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[Shoreline evaluations, 1991].

Prince William Sound KN-128 to KN-133

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SHORELINE EVALUATION

SEGMENT ST/ KN-128 SUBDIVISION A (1 OF 1) DATE 4/23/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

No specific constraints identified.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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: *Michael E. Johnson* DATE: 5/2/90

OILING CATEGORIZATION:

Wide 0 m: Medium 237 m: Narrow 195 m: V.Light 386 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 5 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 Removal	<u> </u> Beach Cleaner
	<u> </u> Other (see comments)

COMMENTS: Recommend manual pickup of debris and bioremediation of area
of subsurface oil shown on attached sketch map. No specific time
constraints identified.

TAG COMMENTS:

TAG APPROVAL DATE: 5/2/90
ADEC *Art Wagner*
EXXON *Andy Lee*
NOAA *Gary DeRose*
USCG *Kenneth Keene*

FOSC: *W L* DATE: 5-8-90

KN-128-A



SKETCH MAP

G. Greg C. Wy
EGMENT ST/ KN-128

SUBDIVISION A

DATE April 12 1990

CHECKLIST

N Arrow
Approx. Scale
Seismic Study
Oil Dist.
Width
Length
% Cover
Substrate Character
Est. NPA/ALN
SSL
Profile Location(s)
Profile(s)
Pit Location(s)
Photo Location(s)

