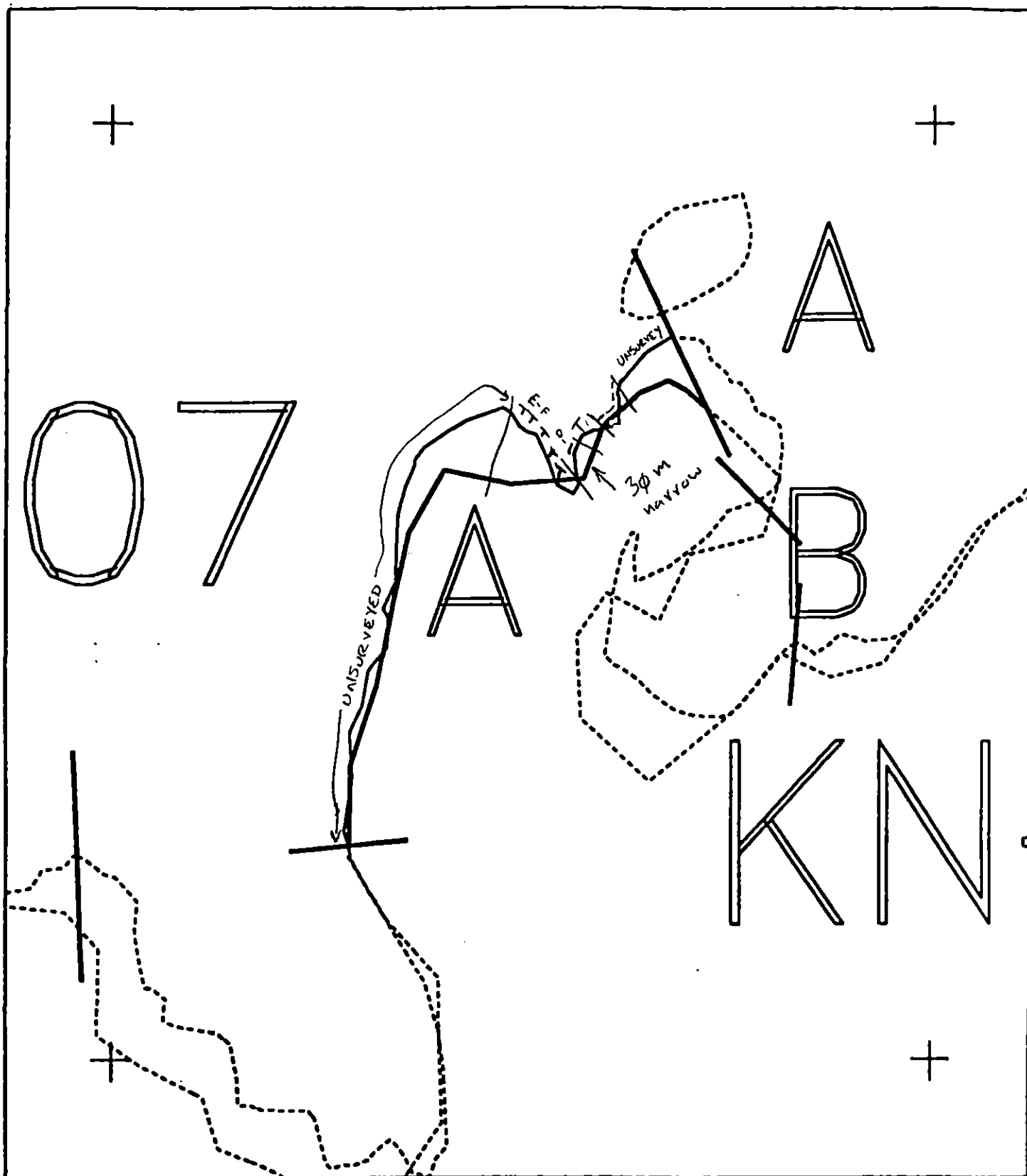
MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

Reviewed M.B. 5/18/91

SKETCH MAP
KN107-A
13-MAY-91
0921-1001





XXXX
////

TTTT
0000

Wide
Medium
Narrow
Very Light
No Oil

KN0107 A

ADEC Subsegment Length: 512m

METERS

5 100 200

AK State Plane Zone 4
660107a



Subdivision Field Map

Map Key: KNKN0107A

Name: TRIMM

Date: 13-MAY-91

Date Entered:

— SURFACE OIL CATEGORY MAP —

revised 5/18/91 KG
REVISED CD 18 MAY

1991 MAYSAP EVALUATION

SEGMENT: KN 107 SUB: B REGION: PWS SURVEY DATE: 5/13/91ENVIRONMENTAL SENSITIVITIES:Work Window(s) OPENEcological/Constraints (see page two for details) NONEARCHAEOLOGICAL CONSTRAINTS:If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.SHPO Signature: Timothy A Smith Date: 5/30/91RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

NNN

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 29 1991FOSC APPROVAL DATE: 6/5/91

ADEC

FOSC

EXXON

USCG

NOAA

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC

MAYSAP FIELD SHORELINE COMMENT SHEET

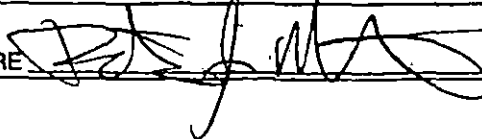
TEAM NO. 2 SEGMENT KN107 SUBDIVISION B DATE 5/13/91

ADEC

NAME

Peter Montesano

SIGNATURE

☒ NTR ☐ TREATMENT RECOMMENDED

TB Frequent Throughout Subdivision, a large % broken up. THE MOR IS not easily tilled and the SOR is left over from a poor removal job last year. THE SOR in area B is removable but it is thin. The SOR in area C has Peat just below it and therefore difficult to cleanly remove.

EXXON

NAME

J.M. FORTSIMPOLIS

SIGNATURE



☐ NTR AREAS B & C COULD BENEFIT FROM MANUAL BREAK-UP - REMOVAL.

LANDMANAGER

NAME

Dennis S. Kennedy

OF

USFS

SIGNATURE



☒ NTR This is a small beach which shows obvious coat and cover. Hand work is possible in location B to remove the heavy SOR.

USCG/NOAA

DEBRA SINCER-BEAITY NOAAD. Sincer-Beatty NOAA

NAME

Bill ZENONE USCG

SIGNATURE



☐ NTR Although the percent oil coverage in section B is small, the SOR is in a low energy area. The SOR is within the cobbles/pebbles in the UPRZ and could be manually broken up. OS-B

CG - AREA B IS GOOD CANDIDATE FOR POSSIBLE MANUAL WORK. 3

SEGMENT KN-107

LANDMANAGER D. Kennedy for USFS

SUBDIVISION B

BMI Zenone
USCG/NOAA D. Simecor-Bratty

DATE MAY 1 13 191

ENERGY LEVEL: ☐ H ☐ M ☒ L

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

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

EST. OIL CATEGORY LENGTH: W 0 m M 15 m N 40 m VL m NO 70 m US 0 m

[illegible]

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- 2 - 11 FRAMES 21-22

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	12			X					4 - 9	Y	12	B		X			B - PG S ¹ .org	Custom BLEN IN PIT
2	12			X					4 - 9	Y	12	B		X			P - PG S.org	Custom BLEN IN AT
3	15							X	—	Y	—	—		X			PG - PG S	
4	15							X	—	Y	—	—	X				PC - GP SM	SOR · HVV ABOVE
5	24							X	—	Y	—	—		X			PC - PG Pest	
									-									
									-									
									-									
									-									

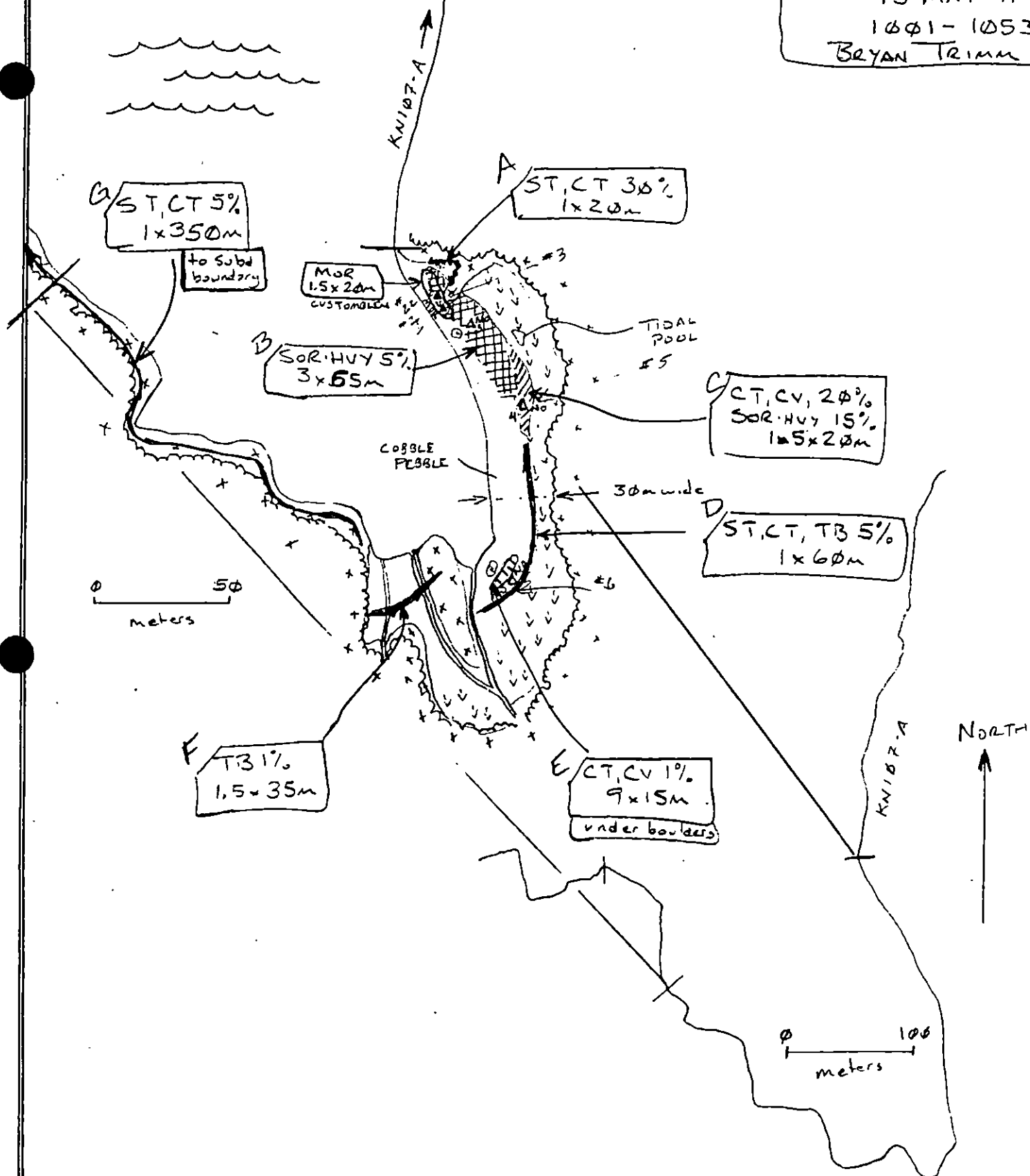
SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

OG COMMENTS:

G COMMENTS:
IT IS DIFFICULT TO DISTINGUISH STAIN & COAT FROM BLACK LICHEN IN LOCATION 'C'.
SUBDIVISION IS A SMALL STREAM MOUTH: LITTLE OILING FOUND NEAR STREAM
PTS 1 & 2 DELINEATE 'MOR' AREA (1.5 x 20m) & IS ASSOCIATED WITH HEAVY
SOR (LOCATION 'B'). THE SUBSURFACE 'MOR' OILING IS CLOSE TO 'MOR'!

revised 5.18.91 yg
REVISED CO 18 MAY

OG SKETCH MAP
KN107-B
13-MAY-91
1001-1053
BRYAN TRIMM



reviewed 5.18.91 gy
REVIEWED CO 18 MAY

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 13 May 91
 SEGMENT # KN-107 TIDAL HEIGHT(Range) +1 to +3 ft
 SUBDIVISION B BIOLOGIST S. BAN
 SEA STATE calm WIND SPEED/DIRECTION calm
 PHOTOGRAPHS: ROLL # - FRAME # -

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

A+B: Oil in this area is well above intertidal Biota. Sparse barnacles & mussels were observed near Pits #2 & #3. Dense Fucus beds are intermittent and become larger approaching the stream

C: Green algae high in FTZ Fucus recruits and barnacles below oil. Dense patches of adult Fucus to water. Littorina egg masses and limpets under rocks. Large limpets

D: Here oil is thick over a peat base. Beach grass & lichen are found in the vicinity

E: Dense Mussels interbedded with pebbles and cobbles. Mortality due to predation - (drilling) evident. But no Nucella or other predators evident. Littorinids (mostly adults) dense on cobbles close to stream. Patches of very small, recently hatched littorinids on barnacles. Fucus beds dense at stream mouth - mostly adults but small areas of recruits also observed. Saxidomus & Ptilotheca shells subtidally - clam beds offshore

F: Similar to E: but dense, recent spot also observed in lower zones

G: Steep rock face with oil band - Fucus & Barnacle community below lichen above.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

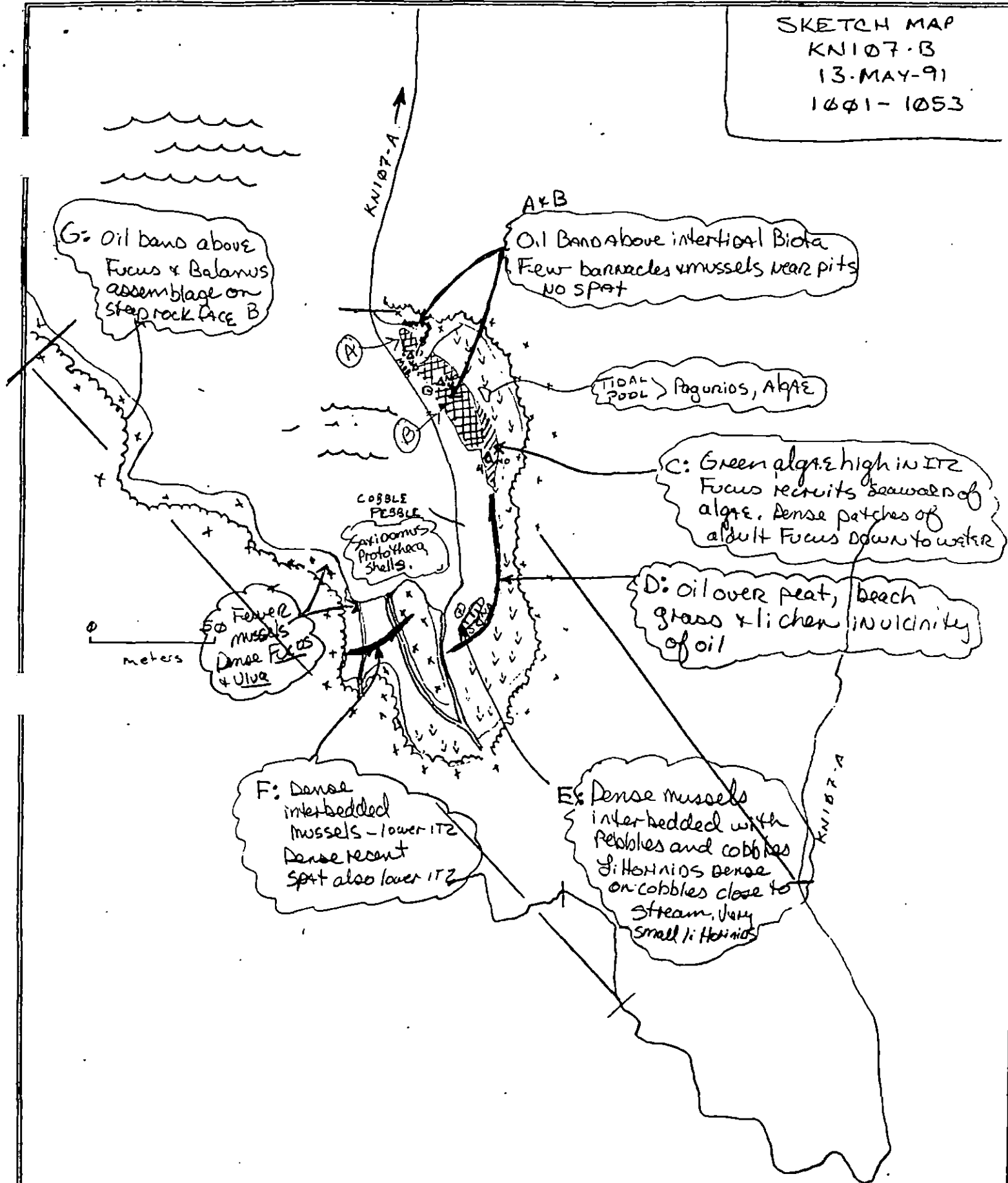
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/kittiwakes	1 (gulls)	±5	
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters		land otters	1
Pinnipeds(specify)			
Whales(specify)			

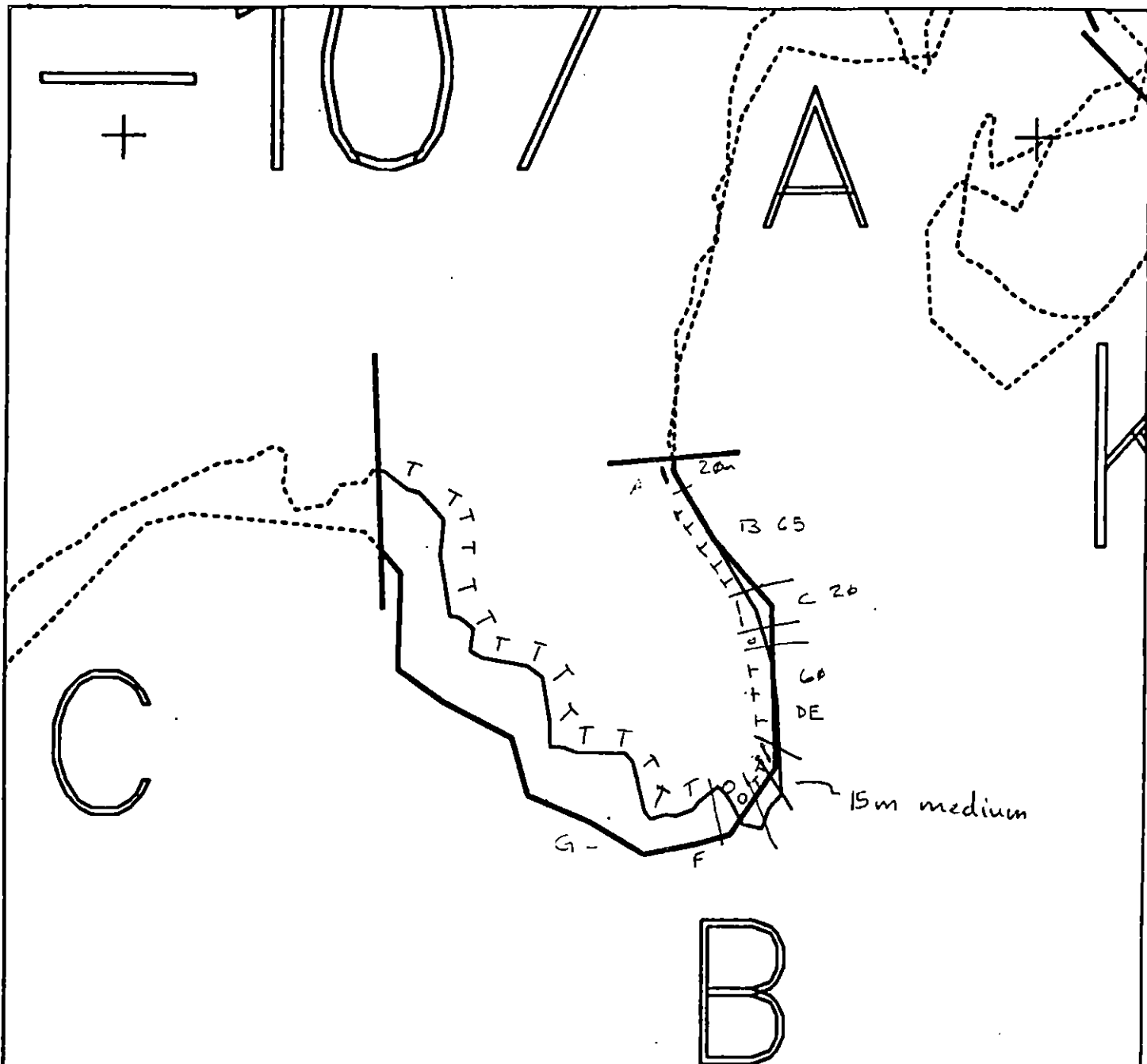
Shoreline subdivision map showing important biological features attached.

REVIEWED 16 18 MAY
 P. J. 2102 nm

SKETCH MAP
KN107-B
13-MAY-91
1601-1053



SMB 13 May 91



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

KN0107 B

ADEC Subsegment Length: 020m
 METERS

5 100 200
 AK State Plane Zone 4
 kn0107b



Subdivision Field Map

Map Key: KNKN0107B

Name: TRIMM

Date: 13-MAY-91

Date Entered:

. SURFACE OIL CATEGORY MAP -

reviewed 5.18.91 gyl
 REVISED CB 18 MAY

1991 MAYSAP EVALUATION

SEGMENT: KN 107 **SUB:** A **REGION:** PWS **SURVEY DATE:** 5/13/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) OPEN

Ecological/Constraints (see page two for details) NONE

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ **Date:** _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2 SEGMENT SW 107 SUBDIVISION A DATE 5/13/91

ADEG
AE Peter Montesano

SIGNATURE [Signature]

☐ NTR

TREATMENT RECOMMENDED

AREA WELL CHARACTERIZED BY OG. AREA 'D' IS SHADOWED FROM ABOUT EVERY FORCE OF NATURE (WAVES, SUN, ETC.) AND REMAINS THICK WITH LITTLE SIGN OF WEATHERING. THIS AREA SHOULD BE CLEANED WITH EITHER WIRE BRUSHES OR A STEAM UNIT. THIS IS ONE IMPRESSIVE CV.

EXXON

NAME C.M. LATSIMFALIS

SIGNATURE [Signature]

☐ NTR

SUGGEST TAG DETERMINE IF "COVER" SHOULD BE TREATED.

LANDMANAGER

NAME DENNIS S. KENNEDY OF LSFS

SIGNATURE [Signature]

☐ NTR

Small beach with thick cover.
Good survey

USCG/NOAA NOAA DEBRASIMECE-BERTY Debra Simcet-Berty NOAA

NAME

SIGNATURE

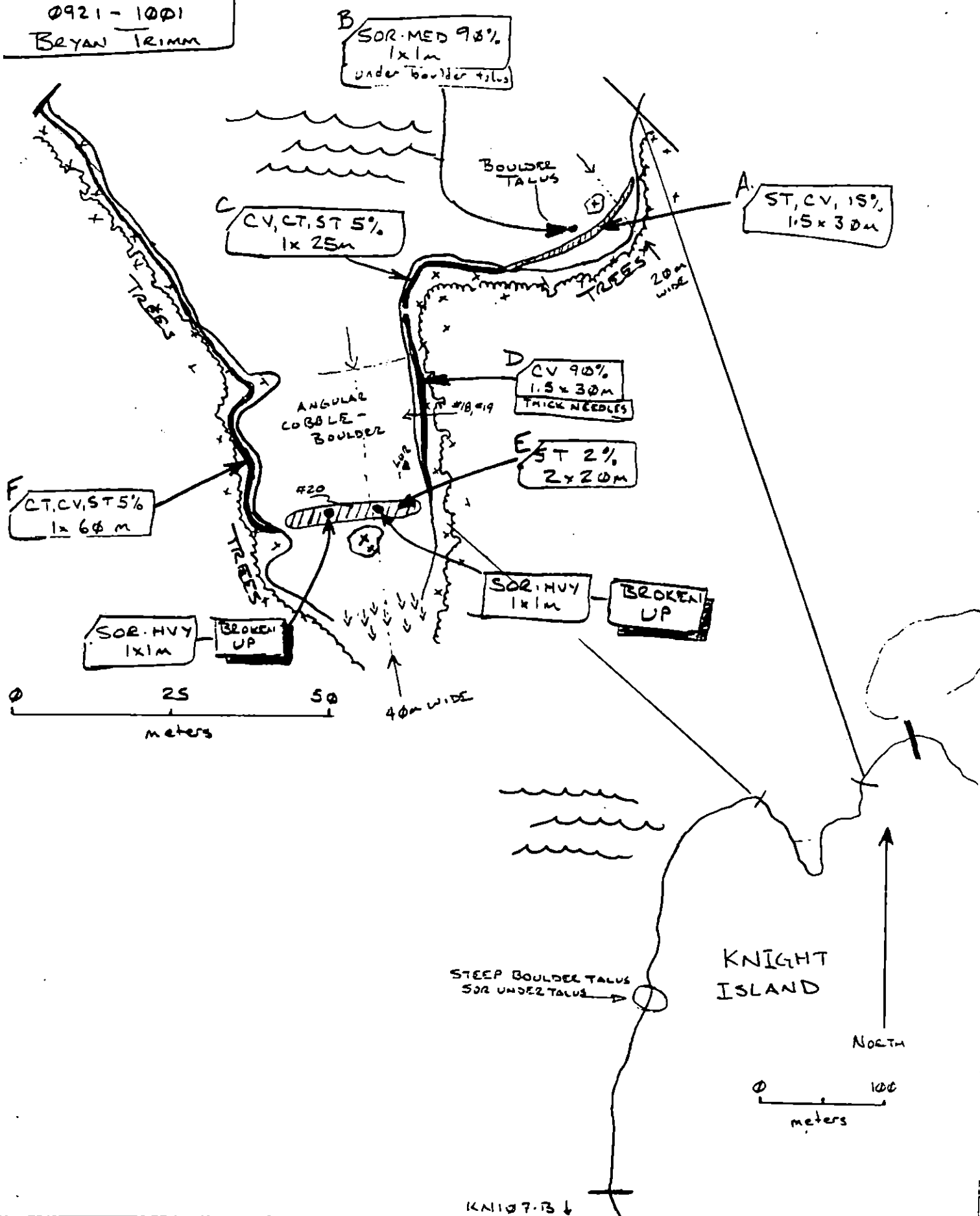
☐ NTR

Area that contained SOR were broken up by members of the MAYSAP survey team. In area D, the covering on the vertical rock is a combination of oil and pine needles. The bio upland sparse muscels and very sparse recent spot. The thick oil/pine needle cover could be affecting the physical environment of these organisms.

PAGE / OF /

REVIEWED 5/18/91 LG
REVIEWED 6/18 MAY

OG SKETCH MAP
 KN107-A
 13-MAY-91
 0921-1001
 BRYAN TRIMM



Reviewed 5/18/91 KC
 REVIEWED CD 18 MAY

NAVSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 13 May 91
 SEGMENT # KN 107 TIDAL HEIGHT (Range) +1 to +3 ft
 SUBDIVISION A BIOLOGIST S. Ban
 SEA STATE Calm WIND SPEED/DIRECTION Calm
 PHOTOGRAPHS: ROLL # — FRAME # —

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

A+B: Fucus, Ulva, Fricidea cordata Extremely dense in lower ITZ
Pycnospira and the tube building Polychaete spirorbis observed at
water line. Older barnacle spat in SOR zone. Moderately dense
Recent spat on boulder. Mussels in crevices.

C: Oil band on steep rock face. Fucus + Balanus below oil
Urticaria above oil

D: oil also on steep rock face with Angular boulders/cobbles below
Fucus + Balanus on boulders/cobbles. Sparse mussels. Spat
is probably fall 1990. U. sparse recent spat

E: Li Hornios dense on lower ITZ boulders - Adults + Juveniles
also dense in oiled zone. Li Hornios observed on SOR. Few
adult Barnacles but some recent spat observed under rocks
Mussels interbedded with pebbles below oil zone.

F: Green algae in oiled zone. Li Hornios also dense throughout
lower ITZ. Li Hornios observed in oiled zone.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

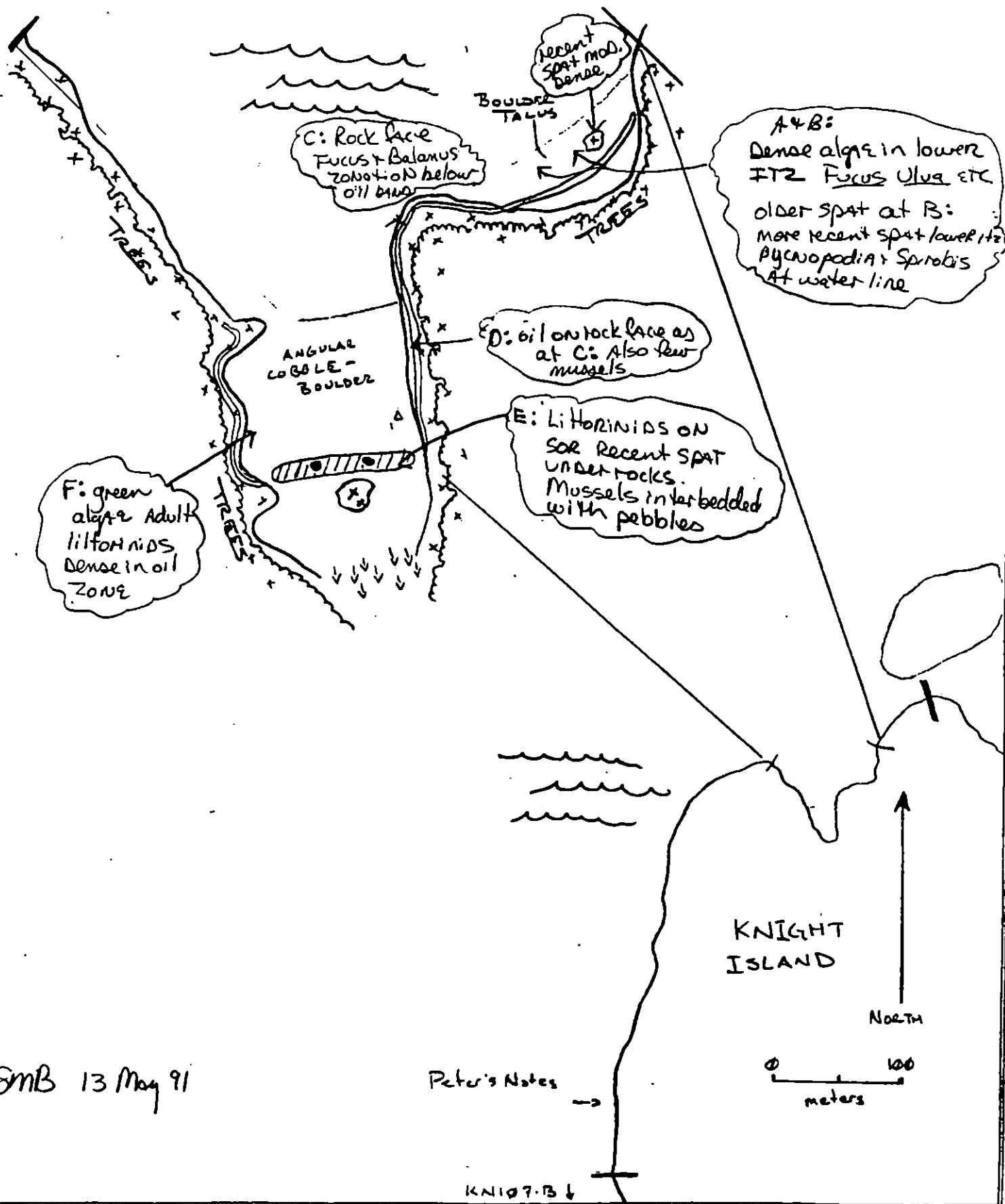
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles (2)	Near Stream - <u>not in nest</u> - NO NEST visible		
Seabirds			
Waterfowl			
Gulls/Kittiwakes			
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

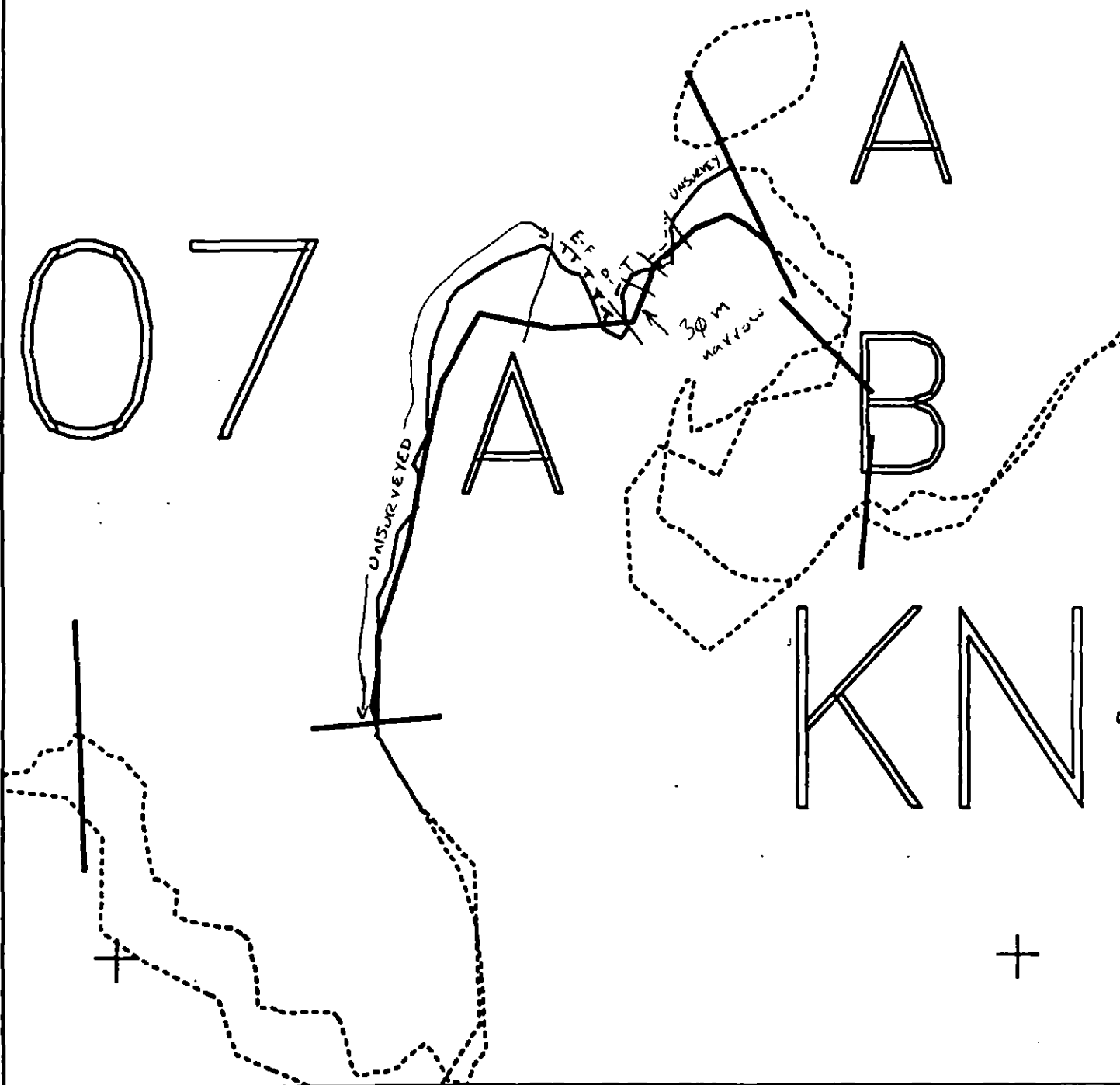
Shoreline subdivision map showing important biological features attached.

Reviewed M.B. 5/18/91

SKETCH MAP
KN107-A
13-MAY-91
0921-1001



Reviewed M.B. 5/18/91



XXXX
////

TTTT
0000

Wide
Medium
Narrow
Very Light
No Oil

KN0107 A

ADEC Subsegment Length: 512m

METERS

0 100 200

AK State Plane Zone 4
660107a



Subdivision Field Map

Map Key: KNKN0107A

Name: TRIMM

Date: 13-MAY-91

Data Entered:

— SURFACE OIL CATEGORY MAP —

revised 5/18/91 KL
REVISED CD 18MAY

1991 MAYSAP EVALUATION

SEGMENT: KN 007 **SUB:** A **REGION:** PWS **SURVEY DATE:** 5/2/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) OPEN

Ecological/Constraints (see page two for details) NONE

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ **Date:** _____

<u>RECOMMENDATIONS:</u>	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: _____

TAG: _____

FOSC: _____

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

ADEC _____ **FOSC** _____

EXXON _____

USCG _____

NOAA _____

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 3 SEGMENT KN 07 SUBDIVISION A DATE 5/2/91

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley☒ NTR ☐ TREATMENT RECOMMENDED

- The only speakable oil lies in the set-a site, which seems to be weathering. Signs of 1990 work (rocks have been rolled) Area looks good, crew did a good job.

- No Further treatment, monitor set-a-side-

EXXON

NAME Jon P Garneck SIGNATURE Jon Garneck☒ NTR

This beach segment was and is clean with a few sor patches which were picked up a while up. At the beach now a fairly healthy life system and appears to be coming back quite well.

LANDMANAGER

NAME John Solow OF CAL SIGNATURE [Signature]☐ NTR?

6

the patches noted

USCG/NOAA

NAME Tim Mooney / Baratz SIGNATURE Tim Mooney / Aug Baratz☒ NTR

SEGMENT WAS MANUALLY TILLED IN 1990. LOOK EXCEPTIONALLY GOOD. ANY REMAINING SOR (TAR PATCHES) WERE BROKEN UP OR REMOVED BY SURVEY TEAM.

TEAM NO. 3SEGMENT KN-007OG HARPERBIO STOKERSUBDIVISION AADEC GORMLEYLANDMANAGER JOHNSON for CVCDATE 5 / 2 / 91EXXON CZARNICKIUSCG/NOAA MOONEY / BARATSTIME 07:25 to 08:10TIDE LEVEL 1.8 ft. to -28 ft.ENERGY LEVEL: ☐ H ☐ M ☒ LSURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELOWEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☒ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 538 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONEEST. OIL CATEGORY LENGTH: W 0 m M 42 m N 110 m VL 90 m NO 296 m US 0 m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A1	P										BP/R	H	2	100		X			} BROKEN UP
A2				P							BP/R	H	2	100		X			
B1	P										BP/R	M	10	10		X	X		ON POINT } SET ASIDE ON POINT }
B2				P							BP/R	M	10	10		X	X		
C				S							BP/R	M	2	150		X	X		Some broken-up
D				P							BP/R	M	5	10		X			
E				P							BP/R	M	5	30		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- 3 - 08 FRAMES 8 - 11

SCHE 10 VERTICAL, 10 HORIZONTAL, 10 M-MEDIAN, 10 L-LOW, 10 SHEEN, 10 PIT, 10 SURFACE																			
PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES	
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI			
1	20							X	-	Y	-	-			X		PC/SGP		
2	25							X	-	Y	-	-		X			PC/SG		
3	25							X	-	Y	-	-			X		PC/SG		
4	30							X	-	Y	-	-		X			PC/SG		
5	20				X				0-3	Y	-	-		X			PC/SG	INTS	
6	40							X	-	Y	-	-				X	PC/SG		
7	20							X	-	Y	-	-			X		P/SG		
8	30							X	-	Y	-	-		X			G/SG		
9	25							X	-	Y	-	-			X		G/SG		
SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE																			
10	25							X	-	Y	-	-				X	GP/SG		

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

OG COMMENTS:

This low-energy site within the Bay of Isles includes a Set Aside near the eastern end

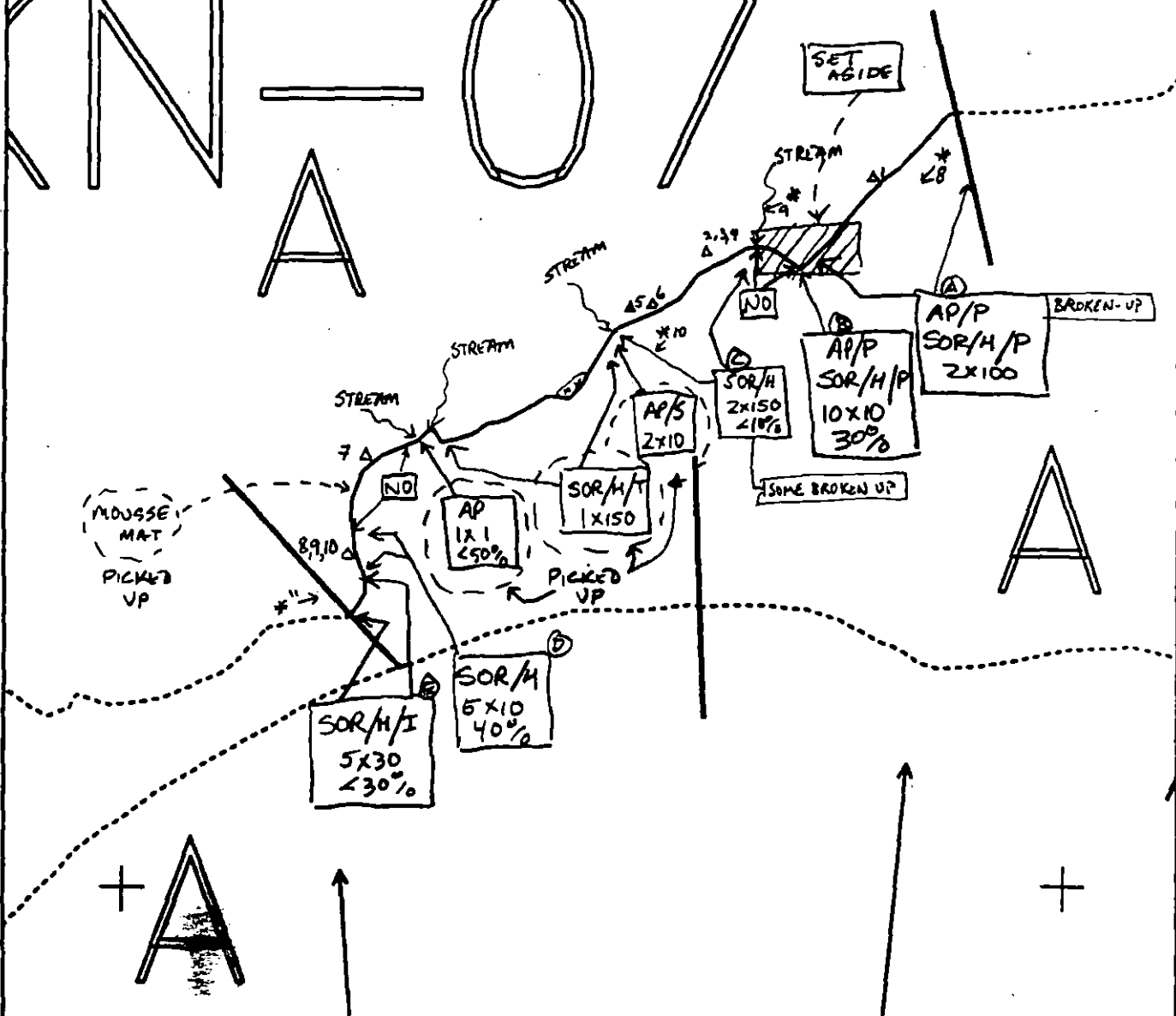
Surface oiling is concentrated in a ^{discontinuous} narrow band, generally <2m wide, and has the appearance of mouse paths, classified as SOR/H and AP.

No significant subsurface oiling was identified or is likely.

Reviewed: MCT/9/1 EG revised, May 8 OG 1 of 4

KN-07

A



KN0007 A

METERS



At State Plane Zone 4

Subdivision Field Map

Map Key: KNKN0007A

Name: HARPER

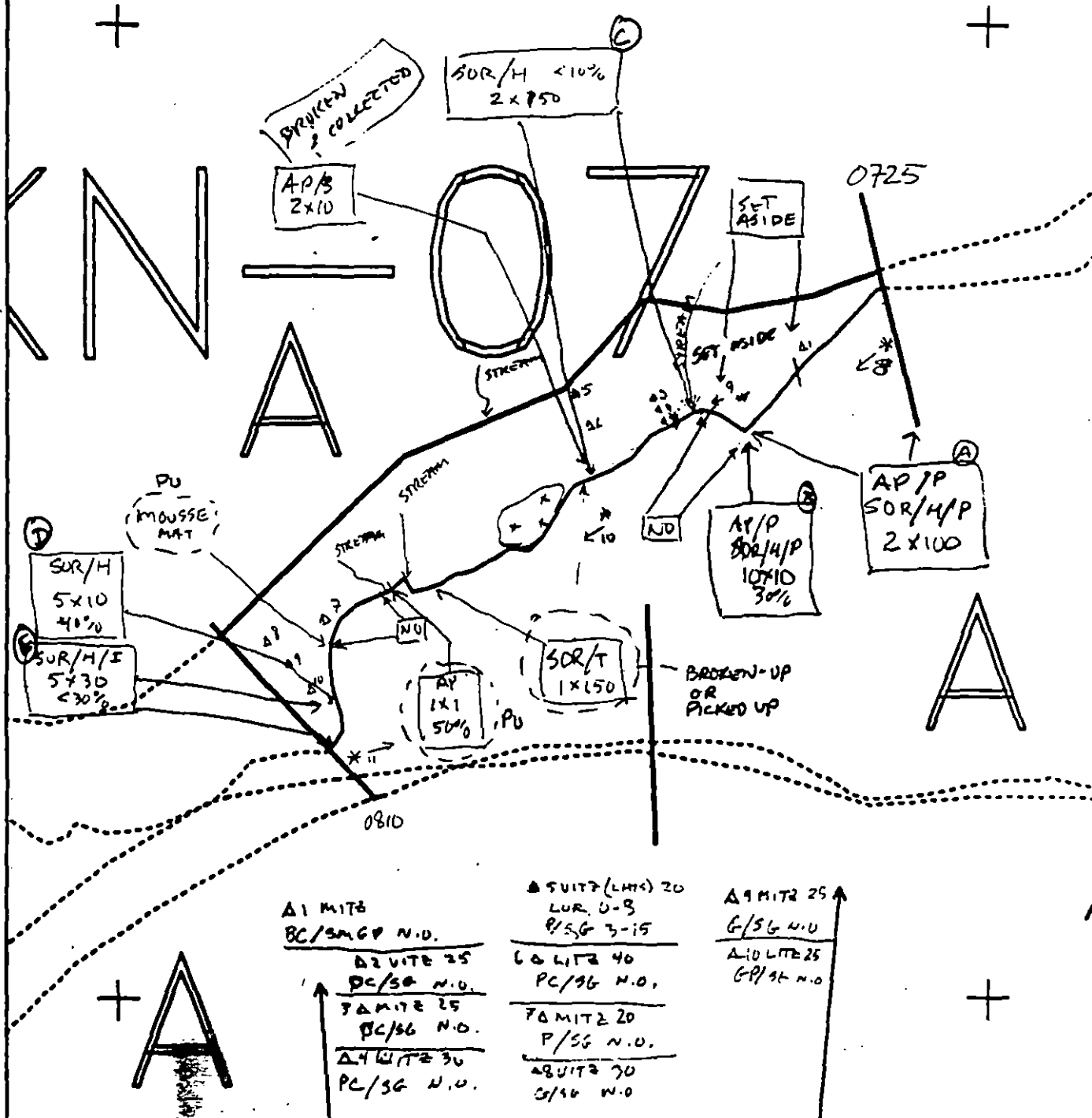
Date: 2 MAY 91

Reviewed: MC 5/9/91

REVISED FIELD MAP

ET revised, May 8

OG 2 of 4



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

KN0007 A
 ADEC Subsegment Length: 538m
 METERS
 0 100 200
 AK State Plane Zone 4
 4400007a

Subdivision Field Map
 Map Key: KNKN0007A
 Name: HARPER
 Date: 2 May 91
 Date Entered:



Reviewed: MC 5/9/91

ES revised, May 8

OG 3 of 4

FIELD MAP

PIREMENT

NAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 3 DATE 5/2/91
 SEGMENT # KNO7 TIDAL HEIGHT(Range) 3-4'
 SUBDIVISION A BIOLOGIST Stoker
 SEA STATE 0-1' WIND SPEED/DIRECTION E 10-15
 PHOTOGRAPHS: ROLL # FRAME #

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

Low energy shore varying from fairly steep cobble/boulder/bedrock to low-angle pebble/cobble flats.

Biota generally extends well into the upper intertidal in the form of sparse to moderate barnacle populations, Mytilus patches, limpets and Fucus. Abundance generally increases downslope through the mid intertidal, consisting of moderate to dense barnacles and spat, variable densities of interbedded and attached Mytilus, patchily distributed and variable Fucus, generally dense limpets, sparse Littorina (+some eggs), amphipods, Nucella. Pebble/cobble flats dominated by extensive interbedded Mytilus, barnacles, limpets, and sometimes Fucus (patchy and variable). A small stream crosses the subdivision. No observations were possible of the lower intertidal due to tide height.

Biota in surface oil areas A-C consists of sparse barnacles, increasing downslope in both abundance and diversity. Mid intertidal biota in all areas consists of sparse to moderately dense barnacles and spat, sparse patches of Mytilus, patchy Fucus, generally dense limpet populations, and sparse Littorina.

Biota in oiled areas D-E consists of sparse Fucus and barnacles, sparse Littorina, sparse patches of Mytilus, dense limpets, and Aligochaetes. Downslope biota of similar composition, increased abundance. Biota in this area varies considerably according to substrate and exposure.

If further treatment is undertaken, avoid undue disturbance/damage to established biota, which appears to be healthy and recovering.

WILDLIFE OBSERVATIONS

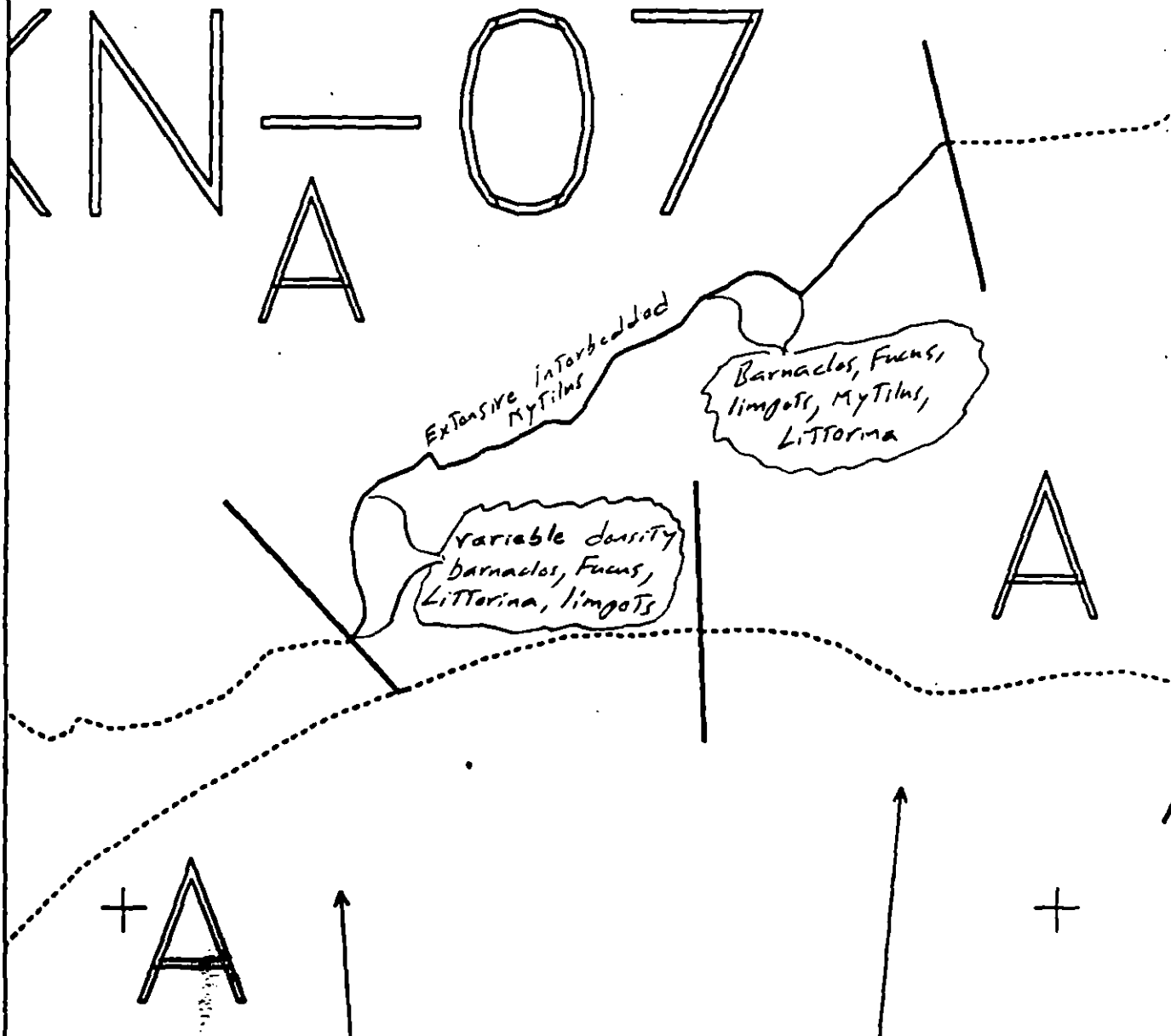
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl	Mergansers	4	
Gulls/kittiwakes			
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds(specify)			
les(specify)			

Shoreline subdivision map showing important biological features attached.

Bio Map



KN0007 A

METERS



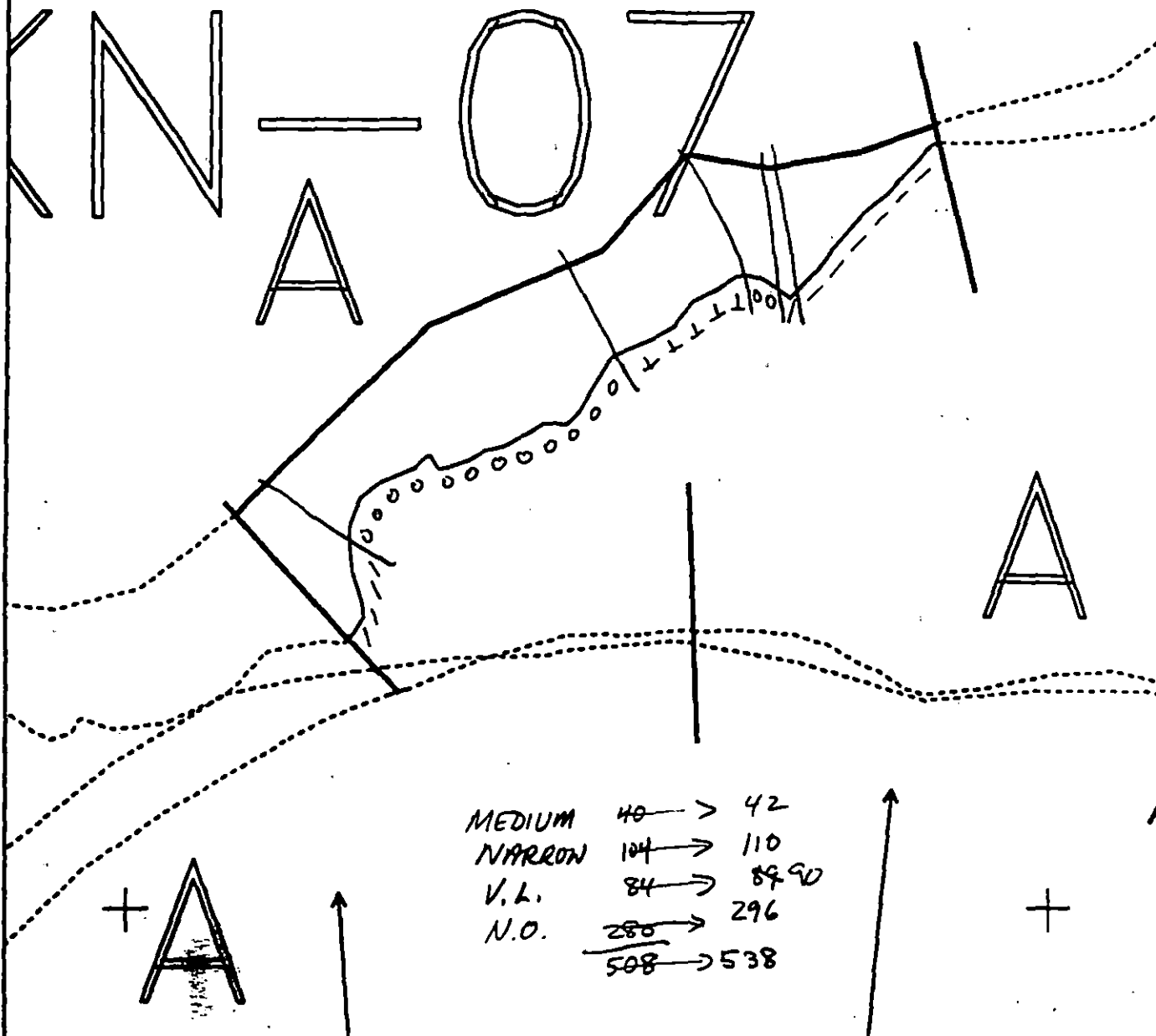
AK State Plane Zone 4
18000000

Subdivision Field Map

Map Key: KNKN0007A

Name: Sam Stoker

Date: 5/2/91



MEDIUM	40	→	42
NARROW	104	→	110
V.L.	84	→	84.90
N.O.	280	→	296
	508	→	538

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

KN0007 A
 ABEC Subsegment Length: 538m
 METERS
 0 100 200
 AK State Plane Zone 4
 6200070

Subdivision Field Map
 Map Key: KNKN0007A
 Name: HARPER
 Date: 2 May 91
 Date Entered:



Reviewed: 5/19/91 MC
 EG: reviewed, May 8
 OG 4 of 4

1991 MAYSAP EVALUATION

SEGMENT: KN 007 SUB: A REGION: PWS SURVEY DATE: 5/2/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) OPEN

Ecological/Constraints (see page two for details) NONE

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Rachel Chan Dahn Date: 5/17/91

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

N

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE:

MAY 17 1991

FOSC APPROVAL DATE:

5/25/91

ADEC

FOSC

EXXON

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC

USCG

NOAA

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 3 SEGMENT KN 07 SUBDIVISION A DATE 5/2/91

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

- ☒ NTR ☐ TREATMENT RECOMMENDED
- The only speakable oil lies in the set-a-side, which seems to be weathering. Signs of 1990 work (rocks have been rolled) Area looks good, crew did a good job.
 - No Further treatment, monitor set-a-side-

EXXON

NAME Jon P Garneck SIGNATURE Jon Garneck

- ☒ NTR This beach segment was and is clean with a few sor patches which were picked up or broken up. The beach has a fairly healthy life system and appears to be coming back quite well.

LANDMANAGER

NAME Sol Cohen OF CAL SIGNATURE Sol Cohen

☐ NTR
0

the patches noted

USCG/NOAA

NAME Tim Mooney / Baratz SIGNATURE Tim Mooney / Aug Baratz

- ☒ NTR SEGMENT WAS MANUALLY TILLED IN 1990. LOOK EXCEPTIONALLY GOOD. ANY REMAINING SOR (TAR PATCHES) WERE BROKEN UP OR REMOVED BY SURVEY TEAM.

MAYSAP SHORELINE OILING SUMMARY

PAGE 1 OF 1

TEAM NO. 3OG HARPERBIO STOKERSEGMENT KN-007ADEC GORMLEYLANDMANAGER JOHNSON for CVCSUBDIVISION AEXXON CZARNECKIUSCG/NOAA MOONEY / BARATSDATE 5 / 2 / 91TIME 07:25 to 08:10TIDE LEVEL 1.8 ft. to -0.28 ft.ENERGY LEVEL: ☐ H ☐ M ☒ LSURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELOWEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☒ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 538 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONEEST. OIL CATEGORY LENGTH: W 0 m M 42 m N 110 m VL 90 m NO 296 m US 0 m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A1	P										BP/R	H	2	100		X			} BROKEN UP
A2				P							BP/R	H	2	100		X			
B1	P										BP/R	M	10	10		X	X		ON POINT } SET ASIDE
B2				P							BPG/R	M	10	10		X	X		
C				S							BPG/R	M	2	150		X	X		Some broken up
D				P							BPG/R	M	5	10		X			
E				P							BPG/R	M	5	30		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- 3 - 08 FRAMES 8 - 11

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	20							X	-	Y	-	-			X		PC/SMGP	
2	25							X	-	Y	-	-		X			PC/SG	
3	25							X	-	Y	-	-			X		PC/SG	
4	30							X	-	Y	-	-		X			PC/SG	
5	20				X				0-3	Y	-	-		X			PC/SG	LHTS
6	40							X	-	Y	-	-				X	PC/SG	
7	20							X	-	Y	-	-			X		P/SG	
8	30							X	-	Y	-	-		X			G/SG	
9	25							X	-	Y	-	-			X		G/SG	
		SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE																
10	25							X		Y	-	-				X	GP/SG	

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

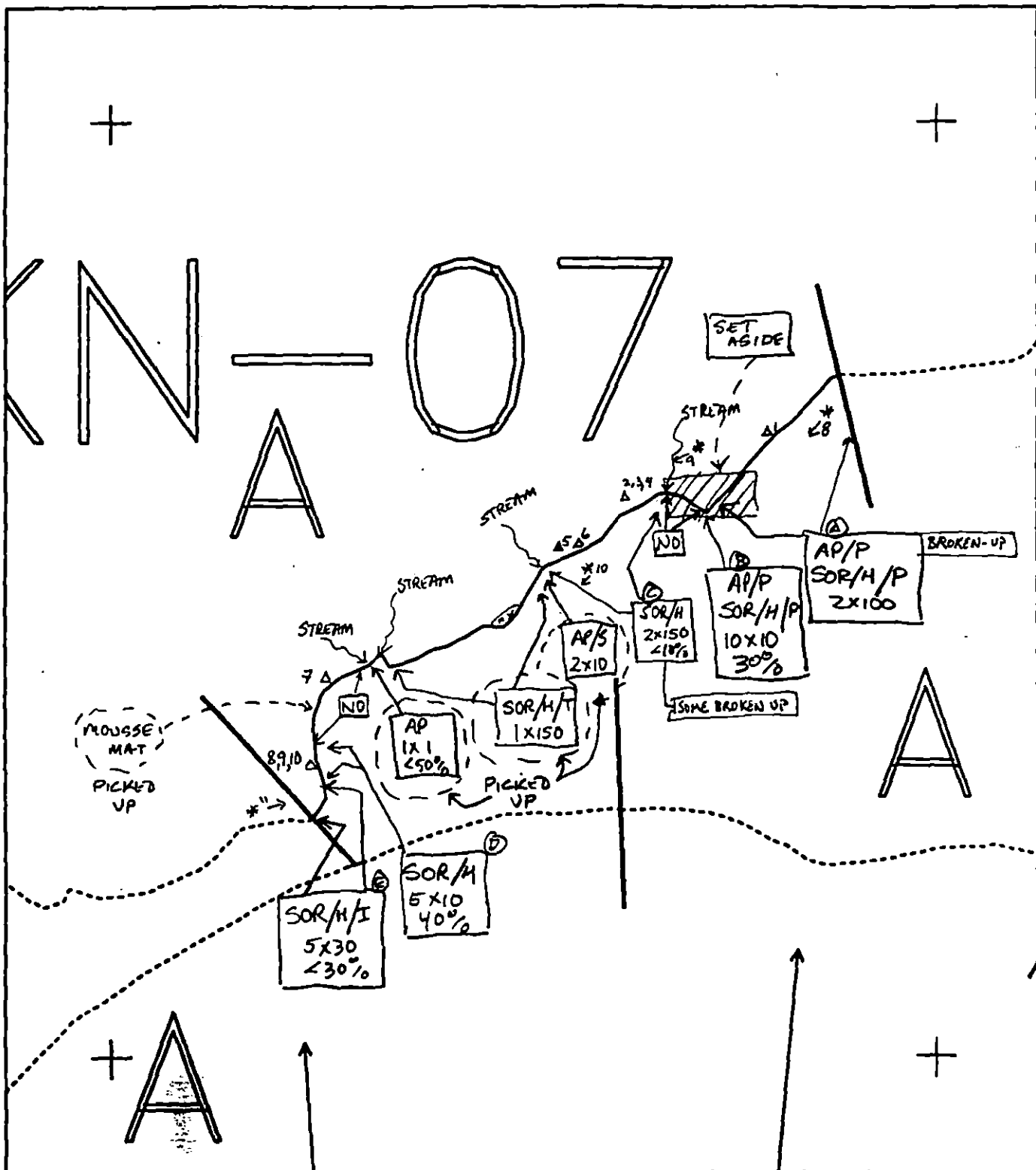
OG COMMENTS:

This low energy site within the Bay of Isles includes a Set Aside near the eastern end.

Surface oiling is concentrated in a ^{discontinuous} narrow band, generally < 2 m wide, and has the appearance of mousse patches, classified as SOR/H and AP.

No significant subsurface oiling was identified or is likely.

Reviewed: MCT/9/91 EG revised, May 8 OG 1 of 4



KN0007 A

Subdivision Field Map

Map Key: KN1KN0007A

Name: HARPER

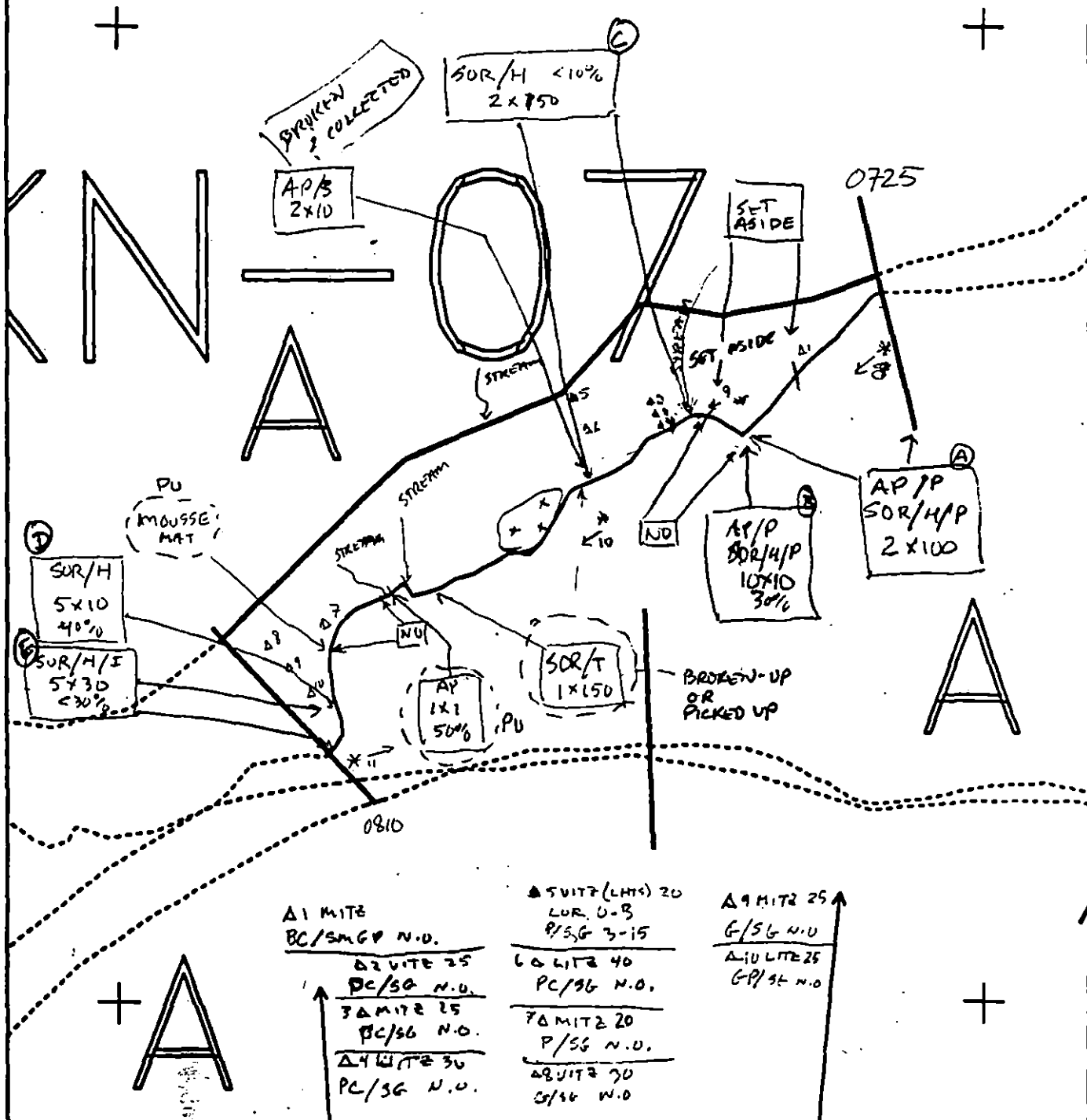
Date: 2 MAY 91

Reviewed: MC 5/9/91

REVISED FIELD MAP

Erreased, May 8

OG 2 of 4



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

KN0007 A
 ADEC Subsegment Length: 538m
 METERS

AK State Plane Zone 4
 100 200



Subdivision Field Map
 Map Key: KNKN0007A
 Name: HARPER
 Date: 2 May 91
 Date Entered:

PREPARED

FIELD MAP

ES revised, May 8

OG 3 of 4

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 3 DATE 5/2/91
 SEGMENT # KN07 TIDAL HEIGHT(Range) 3-4'
 SUBDIVISION A BIOLOGIST Stahor
 SEA STATE 0-1' WIND SPEED/DIRECTION E 10-15
 PHOTOGRAPHS: ROLL # _____ FRAME # _____

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

Low energy shore varying from fairly steep cobble/boulder/bedrock to low-angle pebble/cobble flats.

Biota generally extends well into the upper intertidal in the form of sparse to moderate barnacle populations, Mytilus patches, limpets and Fucus. Abundance generally increases downslope through the mid intertidal, consisting of moderate to dense barnacles and spat, variable densities of interbedded and attached Mytilus, patchily distributed and variable Fucus, generally dense limpets, sparse Littorina (some eggs), amphipods, Nucella. Pebble/cobble flats dominated by extensive interbedded Mytilus, barnacles, limpets, and sometimes Fucus (patchy and variable). A small stream crosses the subdivision. No observations were possible of the lower intertidal due to tide height.

Biota in surface oil areas A-E consists of sparse barnacles, increasing downslope in both abundance and diversity. Mid intertidal biota in this area consists of sparse to moderately dense barnacles and spat, sparse patches of Mytilus, patchy Fucus, generally dense limpet populations, and sparse Littorina.

Biota in oiled areas D-E consists of sparse Fucus and barnacles, sparse Littorina, sparse patches of Mytilus, dense limpets, and algaechanots. Downslope biota of similar composition, increased abundance. Biota in this area varies considerably according to substrate and exposure.

If further treatment is undertaken, avoid undue disturbance/damage to established biota, which appears to be healthy and recovering.

WILDLIFE OBSERVATIONS

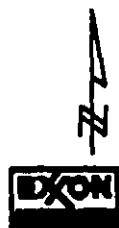
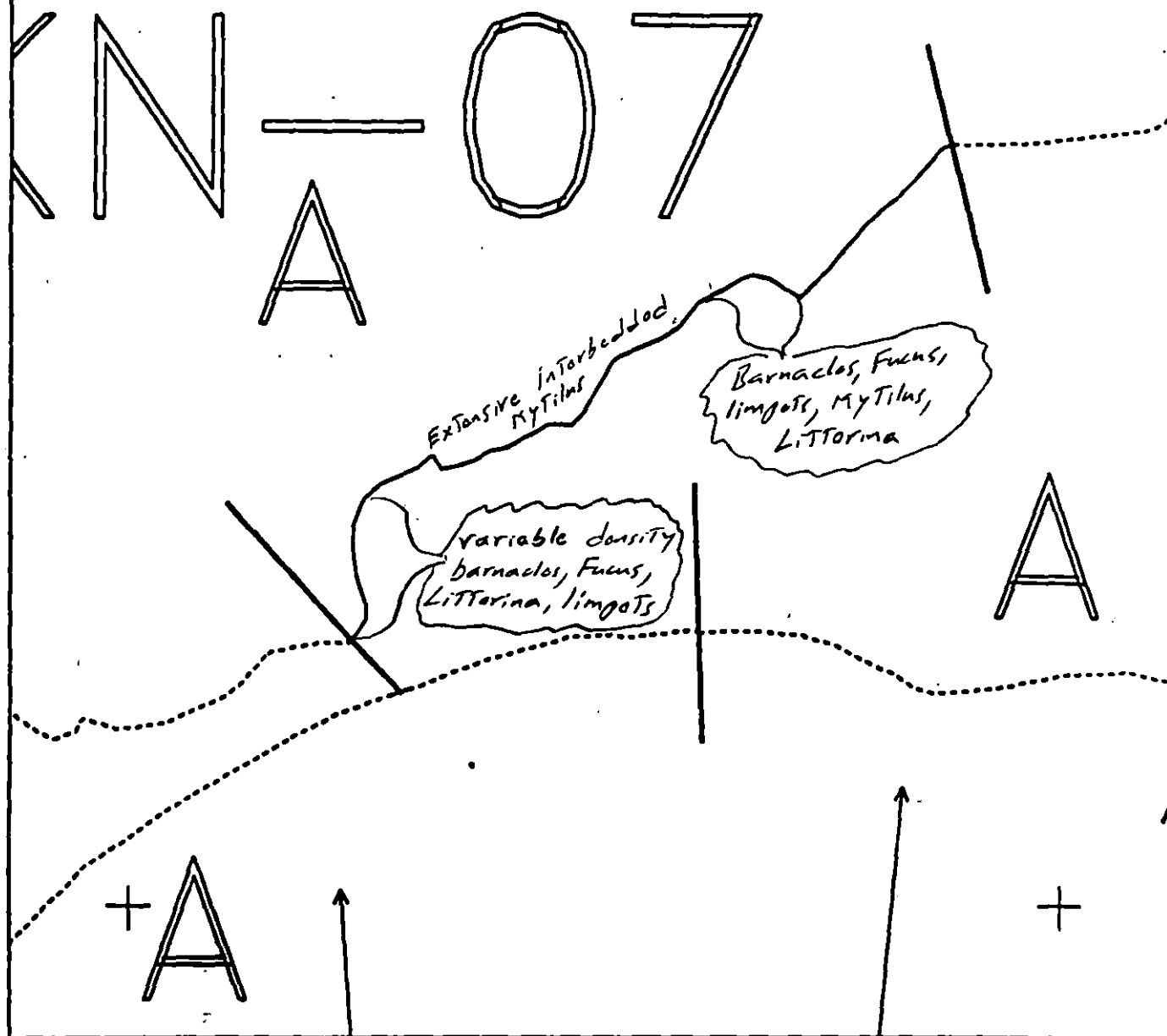
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl	<u>Merganser</u>	<u>4</u>	
Gulls/kittiwakes			
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds(specify)			
_____ales(specify)			

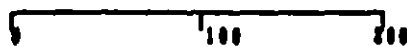
Shoreline subdivision map showing important biological features attached.

Bio Map



KN0007 A

METERS



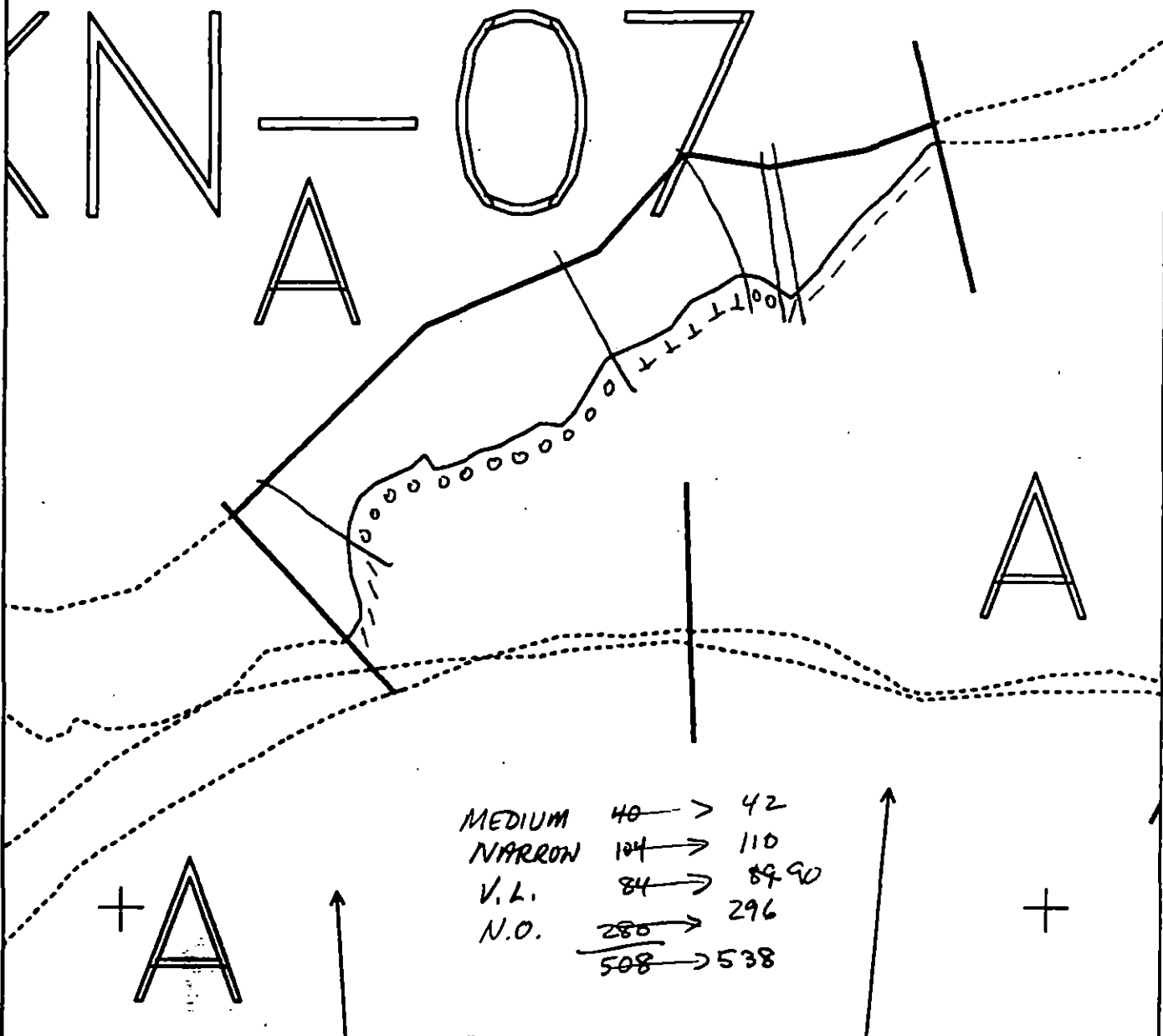
AK State Plane Zone 4
180000

Subdivision Field Map

Map Key: KNKN0007A

Name: Sam Stoker

Date: 5/2/91



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

KN0007 A
 ADEC Subsegment Length: 538m
 METERS
 0 100 200
 AK State Plane Zone 4
 66x0007c



Subdivision Field Map
 Map Key: KNKN0007A
 Name: HARPER
 Date: 2 May 91
 Date Entered:

Reviewed: 5/19/91 MC
 EG reviewed, May 8

OG 4 of 4

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-107 SUBDIVISION A (1 of 2)

WORK WINDOW	
Bioremediation	WORK PRIOR TO 7/20

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1F	Sawmill Bay Hatchery Release	No constraint to bioremediation .
1K	Purse Seine Hookoff	Closed to bioremediation after 7/20.
7II	Subsistence: Deer Harvesting	Closed to bioremediation after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum after 7/20. Avoid any unnecessary disturbance or damage to uncolled biota and substrate.

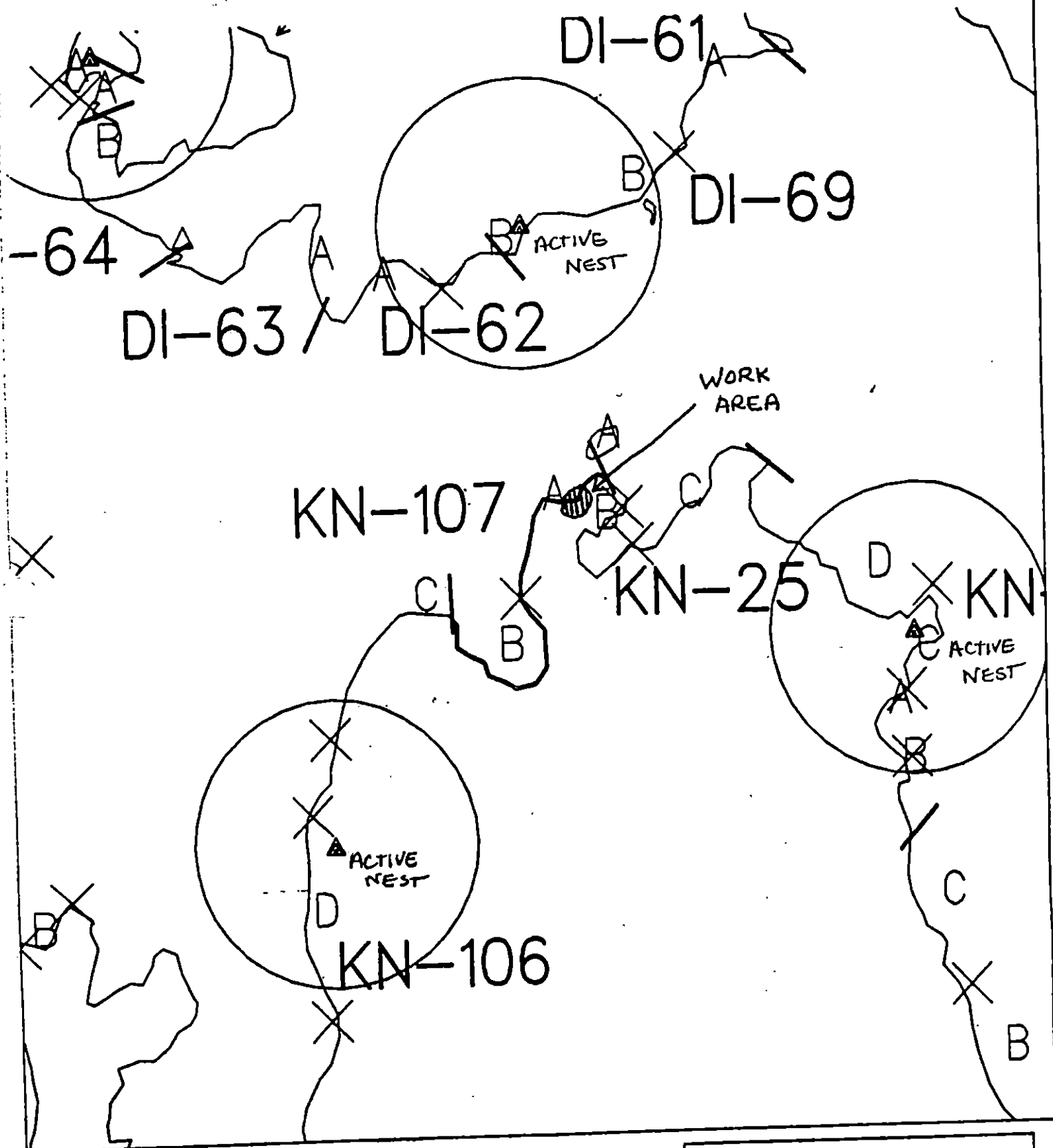
FOSC

P. Zampini Date 6/15/90

Prepared by

Date

P. Phillips 6/14/90



Exxon Company, USA
Map Key: PWS-KN-107

ECOLOGY MAP
SEGMENT KN-107
SUBDIVISION A (1 of 2)
METERS
1 100 150

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

1 inch = 1237 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-107 SUBDIVISION A (1 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINT: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact Exxon's Cultural Resource Program immediately (564-3274 (Anchorage) or 229-1508 (24 hrs.)).

d
1

SHPO SIGNATURE: Rachel Jan Doe DATE: 6/1/90

OILING CATEGORIZATION:

Wide 17 m: Medium 0 m: Narrow 207 m: V.Light 230 m: No Oil 58 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of area shown on sketch map. No specific ecological time constraints.

SEE CONSTRAINTS ADDENDUM DATED 6/14/90

TAG COMMENTS:

TAG APPROVAL DATE: May 5 1990

ADEC Art Wenger Art Wenger

EXXON Mark N. Gilbert Mark N. Gilbert

NOAA Gary Petros Gary Petros

USCG G.A. Reiter G.A. Reiter

FOSC:

DATE: 6-8-90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-107 SUBDIVISION B (2 of 2)

WORK WINDOW	
Tarmat Removal	OPEN
Bioremediation Other Approved Treatment	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

No applicable ecological time constraints.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

[Signature]

Date

7/3/90

Prepared by

W. Kelly

Date

7/3/90

SHORELINE EVALUATION

SEGMENT ST/ KN-107 SUBDIVISION B (2 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINT: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact Exxon's Cultural Resource Program immediately (564-3274 (Anchorage) or 229-1508 (24 hrs.)).

ed
al

SHPO SIGNATURE: Rubel de W...

DATE: 6/1/90

OILING CATEGORIZATION:

Wide 255 m: Medium 0 m: Narrow 27 m: V.Light 0 m: No Oil 338 m
Subsurface Oil Observed: Yes X No Maximum Depth 7 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, and 2) bioremediation of areas shown on sketch map, avoid bioremediation of mussel beds. No specific ecological time constraints identified.

TAG COMMENTS: Rake in vicinity of pit #1 if necessary.

TAG APPROVAL DATE: May 5 1990

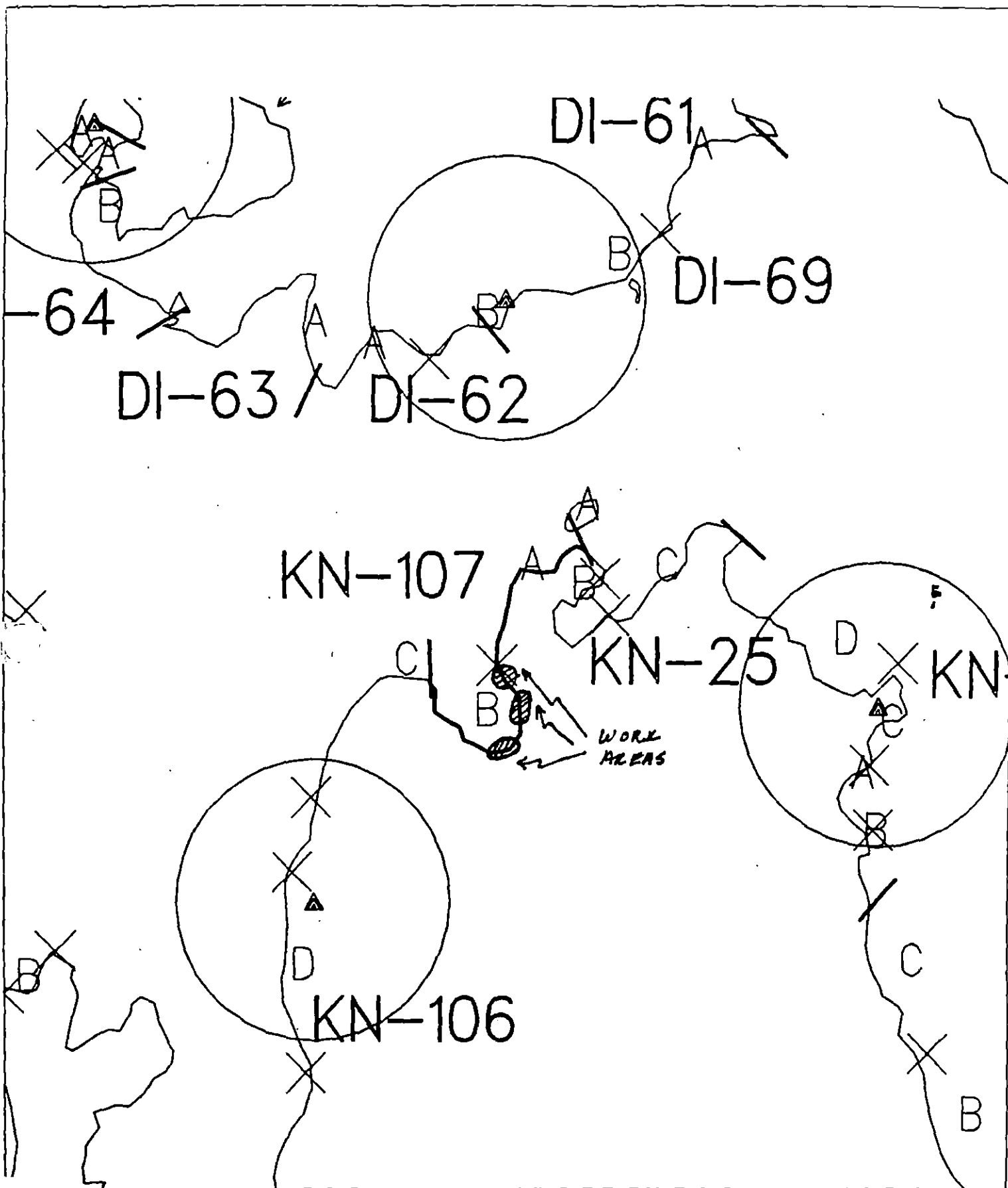
ADEC Art Weimer

EXXON Mark N. White Mark N. Silber FOSC: W

NOAA Gary Petroe Ram Petroe

USCG G.A. REITER G.A. Reiter

DATE: 6-8-90



Exxon Company, USA
Map Key: PWS-KN-107

ECOLOGY MAP SEGMENT KN-107

SUBDIVISION B (2 of 2)
METERS

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

SHORELINE EVALUATION

SEGMENT ST/ KN-107 SUBDIVISION A (1 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINT: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact Exxon's Cultural Resource Program immediately (564-3274 (Anchorage) or 229-1508 (24 hrs.)).

d
1

SHPO SIGNATURE: Rachel Jean Dyer DATE: 6/1/90

OILING CATEGORIZATION:

Wide 17 m: Medium 0 m: Narrow 207 m: V.Light 230 m: No Oil 58 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of area shown on sketch map. No specific ecological time constraints.