LEGEND

1 Δ

1- No Subsurface Oil

2 Δ

1- Subsurface Oil

CT/C

Minimum Distribution

CT/B

then Distribution

CT/P

dry Distribution

CT/S

Aerial Distribution

veg

veg

veg location, direction, & number

METERS
0 50 100 150 200

KNIGHT ISLAND

OIL UNDER BOULDERS
BROWN & MOBILE

AVALANCHE

TREES

0000000
SPECIAL SYMBOL
HEXAGONS MARK
TAR BAND UP TO
ONE METER HIGH,
BROKEN IN PLACES

TARCOAT BAND
4 METERS WIDE
40% COVERAGE
BOULDERS

1.5 METER BAND
CONTINUOUS TAR COAT
BROKEN COATS UP TO 4 METERS
WIDE



2 METER BAND
CONTINUOUS TAR COAT
TRANSLUCENT SHEEN

5 METER BAND
PATCHY TAR COAT
10% COVERAGE

Low Rock

DOWNED
TREES

TREES

TAR COVER UNDER BOULDERS
HANDFULS OF OILED
GRASS

SMALL STREAM

RAINBOW
SHEEN
& FILM

POMPONS FROZEN IN ICE

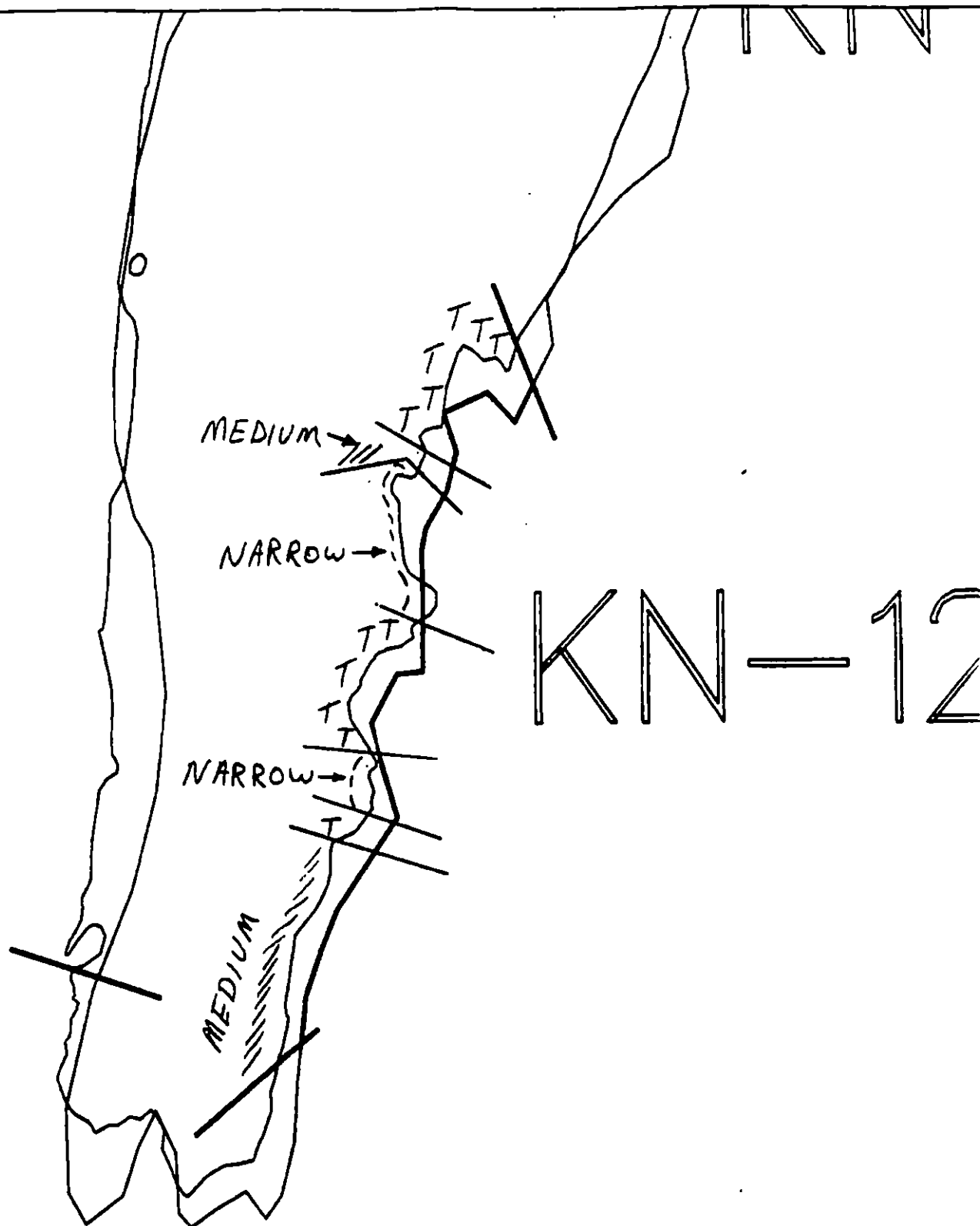
BIO

STEEP
SLOPESPickup
DEBRIS

SMALL STREAM

STEEP
CLIFF

Character Length (m): AP - PO - CV 10 CT 944 ST 800 MS - PT - TB - FL 50 NO



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-128

ADEC Segment Length: 819m

EXXON SEGMENT LENGTH: 944m

0 100 200 300

Map Key: PWS-310

Name: Greg Chaney

Date: April 23 1990



1991 MAYSAP EVALUATION

SEGMENT: KN 128 SUB: A REGION: PWS SURVEY DATE: 5/24/91

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 Schmidt

Date: 6/07/91

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: June 6 1991

FOSC APPROVAL DATE: 6/10/91

ADEC

FOSC

EXXON

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

USCG

NOAA

TEAM NO. 1 SEGMENT KN 128 SUBDIVISION A DATE 5/24/91ADEC
NAME JEFF GUALINS SIGNATURE [Signature]☐ NTR No RECOVERABLE OIL REMAINS IN THIS SEGMENT.EXXON
NAME LARRY D. OLSON SIGNATURE [Signature]☒ NTR No treatable oiling conditions exist.NDMANAGER
NAME MARSHA HALL OF DNR SIGNATURE [Signature]☒ NTR Coat cover band thins out on Northern portion segment.USCG/NOAA
NAME SCHULTZ / CHILDS SIGNATURE [Signature] / 72c☒ NTR NOTHING OF SIGNIFICANCE REMAINSHigh Angle Basaltic Bed Rock Shoreline w/ several Boulder Field CHUTES
Oiling observed as CT, CV, ST ALONG HITZ-SUTZ - INTERMITTENT - Two Low SOR
AREAS IN THE SUTZ. NO SUBSURFACE OIL.

MAYSAP SHORELINE OILING SUMMARY

PAGE 1 OF 1

TEAM NO. 1

OG G. MACDONALD

BIO M. FAWCETT

SEGMENT KN-128

ADEC J. GRINAWAY

LANDMANAGER M. HALL for DNR

SUBDIVISION A

EXXON L. OLSON

USCG/NOAA SCHULTZ/CHILDS

DATE 5/24/91

TIME 18:25 to 19:15

TIDE LEVEL +3.2 ft. to +5.3 ft.