TAG COMMENTS:

TAG APPROVAL DATE: May 5 1990

ADEC ART WENGER Art Wenger
EXXON Mark N. Silbert Mark N. Silbert FOSC: DATE: 6-8-90
NOAA Gary Petrac Gary Petrac
USCG G.A. REITER G.A. Reiter

00 J. Springer

SEGMENT ST/ KN-107

SUBDIVISION A

DATE 04/22/90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/LA/WL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PH Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ

PH - No Subsurface Oil

2 Δ

PH - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

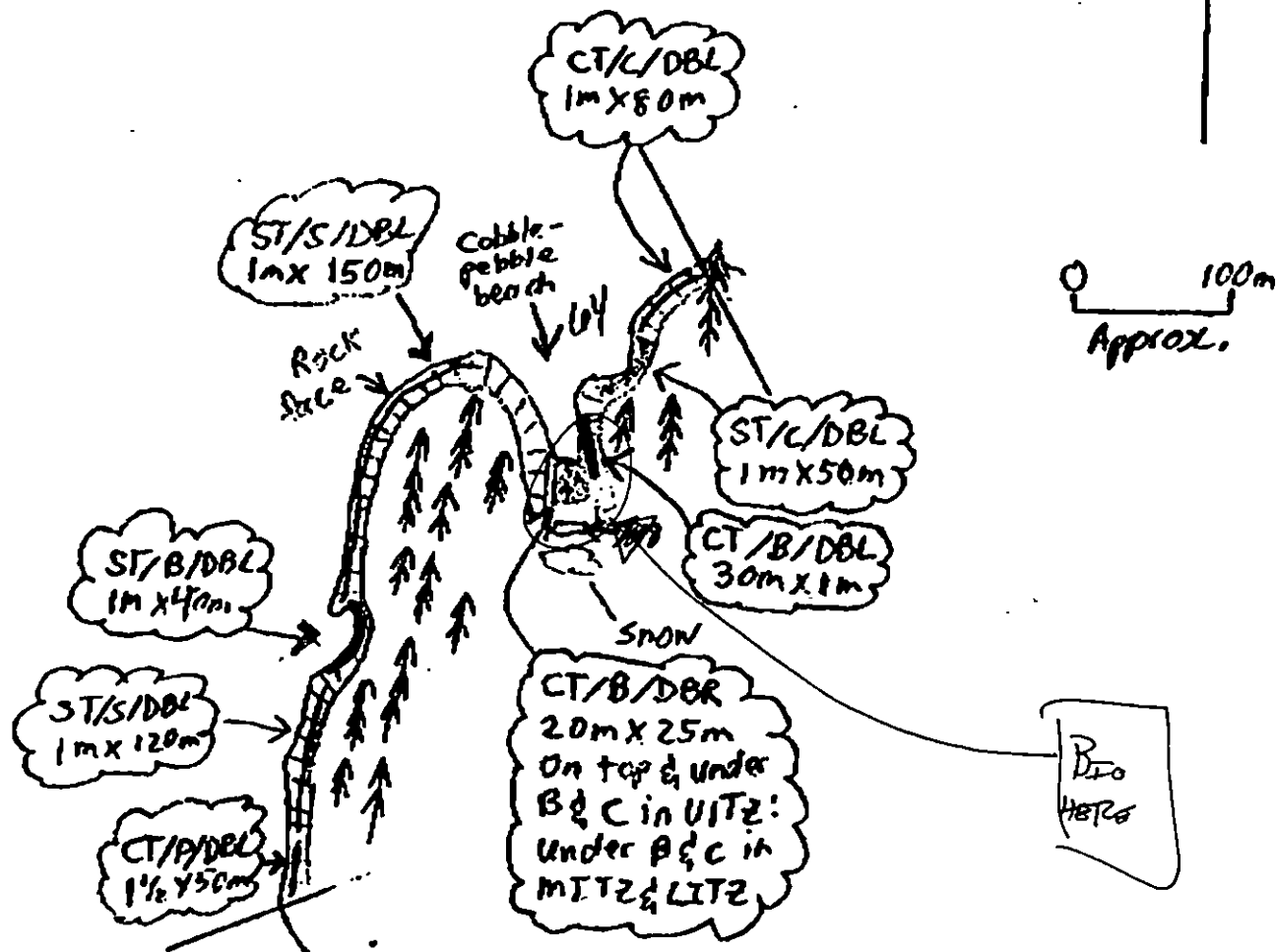
eee

Dead Vegetation

1 ●

Photo location, direction, and number

SKETCH MAP



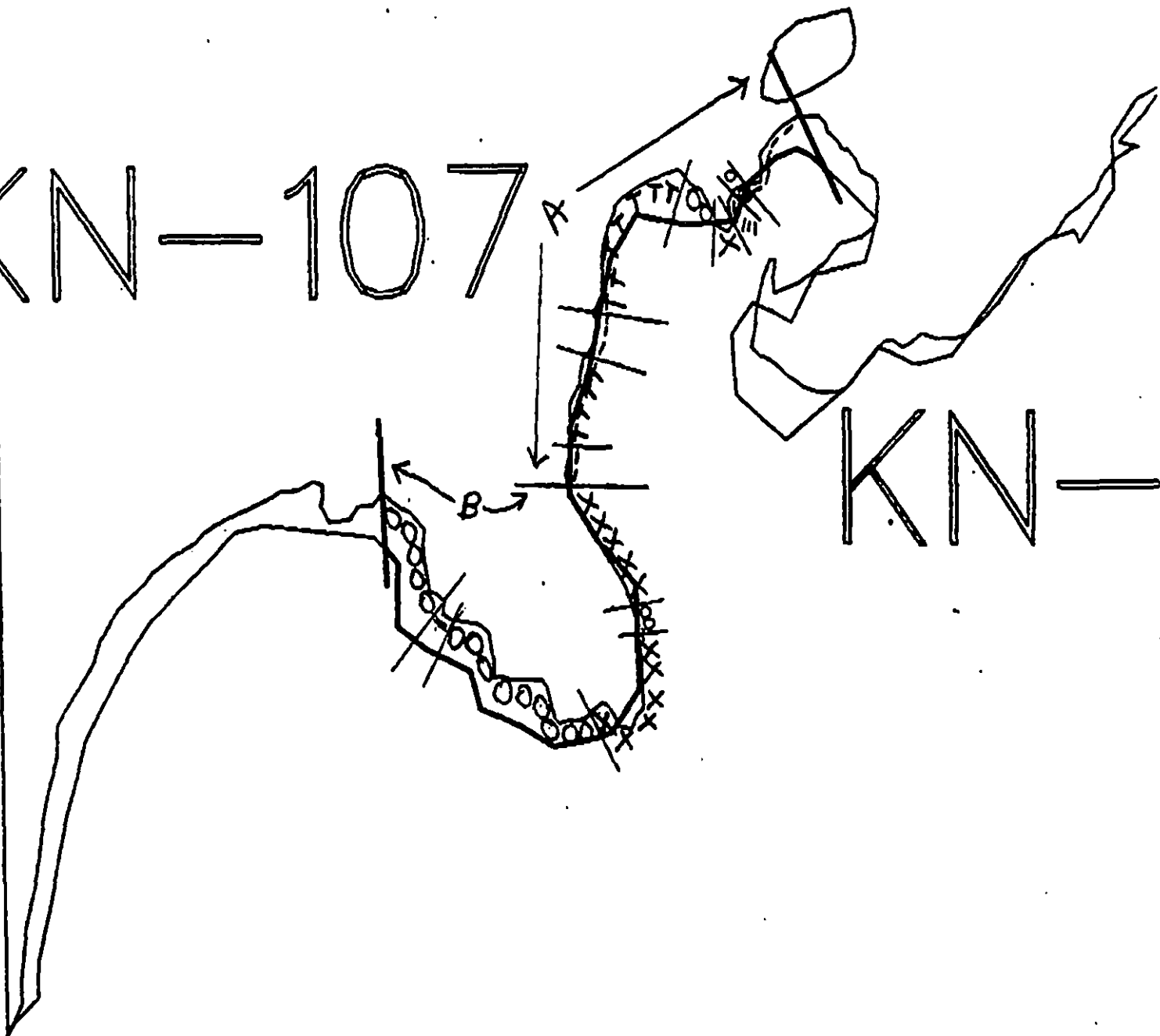
Character Length (m): AP _____ PO _____ CV _____ CT 185 ST 360 MS _____ PT _____ TB _____ FL _____ NO 45

REVISION 04/04/00

DI-02

KN-107

KN-



XXXX Wide

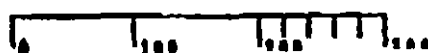
//// Medium

--- Narrow

TTTT Very Light

KN-107

ADEC Segment Length: 1289
4422m



Map Key: PWS-287

Name: James Spring

Date: 4/22/90

SHORELINE EVALUATION

SEGMENT ST/ KN-107 SUBDIVISION B (2 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINT: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact Exxon's Cultural Resource Program immediately (564-3274 (Anchorage) or 229-1508 (24 hrs.)).

ed
al

SHPO SIGNATURE: Rachel Ann Dunn DATE: 6/1/90

OILING CATEGORIZATION:

Wide 255 m: Medium 0 m: Narrow 27 m: V.Light 0 m: No Oil 338 m
Subsurface Oil Observed: Yes X No Maximum Depth 7 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, and 2) bioremediation of areas shown on sketch map, avoid bioremediation of mussel beds. No specific ecological time constraints identified.

TAG COMMENTS: Rake in vicinity of pit #1 if necessary.

TAG APPROVAL DATE: May 5 1990

ADEC Art Weimer
EXXON Mark N. Silbert FOSC: DATE: 6-8-90
NOAA Gary Petrac
USCG G.A. REITER

J. Spr er

MENT ST/ KN-107

DIVISION B

RE 04 / 22/80

ECKLIST

N Arrow
 Apprat. Scale
 Seg/Sub Body
 OR Dist.
 Width
 Length
 % Cover
 Substrate Character
 Est. H/V/L/V/L
 SSL
 Profile Location(s)
 Profile(s)
 PR Location(s)
 Photo Location(s)

GEND

1 ▲

No Subsurface Oil

2 ▲

Subsurface Oil

CT/C
 in Distribution

CT/B
 in Distribution

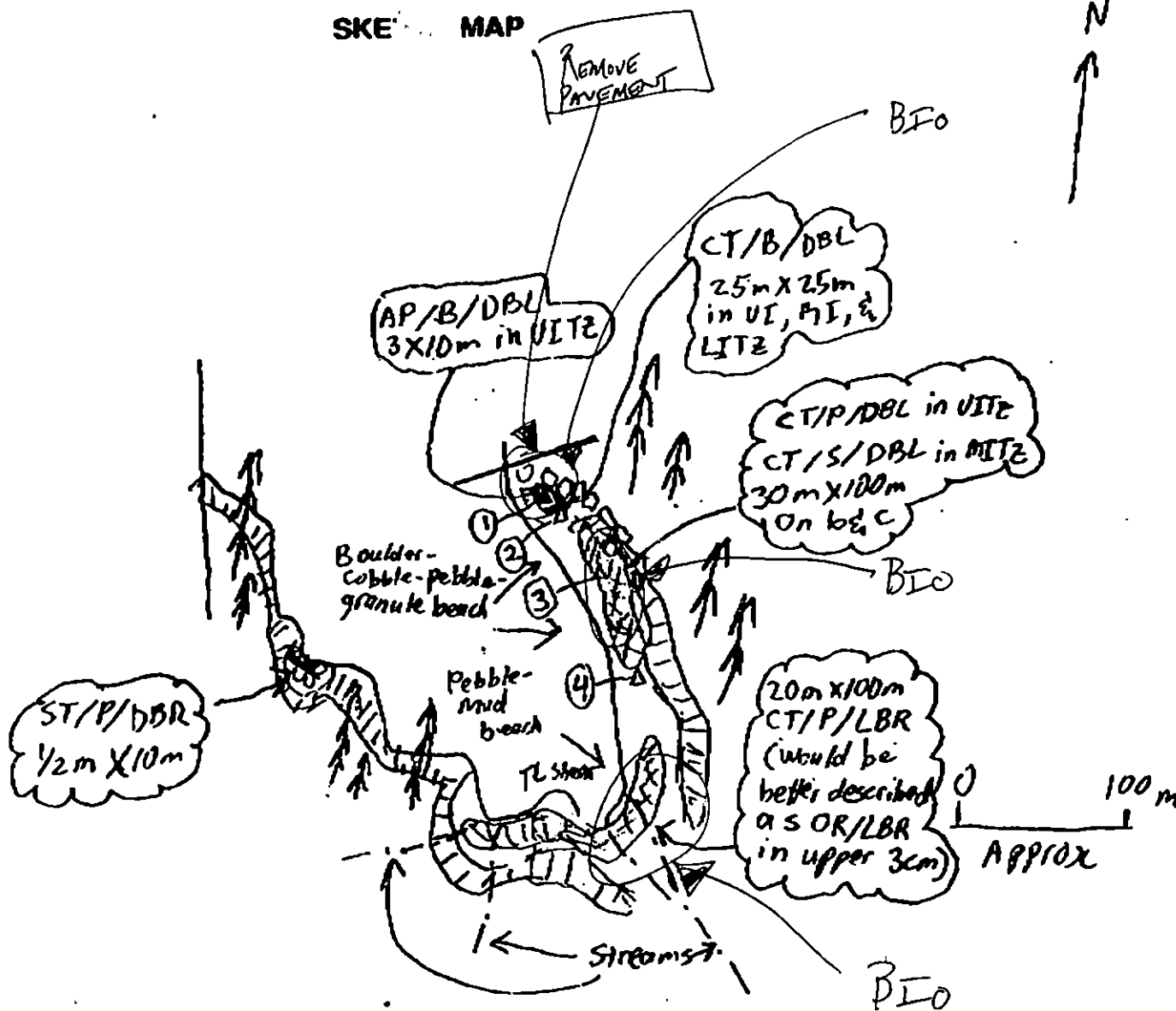
CT/P
 in Distribution

CT/S
 in Distribution

ee
 Vegetation

location, direction,
 number

SKE MAP

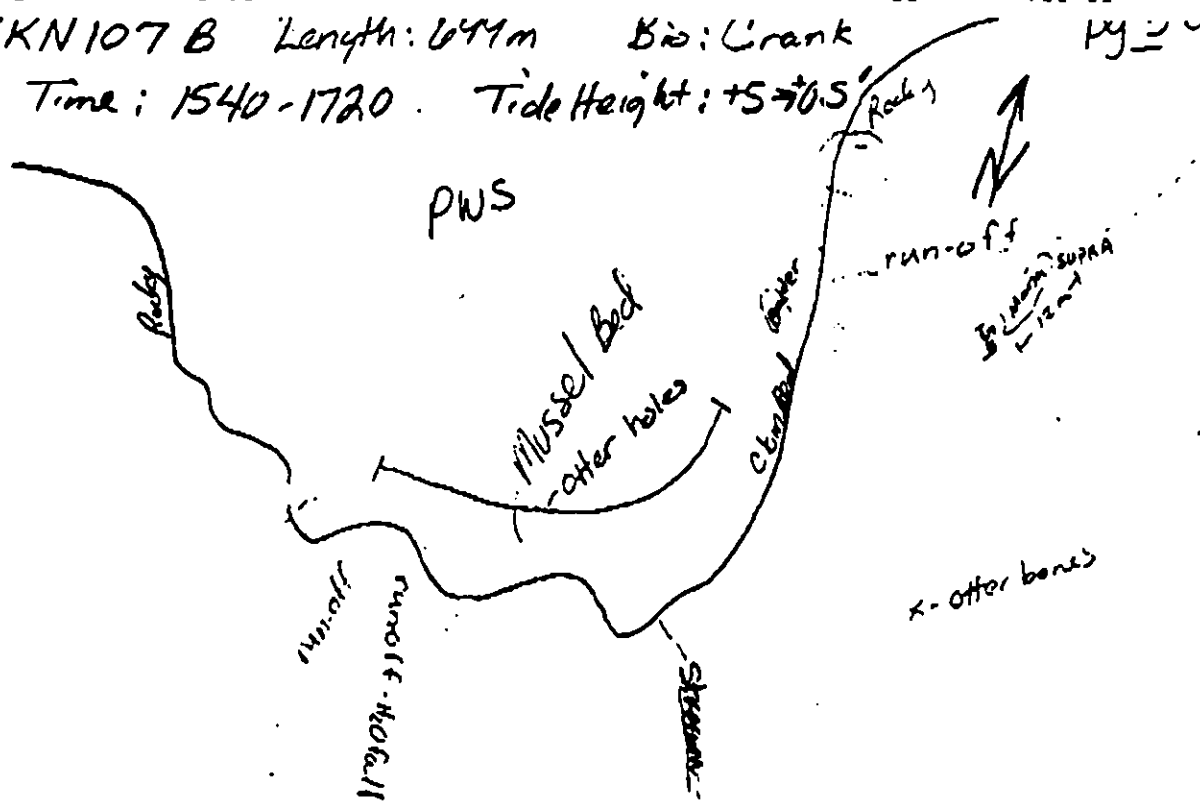


Character Length (m): AP 10 PO CV CT 225 ST 10 MS PT TB FL NO 454

REVISION 20/0000

५५ = ५

Rock



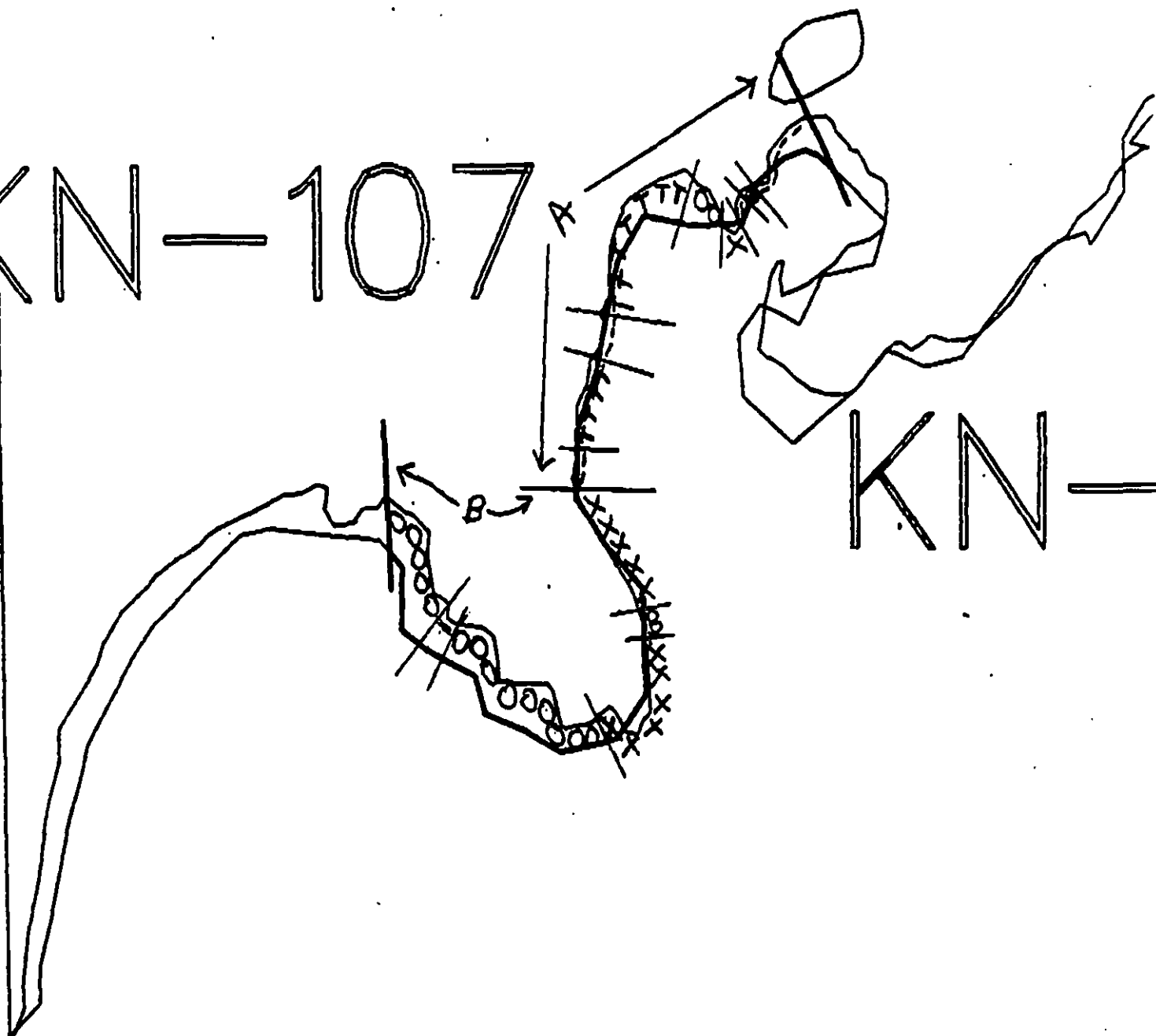
General Comments

- Subdivision is a cove with one stream that appears to be year round. Stream is not listed as Salmon although there is some potential habitat for Pinks. Stream takes a sharp incl. immediately pass SUPRA.
- Most of subdivision is an angular cobble field with a moderate mussel bed. 40% Mortality — 95% of the shells have been drilled. There are living mussels w/o oil droplets on shell.
- Moderate $\rightarrow$ Sparse Clam bed — both *Prothothoe*; *Saxidom*.
- Otter digs present from Boulder on East side to West of runoffs. Frequent # of digs between stream and ^{western} runoffs = heavy otter. There was a otter swimming in the cove throughout survey. Otter hip bones; vertebrae were found in SUPRA.
- On headlands 30% of *Fucus* fronds were reproductive.
- Light Brinnack scarring on U12 headlands.
- One marsh patch in SUPRA $\approx 12m \times 5m$. Above patch is grass —

DT-02

KN-107

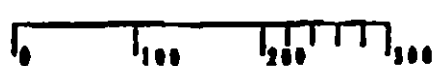
KN-



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

KN-107

ADEC Segment Length: 1289



Map Key: PWS-287

Name: James Sprin

Date: 4/22/90

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-107

SUBDIVISIONS: A (1 OF 2)

SHORELINE EVALUATION

SEGMENT ST/ KN-107 SUBDIVISION A (1 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

Cultural resource survey in progress. Shoreline treatment cannot proceed until field data have been assessed and a formal archaeological constraint entered on the shoreline evaluation form.

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 17 m: Medium 0 m: Narrow 207 m: V.Light 230 m: No Oil 58 m
Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of area shown on sketch map. No
specific ecological time constraints.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 KN107 SUBDIVISION: A DATE 04-22-90

USCG

NAME AEC Vandepels SIGNATURE AEC Vandepels☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

ADEC

NAME Michelle Baer SIGNATURE MBaer☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

On the cobble, pebble beach:

- 1) Remove cobble, till upper layer only in 25m x 25m a
- 2) Replace cobble leaving underside exposed and allow natural washing to occur
- 3) No treatment recommended for headlands

LAND MANAGER

NAME Carol S Huber SIGNATURE Carol S Huber☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Oil on rocky headlands appears stable. Recomm
continued natural cleansing for headlands..
Use manual methods to expose oil for
weathering to progress more efficiently (Cobb
pebble beach & see OG map)
Resource sensitivity - Special Use Destination.

OG J. Springer USCG R. Vandepels SEGMENT STI KN-1:7
 BIO P. Crank LAND REP C. Huber SUBDIVISION A (1 OF 2)
 EXXON T. Tomblin ADEC M. Baer TIME 15:05 to 15:40
 TEAM NO. 5 TIDE LEVEL +6 TO +4 DATE 04/22/90
 EST. SUBDIVISION LENGTH: 590 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 70 % B 10 % C 15 % P 5 % G 0 % S 0 % M 0 % V
 SLOPE: Long 10 % Hang 20 % Vert 70 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 25 m M 0 m N 250 m VL 270 m NO 45 m

SURFACE OIL

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

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

 DID YOU COLLECT DEBRIS? YES ☐ NO ☒
 TYPE 0
 #BAGS 0

Photographs:
 Roll No. ST-5-12
 Frames 28, 29

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE SUBSURF. SEDIMENT
		OP	OR	OL	OF	NO		VO	UC	1	2	3	4	5	SW	U	M	U				

COMMENTS No pits dug - too many rocks.

2017年12月11日

00-J finger

SEGMENT ST/ KN-107

SUBDIVISION A

DATE 04 / 22 / 90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sab Entry
- ☐ Oil Dist.
- ☐ Wash
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ E.R. HALLA/VIL
- ☐ SOL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Fil Location(s)
- ☐ Photo Location(s)

LEGEND

1A

FM - No Subsurface Ob

2. **▲**

FR - Subsurface Oil

CT/C

Controlled Distribution

CT/O

Customer Orientation

CT/P

Product Distribution

CI/5

Systematic Distribution

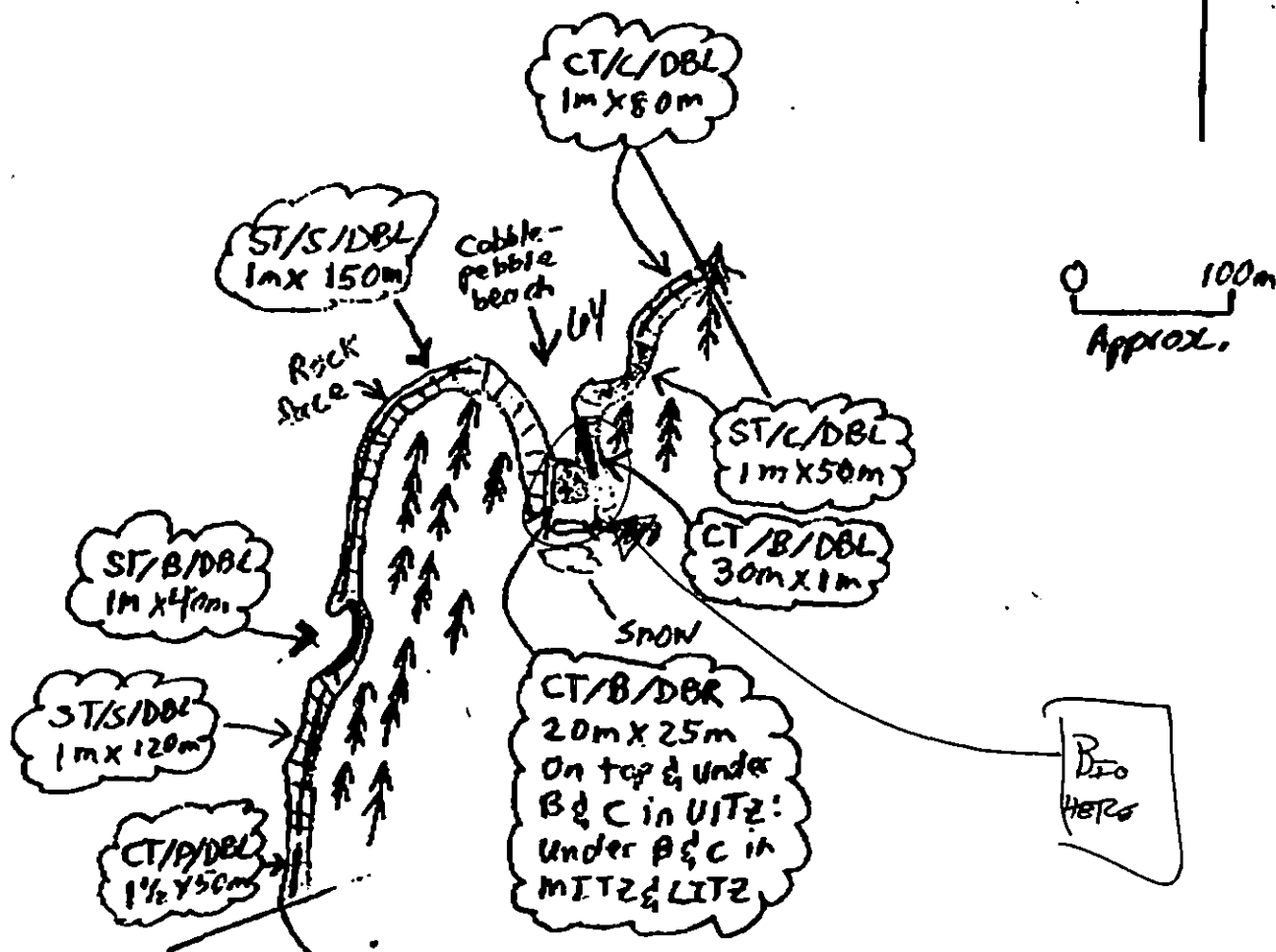
222

Cold Vegetation

1

**Photo location, direction,
and number**

SKETCH MAP



Oil Character Length (m): AP PO CV CT 185 ST 360 MS PT TB FL NO 45

Keywords: child sexual abuse; disclosure; social support

SHORELINE ECOLOGICAL SUMMARY pg 1 of 1

Revision: 09/22/90

Segment ST / KN107 Subdivision A Date (mo / day / yr) 4/22/90
 Time (24 hr) 1510 - 1540 Biologist Crank Length 590
 Tide Height +6 → +4

- (A) Substrate type and % of segments:
 (1) Bedrock 70 (2) Boulder 10 (3) Cobble 15 (4) Pebble 5 (5) Sand (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 0 Moderate 20 Low 80 - LITZ unexposed.
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)
 Photographs: Roll No.
 Frames

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments:
 1- Otter Seal
 Merganser - a pair

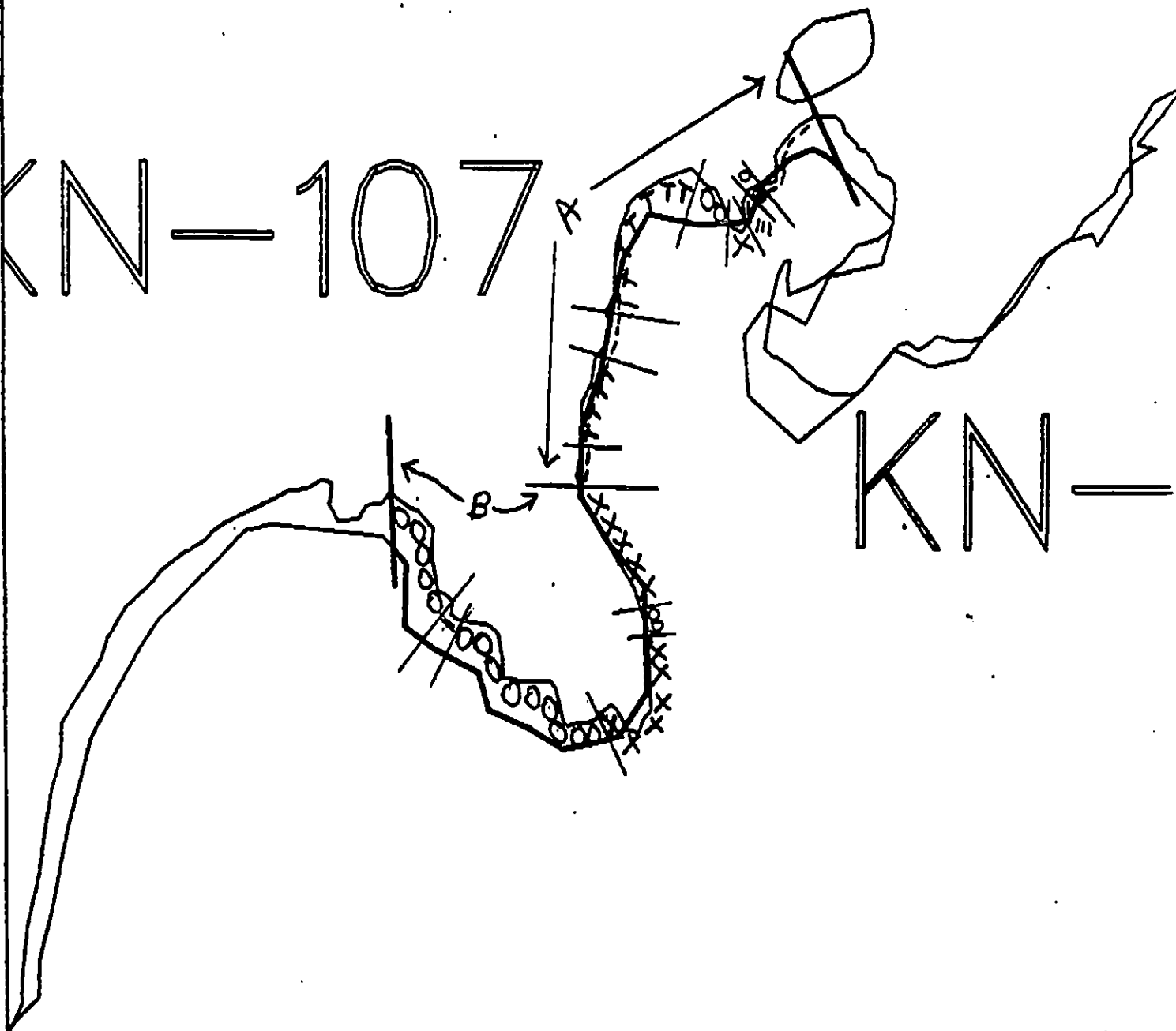
Ecological Considerations:
 10/ - Special Use Designation

- Rare barnacle in oil band on rock.
 - Rare mussel on rock, but recruitment in cracks.
 - Moderate concentrated intercobble mussel bed up to the +8 ft tide line for width of beach.
 - Sparse growth and recruitment w/ 50% mortality.
 - Small pockets on rocky LITZ of mod. Fucus both mature & young individuals. Dense eggs masses throughout w/ sides of LITZ cobble.
 - Barnacles: sparse recruitment: growth on cobble. 10% mortality of all substrates: gone on both uncoiled: oiled surfaces.
 - below H2O level LITZ remains: low recruitment

DI-02

KN-107

KN-



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-107

ADEC Segment Length: 1289



Map Key: PWS-287

Name: James Springs

Date: 4/22/90

Date Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-107

SUBDIVISIONS: B (2 OF 2)

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

SHORELINE EVALUATION

SEGMENT ST/ KN-107 SUBDIVISION B (2 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

Cultural resource survey in progress. Shoreline treatment cannot proceed until field data have been assessed and a formal archaeological constraint entered on the shoreline evaluation form.

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 255 m: Medium 0 m: Narrow 27 m: V.Light 0 m: No Oil 338 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 7 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, and 2) bioremediation of areas shown on sketch map, avoid bioremediation of mussel beds. No specific ecological time constraints identified.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

SEGMENT ST KN-107 SUBDIVISION: B DATE 4-23-90

USCG

NAME AEC Vandepels SIGNATURE AEC Vandepels☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

I suggest fill + bio. of 20x30M area north of marsh.

ADEC

NAME Michelle Baer SIGNATURE M Baer☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

- 1) area by pits #1 + #2, fill and bio. 3x10M OR penetrating to 7cm
- 2) Rake ~~and bio~~ area between MITZ and LITZ, ^{oil} oil found in upper 5cm, ~~may~~ stay out of marsh area in and above W and SUTZ (area ~~by~~ pit #3)
- 3) At the SE portion of the cove, attention is on a 3cm OR layer (called a CTH on map) throughout the area w/stream. This area needs reassessment by the TAG team due to the sensitivity and resources (anchorage, clam beds, special use destination) in the area.

LAND MANAGER

NAME Carol S Huber SIGNATURE Carol S Huber☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Eastern half heavily oiled. Mobil oil, leaching out of oiled sediments. Recommend telling affected area to allow natural weathering to progress.
Resource sensitivity: Special Use Destination.

SURFACE OILING SUMMARY

OG J. Springer USCG R. Vandepels SEGMENT ST/ KN-107
 BIO P. Crank LAND REP C. Huber SUBDIVISION B (2 OF 2)
 EXXON T. Tomblin ADEC M. Baer TIME 15:40/17:53
 TEAM NO. 5 TIDE LEVEL +5 TO +1/2 DATE 04/22/90
 EST. SUBDIVISION LENGTH: 699 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 45 % B 20 % C 15 % P 8 % G 12 % S 0 % M 0 % V 0
 SLOPE: Long 40 % Hang 20 % Vert 40 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 235 m M 0 m N 210 m VL 10 m NO 454

SURFACE OIL

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

PAVEMENT H (F) S 30 sq. m by 1/2PATTIES / TARBALLS 0 BAGNEAR SHORE SHEEN? NO BR RW SL (TL)

OILED DEBRIS	AMOUNT			DID YOU COLLECT DEBRIS?
	SM	MD	LG	
Logs				YES ☐ NO ☒
Vegetation				
Trash				TYPE <u>0</u>
Debris				#BAGS <u>0</u>

Photographs:

Roll No. ...Frames ...

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	S H E E N (cm)	↓	SURFAC SUBSURF. SEDIMEN
		OP	OR	OL	OF	NO		VO	VC	1	2	3	4	SU	W	M	U				
1	25	X					0-7	X				X		X					BR	20	P/PM
2	25					X	.	X						X							P/GSM
3	15					X	.	X								X					P/PI
4	30					X	.	X								X					P/PI
							.														
							.														

COMMENTS

REVIEWED 7WDATE 4/24/90

00 J. ringer

SEGMENT ST/ KN-107

SUBDIVISION B

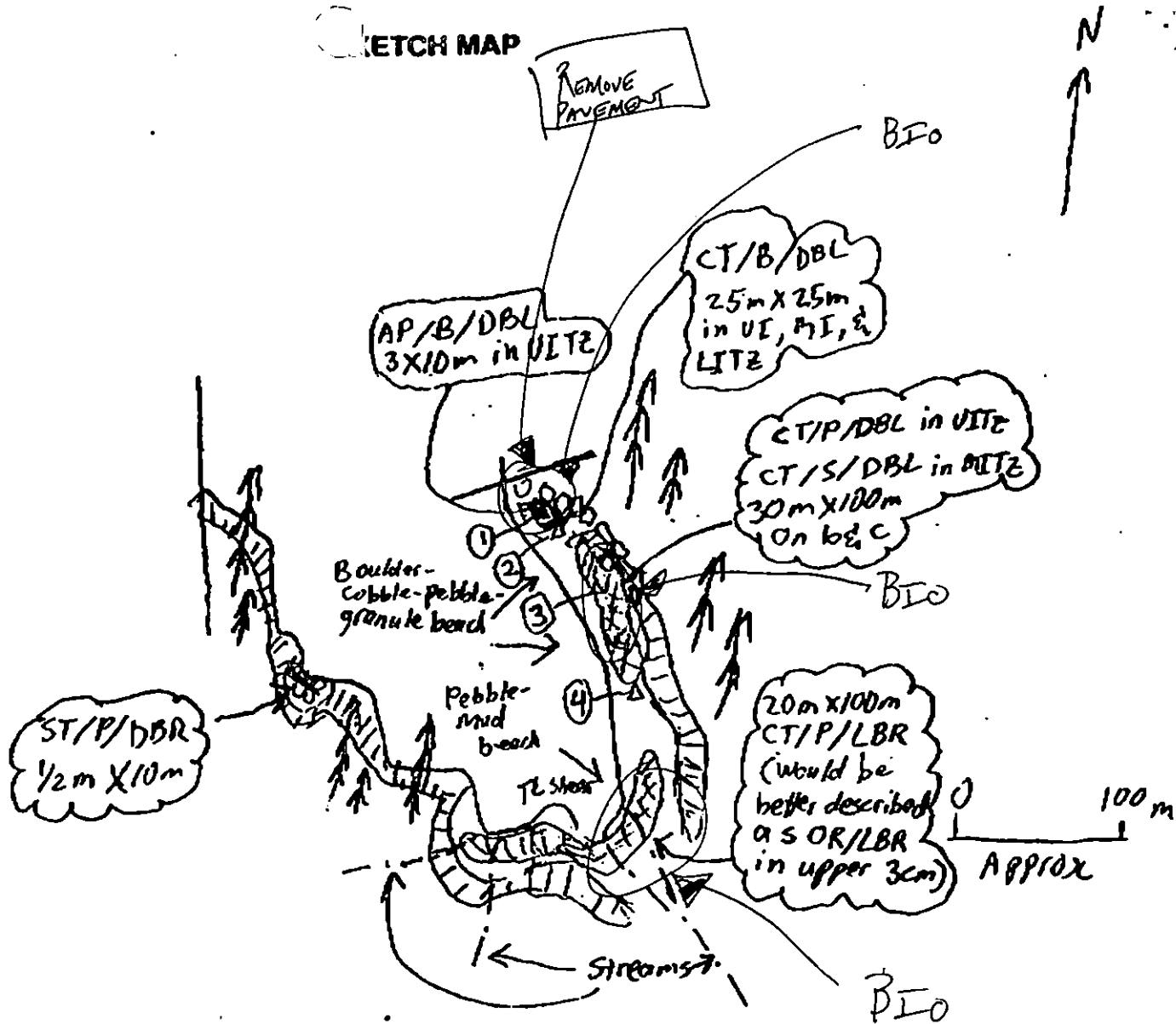
DATE 04/22/00

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Body
- ☐ Off Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/LA/WL
- ☐ SCL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

LEGEND

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



Oil Character Length (m): AP 10 PO CV CT 225 ST 10 MS PT TB FL NO 454

REVISION 00/0000

SHORELINE ECOLOGICAL SUMMARY pg 1 of 3

REVISION: 08/22/90

Segment ST KN107 Subdivision B Date (mo/day/yr) 4/22/90
 Time (24 hr) 1540-1720 Biologist Crank Length 699m
 Tide Height +5 → 0.5A

- (A) Substrate type and % of segments:
 (1) Bedrock 45 (2) Boulder 20 (3) Cobble 15 (4) Pebble 8 (5) Sand 12 (6) SA
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 70 Low 30
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)

Photographs:
 Roll No.

Frames

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

Other
Pair of Mergansers

Ecological Considerations:

64-Special Use Designation

- 12m x 5m Marsh area - Restrict Access.
- Area Between Streams has frequent other digs = high other use area.

KN 107 ^B
 DATE 4/22/90 TIME 1540-1720 TIDE HEIGHT +5 → +0.5 ft ^{Crank}

1-BEDROCK 2-BOULDER 3-COBBLE 5-SAND

6-SILT pg 2 of 3

FLORA:

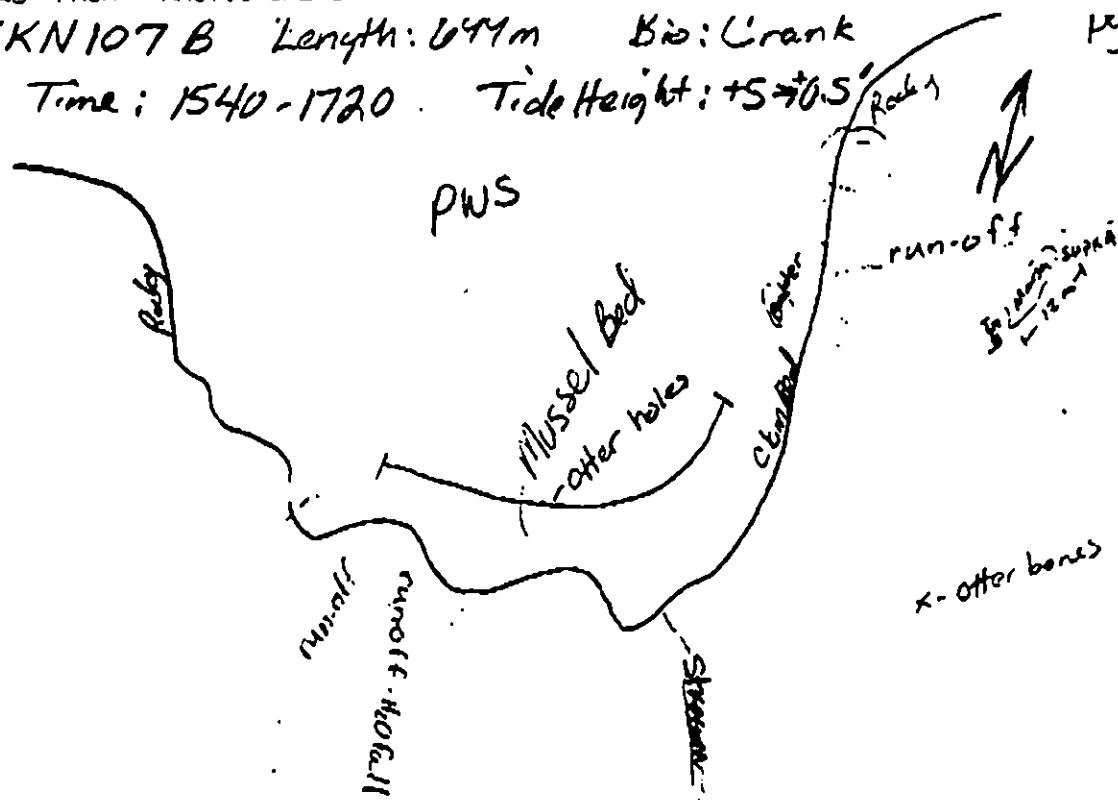
SPECIES	UITZ	MITZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP				
COSTARIA SPP				
ENDOCLADIA MURICATA	2	2		
FILMAENTOUS GREENS				
FILAMENTOUS REDS				
GLOIOPELTIS FURCATA	23	123		
HALOSACCION GLANDIFORME				
LAMINARIA SPP				
LITHOTHAMNION				
NEREOCYSTIS SPP				
PORPHYRA SPP				
RALPHSIA/HILDENBRANDIA				
PHODOMELA LARIX		32		
RHOHOMENIA PALMATA		1		
SCYTOSIPHON SPP		32		
ULVA SPP				
ZOSTERA MARINA		1		
ENTOROMORPHA				
<i>Odontosticta</i>		1		

FAUNA:

ANTHOPLEURA SPP				
(SEMI) BALUNUS CARIOSUS				
B. GLANDULA	123	123		
BRYOZOANS				
CHITONS (other than K. TUNICATA)				
CLAMS		3		<i>Partotheca j. Saxidomus</i>
CRABS				
DERMASTERIAS IMBRICATA			1	
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS				
LIMPETS		123		
LITTORINA SPP		123		<i>Denser conc. soft masses in cobble</i>
NUCELLA SPP		123		
PAGURUS SPP		3		
PISASTER OCHRACEUS				
POLYCHAETES		6		<i>under cobble 2cm long. pale yellow</i>
PYCNOPODIA HELIANTHOIDES			1	
SEARLESIA DIRA				
SERPULIDS				
SIPHONARIA THERSITES				
TEALIA				
<i>Tidepool sculpin</i>		3		<i>saw below H.D.</i>

Segment: ST/KN107B Length: 649m Bio: Crank

Date: 4/22/90 Time: 1540-1720 Tide Height: +5 to 0.5



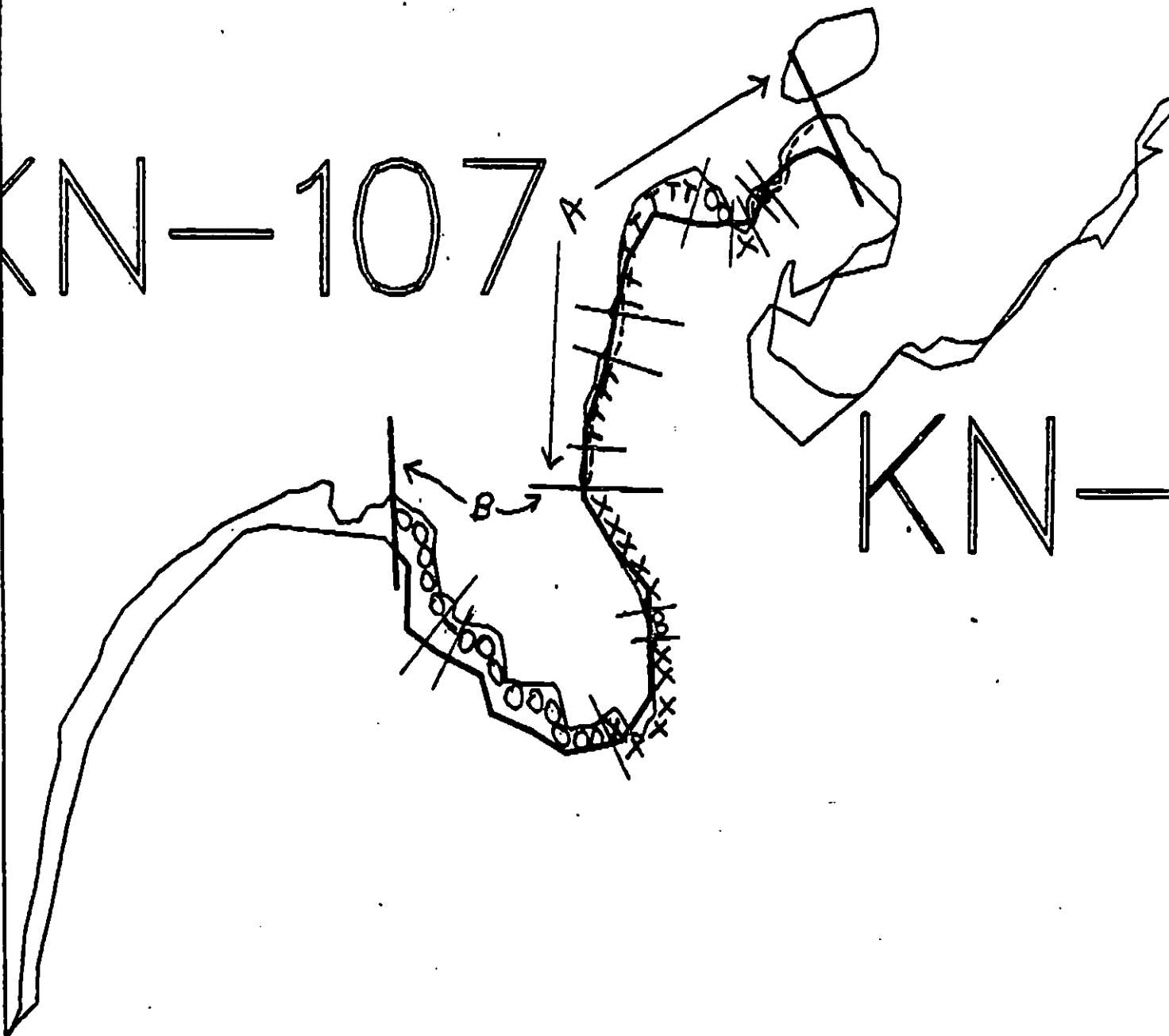
General Comments

- Subdivision is a cove with one stream that appears to be year-round. Stream is not listed as Salmon although there is some potential habitat for Pinks. Stream takes a sharp incl. immediately past SUPRA.
- Most of subdivision is an angular cobble field with a moderate mussel bed. 40% Mortality — 95% of the shells have been drilled. There are living mussels w/o oil droplets on the shell.
- Moderate → Sparse Clam bed — both *Prothothoe* & *Saxidom*.
- Otter digs present from Boulder on East side to west of runoffs. Frequent # of digs between stream and ^{western} runoffs = heavy otter. There was a otter swimming in the cove throughout survey. Otter hip bones & vertebrae were found in SUPRA.
- On headlands 30% of *Fucus* fronds were reproductive.
- Light Brinnack scarring on U12 headlands.
- One marsh patch in SUPRA ≈ 12m x 5m. Diatom patch is grass — this area should have restricted access.

DI-02

KN-107

KN-



XXXX Wide

//// Medium

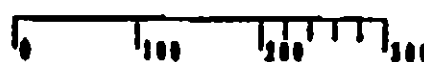
--- Narrow

TTTT Very Light

0000 No Oil

KN-107

ADEC Segment Length: 1289 4432m



Map Key: PWS-287

Name: James Spring

Date: 4/22/90

Data Entered:

1991 MAYSAP EVALUATION

SEGMENT: KN 008 SUB: A REGION: PWS SURVEY DATE: 5/2/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) OPEN

Ecological/Constraints (see page two for details) NONE

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Rachel Dan Oren Date: 5/17/91

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

N

2

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Custombien

Other

Other

COMMENTS :

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 17 1994

FOSC APPROVAL/DATE: 5/28/91

ADEC

FOSC

EXXON

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC

USCG

NOAA

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 3 SEGMENT KNOB SUBDIVISION A DATE 5/2/91

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☒ NTR ☐ TREATMENT RECOMMENDED

Remaining oil broke up or picked up by survey team.

EXXON

NAME Jon P. Cernocki SIGNATURE Jon Cernocki

☒ NTR Beach segment is clean manually picked up or picked up soon during survey of beach.

LANDMANAGER

NAME Solih Solih OF CHE SIGNATURE [Signature]

☐ NTR

2
Two mats noted
Any remain moisse patts should
be removed

USCG/NOAA

NAME MOONEY / BARATZ SIGNATURE Timothy / Andy Baratz

☒ NTR SEGMENT WAS MANUALLY TILLED IN 1990. Look Real Coco. ANY REMAINING TAR PATTIES REMOVED OR BROKEN UP BY SURVEY TEAM.

PAGE 1 OF 1

SEGMENT KN-008

SUBDIVISION A

DATE 2 / May / 91

ENERGY LEVEL: ☐ H ☐ M ☒ L

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

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

EST. OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 358 m NO 292 m US 0 m

DISTRIBUTION: C = 91-100%; B = 61-90%; P = 11-50%; S = 1-10%; T = <1%

SLOPE: V = VERTICAL: H = HIGH ANGLE: M = MEDIUM ANGLE: L = LOW ANGLE PHOTO ROLL # MAYSAP- 3 - 08 FRAMES 20, 21, 22

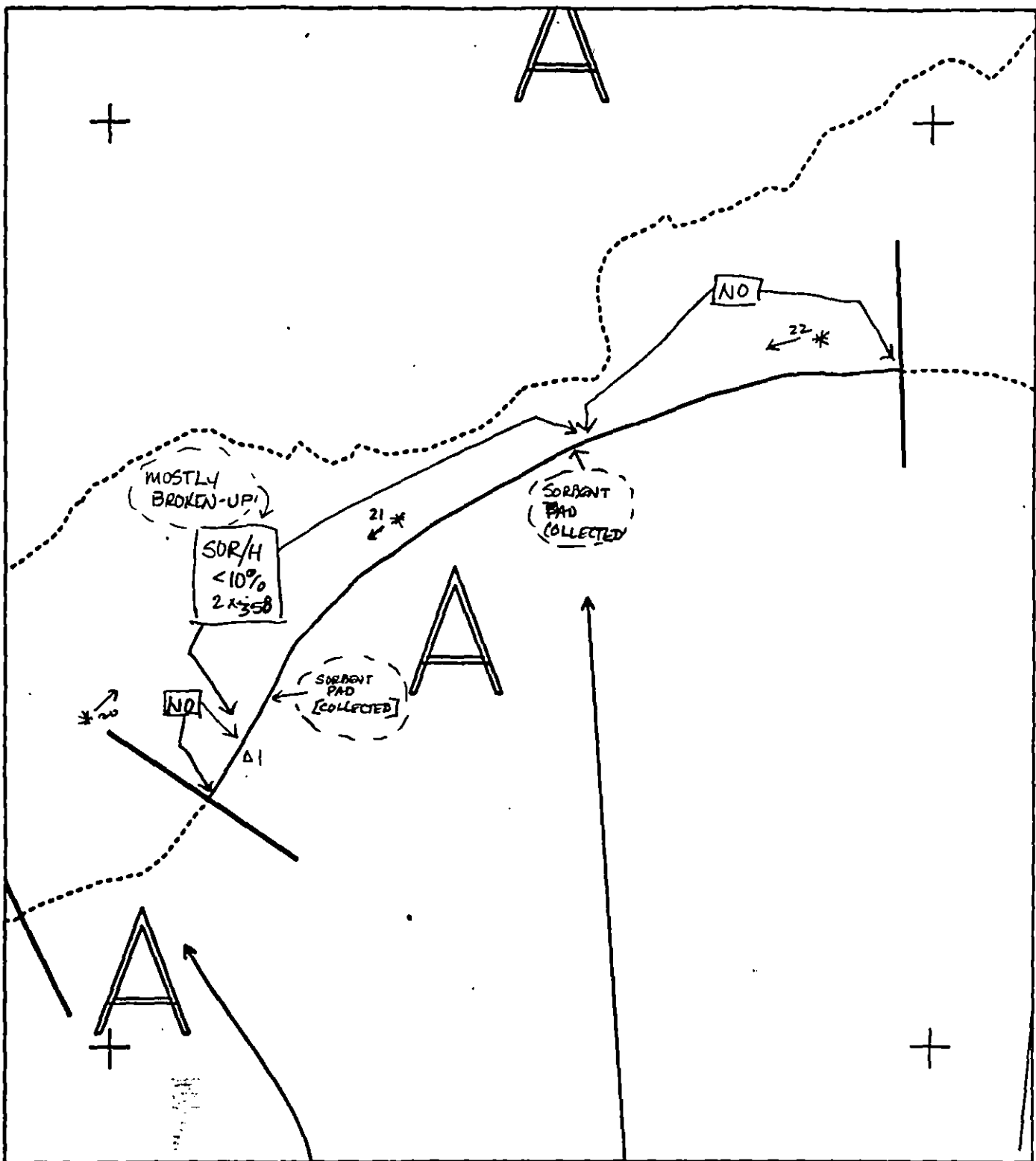
SHEEN COLOR: 1 = BROWN: R = RAINBOW: S = SILVER: N = NONE

Virtually no surface oil remains. The remaining barrel of discontinuous monase patches (SOR/H) was largely broken up during the survey.

No subsurface oil was identified or is likely

REVIEWED: MC 5/9/91

Revised, May 806 1 of 4

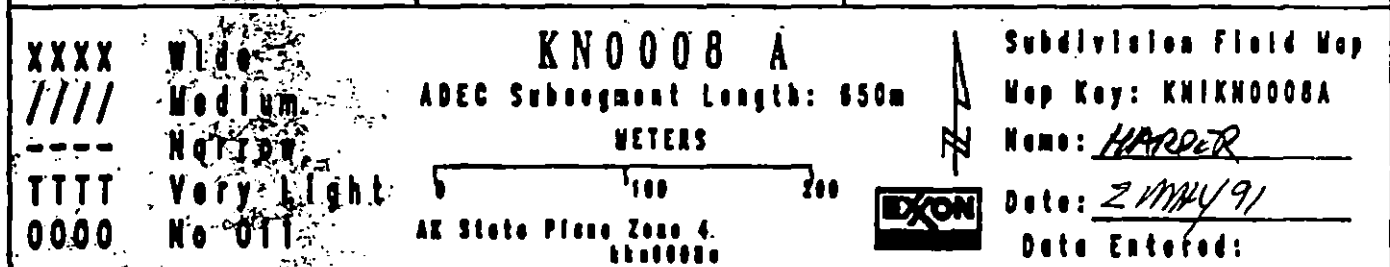


 	KN0008 A		Subdivision Field Map
	METERS 		Map Key: KN1KN0000A
	AK State Plane Zone 4 		Name: <u>HARPER</u>
			Date: <u>2 May 91</u>

Reviewed: MC 5/9/91

REVISED FIELD
MAP

06-2 of 4
 ER revised, May 8



REVIEWED: 5/9/91 me
OG 3 of 4

WAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 3	DATE 5/2/91
SEGMENT # HN 08	TIDAL HEIGHT(Range) -1 TO 0
SUBDIVISION A	BIOLOGIST STOKER
SEA STATE 0-1'	WIND SPEED/DIRECTION E 15-20
PHOTOGRAPHS: ROLL #	FRAME #

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

Low energy shore ranging from fairly steep cobble/boulder/bedrock to low angle pebble/cobble beach.

Relatively sparse biota in the form of barnacles, limpets, Mytilus patches, Petricularia (all spat) algae and sometimes Fucus extends well into the upper intertidal. Biota increases in abundance, though not necessarily diversity, downslope through the mid intertidal - and lower intertidal and is likewise composed for the most part of barnacles, Mytilus (both interbedded and attached), limpets (often dense) patches and variable new-growth Fucus, sparse Littorina and egg masses, and sometimes Nucella, amphipods, and eel blennies.

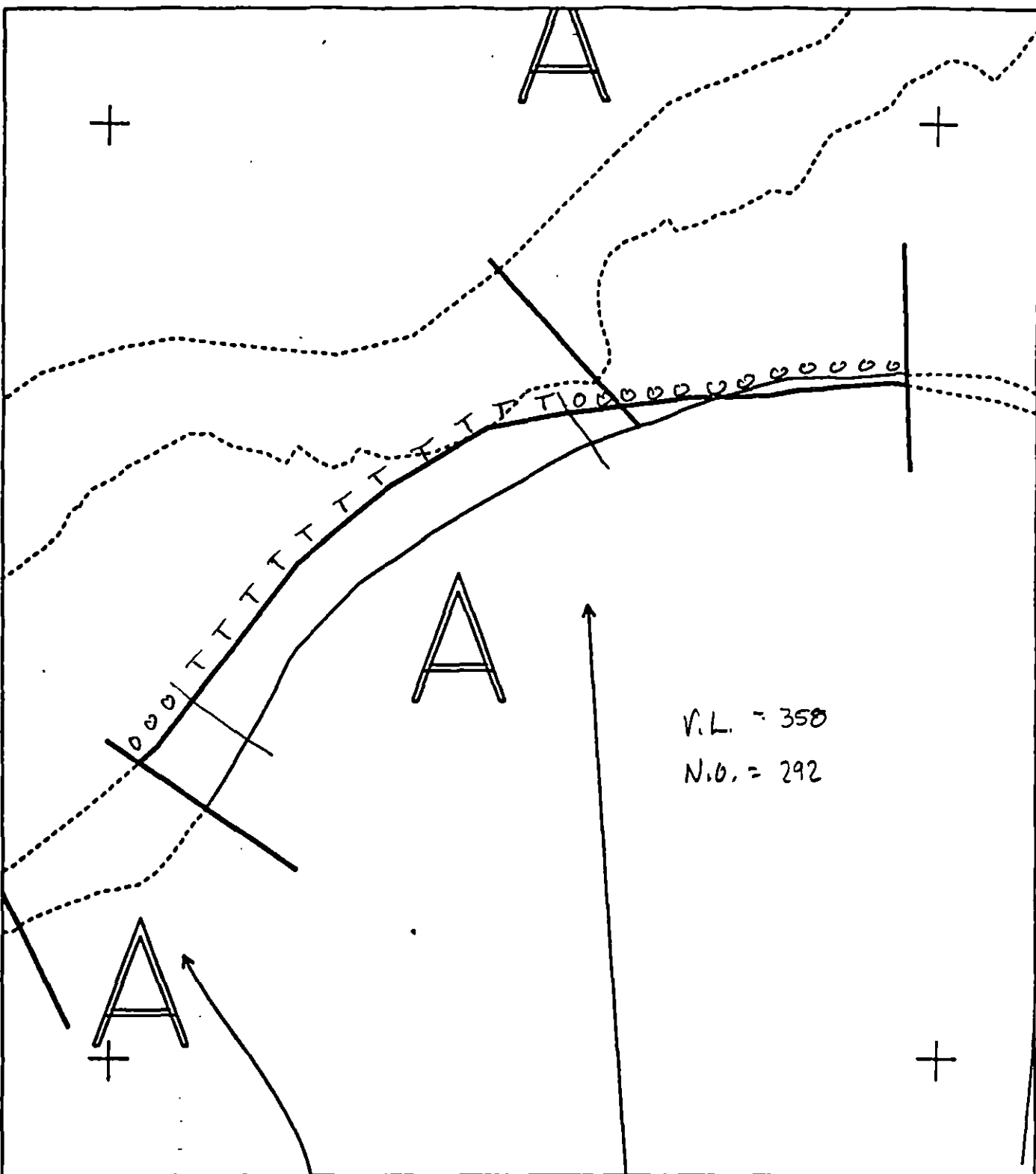
No significant surface or subsurface oil remains on this segment.

WILDLIFE OBSERVATIONS TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	No birds	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles				eel blennies
Seabirds				
Waterfowl				
Gulls/kittiwakes				
Shorebirds				
Corvids				
Other Birds				

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds(specify)			
es(specify)			

Shoreline subdivision map showing important biological features attached.



V.L. = 358

N.O. = 292

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

KN0008 A
 ADEC Subsegment Length: 650m
 METERS
 0 100 200
 AK State Plane Zone 4
 5500000



Subdivision Field Map
 Map Key: KNKN0008A
 Name: HARPER
 Date: 2 MAY 91
 Date Entered:

SURFACE OILING SUMMARY

06 4 of 4

REVIEWED: 5/9/91 MC EX reviewed, May 8

1991 MAYSAP EVALUATION

SEGMENT: KN 108 SUB: A REGION: PWS SURVEY DATE: 5/4/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Rachel Jean Oser Date: 5/17/91

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

N

N

Manual Pickup (Check as Reg.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 17 1994

FOSC APPROVAL DATE: 25 MAY 1991

ADEC

FOSC

~~E. E. PAGE, CDR, USCG~~
~~CHIEF OF STAFF, FOSC~~

EXXON

USCG

NOAA

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 1 SEGMENT KN-108 SUBDIVISION A DATE 5/4/91

ADEC

NAME JEFF GIMARAS SIGNATURE [Signature]

☒ NTR NOT ENOUGH RECOVERABLE OIL TO JUSTIFY TREATMENT.

ONLY AREA OF CONCERN WOULD BE A5 (SEE CG MAP). ~~THE~~ PATCHY AREA OF SOR UNDER/AROUND BOULDERS AT U172 (2 X 60). BOULDERS TOO LARGE TO PROVIDE ACCESS. NO SUBSURFACE EVIDENT. AREA DOES NOT APPEAR TO BE SUFFERING INJURY FROM REMAINING OIL. ALLOW NATURAL PROCESSES.

EXXON

NAME Frank A. Box SIGNATURE [Signature]

☒ NTR Not enough oil on this segment to give anything but a trace. No action recommended.

LANDMANAGER

NAME MARSHA HALL OF DNR SIGNATURE [Signature]

☒ NTR Area A5 has oil at base of boulders. Amount of recoverable oil is minimal. Interesting to check this type of oil a couple months into summer and/or after the sun has been out.

USCG/NOAA

NAME Jensen SIGNATURE [Signature]

☒ NTR Barely a trace of subsurface oil. Further removal operations would cause more harm than the oil to be removed.

PAGE 1 OF 1

SEGMENT KN-108

SUBDIVISION A

DATE 5 / 4 / 91

ENERGY LEVEL: ☒ X ☐ M ☐ L

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

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

EST. OIL CATEGORY LENGTH: W 1 m M 1 m N 60 m VL 35 m NO 599 m US 1 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- 1 - 19 FRAMES 1-9

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

Subsurface oil limited to a trace, found in pit #6, (A5)

REVIEWED: MC 5/9/91

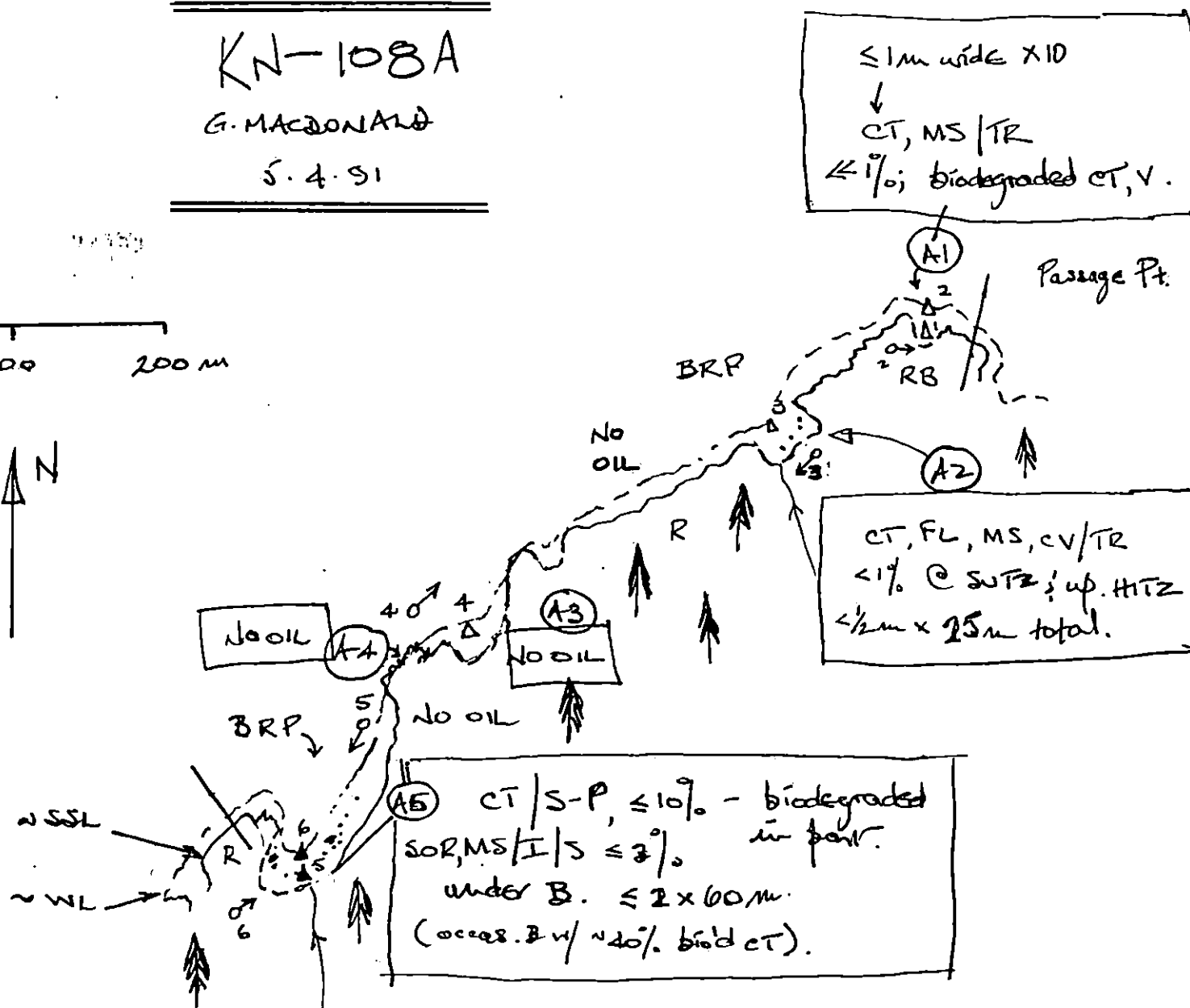
25 revised, May 7

KN-108A

G. MACDONALD

S. 4. 91

10 100 200 m



TRACE SUBSURFACE OIL -
No significant oil 0-35cms.

REVIEWERS: MC 5/9/91
ET revised, May 7

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 1

DATE 4 May 91

SEGMENT # KN 108

TIDAL HEIGHT(Range) +4.3 to +5.7 ft MLLW

SUBDIVISION A

BIOLOGIST Michael Fawcett

A STATE 2 ft seas

WIND SPEED/DIRECTION NE 15-20 knots

PHOTOGRAPHS: ROLL #

FRAME #

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

This subdivision contains exposed bedrock cliffs, massive boulders, and pocket beaches consisting of unstable, polished cobble and pebbles, with boulders in VTZ-supratidal zones. The main beaches have very sparse biota (mainly only filamentous green algae), owing to sediment instability. Larger sediments and bedrock at ends of beaches and on exposed shoreline have well-developed intertidal community, with dense and diverse algae in LTZ (rockweed, Rhodomela, Halosaccion, Ulva, Sargassum, Lithothamnion, filamentous green, and filamentous and leafy red algae), dense barnacles and mussels, whelks, limpets, Littorinids, starfish, anemones, etc. Descriptions of biota near residual oil sites is provided in accompanying sketch map.

WILDLIFE OBSERVATIONS

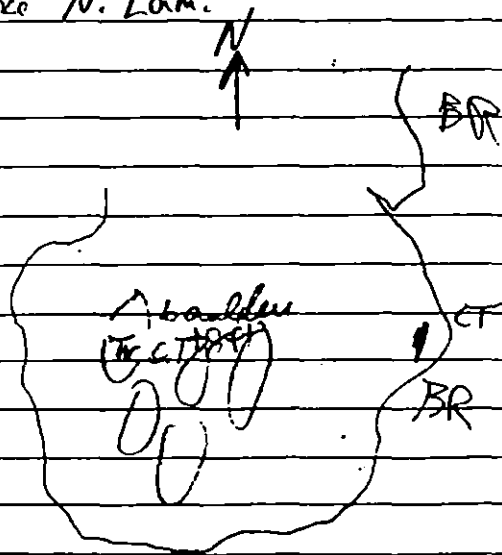
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	2 sitting in trees	tide pool sculpin
Seabirds			
Waterfowl			
Gulls/Kittiwakes	2 (Bl. Kitt; Gw Gulls)	12	
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds(specify)			
Whales(specify)			

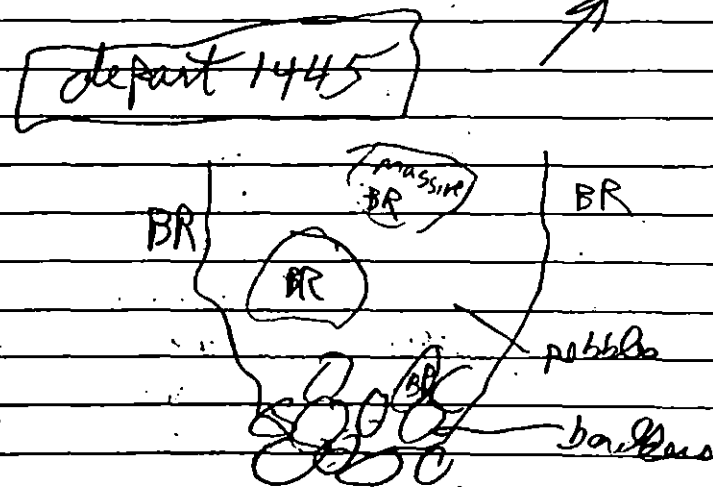
Shoreline subdivision map showing important biological features attached.

Site 1
 KN 108A 4 May 91 Fawcett
 Arr. 1420 Wind zone seas 2 ft
 - north-facing pocket beach -
 Peb bbs N / large boulders & BR walls -
 CT on E wall N + 11 ft - &
 mod. dense barn & Fucus 2 ft below
 dense mussels, in sheltered patches
 - sparse N. Lam.



moderate Fucus, dense barn,
~~very~~ mod = sparse mussel, limy
 Litt. in boulders near Traces
 - m/z boulders (74 - 7 ft) w/ dense
 mixed algae - Fucus, Rhodo, Halos.
 Ulva, leafy red, Scytosiphon, Litho
 Endocladia, Cladophora depart 1436

Site 2
 - same description as site 1,
 but more exposed - denser barnacles
 (incl. ²⁰¹⁰ Cariosus), more mussel, whelks
 (most animals on lee side of
 massive boulders, dense algae on
 N. side)



oil spots scattered above + 8 ft
 in boulders - green algae, periwinkle,
 new sparse Fucus, sparse barn,
 but most oil above + 10 ft
 among isopods, lichen, filamentous
 mussels mostly 0-2, some odd
 - 1 eagle in tree, 4 antbirds 6-8 small
 - dense old Cariosus on by BR + 3-16 ft,
 but being overgrown by dense 1 yr old
 (8-10m) mussels - dense N. & marginata eating mussels

1450 site 3 KN108A ^{cont} Fawcett

4 May 91

- wider pocket beach than 142
(N 40 m wide) - polished cobble/pebble
beach (Fil. an. near algae) - BR & boulders
each side w/ same beds as other
sites (142) (Urosalpinx)

scattered Porphyra, Scyt

NO O.L.

Finish 1455

Site 4 1500 - (same description
as site 3 - mature eagle in
tree watching us - did not fly)

SOR at 2 + 12 ft in boulders
& logs - no beds except isopods
Lichen, Fil. sp. algae

Depart 1520

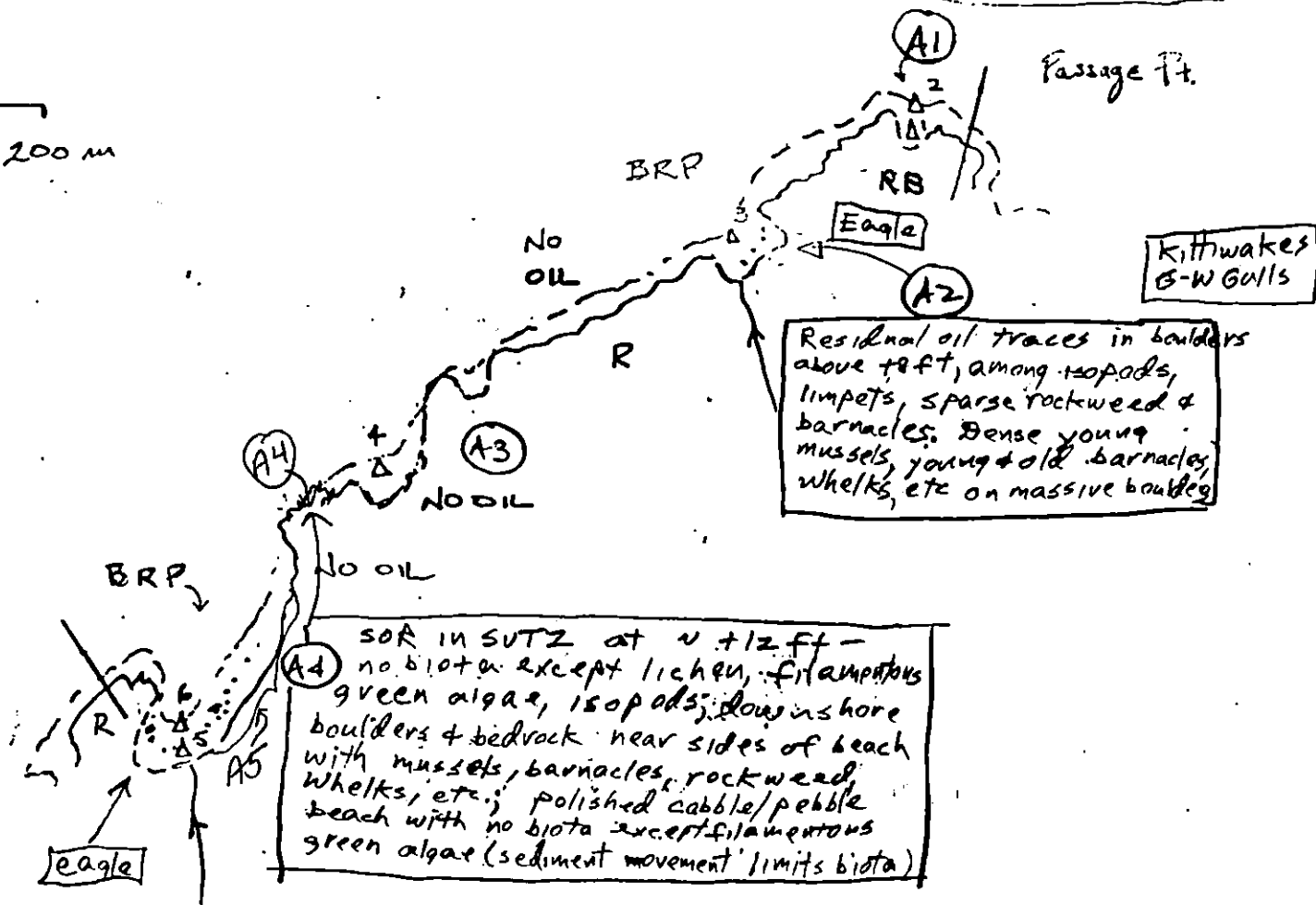
Arr site 1525 KN109 site
- protected west-facing gravel/brk
beach in bay - waterfall at back
CT on BR at north end + 10 ft
- bright green Prospera on cobble
at 7.6 ft - 8 ft

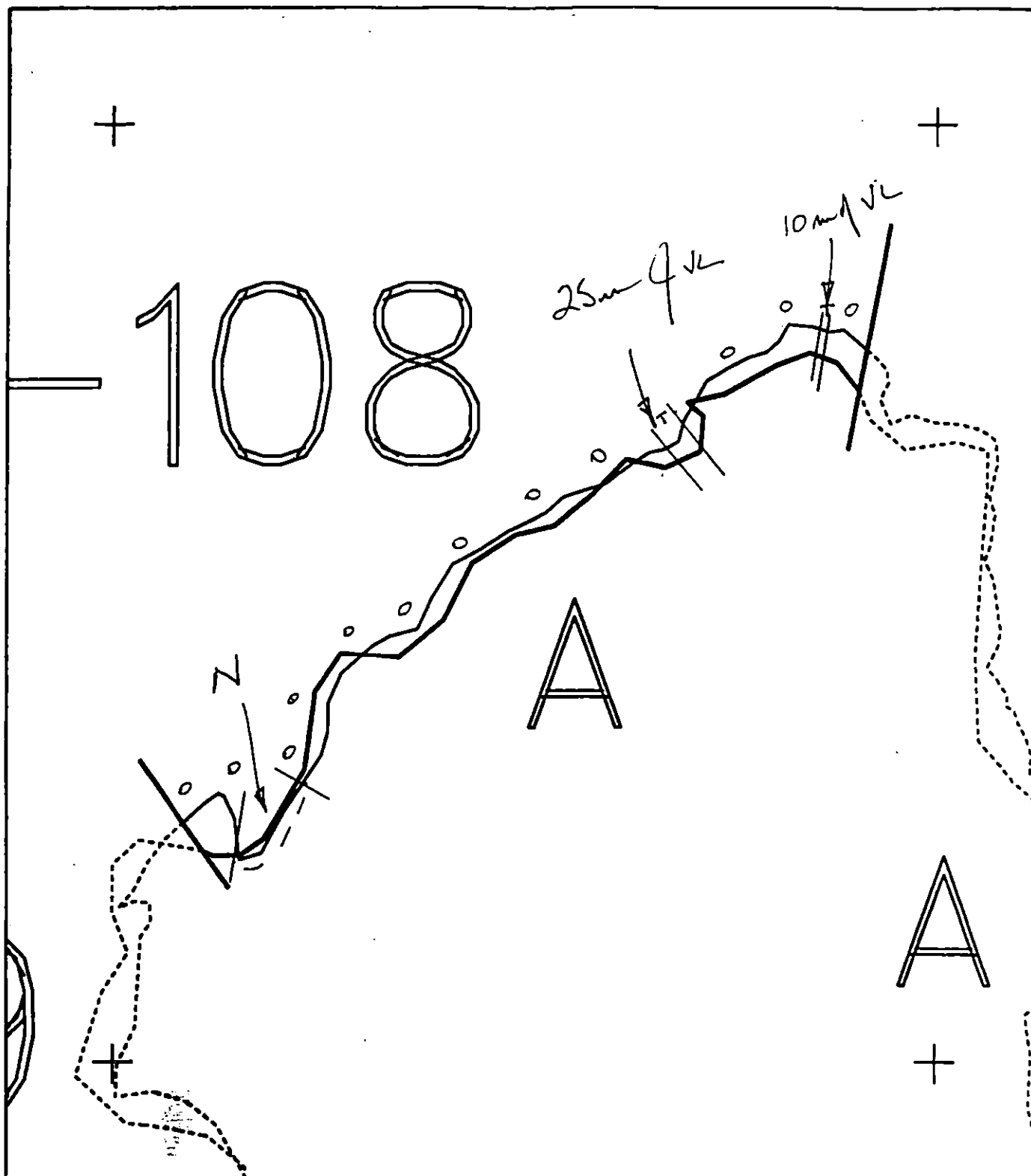
sparsely, Barnacles, Silgr below
than gravel

Bio Sketch Map
KN-108A
4 May 91
M.H. Fawcett

CT in SUTZ at +11ft;
moderately dense barnacles,
rockweed 2 ft directly
below CT; sparse mussels,
limpets, littorinids in boulders
near oil traces

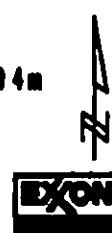
10 100 200 m





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

KN0108 A
 ADEC Subsegment Length: 694m
 METERS
 0 100 200
 AK State Plane Zone 4
 22N0108a



Subdivision Field Map
 Map Key: KN1KN0108A
 Name: GM
 Date: 5.4.91
 Date Entered:

Reviewed: 5/9/91 MC

3
 ET reviewed, May 7

1991 MAYSAP EVALUATION

SEGMENT: KN 008 **SUB:** A **REGION:** PWS **SURVEY DATE:** 5/2/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) OPEN

Ecological/Constraints (see page two for details) NONE

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ **Date:** _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N) N _____

Manual Pickup (Check as Req.) _____

Spot Washing _____

Bio-Customblen Only _____

Bio-Inipol/Customblen _____

Other _____

Other _____

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

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

ADEC _____ **FOSC** _____

EXXON _____

USCG _____

NOAA _____

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 3 SEGMENT KNO8 SUBDIVISION A DATE 5/2/91

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☒ NTR ☐ TREATMENT RECOMMENDED

Remaining oil broke up or picked up by survey team.

EXXON

NAME Jon P. Garmonick SIGNATURE Jon Garmonick

☒ NTR Beach segment is clean manually broke up or picked up during survey of beach.

LANDMANAGER

NAME Solow Solow OF CAR SIGNATURE [Signature]

☐ NTR

3

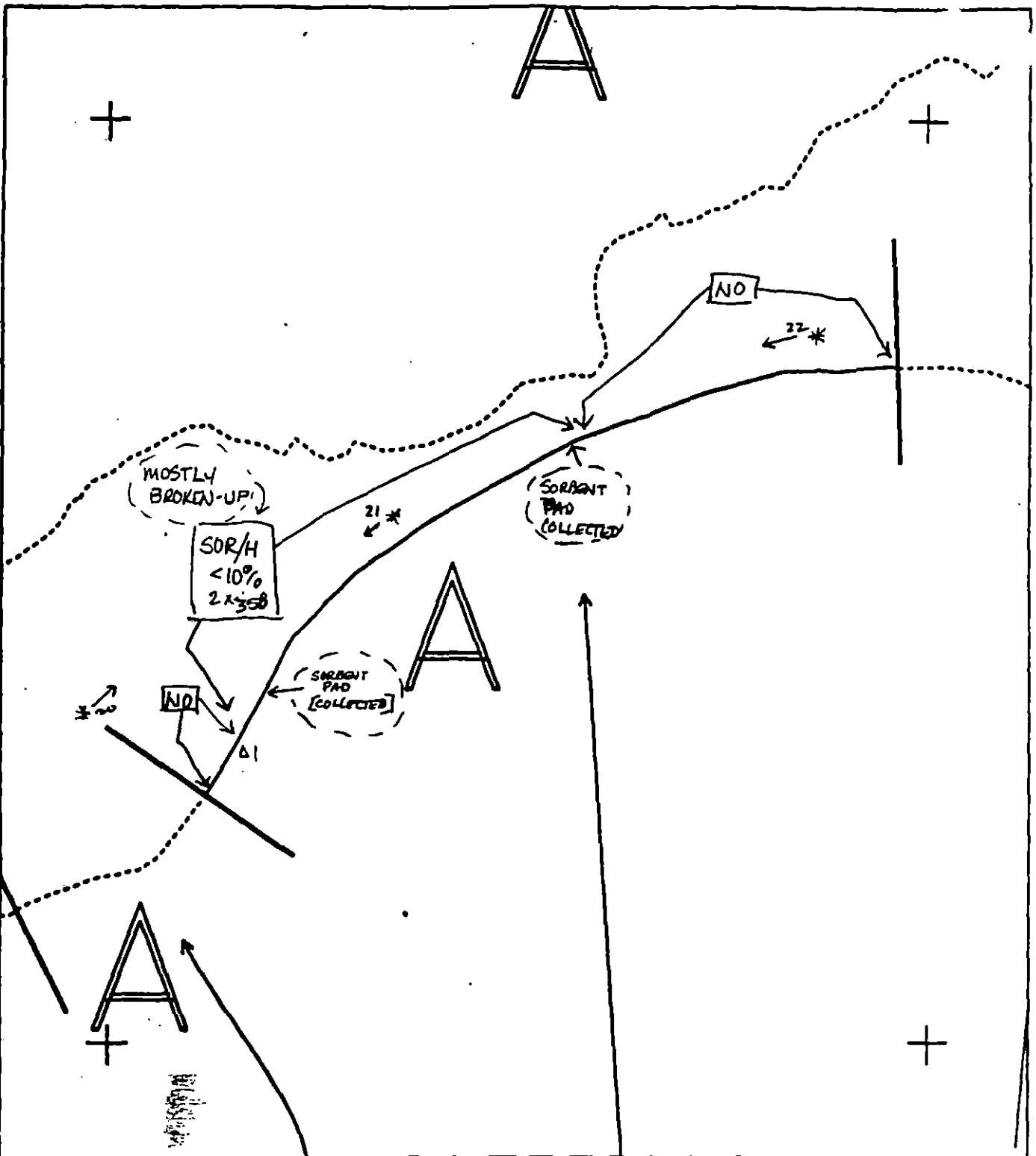
tar mats noted
Any remain Masse Patties should
be removed

USCG/NOAA

NAME MOOREY / BARAT SIGNATURE Tim Moorey / Andy Barato

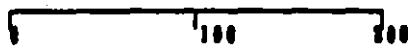
☒ NTR SEGMENT WAS MANUALLY TILLED IN 1990. LOOK REAL GOOD. ANY REMAINING TAR PATTIES REMOVED OR BROKEN UP BY SURVEY TEAM.