ENERGY LEVEL: ☐ H ☐ M ☒ LSURVEYED FROM: ☒ FOOT ☒ BOAT ☐ HELOWEATHER: ☒ SUN ☐ CLOUDS ☐ FOG ☐ RAIN ☐ SNOW

TOTAL LENGTH SHORELINE SURVEYED: 820 m

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

EST. OIL CATEGORY LENGTH: W - m M 135 m N 370 m VL 320 m NO - m US - m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA		ZONE				NOTES
	AP	MS	TB	SOF	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A					B	B					R	V	3 1/2	110	X	X			peeling tar & lichen
B				P	P	P					RBC	M	5	25	X	X			hi s' to SOL
C					B	B					R	H	1 1/2	250		X			
D						P	P				R	H	1	120		X			
E						S	S				R	H	1	200		X			
F				S							BC	M	6	20		X			10 SOL

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 - 30 FRAMES 17-20

SECTION 4 - VERTICAL, H = HIGH ANGLE, M = MEDIUM ANGLE, L = LOW ANGLE																			PHOTO LOGS - MATIOT				FRAME 7	
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	10							X	-		-				X			BC - cor						
2	15							X	-		-				X			BC - cor						
									-															
									-															
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SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

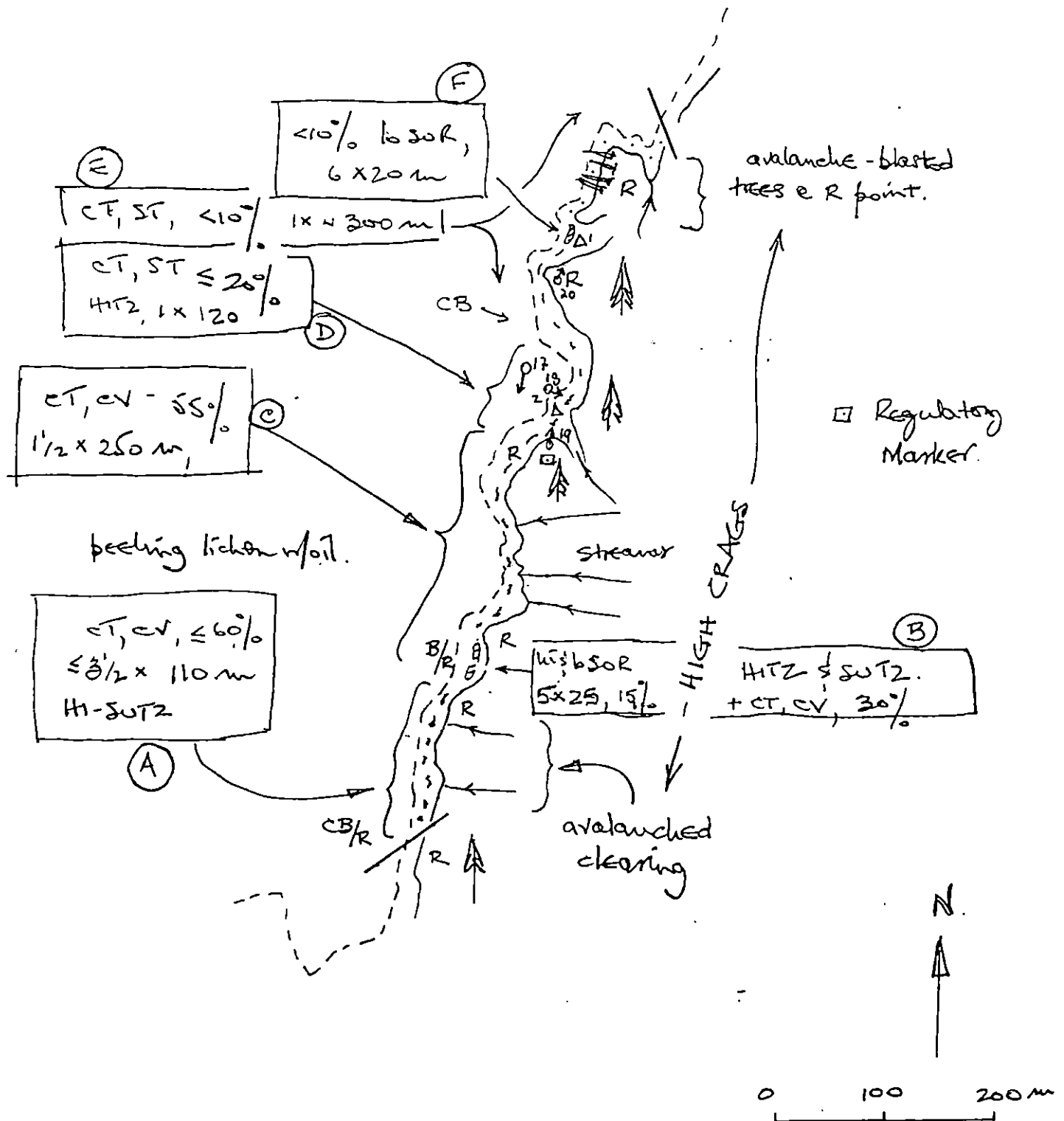
OG COMMENTS: Step 2 shore, w/ occasional BC gullies.
 Surface oil only, as broken - sporadic CT, CV - decreasing
 northward, and SOL patches trapped below boulders.