REVIEWED: MC 5/9/91



KN0008 A

METERS



At State Plane Zone 4
NAD83

Subdivision Field Map

Map Key: KN1KN0000A

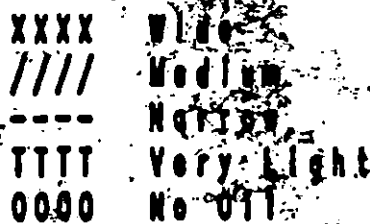
Name: HARPER

Date: 2 May 91

Reviewed: MC 5/9/91

REVISED FIELD
MAP

06-2 of 4
ET revised, May 8



AK State Plane Zone 4.
bbs00080



Date Entered:

FIELD MAP

REVIEWED: 5/9/91 mc
OG 3 of 4

KAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 3

DATE 5/2/91

SEGMENT # KN 08

TIDAL HEIGHT(Range) -1 TO 0

SUBDIVISION A

BIOLOGIST STOKER

SEA STATE 0-1'

WIND SPEED/DIRECTION E 15-20

PHOTOGRAPHS: ROLL #

FRAME #

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

Low energy shore ranging from fairly steep cobble/boulder/beachrock to low-angle pebbles/cobble beach.

Relatively sparse biota in the form of barnacles, limpets, Mytilus patches, Petricularia (all spot) algae and sometimes Fucus extends well into the upper intertidal. Biota increases in abundance, though not necessarily diversity, downslope through the mid intertidal - and lower intertidal and is likewise composed for the most part of barnacles, Mytilus (both interbedded and attached), limpets (often dense) patches and variable new-growth Fucus, sparse Littorina and egg masses, and sometimes Nacella, amphipods, and eel blennies.

No significant surface or subsurface oil remains on this segment.

WILDLIFE OBSERVATIONS

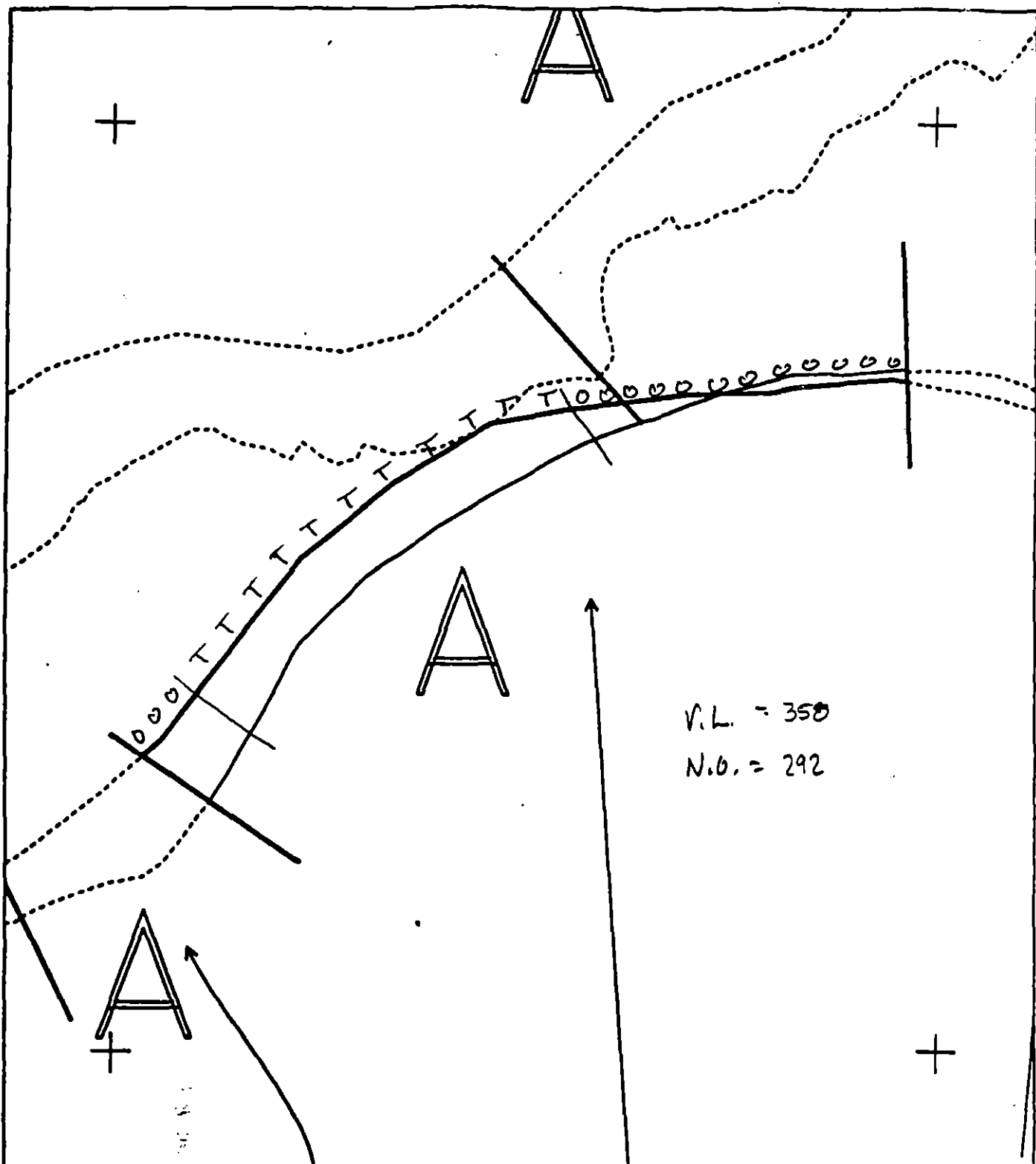
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	No birds	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles				eel blennies
Seabirds				
Waterfowl				
Gulls/kittiwakes				
Shorebirds				
Corvids				
Other Birds				

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

Rev'd 5/8/91 PM



V.L. = 350

N.O. = 292

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

KN0008 A

ADEC Subsegment Length: 650m

METERS

0 100 200
 AK State Plane Zone 4
 6600000



Subdivision Field Map

Map Key: KNKN0008A

Name: HARPER

Date: 2 MAY 91

Date Entered:

SURFACE OILING SUMMARY

06 4 of 4

REVIEWED: 5/9/91 MC EX reviewed, May 8

1991 MAYSAP EVALUATION

SEGMENT: KN 108 **SUB:** A **REGION:** PWS **SURVEY DATE:** 5/4/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ **Date:** _____

<u>RECOMMENDATIONS:</u>	<u>INITIAL</u>	<u>TAG</u>	<u>FOSC</u>
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: _____

TAG: _____

FOSC: _____

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

ADEC _____ **FOSC** _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

TEAM NO. 1 SEGMENT KN-108 SUBDIVISION A DATE 5/4/91

ADEC

NAME Jeff Givras SIGNATURE [Signature]

☒ NTR NOT ENOUGH RECOVERABLE OIL TO JUSTIFY TREATMENT.

ONLY AREA OF CONCERN WOULD BE A5 (SEE OG MAP). ~~THE~~ PATCHY AREA OF SOIL UNDER/AROUND BOULDERS AT UITE (2 X60). BOULDERS TOO LARGE TO PROVIDE ACCESS. NO SUBSURFACE EVIDENT. AREA DOES NOT APPEAR TO BE SUFFERING INJURY FROM REMAINING OIL. ALLOW NATURAL PROCESSES.

EXXON

NAME Frank A. Box SIGNATURE [Signature]

☒ NTR Not enough oil on this segment to give anything but a trace. No action recommended.

LANDMANAGER

NAME MARSHA HALL OF DNR SIGNATURE [Signature]

☒ NTR Area A5 has oil at base of boulders. Amount of recoverable oil is minimal. Interesting to check this type of oil A couple months into summer and/or after the sun has been out.

USCG/NOAA

NAME Jensen SIGNATURE [Signature]

☒ NTR Barely a trace of subsurface oil. Further removal operations would cause more harm than the oil to be removed.

PAGE 1 OF 1

SEGMENT KN-108

SUBDIVISION A

DATE 5 / 4 / 91

ENERGY LEVEL: ☒ X ☐ M ☐ L

SURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELO WEATHER: ☐ SUN ☐ CLOUDS ☐ FOG ☒ RAIN ☐ SNOW

TOTAL LENGTH SHORELINE SURVEYED: 694 m NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W 1 m M 1 m N 60 m VL 35 m NO 599 m US 1 m

[illegible]

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- 1 - 19 FRAMES 1-9

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	20							X	-		-			X			BP-CP	
2	25							X	-		-				X		BP-CPB	
3	25							X	-		-				X		BP-P	
4	30							X	-		-				X		BP-CP	
5	35						X		10-15	Y	30	S		X			CP-PG	
6	25						X		5-10	Y	20	S			X		CPB-PC	

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

OG COMMENTS: Steep rocky shore w/ small BRP pockets.

Surface oil as traces of CT, MS, CV, FL @ up Hitz & SUTZ (oil is biodegraded and often refuses to shear), in crevices and under boulders.

Subsurface oil limited to a trace, found in pit #6, (A5)

Reviewed: MC 5/9/91

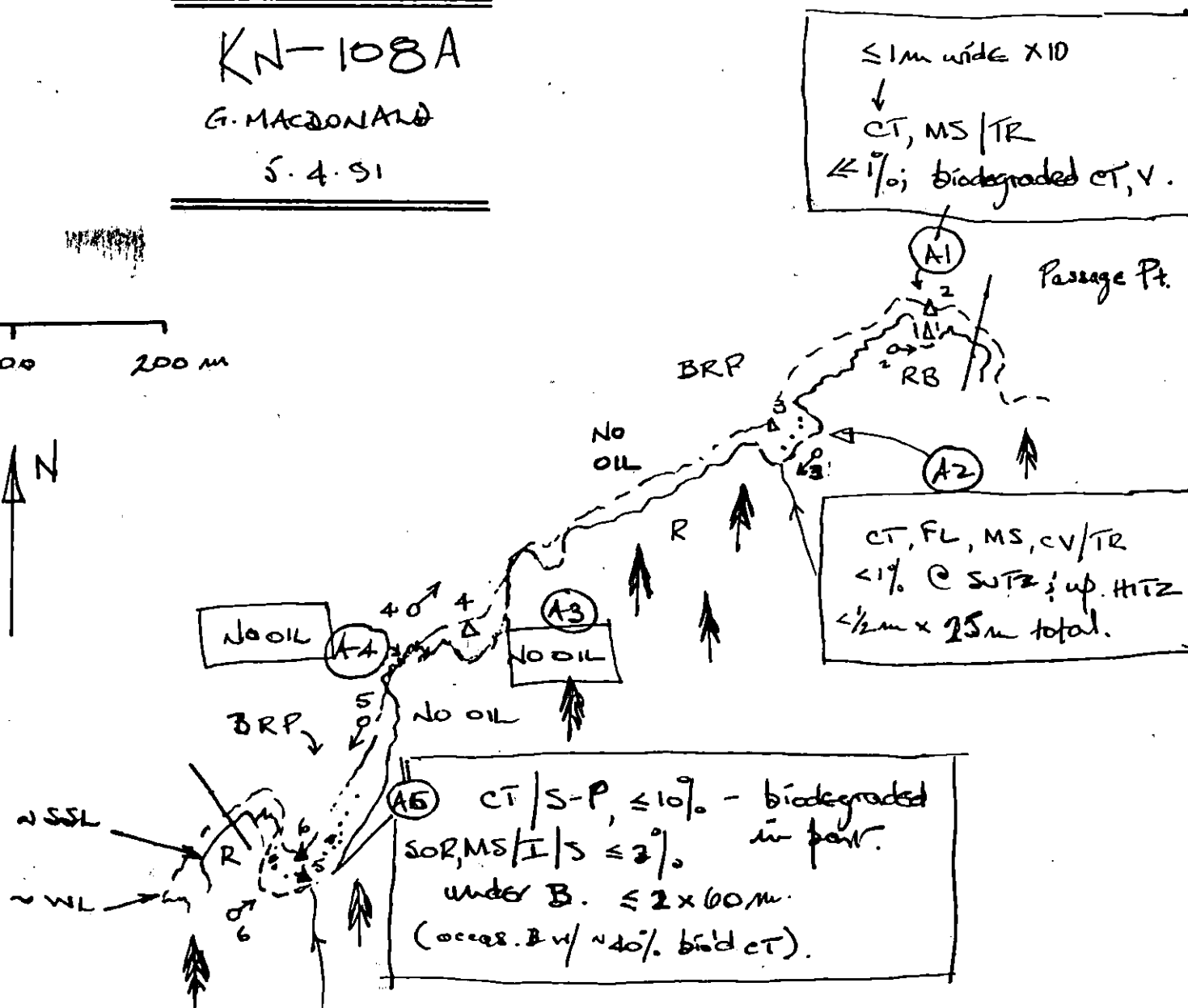
25 revised. May 7

KN-108A

G. MACDONALD

S. 4. S1

10 100 200 m



TRACE SUBSURFACE OIL -
 No significant oil 0-35cms.

REVISIONS: MC 5/9/91
 ET revised, May 7

RAYSAP BIOLOGICAL SUMMARY FORM

TEAM # DATE 4 May 91
 SEGMENT # KN 108 TIDAL HEIGHT (Range) +4.3 to +5.7 ft MLLW
 SUBDIVISION A BIOLOGIST Michael Fawcett
 EA STATE 2 ft seas WIND SPEED/DIRECTION NE 15-20 knots
 PHOTOGRAPHS: ROLL # FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
This subdivision contains exposed bedrock cliffs, massive boulders,
and pocket beaches consisting of unstable, polished cobble and pebbles,
with boulders in VTZ-supratidal zones. The main beaches have very
sparse biota (mainly only filamentous green algae), owing to sediment instability.
Larger sediments and bedrock at ends of beaches and on exposed shoreline
have well-developed intertidal community, with dense and diverse algae
in LTZ (rockweed, Rhodomela, Halosaccion ulva, Scytosiphon, Lithothamnion,
filamentous green, and filamentous and leafy red algae); dense barnacles and
mussels, whelks, limpets, littorinids, starfish, anemones etc.
Descriptions of biota near residual oil sites is provided in
accompanying sketch map.

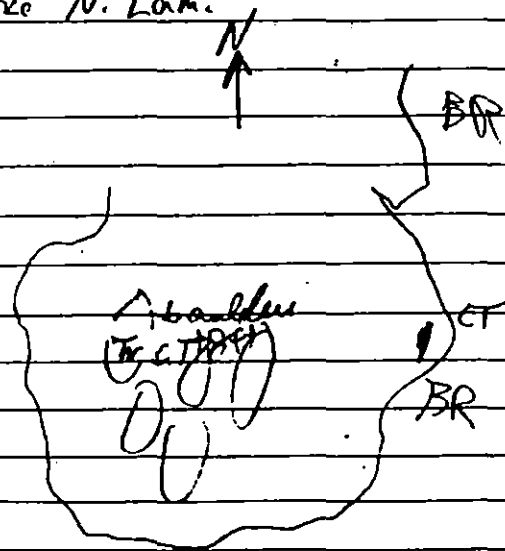
WILDLIFE OBSERVATIONS
 TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	2 sitting in trees	tide pool sculpin
Seabirds			
Waterfowl			
Gulls/Kittiwakes	2 (B. Kitt; GW Gulls)	12	
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

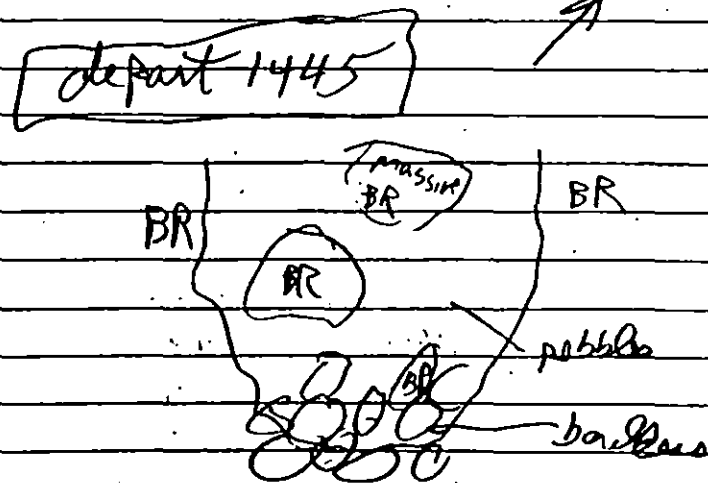
Shoreline subdivision map showing important biological features attached.

Site 1
 KN 108A 4 May 91 Fawcett
 Arr. 1420 Wind 20 NE seas 2 ft
 - north-facing pocket beach -
 pebbles N / large boulders & BR walls -
 CT on E wall N + 11 ft - &
 mod. dense barn & Fucus 2 ft below
 dense mussels, in sheltered patches
 - sparse N. Lam.



moderate Fucus, dense barn, ~~moderate~~ = sparse mussel, Ling
 Litt, in boulders near Traces
 - mid boulders (74-7ft) w/ dense
 mixed algae - Fucus, Rhod, Halos.
 Ulva, leafy, etc, Scytosiphon, Litho
 Endocladia, Cladophora. depart 1436

Site 2
 - same description as site 1,
 but more exposed - denser barnacles
 (incl. ²⁰¹⁰ Cariosus), more mussels, whelks
 (most animals on lee ~~side~~ sides of
 massive boulders, dense algae on
 exp. side



oil spots scattered above +8 ft
 in boulders - green algae, periwinkle,
 next sparse Fucus, sparse barn,
 but most oil above +10 ft
 among isopods, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
 mussels mostly 0-2, some older
 - 1 eagle in tree, 4 Kittiwakes 6-8 Gulls
 - dense, old Cariosus on big BR +3-16 ft,
 but being overgrown by dense 1 yr old
 (8-10m) mussels - dense N. & marginal eating mussels

1450 site 3 KN108A ^{cont/} Fawalt

4 May 91

- wider pocket beach than 142
(N 40 m wide) - polished cobble/pebble
beach (Fil. n. nerys) - BR & boulders
each side w/ same beds as other
sites (142) (Tropospora)

Scattered Porphyra, Scyt

NO. 0.1.1

Finish 1455

Site 4 1500 - (same description
as site 3 - mature eagle in
tree watching us - did not fly)

SOR at 2 + 12 ft in boulders
& logs - no beds except isopods
lichen, Fil. gr. algae

Depart 1520

Arr site 1525 KN109 site

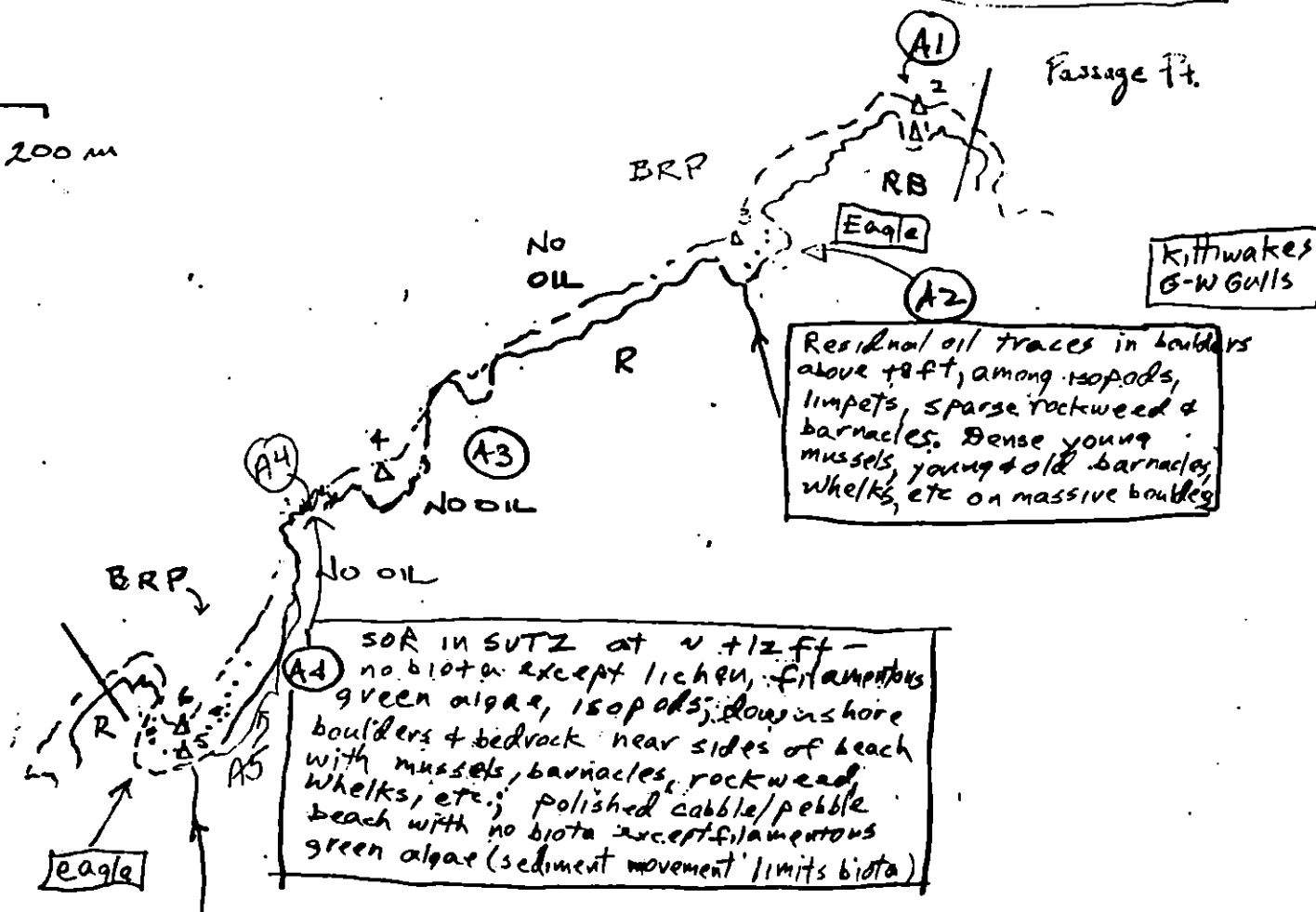
- protected west-facing gravelly
beach in bay - waterfall at back
CT on BR at north end + 10 ft
- bright green Prospera on cobbles
at 4.6 ft - 8 ft

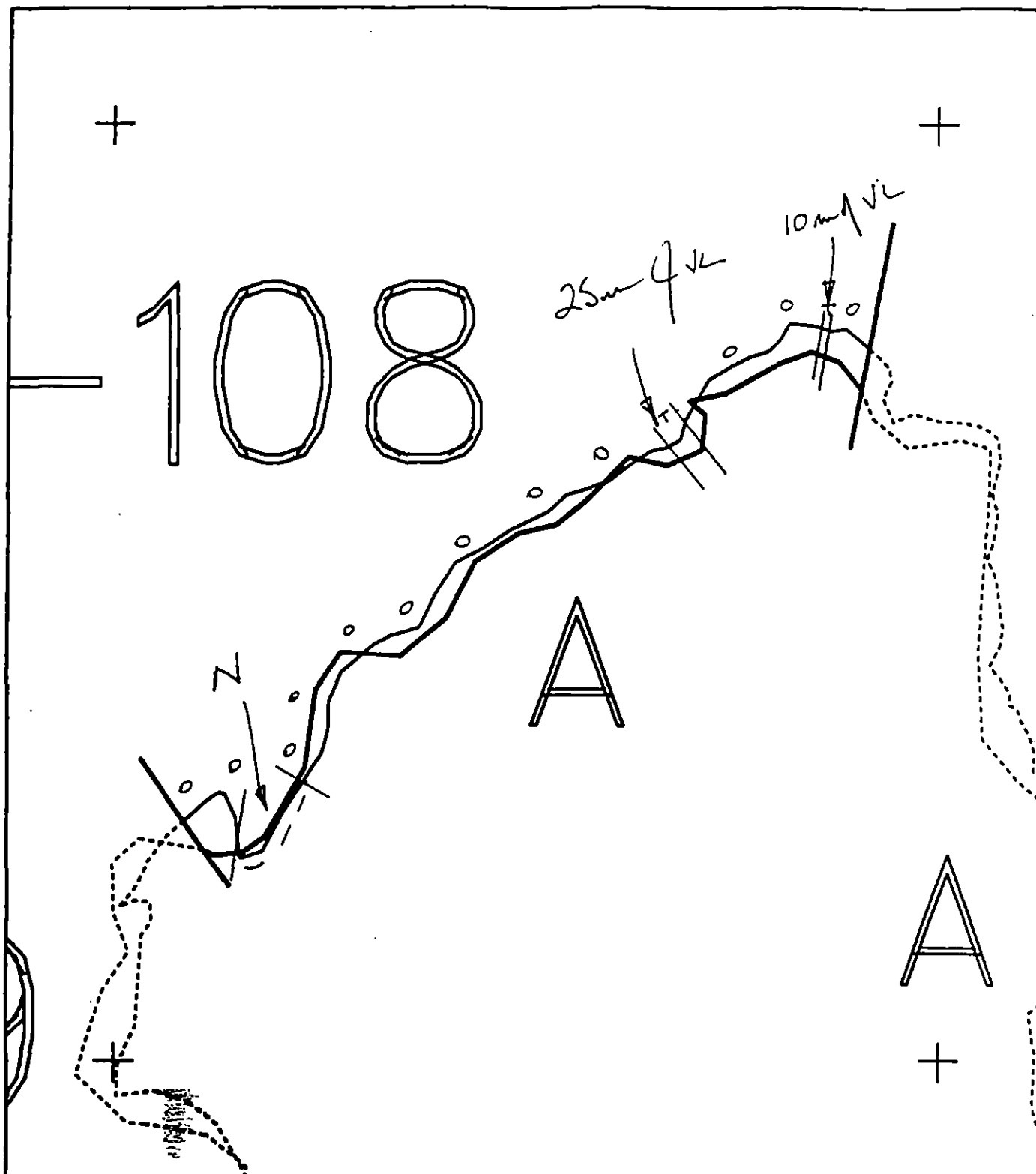
spores, Barnacles, Silgr below
than gravel

Bio Sketch Map
KN-108A
4 May 91
M.H. Fawcett

CT in SUTZ at +11ft;
moderately dense barnacles,
rockweed 2 ft directly
below CT; sparse mussels,
limpets, littorinids in boulders
near oil traces

10 100 200 m





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

KNO108 A
 ADEC Subsegment Length: 894m
 METERS
 0 100 200
 AK State Plane Zone 4
 440108a



Subdivision Field Map
 Map Key: KNIKNO108A
 Name: GN
 Date: 5.4.91
 Date Entered:

Reviewed: 5/9/91 MC

3
 ET reviewed, May 7

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-108

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ KN-108 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T (1) All Bald Eagle nests (3/1 to 6/1) within 400m in adjacent segment
5T Active Bald Eagle nests (3/1 to 9/1)
See attached Ecological sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. (See above)

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact Exxon's Cultural Resource Program immediately (564-3274 (Anchorage) or 229-1508 (24hrs.)).

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 283 m: Narrow 0 m: V.Light 411 m: No Oil 0 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 40+cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes: 1) Manual movement of logs from upper ITZ in area indicated on sketch map, 2)* manual raking of upper ITZ into mid ITZ, and 3) bioremediation of raked area as indicated on sketch map. Work should be conducted after 6/1 with approval of USFWS due to eagle nest constraint.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inpol 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 Inpol 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 Inpol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (8/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (8/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inpol 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 Inpol 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 Inpol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Rothy 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (8/1 to 9/15)
6V Anchorages (8/1 to 9/15)
6W Forest Service cabins (8/1 to 9/15)
6X Lodge (8/1 to 9/15)
6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (8/15 to 2/28)
Invertebrate harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inpol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2350

FIELD SHORELINE COMMENT SHEET

SEGMENT ST KN-108 SUBDIVISION: A DATE 4-24-90

USCG

NAME BM3 David A. Sylvester SIGNATURE BM3 David A. Sylvester

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

There is oil on the surface and subsurface on one of the beaches in this segment. Composed of cobbles boulders and pebbles. There is residual oil in upper tidal zone. There is a number of large trees that will have to be removed in order to get to the oil on part of this beach.

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

- Primarily bedrock cliff w/ pocket beaches.
- Surface coats and tarballs.
- Subsurface o.r. / o.p. oil, at pit areas #6,7.
- oiled logs and debris

Recommend removal of oiled logs/debris, manual tilling, warm water flooding, steam washing and bioremediation at pit areas #6,7.

LAND MANAGER

NAME David Mandrella SIGNATURE David Mandrella

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

- Primarily vertical high ^{angle} bedrock and rock rubble with high angle pocket beach
- Priority area within segment, which warrants treatment occurs in the upper intertidal in the vicinity of pits 6 and 7. This 40m. x 4m. area is susceptible to piling due to presence of op sediments.
- remove oiled logs and debris.
- Recommend manual tilling, spot washing and flooding, followed by bioremediation.

SHORELINE OILING SUMMARY

REVISION NO. 56-13-90

OG A. Pittenger USCG D. Sylvester SEGMENT ST/ KN108
 BIO J. Benson LAND REP D. Mandella SUBDIVISION A (1 OF 1)
 EXXON C. Katsimpalis ADEC D. Munson TIME 17:03 to 19:20
 TEAM NO. #8 TIDE LEVEL 5 → 1 → 2 ft DATE 4 / 24 / 90
 EST. SUBDIVISION LENGTH: 728 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: North to South
 SURFACE SEDIMENTS: R 50 % B 20 % C 15 % P 15 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Lang 30 % Hang 30 % Ver 40 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 200 m N 0 m VL 528 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	10	15	10	15	10	15	10	15	SU	U	M	U
ASPHALT												
PAVEMENT												
POOLED												
COVER												
COAT	X		X	X	X	X			X	X	X	
STAIN			X						X		X	
MOUSSE												
PATTIES												
TARBALLS												
FILM												
NO OIL									X			

PAVEMENT H F S _____ sq. m by _____ cm

PATTIES / TARBALLS _____ BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

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

DID YOU COLLECT DEBRIS? Uncollector: Nothing
 YES ☒ NO ☒

TYPE Float/Reps#BAGS 1

Photographs:

Roll No. 54-8-4Frames 35

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)	T	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	10	15	10	15	10	SU	U	M	U				
1	15					X	.													N	>15	P-P
2	20					X	.													N	>20	P-P
3	35					X	.													N	>35	C-P, G
4	40					X	.								X					N	>40	C-P
5	25					X	.													N	>25	C-C, P
6	40	X					10-740	X		X					X					N	>40	P-P

COMMENTS

REVIEWED GHDATE 4-26-90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 06/13/88

SEGMENT ST/ K1108 SUBDIVISION A (1 OF 1)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	Z E E N (m)	!	SURFACE SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	1	2	3	4	5	6	BU	U	M	U				
7	40	X					0-20	X	X	X						X					Y	15	P-P
8	30					X	.												X		N	10	P-P
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COMMENTS

REVIEWED MF DATE 4-26-90

SKETCH MAP



HERING BAY

- Scale
- Sub Entry
- Alt. Det.
- Width
- Length
- % Cover
- Substrate Character
- Est. HYP/LA/VL
- SSL
- Profile Location(s)
- Profile(s)
- Pt Location(s)
- Photo Location(s)

LEGEND

- 1 Δ
- Pt - No Subsurface Oil
- 2 Δ
- Pt - Subsurface Oil
- CT/C
- Continuous Distribution
- CT/B
- Broken Distribution
- CT/P
- Patchy Distribution
- CT/S
- Splashed Distribution
- Oil Vegetation

MANUALLY MOVE
OILED LOGS OUT OF
WAY, RAKE UPPER ITZ
INTO MID ITZ AND
BIOREMEDIATE
RAKED AREA

Ventica/H. ang. Bedrock
and rock rubble
with H. ang. Pocket
beaches

UI, CT/P, 1/2 x 20m, 50%

MI, LI, CT/P, 7 x 20m, 40%

PASSAGE POINT

L. ang B beach/Rock
platform

LOWER PASSAGE

UI, CT/P, 4 x 12m, 50%

Shear in
rock pools

Forest/Rock

Uncollected Debris
(Net)

UI, CT/C, 3m x 15m, 100%

Symbols

Oiled Interval

Bedrock

Sediment

B, C, P-Grain Size

Eagles Nest

Scale

0m 100m 200m 300m

AP PO CV CT ST MS PT TB FL NO

SHORELINE ECOLOGICAL SUMMARY

REVISION: 22/22/90

Segment ST / KN108 Subdivision A Date (mo / day / yr) 4/24/90Time (24 hr) 1705-1915 Biologist Benson(A) Substrate type and % of segments:
(1) Bedrock 50 (2) Boulder 20 (3) Cobble 15 (4) Pebble 15 (5) Sand 0 (6) Silt 0(B) Overall % cover of biota (% of segment): Dense 60 Moderate 10 Low 30

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

Photographs:
Roll No. ST-B-4Frames 33-35

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

1 mature bald eagle. (*Haliaeetus leucorhynchus*)
 1 eagle nest within segment - it is not known if the nest is active (sketch map)
 3" long stenophore: just offshore

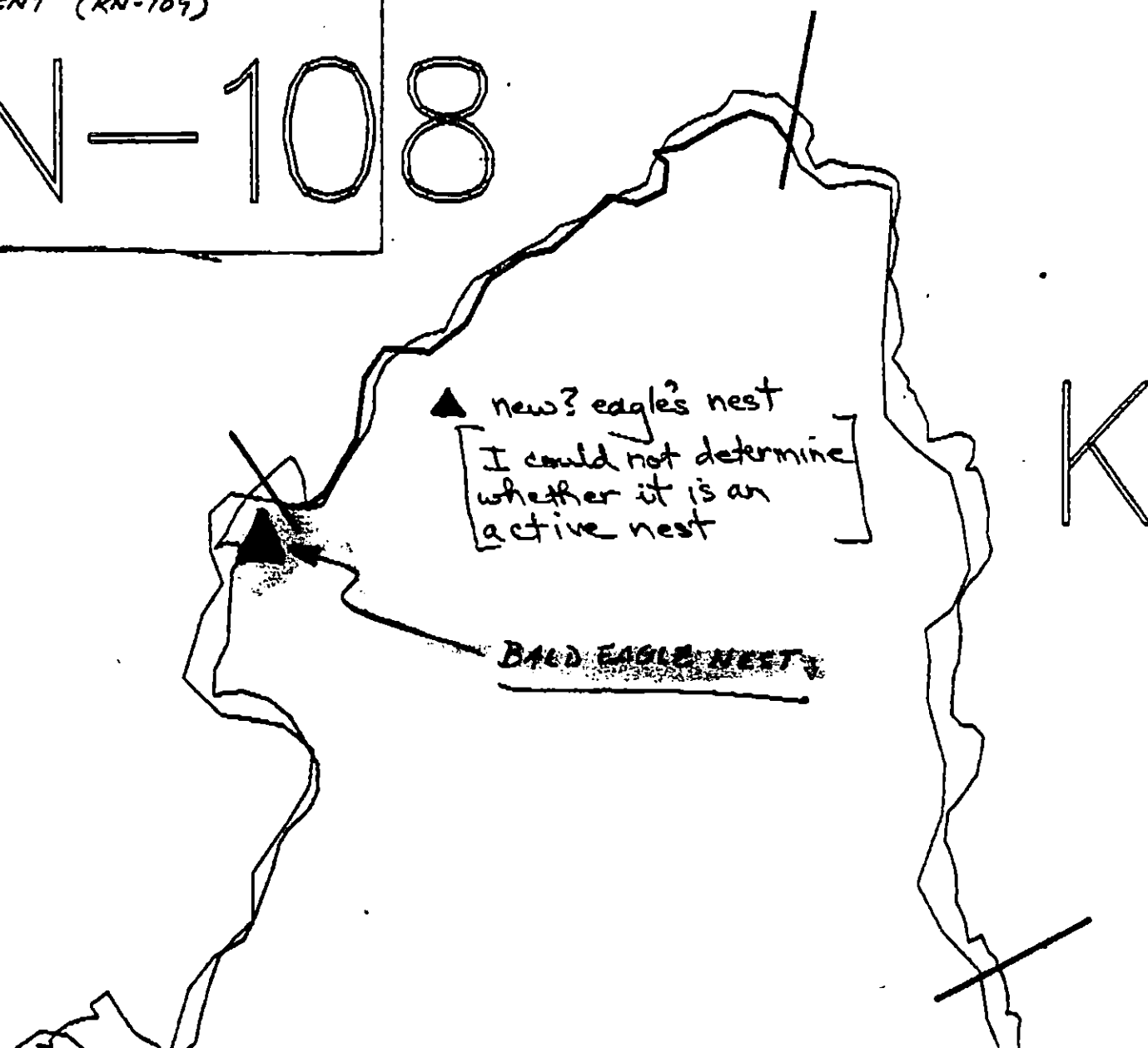
Ecological Considerations: No sensitivities (eagle nest within 400 m of south boundary)

Wave exposure here is high. This is reflected in the presence of *Alaria*, the predominance of "weedy" species of algae (green & red filamentous spp., *Rhodomenia*, *Ulva*), the absence of organisms on cobbles, and the presence of algae on the bottoms, as well as the tops, of boulders. The number of species is moderate and the standing stock on stable substrates is high. Evidence of *Fucus* stipes and barnacle scars on accessible rocks suggests

ECOLOGY MAP

RESOURCE CODES FOR
ENTIRE SEGMENT:NONEBALD EAGLE NEST $\leq$ 400m OF
SEGMENT (KN-109)

KN-108



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

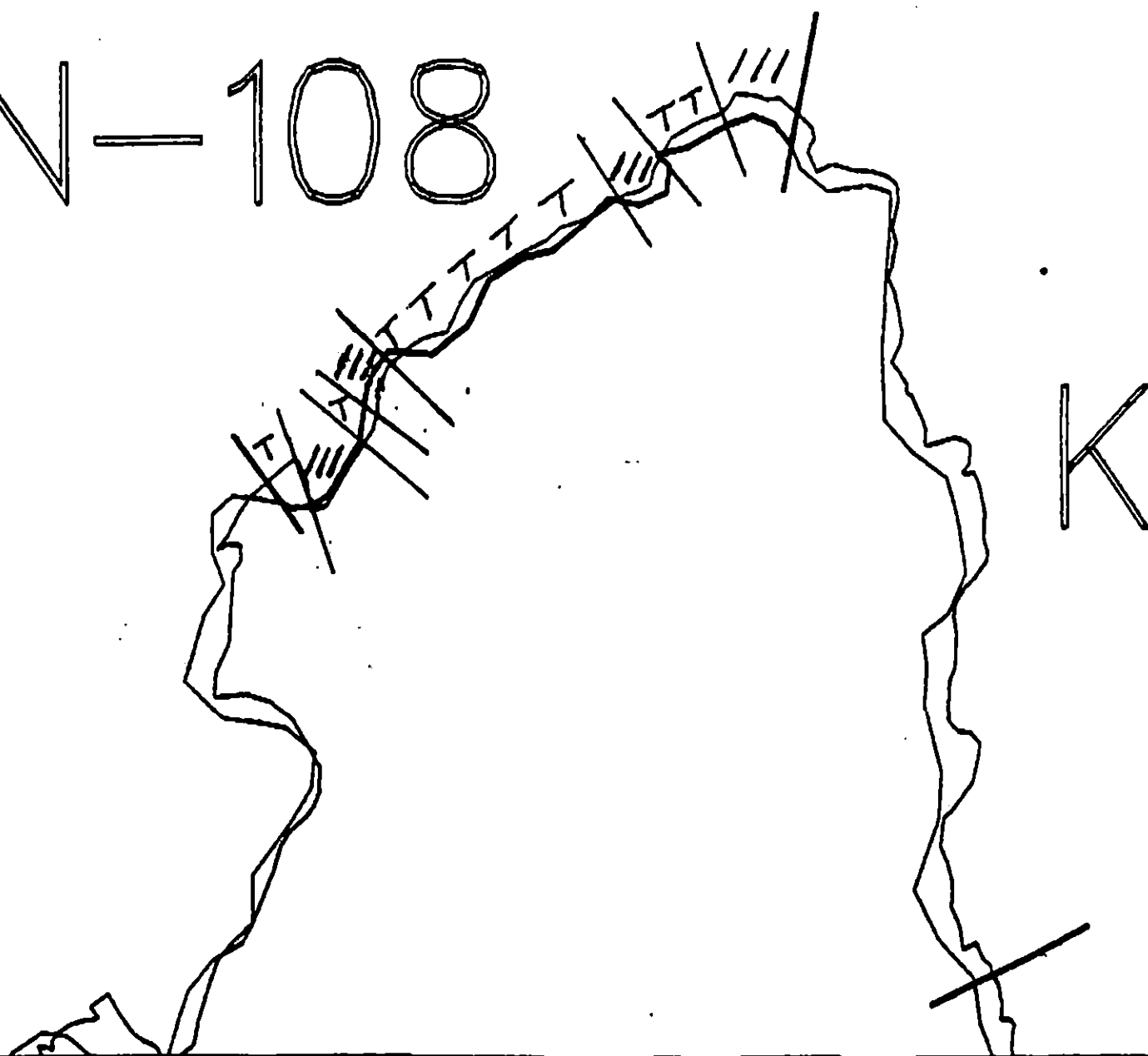
KN-108

ADEC Segment Length: 694m

Map Key: PWS-288

Name: BensonDate: 4/24/90

KN-108



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-108

ADEC Segment Length: 694m

Exxon Segment Length: 728m

0 100 200 300

Map Key: PWS-288

Name: Pittenger

Date: 4/24/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-108 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup	CLOSED
Bioremediation Manual Raking	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T **Bald Eagle Nest** USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to bioremediation, manual raking and manual pickup within 400m of active nest. No constraint to bioremediation, manual raking and manual pickup more than 400m from active nest.

OTHER ECOLOGICAL CONSIDERATIONS

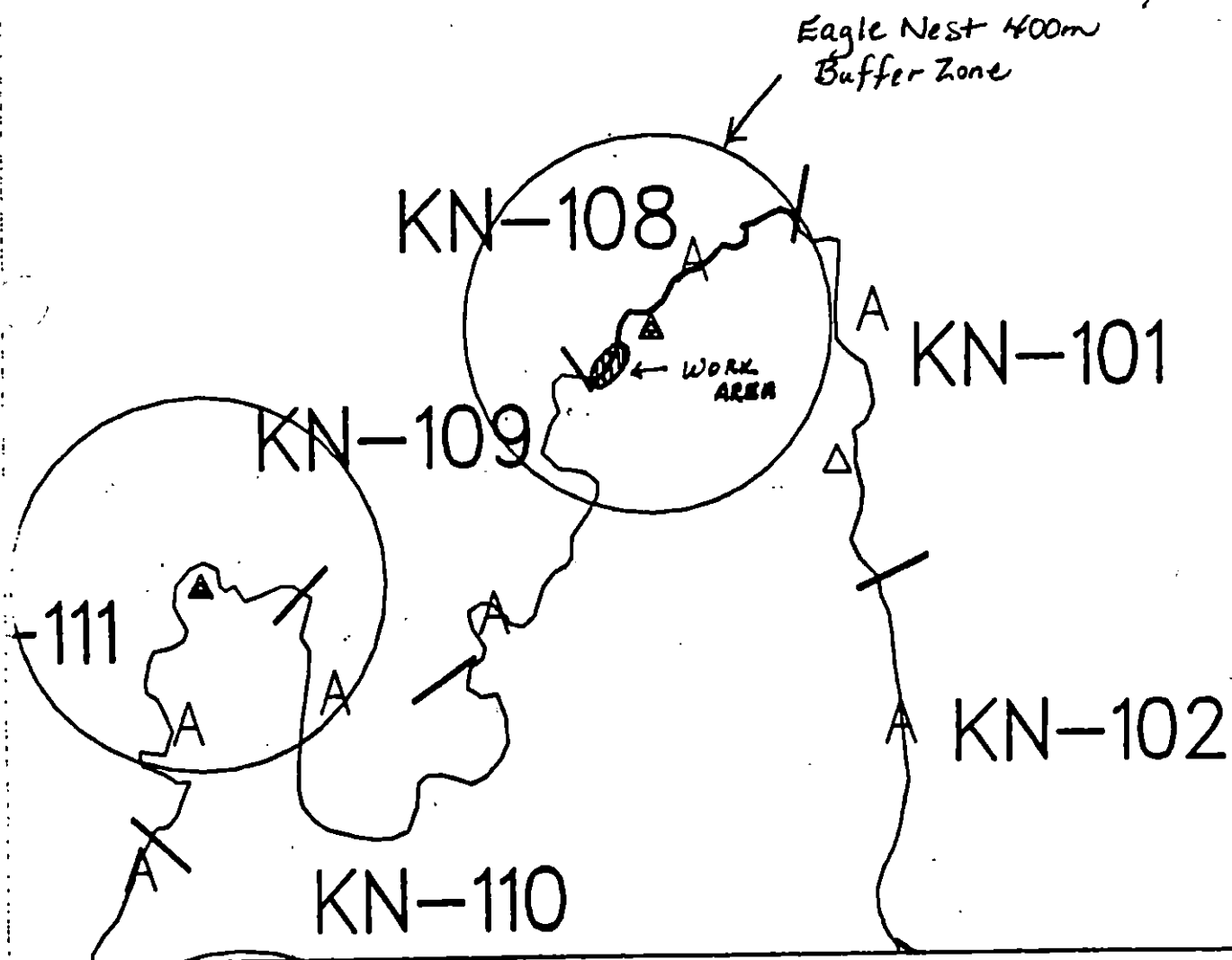
If eagle nest constraint is removed, other ecological considerations will apply.

FOSC

D. G. Givens Date 6/14/90

Prepared by

J. P. Phillips Date 6/14/90



Exxon Company, USA
Map Key: P/S-104-108
June 09, 1990

ECOLOGY MAP
SEGMENT KN-108
SUBDIVISION A (1 of 1)
METERS
0 381 761

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

1 inch = 1249 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-108 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T (1) All Bald Eagle nests (3/1 to 6/1) within 400m in adjacent segment
5T Active Bald Eagle nests (3/1 to 9/1)
See attached Ecological sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. (See above)

ARCHAEOLOGICAL CONSTRAINT: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact Exxon's Cultural Resource Program immediately (564-3274 (Anchorage) or 229-1508 (24 hrs.)).

SHPO SIGNATURE: Rachel Jean Doe DATE: 6/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 283 m: Narrow 0 m: V. Light 411 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 40+cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes: 1) Manual movement of logs from upper ITZ in area indicated on sketch map, 2)* manual raking of upper ITZ into mid ITZ, and 3) bioremediation of raked area as indicated on sketch map. Work should be conducted after 6/8 with approval of USFWS due to eagle nest constraint. SEE CAUSEWAYS ADDENDUM DATED 6/14/90 /JD

TAG COMMENTS: MANUAL PICKUP OF ALSO DEBRIS, MONITOR TO
ACCESS THE LOGS

TAG APPROVAL DATE: 5/21/90

ADEC ART WERNER Art Werner

EXXON Andy Tate Andy Tate

NOAA Joyce Talbot Joyce Talbot

USCG G.A. BEITER G.A. Beiter

FOSC: [Signature] DATE: 6-8-90

SHORELINE EVALUATION

SEGMENT ST/ KN-108 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T (1) All Bald Eagle nests (3/1 to 6/1) within 400m in adjacent segment
5T Active Bald Eagle nests (3/1 to 9/1)
See attached Ecological sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. (See above)

ARCHAEOLOGICAL CONSTRAINT: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact Exxon's Cultural Resource Program immediately (564-3274 (Anchorage) or 229-1508 (24 hrs.)).

SHPO SIGNATURE: Rachel Jean Dore DATE: 6/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 283 m: Narrow 0 m: V.Light 411 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 40+cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes: 1) Manual movement of logs from upper ITZ in area indicated on sketch map, 2)* manual raking of upper ITZ into mid ITZ, and 3) bioremediation of raked area as indicated on sketch map. Work should be conducted after 6/1 with approval of USFWS due to eagle nest constraint.

TAG COMMENTS: MANUAL PICKUP OF OILED DEBRIS, MONITOR TO
ASSESS THE LOGS

TAG APPROVAL DATE: 5/21/90

ADEC ART WERNER Art Werner

EXXON Andy Tate Andy Tate

NOAA Joey Takai Joey Takai

USCG C.A. DETER C.A. Deter

FOSC: [Signature] DATE: 6-8-90

SKI H MAP



HERING BAY

Scale
Sub Body
A Det
Width
Length
% Cover
Substrate Character
Est. H/W/L/V/L
SSI
Profile Location(s)
Profile(s)
PA Location(s)
Photo Location(s)

EGEND

1 Δ
1- No Subsurface Oil

2 Δ
1- Subsurface Oil

CT/C
Surface Distribution

CT/B
Shore Distribution

MANUALLY MOVE
OILED LOGS OUT OF
WAY, RAKE UPPER ITZ
INTO MID ITZ AND
BIOREMEDIATE
RAKED AREA

CT/P
Achy Distribution

CT/S
Island Distribution

eee
ed Vegetation

1 →
site location, direction,
number

Vertical/Hang, Bedrock
and rock rubble
with H. ang. Pocket
brakes

UI, CT/P, 1/2 x 20m, 50%

MI, LI, CT/P, 7 x 20m, 40%

PASSAGE POINT

L. ang B beach/Rock
platform

LOWER PASSAGE

ST/S & UI, CT/S

UI, CT/P, 4 x 12m, 50%

u. Shear in
rock pools

Falls

Forest/Rock

Uncollected Debris
(Net)

Falls

UI, CT/C, 3m x 15m, 100%

Symbols
Oiled Interval
Bedrock
Sediment
B, C, P-Grain Size
Eagles Nest
Scale

0m 100m 200m 300m
REVISION: 2024/09

AP 0 PO 0 CV 0 CT 728 ST 10 MS 0 PT 0 TB 0 FL 0 NO 0

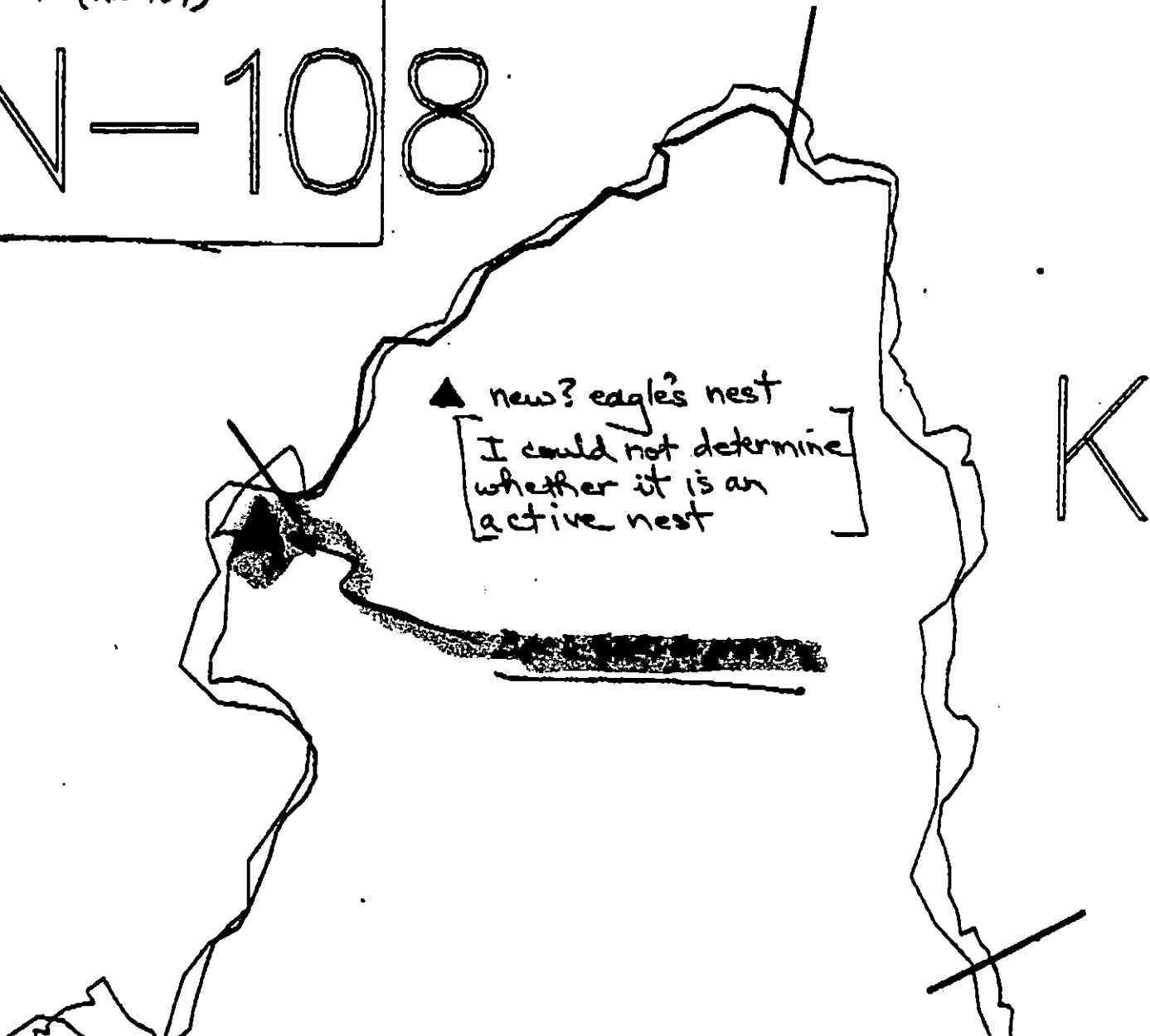
ECOLOGY MAP

RESOURCE CODES FOR
ENTIRE SEGMENT:

NONE

BALD EAGLE NEST $\leq$ 400m OF
SEGMENT (KN-109)

KN-108



XXXX Wide
//// Medium
---- Narrow

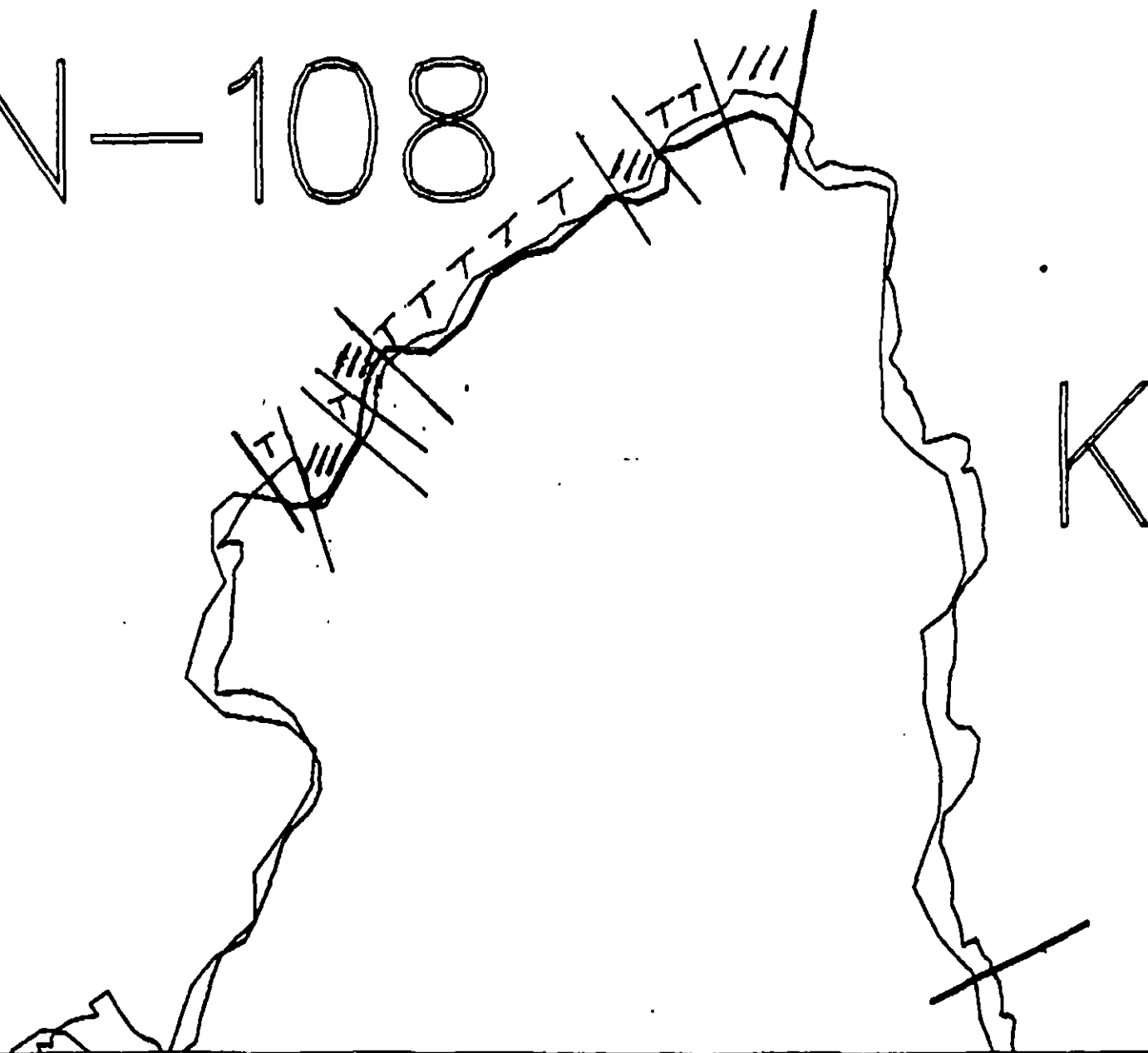
KN-108

ADEC Segment Length: 694m

Map Key: PWS-288

Name: Benson

KN-108



XXX Wide
//// Medium
--- Narrow
+ + + +

KN-108

ADEC Segment Length: 694m
Exxon Seamount Length: 728m

Map Key: PWS-288

Name: Pittenger

1991 MAYSAP EVALUATION

SEGMENT: KN 109 SUB: A REGION: PWS SURVEY DATE: 5/4/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Rachel Joa Oren Date: 5/17/91

RECOMMENDATIONS:

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

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 17 1991

FOSC APPROVAL DATE: 25 MAY 1991

ADEC [Signature]

FOSC [Signature]

EXXON [Signature]

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC

USCG [Signature]

NOAA [Signature]

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 1 SEGMENT KN 109 SUBDIVISION A DATE 5/4/91

ADEC

NAME JEFF GINALIAS

SIGNATURE [Signature]

☒ NTR THIS SEGMENT IS A CLOSE CALL, ESPECIALLY AT SITE A2. HERE, HEAVY TO MEDIUM OR RUNS MOST OF THE LENGTH OF THE BEACH APPROX 20-25 CM BELOW SURFACE. ONLY FEASIBLE MEANS OF REACHING/EXPOSING OIL WOULD BE MECHANICAL REMOVAL OF ARMOR & TILLING. EQUIPMENT LANDING IS ACCESSIBLE AND MID INCLINE EVERY BEACH IS SMALL ENOUGH TO SET UP CONTAINMENT BOOM. HOWEVER, EFFORT AND RESOURCES INVOLVED IN REMOVING OIL ~~DO NOT~~ ARE NOT GREATER THAN BENEFITS GAINED FROM REMOVAL. OIL SHEENED WHEN EXPOSED TO H2O, AND BEACH MAY SHEEN & BLEED AS TEMPERATURES RISE. I WOULD RECOMMEND NO PRESENT TREATMENT, BUT PERIODIC MONITORING OVER THE SUMMER FOR OIL ESCAPING FROM BEACH.

EXXON

NAME FRANK A. BOY

SIGNATURE [Signature]

☒ NTR Not enough oil on the segment to justify the intrusion of clean-up activity.

LANDMANAGER

NAME MARSHA HALL OF DNR

SIGNATURE [Signature]

☐ NTR ☒ TREATMENT
At south beach Area A2. Peel away armor layer cobble using small mechanical to access oil lens. Remove lens manually or agitate it in strips (manually, mechanical) to release oil. (perpendicular to beach) String boom And monitor containment.

USCG/NOAA

NAME Jensen / CHILDS

SIGNATURE [Signature]

☒ NTR Mostly subsurface oil on A1 & A2. OG doesn't believe there will be any sheening problems this summer. Tidal biology doing OK. Therefore, further removal operations would cause more environmental harm than the oil to be removed.

PAGE 1 OF 2

SEGMENT KN-109

SUBDIVISION A

DATE 5 / 4 / 9:

ENERGY LEVEL: ☐ ☒ M ☐ L

EST. OIL CATEGORY LENGTH: W 1 m M 5 m N 1 m VL 35 m NO 1855 m US 125 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- _____ - _____ FRAMES

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

OG COMMENTS:

Subsurface oil was found in both beaches

REVISED: MC 5/8/91 ES revised, May 8

SEGMENT

KH - 109

SUBDIVISION

A

DATE 5 / 4 / 91

G.M.

subsurface oil cont.

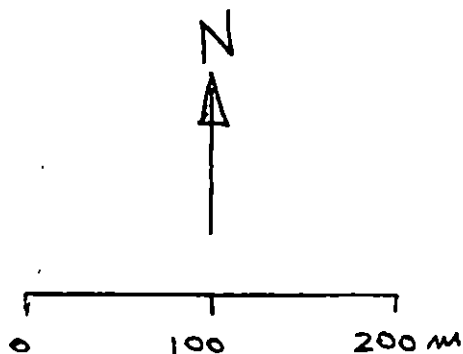
4. beach : 10 deep pits outlined an area of
MOR about 4×15 m. Instantaneous
rainbow-brown sheens, usually w/
copious brown globules were typical.
Oil thickness ≤ 5 cm, between 5' & 20 cm deep.

5. beach: 8 deep pits outlined subsurf. oil $\sim 8 \times 25$ m;
about 5-10 cm thick, between 5 & 25 cm
below surface. The silver sheen @ waterline
is probably the surface expression of this layer.
Sheen as above.

[illegible]

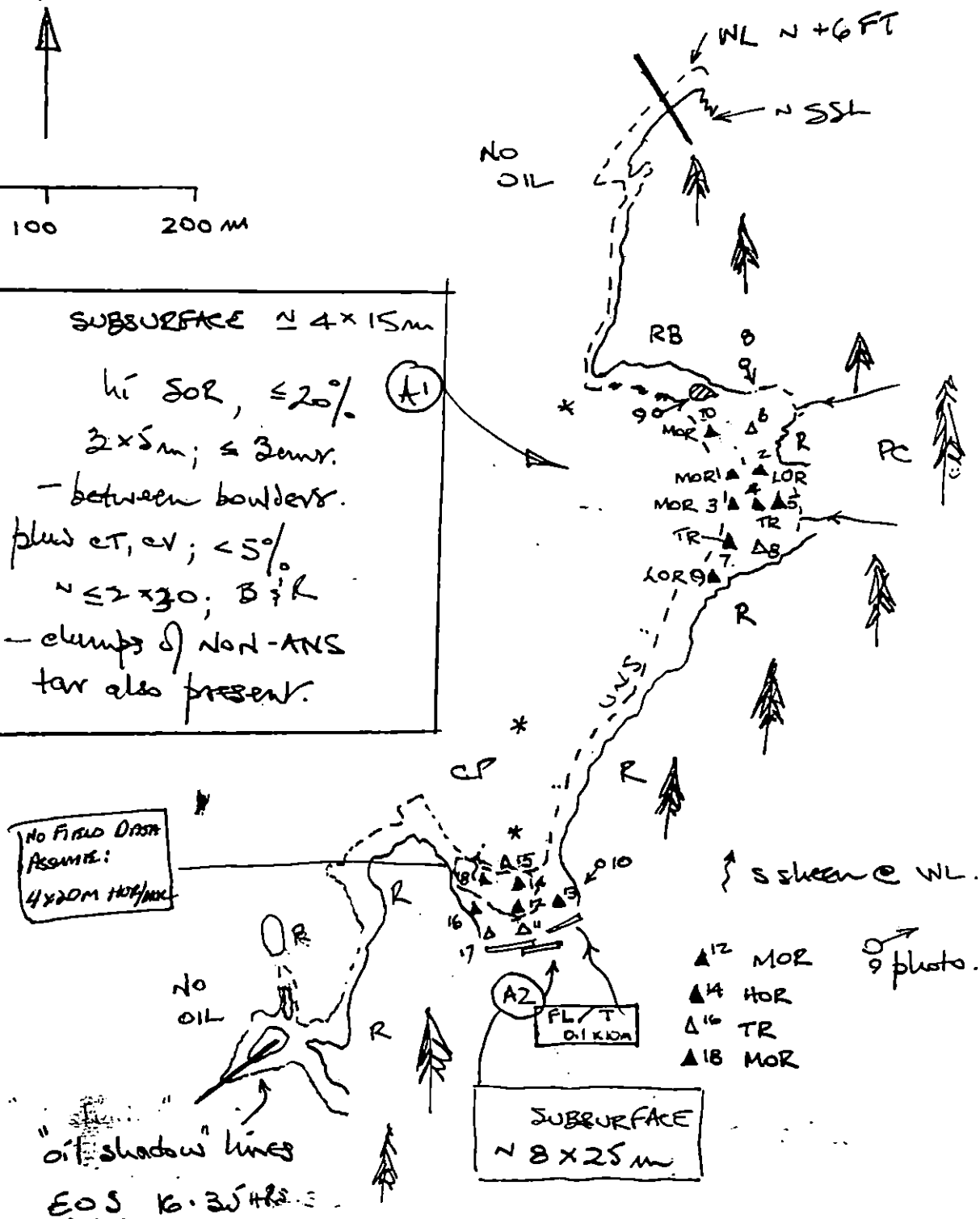
SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

REVIEWED: MC 5/8/95 revised, May 8



SUBSURFACE $\approx 4 \times 15$ m
 hi SOR, $\leq 20\%$ (A1)
 2×5 m; ≤ 3 m/r.
 - between boulders.
 plus CT, CV; $< 5\%$
 $N \leq 2 \times 30$; B & R
 - clumps of NON-ANS
 tar also present.

NO FIELD DATA
 ASSUME:
 4×20 m HOR/MOR



KN-109A

G. MACDONALD

S. 4. 91

RAMAN RD > MC 518K
 Es revised, May 8

NAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 1 DATE 4 May 91
 SEGMENT # KN 109 TIDAL HEIGHT (Range) +5.9 to +7.1 ft MLLW
 SUBDIVISION A BIOLOGIST Michael Fawcett
 A STATE 2 ft WIND SPEED/DIRECTION now SE 25 knots
 PHOTOGRAPHS: ROLL # FRAME #

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

There are two pocket beaches with residual oil in this subdivision. Both beaches have central cobble/pebble substrates of polished granite -- frequent movement of these sediments limits community development to early successional species such as the filamentous green alga, *Urospora*, and young stages of other species, such as limpets, that must either move away to more protected substrates or die from crushing whenever large waves move the sediments. Bedrock and boulders near the ends of the beaches have well-developed intertidal community dominated by barnacles and mussels in MZ & UTZ, and by algae and/or large thatched barnacles (*Balanus cariosus*) in LTZ. Descriptions of biota near residual oil at each site are provided in accompanying sketch map. Although the tide stage was fairly high (+6 to +7 ft) during this survey, I waded out to +4 ft zone below the buried oil at site A2, overturned boulders and cobble and agitated sediments beneath to confirm that oil was not present (or at least was not near the surface as it was in the oiled zone at +7 ft). Also observed that the dominant biota from about +2 to +6 ft consisted of sparse patches of rockweed and barnacles.

WILDLIFE OBSERVATIONS

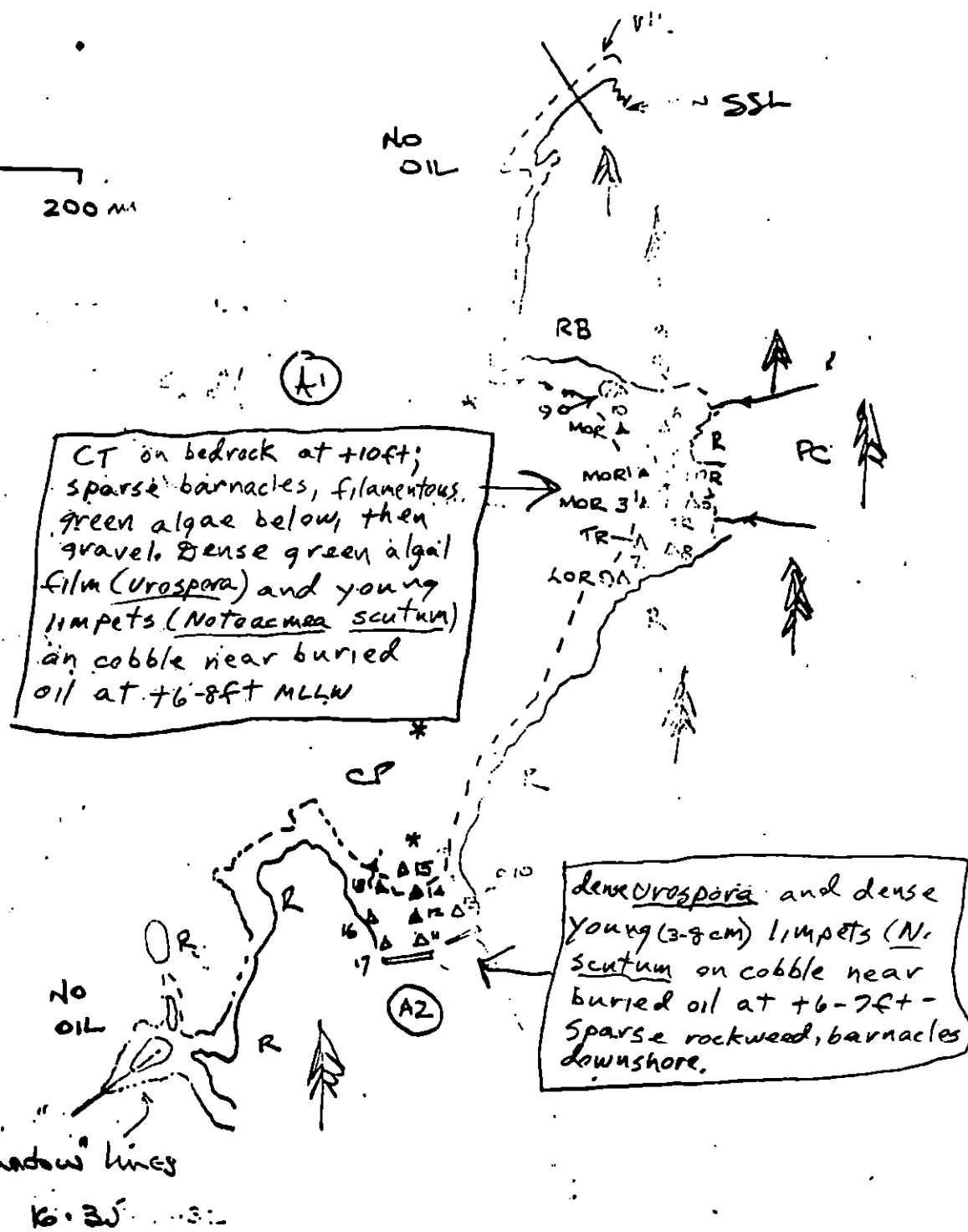
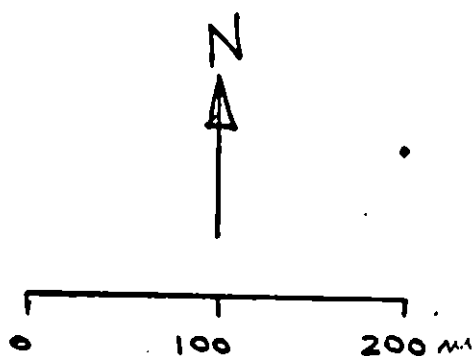
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/Kittiwakes			
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)	1 harbor seal		
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

REVIEWED: MGS 4/91



உதவி 16.3.1

Bio Sketch Map
KN 109-A
4 May 91
M. H. Fawcett

REVIEWED: MC 5/8/91

1450 site 3 KN 108A ^(cont) Fawalt

4 May 91

- wider pocket beach than 142
(N 40 m wide) - polished cobble/pebble
beach (Fil. an. green algae) - BR & boulders
each side w/ same biota as other
sites (142) (Urospora)

Scattered Porphyra, Scyph

NO O.I.I.

Finish 1455

Site 4 1500 - (same description
as site 3 - mature eagle in
tree watching us - did not fly)

SOR at 2 + 12 ft in boulders
& logs - no biota except isopods
lichen, Fil. gr. algae

Depart 1520

Arr site 1525 KN 109 site

- protected west-facing gravel/Br
beach in bay - Walcott at back

CT on BR at north end + 10 ft
- bright green Urospora on cobble
at + 6-8 ft

spars, barnacles, fil gr below,
then gravel

site 18 (cont) KN 109 cont

buried oil in gravel at + 8 ft
dnp - no biota except green algae
on rocky cobble -

- Moss Urospora, moderate Fucus &
barnacles down here (underwater)
below + 5 ft

- SOR/AP & pre-89 hard tar
in cobble/Br at + 10-11 ft at
north end (behind BR outcrop w/ coal
on previous page) - amphipods, worms
among SOR under rocks, fil green algae
- gravel downshore

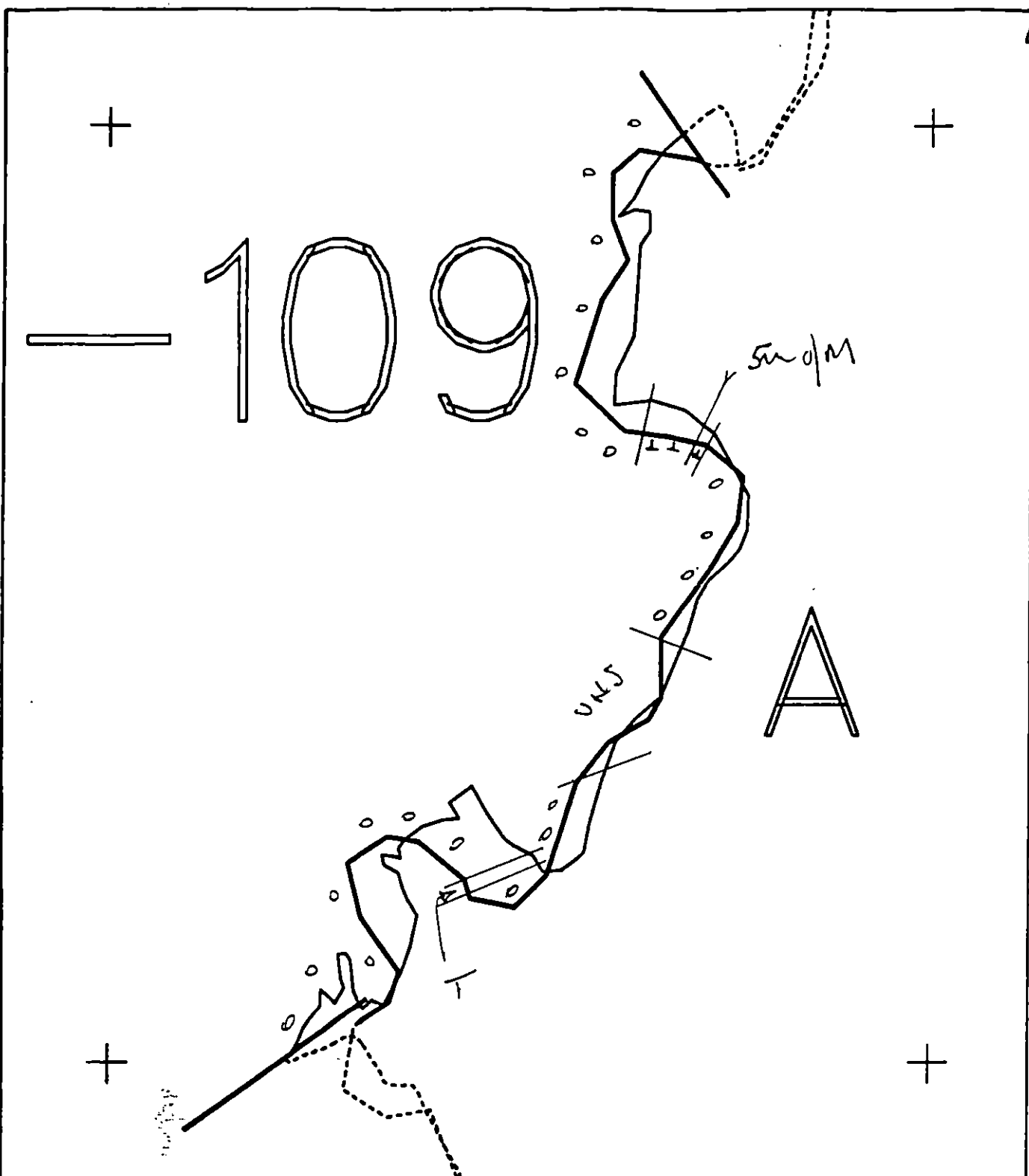
biota on BR & boulders generally
more sparse, less diverse than
on similar substrate in more
exposed areas in KN 108
depart 1600

KN 109 site 2 1605 hrs

B/c/p both NN-facing, more exposed
than site 1 - both moderate energy
- dense film of filar green algae (Urospora)
on B/c at 6-7 ft

- sparse Fucus, Barn litt clump on
Bs + 6-10 ft at sides of beach
buried at 7 ft & up among
Urospora sparse barn, scytophan
but fewer young limpets (at 10 ft)

2
KNV09A (cont)
under rocks in same zone + amp,
MF walked out to + 4 ft zone
4. turned over rocks & agitated
gravel beneath - no seen
- depart 1625
- skiffed along shore east of
site 2 to end of segment
- dense kelp up to + 9 ft along
exp. - BR faces a little islet
1 harbor seal near 15 ft
end segment 1632
WIND NOW SE 25 knots, increasing
near 2 ft



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

KN0109 A
 ADEC Subsegment Length: 1010m
 METERS
 0 100 200
 AK State Plane Zone 6
 kn0109a



Subdivision Field Map
 Map Key: KNKN0109A
 Name: G.M.
 Date: 8.2.91
 Date Entered:

ET revised, May 8
 REVISION: 5/8/91 MC

1991 MAYSAP EVALUATION

SEGMENT: KN 109 **SUB:** A **REGION:** PWS **SURVEY DATE:** 5/4/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ **Date:** _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

MILBAY FIELD SHORELINE COMMENT SHEET

TEAM NO. 1 SEGMENT Kn 109 SUBDIVISION A DATE 5/4/91

ADEC

E

JEFF GINALAS

SIGNATURE

[Signature]



NTR THIS SEGMENT IS A CLOSE CALL, ESPECIALLY AT SITE A2. HERE, HEAVY TO MEDIUM OIL RUNS MOST OF THE LENGTH OF THE BEACH APPROX 20-25 CM BELOW SURFACE. ONLY FEASIBLE MEANS OF REACHING/EXPOSING OIL WOULD BE MECHANICAL REMOVAL OF ARMOR & TILLING. EQUIPMENT LANDING IS ACCESSIBLE AND MID INCLINE ENERGY BEACH IS SMALL ENOUGH TO SET UP CONTAINMENT BOOM. HOWEVER, EFFORT AND RESOURCES INVOLVED IN REMOVING OIL ~~DO NOT~~ ARE NOT GREATER THAN BENEFITS GAINED FROM REMOVAL. OIL SHEENED WHEN EXPOSED TO H₂O, AND BEACH MAY SHEEN & BLEED AS TEMPERATURES RISE. I WOULD RECOMMEND NO PRESENT TREATMENT, BUT PERIODIC MONITORING OVER THE SUMMER FOR OIL ESCAPING FROM BEACH.

EXXON

NAME

FRANK A. BOK

SIGNATURE

[Signature]



NTR Not enough oil on the segment to justify the intrusion of clean-up activity.

LANDMANAGER

NAME MARSHA HALL OF DNR

SIGNATURE

[Signature]



NTR

~~TREATMENT~~

At south beach Area A2. Peel away armor layer cobble using small mechanical to access oil lens. Remove lens manually or agitate it in strips (MANUALLY OR MECHANICALLY) to release oil. (perpendicular to beach) String boom And monitor containment.

USCG/NOAA

NAME Jensen

CHILDS

SIGNATURE

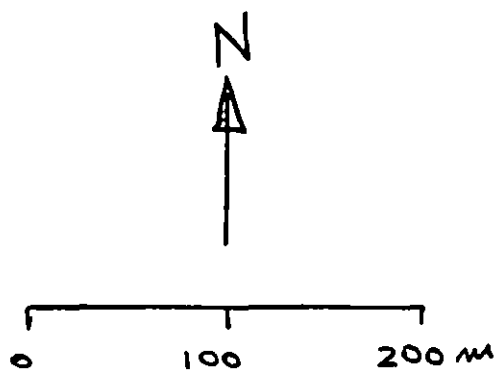
[Signature]



NTR Mostly subsurface oil on A1 & A2. OG doesn't believe there will be any sheening problems this summer. Tidal biology doing OK. Therefore, further removal operations would cause more environmental harm than the oil to be removed.

PAGE

OG COMMENTS: Steep rocky shore w/ two c/p pocket beaches
Surface oil as CT; CV/S, SOL/P @ N beach, plus a
silver sheen @ waterline - MITZ @ S beach.
Subsurface oil was found in both beaches



SUBSURFACE $\approx 4 \times 15 \text{ m}$

hi SOR, $\leq 20\%$ (A1)

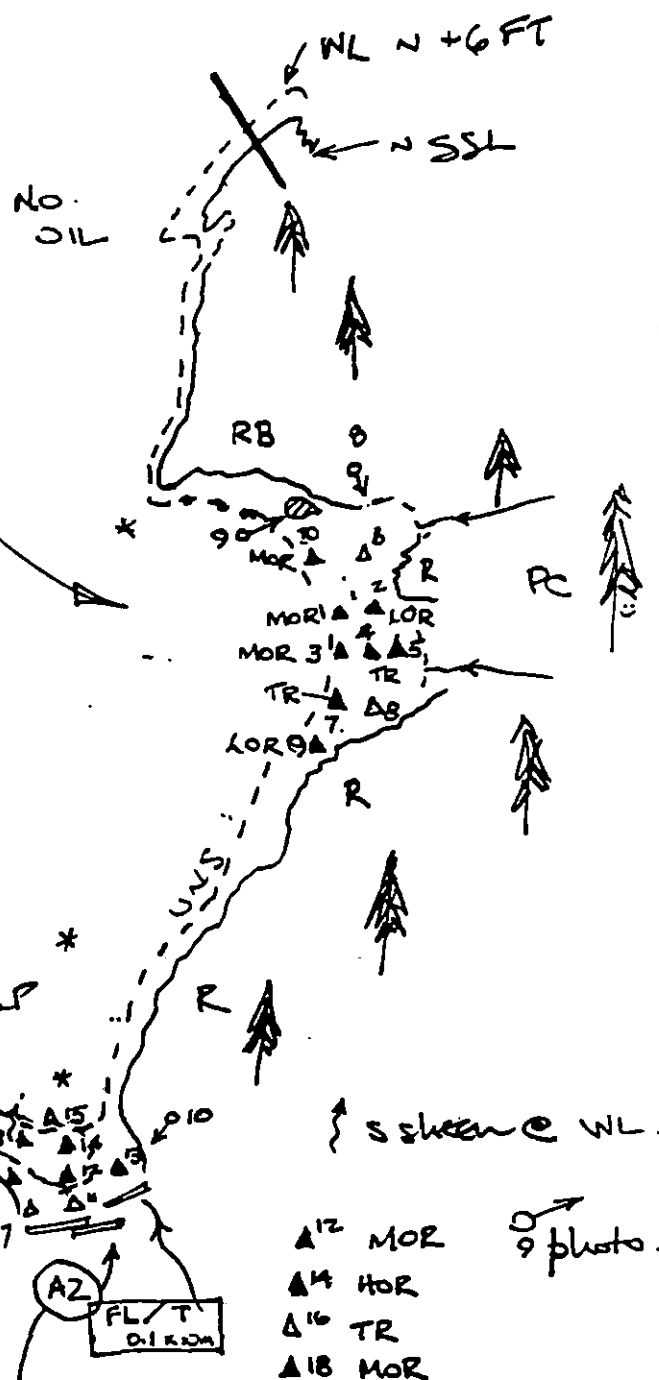
$2 \times 5 \text{ m}$; $\leq 3 \text{ m}$

- between boulders.

plus CT, EV; $< 5\%$

$N \leq 2 \times 30$; B & R

- clumps of NON-ANS
tar also present.



No Field Data
Assume:
 $4 \times 20 \text{ m}$ HWT/ML

No OIL

"oil shadow" lines

E.O.S. 16.35 HWT/ML

SUBSURFACE
 $\approx 8 \times 25 \text{ m}$

KN-109A

G. MACDONALD

S. 4. 91

RAN RAN: MCS/S

Essex May 5

TEAM # 1 DATE 4 May 91
 SEGMENT # KN 109 TIDAL HEIGHT (Range) +5.9 to +7.1 ft MLLW
 SUBDIVISION A BIOLOGIST Michael Fawcett
 SE TATE 2 ft WIND SPEED/DIRECTION now SE 25 knots
 PH...GRAPHS: ROLL # FRAME #

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

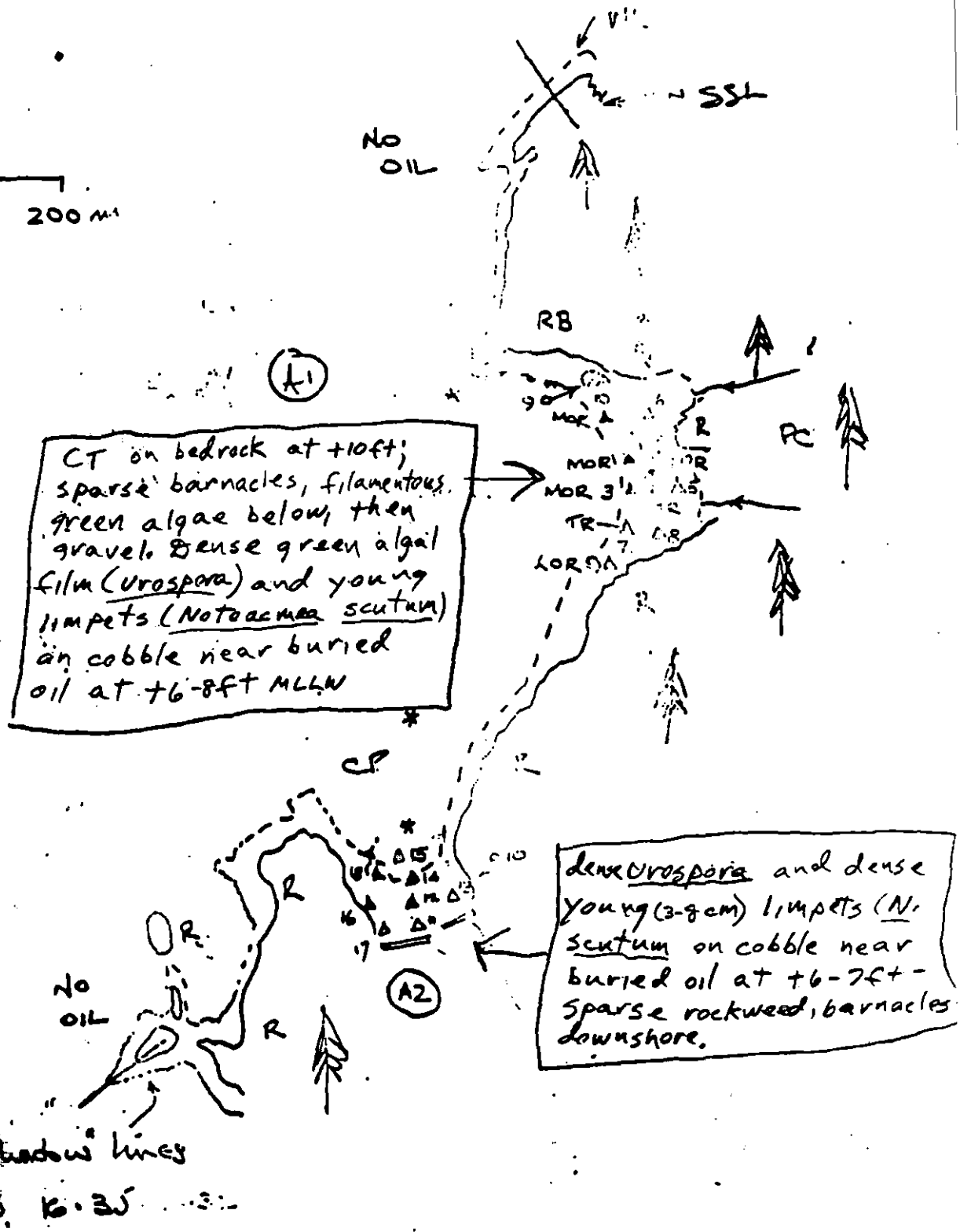
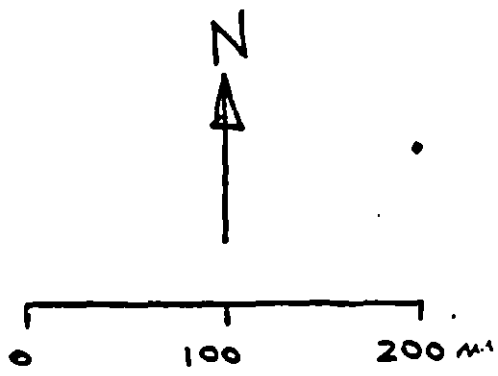
There are two pocket beaches with residual oil in this subdivision. Both beaches have central cobble/pebble substrates of polished granite -- frequent movement of these sediments limits community development to early successional species such as the filamentous green alga, *Urospora*, and young stages of other species, such as limpets, that must either move away to more protected substrates or die from crushing whenever large waves move the sediments. Bedrock and boulders near the ends of the beaches have well-developed intertidal community dominated by barnacles and mussels in UTZ & UTZ, and by algae and/or large thatched barnacles (*Balanus* *seriosus* in LTZ. Descriptions of biota near residual oil at each site are provided in accompanying sketch map. Although the tide stage was fairly high (6-7 ft) during this survey, I waded out to +4 ft zone below the buried oil at site A2, overturned boulders and cobble and agitated sediments beneath to confirm that oil was not present (or at least was not near the surface as it was in the oiled zone at +7 ft). Also observed that the dominant biota from about +2 to +6 ft consisted of sparse patches of rockweed & barnacles.