 Reviewed: MC 5/28/91
 Revised: 5/27/91

KN-128A

G. MACDONALD

5.24.91



Reviewed 5.27 94

TEAM #

DATE

5/24/91

SEGMENT #

KN 128

TIDAL HEIGHT (Range) +2.8 to +4.5 ft MLLW

SUBDIVISION

A

BIOLOGIST Michael Fawcett

SEA STATE

calm

WIND SPEED/DIRECTION calm

PHOTOGRAPHS: ROLL #

FRAME #

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

This subdivision is mostly steep pillow lava shoreline, except for small stream mouths and avalanche rubble. Remaining oil is light, nearly all above intertidal biota. See sketch map for descriptions of biota near oiled sites.

WILDLIFE OBSERVATIONS

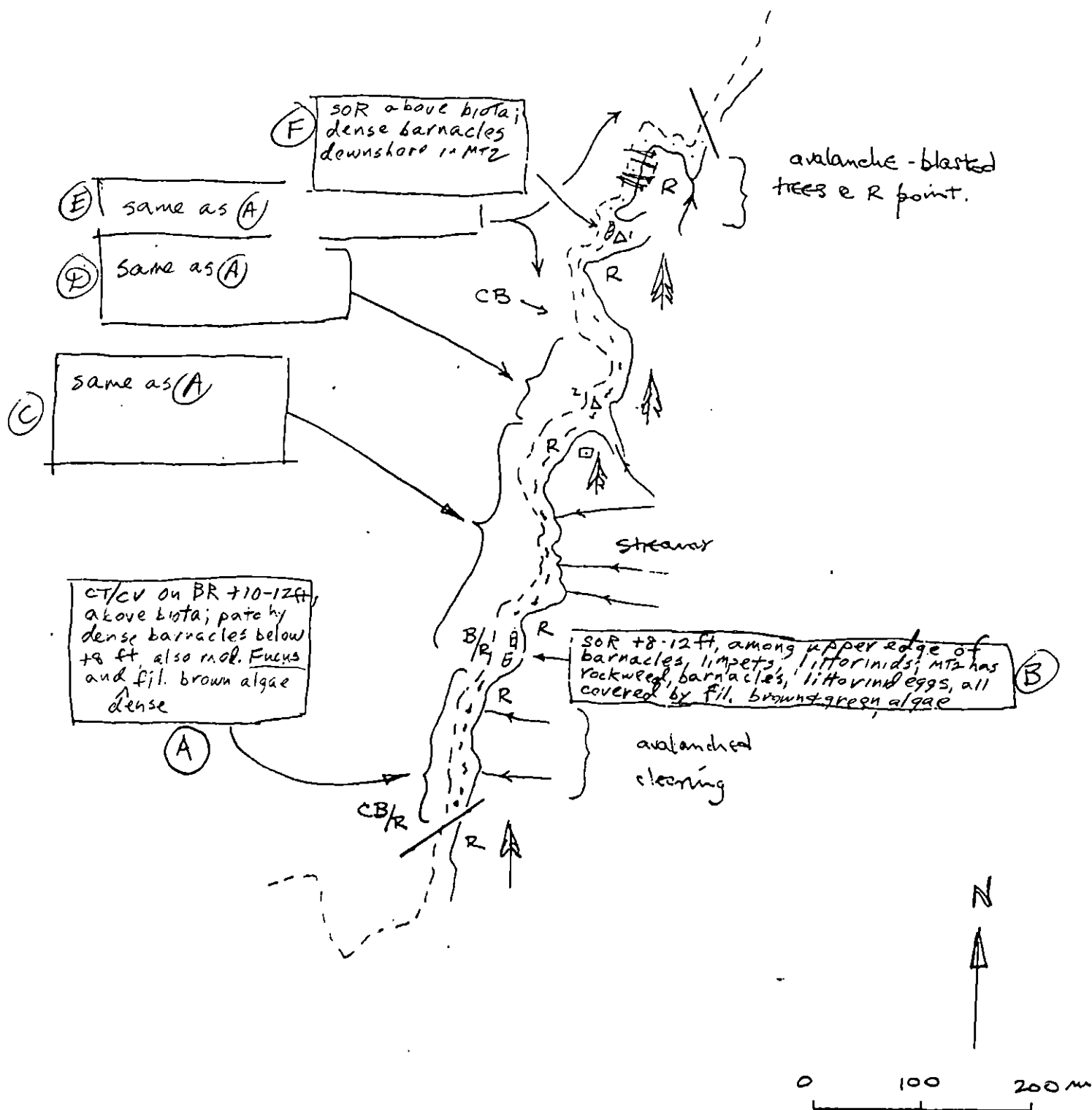
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	6 (3 mature, 3 immature)	
Seabirds	2 (Pigeon Guillemot, Murrelet sp)	3 1 PC	
Waterfowl	1 (Canada goose)	1	
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-128A
 BIO Sketch Map
 M. Fawcett
 5/24/91



9
KN 128A 5/24/91 Faukeff.
- 2 eagles flushed from shoreline trees
- 1 pigeon guillemot
- 2 murrelets
start 1825

CT/CV 15 BP +10-12 ft, above bot
partly dense barn + 5-8 ft,
mod. Fucus

- shoreline is steep pillow lava
with loose boulders near base in
some areas -

- 1830 - very bright - AP/SARSVTZ -
+12 ft - amph. p. 8'

- 1 Canada goose, 1 immature eagle

- SOR goes down to +8 ft among
"upper edge of barnacles, littorinids
(eggs up to +7), lump,

MTZ: dense fil. brown alga draped
over everything - mod. Fucus,
Eulera, barnacles

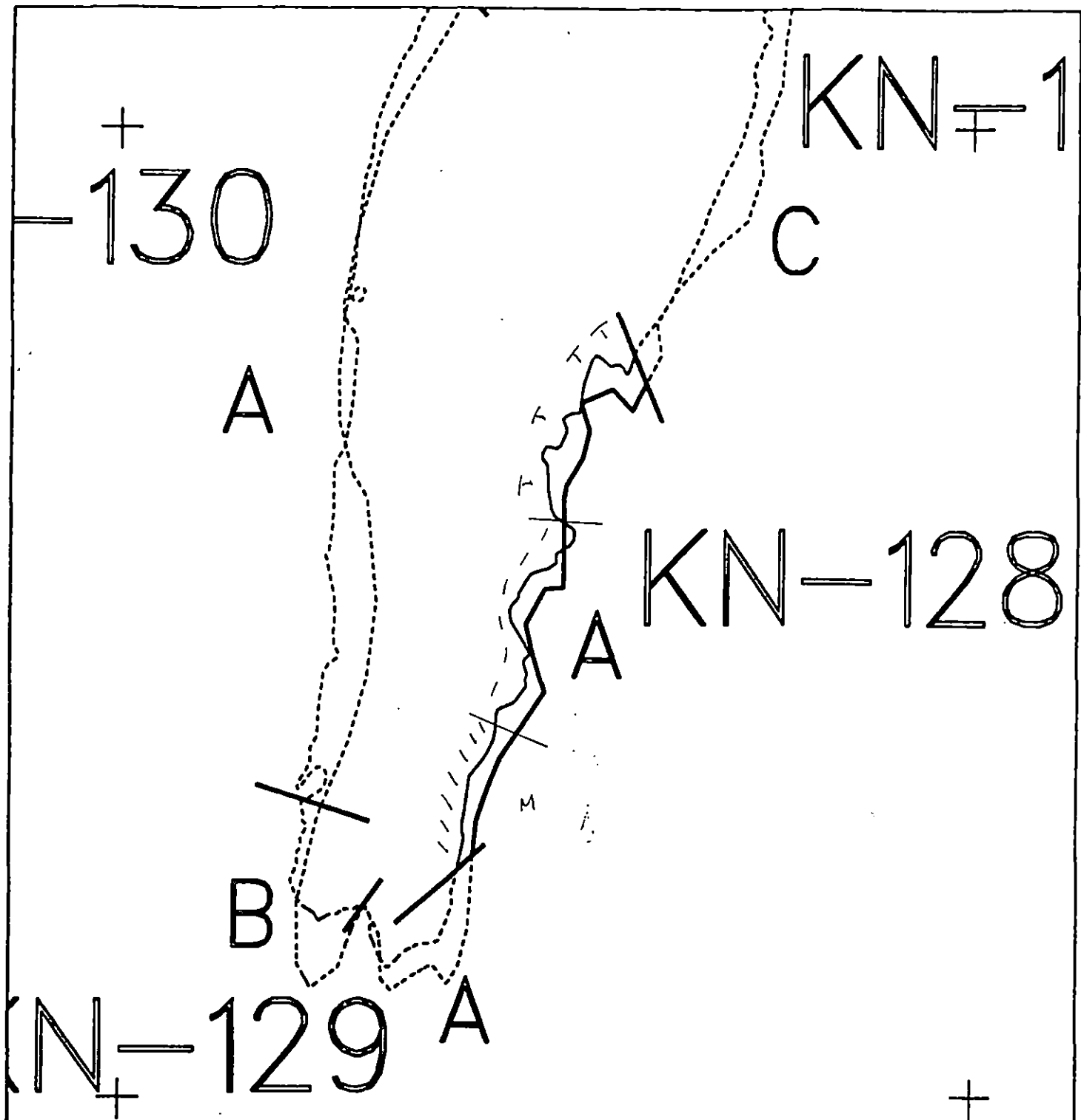
- 3 more mature eagles flew over,
1 fishing