DLIFE OBSERVATIONS
 TO BE COMPLETED IN ALL SUBDIVISIONS

DS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
agles			
seabirds			
aterfowl			
ulls/Kittiwakes			
orebirds			
orvids			
er Birds			

INE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Otters			
hipeds (specify)	1 harbor seal		
I specify)			

reline subdivision map showing important biological features attached.



Bio Sketch Map
 KN 109-A
 4 May 91
 M.H. Fawcett

REVIEWED: MC 5/8/91

1450 site 3 KN108A^(cont) Fawcett

4 May 91

- wider pocket beach than 142
(N 40 m wide) - polished cobble/pebbles
beach (Fil. an. green algae) - BR & boulders
each side w/ same biota as other
sites (142) (Urospora)

Scattered Porphyra, Scypha

NO: O.L.

Finish 1455

Site 4 1500 - (same description
as site 3 - mature eagle in
tree watching us - did not fly)

SOR at 2 + 12 ft in boulders
& logs - no biota except isopods
Lichen, Fil. gr. algae

Depart 1520

Arr site 1523 KN109 site
- protected west-facing gravelly
beach in bay - waterfall at back

CT on BR at north end + 10 ft
- bright green Ulva on cobble
at 4.6-8 ft

spores, barnacles, Fil. gr. below,
then gravel

site 18 (cont) KN 109 cont)

buried oil in gravel at 7.8 ft
d up - no biota except green algae
on rocky cobble -

- More Urospora, moderate Fucus &
barnacles down to 6 ft (underwater)
below 7.5 ft

- SA R/AT & pre-89 hard tar
in cobble/BR at 7.10-11 ft at
north end (behind BR outcrop w/ coral
on previous page) - amphipods, worms
among SOR under rocks, Fil. green al.,
- gravel downstream

biota on BR & boulders generally
more sparse, less diverse than
on similar substrate in more
exposed areas in KN108
depart 1600

KN 109 Site 2 1605 hrs

B/c/p facing, more exposed
than site 18 both moderate energy
- dense film of Fil. gr. algae (Urospora
on B/c at 6-7 ft

- sparse Fucus, Barn left lump on
BR + 6-10 ft at sides of beach
buried at 7 ft & up among
Urospora, sparse barn, scytophor
biota below

KN 109 A (cont)

under rocks in same zone + amp,
MF waded out to + 4 ft zone

4. turned over rocks & agitated
gravel beneath - no shrim

- depart 1625

- skiffed along shore east of
site 2 to end of segment

- dense Fucus up to + 9 ft along

exp. - BR faces a little islet

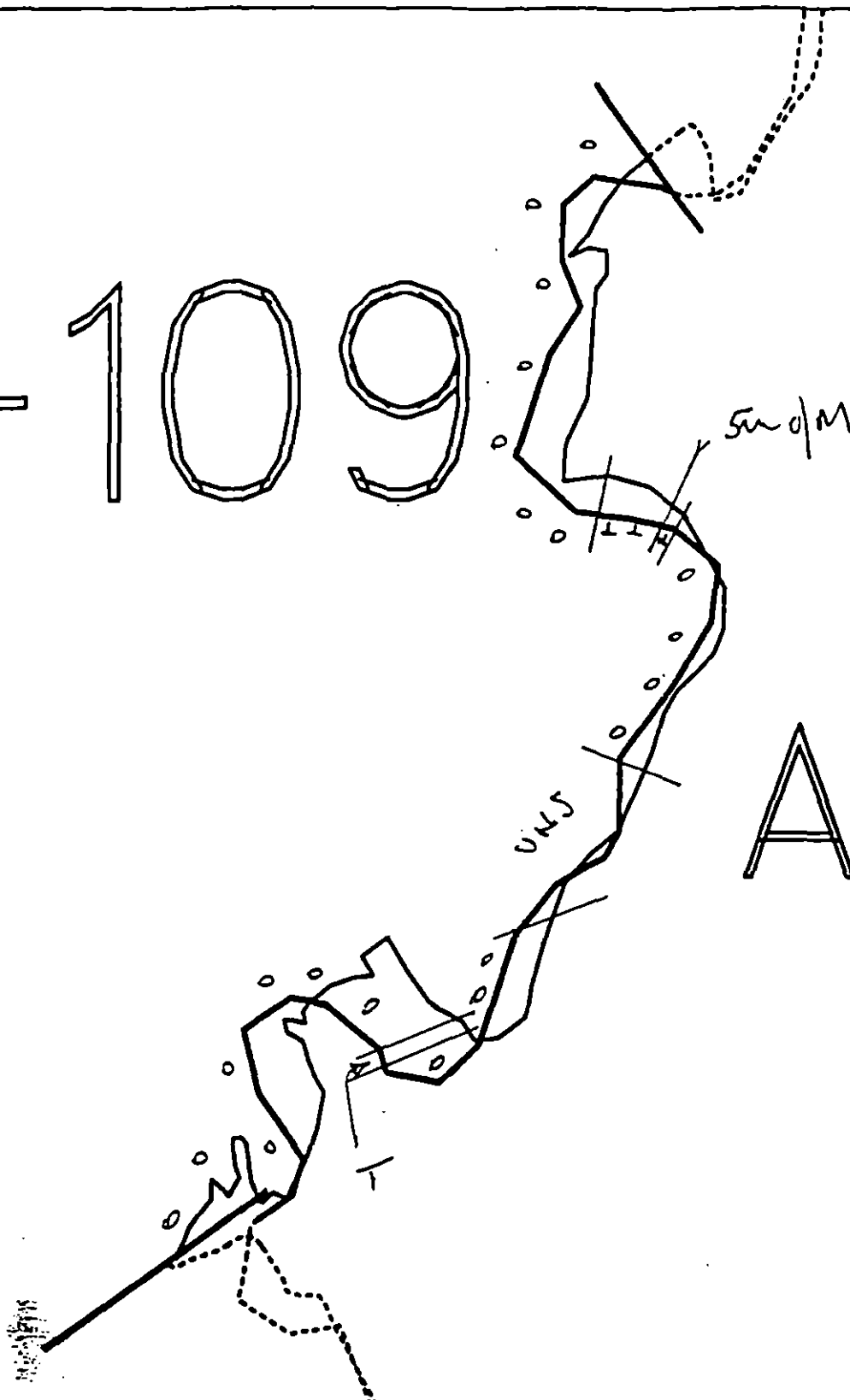
1 harbor seal near 15 ft

end segment 1632

Wind now SE 25 knots, increasing
near 2 ft

KN 109 A (cont) site 2
Fucus

-109



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

KN0109 A
 ADEC Subsegment Length: 1010m
 METERS

0 100 200
 AK State Plane Zone 4
 55001000



Subdivision Field Map
 Map Key: KNKN0109A
 Name: G. M
 Date: 8.2.91
 Date Entered:

ETC 2025, Mar 2
 REVISION: 5/8/91, MC

REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-109

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ KN-109 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Active bald eagle nest (5T) - 3/1 to 9/1.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

(5T) Restrict air traffic to essential minimum. Air approach and takeoff from and to seaward only. Contact USFWS prior to treatment for confirmation of dates and avoidance minimums.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 668m: Narrow 369 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 15 cm

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pick up of oiled debris and bioremediation of areas where subsurface oil found, as shown on attached sketch map. Contact USFWS prior to treatment per above constraints.

TAG COMMENTS:

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN 109 SUBDIVISION: None DATE 4-2-90

USCG

NAME W.E. White SIGNATURE William E. White☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED.

COMMENTS

Manual Removal surface oil - washing and tilling
of bedrock's. - (surface cobbles)

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS Residual oil in subsurface sediments. Subsurface clearly
is mobile brown/black oil, free floating in interstitial water. Coats
on cobbles and bedrock outcroppings, oiled vegetation in supratidal. It
appears that the cobbles act as a glue over an oiled sand gravel substra
his does not allow natural wave cleansing. where surface terrain is
and and gravel there is very little subsurface oiling. Recommended
reatment includes removal of oiled vegetation, manual removal of
urface cobbles and tilling and washing to remove the subsurface
mobile oil.

LAND MANAGER

NAME David Mandrella SIGNATURE David Mandrella☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Thin coating on ^{surface} boulder, cobble areas in
small pockets in upper intertidal zones requires
manual tilling and bioremediation. Small patch
of cobble, boulder cover in intertidal zone in northwest
cove may require spot washing followed by bioremediation.

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG Sawyer USCG White SEGMENT ST/ KN109
 BIO Benson LAND REP Mandrella SUBDIVISION None 4 (10 ft)
 EXXON Katsimpalis ADEC Munson TIME 13:00 to 14:30
 TEAM NO.: 8 TIDE LEVEL: +1 to +1 DATE Apr 2 190
 EST. SUBDIVISION LENGTH: 1168 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 50 % B 25 % C 15 % P 10 % G - % S - % M - % V - %
 SLOPE: Long 0 % Hang 10 % Vert 50 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W - m M 800 m N 368 m VL - m NO - m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	IC	IB	IP	IO	SP	BR	GY	BL	GR	TL	LR		SU	U	M	L
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL																

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Rope, buoy#BAGS 1

Photographs:

Roll No. 5T-8-1Frames 32

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	SP	BR	GY	BL	GR	TL	LR		SU	U	M	L		
1*	30																					N	G, P, G, wt
2	45																					N	P, G, C
3*	20						0.5															N	B, P, G
4	25																					N	P
5	30																					N	P, C
6*	25						5-15															N	C, G, P, wt

COMMENTS ST/KN109 has three cobble and boulder beaches separated by bedrock (pillow basalt) headlands. Oil at pit 6 was apparently buried and not infiltrated. * Films were observed on water in Pits 1 and 3 only [ie: not on sediment]. (Comment from T.S. on 4-6-90, YH).

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN109 Subdivision None Date (mo / day / yr) 4/2/90

Time (24 hr) 1250-1415 Biologist J. Benson

(A) Substrate type and % of segments:
(1) Bedrock 50 (2) Boulder 25 (3) Cobble 15 (4) Pebble 10 (5) Sand 0 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 50 Moderate 40 Low 10

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

Photographs:
Roll No. ST-8-1

Frames 32

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

1 ^{adult} Bald Eagle (*Haliaeetus leucocephalus*); seal/sea lion (in water far away)
This site is characterized by a high productivity: the % cover overall is high due to abundant *Fucus*, barnacles and green filamentous algae.

Ecological Considerations:

sensitivity: 5T

The diversity of species was not as high as KN 133 yesterday, probably because there are fewer tidepools & other habitat types. The high productivity may result in part from the direct exposure to the N & NW.

06 Sa. 27
SEGMENT ST/KALLO9

DATE Apr 12 90

N Arrow	Appar. Scale	Seg/Sub Body	On Dir.	Width	Length	% Cover	Substrate Character	Est. HNU/1 M ²	SSI	Profile Location(s)	Pro/1e(s)	Pt Location(s)	Photo Location(s)
---------	--------------	--------------	---------	-------	--------	---------	---------------------	---------------------------	-----	---------------------	-----------	----------------	-------------------

Δ

2 ▲

1001

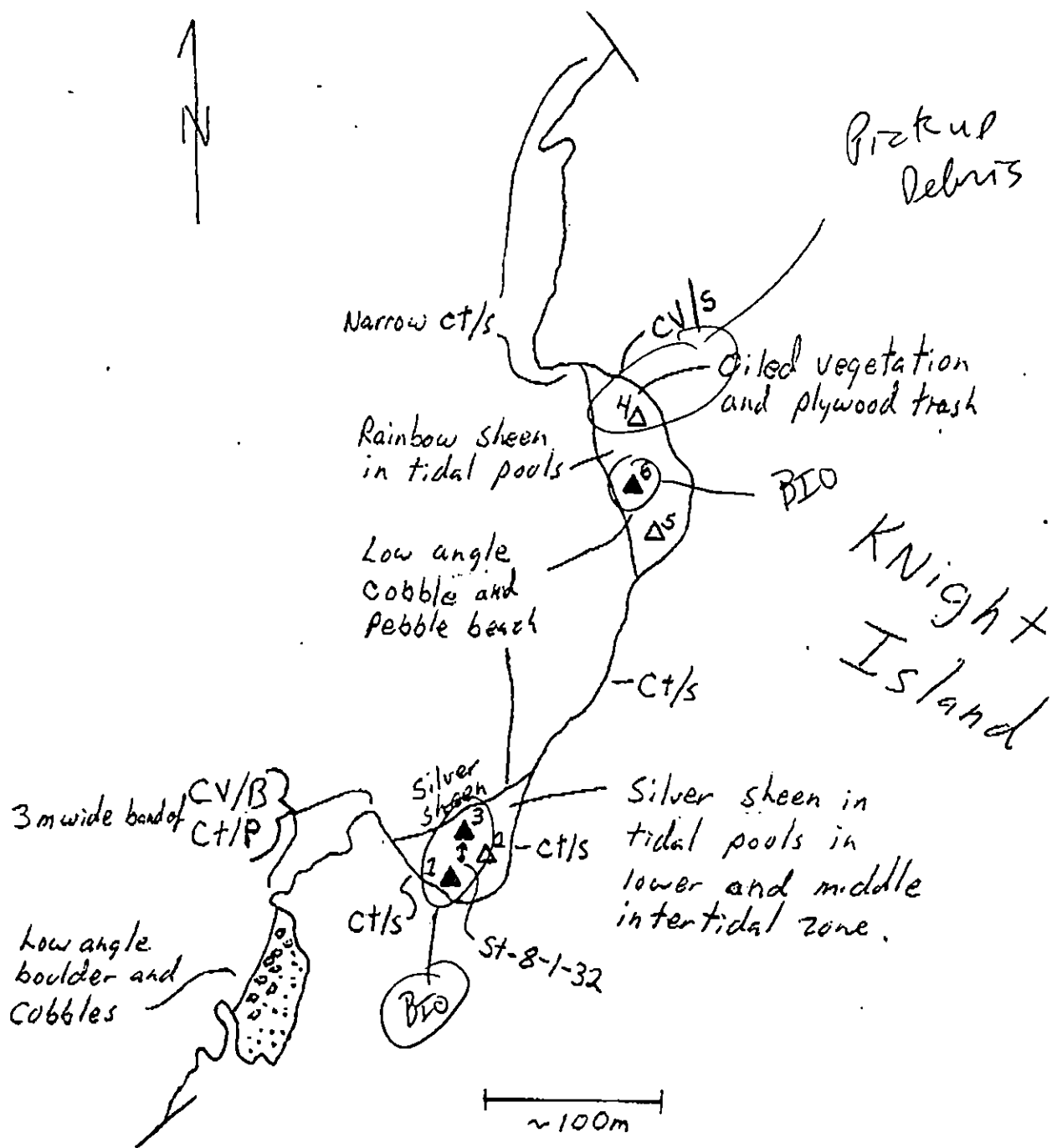
CT/18

1

ILL

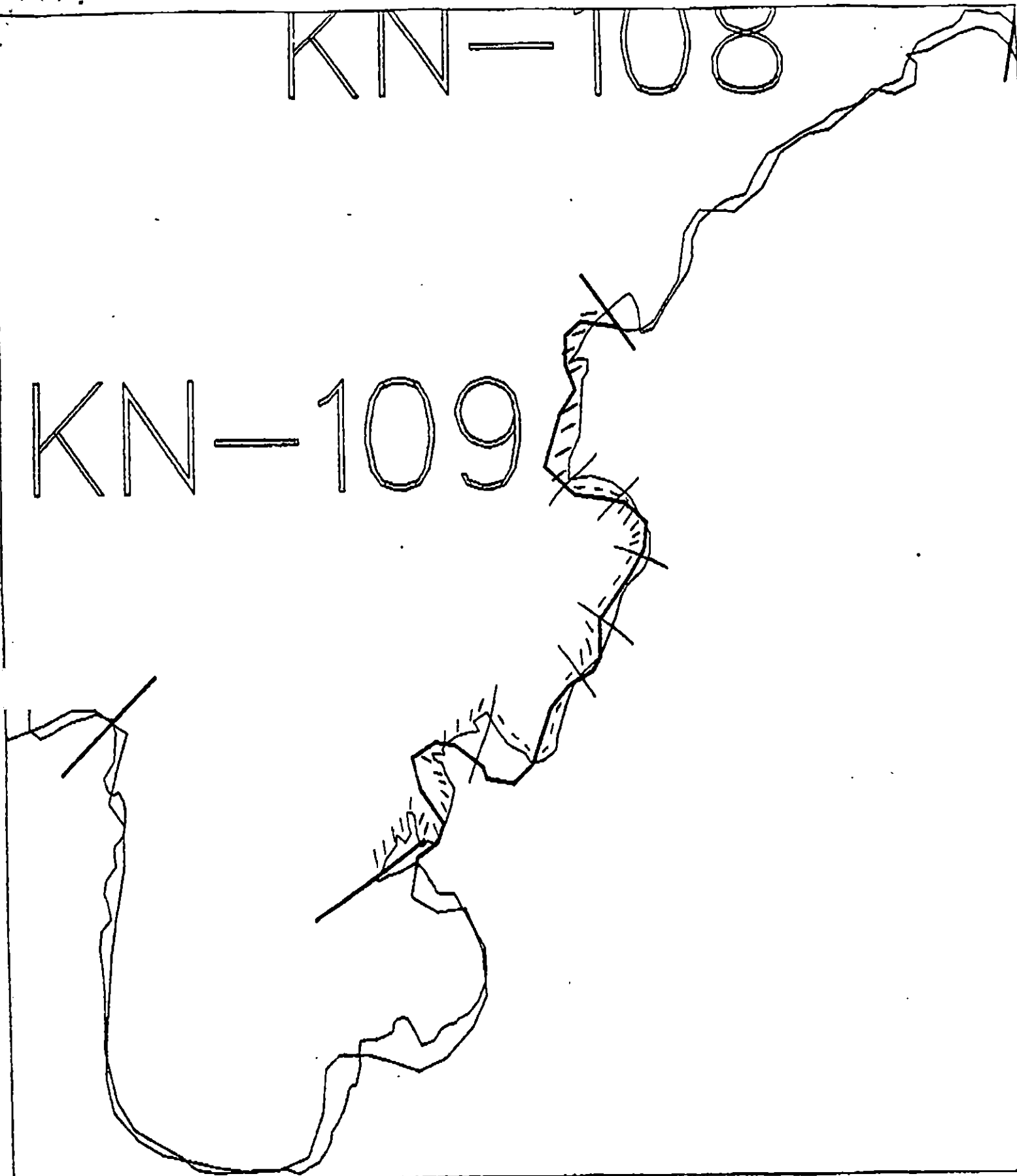
1

Photo location, direction,
and number



KN-108

KN-109



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

OOOO No Oil

KN-109

ADEC Segment Length: 1037m



Map Key: PWS-289

Name: Sawyer

Date: Apr. 2, 1990

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-109 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup	OPEN
Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

NO CONSTRAINT. USFWS 6/1/90 map indicates an active nest within 400m of Subdivision A work site, however, USFWS has granted access to work site per 5/27/90 survey conducted by Mike Lockhart (see map). No constraint to manual pickup and bioremediation.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within USFWS designated buffer zone. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to unopened blots and substrate.

OSC

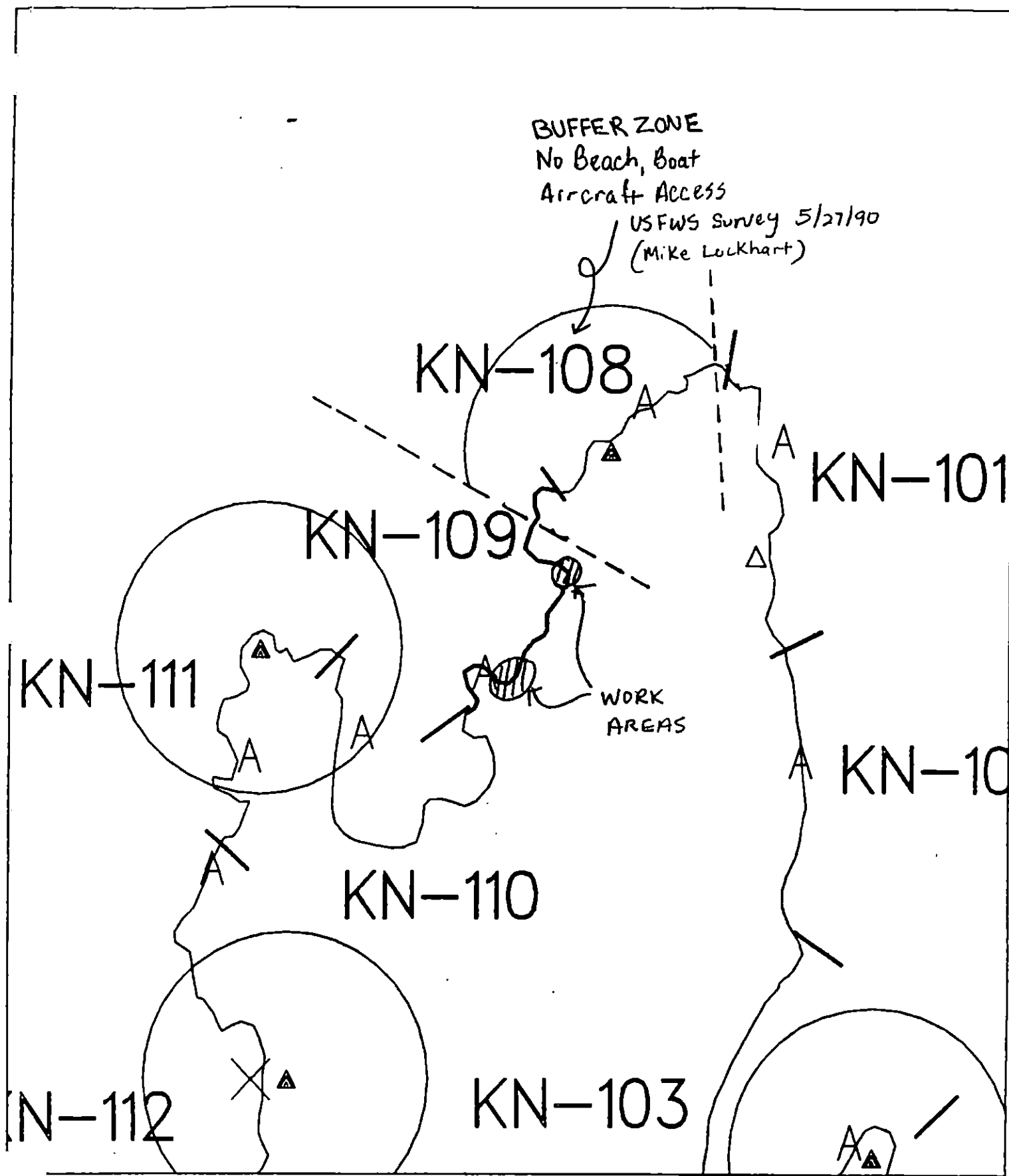
DATE 6-10-90

Prepared By:

R. P. Phillips

Date

6/9/90



Exxon Company, USA
 Map No. 005-KN-109



ECOLOGY MAP
 SEGMENT KN-109
 SUBDIVISION A (1 of 1)
 METERS

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

SHORELINE EVALUATION

SEGMENT ST/ KN-109 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Active bald eagle nest (5T) - 3/1 to 9/1.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

(5T) Restrict air traffic to essential minimum. Air approach and takeoff from and to seaward only. Contact USFWS prior to treatment for confirmation of dates and avoidance minimums.

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: *Charles E. Jones*

DATE: 4/12/90

OILING CATEGORIZATION:

Wide 0 m: Medium 668 m: Narrow 369 m: V. Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pick up of oiled debris and bioremediation of areas where subsurface oil found, as shown on attached sketch map. Contact USFWS prior to treatment per above constraints. SEE ADDENDUM dated

6/9/90 JPP

TAG COMMENTS:

TAG APPROVAL DATE: 4/16/90

ADEC AL KELLER

EXXON ANDY TEAL

NOAA Burt Westcott

USCG G.A. BEITER

FOSC:

DATE: 4-20-90

SHORELINE EVALUATION

SEGMENT ST/ KN-109 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Active bald eagle nest (5T) - 3/1 to 9/1.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

(5T) Restrict air traffic to essential minimum. Air approach and takeoff from and to seaward only. Contact USFWS prior to treatment for confirmation of dates and avoidance minimums.

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: Charles E. Hines DATE: 4/17/90

OILING CATEGORIZATION:

Wide 0 m: Medium 668 m: Narrow 369 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pick up of oiled debris and bioremediation of areas where subsurface oil found, as shown on attached sketch map. Contact USFWS prior to treatment per above constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/16/90

ADEC AL KEGGLEN

EXXON ANDY TEAL

NOAA Burt Westcott

USCG G.A. REITER

FOSC: my L

DATE: 4-20-90

OG Sawyer

SEGMENT STUKN109

SUBDIVISION NAME

DATE Apr 12 90

CHECKLIST

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

LEGEND

1 Δ

Pit - No Substrate Oil

2 Δ

Pit - Substrate Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

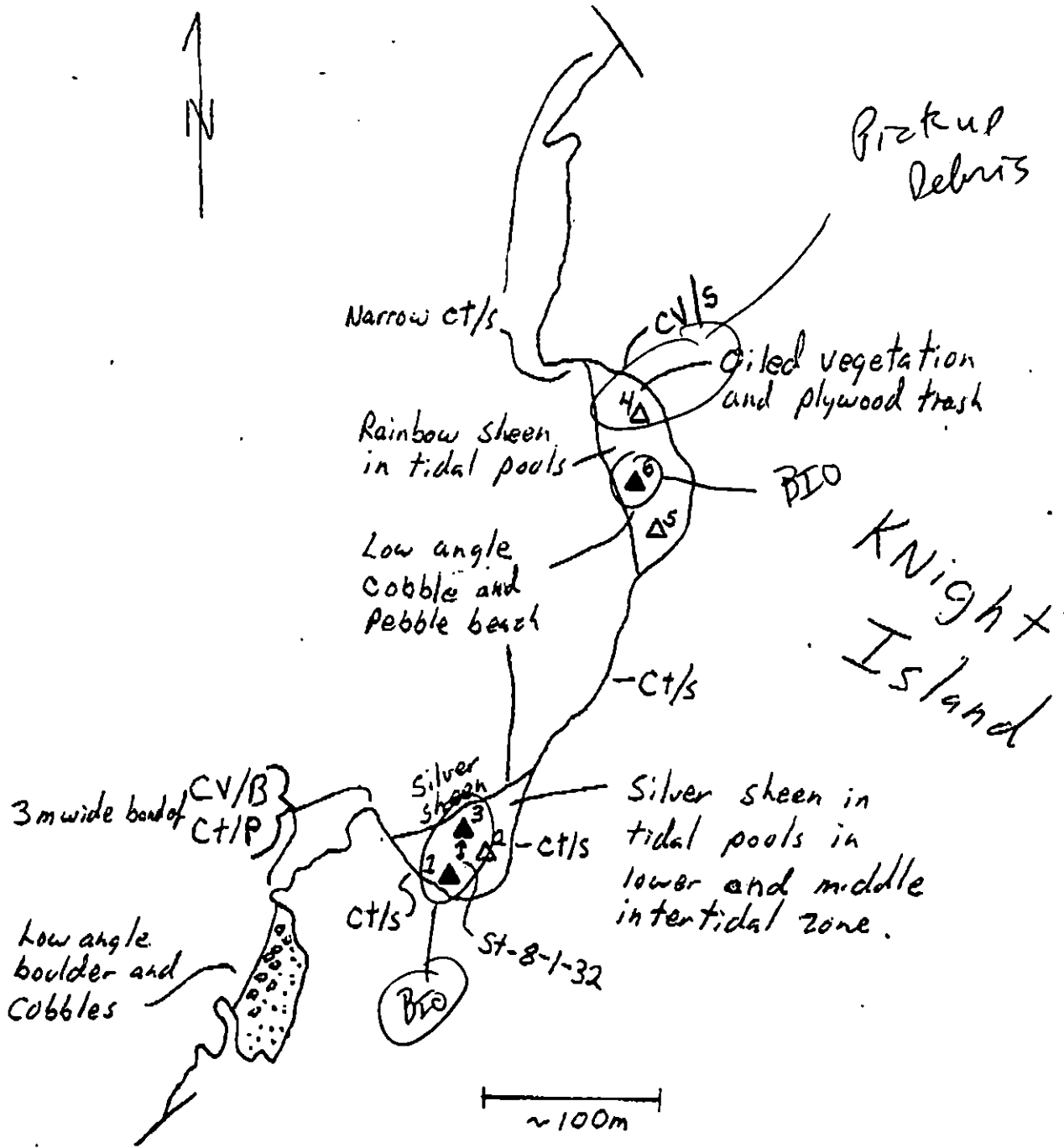
CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

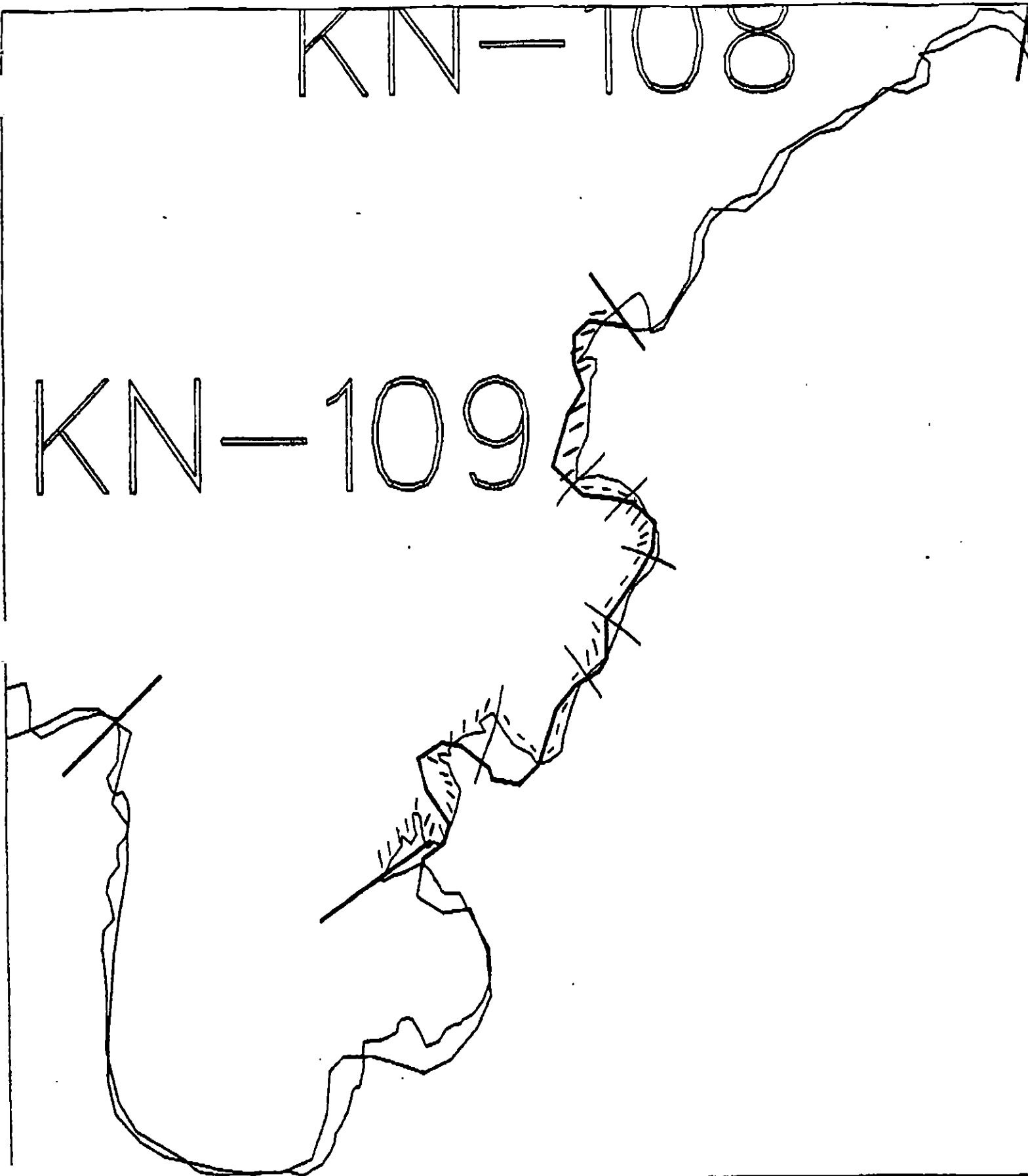
1 ●
Photo location, direction,
and number

SKETCH MAP



KN-108

KN-109



XXXX Wide

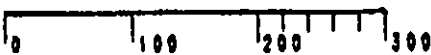
//// Medium

---- Narrow

TTTT Very Light

KN-109

ADEC Segment Length: 1037m



Map Key: PWS-289

Name: Sawyer

Date: Apr. 2, 1990

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-110 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16928.

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

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Do not trample or otherwise damage mussel beds.

ARCHAEOLOGICAL CONSTRAINTS: An Exxon archaeological monitor is required on-site during shoreline treatment. ^{required prior} ~~its~~ ^{will} ~~be~~ determined at that time. *OK*

SHPO SIGNATURE: *Charles J. H. H. H.* DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 844 m: Narrow 209 m: V. Light 251 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 20 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of asphalt
2) manual removal of logs if oil coverage exceeds 10%, 3) bioremediate
areas as indicated on sketch map. Work should be conducted between
5/15 and 7/10 based on salmon constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/21/90.
ADEC ART WEINER
EXXON ANDY TEAL
NOAA Burl Warrick
USCG KENNETH KEANE

FOSC: *W L* DATE: 5-6-90

OG Sawy —
 SEGMENT ST/KN110
 SUBDIVISION None
 DATE Apr 12 90

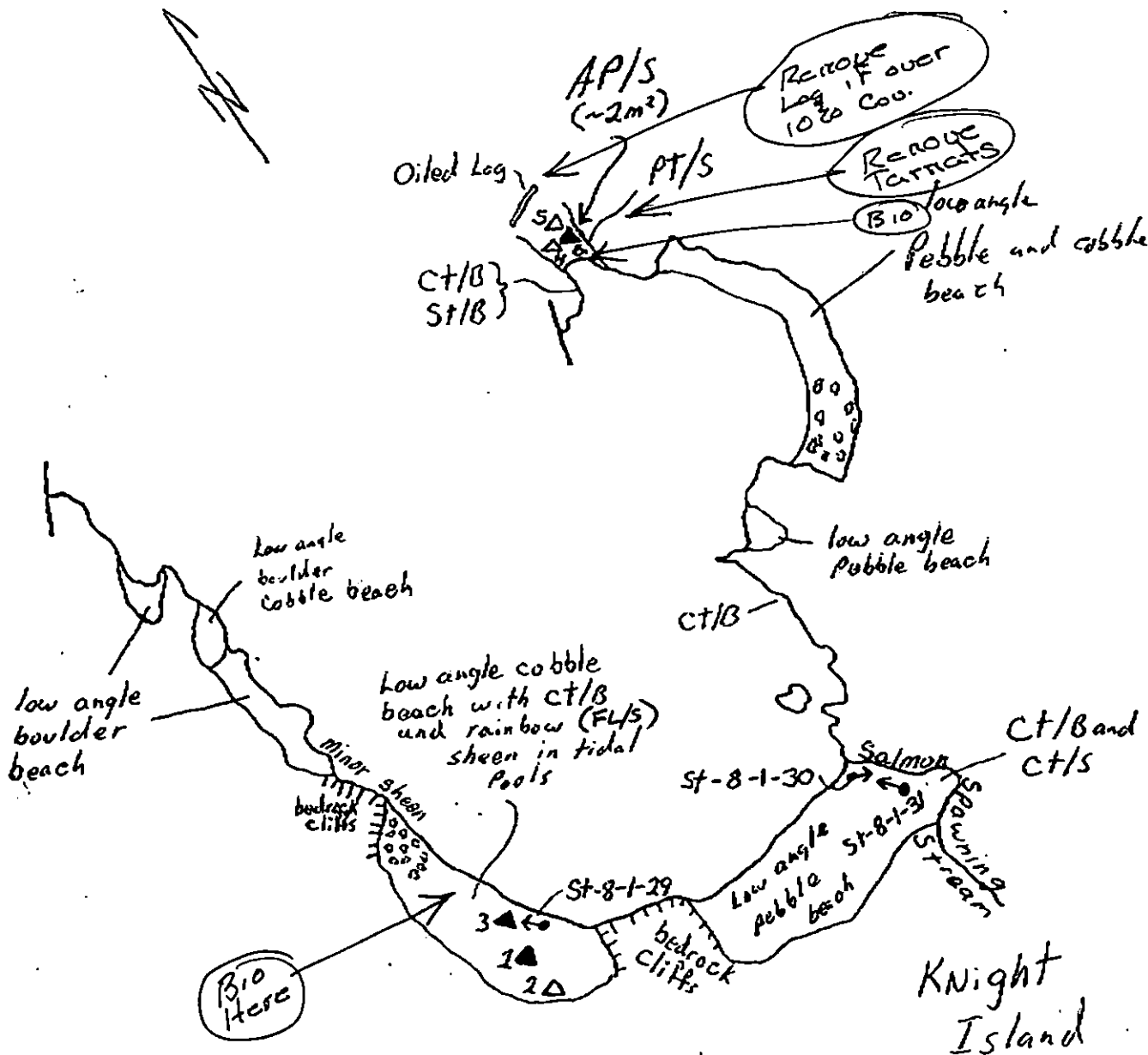
SKETCH MAP

CHECKLIST

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

LEGEND

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



Oil Character Length (m): AP — PO — CV — CT 1200 ST 400 MS — PT 50 TB — FL 300 NO —

REVISION 232440

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN 110 Subdivision None Date (mo / day / yr) 4/2/90Time (24 hr) 1040-1230 Biologist J. Benson(A) Substrate type and % of segments:
(1) Bedrock 5 (2) Boulder 30 (3) Cobble 10 (4) Pebble 10 (5) Sand 0 (6) Silt 0(B) Overall % cover of biota (% of segment): Dense 10 Moderate 30 Low 60

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

Photographs:

Roll No. ST-8-1Frames 28-31

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments:

Adult (2) bald eagles (*Haliaeetus leucocephalus*); cormorants
 The overall % cover was much lower here than in KN109, primarily because the cover of green filamentous algae was low. The mouth of

Ecological Considerations:

Sensitivity = 1B

The stream contains a cobble/pebble substrate (as at KN132) in which there is an abundant bed of small (1"-3" long) *Mytilus*. These mussels are easily damaged by boat traffic.

ASAP TAG REVIEW SHEET

Segment: KA 110 Subd: A Site: 2 Date PRE-Review 17 Aug 90

Priority For Addressing In 1990

 HIGH MEDIUM LOW NTR

Treatment
Recommended:

LTR

NO OILIS

Priority Site For Reassessment In 1991

YES NO ✓ YES ✓ NO YES NO ✓ YES ✓ NO
 CG ADEC EXXON LAND MGR

23 TAG
AVG

BIO
(LOW)

DRAFT ASAP FOLLOWUP RECOMMENDATIONS

Segment: AS/ KN-110 Subd.: A Site: 2 Date: 8/12/ 1990

Conditions Observed: OR/H lens in MITZ. Lens is below
cobble armour and does not appear to be degrading.

Followup Recommendations: Reasons to determine extent of lens and
other zones oiled.

Post-It™ brand fax transmittal memo 7671

of pages > 16

To	SCAT	From	Martinez NW
Co	EXXON	Co.	EXXON
Dept.		Phone #	Adela Canchales
Fax #		Fax #	

Completed by Pickup Crew: ☐ YES ☐ NO

Priority: ☐ High ☐ Med ☐ Low

ADEC John Hayes
 (name)

[Signature]
 (signature)

Comments: 1 Till and upgrade MITZ 2 Deploy some boom 3 Bio.
4 Reagents
Site is adjacent to test site with monitoring wells on it. EPA?

EXXON Martinez NW
 (name)

[Signature]
 (signature)

Comments: Debris of oiling doesn't warrant any more work.
I don't believe it would have any net environmental
benefit. I believe the site should be left alone.

USCG MSgt Michael D. Brown
 (name)

[Signature]
 (signature)

Comments: NO ACTION REQUIRED

Land Rep. DOUGLAS GIBSON
 (name)

[Signature]
 (signature)

Comments: RECOMMEND TILLING AND BIO TREATMENT. DEPLOY
BOOM.

FIELD SHORELINE COMMENT SHEET

SEGMENT AS KN-110 SUBDIVISION: A SITE: 1 DATE 8/13/90**USCG**NAME Mr. Michael D. Brown SIGNATURE [Signature]

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

ADECNAME John Hayer SIGNATURE [Signature]

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

Oiling No treatment necessary at this time.
observed was very light on this site.

LAND MANAGERNAME DOUGLAS GIBSON SIGNATURE [Signature]

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

EXXONNAME Martinez N.J. SIGNATURE [Signature]

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

FIELD SHORELINE COMMENT SHEET

SEGMENT AS KN-110 SUBDIVISION: A SITE: 2 DATE 8/13/90USCGNAME MR Michael D. Brown SIGNATURE Michael D. Brown

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

ADECNAME John Hayer SIGNATURE John Hayer

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Followup recommendation sent in for this site.
 Oiling observed was in MITZ below cobble armor, oil
 did not appear to be degrading. Recommend more treatment
 and assessment to determine extent of subsurface oil.

LAND MANAGERNAME DOUGLAS GIBSON SIGNATURE Douglas Gibson

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

STRONGLY RECOMMEND REASSESSMENT IN '91 TO
 DETERMINE EFFECTIVENESS OF '90 BID TREATMENT
 AND WINTER WAVE ACTION ON HEAVY ^{MODERATE} SUBSURFACE OIL

EXXONNAME Martinez NW SIGNATURE Martinez

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Degree of oiling does not warrant reassessment
 of further work by now would be
 of questionable net environmental benefit.
 Let nature + winter storms take care
 of what little is left.

TEAM NO ONE EXXON MARTINEZ SEGMENT AS/ KN-110
 OG Reimer USCG BROWN SUBDIVISION A
 ADEC HAYES LAND REP GIBSON TOTAL NO. SITES 2
 DATE 8/13/90 TIME 13:30/14:00 TIDE LEVEL 3 to 4
 TOTAL EST LENGTH OF SHORELINE SURVEYED: 220 m
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WEATHER: ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 OIL CATEGORY LENGTH: W 0 m M 30 m N 0 m VL 90 m NQ 0 m US 1101 m

SURFACE OIL

SITE 1

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SU	UI	MI	LI
ASPHALT								
S.O.R.								
POOLED								
COVER								
COAT				X	X	X		
STAIN			X		X	X		
MOUSSE								
PATTIES/T.B.								
FILM								
NO OIL					X			
EST. SITE LENGTH					<u>170</u> 50			

SITE 2

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SU	UI	MI	LI
ASPHALT								
S.O.R.								
POOLED								
COVER								
COAT				X	X	X		
STAIN			X	✓	X	✓		
MOUSSE								
PATTIES/T.B.								
FILM								
NO OIL					X			
EST. SITE LENGTH					<u>170</u>			

SITE 3

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

SUBSURFACE OIL

SITE NO.	PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER				OILED INTERVAL (cm)	CLEAN BELOW (Y/N)	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS
			OP	OR	OF	NO			SU	UI	MI	LI	
1	1	25			X		5-6	Y			X		CP-P65
							.						
2	1	15		H			0-12	Y			X		CP-G.C-Rocks
							.						
							.						
							.						
							.						
							.						
							.						
							.						
							.						
							.						

Photographs:

Roll No. APP-01-05

Frames 25/26

REVIEWED

8/15/90 T/W

Note: BIO TREATMENT SITES
APPEAR TO BE MAPPED ON
THE WRUNG BEACH

COMMENTS Site # 1 was a small tumble feature with CT/S on Rock (1%) and Patchy Stain on Boulders on the Back side of a Pebble Berm.

Site # 2 had CT/S on Rock cliff and across Cobble/Boulder Beach

Reim
 GMENT ST/KN110
 DIVISION A
 TE 8, 13 90

SK H MAP
 ANNOTATED SSAT SKETCH
 (SAWYER)

CHECKLIST
 In Area
 Approx. Scale
 Topographic Study
 On Dist.
 Width
 Length
 % Cover
 Substrate Character
 Ext. HAZARD
 SSI
 Profile Location(s)
 Profile(s)
 Pit Location(s)
 Photo Location(s)

LEGEND
 1 Δ
 No Subsurface Cl

2 Δ
 Subsurface Cl

CT/C
 random Distribution

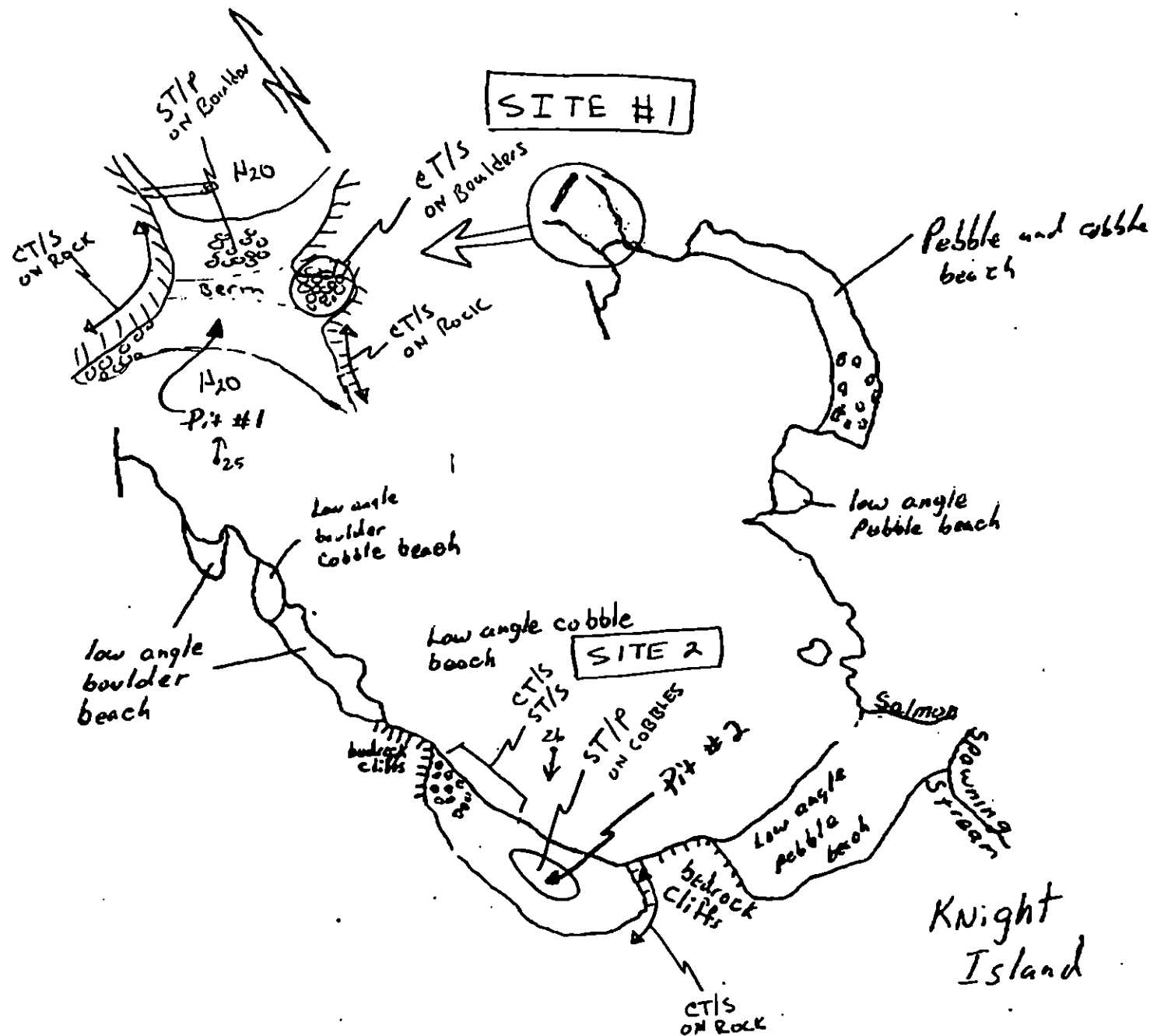
CT/B
 even Distribution

CT/P
 rocky Distribution

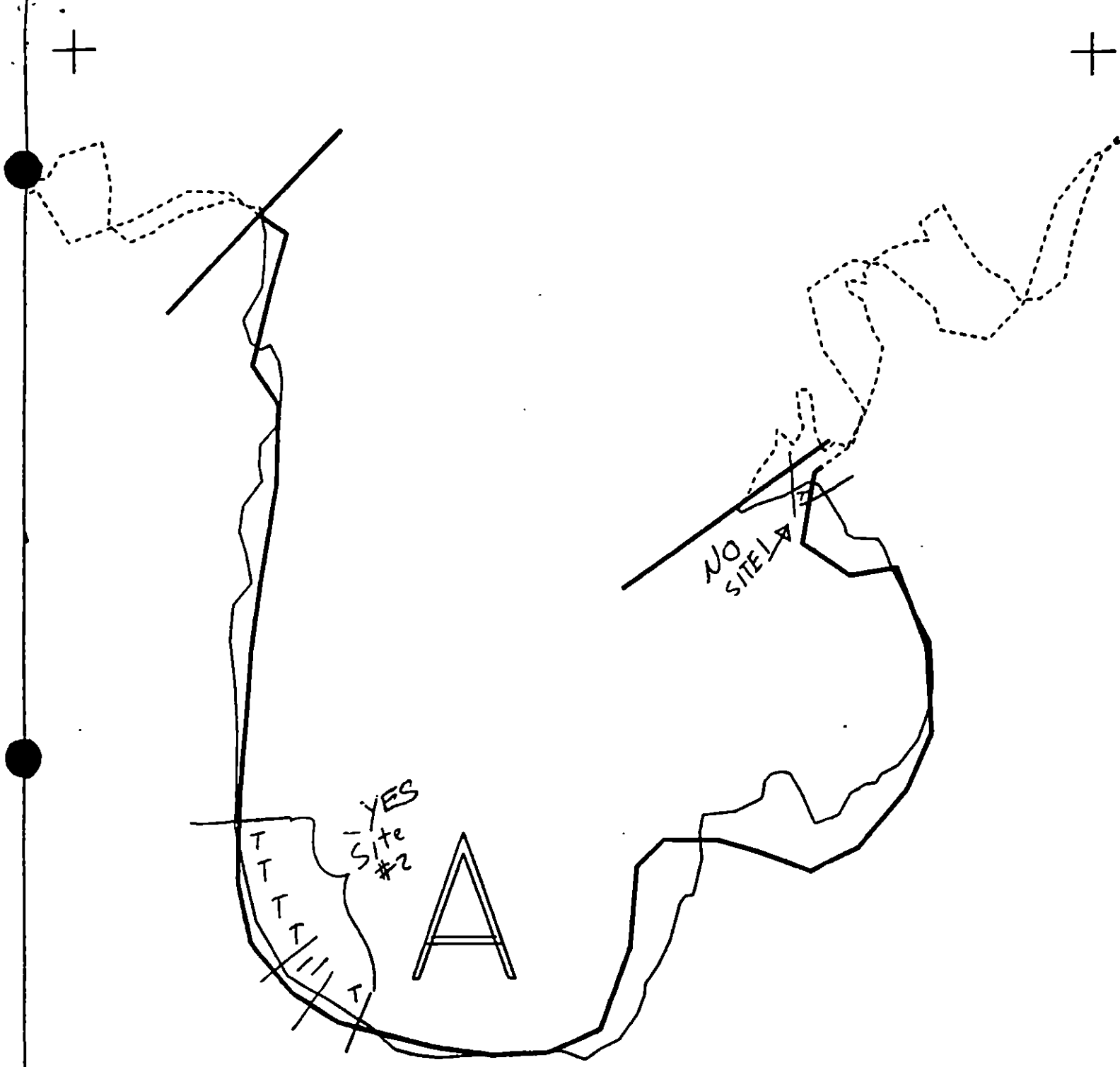
CT/S
 washed Distribution

ed Vegetation

1 ●●●
 see location, direction,
 & number



Character Length (m): AP — PO — CV — CT 1200 ST 400 MS — PT 50 TB — FL 300 NO —



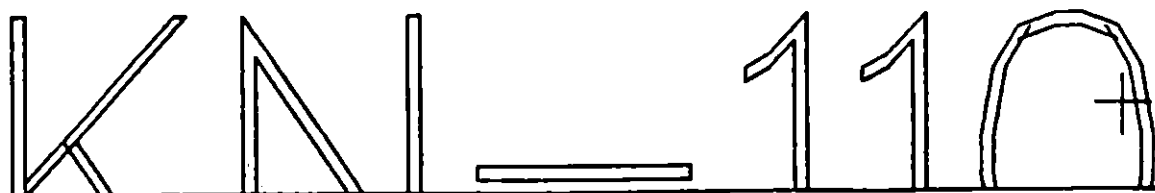
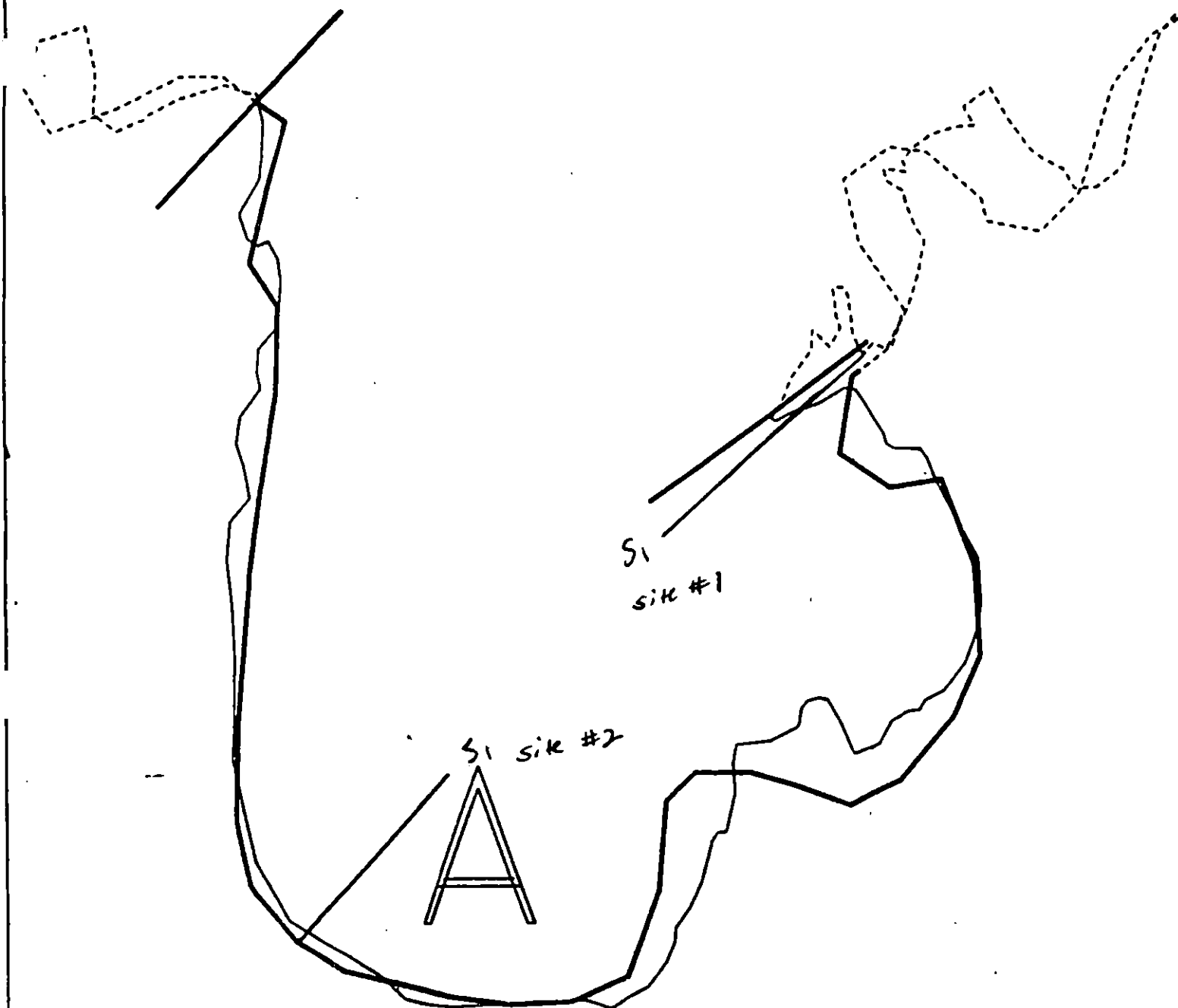
KN-110 A

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

KN-110 A
 ADEC Subsegment Length: 1321m
 METERS
 0 91 102
 AK State Plane Zone 4 1:3503

Subdivision Field Map
 Map Key: KNKN-110A
 Name: Reimer
 Date: 8/13/90





XXXX
///

TTTT
0000

Wide
Medium
Narrow
Very Light
No Oil

KN-110 A

ADEC Subsegment Length: 1321m

METERS

0 01 102

AK State Plane Zone 4 1:3583



Subdivision Field Map

Map Key: KNIK-110A

Name: Reimer

Date: 8/13/90

Date Entered:

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-110 STREAM NO: 226-10-16928 DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: *David M. Mohr* DATE: _____

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

X No Treatment Recommended
____ Treatment Recommended
____ Manual Pickup
____ Bioremediation
____ Tarmat Removal

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

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: 5/7/90

ADEC Art Weiler Art Weiler

EXXON Andy Ten

NOAA Gary Petros

USCG G.A. Reiter G.A. Reiter

FOSC: *[Signature]*

DATE: 5-15-90

OG CALLARSON

SEGMENT ITI KN 110

STREAM 226-10-16928

DATE 4/21/90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Col Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/LA/VL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ

PR - No Subsurface Oil

2 Δ

PR - Subsurface Oil

CT/C

Continuous Distribution

CT/D

Broken Distribution

CT/P

Patchy Distribution

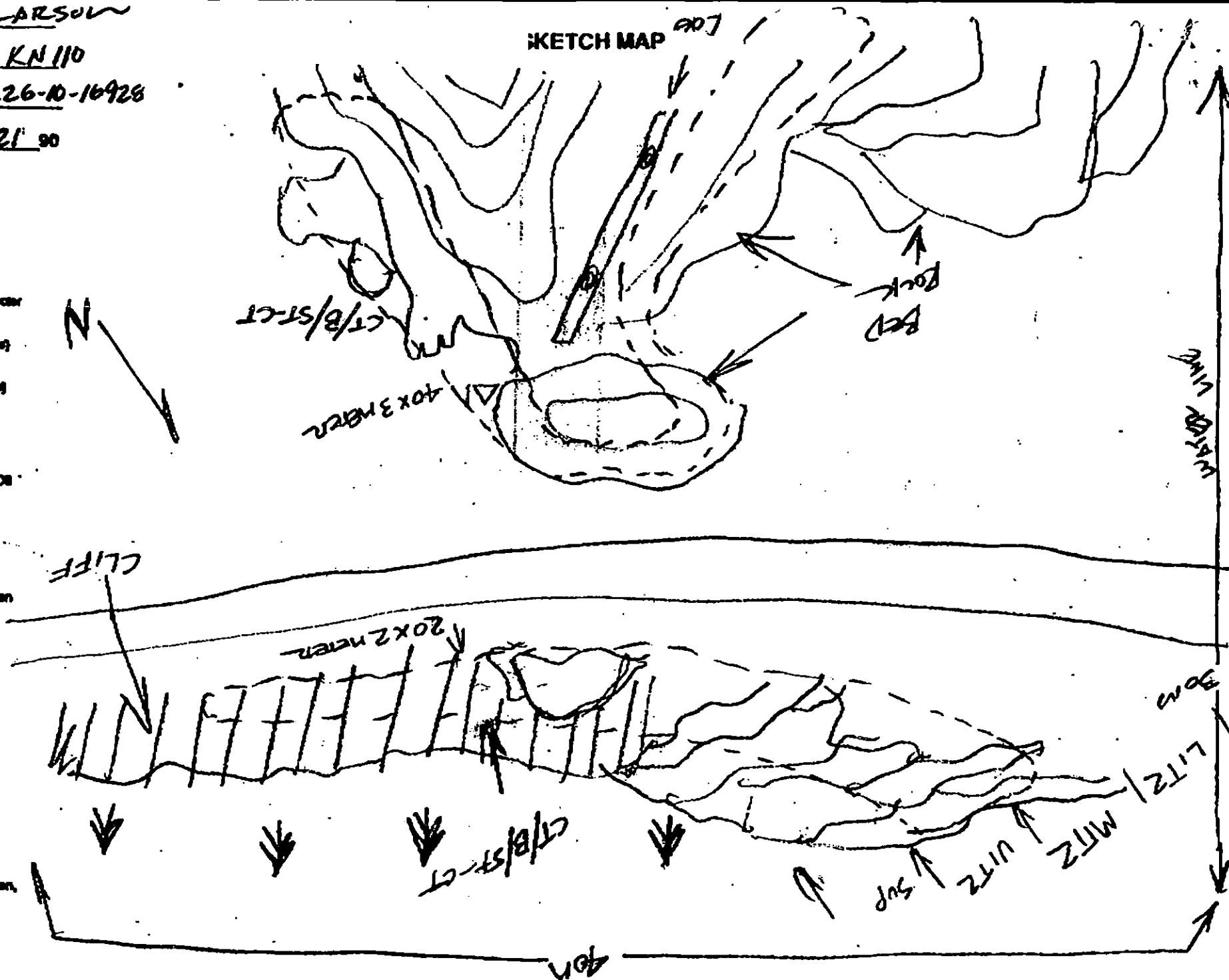
CT/S

Splashed Distribution

Oil Vegetation

Photo location, direction, and number

SKETCH MAP



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

REVISION 000000

KN110 40/51

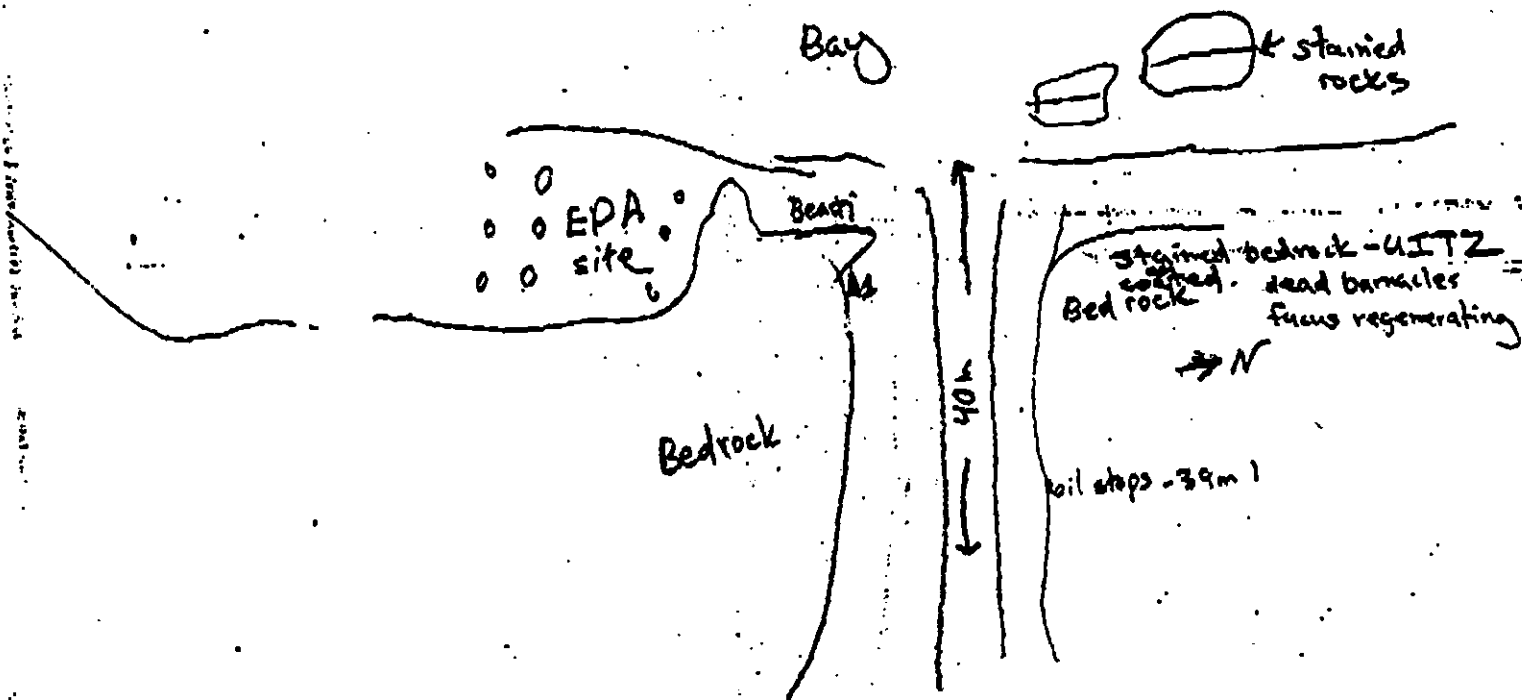
48 PHOTOLOG

FRAME(S)

DESCRIPTION

pit 2 - 28cm - no visible oil

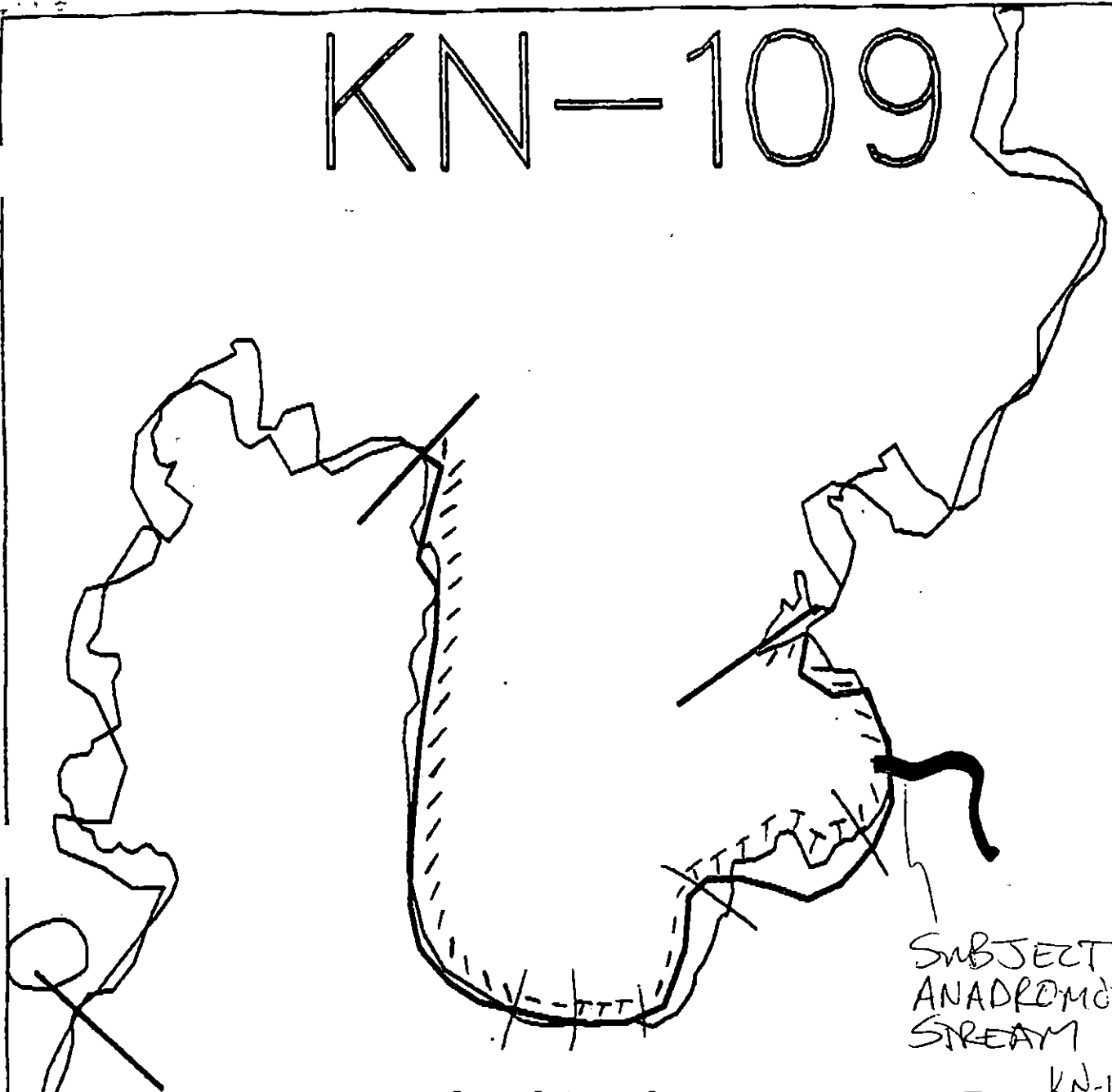
48 OIL DISTRIBUTION DIAGRAM



No treatment recommended

Agreed Ken Cutchlow

KN-109



SUBJECT
ANADROMOUS
STREAM

KN-110

KN-110-A
(1 of 1)

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

KN-110

ADEC Segment Length: 1303m



Map Key: PWS-291

Name: Sawyer

Date: Apr. 2, 1990

Date Entered:

GB

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16928

SEGMENT KN-110 SUBDIVISION A

WORK WINDOW

NO TREATMENT RECOMMENDED

ARCHAEOLOGICAL STANDARD CONSTRAINT

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

OTHER ECOLOGICAL CONSIDERATIONS

SEE SUBDIVISION CONSTRAINT ADDENDUM KN-110A
FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC

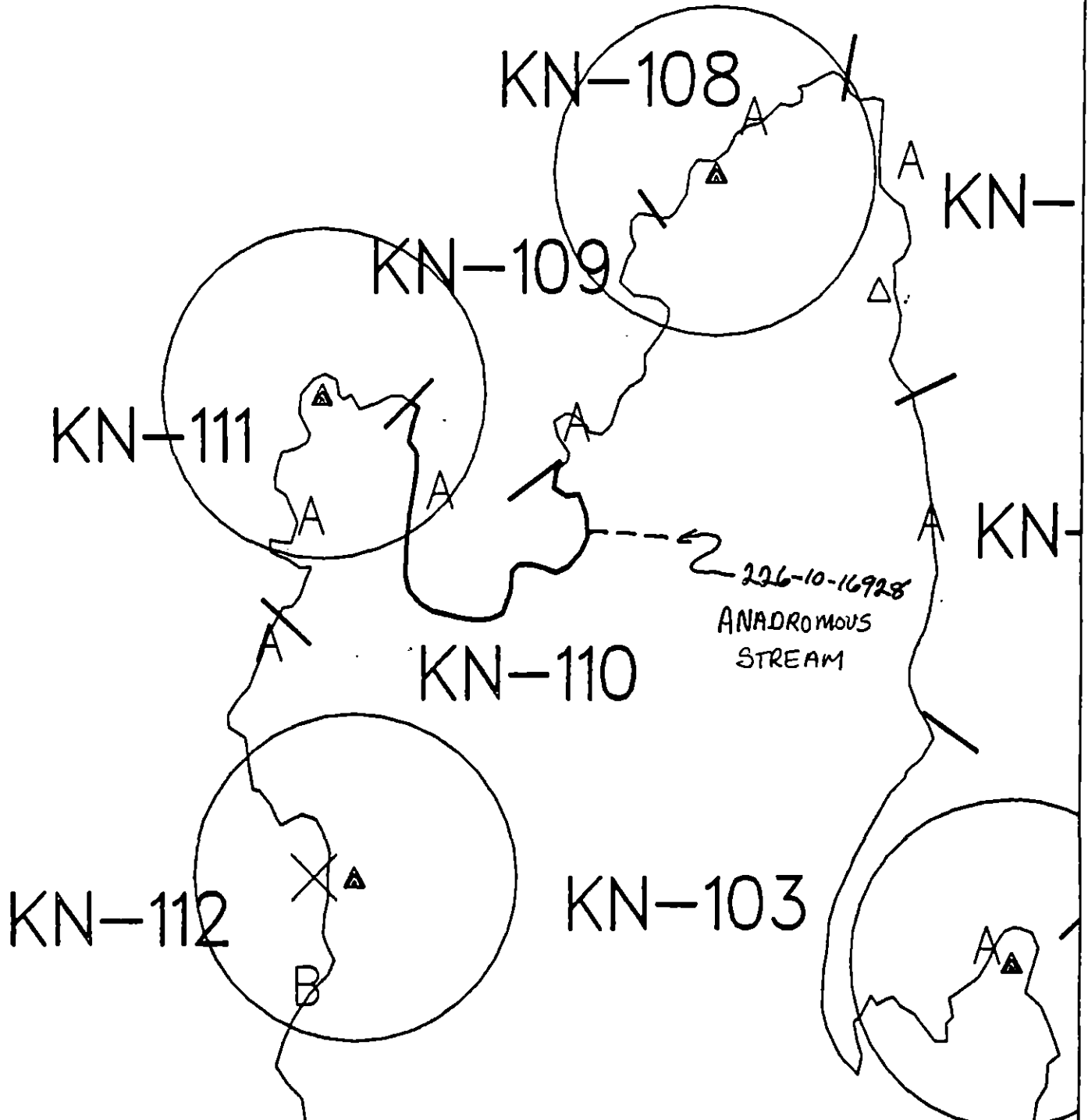
Date

6-12-90

Prepared by

Date

6/11/90



Exxon Company, USA

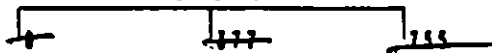
Map Key: PMS-KN-110

June 05, 1990



ECOLOGY MAP SEGMENT KN-110 SUBDIVISION A (1 of 1)

METERS



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

1 inch = 1238 feet

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-110 STREAM NO: 226-10-16928 DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. Subject salmon stream is located in Subdivision A (1 of 1). No ecological constraints re: intertidal biota.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: [Signature] DATE: _____

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: SBS CONSTRAINTS ADDENDUM dated 6/11/90

TAG COMMENTS: _____

TAG APPROVAL DATE: 5/7/90

ADEC Art Weigert

EXXON Twoy

NOAA Gary Petros

USCG G.A. Reuter

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

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-110

STREAM NO: 226-10-16928

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-110 STREAM NO: 226-10-16928 DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

X No Treatment Recommended

_____ Treatment Recommended

_____ Manual Pickup

_____ Bioremediation

_____ Tarmat Removal

_____ Snare/Absorbent Booms

_____ Oil Snares (pom poms)

_____ Absorbents (pads, rolls, etc)

_____ Spot Washing: _____ Wands

_____ Beach Cleaner

_____ Other (see comments)

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

48/51

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 KN-110 SUBDIVISION: ^{ASC#} 226-10-16728 ^{16928^{WTK}} DATE 4-21-90

USCG

NAME Kerwin L. Dreher SIGNATURE CWO 2 K. L. Dreher

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

~~ADEC~~ ^{ADEC} Aimee Weseman SIGNATURE Aimee Weseman

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

oil band on bedrock - more harm than good to attempt removal

LAND MANAGER NONE
NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS



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

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

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

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

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

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

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

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

1E Main Bay Hatchery release (4/20 to 6/10)

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

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

1H Remote release site

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ADF&G Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Roth 267-2206

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

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6U Recreation: Tent sites (8/1 to 9/15)

6V Anchorages (8/1 to 9/15)

6W Forest Service cabins (8/1 to 9/15)

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

6Y Special use destination

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

7HH Finfish harvesting

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

7JJ Invertebrate harvesting

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

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

SHORELINE OILING SUMMARY (ANAO)

REVISION NO. 04/12/90

OG CAL LARSON USCG DREHER, CWE SEGMENT ST/ KN 110 26/51
 BIO KEN CRITCHLOW LAND REP STREAM 226-10/0921 OF 1
 EXXON DARRYL YONES ADFG MARK DUSTIN-ALICE WESEMAN TIME 14:25 to 14:50
 TEAM NO. 14 TIDE LEVEL + 4 FT. DATE 4/21/90
 EST. SUBDIVISION LENGTH: 100 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 20 % B 20 % C 60 % P 10 % G 10 % S 5 % M 0 % V 0
 SLOPE: Long 30 % Hang 40 % Vert 30 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 100 m NO 40 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	N	S	E	W	1	2	3	4	5	6	7	8	SU	U	M	L
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT		✓				✓							✓			
STAIN		✓				✓							✓			
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL																

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

Did you collect DEBRIS ☐ YES ☒ NOTYPE 0#BAGS 0

Photographs:

Roll No. 0Frames 0

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		NO	UC	1	2	3	4	5	6	7	8	SU	U	M	L				
1	20					✓	0-10											✓							NO OIL

COMMENTS WEATHERED COAT/STAIN ON ROCKS/BULWARKS OIL IS DRY TO TOUCH.REVIEWED FWDATE 4-23-90

OG CAI-LARSON

27/2 SEGME TI KN 110

STREAM 226-10-16928

DATE 4 121 90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/LVL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ P/L Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ

PR - No Subsurface Oil

2 Δ

PR - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

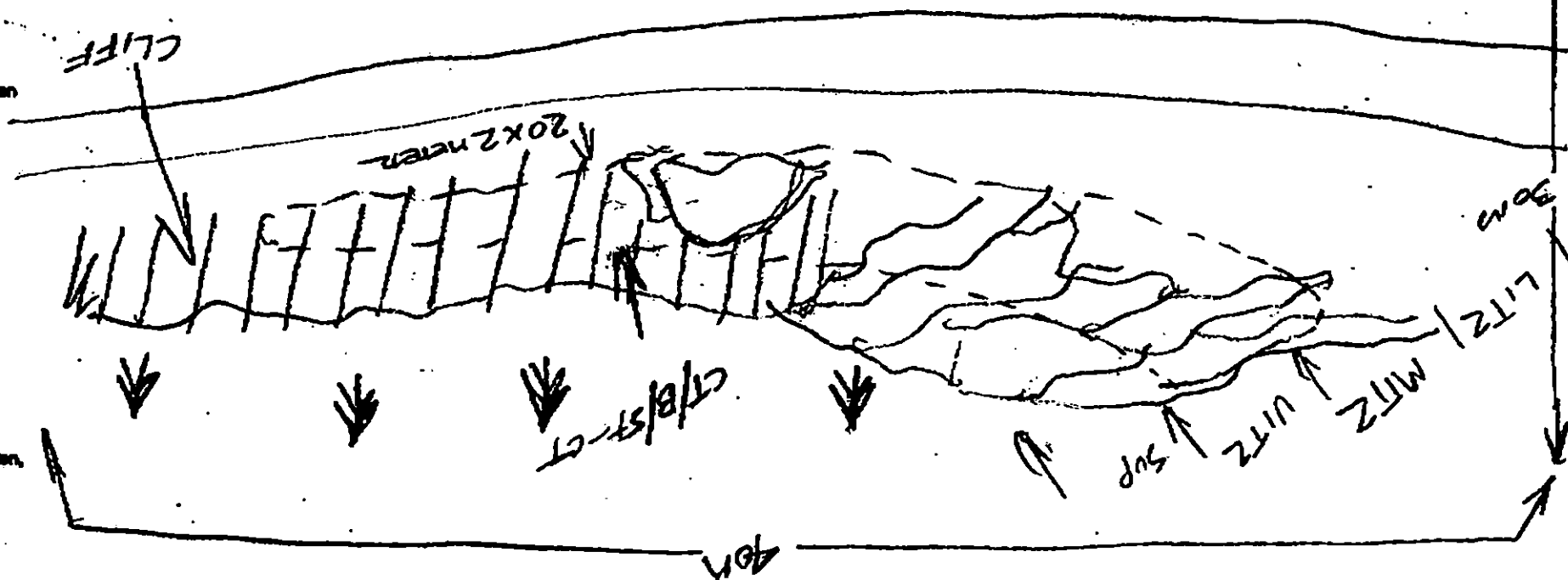
CT/S

Splashed Distribution

Oil Vegetation

Photo location, direction, and number

KETCH MAP



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

REVISION 000000

39/51

ADFG MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS (SS) DS TS AVE SCIA 1945 PTA 2 REGION: (PNS) KP, CI K, AP

METHOD: Aerial (Ground) Boat

3 DATE: 4-21-90 15 HIGH TIDE TIMES: 1 21 TEAM RECORDER: Aimee Wegman

4 START TIME: 1430 16 HIGH TIDE HTS: 1 22 OBSERVERS: Rick Gustin

5 STOP TIME: 1550 17 LOW TIDE TIMES: 1730 23 AGENCY: ADFG

6 SEGMENT #: KN-110 18 LOW TIDE HTS: 1 24 PHOTOS TAKEN: Y (N)

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

8 K-UNIT: _____ Ebb Slack Flood Slack 25 VIDEO TAKEN: (Y) N TAPES: 90RL600555

9 STAT AREA: _____ 20 USCG QUAD: S-CA Start: 1490 Ends: 1526

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

12 SOURCE: (Map) Loren Oil _____

13 LOCATION: North end Knight I Sediment _____

14 DESCRIPTION: adjacent to EPA test site Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	V	H ²	V	L	V	H ²	V
27 SURFACE COVERAGE		50cm		2				
28 SURFACE THICKNESS	2mm							
29 PENETRATION	no							

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

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

32 OILED DEBRIS? (Y) H-oiled spruce needles on bedrock

33 SHORELINE TYPE: Headland Low-lying Rocks Beach (Cave)

Lagoon Marsh

34 WAVE EXPOSURE: (High) (Moderate) Low

35 SUBSTRATE TYPE: Bedrock 75 Boulder 5 Cobble 10

Gravel 5 Sand 5 Mud/silt _____

36 CATALOGED ANAO. FISH STREAM? (Y) N

37 CATALOG #: 226-10-1698

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: on bedrock in U.I.T.

43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS: Gil noted on this site was restricted to
a 1-1.5 meter wide coast running along the bedrock cliffs
in the U.I.T. with spruce needles clinging to it.
Many barnacles were dead within this band. The fungus was

KN110 ^{40/51}

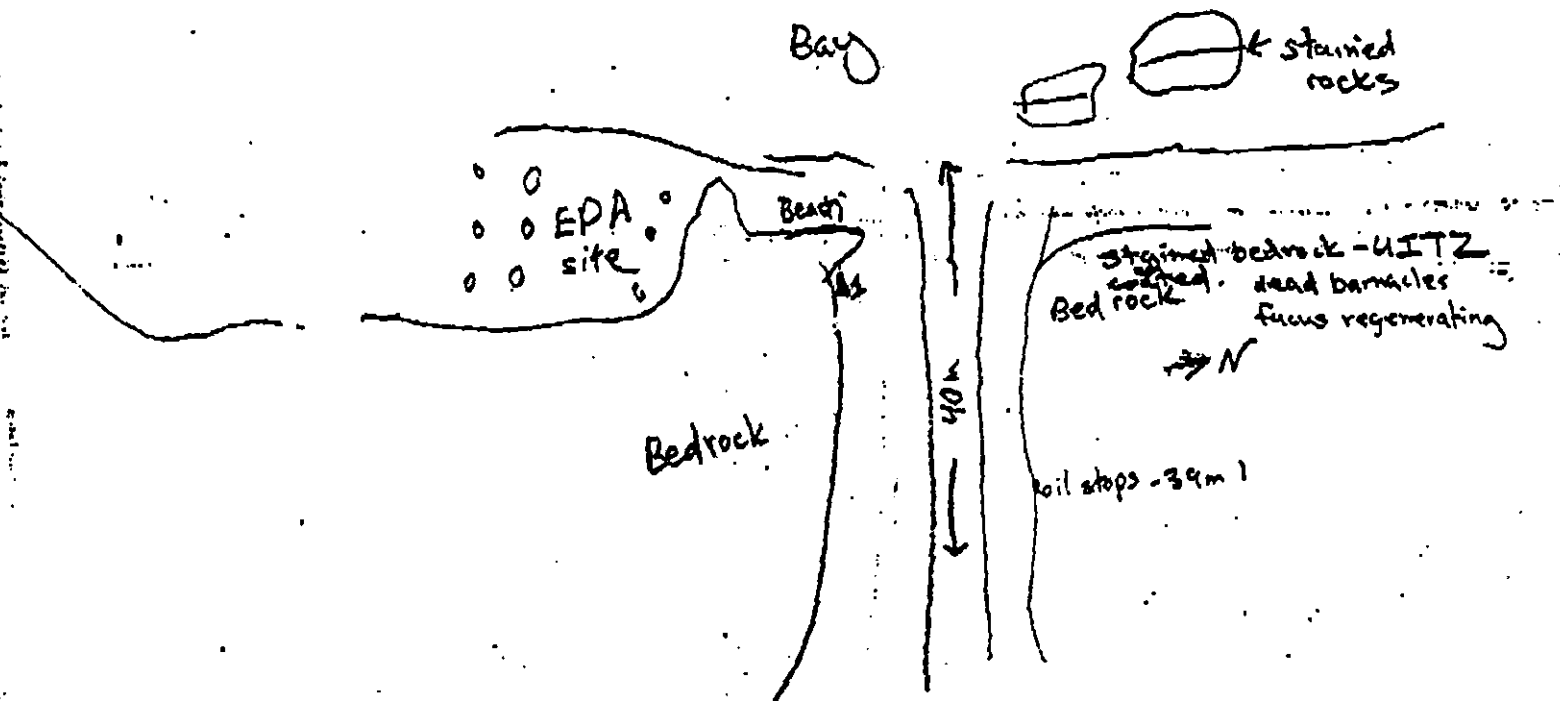
43 PHOTOLOG

FRAME(S)

DESCRIPTION

pit 1 - 28m - no visible oil

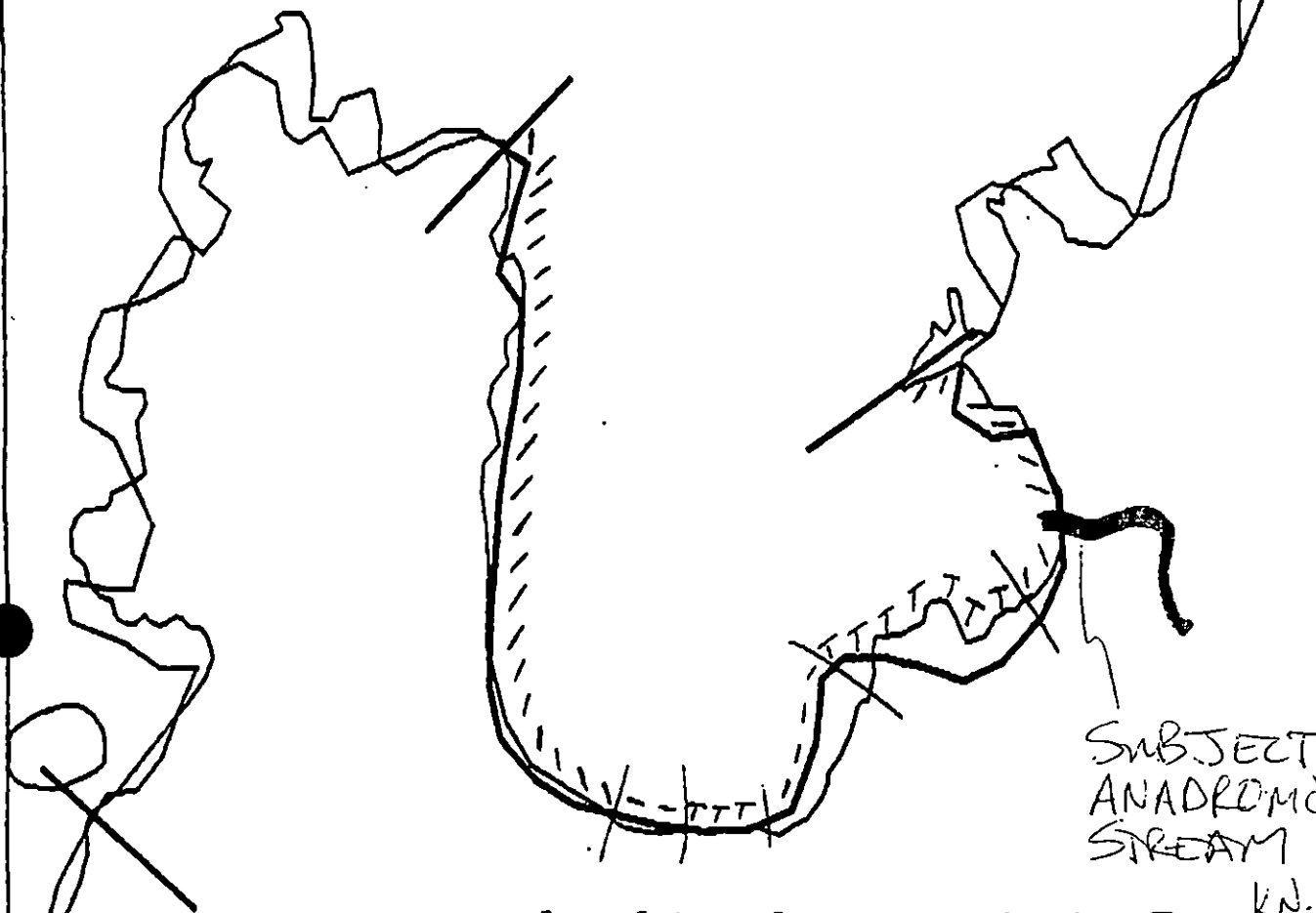
46 OIL DISTRIBUTION DIAGRAM



No treatment recommended

Agreed Ken Cretchlow

KN-109



SUBJECT
ANADROMOUS
STREAM

KN-110

KN-110-A
(1 of 1)

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Data

KN-110

ADEC Segment Length: 1303m



Map Key: PWS-291

Name: Sawyer

Date: Apr. 2, 1990

Date Entered:

GP

1991 MAYSAP EVALUATION

SEGMENT: KN 110 SUB: A REGION: PWS SURVEY DATE: 5/5/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Rachel Jean Doe

Date: 5/17/91

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

N

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: MAY 17 1991

FOSC APPROVAL DATE: 5/25/91

ADEC

FOSC

EXXON

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC

USCG

NOAA

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 1 SEGMENT KN-110 SUBDIVISION A DATE 5/5/91

ADEC

NAME

JEFF GINALUS

SIGNATURE

[Signature]

☒ NTR

HEAVIEST OILING IN SEGMENT ~~KN~~ AT AREAS OF A3 & A4. OIL RELATIVELY CLOSE TO SURFACE, ~~NOT~~ (20 CM), BUT NOT CLOSE ENOUGH FOR MANUAL REMOVAL. MOST FEASIBLE MEANS OF TREATMENT WOULD BE MECHANICAL REMOVAL OF SURFACE SAND & SEDIMENTS, FOLLOWED BY ~~TANK~~ REMOVAL AND/OR REMOVAL. HOWEVER, I BELIEVE ~~THIS~~ INTRUSIVENESS OF THIS PROCEDURE GREATER THAN AMOUNT OF OIL TO BE RECOVERED. INTERESTING THAT OIL LOWER/CLOSER TO MITE THAN MOST BEACHES. INSTANT SHEEN, BUT OIL NOT EASILY MOBILE. AREA SHOULD BE REVIEWED LATER THIS SEASON TO, SEE IF MOBILITY & SHEENING INCREASE AS TEMPERATURES RISE.