1850 - large w/ stream
CT + +10 ft along vertical walls

1900 - BR/B avalanche starts -

CT/SOR above h. ln - dense barn
lowshore MTZ

finish 1915



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

KN0128 A
 ADEC Subsegment Length: 819m
 METERS
 0 200 400
 AK State Plane Zone 4
 14N0128a



Subdivision Field Map
 Map Key: KN0128A
 Name: GM
 Date: 5.24.91
 Date Entered:

Reviewed: 5/24/91 me
 reviewed 5.27.93

1991 MAYSAP EVALUATION

SEGMENT: KN 128 **SUB:** A **REGION:** PWS **SURVEY DATE:** 5/24/91

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. 1 SEGMENT KN 128 SUBDIVISION A DATE 5/28/91

ADEC

NAME JEFF GUALINSSIGNATURE [Signature]☒ NTR

No RECOVERABLE OIL REMAINS IN THIS SEGMENT.

EXXON

NAME LARRY D. OLSONSIGNATURE [Signature]☒ NTR

No treatable oiling conditions exist.

LANDMANAGER

NAME MARSHA HALL OF DNRSIGNATURE [Signature]☒ NTR

Coat cover band this out of Northern portion segment.

USCG/NOAA

NAME SCHULTZ / CHILDSSIGNATURE [Signature]☒ NTR

Nothing of significance remains

High Angle Basaltic Bed Rock Shoreline w/ several Boulders Filled Craters
 Oiling observed as CT, CV, ST along HITZ-SUTZ - Intermittent - Two Low Soc
 Areas in the SUTZ. No Subsurface Oil.

SEGMENT KN-128

SUBDIVISION A

DATE 5 / 24 / 91

ENERGY LEVEL: ☐ H ☐ M ☒ L

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

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

EST. OIL CATEGORY LENGTH: W - m M 135 m N 370 m VL 320 m NO - m US - 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 - 30 FRAMES 17-20

[illegible]

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

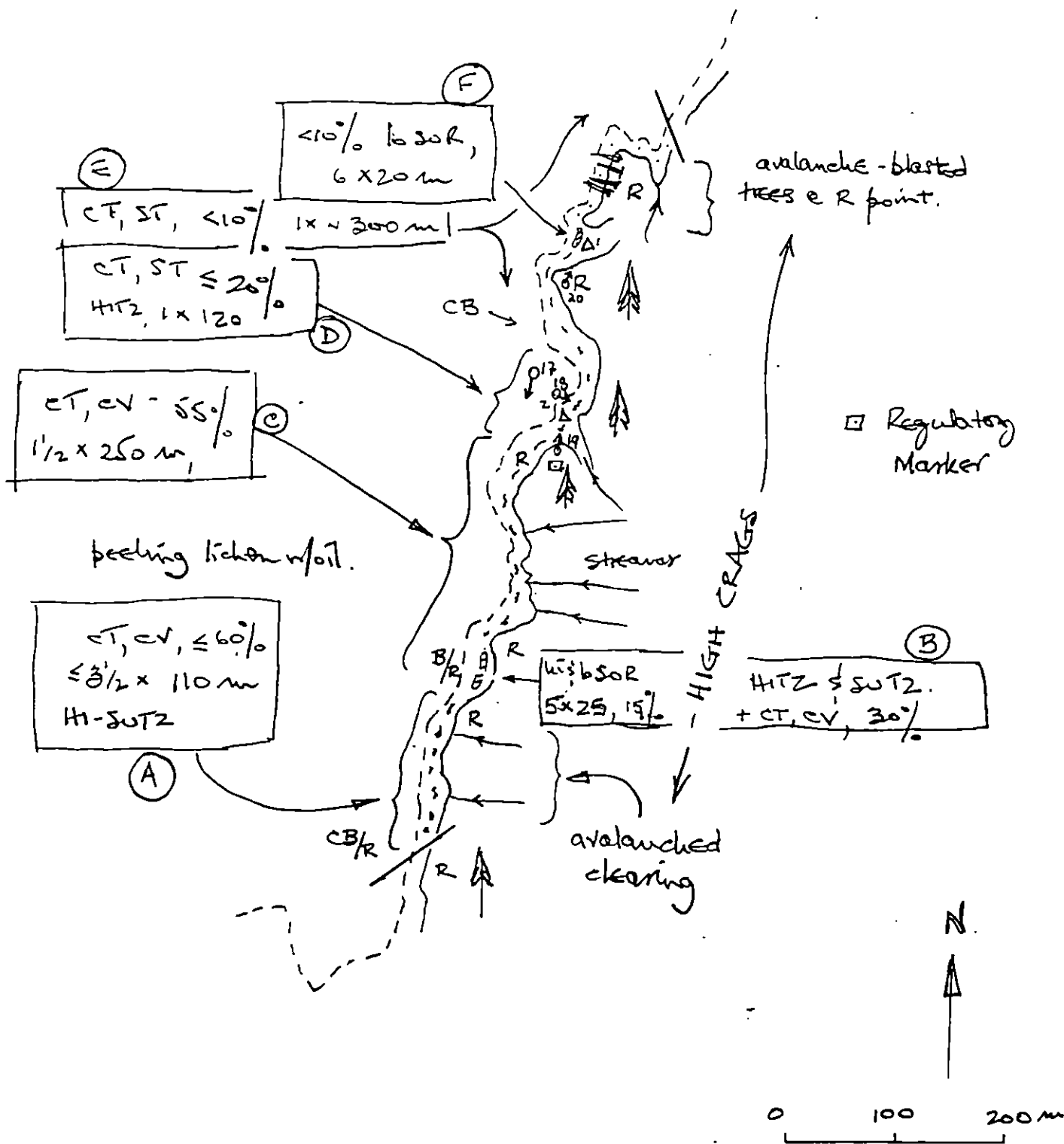
OG COMMENTS: Steep & shore, w/ occasional BC gullies.
Surface oil only, as broken - sporadic CI, CV - decreasing
northward, and SOL patches trapped below boulders.

REVIEWED: MC 5/28/91
revised 5/27/92

KN-128A

G. MACDONALD

5.24.91



Reviewed 5.27 94

TEAM #

1

DATE

5/24/91

SEGMENT #

KN 128

TIDAL HEIGHT (Range) +2.8 to +4.5 ft MLLW

SUBDIVISION

A

BIOLOGIST Michael Fawcett

SEA STATE

calm

WIND SPEED/DIRECTION

calm

PHOTOGRAPHS: ROLL #

FRAME #

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

This subdivision is mostly steep pillow lava shoreline, except for small stream mouths and avalanche rubble. Remaining oil is light, nearly all above intertidal biota. See sketch map for descriptions of biota near oiled sites.