EXXON

NAME

FRANK A BOX

SIGNATURE

[Signature]

☐ NTR

Subsurface oil was observed in part of the segment off treatment at oil, it should be with caution for subsurface. The beach should not be torn up.

LANDMANAGER

NAME

MARSHA HALL OF DNR

SIGNATURE

☐ NTR

☒ TREATMENT

Till AREA A4 to release oil lens, or expose lens and manually remove it. Oil lense continues to AREA A3 on west side of test site beach. Sheen on water. SENSITIVITY to peat layer needs to be exercised.

USCG/NOAA

NAME

Jensen

SIGNATURE

[Signature]

☐ NTR

Sub-surface oil (some HOR) at A-4. ALSO AP at A1. Recommend these two sites be evaluated for treatment. A3 EPA test site. A2 NTR. It should be noted that area is accessible.

PAGE _____ OF _____

OG COMMENTS: Round rocky embayment w/ broad c/g beaches.
Surface oil as:- Al, Sol/s in boulder trap; ci/s @ up. Htz
on B's'l ; ST as trace on some c/p across beachface @
(A4). ELA Test site @ (A3) had no surface oil.
Subsurface oil was located @ A3 & A4.

Reviewed NC 57491

ET revised, May 7

MAYSAP SHORELINE OILING SUMMARY (cont.)

PAGE 2 OF 2

TEAM NO. 1

SEGMENT KN-110

SUBDIVISION A

DATE 5/5/91

G. Macdonald

OG COMMENTS:

subsurface cont'd.

(A3) EPA Test Site: - MOR (typical) was found either side of the outcrop west of EPA site @ MITZ. Depths of 5-10 cms were typical at (A2), with this near surface oil producing an instant. S sheen - subsurface area est. 4 x 20 m minimum.

(A4) HOB @ MITZ between 5-11 cms deep. Brown sheen; Trend appears confined to the MITZ and was estimated at ~ 4 x 20 m by 4 peripheral pits. A silver sheen was noted @ waterline on arrival.

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOB	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
8	15							X	-		5	N				X	PGC-PG	
9	40							X	-		-			X			P-PG	
10	20							X	-		5	N			X		P-PG	
11	25							X	-		5	N				X	PGC-PG	
12	20							X	-		5	N		X			CL-PG	
13	25							X	-		-				X		C-PG	
14	30							X	-		-			X			BP-CL	organics
15	30							X	-		5	N				X	CL-PGM	
16	30							X	-		-			X			PG-PGM	
17	20							X	-		-				X		CLG-PGM	
18	30							X	-		20	N				X	CL-GP	
19	20							X	-		-			X			P-GP	
20	25							X	-		-				X		C-GPGM	
21	25							X	-		-					X	C-GSM	
22	25			X					5-10	Y	5	S			X		BCP-PG	
23	25				X				6-12	Y	4	S				X	BCP-PG	
24	25							X	-		-			X			PG-PGMS	
25	25							X	10-15	Y	15	S			X		CL-CG	
26	20							X	-		10	N				X	C-GP	
27	30		X						5-11	Y	25	B			X		C-CGP	

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

Reviewed: MC 5/9/91
26 reviewed, May 72

NAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 1 DATE 5 May 91
 SEGMENT # KN 110 TIDAL HEIGHT (Range) +2.9 to +5.0 ft MLLW
 SUBDIVISION A BIOLOGIST M.H. Fawcett
 A STATE 0.5 ft WIND SPEED/DIRECTION SE 5 knots, rain
 OTOGRAPHS: ROLL # 1 FRAME # 1

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

Sites (1) and (2): pocket beaches of mostly pebbles and cobble, with bedrock and boulders at the sides. No biota in MTZ or LTZ in pebble/cobble areas, except filamentous green algae. Bedrock and boulders have moderately dense barnacles (mixed ages, 3 species), rockweed, littorinids, and limpets, and sparse mussels. MTZ boulders have fish (pricklebacks), hermit crabs, isopods, littorinids and limpets beneath them. Site (A3) (EPA test site) has a small stream (possible pink salmon use) on east portion of beach. Most of this beach is cobble/pebble/gravel with scattered rockweed, barnacles, littorinids, and limpets in MTZ from about +3 to +7 ft, along with a dense film of green algae (mostly *Ulva*). The same species occur in much greater density on isolated MTZ boulders and on bedrock up to about +9 ft. On the western half of the beach boulders are more common in MTZ - LTZ above waterline at +2 ft, so barnacles, rockweed, and other organisms are also more abundant in this zone. Site (4) is a boulder/cobble beach with bedrock at east boundary and boulders & bedrock to the west. Buried oil at about +7 ft, among dense filamentous red and green algae, sparse barnacles and rockweed, with moderately dense littorinids and limpets beneath rocks. The limpets are all young *Notopacma scutum*, 5-15 mm, probably all the same age (1 yr), recruited in 1990 downshore from buried oil (0-6 ft). Littorinids and sea slugs (*Hamellioris*) are breeding & laying eggs beneath boulders.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			prickleback
Seabirds			
Waterfowl	1 (Common Merganser)	3	
Gulls/Kittiwakes			
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters	1 feeding		
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

Reviewed: me 5/9/91
 P. 1 of 1

KN 110A 5 May 91 Forwett
0940

Site (1) pocket G/P/C/B/BR beach
facing south

Traces coat & SR UTZ-SUTZ on
west side of beach at base of BR -

Lichen, Fil, gr., sparse barn, limp druse
- moderately dense barn, litt, Fucus
on MTZ BR + 4-7 ft

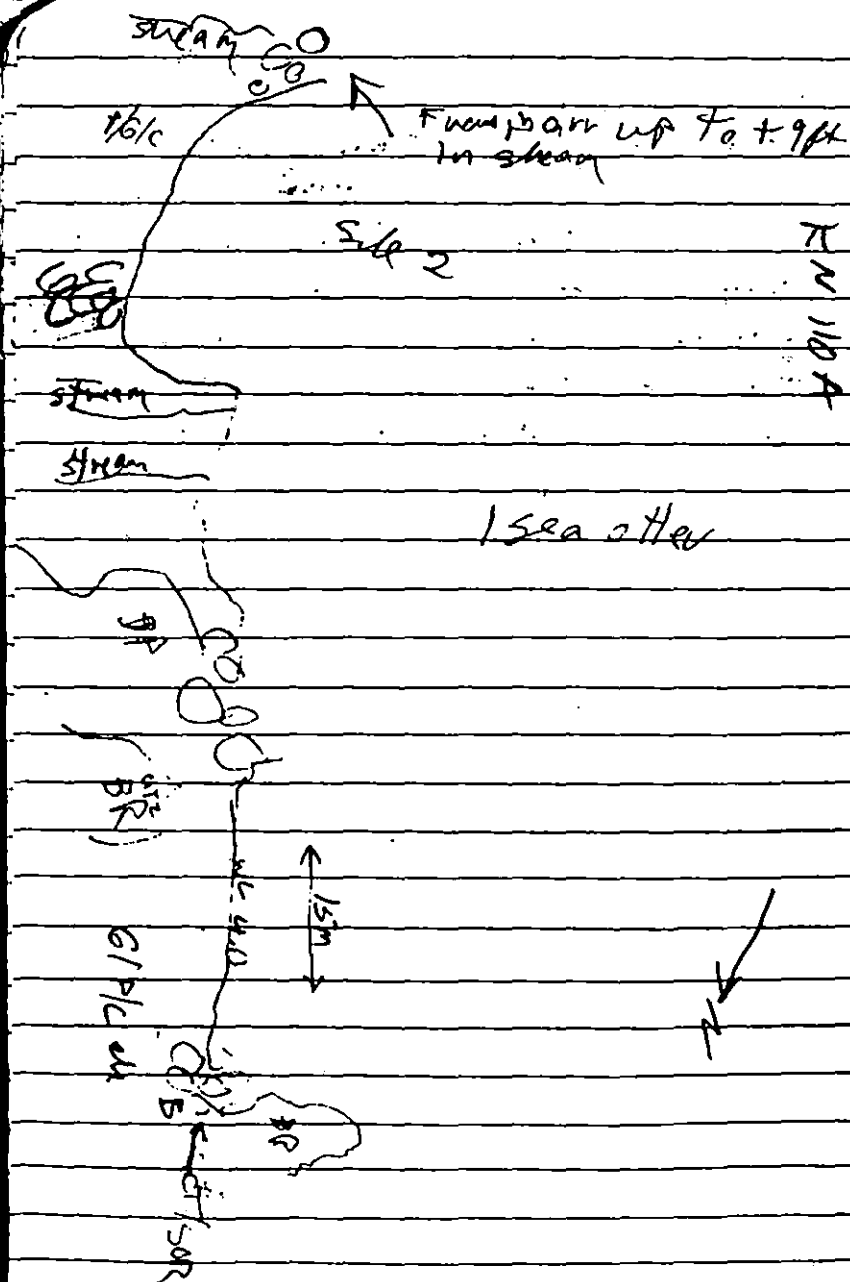
Side 2 - same gravelly beach, no bark
- mod barn, Fucus on rocks

BR of boulders - sparse mussels
mod litt, limp, fish, etc - SPT

Traces C + SUTZ - no biota -

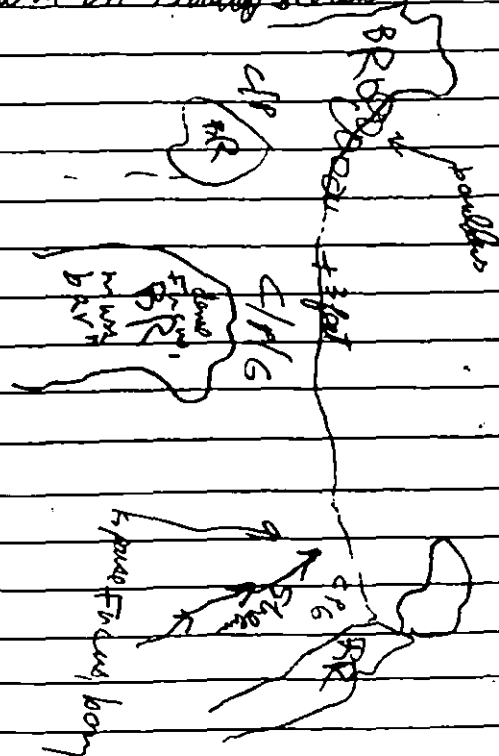
mod. Fucus, dense barn down to
+ litt, limp, etc

1005 - proceed to EPA test site



EPA site N 110A site 3 Tawney
1005

- small possible anal stream - scattered
Fucus, barn litt, limp in col. 3-7 ft,
dense on R up to 8 ft - mixed age
mussels & barn, new Fucus
cobble at top beach + 3-7 ft w
fil green (dense Urosalpinx 4-6 ft)
sparse litt, barn, limp, and, dense
barn on isolated boulder



KN 110-A cont

west half of test beach has 0 boulders
in MTZ around +3 - +4 ft w/dense
brown muck, etc - buried oil near outcrop
at west end in cobble +5-7 ft
- sparse barn, lump, litt, + fil/gr near oil,
denser downshore where bigger rocks
- cor: dense spat - Litt & Lamellidorsalis
eggs & adults under boulders +3 ft

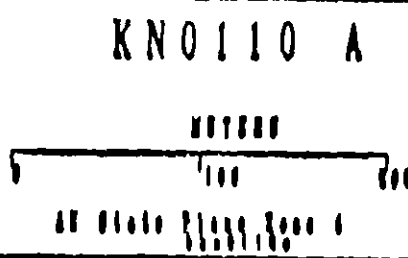
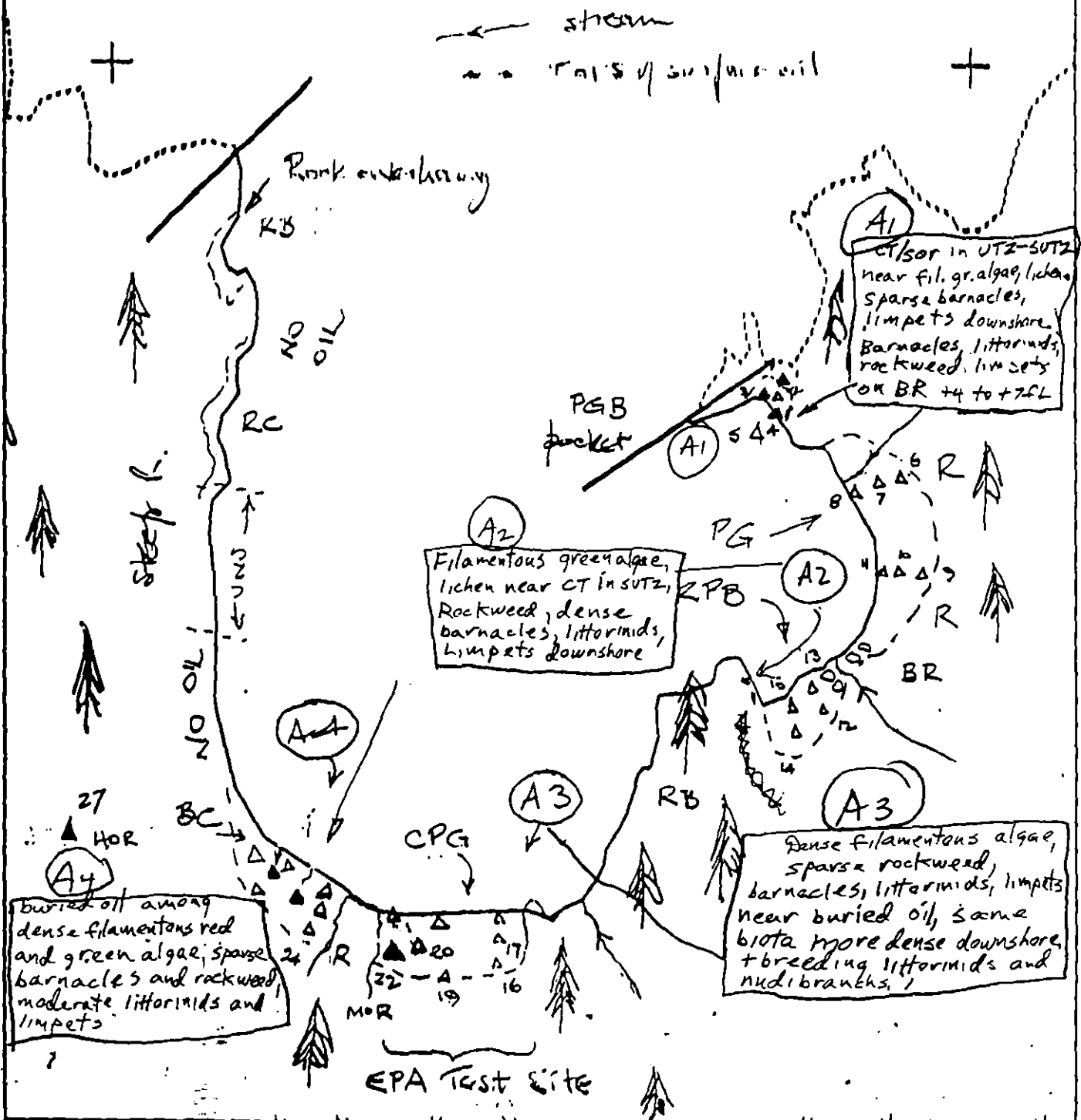
1031: last beach at head of bay

Site 4 (cont. of 3) -

high BR outcrop at east end
talc ct on bank above dense barnacles
on beach at 14 C/B/0 beach west of outcrop
N-7 ft among dense fil gr +
red algae, sparse barn & Fucus
litt, litt - downshore at 0-6 ft
- dense barn, mod lump, litt
- sparse Fucus, Litt eggs & breeding
Lamellidorsalis, purple backs
- sparse N. emarg, mod dense young N sentry
- 3 mergansers (common)

1. Sea 5-5 mm

defrost 1645 - grey skull sinking
channelled ship



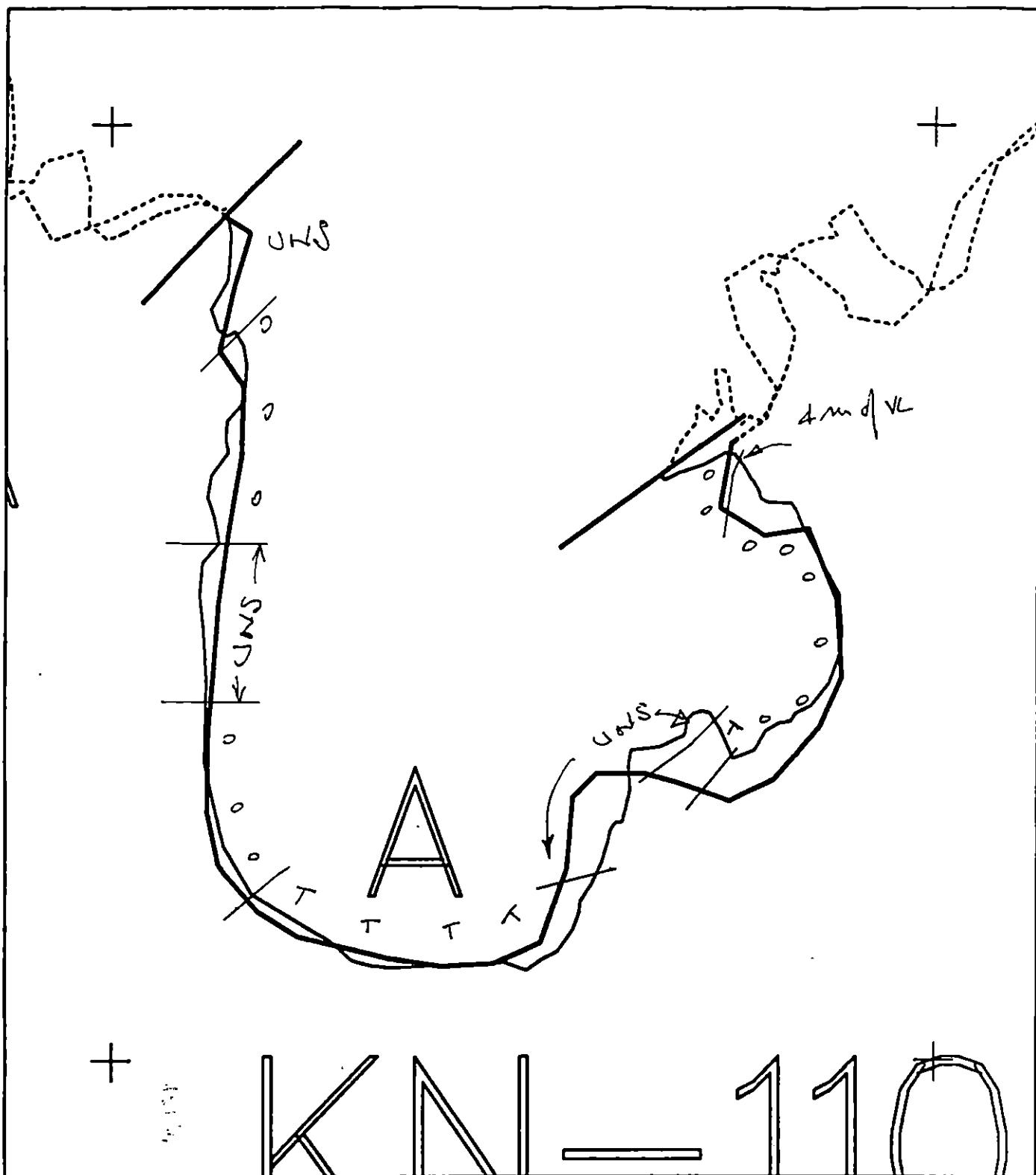
KN0110 A

Bio Sketch Map

KN 110-A

5 May 91

M. H. Fawcett



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

KN0110 A
 ADEC Subsegment Length: 1321m
 METERS
 0 100 200
 AK State Plane Zone 4
 hha0110a



Subdivision Field Map
 Map Key: KN1KN0110A
 Name: G.M.
 Date: 5.5.91
 Date Entered:

REVIEWERS: MC 5/9/91

EG revised, May 7

1991 MAYSAP EVALUATION

SEGMENT: KN 110 **SUB:** A **REGION:** PWS **SURVEY DATE:** 5/5/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ **Date:** _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 1 SEGMENT KN- 110 SUBDIVISION A DATE 5/5/91

ADEC
NAME

JEFF GINALUS

SIGNATURE

[Signature]

☒ NTR

HEAVIEST OILING IN SEGMENT ~~KN~~ AT AREAS OF A3 & A4. OIL RELATIVELY CLOSE TO SURFACE, ~~20 CM~~ (20 CM), BUT NOT CLOSE ENOUGH FOR MANUAL REMOVAL. MOST FEASIBLE MEANS OF TREATMENT WOULD BE MECHANICAL REMOVAL OF SURFACE MUD & SEDIMENTS, FOLLOWED BY ~~THICK~~ REMOVAL AND/OR REMOVAL. HOWEVER, I BELIEVE ~~THIS~~ INTRUSIVENESS OF THIS PROCEDURE GREATER THAN AMOUNT OF OIL TO BE RECOVERED. INTERESTING THAT OIL LOWER/CLOSER TO MUD THAN MOST BEACHES. INSTANT SHEEN, BUT OIL NOT READILY MOBILE. AREA SHOULD BE REVIEWED LATER THIS SEASON TO SEE IF MOBILITY & SHEENING INCREASE AS TEMPERATURES RISE.

EXXON

NAME

FRANK A BOX

SIGNATURE

[Signature]

☐ NTR

Subsurface oil was observed in part of the segment of treatment at oil, it should be with caution for subsurface. The beach should not be torn up.

LANDMANAGER

NAME

MARSHA HALL OF DNR

SIGNATURE

☐ NTR

☒ TREATMENT

Till AREA A4 to release oil lens, or expose lens and manually remove it. Oil lens continues to AREA A3 on west side of test site beach. Sheen on water. SENSITIVITY to peat layer needs to be exercised.

USCG/NOAA

NAME

Jensen

SIGNATURE

[Signature]

☐ NTR

Sub-surface oil (some HOR) at A-4. ALSO AP at A1. Recommend these two sites be evaluated for treatment. A3 EPA test site. A2 NTR. It should be noted that area is accessible.

PAGE OF 10

Revised MC 5/4/91
ES revised, May 7 1

G. Macdonald

OG COMMENTS:

subsurface cont'd.

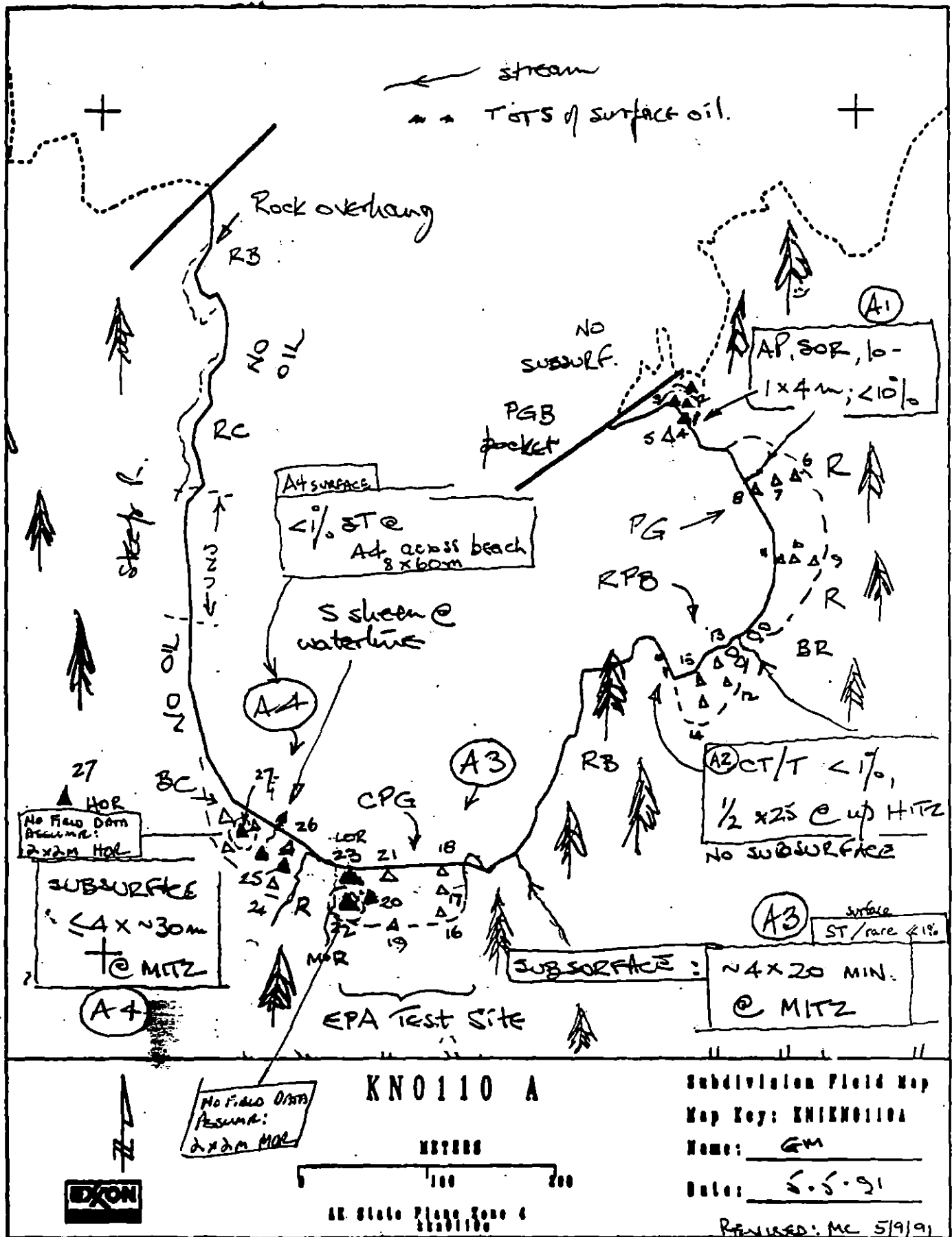
(A3) EPA Test Site :- MOR (typical) was found either side of the outcrop west of EPA site & MITZ. Depths of 5-10 cm were typical at (A2), with this near surface oil producing an instant. S sheen - subsurface area est. 1 x 20 m minimum.

(A4) Hol @ MITZ between 5-11 cm deep. Brown sheen; trend appears confined to the MITZ and was estimated at ~ 4 x 20 m by 4 peripheral ptyr. A silver sheen was noted @ waterline on arrival.

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
								X	-		5	2				X	PGC-PG	
8	15							X	-		-			X			P-PG	
9	40							X	-		5	2			X		P-PG	
10	20							X	-		5	2			X		P-PG	
11	25							X	-		5	2				X	PGC-PG	
12	20							X	-		5	2		X			CL-PG	
13	25							X	-		-				X		C-PG	
14	20							X	-		-			X			BP-CL	organics
15	30							X	-		5	2				X	CL-PGM	
16	30							X	-		-			X			PG-PGM	
17	20							X	-		-				X		CLG-PGM	
18	30							X	-		20	2				X	CL-GP	
19	20							X	-		-			X			P-GP	
20	25							X	-		-				X		C-GPGM	
21	25							X	-		-					X	C-GSM	
22	25			X					5-10	Y	5	5			X		BGP-PG	
23	25				X				6-12	Y	4	5				X	BGP-PG	
24	25							X	-		-			X			PG-PGMS	
25	25						X		10-15	Y	15	5			X		CL-CG	
26	20							X	-		10	2				X	C-GP	
27	30	X							5-11	Y	25	5			X		C-CGP	

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

REVIEWED: MC 5/9/91
IS reviewed, May 91



TEAM # 1

DATE 5 May 91

SEGMENT # KN 110

TIDAL HEIGHT (Range) +2.9 to +5.0 ft MLLW

SUBDIVISION A

BIOLOGIST M.H. Fawcett

EPA STATE 0.5 ft

WIND SPEED/DIRECTION SE 5 knots, rain

PHOTOGRAPHS: ROLL #

FRAME #

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

Sites #1 and #2: pocket beaches of mostly pebbles and cobble, with bedrock and boulders at the sides. No biota in MTZ or UTZ in pebble/cobble areas, except filamentous green algae. Bedrock and boulders have moderately dense barnacles (mixed ages, 3 species), rockweed, littorinids, and limpets, and sparse mussels. MTZ boulders have fish (pricklebacks), hermit crabs, isopods, littorinids and limpets beneath them. Site (A3) (EPA Test site) has a small stream (possible pink salmon use) on east portion of beach. Most of this beach is cobble/pebble/gravel with scattered rockweed, barnacles, littorinids, and limpets in MTZ from about +3 to +7 ft, along with a dense film of green algae (mostly *Ulva*). The same species occur in much greater density on isolated MTZ boulders and on bedrock up to about +9 ft. On the western half of the beach boulders are more common in MTZ - LTZ above waterline at +2 ft, so barnacles, rockweed, and other organisms are also more abundant in this zone. Site (4) is a boulder/cobble beach with bedrock at east boundary and boulders & bedrock to the west. Buried oil at about +7 ft, among dense filamentous red and green algae, sparse barnacles and rockweed, with moderately dense littorinids and limpets beneath rocks. The limpets are all young *Notopacma* *scutum*, 5-15 mm, probably all the same age (1 yr), recruited in 1990 from buried oil (0-6 ft). Littorinids and sea slugs (*Lamellidors*) are breeding & laying eggs beneath boulders.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			prickleback
Seabirds			
Waterfowl	1 (Common Merganser)	3	
Gulls/Xi-tiwakes			
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters	1 feeding		
Pinnipeds (specify)			
Whales (specify)			

Subdivision map showing important biological features attached.

Reviewed: me 5/9/91
Rev'd 5/13/91

KN 110A 5 May 91 Forncett
0940

Site (1) pocket G/P/C/B/BR beach
facing south

Traces coat & SOR UTZ-SUTZ on
west side of beach at base of BR -

Lichen, Fil, gr., sparse barn, limp dwags
- moderately dense barn, litt, Fucus
on MTZ BR + 4-7 ft

Sal 2 - same gravelly beach, no biota
- mod barn, Fucus on weaks

PR of boulders - sparse mussels

mod litt, limp, fish, etc - SPT

- Traces CT SUTZ - no biota -

mod. Fucus, dense barn down to
+ litt, limp, etc

1005 - proceed to EPA tent

EN 110-A cont

west half of 1st beach has 0 boulders
in MTZ around +3 - +4 ft w/ dense
brown mud, etc - buried oil near outlet
at west end in cobbles +5 - 7 ft
- sparse barn, lump, litt, + fil/gs near oil,
denser downshore where bigger rocks
- dense spat - Litt & Lamellidorsis
eggs & adults under boulders +3 ft

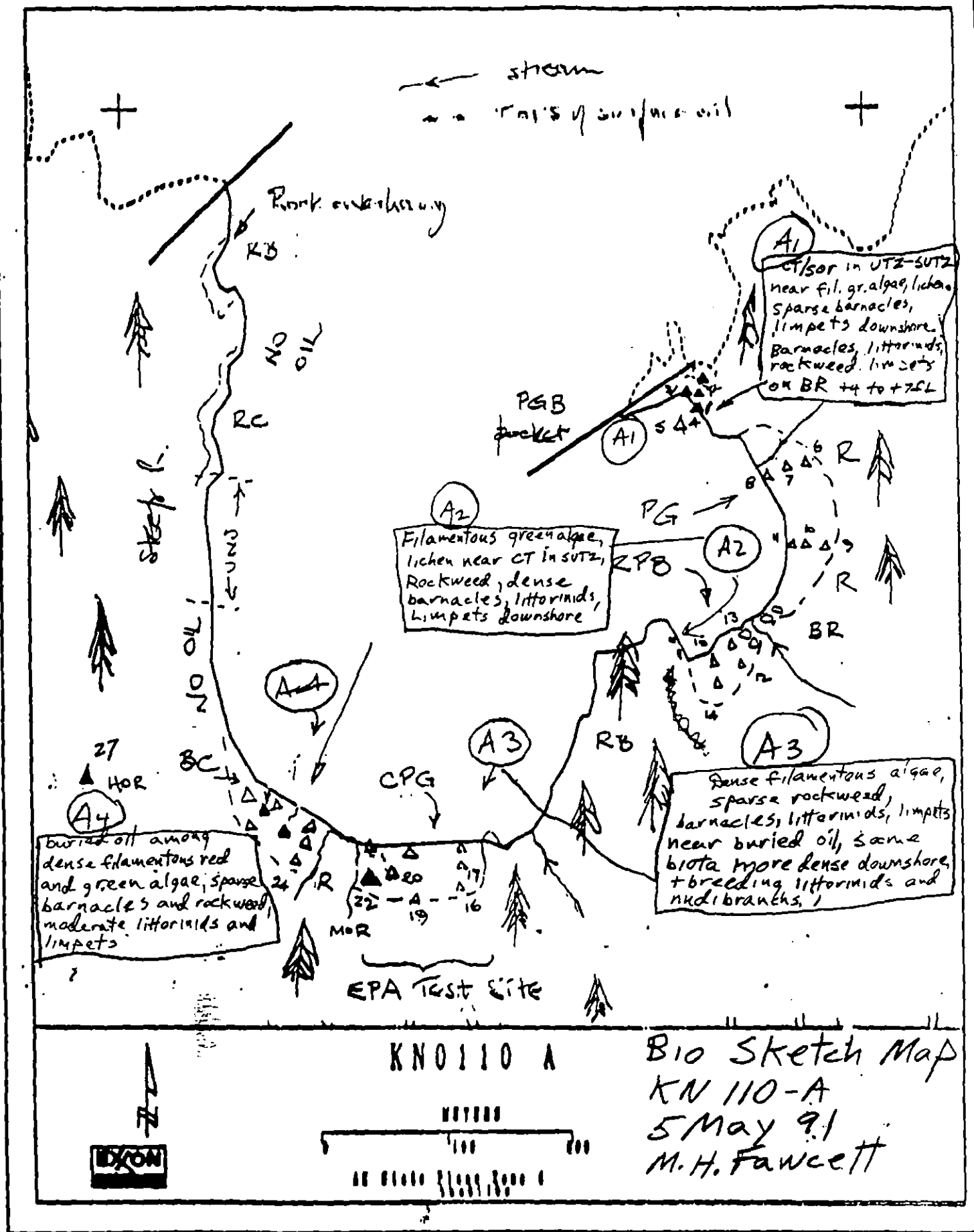
03: last beach at head of bay

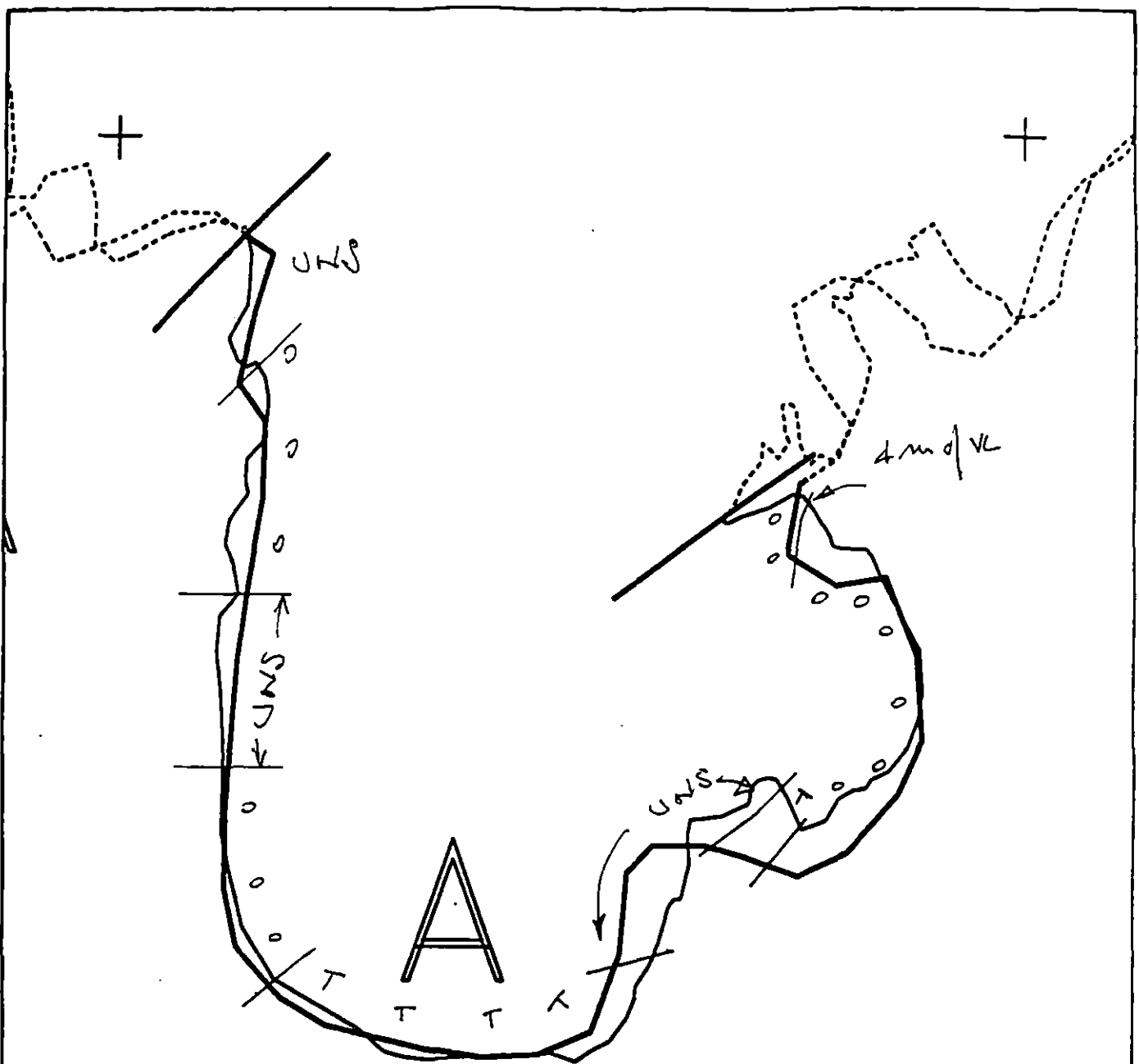
Site 4 (a cont. of 3) -

high BF overtop at east end
tace ct on bank above blue barracks
coral bank in C/B/O bank west of outcrop
10 - 7 ft among dense fil/gs
- red algae, sparse barn & Fucus
- litt, litt - downshore at 0 - 6 ft
- dense barn, mod lump, litt
- sparse Fucus, Litt eggs & breeding
Lamellidorsis, purple backs
- sparse N. enarg, mod dense young N. scint
- 3 mergansers (common)

1. Scale 5.5 mm

Defect 1045 - grey shell sinking
channelled shell

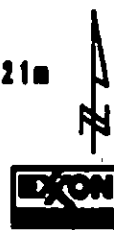




+ **KN-110** +

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

KN0110 A
 ADEC Subsegment Length: 1321m
 METERS
 0 100 200
 AK State Plane Zone 4
 kn0110a



Subdivision Field Map
 Map Key: KNKN0110A
 Name: G.M.
 Date: 5.5.91
 Date Entered:

REVISIONS: MC 5/9/91

ES revised, May 7

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-110

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ KN-110 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16928.

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

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Do not trample or otherwise damage mussel beds.

ARCHAEOLOGICAL CONSTRAINTS:

Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time.

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 844 m: Narrow 209 m: V.Light 251 m: No Oil 0 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 20 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of asphalt
2) manual removal of logs if oil coverage exceeds 10%, 3) bioremediate
areas as indicated on sketch map. Work should be conducted between
5/15 and 7/10 based on salmon constraints.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN 110 SUBDIVISION: None DATE 4-2-90

USCG

NAME

W.F. White

SIGNATURE

William E. White☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Manual Removal of coats on bedrock and surface oil by dredging / Tilling and washing also logs 50% oiled.

ADEC

NAME

Dianne Munson

SIGNATURE

Dianne Munson☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Residual oil in subsurface sediments. Subsurface clearly shows mobile brown/black free floating oil in interstitial water. Coats on cobbles and bedrock outcroppings. Large log 50% oiled.

Recommend removal of oiled log, manual removal of coats on bedrock and remove subsurface oil by dredging / tilling and washing.

Note: Tested a wire brush on the bedrock coats. This worked very well and resulted in complete removal of the coat.

LAND MANAGER

NAME

David Mandrella

SIGNATURE

David Mandrella☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Anadromous stream located in southeast cove of segment adjacent to an apparent bioremediation study site. Three meter band of coated cobble and boulder in upper tidal areas of ~~sub~~ cove should be treated by manually scraping and absorbing coats of oil tarry oil w/ pine needles. Subsurface removal in situ no. 2 may require manual tilling and continued

SHORELINE OILING SUMMARY

REVISION NO. 03/22/89

OG Sawyer USCG white SEGMENT ST/ KN110
 BIO Benson LAND REP Mandrella SUBDIVISION AREA A (of 1)
 XXON Katsimpalis ADEC Munson TIME 10:30 to 13:45
 EAM NO.: 8 TIDE LEVEL: +6 to +1 DATE Apr 12 / 190
 EST. SUBDIVISION LENGTH: 1383 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 50 % B 30 % C 10 % P 10 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 70 % Hang 10 % Vert 20 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 950 m N 210 m VL 223 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	10	15	20	25	SP	BR	FW	GY	BL	GR	OR	TR	SU	U	M	L
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL																

PAVEMENT: H F S 0 sq. m by 0 cmPATTIES / TARBALLS 1 BAGSNEAR SHORE SHEEN? NO BR RW (SL) TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Styrofoam#BAGS 1

Photographs:

Roll No. ST-8-1Frames 28-31

SUBSURFACE OIL * oiled interval < 5cm in pit #6 does not constitute subsurface oil

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW	OIL / FILM COLOR								PIT ZONE	A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO			SP	BR	FW	GY	BL	GR	OR	TR			
1	30				X		- - -											N	C, P, G
2	30						- - -											N	P, G
3	25				✓		2-20		✓		✓							N	B, C, P, wt
4	30				X		- - -											N	P, G, P
5	25						- - -											N	P, G
6	30				X		0-5											N	P, G, P

COMMENTS ST/KN110: Large cove with several ^(low angle) pebble and cobble beaches. Splash and few broken coats in upper and middle intertidal occur throughout most of segment. Pit 6 was excavated in a 1-2 m² pavement in the upper intertidal zone. Pit 3: Film observed on water in pit, but oil interval not observed.

OG Sawy

SEGMENT ST KN110

SUBDIVISION None

DATE Apr 12 90

CHECKLIST

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

LEGEND

1 ▲

Pit - No Subsurface Oil

2 ▲

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

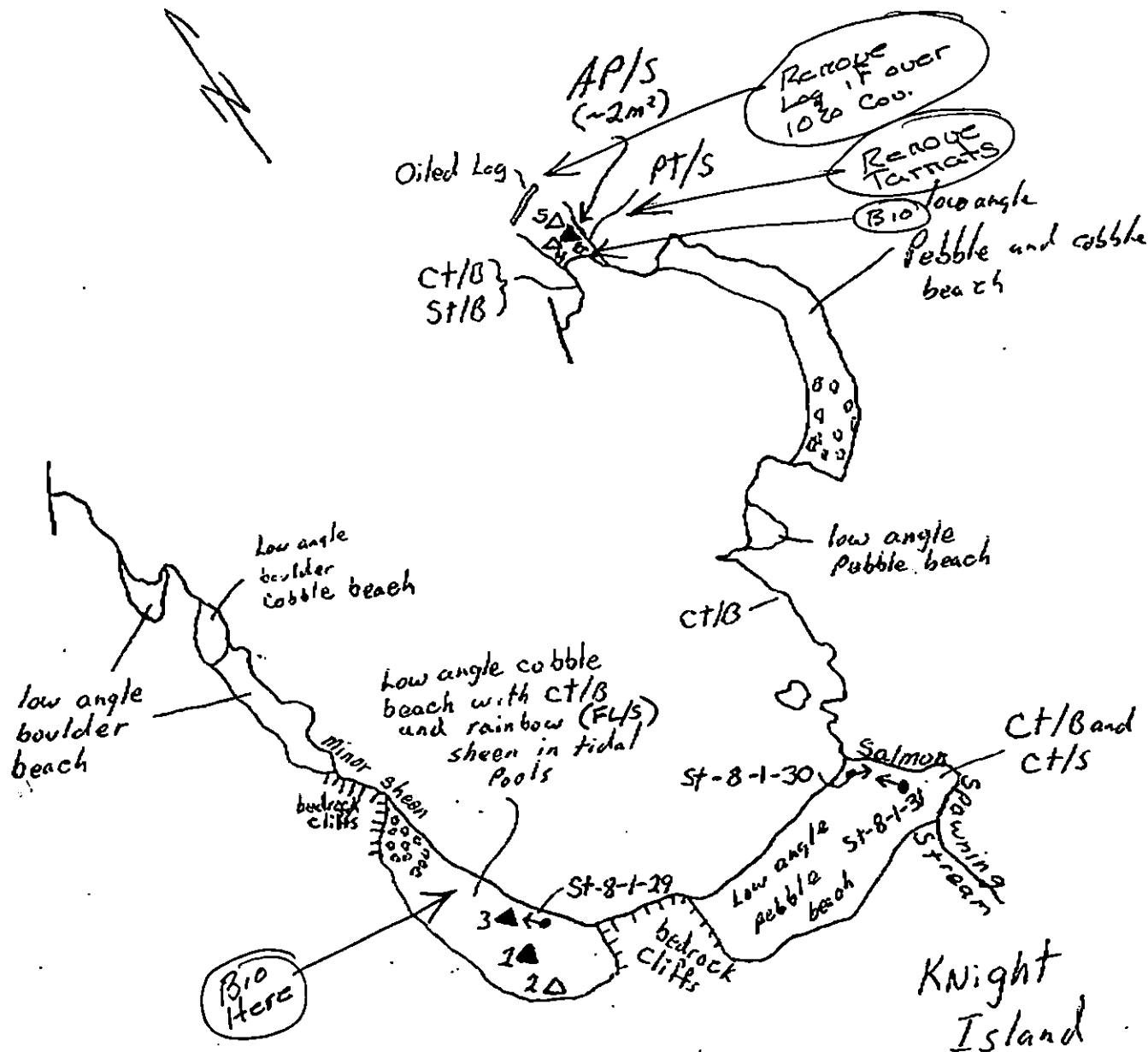
Splashed Distribution

Oiled Vegetation

1 ↔

Photo location, direction,
and number

SKETCH MAP



Oil Character Length (m): AP — PO — CV — CT 1200 ST 400 MS — PT 50 TB — FL 300 NO —

REVISION: 030498

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN 110 Subdivision None Date (mo / day / yr) 4/2/90Time (24 hr) 1040-1230 Biologist J. Benson(A) Substrate type and % of segments:
(1) Bedrock 50 (2) Boulder 30 (3) Cobble 10 (4) Pebble 10 (5) Sand 0 (6) Silt 0(B) Overall % cover of biota (% of segment): Dense 10 Moderate 30 Low 60

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

Photographs:

Roll No. ST-8-1Frames 28-31

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments:

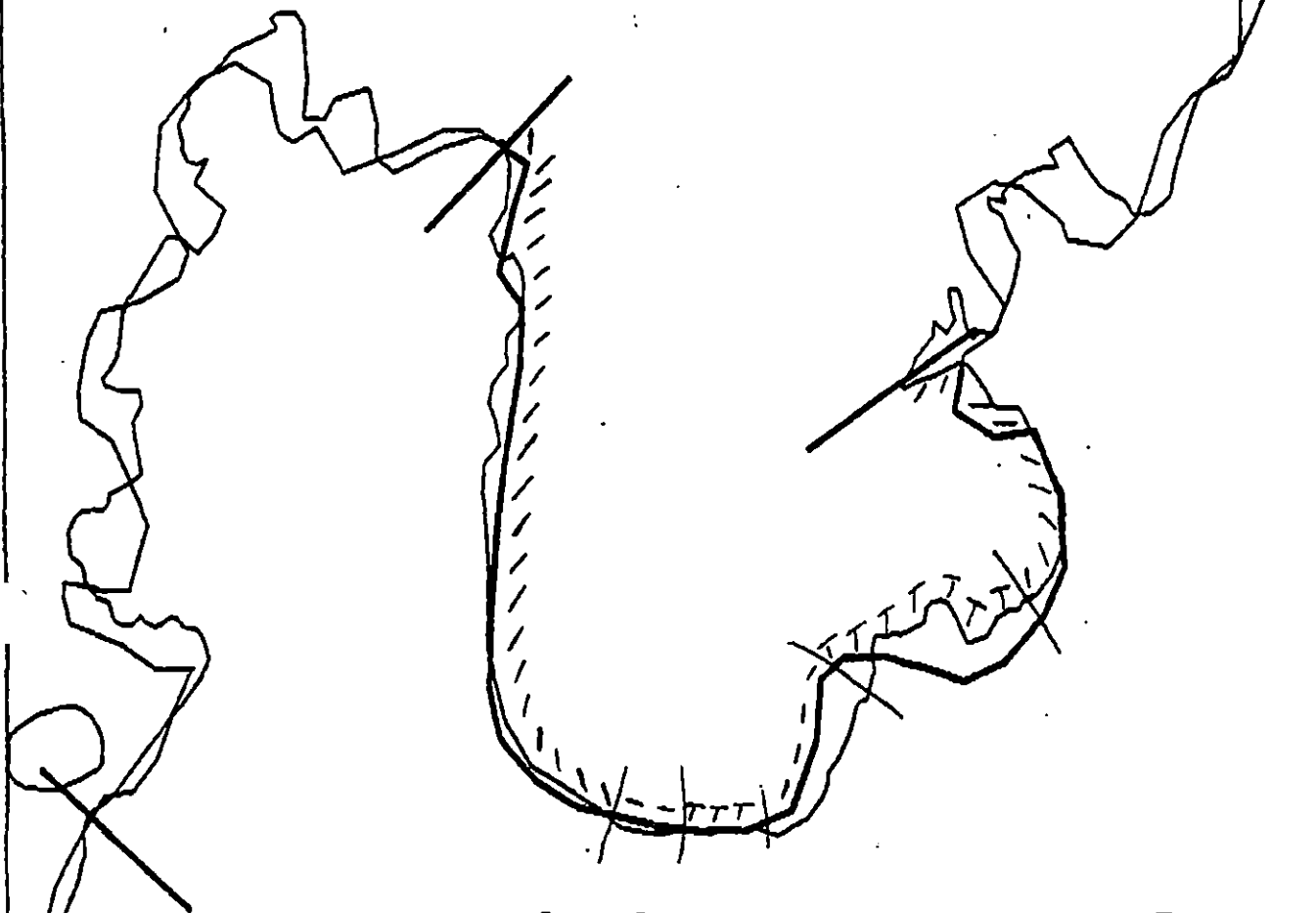
Adult (2) bald eagles (*Haliaeetus leucocephalus*); cormorants
 The overall % cover was much lower here than in KN109, primarily because the cover of green filamentous algae was low. The mouth.

Ecological Considerations:

Sensitivity: 1B

The stream contains a cobble/pebble substrate (as at KN132) in which there is an abundant bed of small (1"-3" long) *Mytilus*. These mussels are easily damaged by boat traffic.

KN-109



KN-110

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

KN-110

ADEC Segment Length: 1303m



Map Key: PWS-291

Name: Sawyer

Date: Apr. 2, 1990

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-110 SUBDIVISION A (1 of 1)

WORK WINDOWManual Pickup
Tarmat Removal**OPEN**

Bioremediation More Than 100m From Stream

OPEN

Bioremediation Less Than 100m From Stream

**WORK PRIOR TO 7/10
(ADF&G MONITOR REQ.)****ARCHAEOLOGICAL MONITOR REQUIRED ON SITE.**

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS**1A,1B****Salmon Stream**

ADF&G catalogued anadromous stream (226-10-16928) is present in Subdivision A. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup and tarmat removal.

5T**Bald Eagle Nest**

NO CONSTRAINT. Recommended treatment areas are more than 400m from eagle nest site.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage. Avoid any unnecessary disturbance or damage to uncolled biota and substrate. Do not trample or otherwise damage mussel beds.

**SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16928)
FOR ADDITIONAL CONSTRAINT INFORMATION**

TAG ADDENDUM DATE

ADEC

EXXON

NOAA

USCG

Prepared by:

FOSC

DATE

Date:

6/04/90
Ray Monrois, R. J. J. J.
Amy Tom
Joseph Talbot
G. J. J. J.

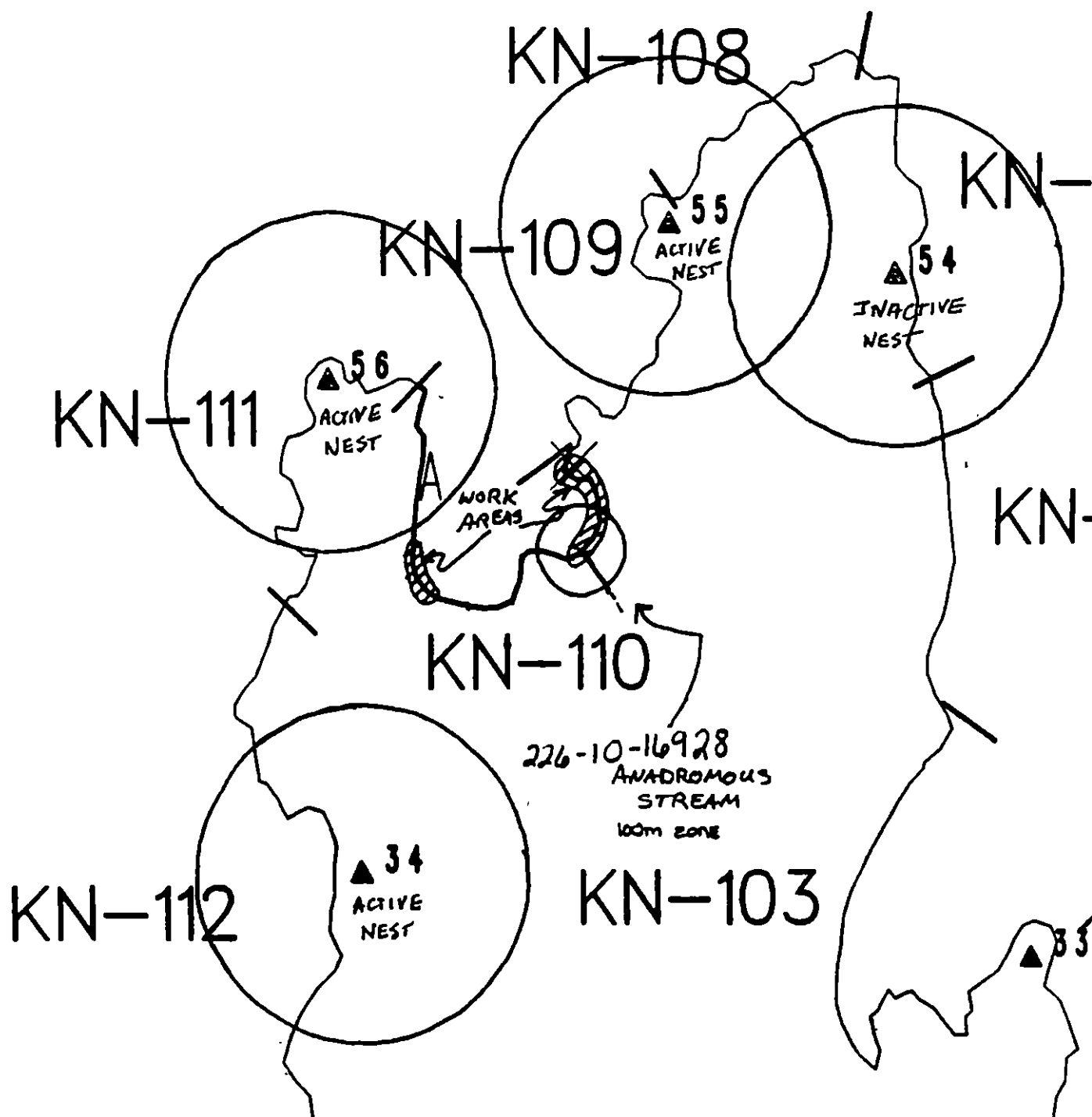
FOSC [Signature]

6/5/90

[Signature] RP

6/4/90

* INCORPORATES FWS 6/11/90 BALD
EAGLE NEST SURVEY MAP.



Exxon Company, USA
Map Keys: KN1-KN-110
May 11, 1990



ECOLOGY MAP
SEGMENT KN-110
SUBDIVISION A (1 of 1)
METERS
0 377 755

★ Seabird Colony
▲ Eagle Nest

1 inch = 1238 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-110 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16928.

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

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. Do not trample or otherwise damage mussel beds.

ARCHAEOLOGICAL CONSTRAINTS: An Exxon archaeological monitor is required on-site during shoreline treatment. ^{required prior to} ~~its~~ ^{it} will be determined at that time.

SHPO SIGNATURE: Charles J. Homan DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 844 m: Narrow 209 m: V. Light 251 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 20 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of asphalt
2) manual removal of logs if oil coverage exceeds 10%, 3) bioremediate
areas as indicated on sketch map. Work should be conducted between
5/15 and 7/10 based on salmon constraints.

SEE APPENDUM DATED 5/20/90

TAG COMMENTS: See Revision 1, Appendix dated 6/4/90/PP

TAG APPROVAL DATE: 4/21/90.

ADEC Art Weirantz

EXXON Andy Tom

NOAA Burt Warrick

USCG Kenneth K. Kline

FOSC: W L DATE: 5-6-90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-110 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
Bioremediation Over 100m From Stream	OPEN
Bioremediation Less Than 100m From Stream	PERMIT REQUIRED

ARCHAEOLOGICAL MONITOR REQUIRED ON SITE.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B	Salmon Stream	ADF&G catalogued anadromous stream (226-10-16928) is present in Subdivision A. Subdivision is closed to bioremediation less than 100m from stream without ADF&G authorization. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup and tarmat removal.
5T	Bald Eagle Nest	NO CONSTRAINT. Recommended treatment areas are more than 400m from eagle nest site.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage. Avoid any unnecessary disturbance or damage to uncolled biota and substrate. Do not trample or otherwise damage mussel beds.

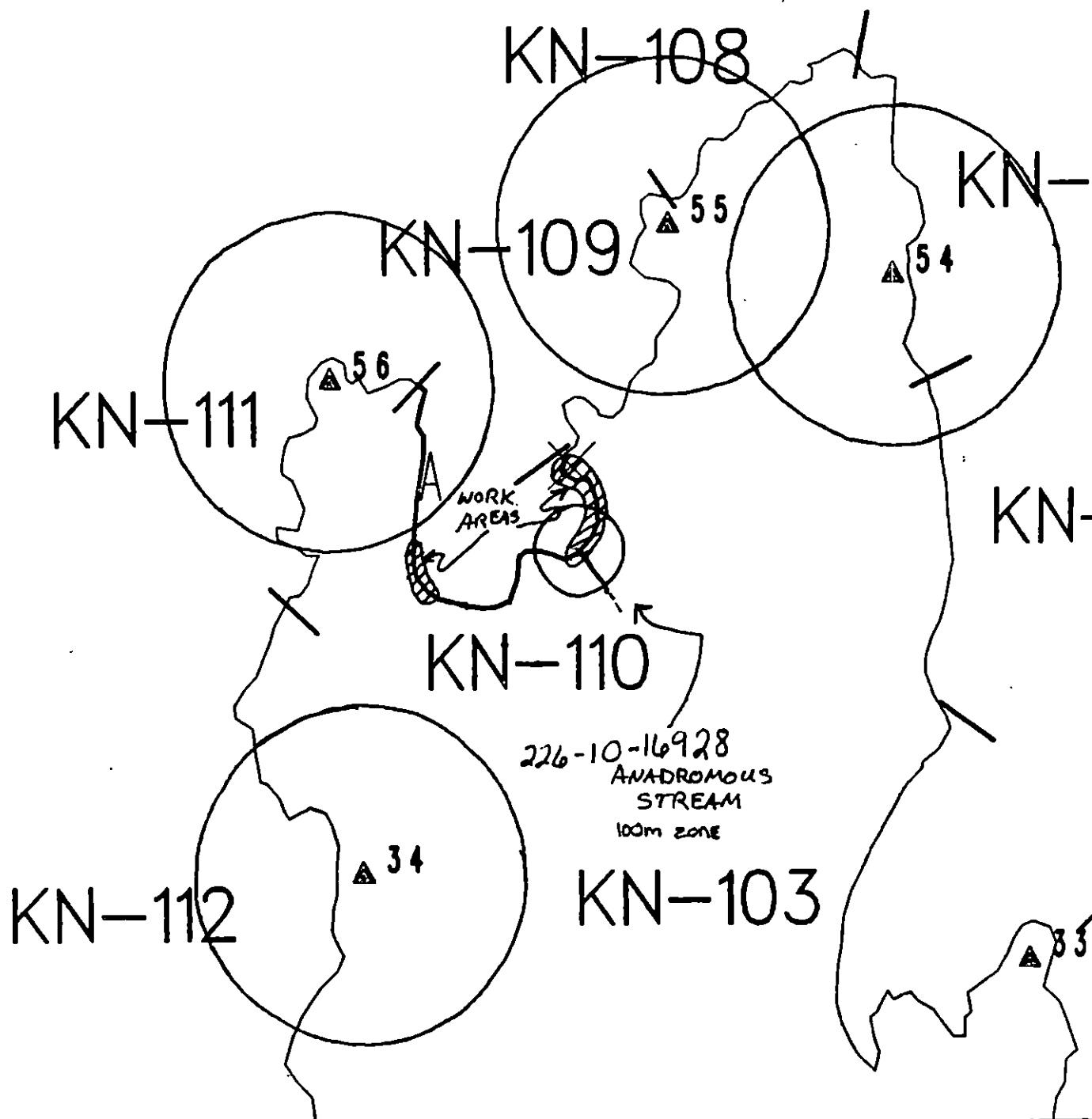
TAG ADDENDUM DATE 5/21/90
ADEC Art Weimer
EXXON Amy Tarr
NOAA Joseph Stalworth
USCG Mr. J. Hall

FOSC [Signature]

DATE 5-21-90

Prepared by: Anda Meyer

Date: 5/20/90



Exxon Company, USA
Map Keys KNI-KN-110
May 11, 1990



ECOLOGY MAP
SEGMENT KN-110
SUBDIVISION A (1 of 1)
— METERS
0 377 755

★	Seabird Colony
▲	Eagle Nest

1 inch = 1238 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-110 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16928.

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

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. Do not trample or otherwise damage mussel beds.

ARCHAEOLOGICAL CONSTRAINTS: An Exxon archaeological monitor is required on-site during shoreline treatment. *Required prior to treatment. Its will be determined at that time.*

SHPO SIGNATURE: *Charles E. Adams* DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 844 m: Narrow 209 m: V. Light 251 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 20 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of asphalt
2) manual removal of logs if oil coverage exceeds 10%, 3) bioremediate
areas as indicated on sketch map. Work should be conducted between
5/15 and 7/10 based on salmon constraints.

SEE ADDENDUM DATED 5/20/90

TAG COMMENTS:

TAG APPROVAL DATE: 4/21/90.

ADEC *Art Weimer*

EXXON *Andy Tolan*

NOAA *Burt Warrick*

USCG *Kenneth H. Kline*

FOSC: *W L* DATE: 5-6-90

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-111

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ KN-111 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 19 m: Medium 216 m: Narrow 216 m: V.Light 26 m: No Oil 674 m

Subsurface Oil Observed: Yes X No _____ Maximum Depth 40+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pick up of debris and trash, removal of tarmats, spot washing and bioremediation of areas indicated on sketch map. Reassessment of oiling prior to treatment is recommended because the snow cover limited the Phase I SSAT evaluation. Treatment should be conducted after 6/1 and with permission of USFWS due to eagle nesting constraint.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN III SUBDIVISION: A DATE 4-2-90

USCG

NAME

Patrick Mahy

SIGNATURE

Patrick Mahy

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

The segment is a good candidate for further tag team evaluation due to the amount of subsurface oil present. It is probably a recurrent bleeder but I don't have access to that info. The continuous and broken areas of cover may need to be spotwashed then bioremediated. Natural cleansing is the best treatment for the stain and lightly coated (weathered) areas. The surface and substrate were oiled up to the snowline. There was a large amount of heavily oiled logs in the supratidal zone that should be manually removed.

ADEC

NAME

M. Cunningham

SIGNATURE

M. Cunningham

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Spot wash w/hot H₂O during incoming tide (to avoid excess contamination of lower tidal areas) area nr pit #7. Dredge w/back hoe upper intertidal areas nr sites 8,9 using boom (sorbent) to expose subsurface mobile oil + tar lens to wave action. Bioremediate several times if method proves effective. Biorem. beaches sites 1-5. Debris pickup + inspection all beaches. Leave headland "coat" to continue weathering. Note: this part of the coast has been respon. for numerous winter sheens observed by overflight teams - there is still a significant quantity of hardening oil in mid to supra tide areas.

LAND MANAGER

NAME

Steven Phillips

SIGNATURE

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

This segment needs TAG review.

Scout storm berm for debris. some logs need removal. pocket beaches on west side still show extensive surface and subsurface oil. Most areas are above previously washed beaches so they could be treated again without much harm to the biota. Hot/cold water flush, dredging etc can be applied. Suggest booming with absorbant boom during high

SHORELINE OILING SUMMARY

REVISION NO. 03/23/90

CG Greg Chaney USCG Patrick Malay SEGMENT ST/KN III
 IO Jim Roth LAND REP Steve Phillips SUBDIVISION Wave A (10 ft)
 EXXON Ray Sotelo ADEC Mike Cunningham TIME 10:15 10/3/95
 TEAM NO.: 7 TIDE LEVEL: 6.0 ft to 1.0 ft DATE April 12, 1990
 EST. SUBDIVISION LENGTH: 1285 m ☒ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock SNOW
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: North to South
 SURFACE SEDIMENTS: R 70 % B 20 % C 5 % P 5 % G — % S — % M — % V — %
 SLOPE: Long 10 % Hang 30 % Vert 60 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 17 m M 250 m N 200 m VL 350 m NO 468 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES				
	C	R	P	S	SP	OR	OL	OF	NO	TL	LR	BU	U	M	U
ASPHALT PAVEMENT POOLED	X									X			X		
COVER	X	O				X	O					X	X	X	O
COAT	X	✓	O	□		X	O					X	O	O	✓
STAIN	X	✓	O	□		X	O					X	O	O	✓
MOUSSE															
PATTIES															
TARBALLS															
FILM		X			X	X						X	X		
NO OIL												Snow			X

PAVEMENT: H F (S) 15 sq. m by 5 cm

PATTIES / TARBALLS — BAGS

NEAR SHORE SHEEN? NO BR (RW) (SL) (TL)

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

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Pom Pom, Rope
Net, Padlock
#BAGS 2

Photographs:

Roll No. ST-7-1

Frames 23, 24, 25, 26, 27

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW	OIL / FILM COLOR								PIT ZONE	A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO			BU	U	M	U	BU	U	M	U			
1	35			X			20-35	X	X					X					PC Brown Sheen on water
2	30			X			10-30	X							X				PC "
3	20		X				5-10	X			X				X				PC
4	35					X	0-20	X								X			PC
				X			20-35	GL X			X								PC
5	35					X	0-25	X											CB CONTINUED

COMMENTS

Significant quantities of mobile oil are still present on the surface of sediments near pit #7.

33

GC
H114-11-90
4-2-90

SHORELINE OILING SUMMARY (PAGE 2 of)

REVISION 08/23/90

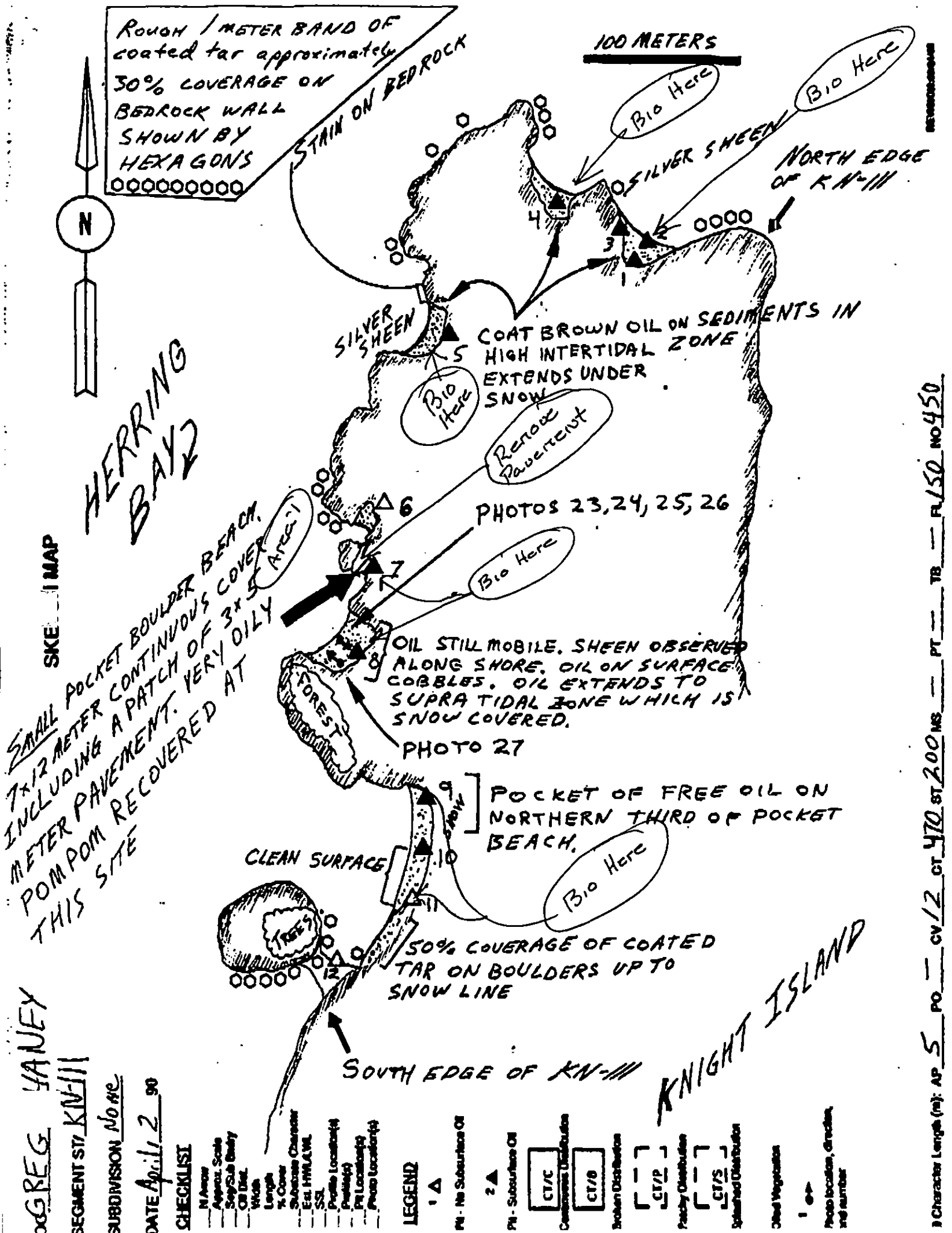
SEGMENT ST/ 111 SUBDIVISION NONE

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	VO	1	2	3	4	5	6	U	L	W	U		
5	35				X		25-35	X	X	X								X			CB
6	25					X	0-25	X										X			PG
7	25	X					0-5	X				X					X				CGS
					X		0-25	X		X							X				CGS
8	40	X					0-20	X				X					X				CG
					X		20-40	X		X							X				CG
9	30		X				0-10	X				X					X				CG
10	25				X		0-25	X		X								X			CG
11	20				X		0-20	X	X									X			CG
12	20					X	0-20	X										X			CG
							.														
							.														
							.														
							.														

COMMENTS

REVIEWED _____ DATE _____



SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/12/90

Segment ST / KN 111 Subdivision _____ Date (mo / day / yr) Apr 2, '90
 (24 hr) ARR 1050 LY 1345 Biologist ROTH

- (A) Substrate type and % of segments:
 (1) Bedrock 60 (2) Boulder 25 (3) Cobble 10 (4) Pebble 5 (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 50 Moderate 30 Low 20
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:

Roll No. ST-7.1Frames 23-27

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

EN ROUTE TO SEGMENT SAW 1 SEA OTTER, AND ONE BALD EAGLE PERCHED ON ROCKY ISLET.
 3 BALD EAGLES ON WING SEEN OVER SEGMENT KN111.

THIS SITE IS A MODERATE IMPACT SITE, MORE EXPOSED TO WAVE ENERGY THAN THOSE
 EXAMINED DURING THE LAST TWO DAYS (E.G. KN101, 104). LARGE BARNACLES (*BALANUS CARIOSUS*)

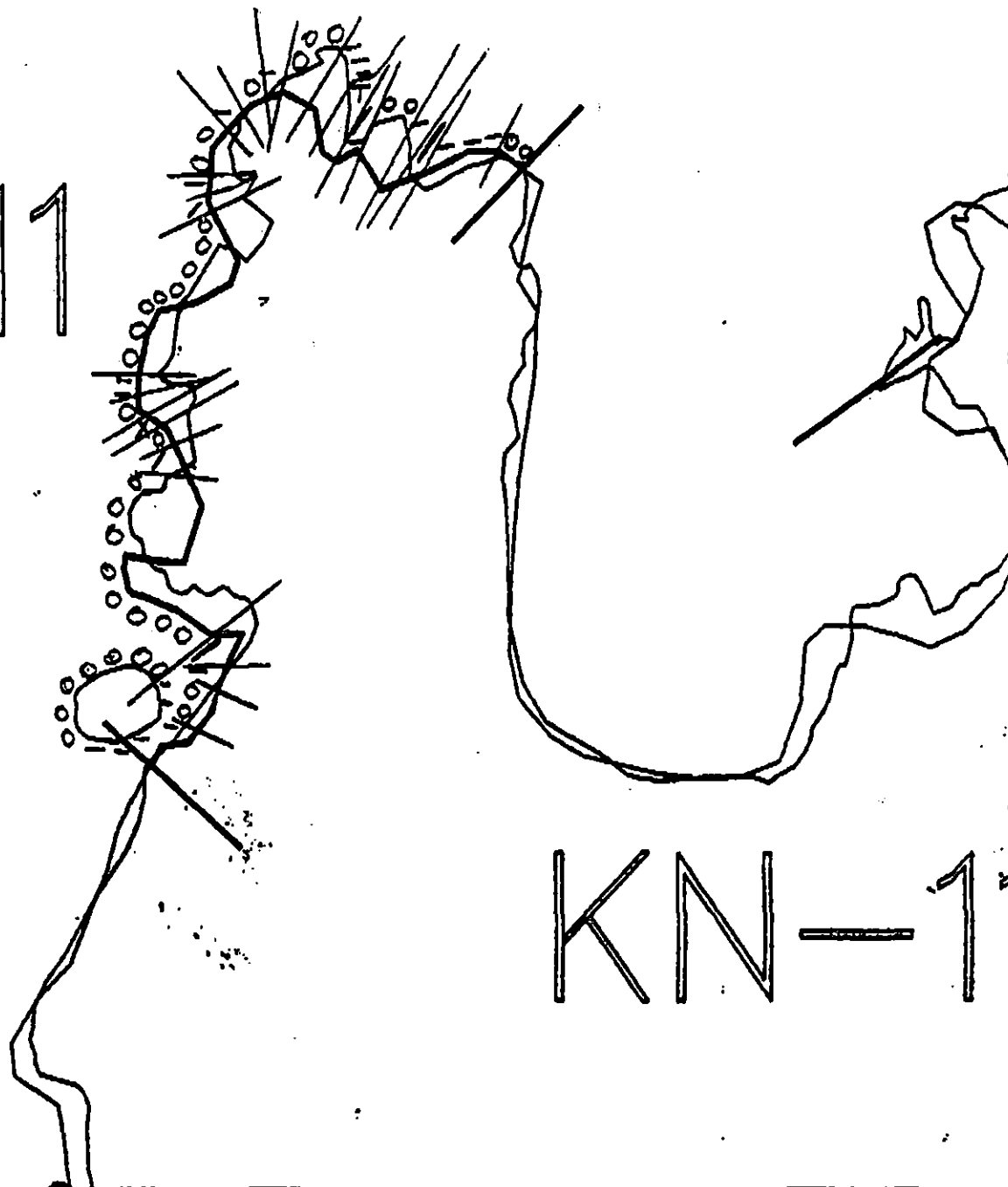
Ecological Considerations: MORE CONSPICUOUS HERE, AS WERE LIMPETS (3 spp.) AND WHELMS

5T - ACTIVE BALD EAGLE NESTS (*NUCLEA IAMELLOSA*). SMALL COBBLE BEACHES EVIDENTLY

6Y - RECREATION - SPECIAL USE DESIGNATION WERE HOT-WATER WASHED DURING 1989; THESE
 CONTAINED LITTLE BIOTA IN THE UPPER AND
 MIDDLE INTERTIDAL ZONES.

KN-109

N-111



KN-1

XXX Wide

/// Medium

--- Narrow

TTT Very Light

KN-111

ADEC Segment Length: 1150m
EXXON SEGMENT LENGTH 1285

Map Key: PWS-292

Name: Greg Chaney

Date: April 2 1990

ASAP TAG REVIEW SHEET

Segment: Kn III Subd: A Site: 1

Date
PRE-Review 12 Aug

Priority For Addressing In 1990

 HIGH MEDIUM LOW NTR X me

Treatment
Recommended:

UFR

medium SUR - patchy

Site 2 worse than
Site 1 should work
on Site 2 !!!

Priority Site For Reassessment In 1991

YES ☒ NO YES NO YES NO YES NO
CG ADEC EXXON LAND MGR

TAG 23 AUG

Reapply B10

DRAFT

ASAP FOLLOWUP RECOMMENDATIONS

Segment: AS/ KN-III Subd.: A Site: 1 Date: 8/13 1990Conditions Observed: Oiled wood + logs in U12 & storm berm
area. SOR 12/m between logs on berm SOR 15/1H U12.Followup Recommendations: Reassess to determine extent of
S.S. oil in STZ U12 + M12.Completed by Pickup Crew: ☐ YES ☐ NOPriority for Addressing in 1990: ☐ High ☐ Mod. ☐ Low

ADEC

John Hoyer
(name)

(signature)

Comments: ① Remove or burn oiled wood on site. ② Till from STZ thru M12
+ aerate oiled sediments. ③ Bio. ④ ReassessSee OH report + sketch map. Pebble/Cobble beach can be mechanically tilled, beach
is bordered by boulders SOR between boulders would require manual tilling.

BAXON

Martinez Ndi
(name)

(signature)

Comments: I believe it would be best to re bio
the area come back + see what the combination
of bio + winter storms have done.

USCG

MSK Michael DeBevoise
(name)

(signature)

Comments: Re-bio 1990 Re-ASSESS 1991

Land Rep.

DOUGLAS GIBSON
(name)

(signature)

Comments: RECOMMEND COMBINATION OF TILLING AND BIO
TREATMENT. REMOVE OILED WOOD.

FIELD SHORELINE COMMENT SHEET

SEGMENT AS / KN-III SUBDIVISION: A SITE: 1 DATE 8-14-90

SCG

NAME MICHAEL D. BROWN SIGNATURE Michael D. Brown

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: HEAVY SOIL & SSOR INDICATES A NEED FOR RC-BIO 1990 FALL AND FOLLOWUP 9/.

ADEC

NAME John Hayes SIGNATURE _____

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Followup recommendation sent in for this site.
See followup.
High priority for reassessment.

LAND MANAGER

NAME DOUGLAS GIBSON SIGNATURE Douglas Gibson

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: STRONGLY RECOMMEND REASSESSMENT IN '91 DUE TO PRESENCE OF MODERATE LEVELS OF SURFACE AND SUBSURFACE OIL.

EXXON

NAME Martinez N.J. SIGNATURE Nicholas J. Martinez

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Beach has a moderate amount of both surface + sub surface oiling. Winter storms should help but it is a definite priority for 1991

FIELD SHORELINE COMMENT SHEET

SEGMENT AS / KNI-III SUBDIVISION: A SITE: 2 DATE 8-13-90**USCG**NAME MSIC Michael D. Resum SIGNATURE Michael D. Resum☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Heavy SOR & SPM indicates need for re-eval 1990 and follow-up '91.**ADEC**NAME John Hayer SIGNATURE John Hayer☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Follow up recommendation sent in, citing observed needs treatment this fall and reassessment in 1991.**LAND MANAGER**NAME DOUGLAS GIBSON SIGNATURE Douglas Gibson☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

THIS BEACH MUST BE REASSESSED IN '91. HEAVY AMOUNTS OF SOR PRESENT.**EXXON**NAME Martinez N.W. SIGNATURE Nicholas G. Martinez☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Beach is moderately contaminated both surface & sub surface. Will need to be reassess after winter storms.

FIELD SHORELINE COMMENT SHEET

SEGMENT AS KM-III SUBDIVISION: A SITE: 3 DATE 8-13-90

USCG

NAME MTZ Michael D. Brown SIGNATURE Michael D. Brown

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

ADEC

NAME John Hays SIGNATURE John Hays

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

504H and ss. oil observed in MTZ. Should be reassessed in 1991 to determine extent of subsurface oil and remaining surface oil.

LAND MANAGER

NAME DOUGLAS GIBSON SIGNATURE Douglas Gibson

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

EXXON

NAME Martinez M.D. SIGNATURE Richard G. Martinez

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

Beach is high energy with relatively little contamination. Winter storms to nature should take care of what remains

FIELD SHORELINE COMMENT SHEET

SEGMENT AS KN-III SUBDIVISION: A SITE: 4 DATE 8-13-90

USCG

NAME MRC Michael D. Brown SIGNATURE Michael D. Brown

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

ADEC

NAME John Hoyer SIGNATURE John Hoyer

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

Sub-surface oiling in the LITE & the UITE site should be reviewed to determine extent of oiling and effectiveness of b/b.

LAND MANAGER

NAME DOUGLAS GIBSON SIGNATURE Douglas Gibson

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

EXXON

NAME Marionette N.J. SIGNATURE Nicholas J. Martinez

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

TEAM NO. ONE EXXON MARTINEZ SEGMENT AS/ KN-11
 OG Reimer USCG BROWN SUBDIVISION A
 ADEC HAYES LAND REP GIBSON TOTAL NO. SITES 4
 DATE 8/13/90 TIME 9:30 to 12:30 TIDE LEVEL 6 to 3
 TOTAL EST LENGTH OF SHORELINE SURVEYED: 660 m
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WEATHER: ☐ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 OIL CATEGORY LENGTH: W 20 m M 60 m N 41 m VL 429 m NO 0 m US 490 m

SURFACE OIL

SITE 1

SITE 2

SITE 3

CHARACTER	DISTRIBUTION				OILED ZONES			
	IC	IB	IP	IS	SU	UI	MI	LI
ASPHALT								
S.O.R.			M	H	M	H		
POOLED								
COVER			X			X		
COAT			X	X		X		
STAIN		✓	X	X		X	X	
MOUSSE								
PATTIES/T.B.								
FILM								
NO OIL								
EST. SITE LENGTH					190m			

CHARACTER	DISTRIBUTION				OILED ZONES			
	IC	IB	IP	IS	SU	UI	MI	LI
ASPHALT								
S.O.R.	H	M	H		H	H		
POOLED				X		X		
COVER	X	✓	X	Z	✓	X		
COAT		✓	Z	X		X	X	
STAIN		X				X	X	
MOUSSE								
PATTIES/T.B.								
FILM	X	X				X	X	X
NO OIL								
EST. SITE LENGTH					145			

CHARACTER	DISTRIBUTION				OILED ZONES			
	IC	IB	IP	IS	SU	UI	MI	LI
ASPHALT								
S.O.R.			H		H	H		
POOLED								
COVER								
COAT				X		X	X	
STAIN		X	X			X	X	
MOUSSE								
PATTIES/T.B.								
FILM								
NO OIL								
EST. SITE LENGTH					145			

SUBSURFACE OIL

SITE NO.	PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER				OILED INTERVAL (cm)	CLEAN BELOW (Y/N)	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS
			OP	OR	OF	NO			SU	UI	MI	LI	
1	1	35		M			5-20	Y			M		CP-PG-H ₂ O
1	2	30		M			5-15	Y		M			CP-PG
							.						
2	1	10		H			5-10	Y	H				CP-PG-S
2	2	30		H			5-30	N		H			CP-PG-S-R
2	3	20		H			0-15	N			H		BC-CPG-R
2	4	15			X		5-10	Y		X			PG-G-R
2	5	10		H			5-10	Y	H				PG-OG
							.						
3	1	25		M			20-35	N			M		BC-PG-R
							.						
							.						

Photographs:

Roll No. ASAP 1-25Frames 1, 3, 13, 15, 17Black Oil on H₂O

REVIEWED

8/15/90 *Yil*

COMMENTS Rocky Coastline with pocket pebble, cobble, Boulder Beaches. Heaviest oiling was found in Site 1 and 2 where patchy and broken cover/crust and SOR are found predominantly in the UITE and Supra ITE, with subsurface oil in pits. One locality of Pooled oil was

ASAP SHORELINE OILING SUMMARY
SEGMENT AS/ KN-11 SUBDIVISION A

Page 2 of 2

SURFACE OIL (CONTINUED)

SITE 4

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SU	UI	ME	LI
ASPHALT								
S.O.R.	M			H I	X	H M		
POOLED								
COVER								
COAT			✓	X	X	X		
STAIN		X				X		
MOUSSE								
PATTIES/T.B.								
FILM		X				X	X	
NO OIL								
EST. SITE LENGTH					180			

SITE

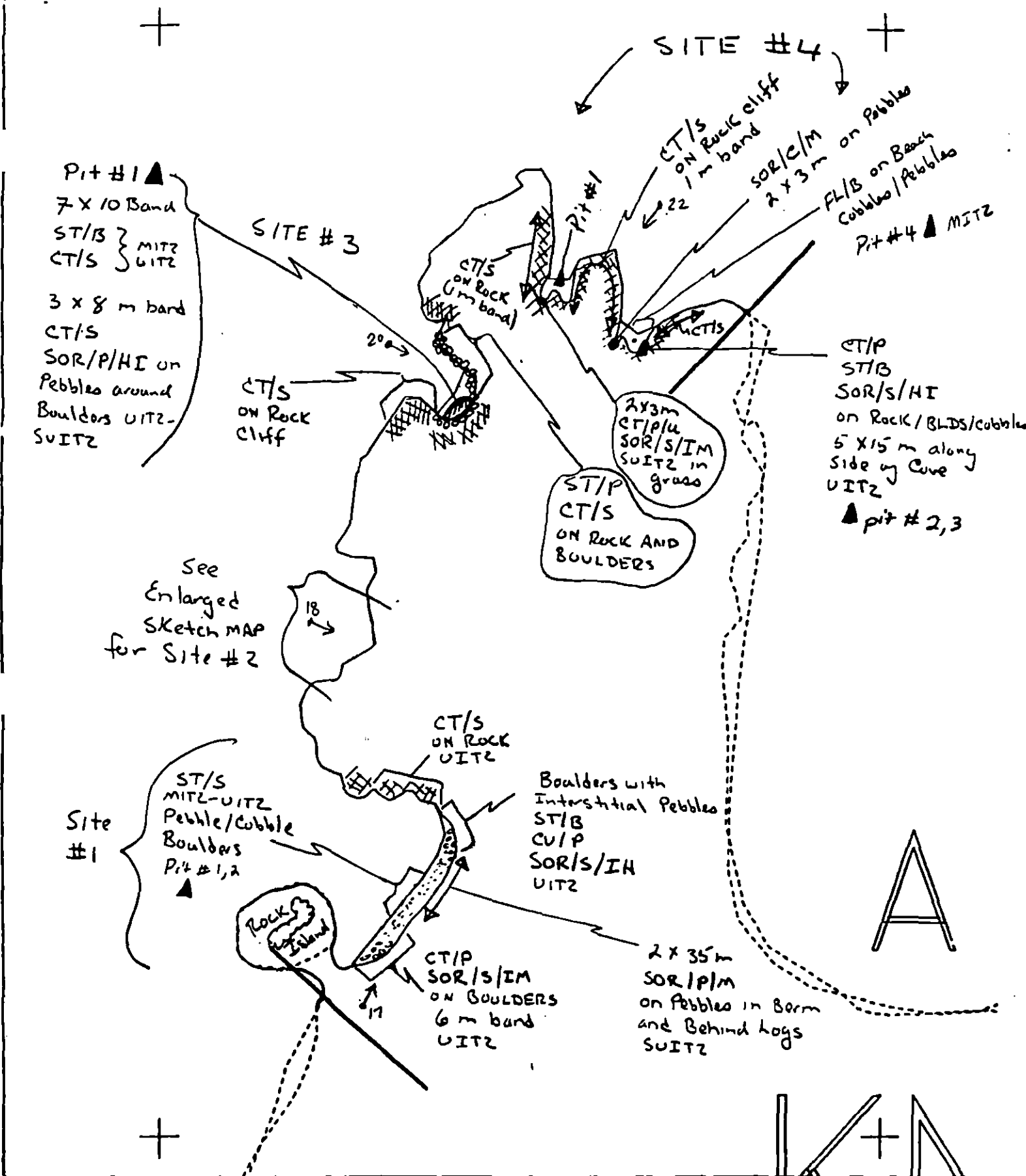
DISTRIBUTION				OILED ZONES			
/C	/B	/P	/S	SU	UI	ME	LI
</							

SUBSURFACE OIL (CONTINUED)

SITE NO.	PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER				OILED INTERVAL (cm)	CLEAN BELOW (Y/N)	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS
			OP	OR	OF	NO			SU	UI	MI	LI	
4	1	15			X		0-15	Y				X	CP, GS-H ² O
4	2	38		H			14-38	N		H			CP, PH-H ² O
4	3	15		M			5-15	N		M			BC, CHS-H ² O
4	4	20		H			10-20	N			H		CP-PG-H ² O
							.						
							.						
							.						
							.						
							.						
							.						
							.						
							.						

REVIEWED
8/15/90 ✓/il

COMMENTS



XXXX
////

TTTT
0000

Wide
Medium
Narrow
Very Light
No Oil

KN-111 A
ADEC Subsegment Length: 1150m
METERS

0 100 200

AK State Plane Zone 4 1:3857
660-1110



Subdivision Field No:
Map Key: KNKN-111A
Name: Reimer
Date: 8/13/90
Date Entered:

OK R 10/

SEGMENT ST/ KN-111

SUBDIVISION A

DATE 8/13 90

CHECKLIST

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

LEGEND

1 Δ
Pit - No Subsurface Oil

2 Δ
Pit - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

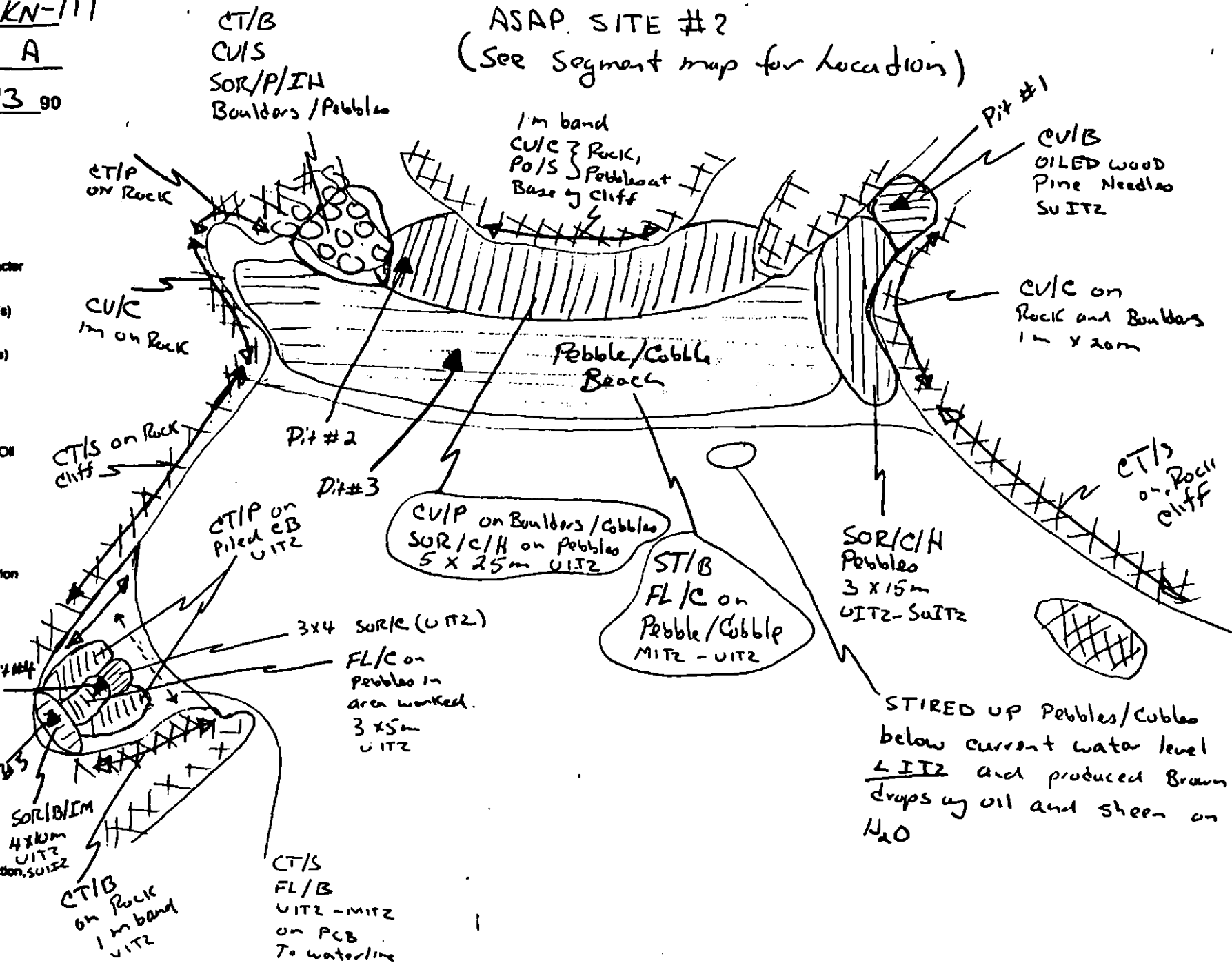
CT/S
Splashed Distribution

Oiled Vegetation

1 $\rightarrow$
Photo location, direction, SUITZ and number

ETCH MAP

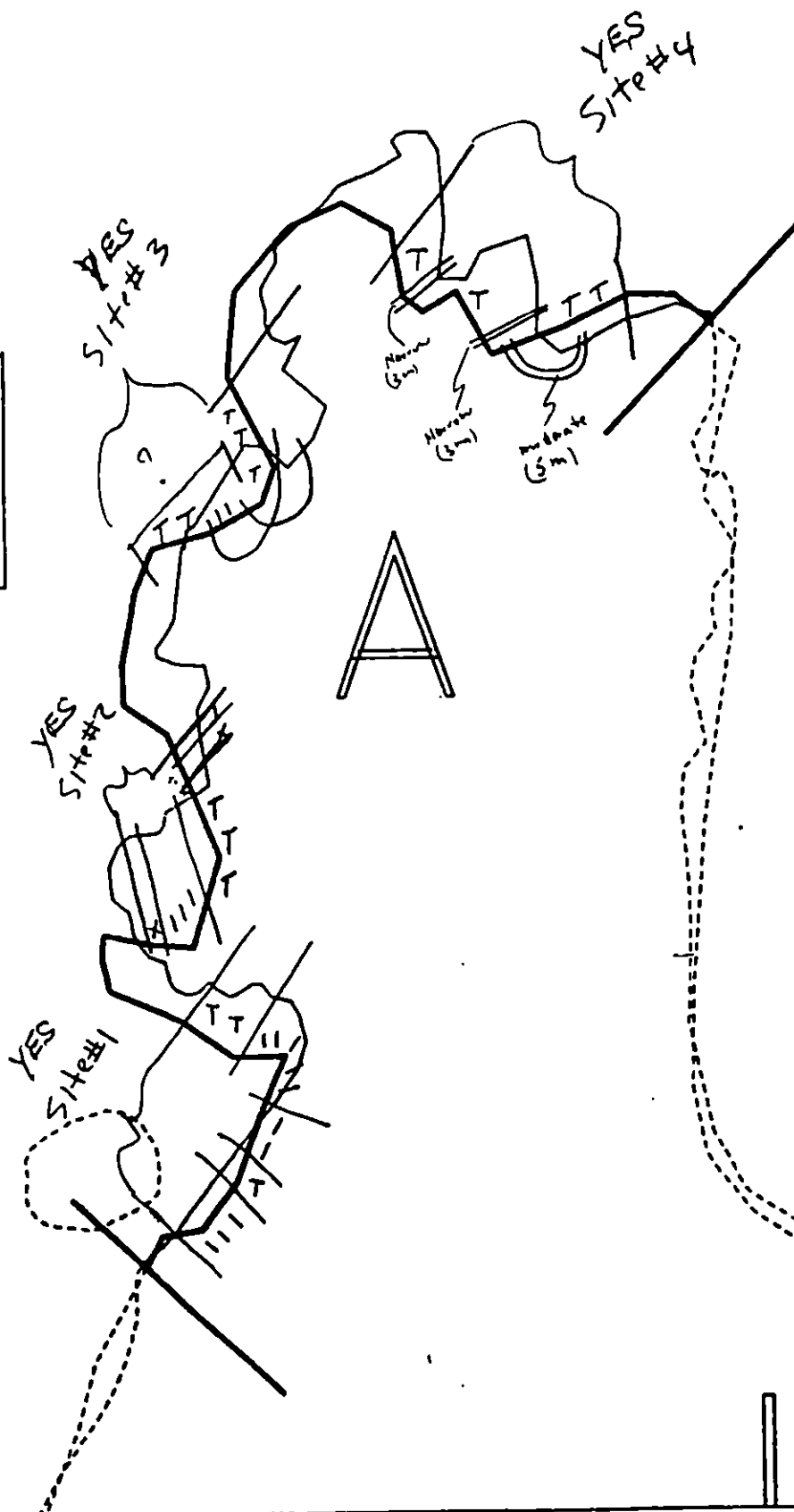
ASAP SITE #2
(See Segment map for location)



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

REVISION: 02/04/90

111



XXXX
////

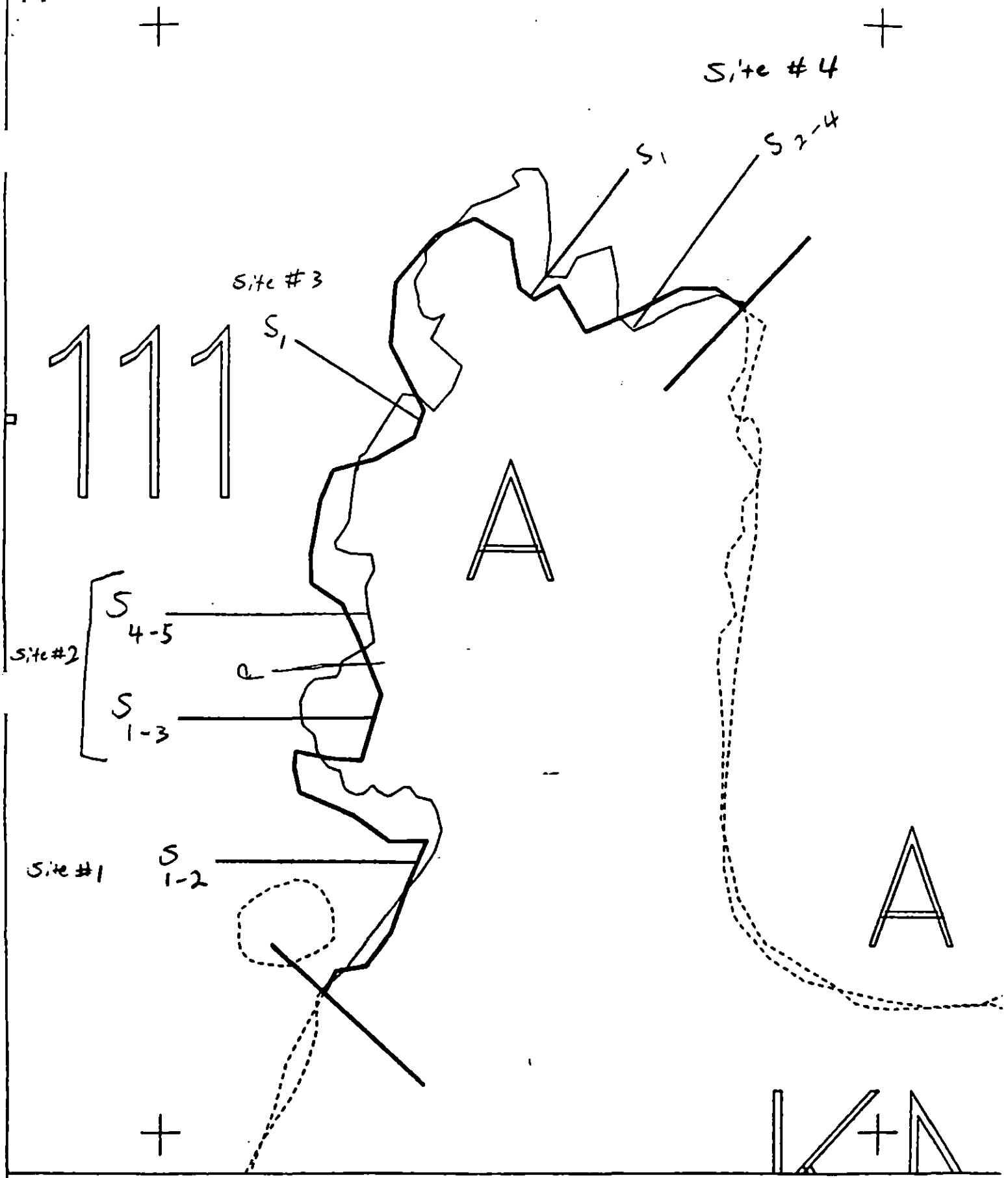
TTTT
0000

Wide
Medium
Narrow
Very Light
No Ob

KN-111 A
ADEC Subsegment Length: 1150m
METERS
0 101 201
AK State Plane, Zone 4 1:3057



Subdivision Field Map
Map Key: KNIK-111A
Name: Reimer
Date: 8/13/90
Date Entered:



vXXX Wide
 ,/// Medium
 ---- Narrow
 TTTT Very Light
 0000 No Oil

KN-111 A
 ADEC Subsegment Length: 1150m
 METERS
 0 101 201
 AK State Plane Zone 4 1:3057



Subdivision Field Map
 Map Key: KN1KN-111A
 Name: Reimar
 Date: 8/13/90
 Date Entered:



ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-111 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup & Tarmat Removal Outside Eagle Nest Buffer Zone	OPEN
Manual Pickup & Tarmat Removal Inside Eagle Nest Buffer Zone	CLOSED
Bioremediation, Manual/Mechanical Raking/Tilling Spot Washing, and Snare/Absorbent Booms Outside Eagle Nest Buffer Zone	OPEN
Bioremediation, Manual/Mechanical Raking/Tilling Spot Washing, and Snare/Absorbent Booms Inside Eagle Nest Buffer Zone	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision B. Closed to bioremediation, manual pickup, tarmat removal, manual/mechanical raking/tilling, spot washing, and snare/absorbent booms within 400m of active nest. No constraint to all treatments outside eagle nest buffer zone.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to unopened biota and substrate.

FOSC

Date

6-10-90

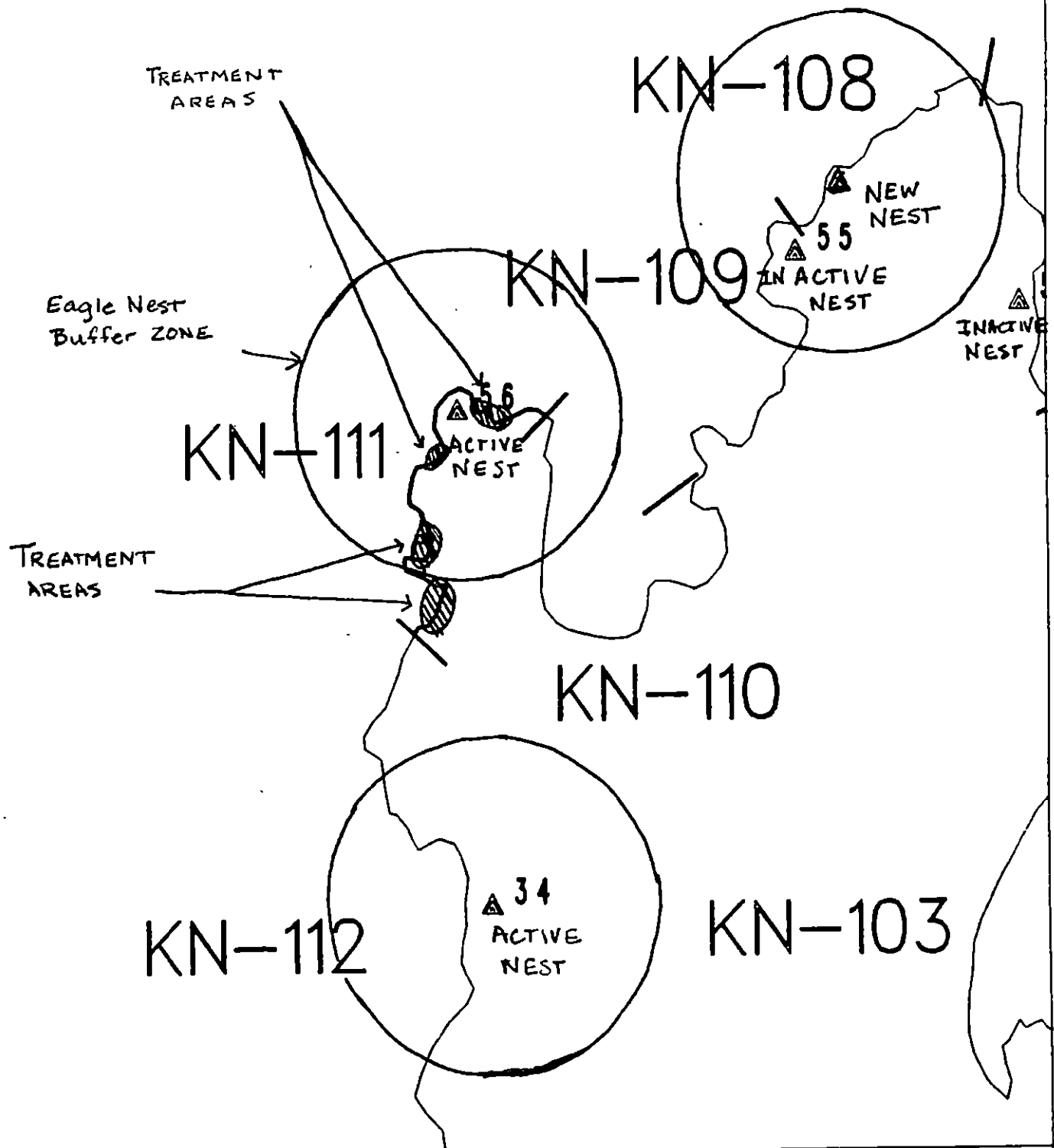
Prepared by

WIK

Date

6/8/90

INCORPORATES 1981 USFWS 61190 map
of bald eagle nests.
Active



Exxon Company, USA
Map Key: KNI-KN-111
May 11, 1990



ECOLOGY MAP
SEGMENT KN-111
SUBDIVISION A (1 of 1)
METERS
0 365 729

★ Seabird Colony
▲ Eagle Nest

1 inch = 1197 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-111 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Hume DATE: 4/25/90

OILING CATEGORIZATION:

Wide 19 m: Medium 216 m: Narrow 216 m: V.Light 26 m: No Oil 674 m
Subsurface Oil Observed: Yes X No Maximum Depth 40+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pick up of debris and trash, removal of
tarmats, spot washing and bioremediation of areas indicated on sketch
map. Reassessment of oiling prior to treatment is recommended because
the snow cover limited the Phase I SSAT evaluation. Treatment should
be conducted after (6/1) and with permission of USFWS due to eagle nest-
ing constraint. See Addendum Dated 6/8/90 etc

TAG COMMENTS: PRIOR TO BIOREMEDIATION MANUAL/MECHANICAL IN
AREAS OF TEST PITS 7, 8, +9 AND TEST PIT 3. TILLING/RAKING
USE SNARE BOOMS + ABSORBENT BOOMS TO RECOVER OIL AND
MINIMIZING SHEAVING.
MONITORS TO ASSESS THE CONDITION OF LOGS AND DETERMINE SIGNIFICANCE

TAG APPROVAL DATE: 4/17/90

ADEC Art Weiner D. Hume

EXXON Andy G. Hume Ken

NOAA Bruce Wescott Bruce Wescott

USCG KENNETH KEENE Ken

FOSC: W L DATE: 4-27-90

1991 MAYSAP EVALUATION

SEGMENT: KN 111 **SUB:** A **REGION:** PWS **SURVEY DATE:** 5/5/91

ENVIRONMENTAL SENSITIVITIES:

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

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

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>Y</u>	_____	_____
Manual Pickup (Check as Req.)	<u>X</u>	_____	_____
Spot Washing	_____	_____	_____
Bio-Customblen Only	_____	_____	_____
Bio-Inipol/Customblen	<u>X</u>	_____	_____
Other _____	_____	_____	_____
Other _____	_____	_____	_____

COMMENTS:

INITIAL: Remove mousse at location A5. Apply Customblen in area of pits 22, 23, 24, 25, 26, and 27.

TAG: _____

FOSC: _____

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

ADEC _____ **FOSC** _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

MATJAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 1 SEGMENT KN - III SUBDIVISION A DATE 5/5/91

ADEC

NAME

JEFF GINAZIAS

SIGNATURE

[Signature]

☐ NTR

☒ TREATMENT RECOMMENDED

MANUAL & MECHANICAL. SITE A5 IS A ghastly mess. Oiled vegetation & NEEDLES AT THE SITE NEEDS REMOVAL (THERE SINCE LAST YEAR w/ NO IMPROVEMENT). IT IS TRAPPED BEHIND STORM BOOM LOGS. MOUSE/HOR BEHIND AT MITE BOTH SIDES OF COVE, CAUGHT IN BEDROCK. THIS SHOULD BE MANUALLY REMOVED SUBSURFACE OIL IN THICK LENS THROUGHOUT MITE DOWN THROUGH MIDDLE. NECESSARY TO MECHANICALLY SCRAPE BACK COBBLE LAYER & REMOVE OILED LAYER OF MITE WITH MDE. BEACH IS IDEAL FOR SPREADING BOOM TO CATCH RELEASED OIL. MAY TAKE CONTINUOUS TREATMENTS. SATURATION LEVEL SO HIGH THAT TREATMENT ~~WILL BE MORE~~ MORE BENEFICIAL THAN LEAVING ALONE. BEACH BLEEDS STEEN (CRAB). SITE A2 HAS SIMILAR OILING CHARACTERISTICS, YET SMALLER BEACH. RECOMMEND SAME PROCEDURE. LARGE LOG ACROSS MITE. ADVISE BRINGING US

EXXON

NAME

CHAIN SAW OR SOMETHING TO MOVE LOG. A3 SIMILAR SITUATION, BUT MAYBE TOO NARROW FOR EQUIPMENT. RE

FANNIE A. BOY

SIGNATURE

[Signature]

☐ NTR

Heavy SOR - Subsurface was found in part of this segment. Before anything else is done I think consideration should be given to the life that is apparently abundant in the same area. Tumbleweed could be the answer with maybe tilling.

LANDMANAGER

NAME

MARSHA HALL OF DNR

SIGNATURE

[Signature]

☐ NTR

☒ TREATMENT

RECREATIONAL AREA. Mechanical till to release oil. Cautious containment. SAME for area A2 & A1. A5 IS A MESS. In the MITE & lower zone is a lot of Algae, Fucus etc, oil pretty thick into water, oiled vegetation & logs in supra zone. Mechanically remove cobble layer then manually remove oiled lens. Concern about peat underlying fines. Tilling may just reoil surface area. Area A6 isn't drastic as is A5.

USCG/NOAA

NAME

Jensen

SIGNATURE

[Signature]

☐ NTR

Recommend sub-surface oil (OP/HOR/MOR) on (A5) be treated. Area accessible for work manual pickup for AP, MS, & oiled vegetation. (NTR) recommended for the sites remaining - Further removal operations would cause more environmental harm than the oil removed.

MAYSAP SHORELINE OILING SUMMARY

PAGE 1 of 3

TEAM NO. 1

OG G. MACDONALD

BIO M. FAWCETT

SEGMENT KN - III

ADEC J. GINALAS

LANDMANAGER M. HALL for DNR

SUBDIVISION A

EXXON F. BOX

USCG/NOAA JENSEN / -

DATE 5 / 5 / 91

TIME 11 : 00 to 12 : 50

TIDE LEVEL +2 1/4 ft. to +1.8 ft.

ENERGY LEVEL: ☐ H ☒ M ☐ L

SURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELO

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

TOTAL LENGTH SHORELINE SURVEYED: 1020 m

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

EST. OIL CATEGORY LENGTH: W 5 m M 120 m N 20 m VL 110 m NO 765 m US 130 m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA		ZONE				NOTES
	AP	MS	TB	SO	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
1. A1						T					RB	H	1/2	5		X			
					P	P	S				PC	M	1/2	12		X	X		surface expression of subsurface oil.
2. A2				T		T					R	H	1/2	30		X			
3. A3				T		S		S			RB	H	1	25	X	X			silver sheen @ WL
4. A4						P					RB	H	1	20		X			
5. A5					T	S	P	S			RB	HV	1/2	50	X	X			
									VG		VIR	L			X				~20m ² x 30cm
		B		B		S					BCRB	L	6	5	X				~25m ² x 30cm
6. A6						T	P				RB	H	1	30	X				
						S					R	H	1/2	50	X	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- FRAMES

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	45		X						40-45	(H)?	25	B	X				P-P	thick, opaque
2	30		X						10-20	(H)?	20	B		X			CL-PG	B sheens
3	35		X						20-25	(H)?	20	B		X			CL-PG	↓
4	30			X					5-10	(H)?	10	R			X		C-CG	
5	25			X					5-15	(H)?	10	RB				X	CL-P	B glabwer
6	30							X	-		10	-	X				BLG-LG	
7	20							X	-		25	-		X			BLG-PG	
8	40			X					20-40	(H)?	-	-		X			BLG-PG	@ toe of outcrop

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

OG COMMENTS:

Rugged, steep rocky shore w/ small pockets.

Surface oil as (i) CL/CT/B-T @ HTZ - SURZ, weathered.

(ii) SOL, oiled vegetation @ SURZ; bio-degraded in part; in small patches

ES revised May 8 1991 CONTD
REVIEWED CO 19 MAY

GM.

OG COMMENTS:

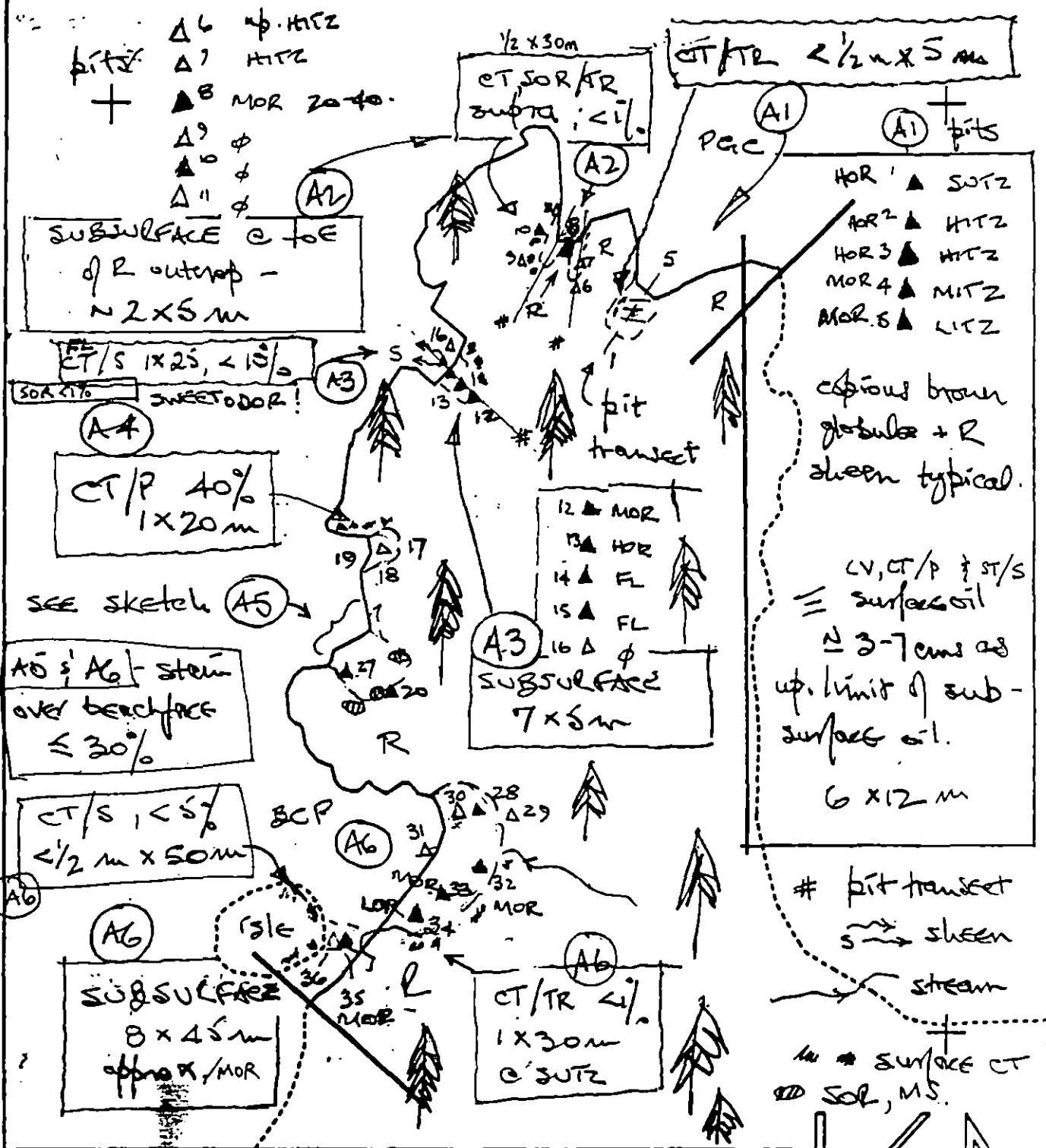
(iii) ST, FL as biodegraded & naturally cleaned CT, CV, and no surface expression of subsurface oil - respectively. Note - sweet "silage" odor @ (A3) - likely treatment artifact?

Subsurface oil common in 5 out of 6 pockets;
- thick, coiled, instantaneous B&R shears common. Total subsurface oil area summarized as $\sim 1,350 \text{ m}^2 \times \sim 10 \text{ cm}$, between surface and 35 cm - typical.

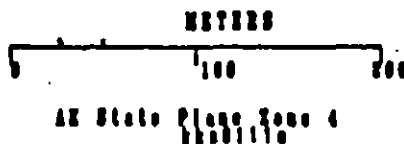
PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
9	40							X	-		-			X			CP-PAC	
10	40						X		-		25	S		X			CP-PG	
11	15							X	-		12	N			X		CB-PG	
12	20			X					5-7	(A)?	-			X			BCL-PV	peat
13	25		X						5-20	Y	20	B		X			BCL-PV	"
14	30						X		-?	?	25	S			X		BCL-BL	
15	30						X		-?	?	10	S				X	BCL-CP	trace shear
16	20							X	-		5	N				X	BCL-PB	
17	25							X	-		20	N		X			BCL-CP	
18	25						X		5-10?	(A)?	20	S			X		BCL-CP	trace shear
19	20							X	-		15	N				X	CP-PG	
20	20					X	X		5-20	N	-		X				V-VF	grass, needles
21	25					X	X		5-15	(Y)?	-			X			P-G	
22	25		X						10-20	(Y)?	25	B		X			C-CP	
23	35	X							10-30	Y	20	B		X			C-PG	
24	30		X						10-25	Y	15	B			X		C-BG	
25	30			X					7-15	Y	10	B			X		BC-PB	
26	30		X						15-20	Y	25	B				X	BC-PGM	v. thick shear
27	25		X						10-15	Y	20	B			X		BC-PG	
28	20							X	5-10?	(Y)?	20	S		X			CP-P	
29	40							X	-		-				X		CP-PGV	peat
30	20							X	-		5	N			X		CP-PG	

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

REVIEWED CEM MAY
5 revised May 8



KN0111 A



Subdivision Field Map

Map Key: KN0111A

Name: GM

Date: 5.5.91

EG revised, Mar 8
 REVIEWED 12 MAR 91

KN-111 A site (AS)

G. MARDONAZ

5.5.91

Beach dimensions
 ~ 35m wide x 25m long (HOR)
 @ +2 FT tide.

Note: C&P
 stained &
 biodegrad. CT
 throughout.

steep
 rock
 walk

$\frac{CT}{\leq 10\%}$
 $\leq 2 \times 50m$
 HITZ - SWTZ

10 sol,
 90% 6 x 3m,
 $\leq 3cm$;
 in PC behind
 B trap.

4m x 3m
 oiled V; needles,
 twigs & grass
 ~ 4 bags, SWTZ

oiled V;
 2 x 3m.
 ~ 2 bags.
 SWTZ

MS/Sol, in,
 4 x 2 @
 HITZ; 10%

thick brown
 sheens typical,
 good odor.

not to scale.

N

35m

25m

ET revised, May 8

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 1

DATE 5 May 91

SEGMENT # KN III

TIDAL HEIGHT (Range) +1.9 to +2.6 ft MLLW

SUBDIVISION A

BIOLOGIST Michael Fawcett

SEA STATE 0.5 ft

WIND SPEED/DIRECTION SE 5 knots

PHOTOGRAPHS: ROLL #

FRAME #

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

sites (A1)-(A3): Pocket beaches exposed to northerly fetch; unstable, biologically barren pebble/cobble beaches with bedrock walls. The walls have dense cover of barnacles & rockweed with patches of dense mussels and scattered limpets, littorinids, whelks, and other organisms. No biota near buried oil except filamentous green algae. No biota downshore until about +1.0 ft MLLW, where other algal species appear (this zone underwater during survey).

Site (A3) has moderately abundant rockweed barnacles, littorinids, limpets, etc. beneath boulders downshore (+9 to +7 ft) from buried oil, but most of the oil is above +1.0 ft in VTZ-SUTZ in cobble w/ no biota except green algal film.

Site (A4) is a tiny cove with some Lt on walls above sparse barnacles, with barren cobble below barnacles. Further down the beach the walls have more dense cover of barnacles, young mussels, etc.

Site (5) has buried oil in MTZ-LTZ cobble/boulders among dense algae, breeding littorinids, limpets, nudibranchs (breeding), isopods, hermit crabs, pricklybacks, clams, etc.; a diverse and abundant community that appears to be thriving despite the presence of significant amounts of residual oil. Mechanical removal of oil in MTZ-LTZ at this site could not be accomplished without destroying the existing community.

Site (A6) is similar to (A5), but biota near and downshore from buried oil is relatively sparse, except under the larger boulders.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	prickleback
Seabirds	1 (pigeon gull/leach)	1	
Waterfowl	1 (can. merganser)	3	
Gulls/Kittiwakes	1 (GW gull)	2-8	
Shorebirds			
Corvids	1 (crows)	2	
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters	2		
Pinnipeds (specify)			
Whales (specify)	2 fin whales moving south 2 grey whales moving north		

Shoreline subdivision map showing important biological features attached.

Reviewed M.B. 5/10/91

KN 111-A 5 May 91 Fawcett

at 1100 - narrow patch

G/P/C - exp to long fetch -

burned oil + 4 ft up to SUTZ -

no bio in pebbles ^{downy} - dense barn,

muscle, Fucus, reds, litt limp etc on BR

- mixed age musc, barn, Fucus -

scattered canyons -

- pebbles / oil down to + 3 ft in rubble

no bio except algae below +1

- dense Cladophora, leafy red

(under water)

BR

BR

BR

G/P/C

Δ

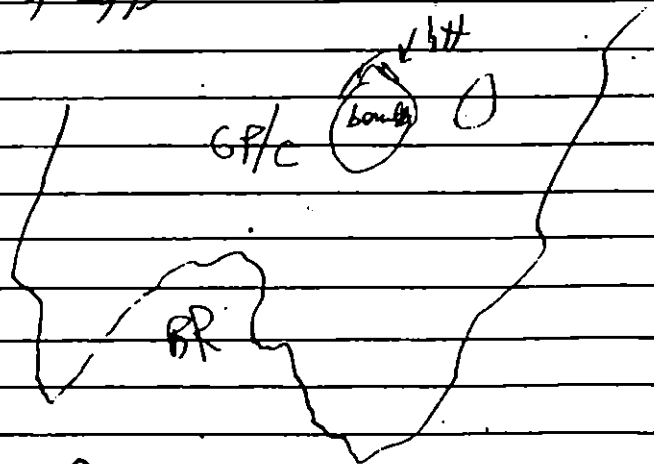
Δ

Δ

100

depart

KN 111A (cont) 5 May 91 Fairweather
 2nd site - same type pocket as
 #1, but ~~has~~ BR shelf, bare
 c/p starting ~ 5 ft - w/ dense
 barn, ~~apart~~ Fucus, young mussels
 in cracks - CT ⁴ ^{FOR} ^{up} in
 channel on side of BR - f, gray,
 brown, red algae, Lygk, w. arm,
 biotica near buried oil in cobble
 (exc. f. l. green), but dense barn, young
 mussels & Fucus on nearby boulders,
 & dense clusters of Litt. around bases
 laying eggs



Depart 1120

3rd site KN 111A

1125 hrs

- green on rocks at +2 ft
- mod algae c/p & boulders & BR
- dense algae Ulva, Vicia, Rhodo,
- fill reds on BR, green film on
- cobbles

- 360 gulls

1 pig gull

- can see eagle nest, no activity
- no eagles seen

- buried oil in cobble w/ green
- film, but most oil in UTZ-SUR
- + 10 ft up - no biotica

- down here are more c/p, but
- also boulders w/ Fucus,
- barn, Litt, barn etc

- CT on wall + 12-14 ft

Depart 1135

KN111A - site 4 5 May 1971 Farewell

tiny south-facing cove. A/R -

CT on hills - +10 ft - sparse barn
lobster

- dense barn on BR & boulders lower
down, ~ +3-6 ft - dense new
mussels in cracks, mod. w/ks,
scattered old carious
sparse lill, ling, chitons, queen

- 50 m south is site 5

B/c - mostly boulders in MTZ

LTZ - dense algae - prickles,
litt, eggs, lump, hermits

- eagle in tree

- 2 fin whales went by 200m
offshore. young south

3-4 GW gulls

2 corm?

1 sca other brined oil in MTZ -

UTZ - SLITZ - dense barn

down in lower part, worms, amph,

dense green filig in UTZ

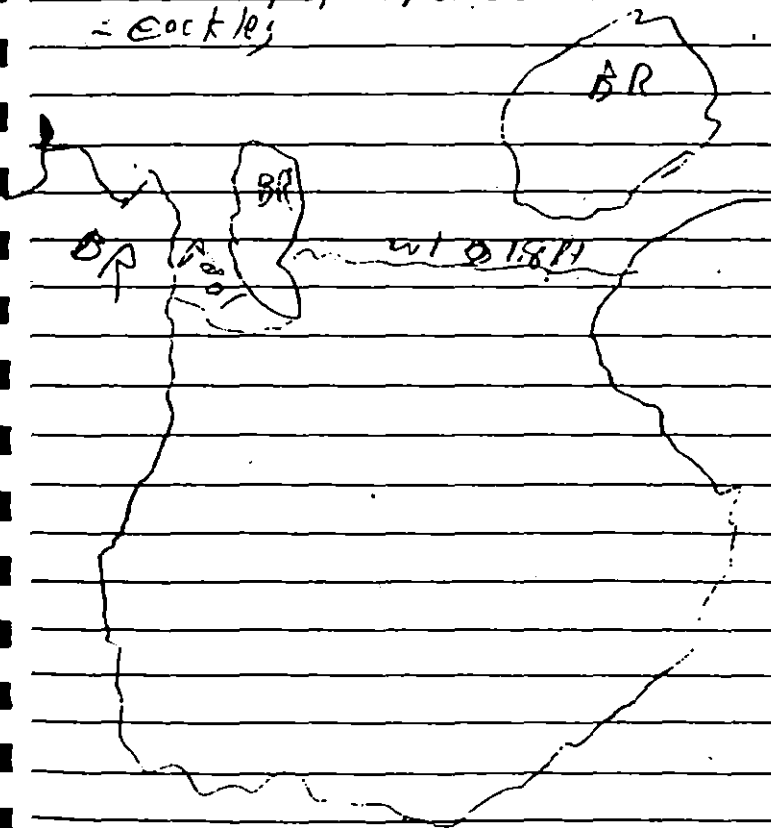
dense breeding litt under rocks

w/ brined oil ~ +4-5 ft, just

above F. uni zone - also

moderate in 60s

Rich broken downshore from brined oil
in boulders, BR pebbles, and tidepool
at south edge of beach at base of Bl
- many algae, starfish etc -
- cockle;



depth 122i

KN 111A (cont) sub 6 (or 5)
5 May 91 Fawcett
Apr 12 2.5 hrs

- mod. energy gravel/P/C/B
from top to bottom
- sparse brk in clens down
to waterline at +1.5 ft,
(but litt breeding & hermits,
& limps under boulders)

- dense Fucus, bark, Ulva etc
on boulders & BR at side

patches dense mussels,
mod. whelks, litt, limps
grey

2 tra wh also went by going north

Tall rock wall on the side of slit
w/ dense barnacles has breeding

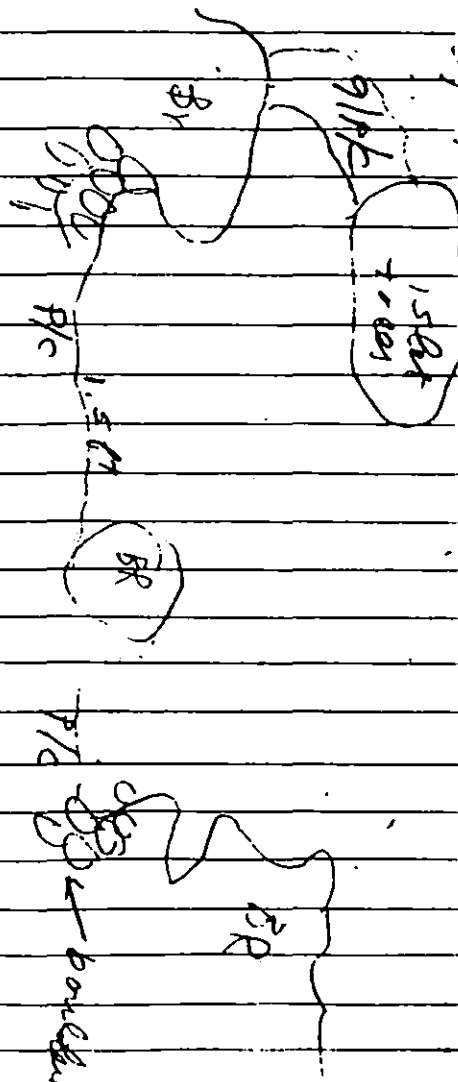
T. lanellosa, plus numerous

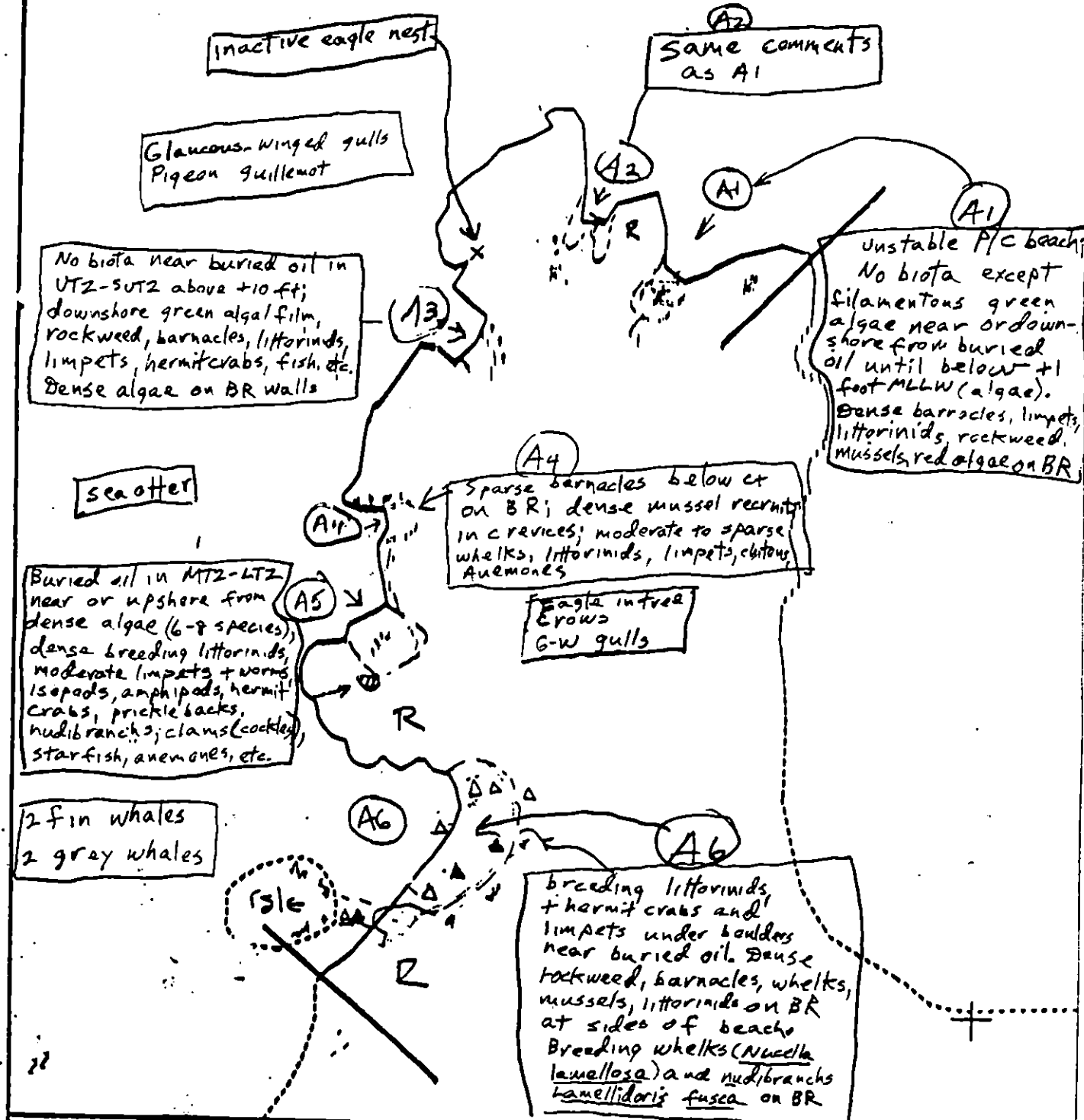
small long juveniles (1 yr old)

small (3 mm) mussels scattered among
barnacles (dense)

- also *Lamellosa* eggs

Finish 12:30





KN0111 A

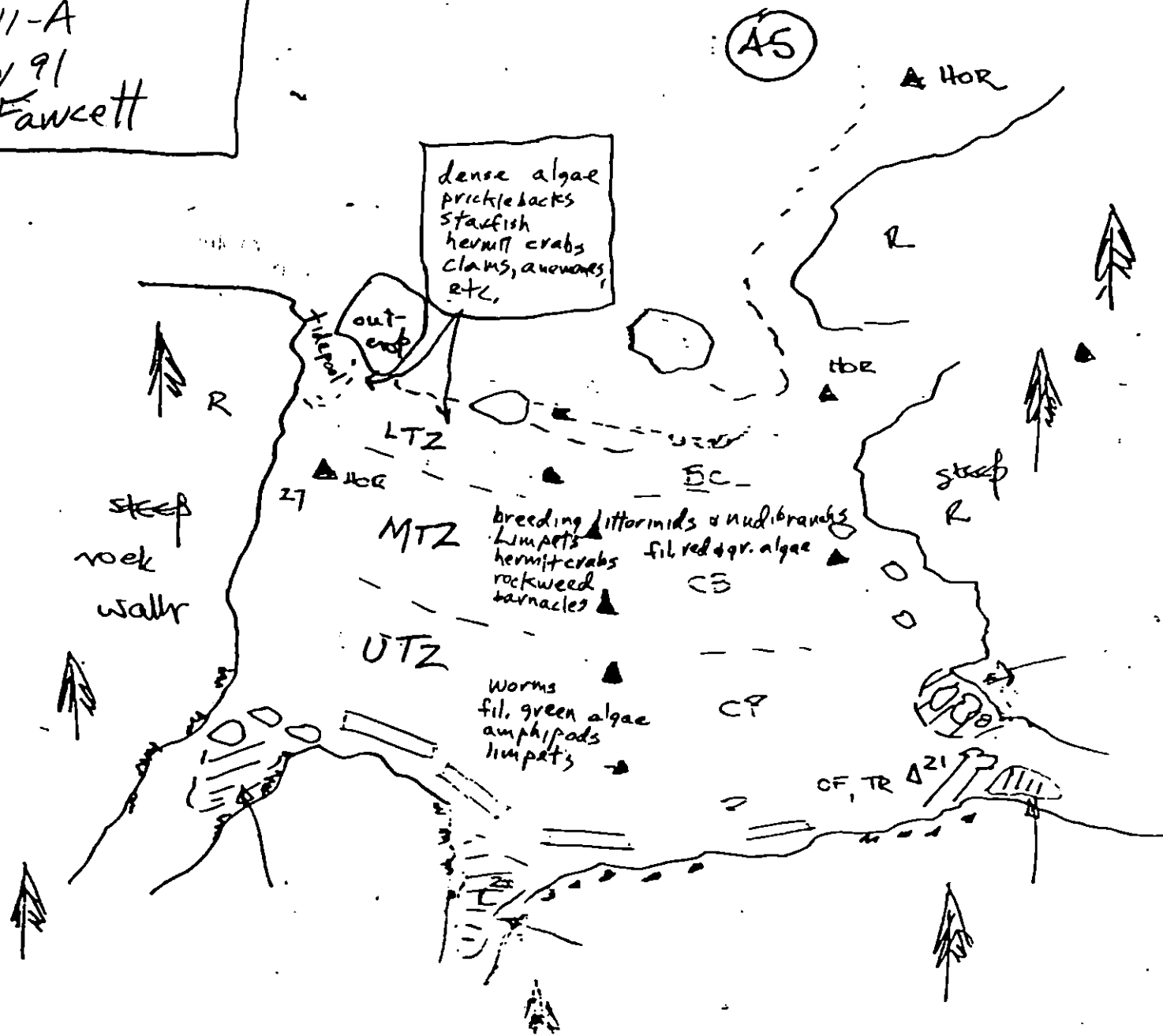
Bio Sketch Map (1)

KN 111-A

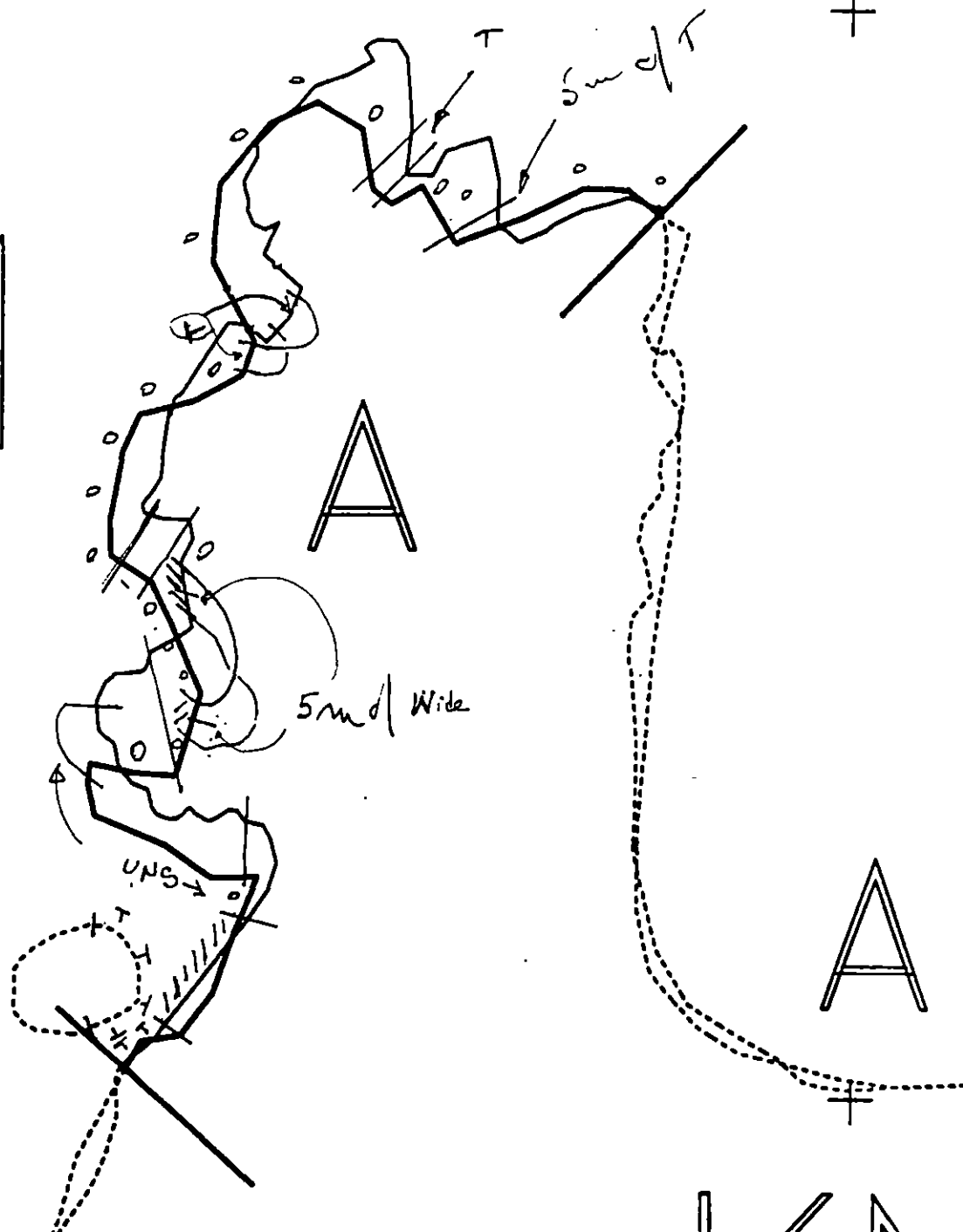
5 May 91

M. H. Fawcett

B₁ Sketch Map (2)
 KN III-A
 5 May 91
 M. H. Fawcett



111



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

KN0111 A
 ADEC Subsegment Length: 1150m
 METERS
 0 100 200
 AK State Plane Zone 4
 1400111a



Subdivision Field Map
 Map Key: KNKN0111A
 Name: GM
 Date: 5.5.91
 Date Entered:

ET revised, May 8
 G
 REVISED CO 10 MAY

SHORELINE EVALUATION

SEGMENT ST/ KN-111 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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: Charles E. H. Smith DATE: 4/25/90

OILING CATEGORIZATION:

Wide 19 m: Medium 216 m: Narrow 216 m: V.Light 26 m: No Oil 674 m
Subsurface Oil Observed: Yes X No Maximum Depth 40+ cm

RECOMMENDATIONS:

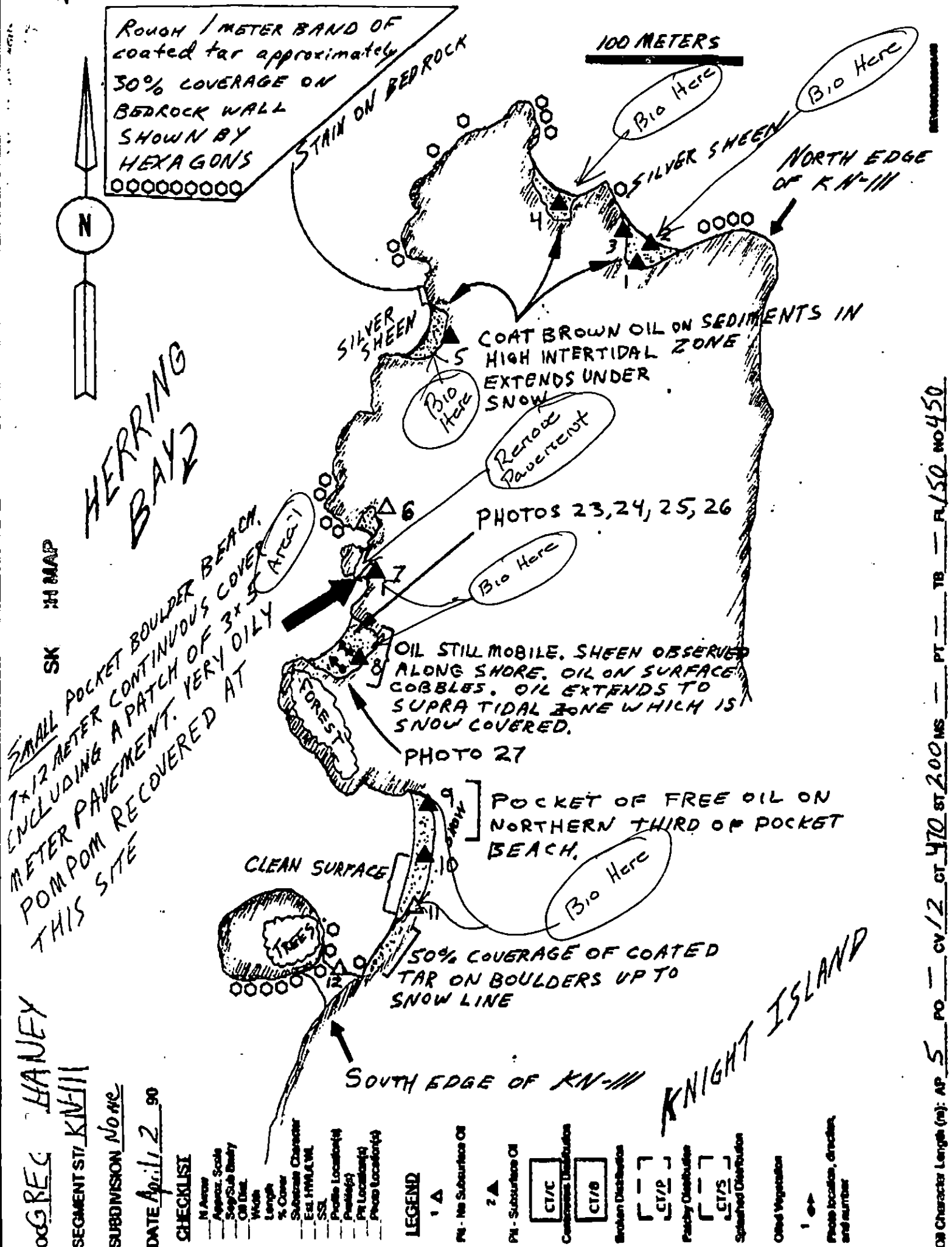
<u> </u> No Treatment Recommended	<u>X</u> Snare/Absorbent Booms
<u>X</u> Treatment Recommended	<u> </u> Oil Snares (pom poms)
<u>X</u> Manual Pickup	<u> </u> Absorbents (pads, rolls, etc)
<u>X</u> Bioremediation	<u>X</u> Spot Washing: <u> </u> Wands
<u>X</u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner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

COMMENTS: Recommend manual pick up of debris and trash, removal of tarmats, spot washing and bioremediation of areas indicated on sketch map. Reassessment of oiling prior to treatment is recommended because the snow cover limited the Phase I SSAT evaluation. Treatment should be conducted after 6/1 and with permission of USFWS due to eagle nesting constraint.

TAG COMMENTS: PRIOR TO BIOREMEDIATION MANUAL/MECHANICAL TILLING/RAKING
IN AREAS OF TEST PITS 7, 8, +9 AND TEST PIT 3.
USE SNARE BOOMS + ABSORBENT BOOMS TO RECOVER OIL AND
MINIMIZING SHEAVING.
MONITORS TO ASSESS THE CONDITION OF LOGS AND DETERMINE SIGNIFICANCE

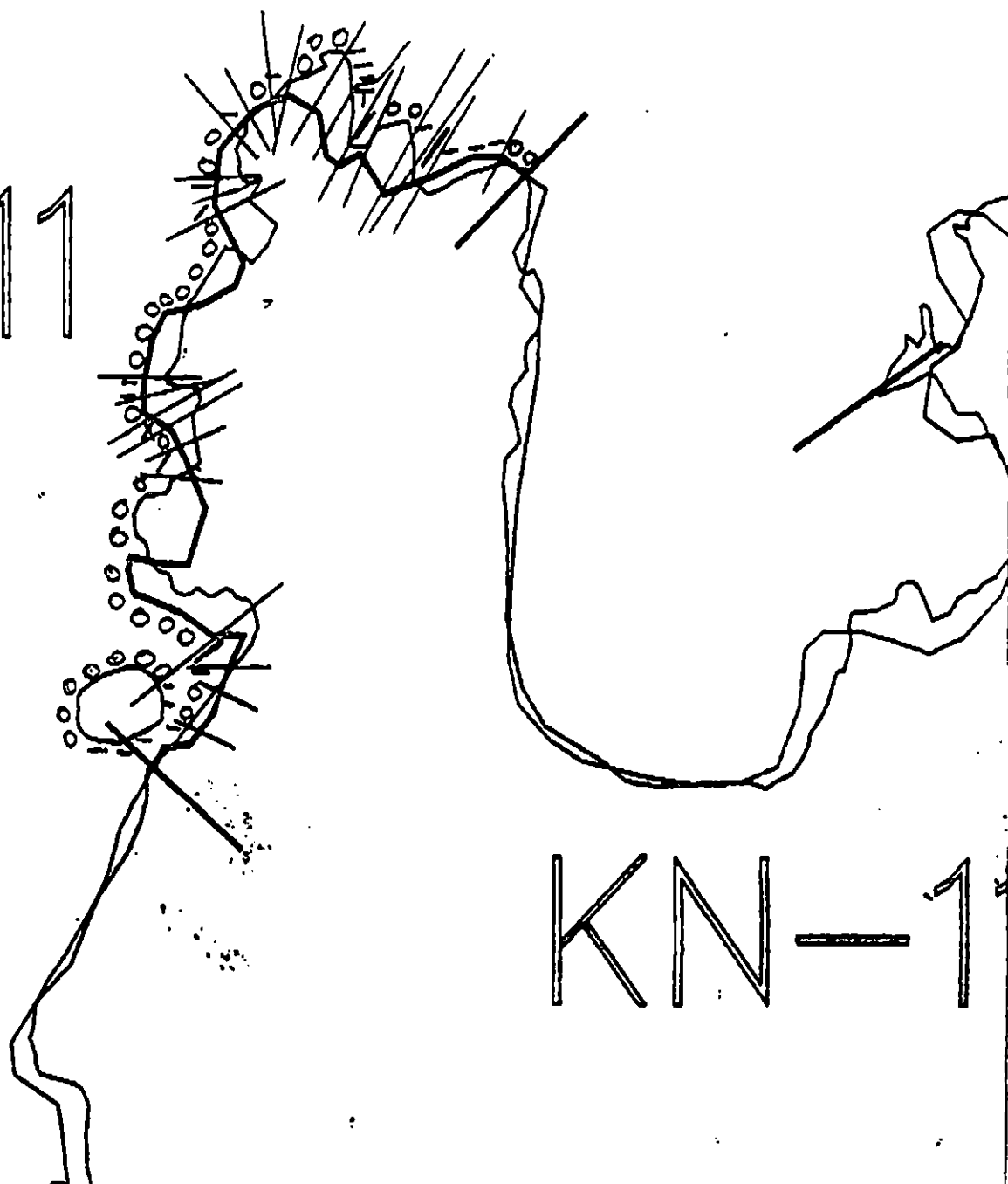
TAG APPROVAL DATE: 4/19/90
ADEC Art Weiner Det Weiner
EXXON Amy Galt
NOAA Bruce Westcott
USCG Kenneth Keane

FOSC: W L DATE: 4-27-90



KN-10

N-111



KN-1

XXX Wide

/// Medium

--- Narrow

TTTT Very Light

KN-111

ADEC Segment Length: 1150m
EXXON SEGMENT LENGTH 1285



Map Key: PWS-292

Name: Greg Chaney

Date: April 2, 1990

1991 MAYSAP EVALUATION

SEGMENT: KN 111 SUB: A REGION: PWS SURVEY DATE: 5/5/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time. PHONE 564-3276; 564-3657; (Anchorage) or 229-1514 (24 hrs.). *Timothy A. Smith for staff* 6/04/91

RECOMMENDATIONS:

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

COMMENTS:

INITIAL: Remove mousse at location A5. Apply Customblen in
area of pits 22, 23, 24, 25, 26, and 27.

TAG: ~~REMOVE MOUSSE / HSDR AND OILED DEBRIS (SPRUE ALLEGES)~~
~~AT A5. RELOCATE OILED ORGANICS + SDR TO VITZ AS INDICATED~~
ON SKETCH MAP AND RAKE IN CUSTOMBLEN/INIPOL. MECHANICAL TILLING
OF HSDR SEDIMENTS IN THE VITZ + MITZ. AVOID FOCUS BEOS.

FOSC:

TAG APPROVAL DATE: JUNE 4 1991 FOSC APPROVAL DATE: 6/8/91

ADEC John Fane

FOSC

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC

EXXON Paul

USCG Emilio

NOAA John C. Fane

FEASIBILITY OF MECHANICAL TILLING WILL BE ASSESSED PRIOR TO IMPLEMENTATION IF IT CAN NOT BE COMPLETED SAFELY NO TILLING WILL OCCUR. SNARE AND SURBENTS MUST BE USED TO CONTROL SAGGING AND PROTECT THE LITZ. FOLLOWED BY BIO.

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 1 SEGMENT KN - 111 SUBDIVISION A DATE 5/5/91

ADEC

NAME

JEFF GINAZIAS

SIGNATURE

[Signature]

☐ NTR

☒ TREATMENT RECOMMENDED

MANUAL & MECHANICAL. SITE A5 IS A GHOSTLY MESS. OILED VEGETATION & NEEDLES AT THE SURF NEEDS REMOVAL (THERE SINCE LAST YEAR W/ NO IMPROVEMENT). IT IS TRAPPED BEHIND STORM BERM LOGS. MOUSE/HOR BERM AT HITE BOTH SIDES OF COVE, CAUGHT IN BEDROCK. THIS SHOULD BE MANUALLY REMOVED SUBSURFACE OIL IN THICK LENS THROUGHOUT HITE DOWN THROUGH MIDDLE. NECESSARY TO MECHANICALLY SCRAPE BACK COBBLE LAYER & REMOVE OILED LAYER OF THE WITH TDR. BEACH IS IDEAL FOR SPREADING SODM TO CONTAIN RELEASED OIL. MAY TAKE CONTINUOUS TREATMENTS. SATURATION LEVEL SO HIGH. THAT TREATMENT ~~WILL BE MORE~~ MORE BENEFICIAL THAN LEAVING ALONE. BEACH BLEEDS STICKEN (RAINBOW). SITE A2 HAS SIMILAR OILING CHARACTERISTICS, YET SMALLER BEACH. RECOMMEND SAME PROCEDURE. LARGE LOG ACROSS HITE. ADVISE BENGUINS

EXXON

CHAIN SAW OR SOMETHING TO MOVE LOG. A3 SIMILAR SITUATION, BUT MAYBE TOO NARROW FOR EQUIPMENT. Re-

NAME

FRANK A. BOY

SIGNATURE

[Signature]

☐ NTR

Heavy SOR - Subsurface was found in part of this segment. Before anything else is done I think consideration should be given, to the life that is apparently abundant in the same area. Custom plan could be the answer with maybe tilling.

LANDMANAGER

NAME

MARSHA

HALL OF DNR

SIGNATURE

[Signature]

☐ NTR

☒ TREATMENT

RECREATIONAL AREA. Mechanical till to release oil. Cautious containment. SAME for area A2 & A1. A5 IS A MESS. In the MITE & lower zone is ALOT of Algae, focus etc, oil pretty thick into water, oiled vegetation & logs in supra zone. Mechanically remove cobble layer then manually remove oiled lens. Concern about peat underlying fines. Tilling may just reoil surface area. Area A6 isn't drastic as is A5.

USCG/NOAA

NAME

Jensen

SIGNATURE

[Signature]

☐ NTR

Recommend sub-surface oil (OP/HOR/MOR) on (A5) be treated. Area accessible for work manual pickup for AP, MS, & oiled vegetation. (NTR) recommended for the sites remaining - Further removal operations would cause more environmental harm than the oil to be removed.

MAYSAP SHORELINE OILING SUMMARY

PAGE 1 of 3

TEAM NO. 1

OG G. MACDONALDBIO M. FAWCETTSEGMENT KN - IIIADEC J. GINALASLANDMANAGER M. HALL for DNRSUBDIVISION AEXXON F. BOXUSCG/NOAA JENSEN / -DATE 5 / 5 / 91TIME 11 : 00 to 12 : 50TIDE LEVEL +2 1/4 ft. to +1.8 ft.ENERGY LEVEL: ☐ H ☒ M ☐ LSURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELOWEATHER: ☐ SUN ☐ CLOUDS ☐ FOG ☒ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 1020 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☒ SLK ☐ NONEEST. OIL CATEGORY LENGTH: W 5 m M 120 m N 20 m VL 110 m NO 765 m US 130 m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE V H M L	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
1. A1						T					RB	H	< 1/2	5		X			
					P	P	S				PC	M	1/2	12		X	X		surface expression of subsurface oil.
2. A2				T		T					R	H	1/2	30		X			
3. A3				T		S		S			RB	H	1	25	X	X			silver sheen @ WL
4. A4						P					RB	H	1	20		X			
5. A5					T	S	P	S			RB	H V	< 2	50	X	X			
										VG	V: R	L			X				~ 20m ² x 30cm
		B		B		S					BCRB	L	6	5	X				~ 25m ² x 30cm
6. A6						T	P				RB	H	1	30	X				
						S					R	H	1/2	50	X	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- FRAMES

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	45		X						40-45	(N)?	25	B	X				P-P	thick, esp low
2	30		X						10-20	(P)?	20	B		X			CL-PG	B sheens
3	35		X						20-25	(H)?	20	B		X			CL-PG	↓
4	20			X					5-10	(H)?	10	R			X		C-CG	
5	25			X					5-15	(Y)?	10	RB				X	CL-P	B globules
								X	-		10	-	X				BLG-LG	
7	20							X	-		25	-		X			BLG-PG	
8	40			X					20-40	(N)?	-			X			BLG-PG	@ toe of outcrop

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

outcrop.

OG COMMENTS:

Rugged, steep rocky shore w/ small pockets.

Surface oil as (i) CL/CT/B-T @ HTZ - SUTZ, weathered.

(ii) Soft, oiled vegetation @ SUTZ; bio-degraded in part; in small patches

E revised May 8 1991
REVIEWED CD 18 MAY

MAYSAP SHORELINE OILING SUMMARY (cont.)

PAGE 2 OF 3

TEAM NO. 1

SEGMENT KN-III

SUBDIVISION A

DATE 5/5/91

GM.

OG COMMENTS:

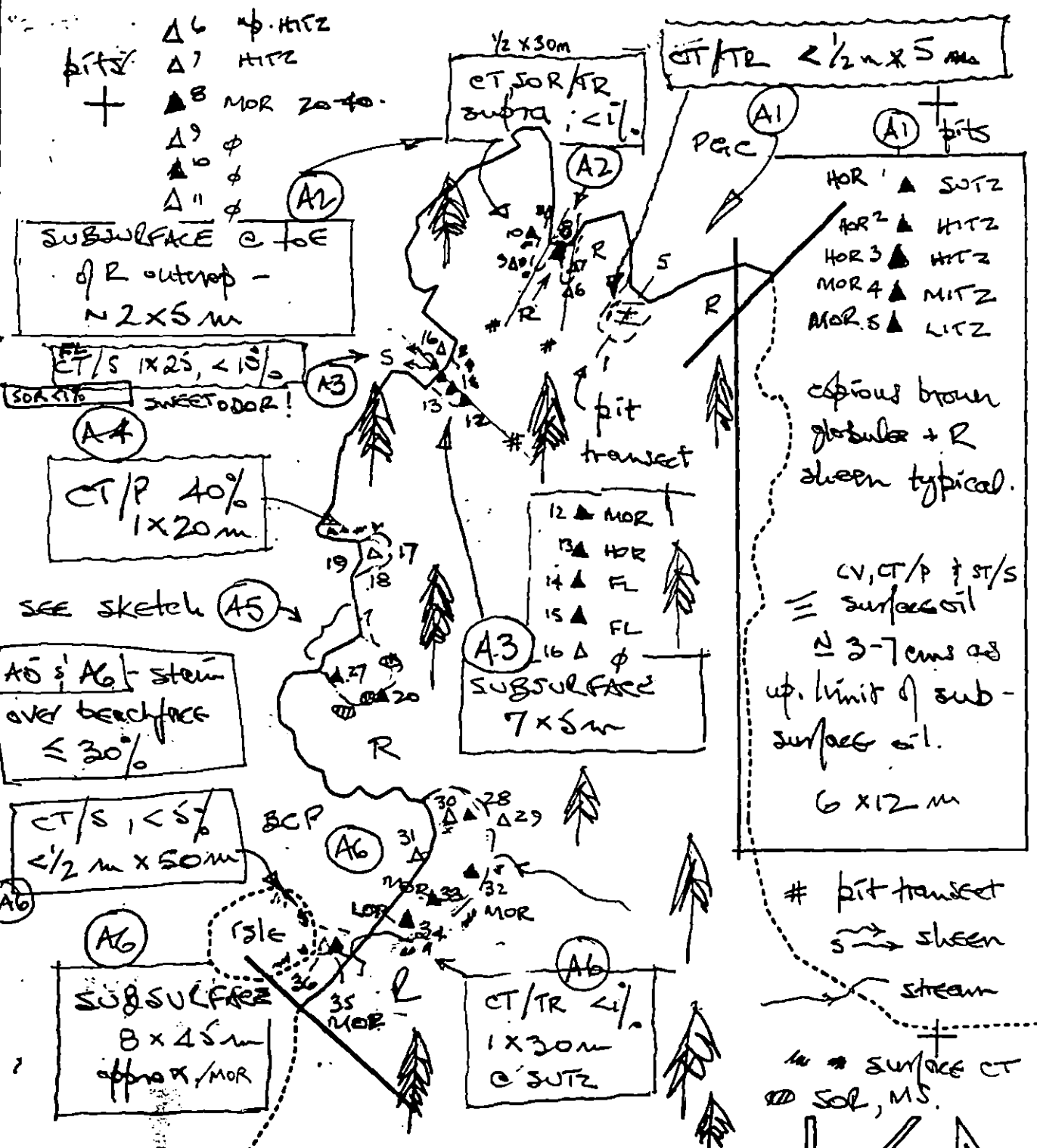
(iii) ST, FL as biodegraded & naturally cleaned CT, CV, and as surface expression of subsurface oil - respectively. Note - sweet "silage" odor @ (A3) - likely treatment artifact?

Subsurface oil common in 5 out of 6 pockets;
- thick, coiled, instantaneous B&R sheens common. Total subsurface oil area summarized as $\sim 1,350 \text{ m}^2 \times \sim 10 \text{ cm}$, between surface and 35 cm - typical.

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
9	40							X	-		-			X			CP-PAC	
10	40						X		-		25	S		X			CP-PG	
11	15							X	-		12	N			X		CB-PG	
12	20			X					5-7	(A)?	-			X			BC-PV	peat
13	25		X						5-20	(A)?	20	B		X			BC-PV	"
14	30						X		-?	?	25	S			X		BC-PB	
15	30						X		-?	?	10	S				X	BC-CP	trace sheen
16	20							X	-		5	N				X	BC-PB	
17	25							X	-		20	N		X			BC-CP	
18	25						X		5-10?	(A)?	20	S			X		BC-CP	trace sheen
19	20							X	-		15	N				X	CP-PG	
20	20						X	X	5-20	N	-		X				V-VF	grass, needles
21	25						X	X	5-15	(A)?	-			X			P-G	
22	25		X						10-20	(A)?	25	B		X			C-CP	
23	35	X							10-30	Y	20	B		X			C-PG	
24	30		X						10-25	Y	15	B			X		C-BG	
25	30			X					7-15	Y	10	B			X		BC-PG	
26	30		X						15-20	Y	25	B				X	BC-PGM	v. thick sheen
27	25		X						10-15	Y	20	B			X		BC-PG	
28	20							X	5-10?	(A)?	20	S		X			CP-P	
29	40							X	-		-				X		CP-PGV	peat
30	20							X	-		5	N			X		CP-PG	

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

REVIEWED CB 18 MAY
ES revised May 8






KN0111 A

METERS

0 100 200

AK State Plane Zone 4
NAD 83

Subdivision Field Map

Map Key: KN0111A

Name: GM

Date: 5.5.91

EG revised, May 8
REVIEWED CO 10 MAY

KN-III A site (A5)

G. MACDONALD

5.5.91

Beach dimensions

~ 35m wide x 25m long (HOR)

@ +2 FT tide.

Note: C&P
stained &
biodegrad. CT
throughout.

$\frac{1}{2}$ CT $\leq 10\%$
 $\leq 2 \times 50m$
HITZ - SWTZ

TAG
RELOCATE
TO
UITZ

10 sol,
90% 6 x 3 m,
 ≤ 3 cm;
in PC behind
B trap.

4m x 3m
oiled V; needles,
twigs & grass
~ 4 bags, SUZ

oiled V;
2 x 3 m.
~ 2 bags.
SUZ

TAG
RELOCATE
TO
UITZ

25m

not to scale.

N

35m

Entered, May 8
REVIEWED 10 MAY

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 1

DATE 5 May 91

SEGMENT # KN III

TIDAL HEIGHT(Range) +1.9 to +2.6 ft MLLW

SUBDIVISION A

BIOLOGIST Michael Fawcett

SEA STATE 0.5 ft

WIND SPEED/DIRECTION SE 5 knots

PHOTOGRAPHS: ROLL #

FRAME #

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

sites (A1) & (A2): Pocket beaches exposed to northerly fetch; unstable, biologically barren pebble/cobble beaches with bedrock walls. The walls have dense cover of barnacles & rockweed with patches of dense mussels and scattered limpets, littorinids, whelks, and other organisms. No biota near buried oil except filamentous green algae. No biota downshore until about +1.0 ft MLLW, where other algal species appear (this zone underwater during survey).

Site (A3) has moderately abundant rockweed barnacles, littorinids, limpets, etc. beneath boulders downshore (+9 to +7 ft) from buried oil, but most of the oil is above +10 ft in UTZ-SUTZ in cobble w/ no biota except green algal film.

Site (A4) is a tiny cove with some Lt on walls above sparse barnacles, with barren cobble below barnacles. Further down the beach the walls have more dense cover of barnacles, young mussels, etc.

site (5) has buried oil in MTZ-LTZ cobble/boulders among dense algae, breeding littorinids, limpets, nudibranchs (breeding), isopods, hermit crabs, pricklybacks, clams, etc.: a diverse and abundant community that appears to be thriving despite the presence of significant amounts of residual oil. Mechanical removal of oil in MTZ-LTZ at this site could not be accomplished without destroying the existing community.

site (A6) is similar to (A5), but biota near and downshore from buried oil is relatively sparse, except under the larger boulders.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	prickleback
Seabirds	1 (pigeon guillemot)	1	
Waterfowl	1 (com. merganser)	3	
Gulls/kittiwakes	1 (GW gull)	2-8	
Shorebirds			
Corvids	1 (crows)	2	
Other Birds			

LAND MAMMALS

MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters	2		
Pinnipeds(specify)			
ies(specify)	2 fin whales moving south		
	2 grey whales moving north		

Shoreline subdivision map showing important biological features attached.

7
Reviewed M.B. 5/10/91

KN 111-A 5 May 91 Fawcett

arr 1100 - narrow pocket -

G/P/C - exp to long fetch -

buried oil + 4 ft up to SUTZ -

no biota in pebbles ^{or down to 100} - dense barn,
mussels, Fucus, reds, litt limp etc on BR

- mixed age mussels, barn, Fucus -

scattered canyons -

- pebbles / oil down to +3 ft in cobbles

no biota except algae below +1

- dense Cladophora, leafy red
(under water)

BR

BR

BR

G/P/C

Δ

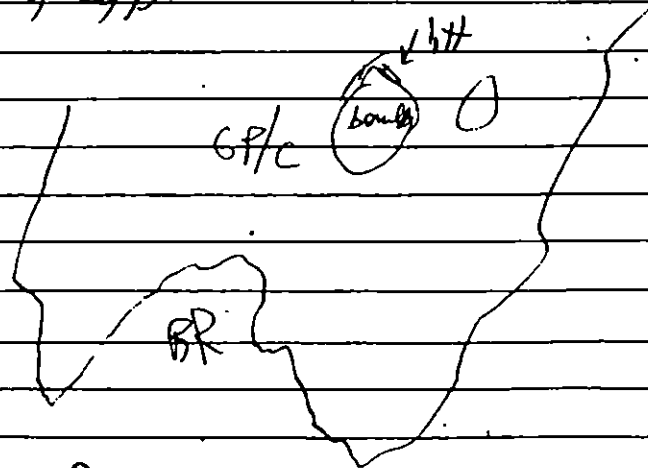
Δ

Δ

100

deposit

KN111A (cont) 5 May 91 Fawcett
 2nd site - same type pocket as
 #1, but has BR shelf above
 c/p starting ~4.5 ft - w/ dense
 barn, sparse Fucus, young mussels
 in cracks - CT ^{4 ft} ^{OR} ^{pushes up} in
 channel on side of BR - f. green,
 brown, red algae, Lygk, w. arm;
 no biota near buried oil in cobble
 (exc. f. green), but dense barn, young
 mussels & Fucus on nearby boulders,
 & dense clusters of Litt around bases
 laying eggs



Depart 1120

3rd site KN111A

1125 hrs

- green on rocks at 12 ft
 - mod avg c/p + boulders & BR -
 - dense algae Ulva, Fucus, Rhoda,
 fill reds on BR, green film on
 cobble

~360 gulls

1 pig gull

- can see eagle nest, no activity
 no eagles seen

- buried oil in cobble w/ green
 film, but most oil in UTZ-SURF
 + 10 ft up - no biota

- down here are more c/p, but
 also boulders w/ Fucus,
 barn, Litt, barn etc

- CT on wall + 12-14 ft

Depart 1135

KN111A - side 4 5 May 1974
tiny south-facing cove p/R -
cr on walls - +10 ft - sparse barn
below

- dense barn on BR & boulders lower
down, ~ +3-6 ft - dense new
mussels in cracks, mod. w/ks,
scattered old carious
sparse lill, l. of, chitons, anemones

- 50 m south is side 5

B/C - molly boulders in MTZ

LTZ - dense algae - prickles,

litt, eggs, limp, hermits

- eagle in tree

- 2 fin whales went by 200m
offshore

3-4 GW gulls

2 UAV?

1 sca other buried oil in MTZ -

UTZ - SLITZ - dense beach

down in lower part, worms, limp,

dense green filer in UTZ

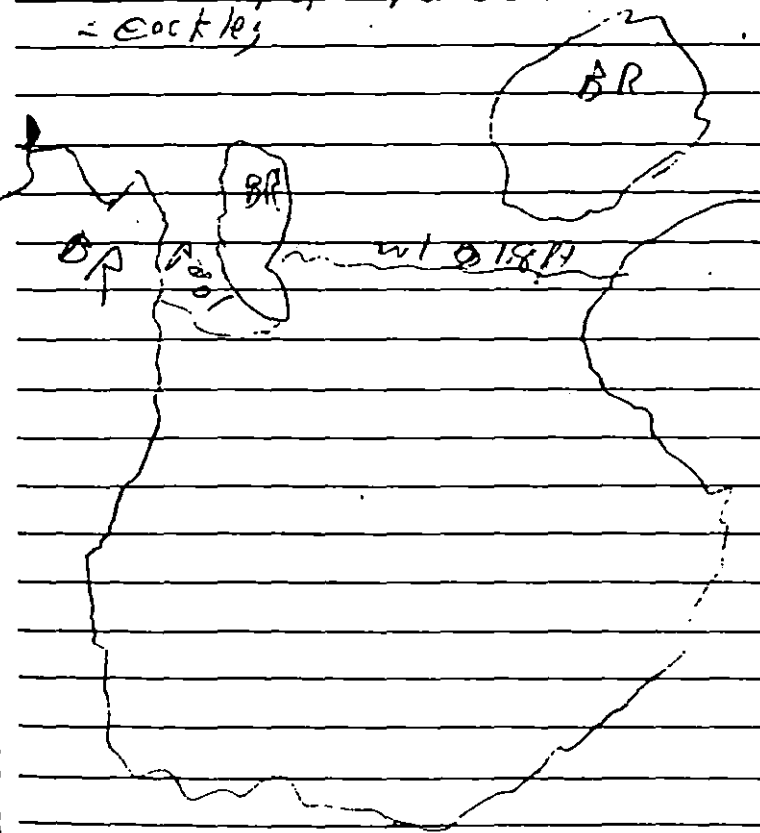
dense breeding litt under rocks

w/ buried oil ~ +4-5 ft, just

above Fucus zone - also

moderate limp

Rich broken downshore from buried oil
in boulders, BR p/ffam, and tidepool
at south edge of beach at base of BR
- many algae, starfish etc -
= cockles



depart 1220

KN 111A (cont) sub 6 (cont)
5 May 91 Fawcett

Arr 1225 hrs

- mod. energy gravel/f/c/B
from top to bottom
- sparse rock in center down
to water line + 1.5 ft,
(but litt breeding & hermits,
& limps under boulders)

- dense Fucus, brya, Ulva etc
on boulders & BR at sides

patches dense mussels,
mod. whelks, litt, limps

grey
2 fish wh also wait by going north

Tall rock wall on the side of islet
w/ dense barnacles has breeding

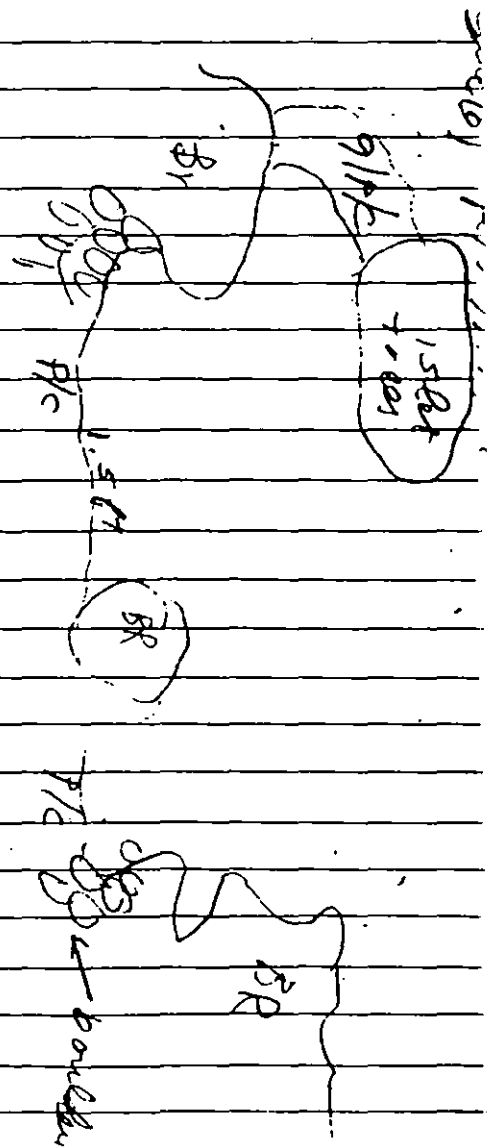
T. lanellosa, plus numerous

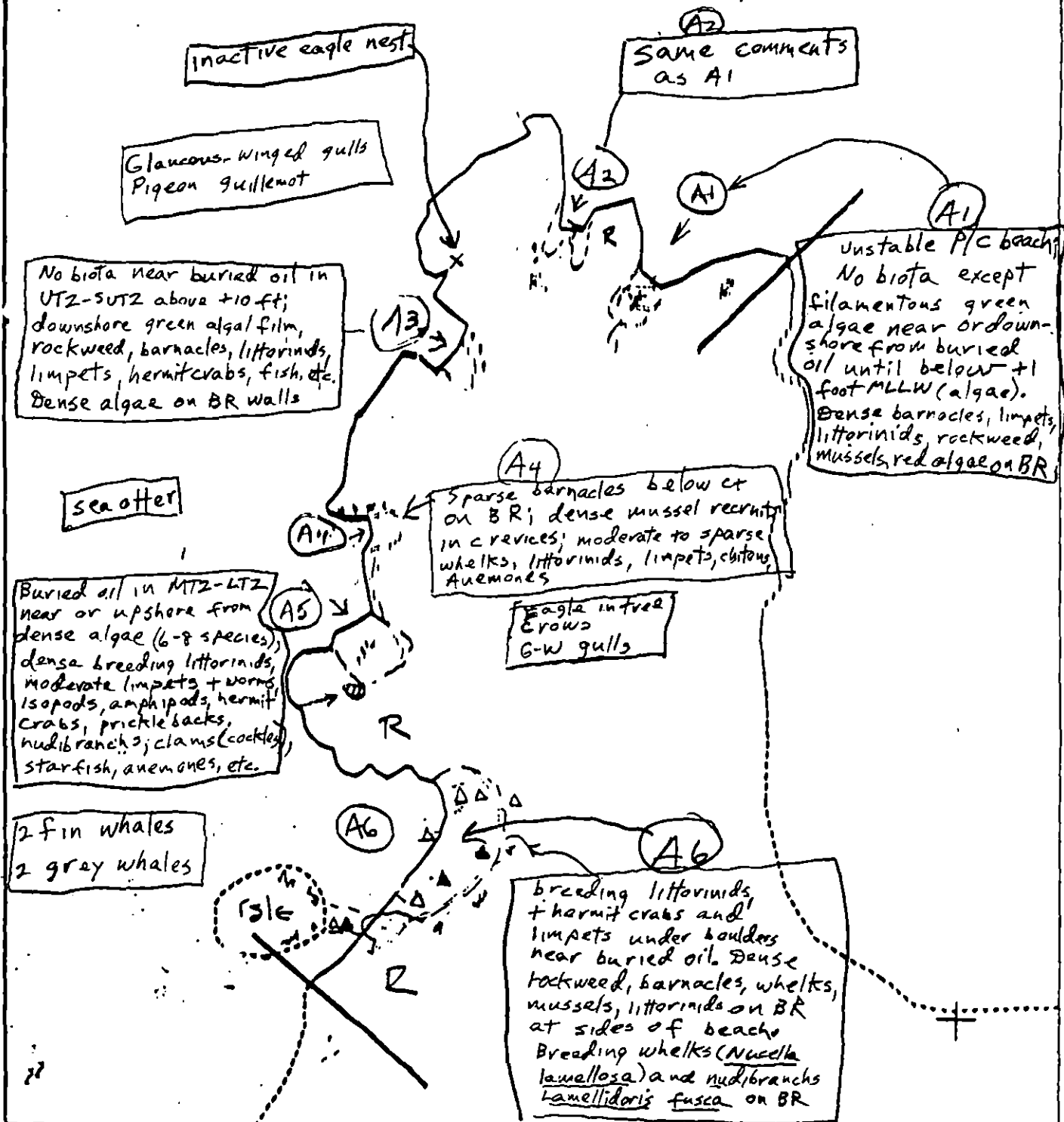
5mm long juveniles (1 yr old)

small (3mm) mussels scattered among
barnacles (dense)

- also *Lamelldorus* eggs

Finish 12:50





KN0111 A

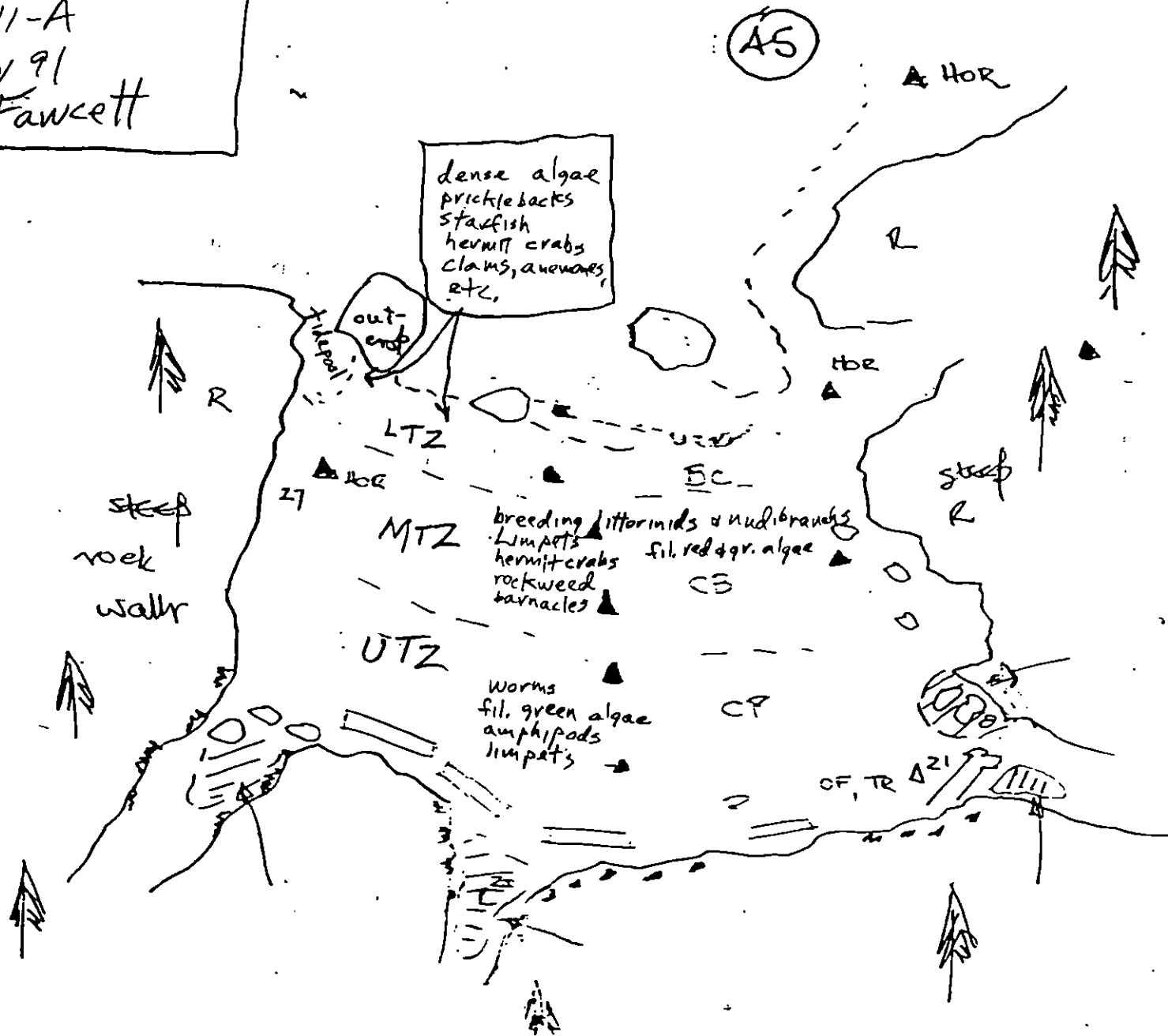
Bio Sketch Map (1)

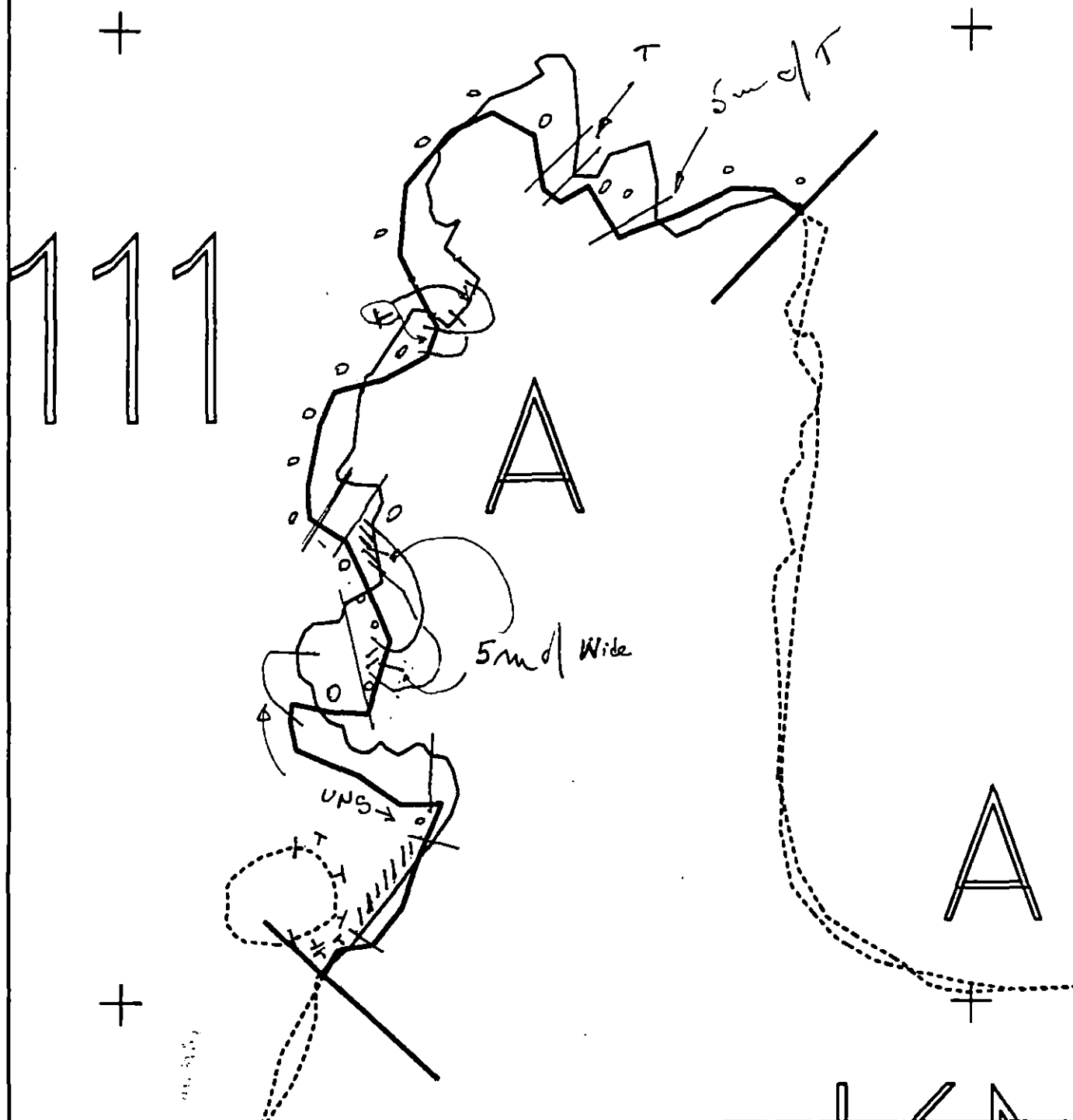
KN 111-A

5 May 91

M. H. Fawcett

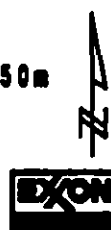
B₁ Sketch Map(2)
KN 111-A
5 May 91
M. H. Fawcett





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

KN0111 A
 ADEC Subsegment Length: 1150m
 METERS
 0 100 200
 AK State Plane Zone 4
 kn0111a



Subdivision Field Map
 Map Key: KNKN0111A
 Name: GM
 Date: 5.5.91
 Date Entered:

ET revised, May 8
 G
 REVISED CD 10 MAY

1991 MAYSAP EVALUATION

SEGMENT: KN 0112 SUB: A REGION: PWS SURVEY DATE: 4/30/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

ADEC

NAME JEFF GINALIAS

SIGNATURE [Signature]

☒ NTR

EASILY DISCERNIBLE LENS OF MOR ALONG UITE/MITE SUB-SURFACE 20-25 CM. BROWN STEENS WHEN AGITATED. HOWEVER, COBBLE/BOULDER BEACH MAKES TREATMENT DIFFICULT AS EXPOSURE OF LENS DISRUPTIVE TO BEACH COMPARED TO OIL EXPOSED OR REMOVED.

EXXON

NAME FRANK A Box

SIGNATURE [Signature]

☒ NTR

Visible subsurface, but not enough net benefit involved to warrant activity.

LANDMANAGER

NAME MARSHA HALL OF DNR

SIGNATURE [Signature]

☒ NTR

Campsite in proximity, but I agree that due to depth of oil and cover type of beach, accessing the oil lens would be disruptive compared to amount of lens recovered or released.

USCG/NOAA

NAME Jensen / CHILDS

SIGNATURE [Signature]

☒ NTR

Further removal operations would cause more environmental harm than the small amount of oil to be removed.

THE ONLY SURFACE OIL OBSERVED WAS CT 1ST ON TR N14 SEC 08 P8. SUBSURFACE OIL - MOR - 12 APPROX 5mX20m AREA ~20cm DEEP & ~3cm THICK

PAGE 1

SEGMENT KN-112

SUBDIVISION A

DATE 4 / 30 / 91

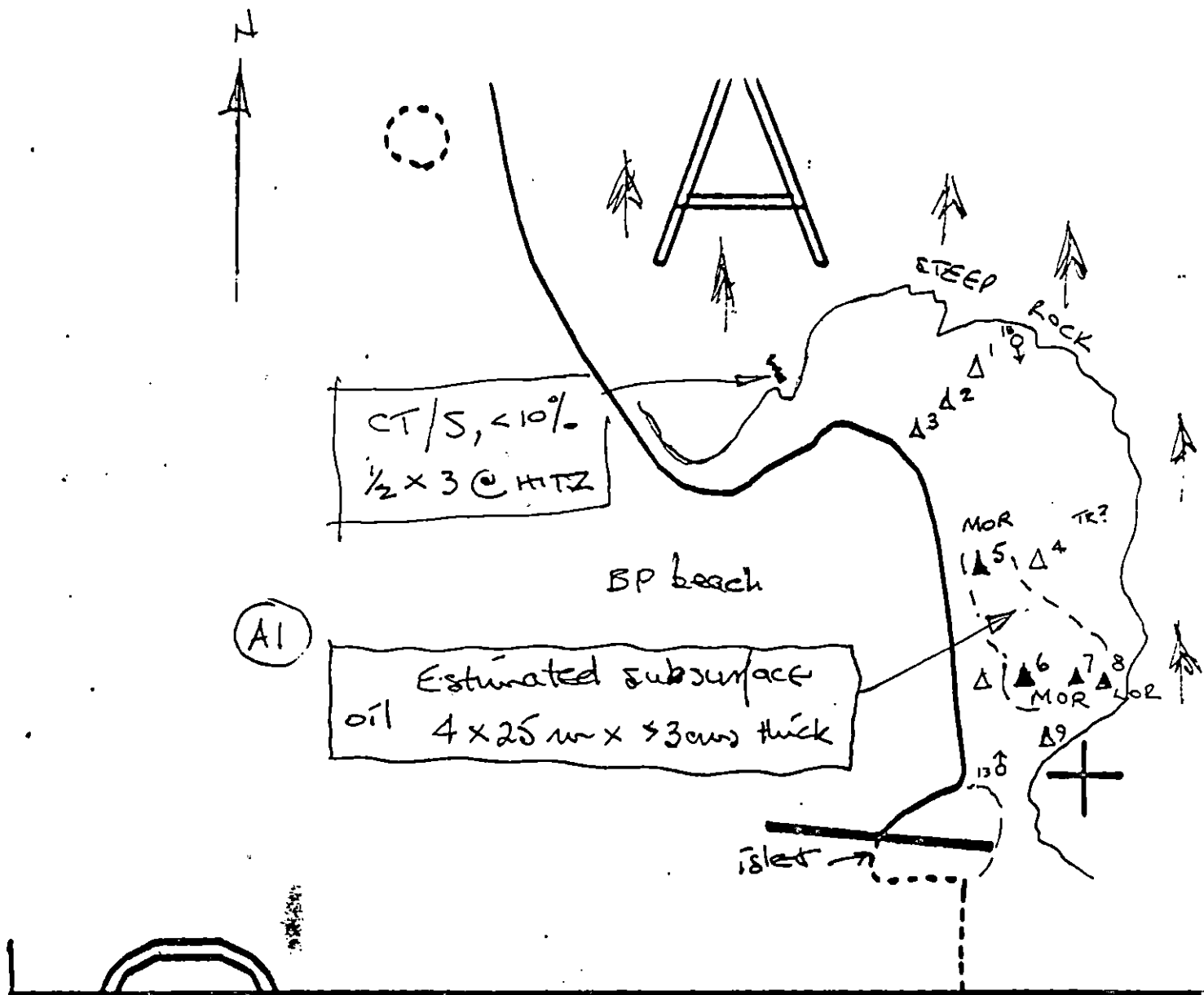
ENERGY LEVEL: ☐ H ☒ H → ☐ L

EST. OIL CATEGORY LENGTH: W 1 m M 1 m N 1 m VL 3 m NO 240 m US 6-4 m

FRAMES 13~1

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

REVIEWED: F.W. 5/2/91



KN0112 A

Subdivision 1

Map Key: KN11

Name: GM

Date: 4-30-91

METERS
0 100 200

AK State Plane Zone 4
KN011206

REVIEWED: F.W. 5/2/91
REVIEWED: M.C. 5/3/91

TEAM # 1

DATE 30 April 91

SEGMENT # KN 112

TIDAL HEIGHT(Range) 3.3 - 4.0 ft MLLW

SUBDIVISION A

BIOLOGIST Michael Fawcett

SEA STATE 1 ft

WIND SPEED/DIRECTION 15 knots N, rain

PHOTOGRAPHS: ROLL #

FRAME #

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

this is a moderate to low energy gravel/pebble/cobble beach with bedrock walls at each end, and some large boulders near south end. Overall, biota is sparse in main beach area. Littorinids breeding under boulders within and downshore from buried MoR-- also sparse barnacles, limpets, rockweed, and dense filamentous green algae. Boulders and bedrock at south end have dense barnacles, sparse Rockweed, littorinids, mussels, etc. Bedrock at North end near small area of CT (traces in crevices) has very sparse biota; mainly a few barnacles and a film of green algae and diatoms.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/kittiwakes			
Shorebirds			
Corvids			
Other Birds			

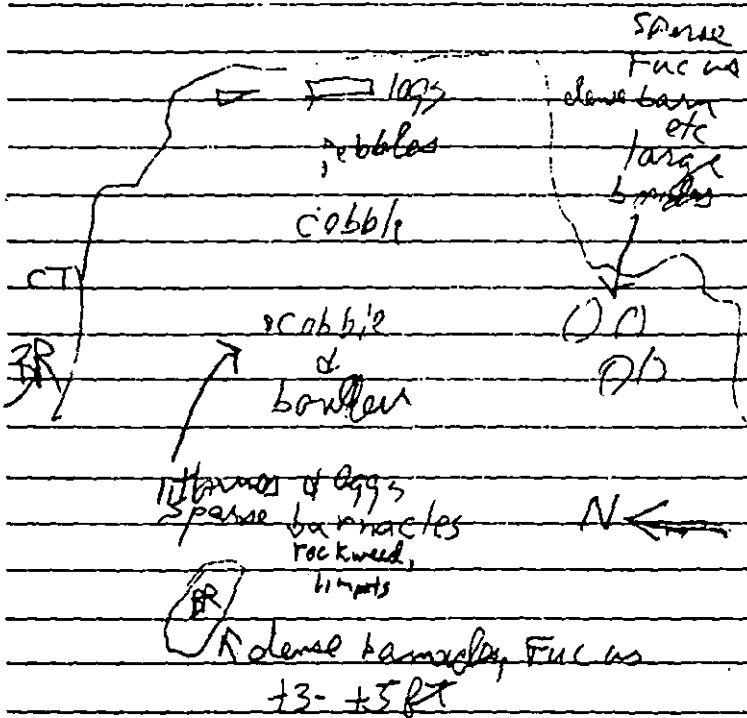
MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds(specify)			
Whales(specify)			

Shoreline subdivision map showing important biological features attached.

KN 112A sub 1
ARR 1940

Fawcett
30 Apr 91

gravel/pebb/cobble beach
sparse beds above +4 ft -
Litt breeding - dense fil. green, sparse
bedrock well at N end has bar, amph
some CT in cracks
very sparse biota

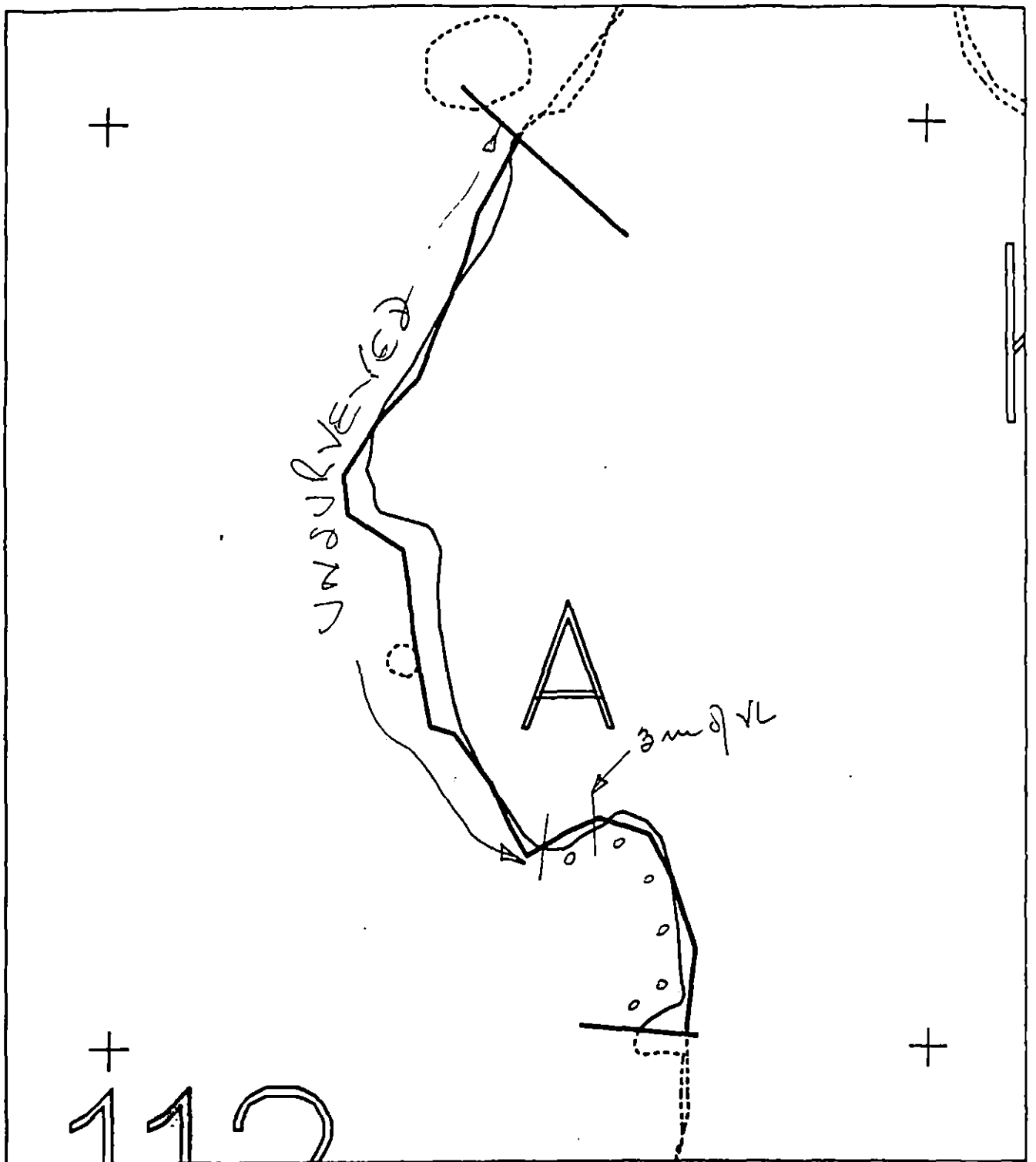


depart 2010, return to ship

Michael Fawcett



AK State Plane Zone 4



XXXX	Wide	KN0112 A ADEC Subsegment Length: 847m METERS AK State Plane Zone 4 bba0112a	 	Subdivision Field Map
////	Medium			Map Key: KN1KN0112A
----	Narrow			Name: <u>G. M.</u>
TTTT	Very Light			Date: <u>4.30.91</u>
0000	No Oil			Date Entered:

REVIEWED: F.W. 5/2/91

REVIEWED: M.C. 5/2/91

1991 MAYSAP EVALUATION

SEGMENT: KN 0112 SUB: B REGION: PWS SURVEY DATE: 4/30/91ENVIRONMENTAL SENSITIVITIES:Work Window(s) RESTRICTED 3/1 - 9/1Ecological/Constraints (see page two for details) Eagle nestARCHAEOLOGICAL CONSTRAINTS:If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

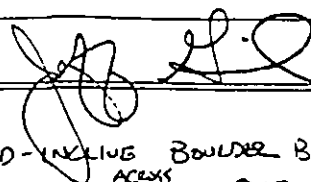
TEAM NO. 1 SEGMENT Kx 112 SUBDIVISION B DATE 7/30/91

ADEC

NAME

JEFF GUALIAS

SIGNATURE

☐ NTR☒ TREATMENT RECOMMENDED

BEACH IS 30' X 30'. POCKET COVE MID-INKLING BOULDER BEACH. OIL AT
 UTEZ IN BAND 20' X 5'. NOT VERY DEEP. ARMOR ^{ACROSS} ~~OVER~~ SURFACE MAKES MANUAL
 REMOVAL DIFFICULT. TREATMENT COULD BE ~~THE~~ MANUAL AGITATION AND TILLING,
 WITH EFFORT TO CORRAL SHEEN NARROW WIDTH OF BEACH MAKES THIS POSSIBLE.

EXXON

NAME

FRANK A. BOY

SIGNATURE

☒ NTR

Subsurface noted at site A. pit 2. Surface oiling was
 very minimal.

LANDMANAGER

NAME

MARSHA HALL OF DNR

SIGNATURE

☐ NTR☒ TREAT

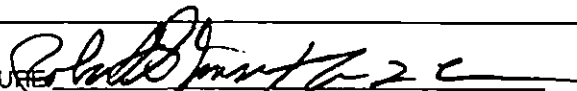
In AREA A₁. Pits at approx 8 foot level.
 Small crew, manual removal of MOR lens.

USCG/NOAA

NAME

Sensen / CHILDS

SIGNATURE

☒ NTR

Further removal operations would cause more
 environmental harm than the oil to be removed.

SURFACE OIL WAS NOTED ONLY ON A-2 - SMALL PATCH ~.5m
 SUBSURFACE OIL OBSERVED ON AREA ~ 5m x 7m ? ABOUT 5cm deep ? 3-4cm
 THICK - A₂ HAD NO SUBSURFACE OIL ? A₃ MOR ~ 20cm DEEP AROUND AI -

REVIEWED: F.W. 5/2/91
REVIEWED: M.C. 5/3/91



(A1)

MOR 5m x 7m
3-7m deep.

massive
boulder

no
oil

BP pocket

(A2)

CT/5 @ ϕ . HTZ; $\leq 0.5m$
 $< 10\%$ x20.

CT, ST - 5%,
2x6m @ HTZ

wide gully in
steep rock wall



KN0112 B

METERS

100

200

State Plane Zone 4
KN0112B

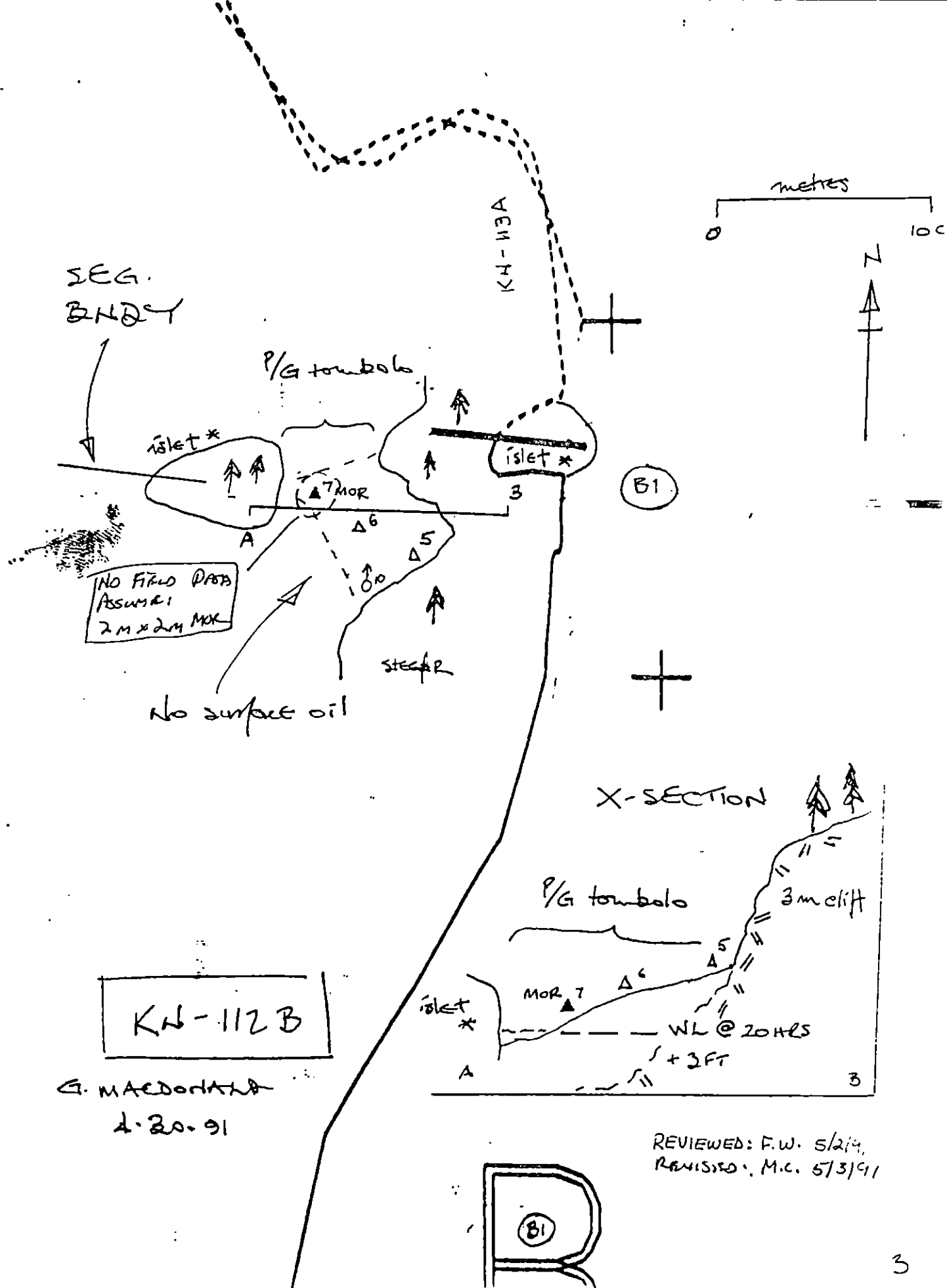
Subdivision Field No.

Map Key: KNKN0112B

Name: G. MACDONALD

Date: 4-30-91

REVIEWED: F.W. 5/2/91
REVIEWED: M.C. 5/3/91



TEAM # 1

DATE 30 April 91

SEGMENT # RN 112

TIDAL HEIGHT (Range) +4.2 to +6.2 ft MLLW

SUBDIVISION B

BIOLOGIST Michael Fawcett

SEA STATE 1 ft

WIND SPEED/DIRECTION 15 knots N, rain

PHOTOGRAPHS: ROLL #

FRAME #

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

Site A1 is a narrow boulder beach between steep bedrock walls. The boulders have moderately dense populations of young mussels, barnacles (dense spat), and sparse Littorinids, limpets and rockweed in +6 to +8 ft zone just downshore from buried MOR. The MOR lies in upper edge of barnacles, rockweed, & Littorinids at about +8-10 ft MLLW. Dense filamentous green algae covers boulders above +10 ft. Rock walls at either side have dense barnacles and rockweed, sparse mussels, limpets, and Littorinids.

Site A2 has dense barnacle populations (2 species) on vertical face of a massive boulder -- barnacles cover +5 to +10 ft zone, upper 2-3 ft of which has weathered oil coat on and among barnacles. About 40 percent of barnacles in top 1 ft are dead, old barnacles; other barnacles OK and include new spat and scattered Littorinids. Almost no biota except film of green algae exists on or among smaller boulders and pebbles (see sketch).

Site B1 is a very narrow pebble tombolo connecting a massive rock islet covered with trees. No biota except filamentous green algae among pebbles (see sketch). Dense rockweed, barnacles, and patchy dense mussels and Rhodomela occupy bedrock south of tombolo. Dense barnacles (incl. spat), sparse young rockweed and mussels, and sparse Littorinids & limpets occupy bedrock north of tombolo.

WILDLIFE OBSERVATIONS

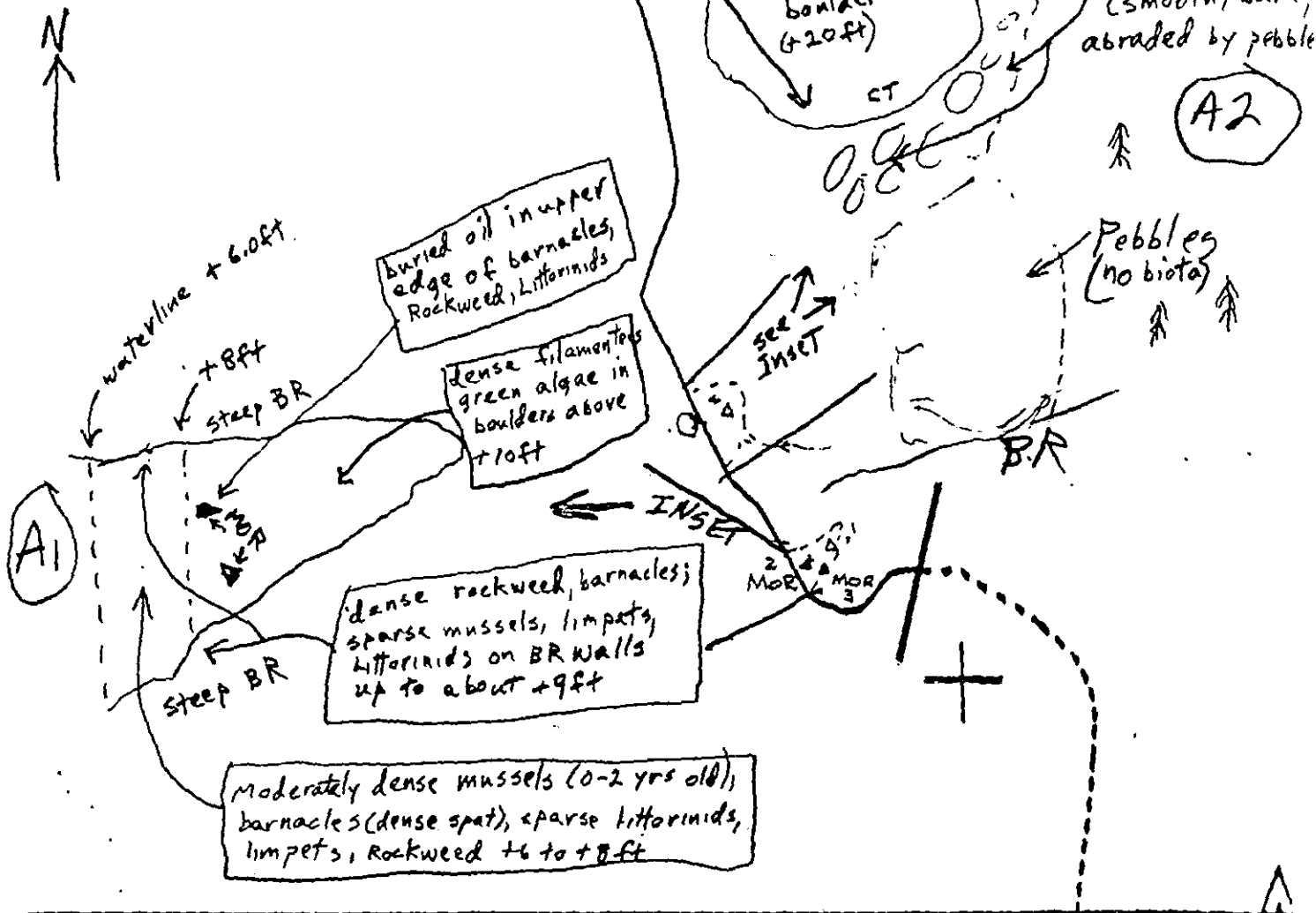
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1 (mature)	pricklebacks
Seabirds	1	1 common loon	
Waterfowl			
Gulls/kittiwakes	2	31 (30 bl. Kittiwakes)	
Shorebirds			
Corvids	1	2 (crows)	
Other Birds	↓ N.B. 5/3/91		

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

BIO SKETCH MAP
KN 112-B
30 April 91
M. H. Fawcett



(N0112 B)

METERS

100

200

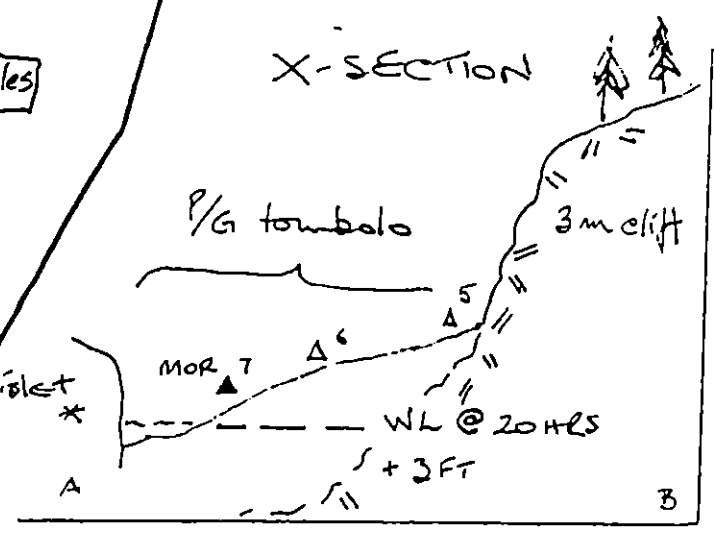
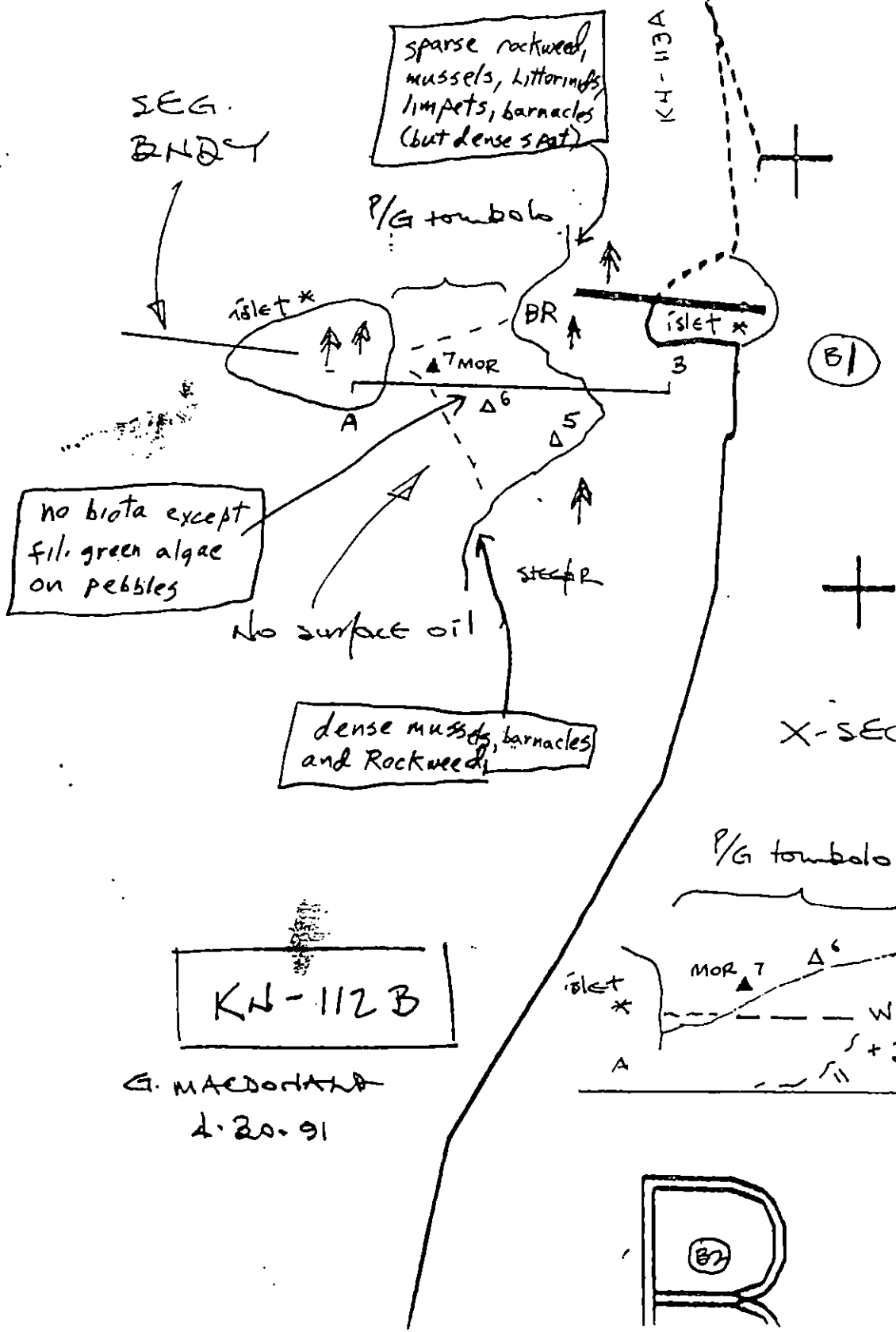
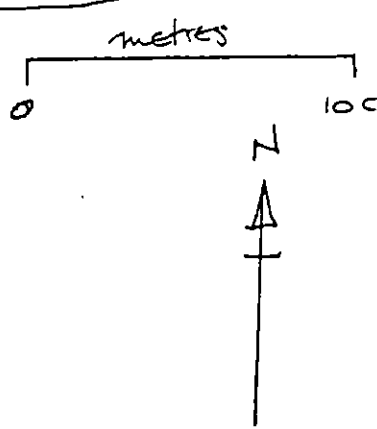
Subdivision Field No.

Map Key: KNKN0112B

Name: G. MACDONALD

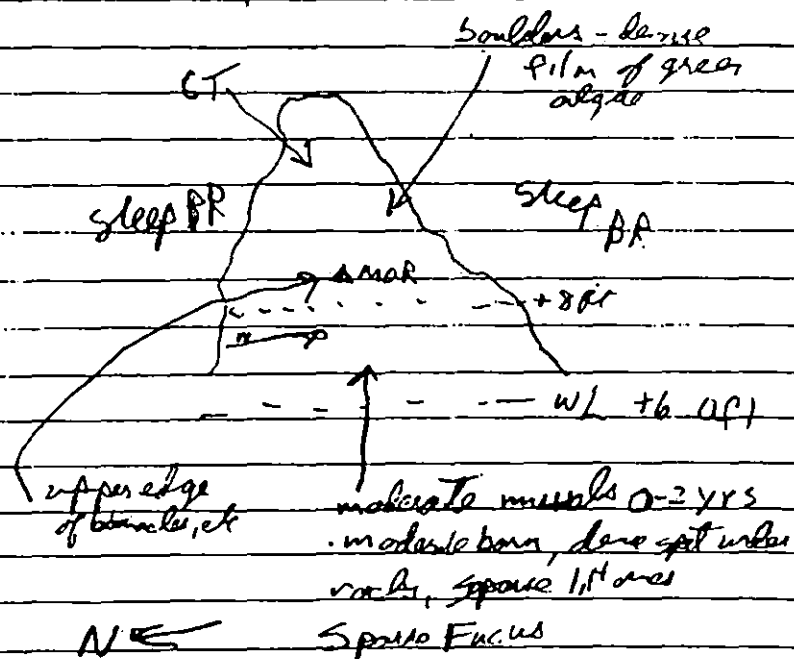
Date: 4.30.91

DIA. Station 107
 KN 112-B site B1
 30 April 91
 M. H. Fawcett



KN 112 B 30 Apr 91 Fournet
Arrive 1830 site ①

N 30° E kittiwakes feeding
near shore - small pocket boulders
beach

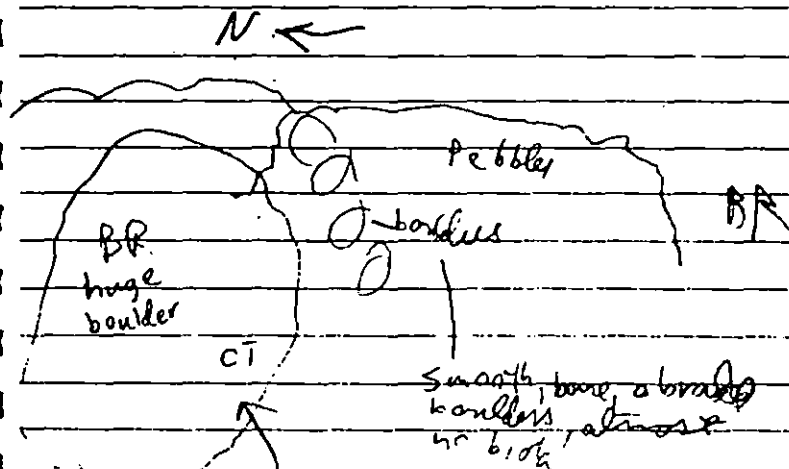


on walls
dense Rockweed & barnacles
sparse mussels, Litt, LIT scut
up to N + 9 ft

depart 1855

KN 112 B site ②

narrow ~~stone~~ pebble beach, boulders
& BR on North end, BR on S. end



dense barnacles, +5 ft + 10 ft
1/2 - 1m wide CT covering barnacles
+8-10 ft - about 40% of top part
of barnacles dead, rest OK - littorina
among the barnacles - B. granulata +
chthamalus, new spot all over
1 eagle flying - 2 crows
1 loon fishing 1 Gull

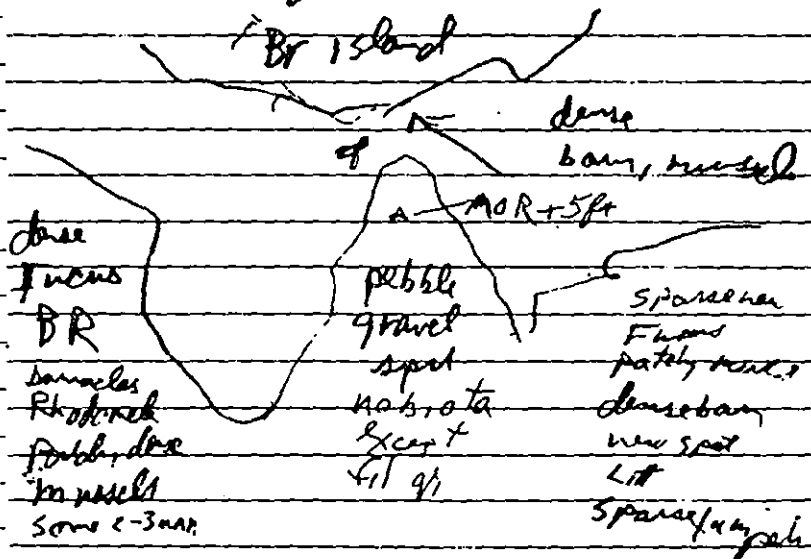
depart 1910

KN-112-8 (cont) 30 Apr 91 Fawcett

Arrive Site 3 1915 hrs

pebble Tombolo going out
to island w/ trees

Br Island

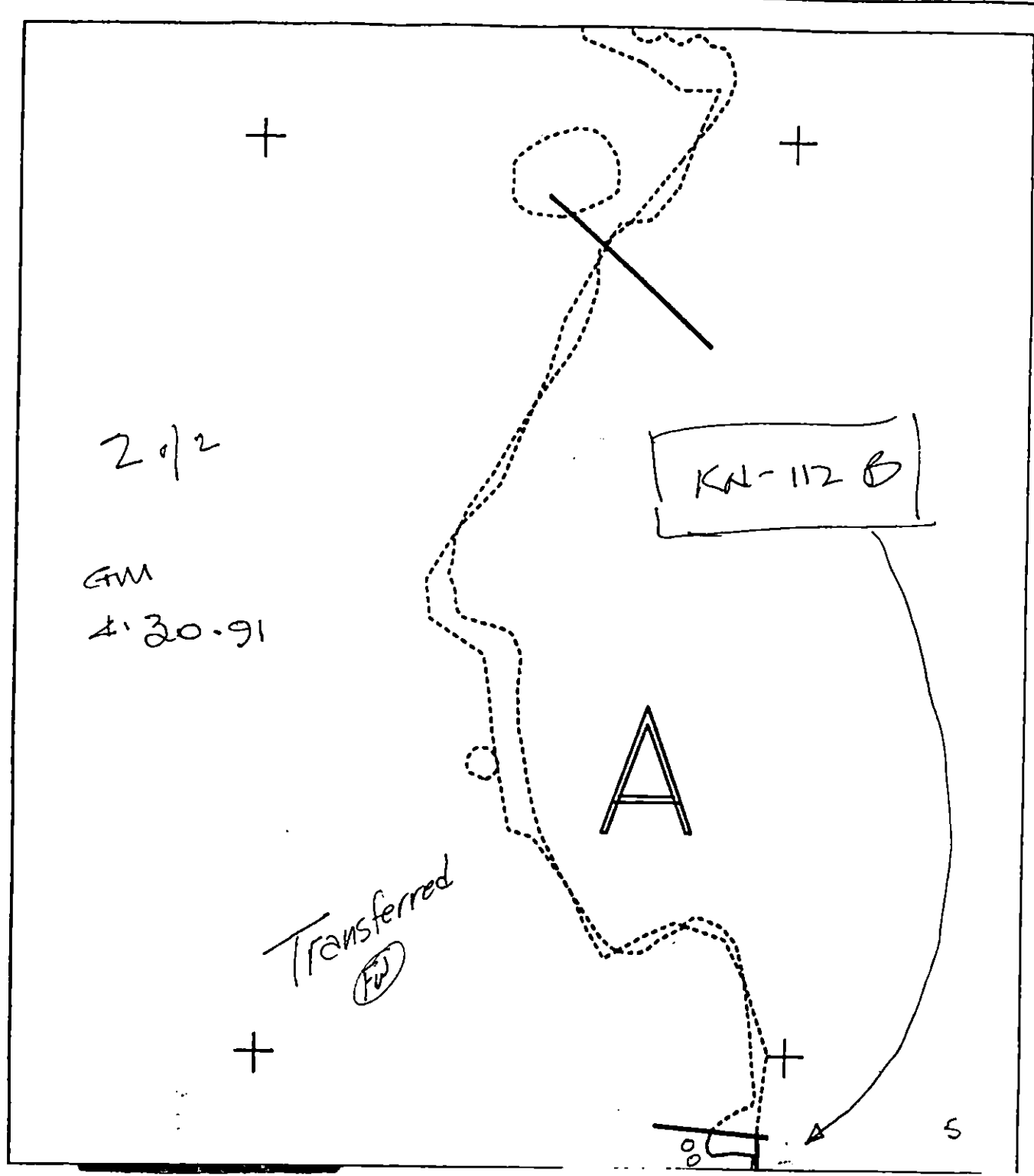


→ N

Wind N 15kn
1ft seas

depart 1935

RAINING



20/2

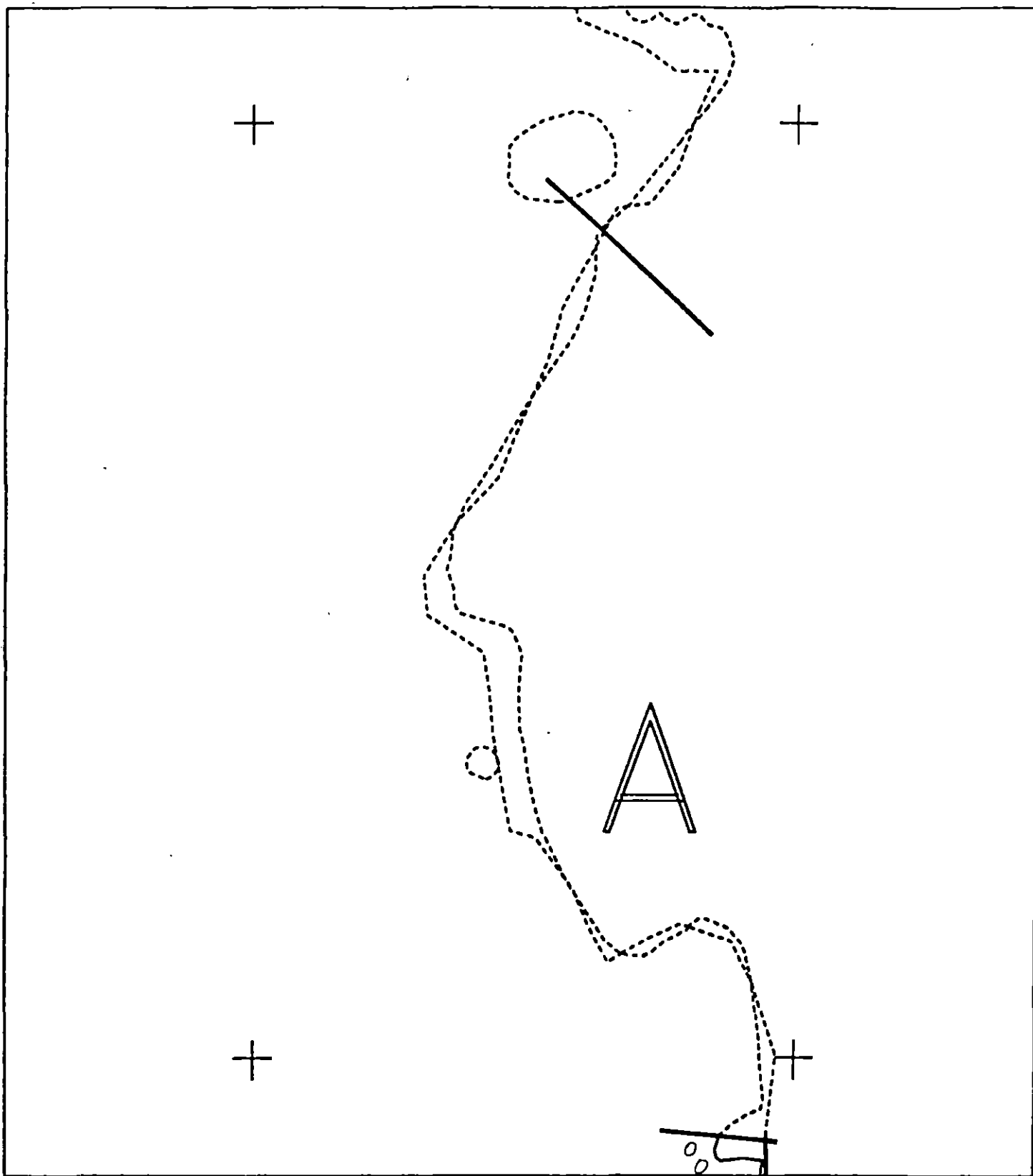
GM
4.30.91

KN-112 B

A

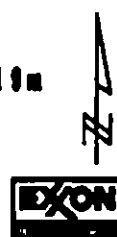
Transferred
(F)

REVIEWED: F.W. 5/2/91
REVIEWED: M.C. 5/3/91



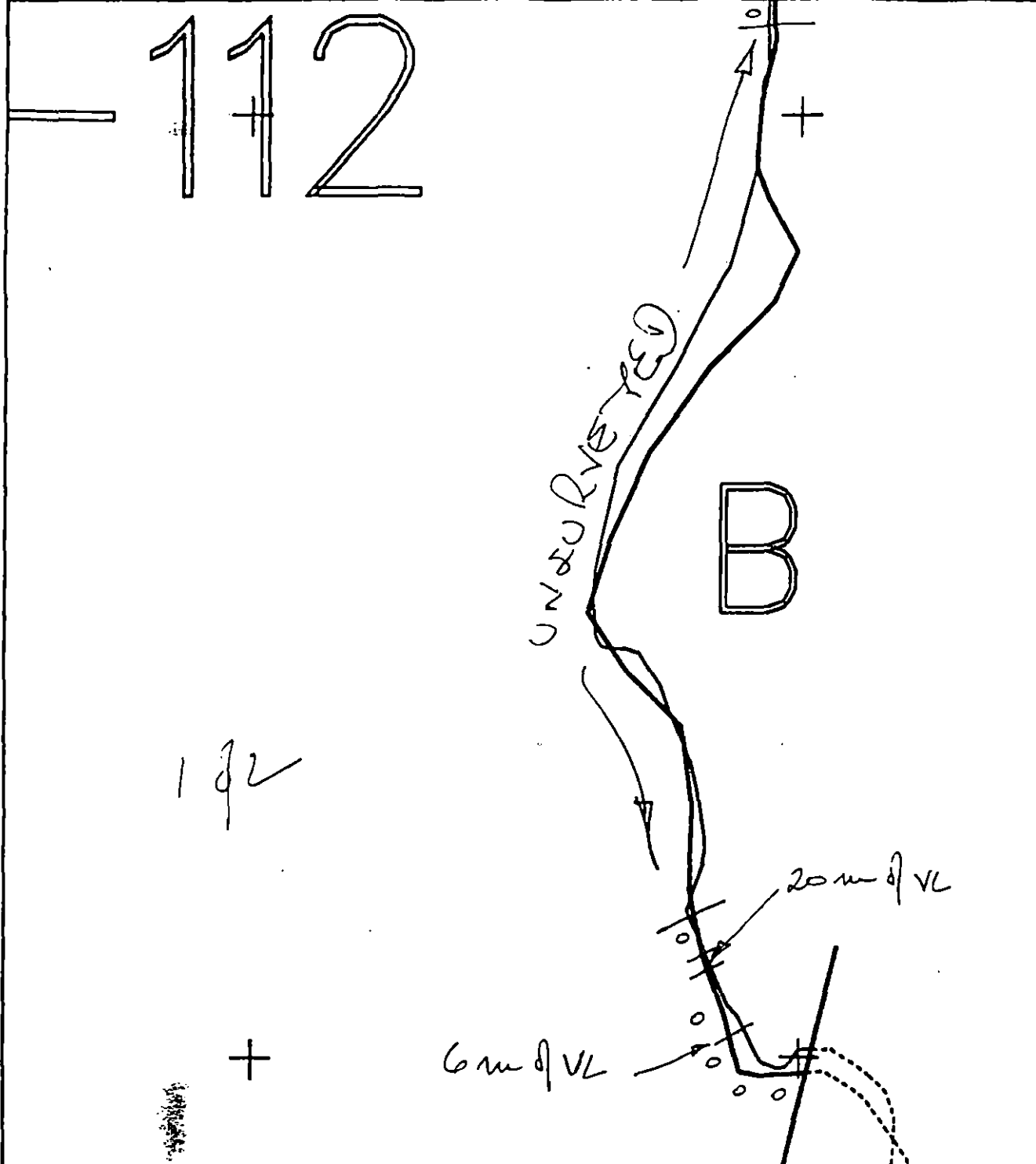
XXXX Wide
 //// Medium
 ---- Narrow
 TTTT Very Light
 0000 No Oil

KN0112 B
 ADEC Subsegment Length: 919m
 METERS
 0 100 200
 AK State Plane Zone 4
 kn0112bb



Subdivision Field Map
 Map Key: KNIK0112Bb
 Name: MacDonald
 Date: 4/30/91
 Date Entered:

REVISED: F.W. 5/2/91
 REVISED: M.C. 5/3/91



XXXX	Wide	KN0112 B ADEC Subsegment Length: 919m METERS AK State Plane Zone 4 kn0112b	 Subdivision Field Map Map Key: KNKN0112B Name: <u>GM</u> Date: <u>4.20-91</u> Date Entered:
////	Medium		
----	Narrow		
TTTT	Very Light		
0000	No Oil		

REVIEWED: F.W. 5/2/91
 REVIEWED: M.C. 5/3/91 4

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-112 SUBDIVISION B (2 of 2)

WORK WINDOW	
Bioremediation Inside Eagle Nest Buffer Zone	CLOSED
Bioremediation Outside Eagle Nest Buffer Zone	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision B. Closed to bioremediation within 400m of active nest. No constraint outside bald eagle nest buffer zone.

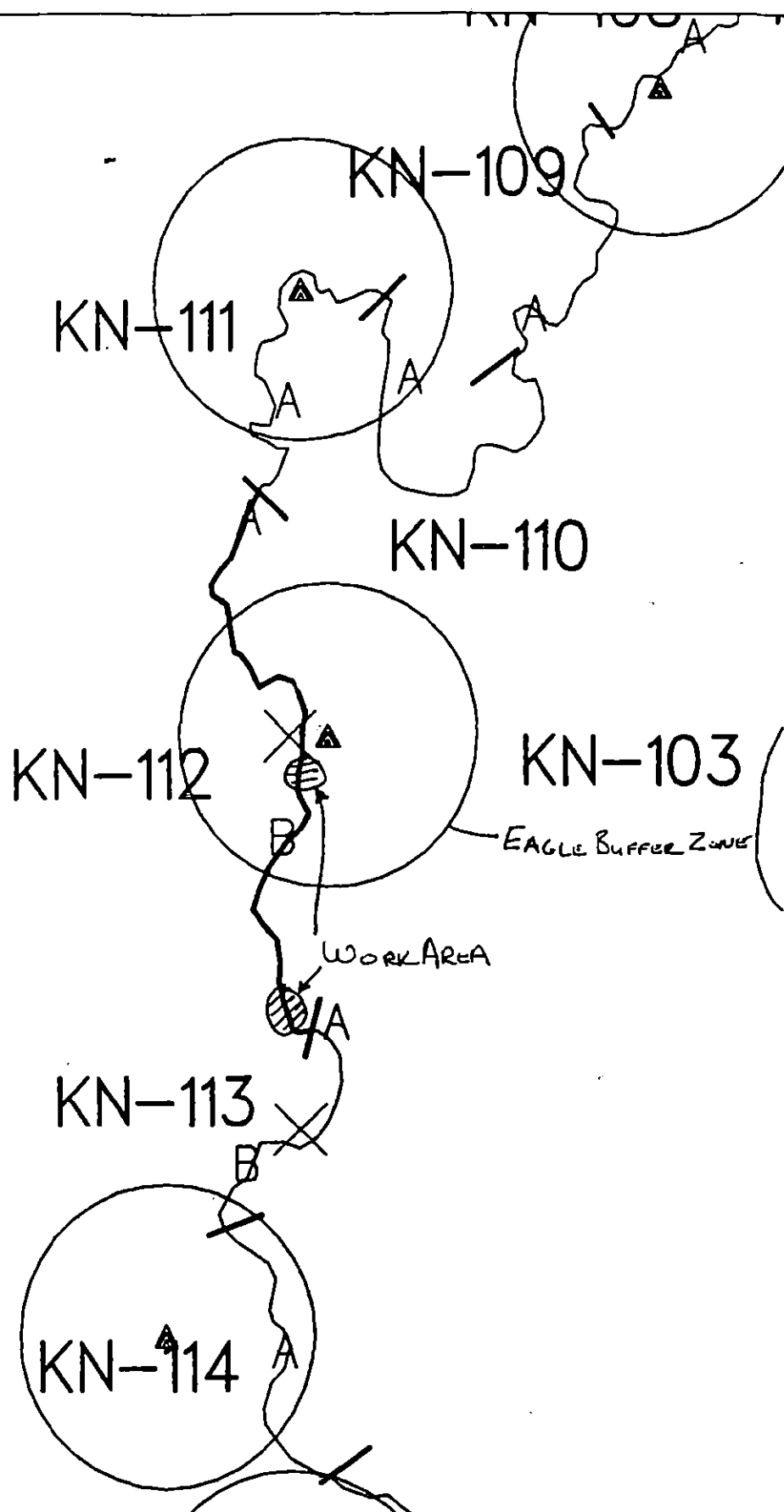
OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to uncoiled biota and substrate.

FOSC DATE 6-10-90

Prepared By:

Date 6/8/90



Exxon Company, USA

ECOLOGY MAP
SEGMENT KN-112
SUBDIVISION B (2 of 2)
METERS

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

SHORELINE EVALUATION

SEGMENT ST/ KN-112 SUBDIVISION B (2 OF 2) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
Eagle nest in subdivision A, but close to border with B.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Max Lee E H Lee DATE: 9/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 40 m: Narrow 346 m: V.Light 485 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 30+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of areas shown on sketch map. Work should be conducted after 6/1 with the approval of USFWS and ADF&G regarding eagle nest constraint.

→ See Constraint Addendum Dated 6/8/90] WTK

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/2/90.

ADEC ART WENGER Art Weiner

EXXON ANDY TEAL REDACTED 0

NOAA Burl Wescott Burl Wescott

USCG Kenneth Keane

FOSC: W DATE: 5-12-80

DATE: 5-12-90

SHORELINE EVALUATION

SEGMENT ST/ KN-112 SUBDIVISION A (1 OF 2) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
Eagle nest in subdivision A.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE

[Signature]

DATE:

4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 223 m: Narrow 140 m: V.Light 49 m: No Oil 435 m
Subsurface Oil Observed: Yes X No Maximum Depth 25+ cm

RECOMMENDATIONS:

 No Treatment Recommended
X Treatment Recommended
 Manual Pickup
X Bioremediation
 Tarmat: Breakup
 Removal

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

COMMENTS: Recommend bioremediation of areas shown on sketch map. Work
should be conducted after 6/1 with the approval of USFWS and ADF&G re-
garding eagle nest constraint.

TAG COMMENTS:

MONITORS TO ASSESS THE SUIZ AT TIME OF
TREATMENT AND DETERMINE THE NEED FOR DEBRIS PICK UP

TAG APPROVAL DATE:

4/21/90

ADEC Art Weiner
EXXON Arnot
NOAA Burt Wescott
USCG Kenneth Keane

FOSC:

[Signature]

DATE:

4-27-90

OG Greg Chaney

SEGMENT ST/ KN-112

SUBDIVISION A

DATE April 12 90

CHECKLIST

☐ N Arrow
☐ Appraisal, Scale
☐ Map/Study Body
☐ Oil Dist.
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. HAZ/ALW
☐ SSI
☐ Profile Location(s)
☐ Profile(s)
☐ PI Location(s)
☐ Photo Location(s)

LEGEND

1 Δ

PI - No Subsurface Oil

2 Δ

PI - Subsurface Oil

CT/C

Continuous Distribution

CT/S

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

CT/S

Oiled Vegetation

1 ●

Photo location, direction, and number

SKETCH MAP

KN-112-A

HERRING BAY

TRACE STAIN

10% COAT ON BOULDERS 6 METERS WIDE

Low Rock

28

ROUGH ONE METER BAND OF COATED TAR APPROXIMATELY 30% COVERAGE ON ROCK WALL SHOWN BY HEXAGONS

100 METERS

FOREST

SNOW

RAINBOW SHEEN Bio Here

OIL 9 METERS WIDE 20% TAR COAT FILM ON SEDIMENTS AT BASE OF BOULDERS

ROCK OUTCROPS

TREES



NI Character Length (m): AP — PO — CV — CT 400 ST 30 MS — PT — TB — FL 70 NO 350

ECOLOGY
MAP.

↑ PWS
2936

KN-112

South
Boundary
Subsegment
A

Eagle Nest
SWS

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Fish

KN-112A

Segment Length A 850

ADEC Segment Length: 1766m

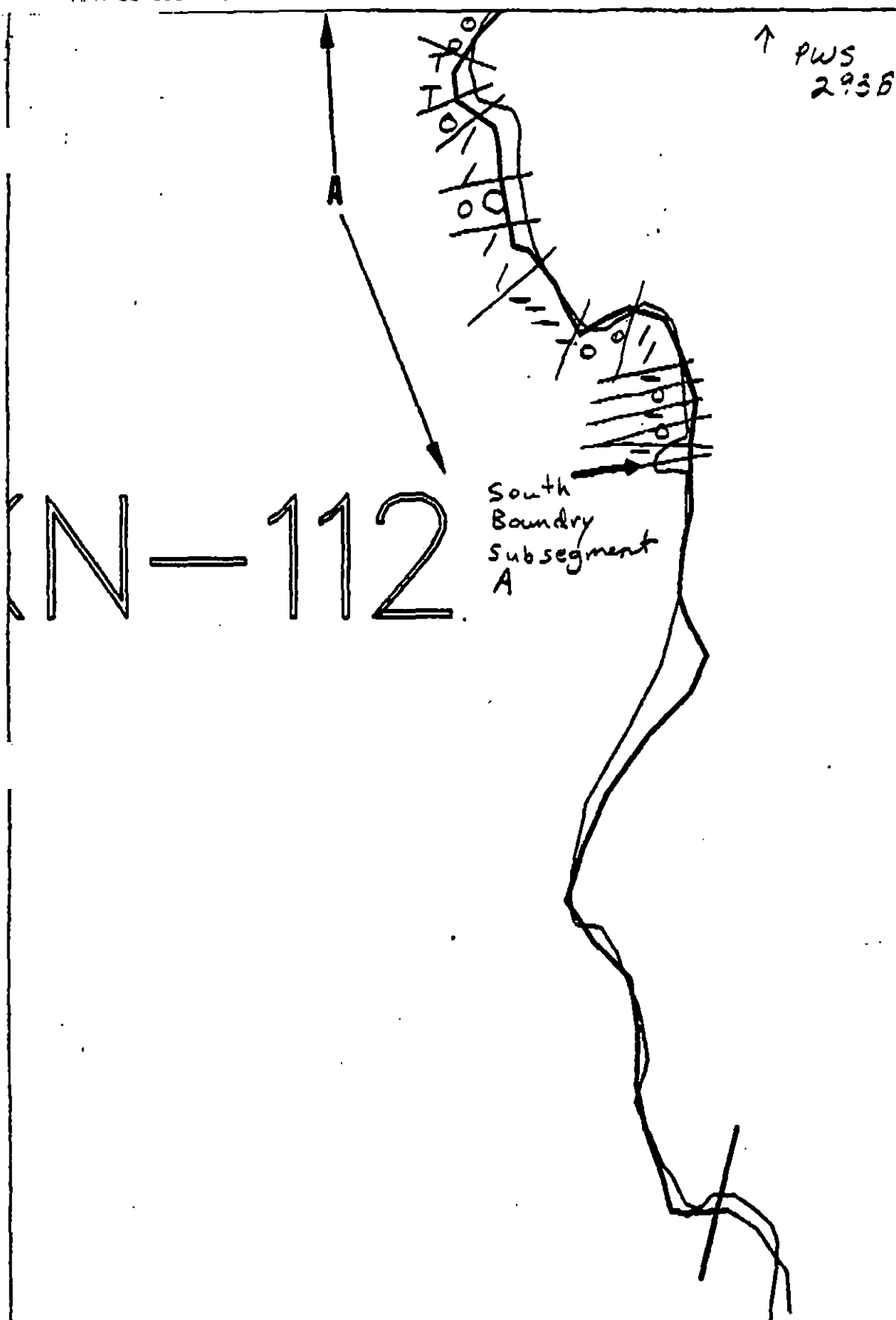
Exxon Segment Length 1788

0 100 200 300

Map Key: PWS-2936

Name: Greg Chaney

Date: April 2 1990



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

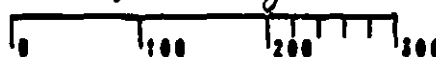
OOOO NA OOI

KN-112A

Segment Length A 850

ADEC Segment Length: 1786m

Exxon Segment Length 1788

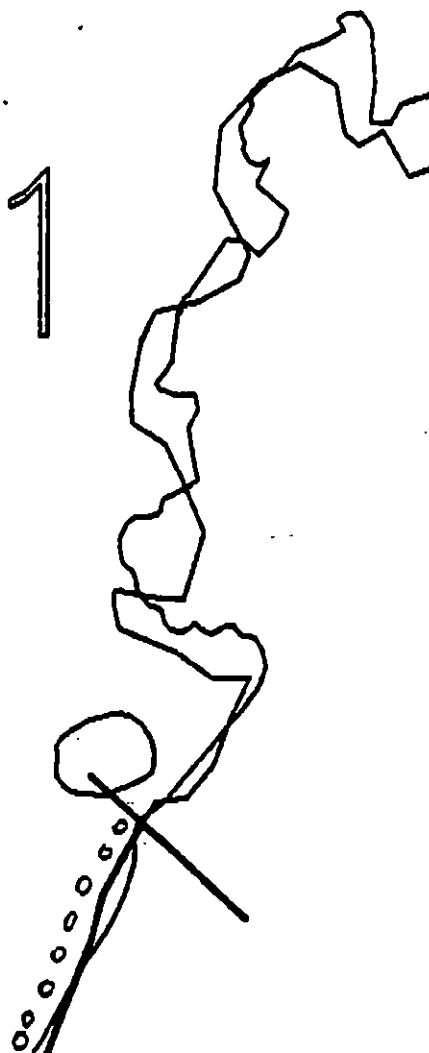


Map Key: PWS-2930

Name: Greg Chaney

Date: April 2 1990

KN-111

↓ PWS
293A

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-112A

Segment Length A 850

ADEC Segment Length: 1766m

Exxon Segment Length 1788

0 100 200 300

Map Key: PWS-293b

Name: Greg ChaneyDate: April 2 1990

1991 MAYSAP EVALUATION

SEGMENT: KN 0112 SUB: A REGION: PWS SURVEY DATE: 4/30/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Charles G. H. Jones Date: 5/10/91

RECOMMENDATIONS:

	INITIAL	TAG	FOSC
TREATMENT REQUIRED (Y or N)	<u>N</u>		<u>2</u>
Manual Pickup (Check as Req.)			
Spot Washing			
Bio-Customblen Only			
Bio-Inipol/Customblen			
Other			
Other			

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: MAY 10 1991

FOSC APPROVAL DATE: 5/15/91

ADEC [Signature]

FOSC

EXXON [Signature]

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC

USCG [Signature]

NOAA [Signature]

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 1 SEGMENT KN 112 SUBDIVISION A DATE 4/30/91

ADEC

NAME

JEFF GINALIAS

SIGNATURE

[Signature]

☒ NTR

EASILY DISCERNIBLE LENS OF MOR ALONG UITE/MITE SUB-SURFACE 20-25 CM. BROWN STEENS WHEN AGITATED. HOWEVER, COBBLE/BOULDER BEACH MAKES TREATMENT DIFFICULT AS EXPOSURE OF LENS DISRUPTIVE TO BEACH COMPARED TO OIL EXPOSED OR REMOVED.

EXXON

NAME

FRANK A. BOY

SIGNATURE

[Signature]

☒ NTR

Visible subsurface, but not enough net benefit involved to warrant activity.

LANDMANAGER

NAME

MARSHA HALL OF DNR

SIGNATURE

[Signature]

☒ NTR

Campsite in proximity, but I agree that due to depth of oil and cover type of beach, accessing the oil lens would be disruptive compared to amount of lens recovered or released.

USCG/NOAA

NAME

Jensen / CHILDS

SIGNATURE

[Signature]

☒ NTR

Further removal operations would cause more environmental harm than the small amount of oil to be removed.

THE ONLY SURFACE OIL OBSERVED WAS CT 1st ON RK N'14 SEC OR PB. SUBSURFACE OIL + MOR - 12 APPROX 5mX20m AREA ~20cm DEEP & ~3cm THICK

PAGE 1

W 1 m M 1 m N 1 m VL 3 m NO 240 m US 604 m

DISTRIBUTION: C = 91-100%; B = 81-90%; P = 11-50%; S = 1-10%; T = <1%

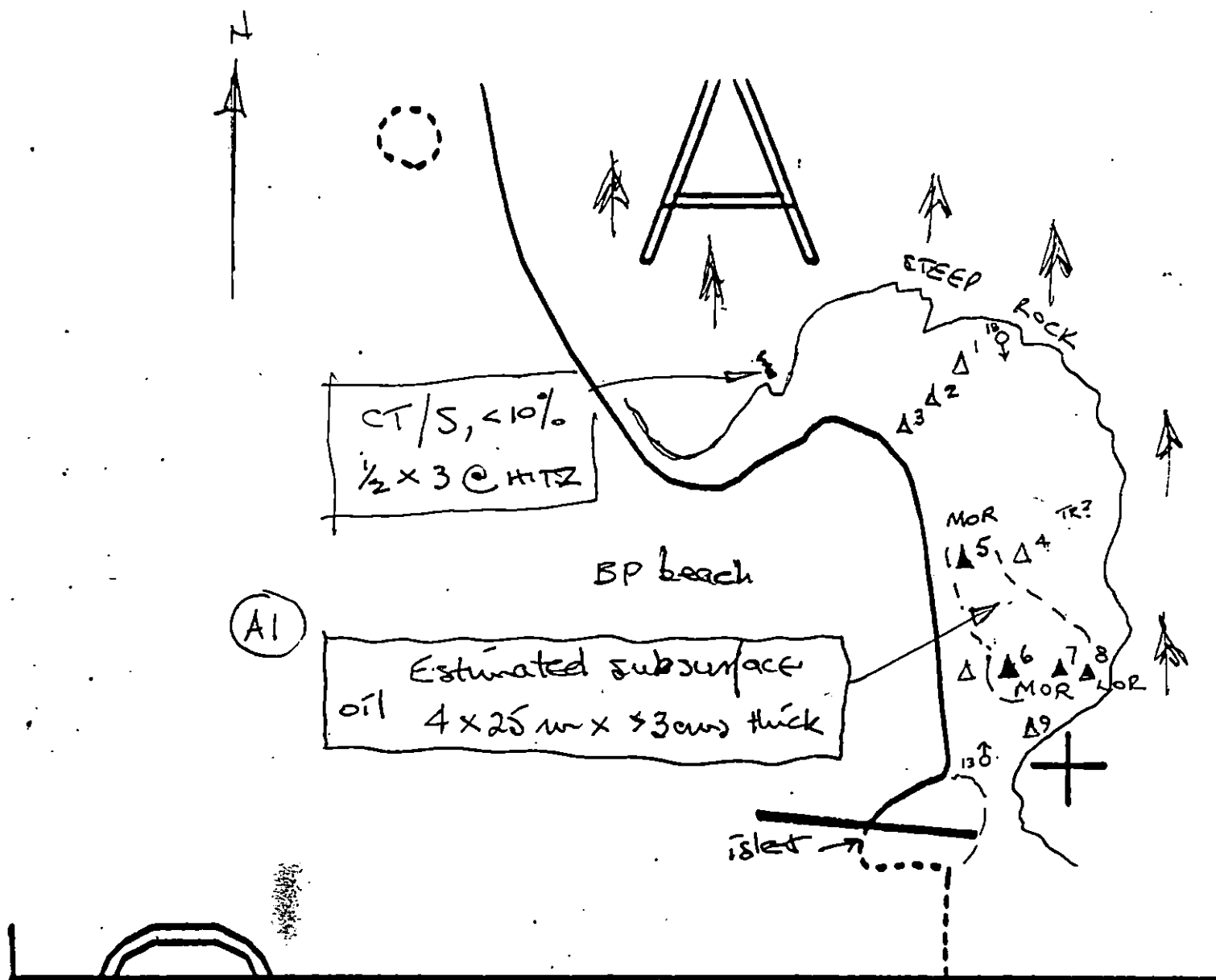
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE

PHOTO ROLL # MAYSAP-

FRAMES 13~19

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

REVIEWED: F.W. 5/2/91



KN0112 A

Subdivision PI

Map Key: KNKN

Name: GM

Date: 4-30-91

METERS



AK State Plane Zone 4

REVIEWED: F.W. 5/2/91
 REVIEWED: M.C. 5/3/91

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 1

DATE 30 April 91

SEGMENT # KN 112

TIDAL HEIGHT(Range) 3.3 - 4.0 ft MLLW

SUBDIVISION A

BIOLOGIST Michael Fawcett

SEA STATE 1 ft

WIND SPEED/DIRECTION 15 knots N, rain

PHOTOGRAPHS: ROLL #

FRAME #

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

this is a moderate to low energy gravel/pebble/cobble beach with bedrock walls at each end, and some large boulders near south end. Overall, biota is sparse in main beach area. Littorinids breeding under boulders within and downshore from buried MoR -- also sparse barnacles, limpets, rockweed, and dense filamentous green algae. Boulders and bedrock at south end have dense barnacles, sparse Rockweed, littorinids, mussels, etc. Bedrock at North end near small area of CT (traces in crevices) has very sparse biota; mainly a few barnacles and a film of green algae and diatoms.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/kittiwakes			
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds(specify)			
Whales(specify)			

Shoreline subdivision map showing important biological features attached.

KN 112A sub 1
ARR 1940

Fawcett
30 Apr 91

gravel/pbb/cobble beach

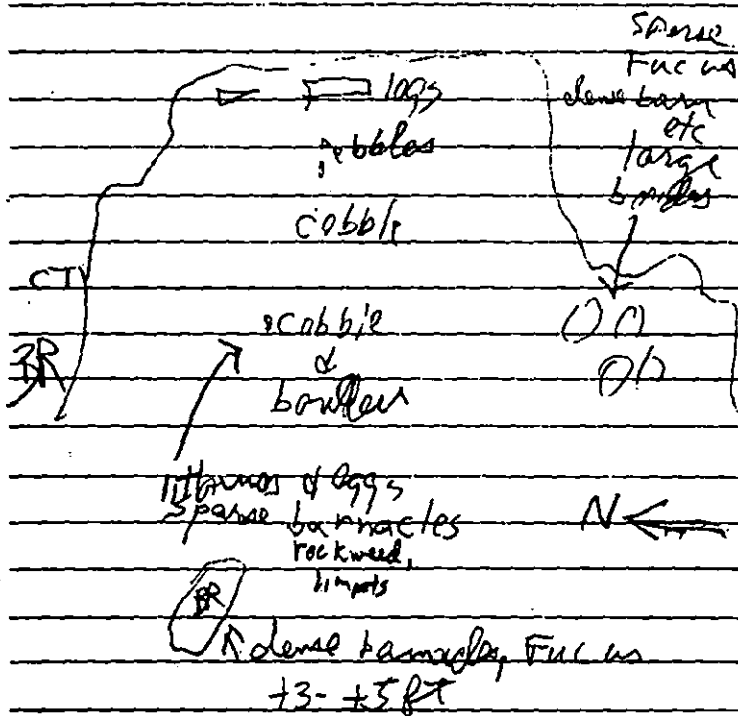
sparse biota above +4 ft --

Litt breeding - dense fl. green, ^{of white} barn,

bedrock well at N end has

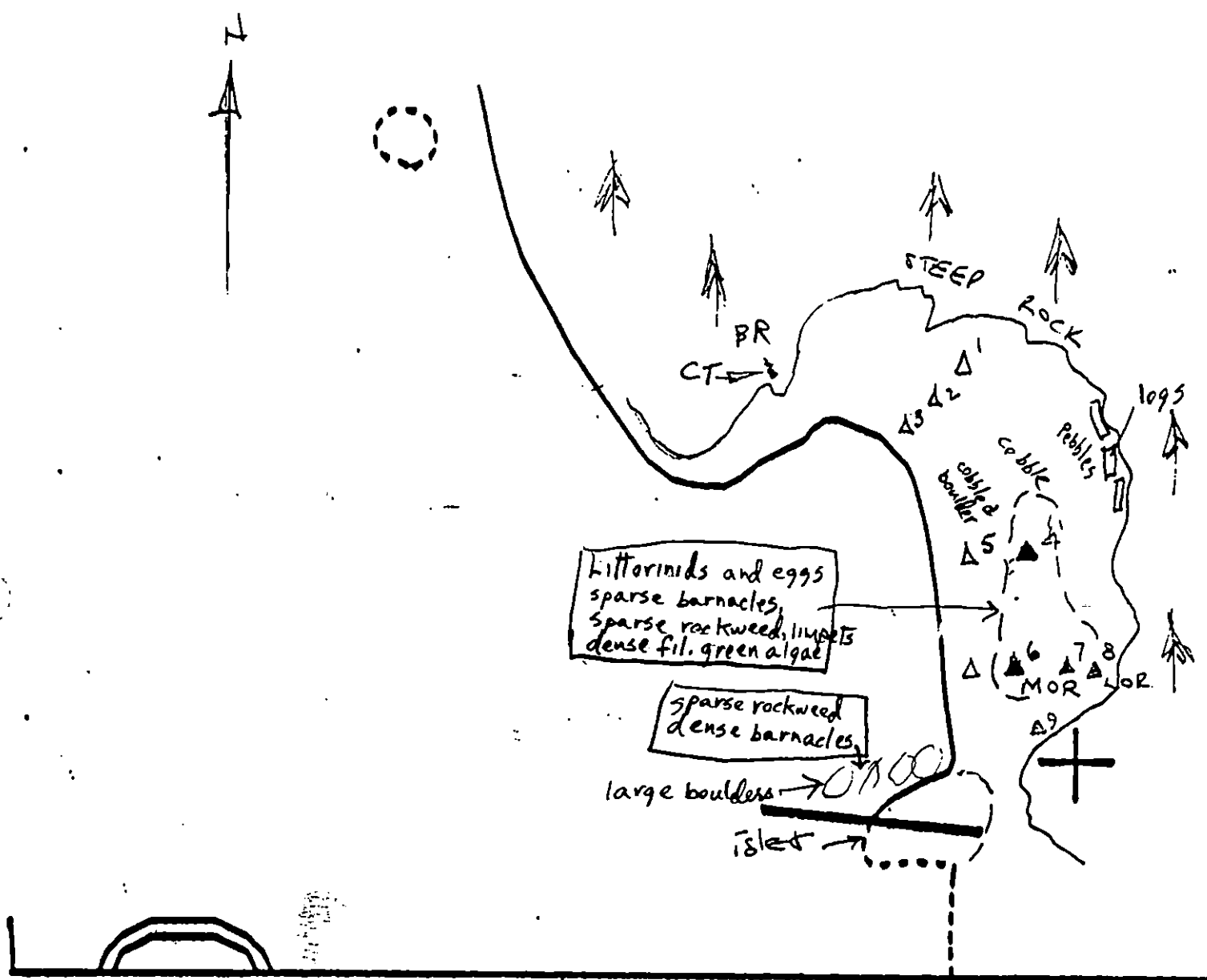
some CT in cracks

very sparse biota



depart 2010, return to ship

Bio Sketch Map
 KN 112-A
 30 April 91
 Michael Fawcett



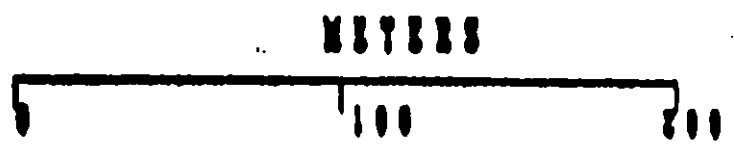
KN0112 A

Subdivision VI

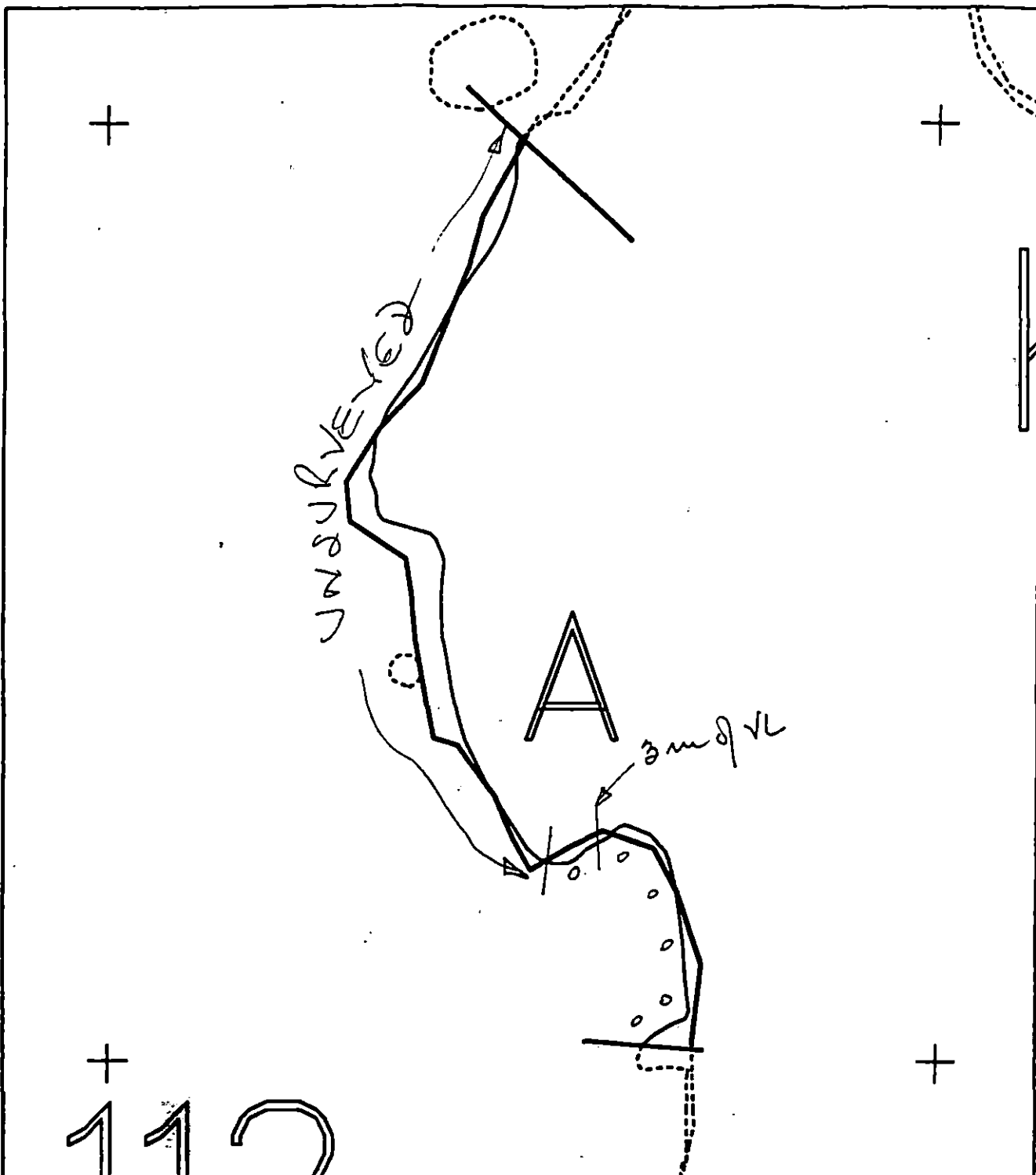
Map Key: KN1K1

Name: EM

Date: 4.30.91



AS State Planning Zone 4



XXXX	Wide	KN0112 A ADEC Subsegment Length: 847m METERS 0 100 200 AK State Plane Zone 4 660112a	Subdivision Field Map Map Key: KNKN0112A Name: <u>G. M.</u> Date: <u>4.30.91</u> Date Entered:
////	Medium		
----	Narrow		
TTTT	Very Light		
0000	No Oil		



REVIEWED: F.W. 5/2/91
 REVIEWED: M.C. 5/3/91

1991 MAYSAP EVALUATION

SEGMENT: KN 0112 SUB: A REGION: PWS SURVEY DATE: 4/30/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Charles E. H. Jones Date: 5/10/91

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

2

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 10 1991

FOSC APPROVAL DATE: 5/15/91

ADEC

FOSC

EXXON

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC

USCG

NOAA

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 1 SEGMENT KN 112 SUBDIVISION A DATE 4/30/91

ADEC

NAME JEFF GINALIAS

SIGNATURE [Signature]

☒ NTR

EASILY DISCERNIBLE LENS OF MOR ALONG UITE/MITE SUB-SURFACE 20-25 CM. BROWN SHEENS WHEN AGITATED. HOWEVER, COBBLE/BOULDER BEACH MAKES TREATMENT DIFFICULT AS EXPOSURE OF LENS DISRUPTIVE TO BEACH COMPARED TO OIL EXPOSED OR REMOVED.

EXXON

NAME FRANK A. Box

SIGNATURE [Signature]

☒ NTR

Visible subsurface, but not enough net benefit involved to warrant activity.

LANDMANAGER

NAME MARSHA HALL OF DNR

SIGNATURE [Signature]

☒ NTR

Campsite in proximity, but I agree that due to depth of oil and cover type of beach, accessing the oil lens would be disruptive compared to amount of lens recovered or released.

USCG/NOAA

NAME Jensen / CHILDS

SIGNATURE [Signature]

☒ NTR

Further removal operations would cause more environmental harm than the small amount of oil to be removed.

THE ONLY SURFACE OIL OBSERVED WAS CT 2' ST ON RR N'14 SEC OF P.B. SUBSURFACE OIL - MOR - 12 APPROX 5x20m AREA ~20cm DEEP 1" 13cm THICK

PAGE _____

SEGMENT KN-112

SUBDIVISION A

DATE 4 / 30 / 91

ENERGY LEVEL: ☐ H ☒ M ☐ L

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

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

EST. OIL CATEGORY LENGTH: W 1 m M 1 m N 1 m VL 3 m NO 240 m US 604 m

DISTRIBUTION: C = 91-100%; B = 81-90%; P = 11-50%; S = 1-10%; T = <1%

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

PHOTO ROLL # MAYSAP-

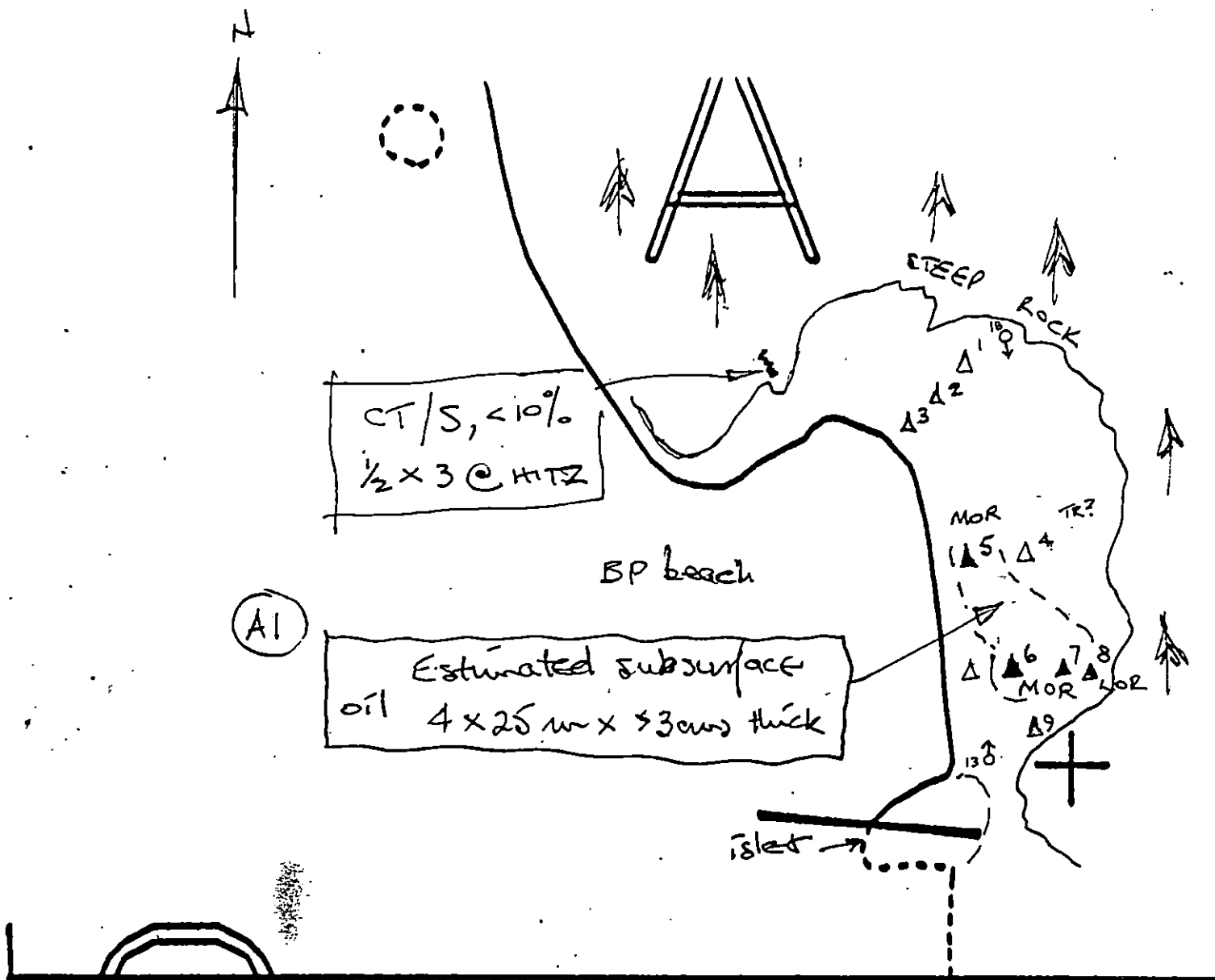
FRAMES 13-19

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

Surface oil as cr/s/I in narrow cleft in rock
Subsurface oil as mol ($4 \times 25 \times > 3 \text{ cm}$) @ N15Z on
south end of beach.

REVIEWED: MC 5/3/91

REVIEWED: F.W. 5/2/91



KN0112 A

Subdivision P1

Map Key: KNIXX

Name: GM

Date: 4-30-91

METERS



AK State Plane Zone 4
 KN011206

REVIEWED: F.W. 5/2/91
 REVIEWED: M.C. 5/3/91

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 1 DATE 30 April 91
 SEGMENT # KN 112 TIDAL HEIGHT(Range) 3.3 - 4.0 ft MLLW
 SUBDIVISION A BIOLOGIST Michael Fawcett
 SEA STATE 1 ft WIND SPEED/DIRECTION 15 knots N, rain
 PHOTOGRAPHS: ROLL # FRAME #

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

this is a moderate to low energy gravel/pebble/cobble beach with bedrock walls at each end, and some large boulders near south end. Overall, biota is sparse in main beach area. Littorinids breeding under boulders within and downshore from buried MAR -- also sparse barnacles, limpets, rockweed, and dense filamentous green algae. Boulders and bedrock at south end have dense barnacles, sparse Rockweed, littorinids, mussels, etc. Bedrock at North end near small area of CT (traces in crevices) has very sparse biota, mainly a few barnacles and a film of green algae and diatoms.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/Kittiwakes			
Shorebirds			
Corvids			
Other Birds			

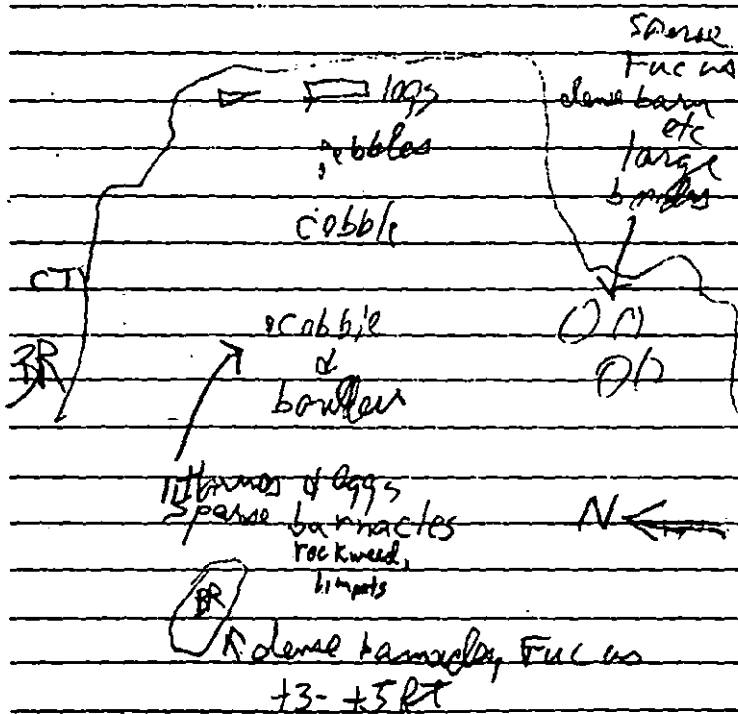
MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds(specify)			
Whales(specify)			

Shoreline subdivision map showing important biological features attached.

KN 112A sub 1
ARR 1940

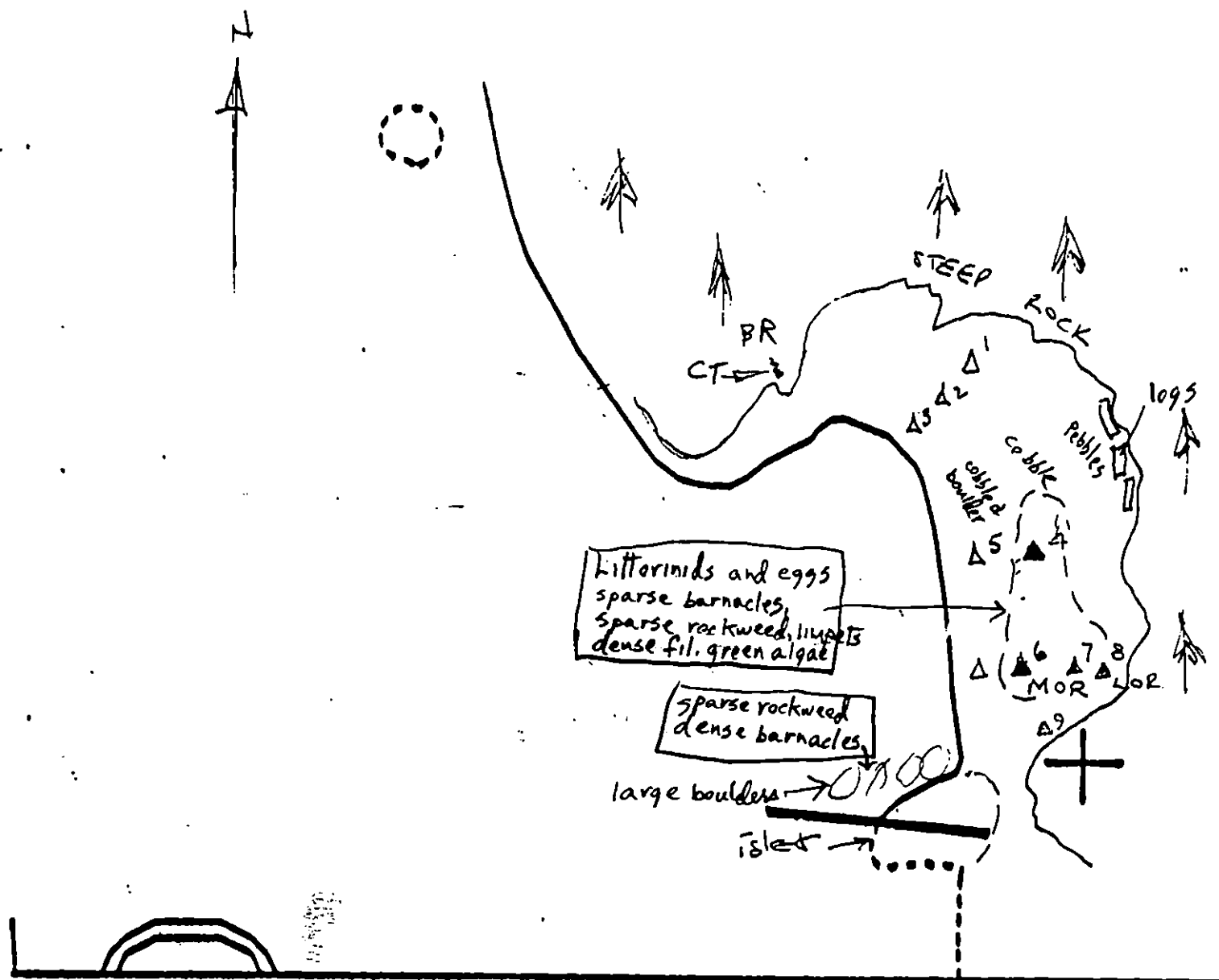
Favall
30 Apr 91

gravel/pebb/cobble beach
sparse biota above +4 ft -
Litt breeding - dense fil. green, ^{quite} barn,
bedrock well at N end has amph
some CT in cracks
very sparse biota



depart 2010, return to ship

Bio Sketch Map
KN 112-A
30 April 91
Michael Fawcett



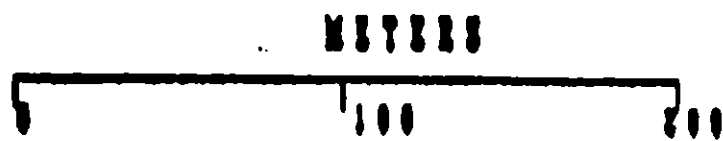
KN0112 A

Subdivision VI

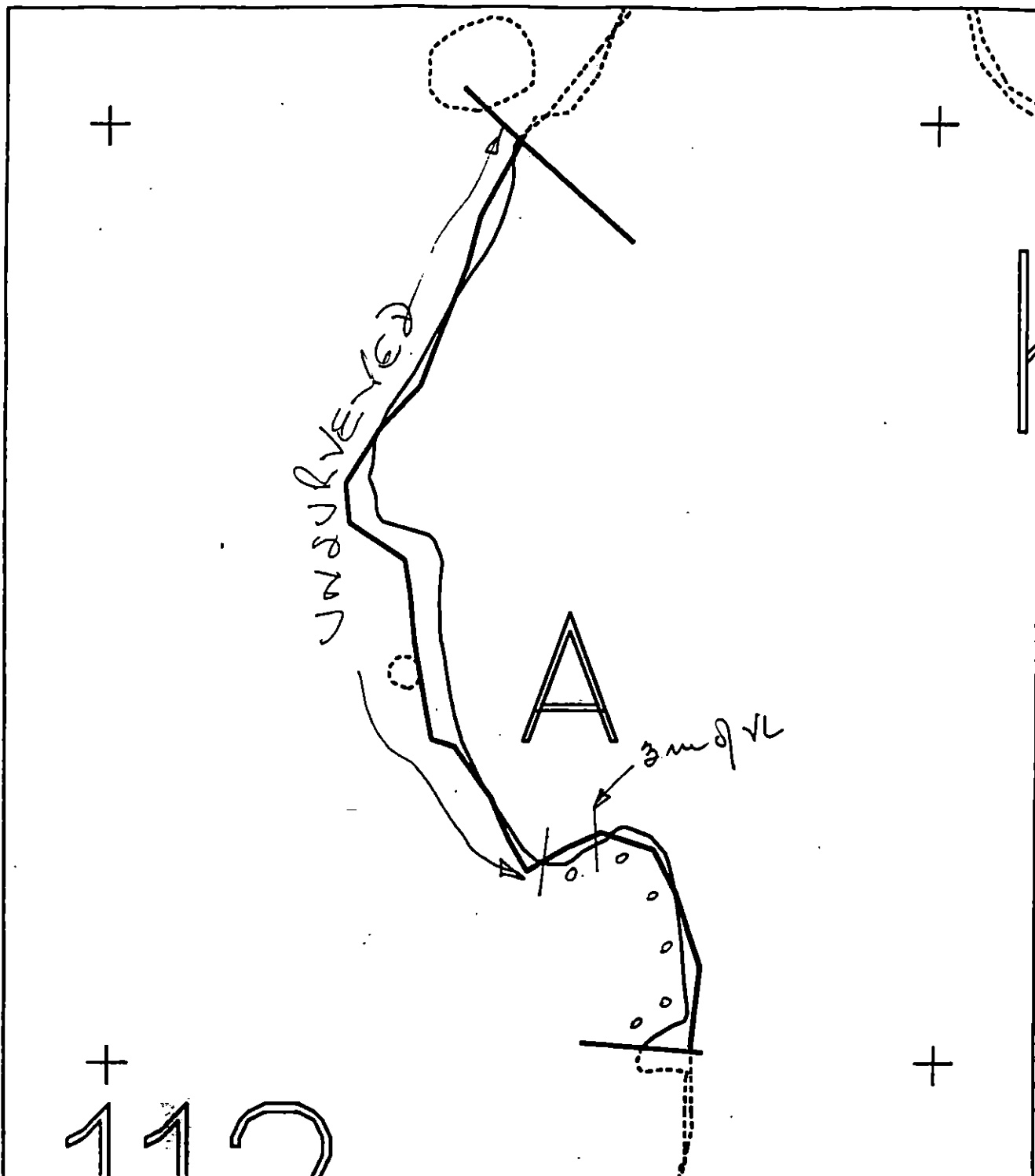
Map Key: KN(K)

Name: GM

Date: 4.30.91

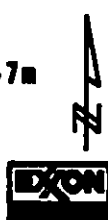


AS State Planning, Zone 4



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

KN0112 A
 ADEC Subsegment Length: 847m
 METERS
 0 100 200
 AK State Plane Zone 4
 4400112a



Subdivision Field Map
 Map Key: KN1KN0112A
 Name: G. M.
 Date: 4.30.91
 Date Entered:

REVIEWED: F.W. 5/2/91
 REVIEWED: M.C. 5/3/91

1991 MAYSAP EVALUATION

SEGMENT: KN 0112 SUB: B REGION: PWS SURVEY DATE: 4/30/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: *Charles E. Holmes*

Date: 5/10/91

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 10 1991

FOSC APPROVAL DATE: 5/15/91

ADEC

FOSC

EXXON

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC

USCG

NOAA

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 1 SEGMENT Kx 112 SUBDIVISION B DATE 4/30/91

ADEC

NAME JEFF GINALIAS

SIGNATURE [Signature]

☐ NTR

☒ TREATMENT RECOMMENDED

BEACH IS 30' X 30'. POCKET COVE MID-INCLINE BOULDER BEACH. OIL AT
 UTE IN BAND 20' X 5'. NOT VERY DEEP. ARMOR ^{ACROSS} ~~OVER~~ SURFACE MAKES MANUAL
 REMOVAL DIFFICULT. TREATMENT COULD BE ~~THE~~ MANUAL AGITATION AND TILLING,
 WITH EFFORT TO CORRAL SHEEN NARROW WIDTH OF BEACH MAKES THIS POSSIBLE.

EXXON

NAME FRANK A. BOX

SIGNATURE [Signature]

☒ NTR

Subsurface noted at site A. pit 2. Surface oiling was
 very minimal.

LANDMANAGER

NAME MARSHA HALL OF DNR

SIGNATURE [Signature]

☐ NTR

☒ TREAT

In AREA A₁. Pits at approx 8 foot level.
 Small crew, manual removal of MOR lens.

USCG/NOAA

NAME Jensen / CHILDS

SIGNATURE [Signature]

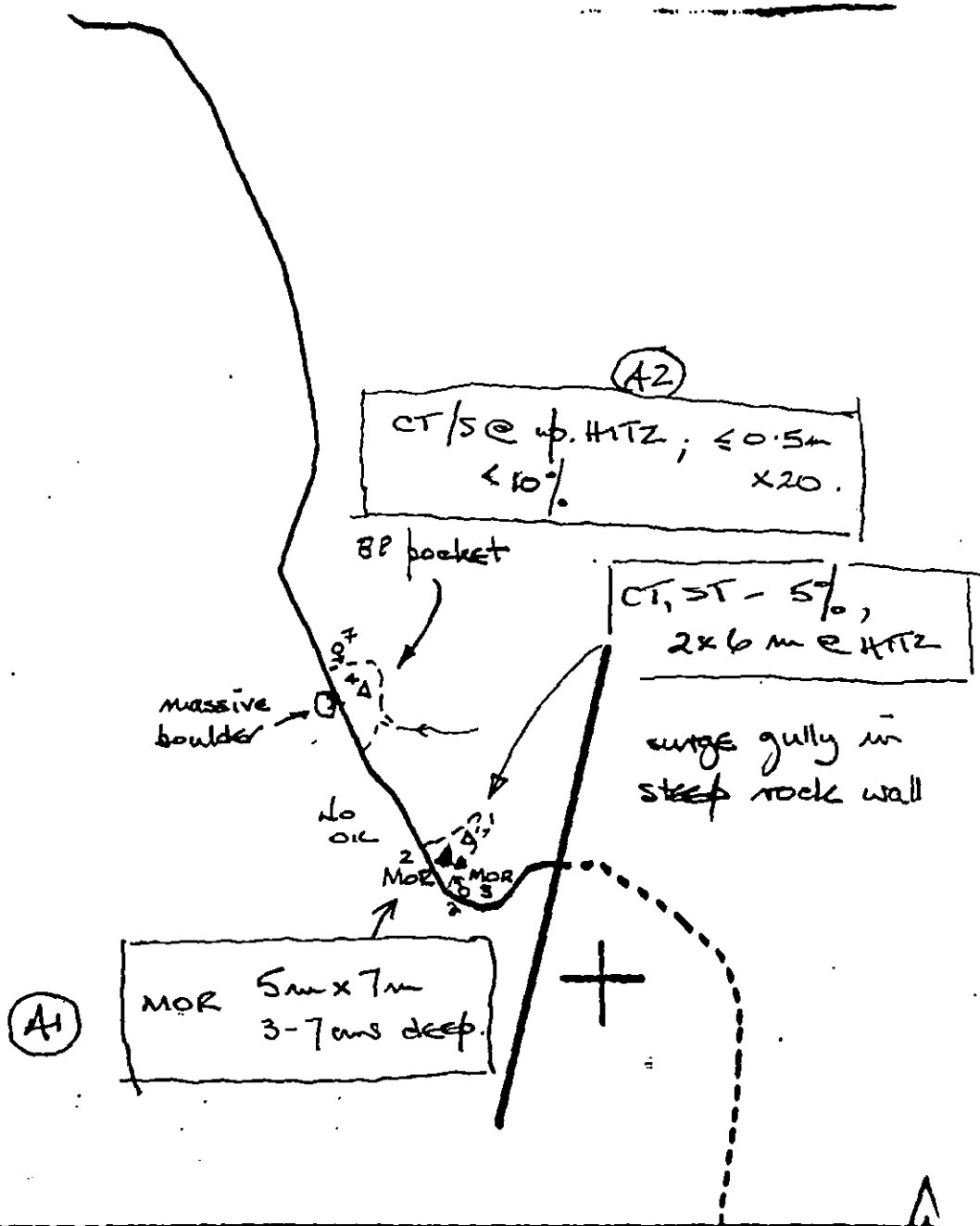
☒ NTR

Further removal operations would cause more
 environmental harm than the oil to be removed.

SURFACE OIL WAS NOTED ONLY ON A-2 - SMALL PATCH ~.5m
 SUBSURFACE OIL OBSERVED ON A1 - ~5m x 7m ? ABOUT 5cm deep ? 3-4cm
 THICK - A2 HAD NO SUBSURFACE OIL ? A3 MOR ~ 20cm DEEP AROUND A1 -

PAGE 1 OF 1

REVIEWED: F.W. 5/2/91
REVIEWED: M.C. 5/3/91



KN0112 B

Subdivision Field No

Map Key: KNKN0112B

Name: G. MACDONALD

Date: 4.30.91

METERS

100

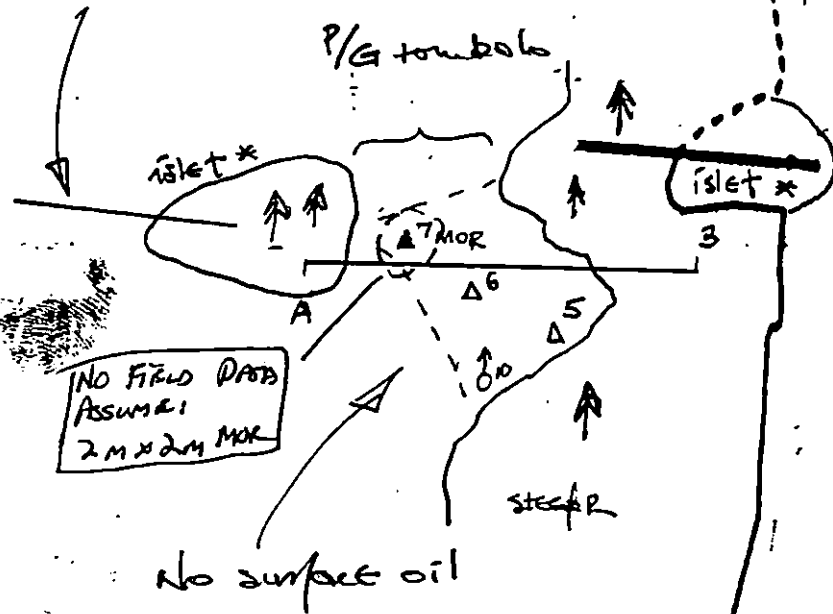
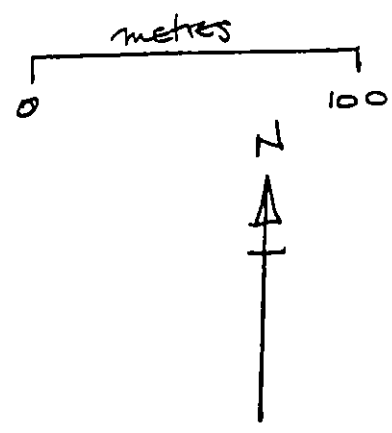
200

State Plane Zone 4
KN0112B

REVIEWED: F.W. 5/2/91
REVIEWED: M.C. 5/8/91

SEG.
BNDY

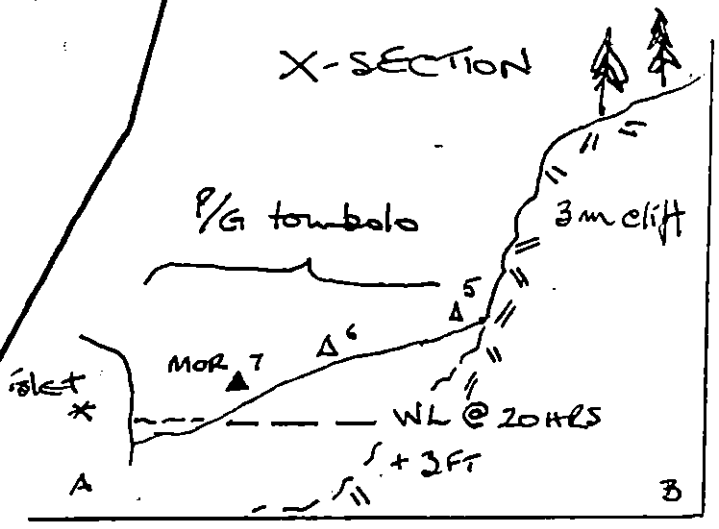
VEN-H



NO FIELD DATA
ASSUMED
2M x 2M MOR

No surface oil

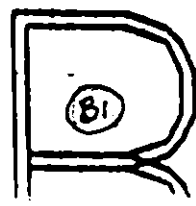
X-SECTION



KN-112B

G. MACDONALD
1.20.91

REVIEWED: F.W. 5/2/91
REVISED: M.C. 5/3/91



MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 1 DATE 30 April 91
 SEGMENT # RN 112 TIDAL HEIGHT (Range) +4.2 to +6.2 ft MLLW
 SUBDIVISION B BIOLOGIST Michael Fawcett
 SEA STATE 1ft WIND SPEED/DIRECTION 15 knots N, rain
 PHOTOGRAPHS: ROLL # FRAME #

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

Site A1 is a narrow boulder beach between steep bedrock walls. The boulders have moderately dense populations of young mussels, barnacles (dense spat), and sparse Littorinids, limpets and rockweed in +6 to +8 ft zone just downshore from buried MOR. The MOR lies in upper edge of barnacles, rockweed, & littorinids at about +8-10 ft MLLW. Dense filamentous green algae covers boulders above +10 ft. Rock walls at either side have dense barnacles and rockweed, sparse mussels, limpets, and littorinids.

Site A2 has dense barnacle populations (2 species) on vertical face of a massive boulder-- barnacles cover +5 to +10 ft zone, upper 2-3 ft of which has weathered oil coat on and among barnacles. About 90 percent of barnacles in top 1 ft are dead, old barnacles; other barnacles O.K. and include new spat and scattered littorinids. Almost no biota except film of green algae exists on or among smaller boulders and pebbles (see sketch).

Site B1 is a very narrow pebble tombolo connecting a massive rock islet covered with trees. No biota except filamentous green algae among pebbles (see sketch). Dense rockweed & barnacles, and patchy dense mussels and Rhodomela occupy bedrock south of tombolo. Dense barnacles (incl. spat), sparse young rockweed and mussels, and sparse littorinids & limpets occupy bedrock north of tombolo.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1 (mature)	pricklebacks
Seabirds	1	1 common loon	
Waterfowl			
Gulls/Kittiwakes	2	31 (30 bl. Kittiwakes)	
Shorebirds			
Corvids	1	2 (crows)	
Other Birds	↓ N.B. 5/3/91		

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

Bio-Sketch Map
KN 112-B
30 April 91
M. H. Fawcett

vertical wall on massive boulder has
dense barnacles: up to +10ft --- the
top 2-3ft of barnacles in coat zone.
Littorinids scattered among barnacles

Massive
boulder
(+20ft)

boulders
(smooth, bare,
abraded by pebbles)

A2

Pebbles
(no biota)

buried oil in upper
edge of barnacles,
Rockweed, Littorinids

dense filamentous
green algae in
boulders above
+10ft

dense rockweed, barnacles;
sparse mussels, limpets,
littorinids on BR walls
up to about +9ft

Moderately dense mussels (0-2 yrs old),
barnacles (dense spat), sparse littorinids,
limpets, Rockweed +6 to +8ft

waterline +6.0ft.

+8ft
steep BR

steep BR

see
INSET

INSET

2 MOR 3 MOR

(N0112 B

Subdivision Field No

Map Key: KNKN0112B

Name: G. MACDONALD

Date: 4.30.91

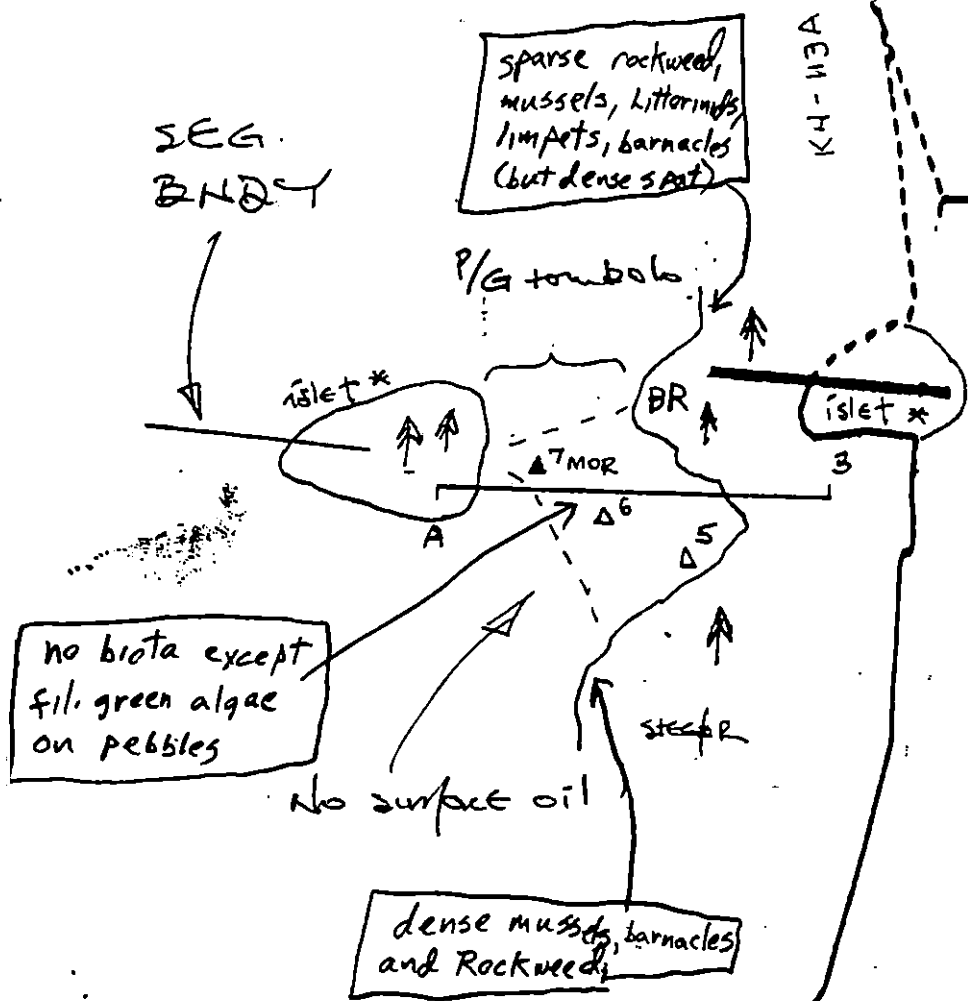
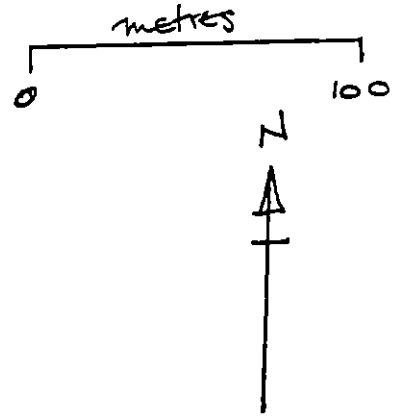
METERS

100

200

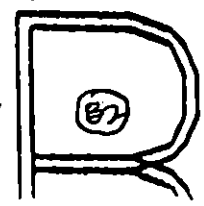
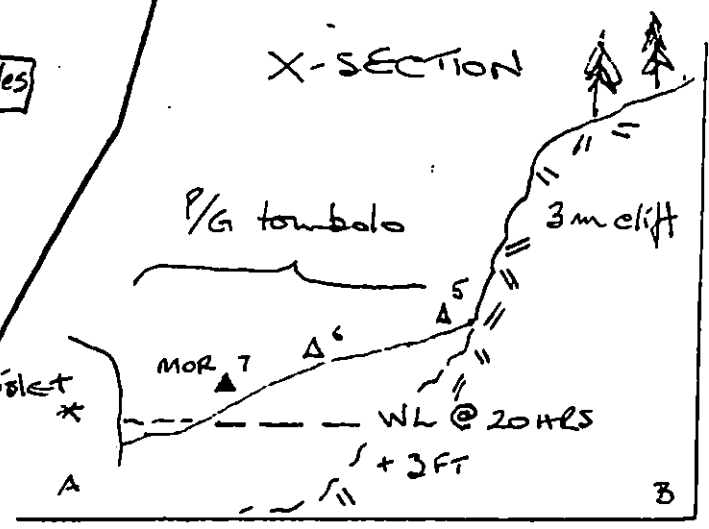
100-1000, 1000-10000

Bio Sketch Map
 KN 112-B site B1
 30 April 91
 M. H. Fawcett



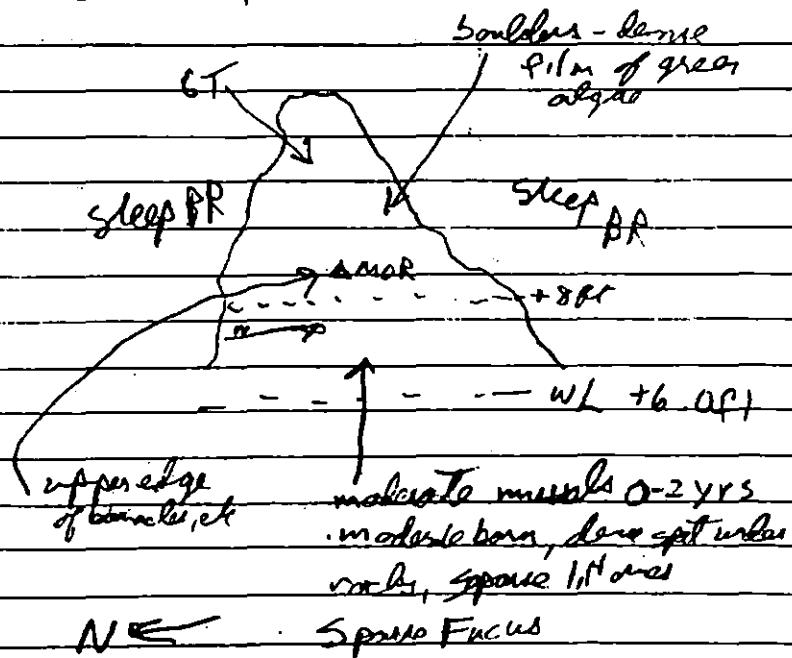
KN-112B

G. MACDONALD
 4.20.91



KN 112 B 30 Apr 91 Fawcett
Arrive 1830 site ①

N 30° E kittiwakes feeding
near shore - small pocket boulders
beach

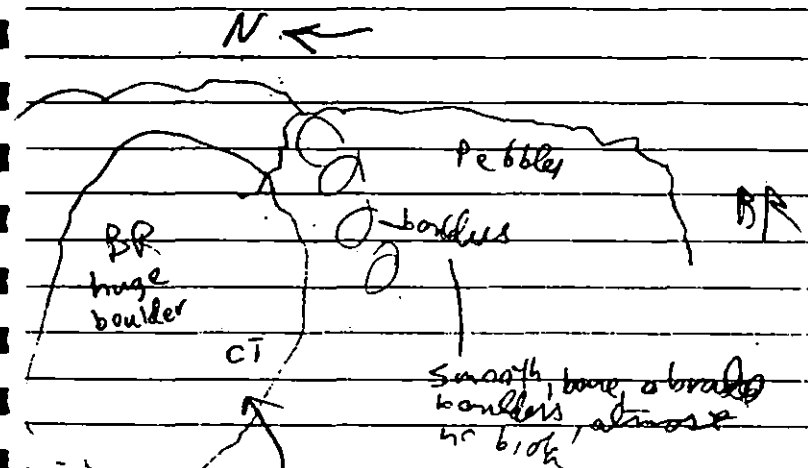


on walls
dense Rockweed & barnacles
sparse mussels, limps, Littorina
up to N +9 ft

depart 1855

KN 112 B site ②

narrow ~~grass~~ pebble beach, boulders
& BR on North end, BR on S. end

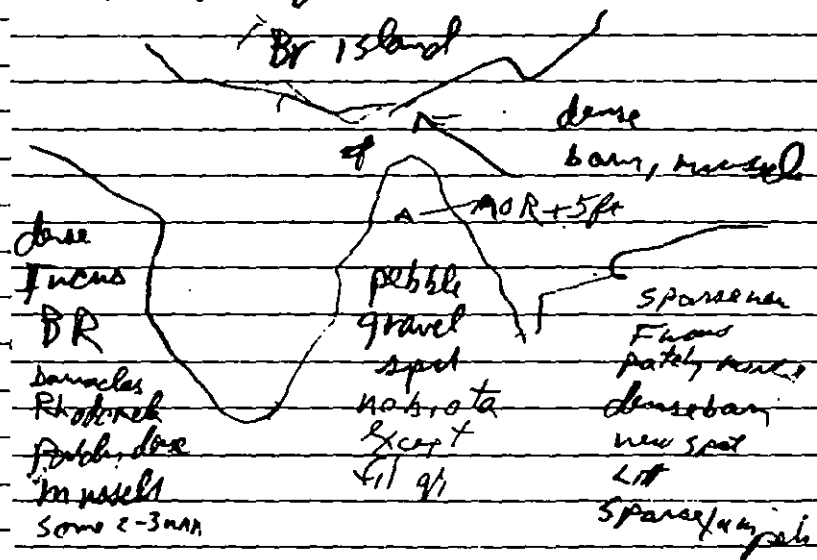


dense barnacles, +5 to +10 ft
1/2 - 1m wide CT covering barnacles
+8-10 ft - about 40% of top part
of barnacles dead, rest OK - Littorina
among the barnacles - B. granulata &
Chthamalus, new spat all over
1 eagle flying - 2 crows
1 loon fishing 1 Gull

depart 1910

KN-112-8 (cont) 30 Apr 91 Fawcett
Arrive Site 3 1915 hrs

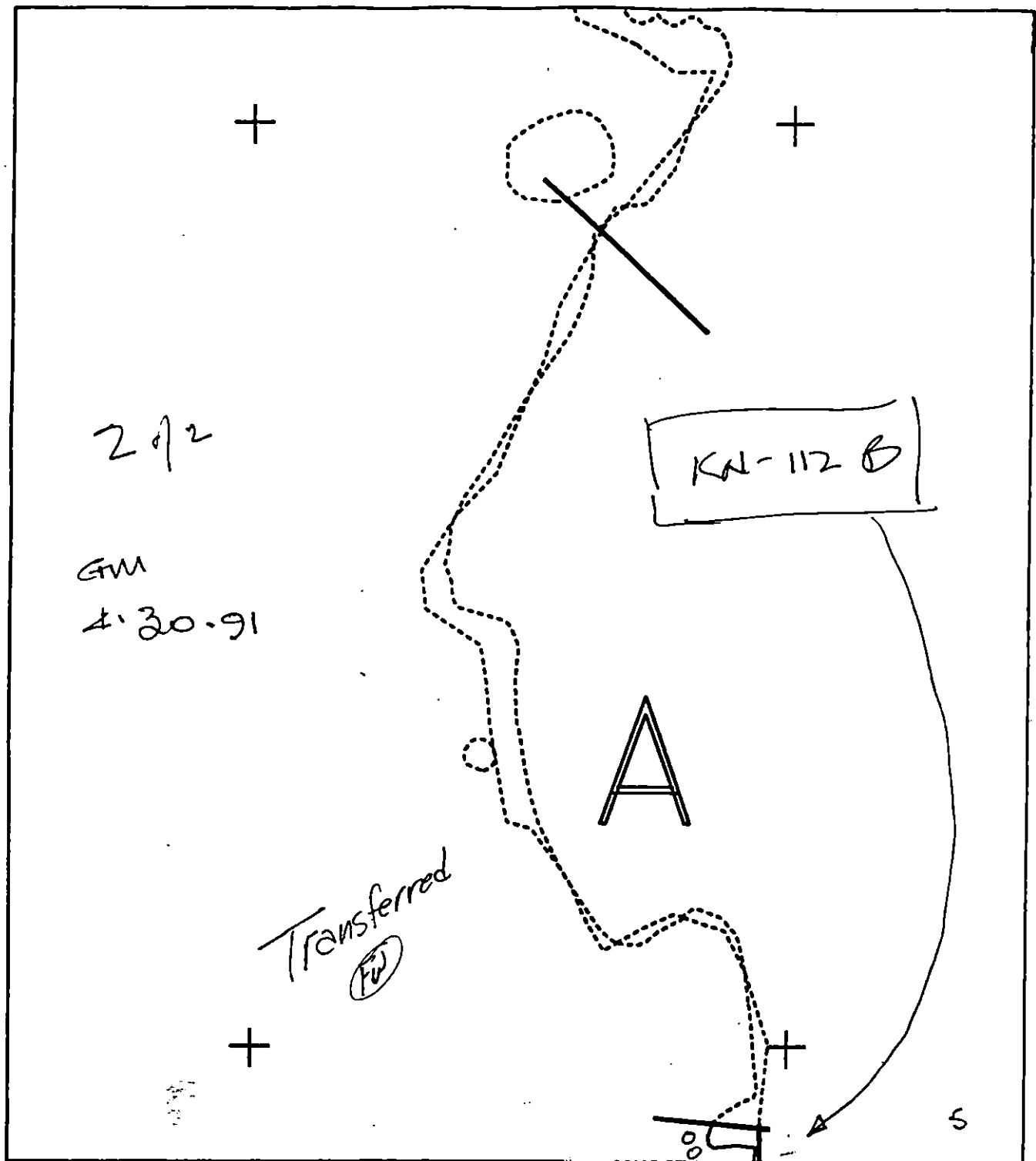
pebble tombolo going out
to island w/ trees



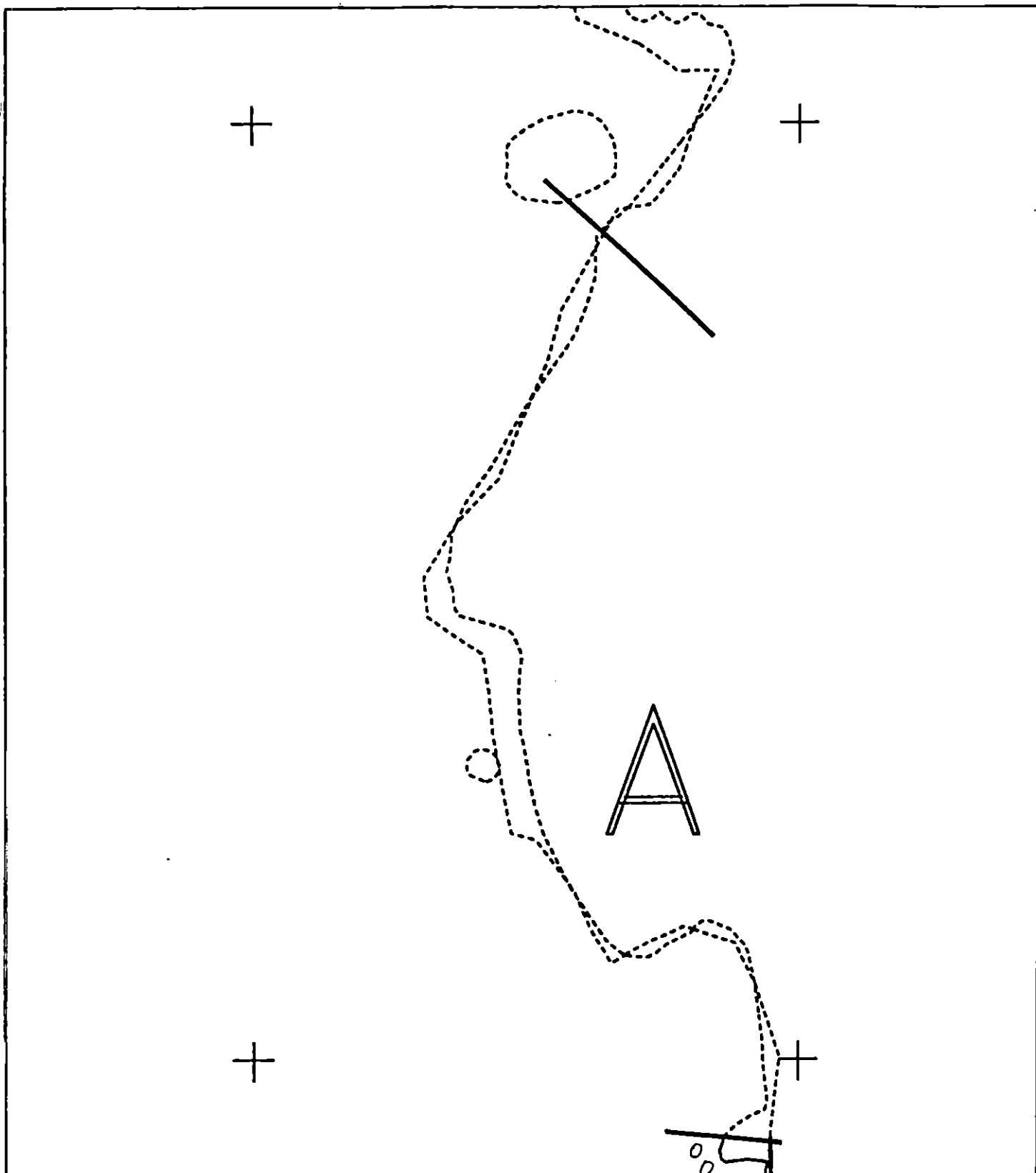
~~Wind N~~ Wind N 15kn
1ft seas

depart 1935

raining



REVIEWED: F.W. 5/2/91
REVIEWED: M.C. 5/3/91



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

KN0112 B

ADEC Subsegment Length: 919m

METERS

0 100 200

AK State Plane Zone 4
 kn0112bb



Subdivision Field Map

Map Key: KNKN0112Bb

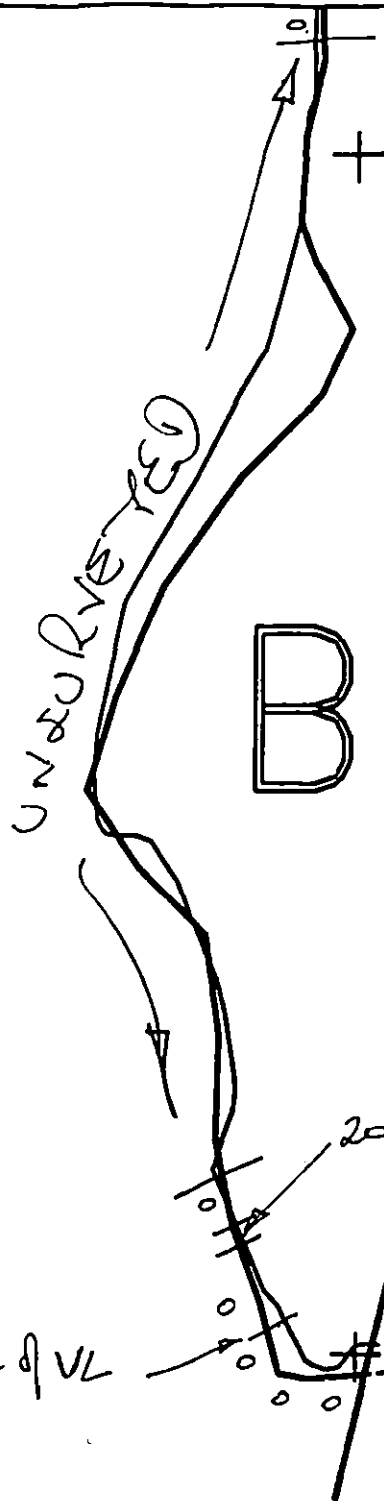
Name: MacDonald

Date: 4/30/91

Date Entered:

REVISED: F.W. 5/2/91
 REVIEWED: M.C. 5/3/91

112



112

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

KN0112 B
 ADEC Subsegment Length: 919m
 METERS
 5 100 200
 AK State Plane Zone 4
 kn0112b

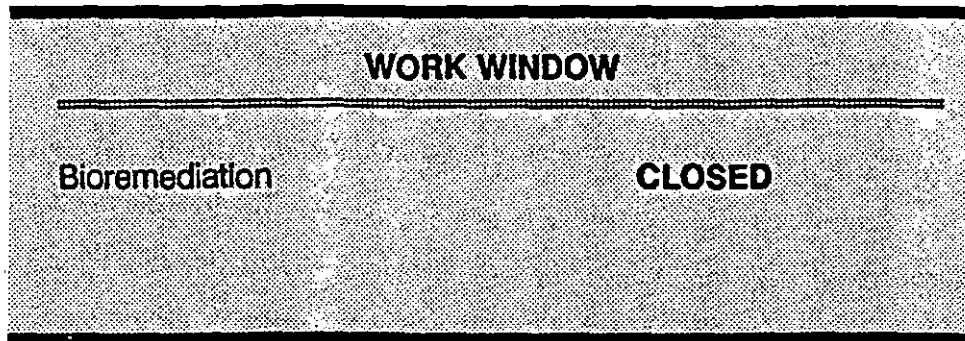


Subdivision Field Map
 Map Key: KNKN0112Bc
 Name: GM
 Date: 4.20-91
 Data Entered:

REVIEWED: F.W. 5/2/91
 REVIEWED: M.C. 5/3/91 4

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-112 SUBDIVISION A (1 of 2)



ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest USFWS 6/1/90 map indicates an active nest in Subdivision B.
Closed to bioremediation within 400m of active nest.

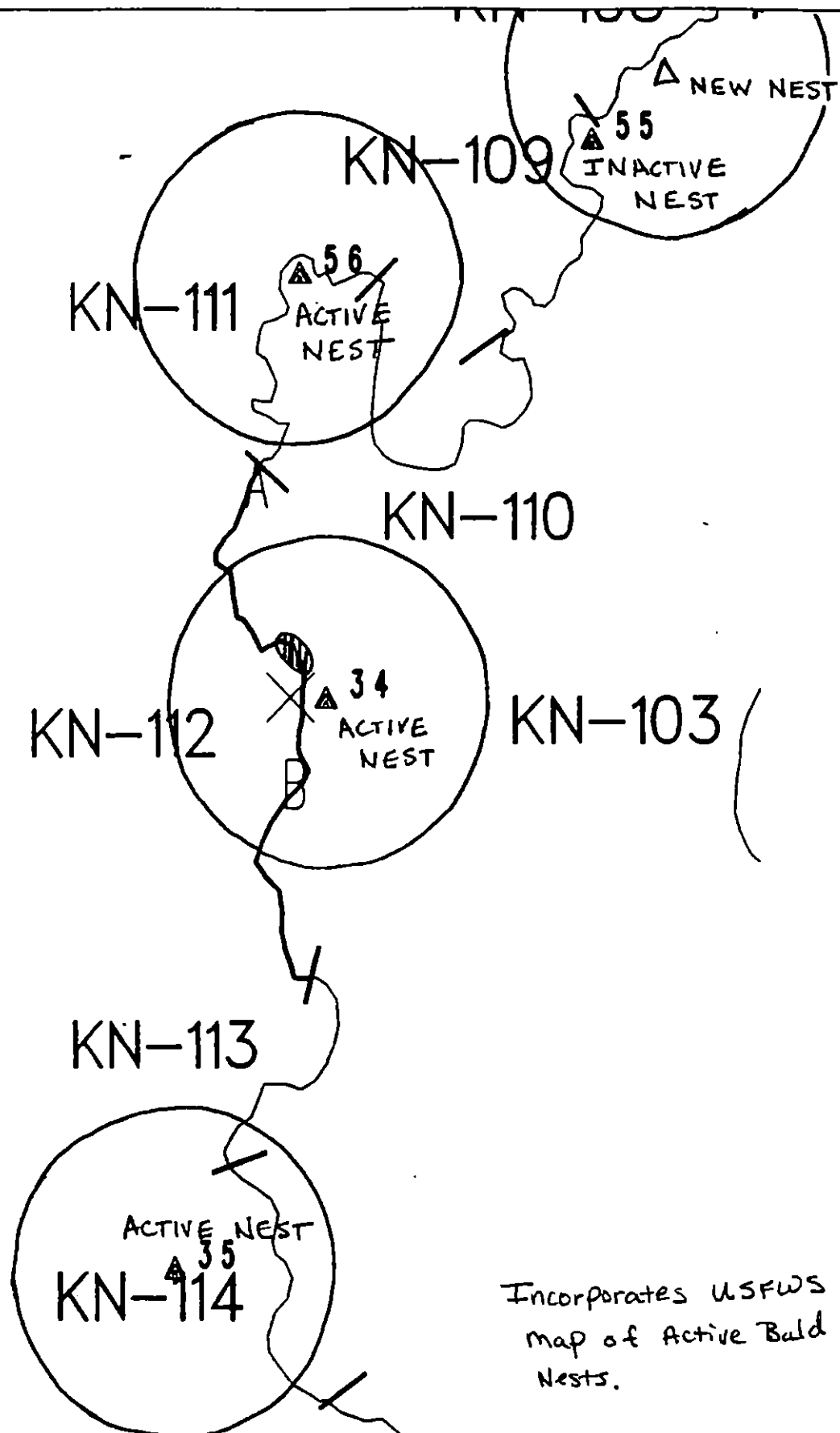
OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC W. J. L. DATE 6-10-90

Prepared By: W. J. L.

Date 6/9/90



Exxon Company, USA
Map K-001 KN1-KN-112



ECOLOGY MAP
SEGMENT KN-112
SUBDIVISION A (1 of 2)
METERS

★	Seabird Colony
▲	Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ KN-112 SUBDIVISION A (1 OF 2) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-1 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
Eagle nest in subdivision A.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE Charles E. H. Jones

DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 223 m: Narrow 140 m: V. Light 49 m: No Oil 435 m
Subsurface Oil Observed: Yes X No Maximum Depth 25+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of areas shown on sketch map. Work should be conducted after 6/1 with the approval of USFWS and ADF&G regarding eagle nest constraint.

See Constraint Addendum Dated 6/9/90 wrc

TAG COMMENTS: MONITORS TO ASSESS THE SUIZ AT TIME OF TREATMENT AND DETERMINE THE NEED FOR DEBRIS PICK UP

TAG APPROVAL DATE: 4/21/90

ADEC Art W. Wier
EXXON Arnot T. H.
NOAA Paul Wescott
USCG KENNETH KEANE

FOSC: W. L.

DATE: 4-27-90

SHORELINE EVALUATION

SEGMENT ST/ KN-112 SUBDIVISION B (2 OF 2) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
Eagle nest in subdivision A, but close to border with B.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: *Charles E. Hume* DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 40 m: Narrow 346 m: V.Light 485 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 30+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of areas shown on sketch map. Work
should be conducted after 6/1 with the approval of USFWS and ADF&G re-
garding eagle nest constraint.

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/21/90.

ADEC ART WEAVER Art Weaver
EXXON ANDY TEAL Andy Teal
NOAA Burl Wescott Burl Wescott
USCG KENNETH KERR Kenneth Kerr

FOSC: *[Signature]* DATE: 5-12-90

SUBDIVISION B

DATE April 5 90

CHECKLIST

- ☐ Name
- ☐ Approx. Scale
- ☐ Significant Features
- ☐ Other Data
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ E.L. (M/L/W/L)
- ☐ S.S.L.
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Photo Location(s)

LEGEND

- ☐ 1 A
- ☐ 2 A
- ☐ 3 A
- ☐ 4 A
- ☐ 5 A
- ☐ 6 A
- ☐ 7 A
- ☐ 8 A
- ☐ 9 A
- ☐ 10 A
- ☐ 11 A
- ☐ 12 A
- ☐ 13 A
- ☐ 14 A
- ☐ 15 A
- ☐ 16 A
- ☐ 17 A
- ☐ 18 A
- ☐ 19 A
- ☐ 20 A
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- ☐ 94 A
- ☐ 95 A
- ☐ 96 A
- ☐ 97 A
- ☐ 98 A
- ☐ 99 A
- ☐ 100 A



130 CM HIGH, 80% COVERAGE. BAND OF COATED TAR.

COAT TAR SPLATTERED ON ROCKS, SHEEN IN TIDE POOLS (RAINBOW)

DISTINCTIVE BRIGHT GREEN BAND ALONG FORMER HIGH TIDE LINE. POSSIBLY RELATED TO BIOREMEDIATION EFFORTS IN THE VICINITY.

COAT 80 CM. HIGH & 6 METERS LONG BEHIND LARGE BOULDER.

ROUGH BAND OF PATCHY COAT TAR ON BEDROCK FACE. VERY DIFFICULT TO QUANTIFY DUE TO CLOSE ASSOCIATION WITH BLACK LICHEN BAND. AVERAGE PROBABLY CLOSE TO 40% COVERAGE AND 40 CM. HIGH. LOCALLY HEAVIER COATS BEHIND BOULDERS.

BOULDER POCKET 9x3 METER 80% COAT

SMALL POCKET BEACH ~20 METERS LONG. SMALL AMOUNT OF MOBILE OIL LOCATED ALONG EDGE OF POCKET BEACH IN COBBLES. LOCALIZED RAINBOW SHEEN IN SEDIMENTS.

TAR CONCENTRATION INCREASING TO 1-2 METERS HIGH, 50% COVERAGE THICKER BEHIND BOULDERS AND IN BED ROCK CRACKS.

SOUTH KN-112-B

NORTH KN-112-B

PROFILE LOOKING NORTH

AVAILANCHE AREA

HERRING BAY

Bio Here

OM Character Length (m): AP — PO — CV — CT 400 ST 200 MS — PT — TB — FL 100 NO 400

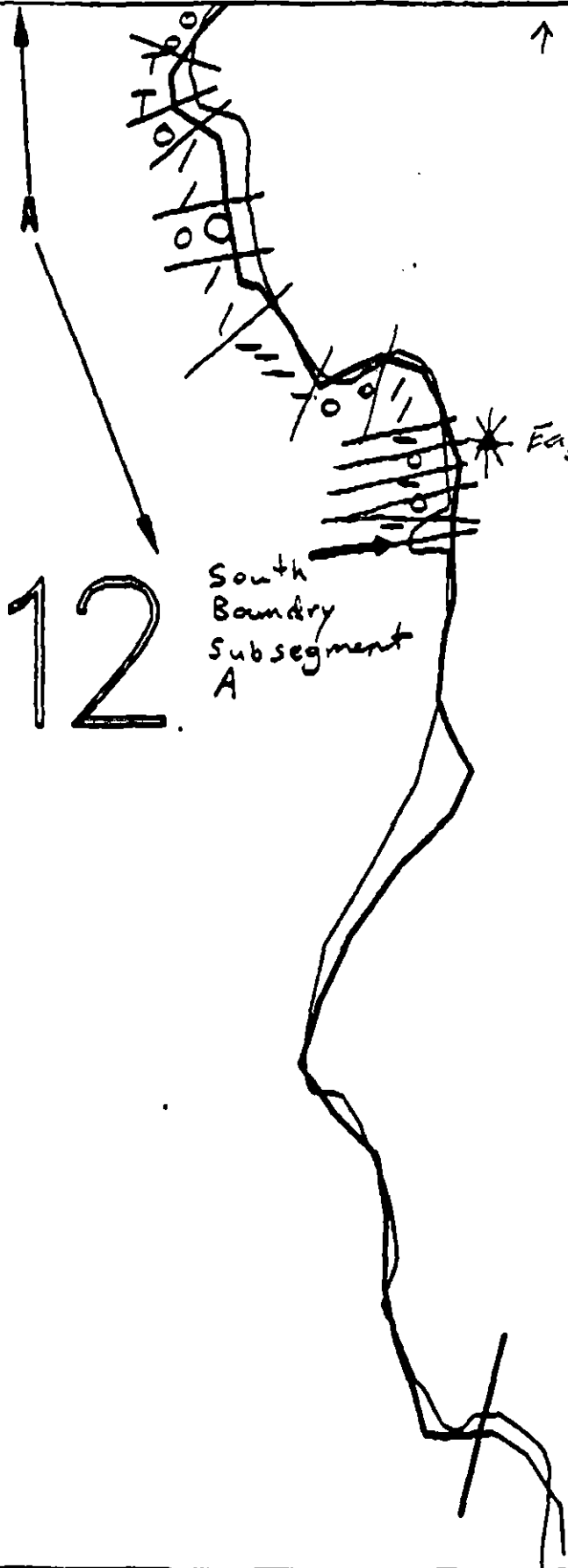
ECOLOGY
MAP

↑ PWS
2936

KN-112

South
Boundary
Subsegment
A

* Eagle Nest
SWS



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

KN-112A
 Segment Length A 850
 ADEC Segment Length: 1786m
 Exxon Segment Length 1788

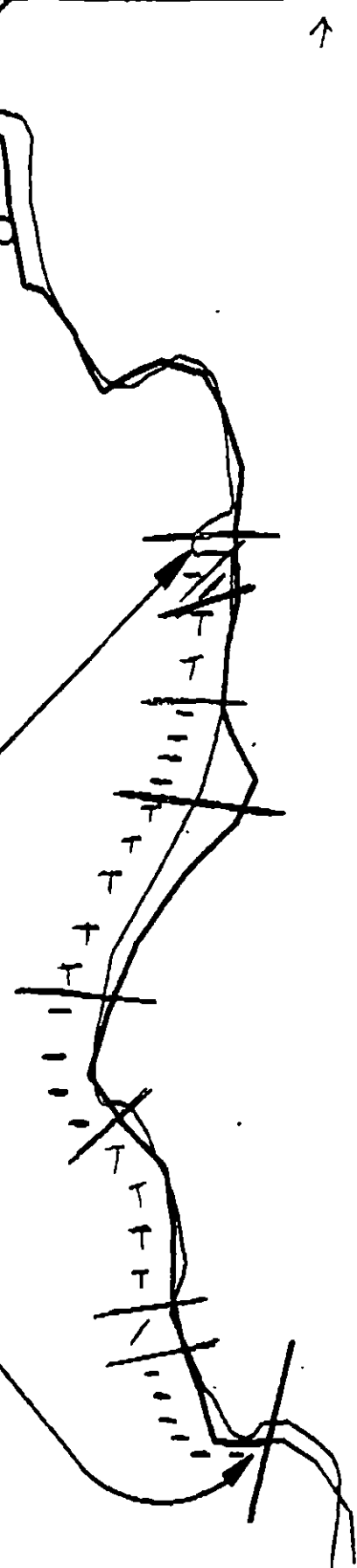


Map Key: PWS-2936
 Name: Greg Chaney
 Date: April 2 1990
 Data Entered:

↑ PWS
2935

KN-112

B



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

KN-112B
Segment Length B
ADEC Segment Length: 1766m
Exxon Segment Length: 1738m



Map Key: PWS-2930
Name: Greg Chaney
Date: April 5 1990
Date Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-112

SUBDIVISIONS: A (1 OF 2)

SHORELINE EVALUATION

SEGMENT ST/ KN-112 SUBDIVISION A (1 OF 2) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
Eagle nest in subdivision A.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 223 m: Narrow 140 m: V.Light 49 m: No Oil 435 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 25+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of areas shown on sketch map. Work should be conducted after 6/1 with the approval of USFWS and ADF&G regarding eagle nest constraint.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/KN 112 SUBDIVISION: A DATE 02 APR 90

USCG

NAME

Patrick Malay

SIGNATURE

Patrick Malay

☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Recommend bioremediation in area where pit 1 was dug.
 The other areas of stain and weathered ^{coat} (tar) would be impractical to remove.
 This segment is located on the outer fringes of Herring Bay and is exposed to
 more wave action than some of the more secluded segments in the bay therefore
 natural sea action would be the best treatment for the coated & stained
 areas.

ADEC

NAME

M. Cunningham

SIGNATURE

M. Cunningham

☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Bioremediate upper intertidal areas near site 1 ck storm berm
 for trash/debris. Coat/stain on headlands weathering nicely
 in low-mod exposure areas.

LAND MANAGER

NAME

Steven Phillips

SIGNATURE

Steven Phillips

☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Scout storm berm for debris as it was snow covered.
 Oil on vertical not very thick so just monitor.
 In small concentrated pockets, roll boulders and remove
 tarry debris. Bioremediate on beaches with surface
 and subsurface oil

SHORELINE OILING SUMMARY

REVISION NO. 03/25/90

OG Greg Chaney USCG Patrick Malay SEGMENT ST/ 112
 BIO Jpm Rath LAND REP Steve Phillips SUBDIVISION A (1062)
 EXXON Reg Sotelo ADEC Mike Cunningham TIME 13:50 to 15:20
 TEAM NO.: 7 TIDE LEVEL: 1 ft to 3 ft DATE April 12 / 90
 EST. SUBDIVISION LENGTH: 850 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock SNOW
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: North to South
 SURFACE SEDIMENTS: R 80 % B 10 % C 5 % P 5 % G — % S — % M — % V — %
 SLOPE: Long 15 % Hang 10 % Vert 75 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W — m M 100 m N 150 m VL 40 m NO 650 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	15	10	5	1	15	10	5	1	15	10	5	1	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN	X															
MOUSSE																
PATTIES																
TARBALLS																
FILM	X															
NO OIL																

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

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

DEBRIS COLLECTED
☒ YES ☐ NO
Yellow Rope, lock,
 TYPE net, copper tub
 #BAGS 1

Photographs:

Roll No. ST-7-1Frames 28

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	VG	15	10	5	1	15	10	5	1	SU	U	M	U		
1	25		X				0.25	X	TV					X					X				BCP
2	40					X	0.40	X											X				CP
3	35					X	0.35	X											X				PG
							.																
							.																
							.																

COMMENTS

OG Greg - honey

SEGMENT ST/ KN-112

SUBMISSION A

DATE April 12 90

CHECKLIST

M Arrow
 Apprais. Scale
 Seg/Sub Entry
 Oil Dial
 Width
 Length
 % Cover
 Sediment Character
 Est. HWM/LWL
 SSL
 Profile Location(s)
 Profile(s)
 PH Location(s)
 Photo Location(s)

LEGEND

1 Δ

PH - No Subsurface Oil

2 Δ

PH - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

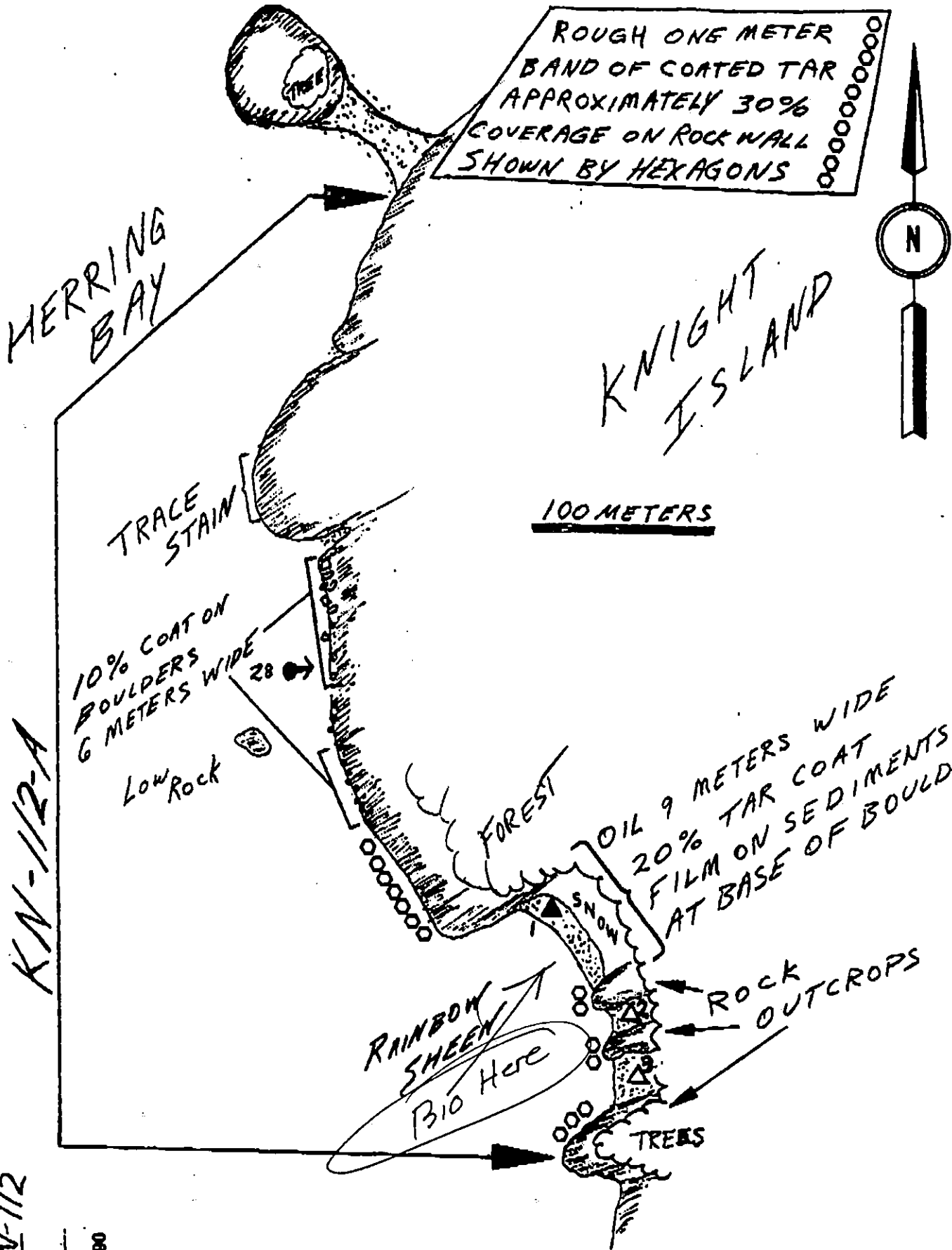
CT/S

Oil Vegetation

1 ●

Photo location, direction, and number

Character Length (in): AP - PO - CV - CT 400 ST 30 MS - PT - TB - FL 70 NO 350



ECOLOGY
MAP.

↑ PWS
2936

KN-112

South
Boundary
Subsegment
A

Eagle Nest
SWS

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-112A

Segment Length A 850

ADEC Segment Length: 1786m

EXXON Segment Length 1788

Map Key: PWS-2936

Name: Greg Chaney

Date: April 2 1990

0 1,000 1,200 1,400

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN112 Subdivision A Date (mo / day / yr) Apr 2, '90
 Time (24 hr) ARR 1350 Biologist ROTH
LV 1520

- (A) Substrate type and % of segments:
 (1) Bedrock 70 (2) Boulder 15 (3) Cobble 10 (4) Pebble 5 (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 50 Moderate 30 Low 20
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:
 Roll No. ST-7-1

Frames 28

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

THIS SITE IS SIMILAR IN EXPOSURE AND DEGREE OF COVER OF BIOTA TO KN111.
 MYTILUS LOCALLY DENSE ON MID-INTERTIDAL BEDROCK + BOULDERS, AND IN UPPER INTERTIDAL
 DESPITE EXTENSIVE OIL (WEATHERED "COAT") ON ROCKS. COBBLE AMONG BRACHES AND ADJACENT

Ecological Considerations:

ST - ACTIVE BALD EAGLE NESTS.

BEDROCK + BOULDER OUTCROPPINGS EVIDENTLY
 HOT - WATER WASHED DURING 1989. EXAMINATION
 OF THIS SEGMENT WAS INTERRUPTED DUE TO
 WORSENING WEATHER CONDITIONS AT 1520 HR;
 EXAMINED PORTION OF SEGMENT DESIGNATED KN112A.

KN-112

South
Boundary
Subsegment
A↑ PWS
2938

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO

KN-112A

Segment Length A 850

ADEC Segment Length: 1766m

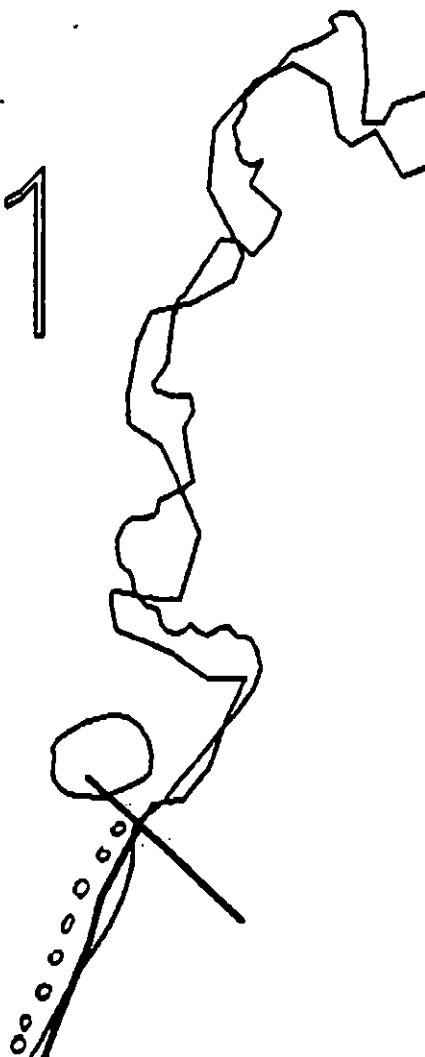
EXXON Segment Length 1788

0 100 200 300

Map Key: PWS-2930

Name: Greg ChaneyDate: April 2 1990

KN-111



↓ PWS
293A

XXX Wide

/// Medium

--- Narrow

TTTT Very Light

KN-112A

Segment Length A 850

ADEC Segment Length: 1788m

Exxon Segment Length 1788

1. 1... 1... 1... 1... 1...

Map Key: PWS-293b

Name: Greg ChaneyDate: April 2 1990

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-112

SUBDIVISIONS: B (2 OF 2)

SHORELINE EVALUATION

SEGMENT ST/ KN-112 SUBDIVISION B (2 OF 2) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
Eagle nest in subdivision A, but close to border with B.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 40 m: Narrow 346 m: V.Light 485 m: No Oil 0 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 30+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of areas shown on sketch map. Work should be conducted after 6/1 with the approval of USFWS and ADF&G regarding eagle nest constraint.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ 112 SUBDIVISION: B DATE 4/5/90

USCG ^{B413}
NAME David Sylvester SIGNATURE David Sylvester

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Due to the nature of the area it would do more harm to use bioremediation than the good that would be obtained. The majority of the area was steep and not very accessible. We did pick-up some oiled pom poms. Approximately 3 bags weighing about 40 lbs. each. We also picked up other assorted debris. approximately 10 lbs. Most of the area was inhabited by large numbers of marine life that appear to be doing well. The weather is having a positive impact on the oil.

ADEC
NAME M. Cunningham SIGNATURE M. Cunningham

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

↳ other than debris... we picked up all we saw area nr pits 1 & 2 contained subsurface oil however rich biological communities in area could be harmed by invasive techniques. Bioremediation inappropriate due to high angle nature of headland boulders.

LAND MANAGER

NAME Steven Phillips SIGNATURE Steven J Phillips

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Check storm berms for debris
Bioremediation in "Medium" band to North and South
Scrape or otherwise remove tar on rock faces where
Coat exceeds 2mm thickness.

Try to find a method to treat tar coats on bedrock
faces which are between 1mm and 2mm thick
and are unsightly in recreation areas.

REVISION NO. 04/23/99

SURFACE OIL

Frames 2

COMMENTS

Pit #1: couldn't get to bottom of oil layer due to boulders in the area.

DATE _____

4/14/90

SEGMENT ST/KN-112

SUBDIVISION B

DATE April 15 90

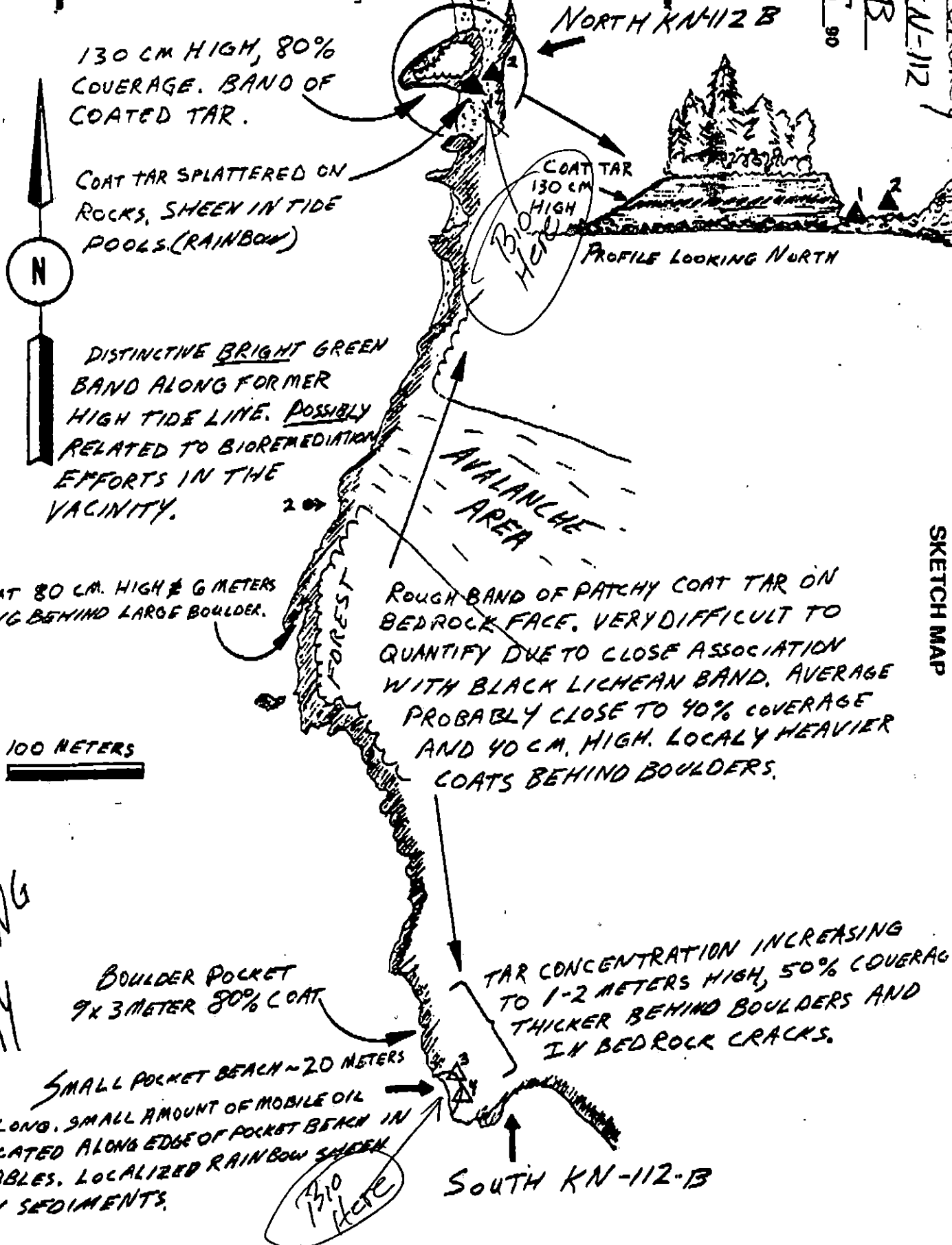
CHECKLIST

- Map
- Approx. Scale
- Seafloor Bathymetry
- Oil Out
- Wells
- Length
- % Cover
- Substrate Character
- Est. 1981/1982
- SSL
- Profile Location(s)
- Profile(s)
- Photo Location(s)

LEGEND

- 1 A
- 2 A
- PH - Subsurface Oil
- CT/C
- Coastline Distribution
- CT/B
- Bottom Distribution
- CT/P
- Patchy Distribution
- CT/S
- Spilled Distribution
- Oil Vegetation
- Photo location, direction, and number

SKETCH MAP



Oil Character Length (m): AP — PO — CV — CT400 ST200 MS — PT — TB — FL100 NO400

ECOLOGY
MAP.

↑ PWS
2936

KN-112

South
Boundary
Subsegment
A

* Eagle Nest
SWS

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

KN-112A

Segment Length A 850

ADEC Segment Length: 1766m

EXXON Segment Length 1785

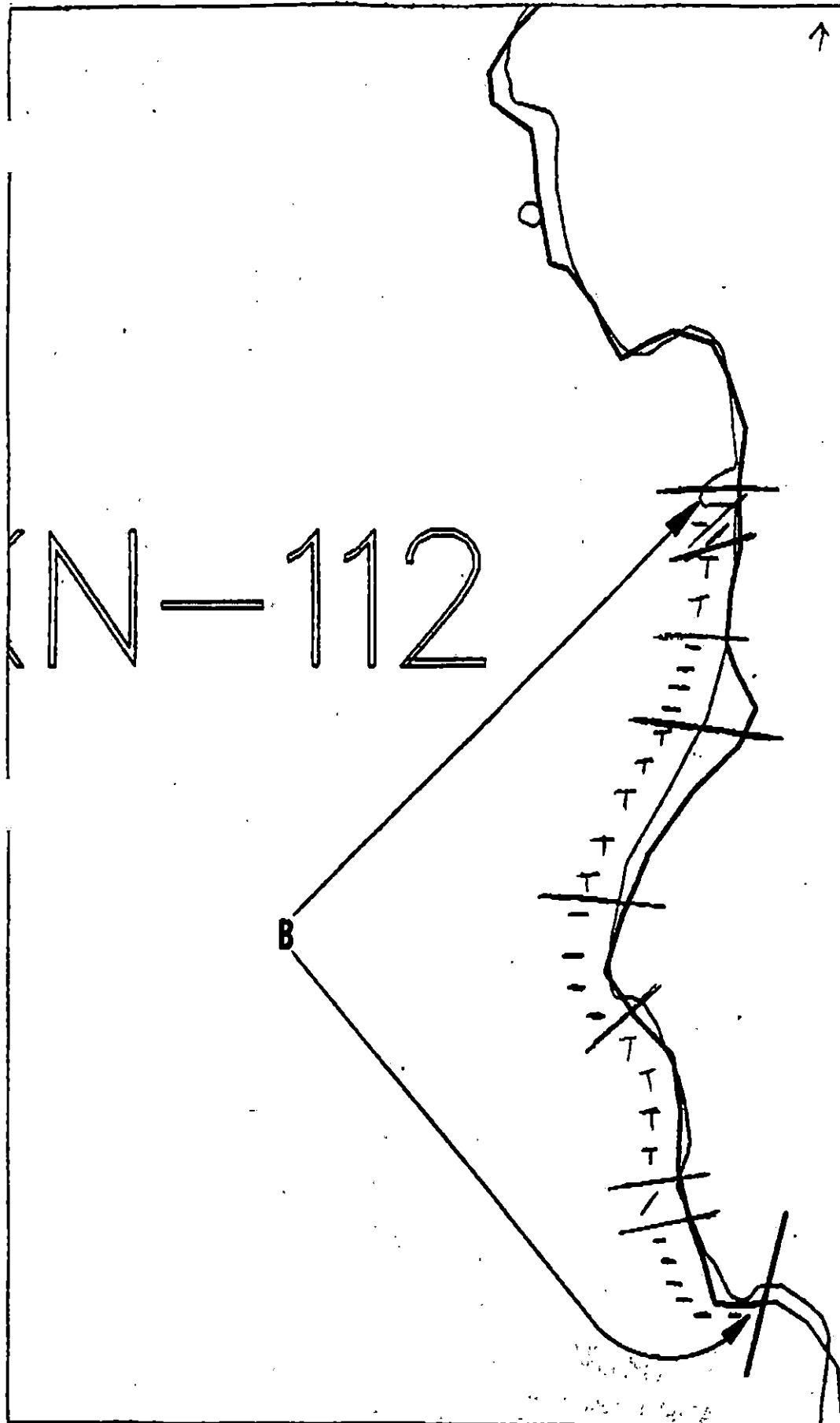
0 100 200 300

Map Key: PWS-2936

Name: Greg Chaney

Date: April 2 1990

Note: Released.



↑ PWS
2935

KN-112

B

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

^^^

KN-112B

Segment Length B

ADEC Segment Length: 1768m

Exxon Segment Length 1788m

0 100 200 300

Map Key: PWS-2930

Name: Greg Chanen

Date: April 5 1990

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