WILDLIFE OBSERVATIONS

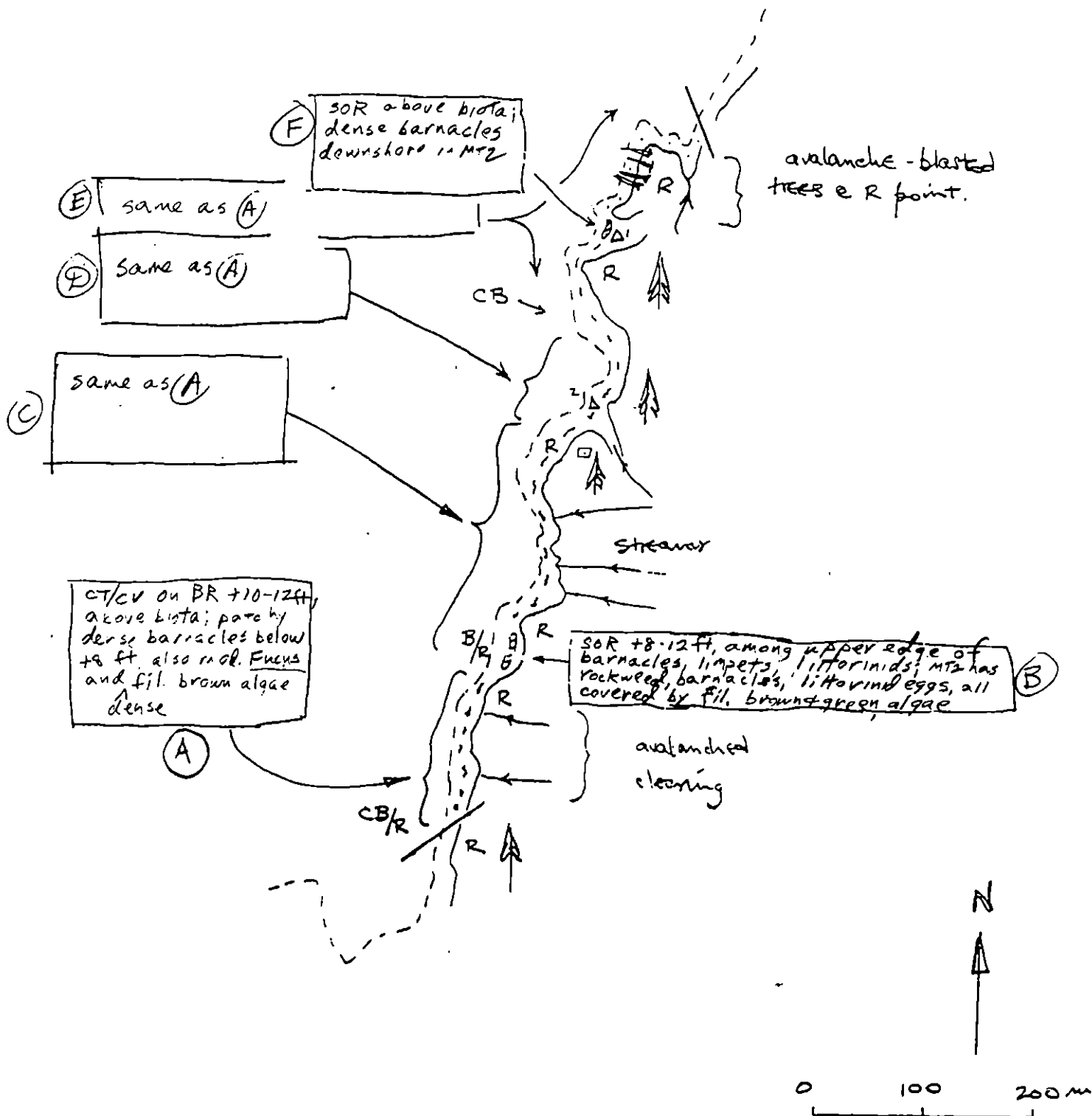
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	6 (5 mature, 1 immature)	
Seabirds	2 (Pigeon Guillemot, Murrelet sp)	3 (1 PC, 2 M)	
Waterfowl	1 (Canada goose)	1	
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-128A
 BIO Sketch Map
 M. Fawcett
 5/24/91



KN 128A 5/24/91 Faukett.

- 2 eagles flushed from shoreline trees
- 1 Pigeon gullenot
- 2 murrelets

start 1825

CT/CK in BP +10-12 ft, above bot
pale, dense barn +5-8 ft,
mod. Fucus

- shoreline is steep pillow lava,
with loose boulders near base in
some areas -

- 1830 - tiny bright - AP/SORSUTZ -
+12 ft - amph. p. r.

- 1 Canada goose, 1 immature eagle

- SOR goes down to +8 ft among
"upper edge of barnacles, littorinids
(eggs up to +7), limp,

MTZ: dense fl. brown algae draped
over everything - mod. Fucus,
Enteromorpha, barnacles

- 3 more mature eagles flew over,
1 fishing

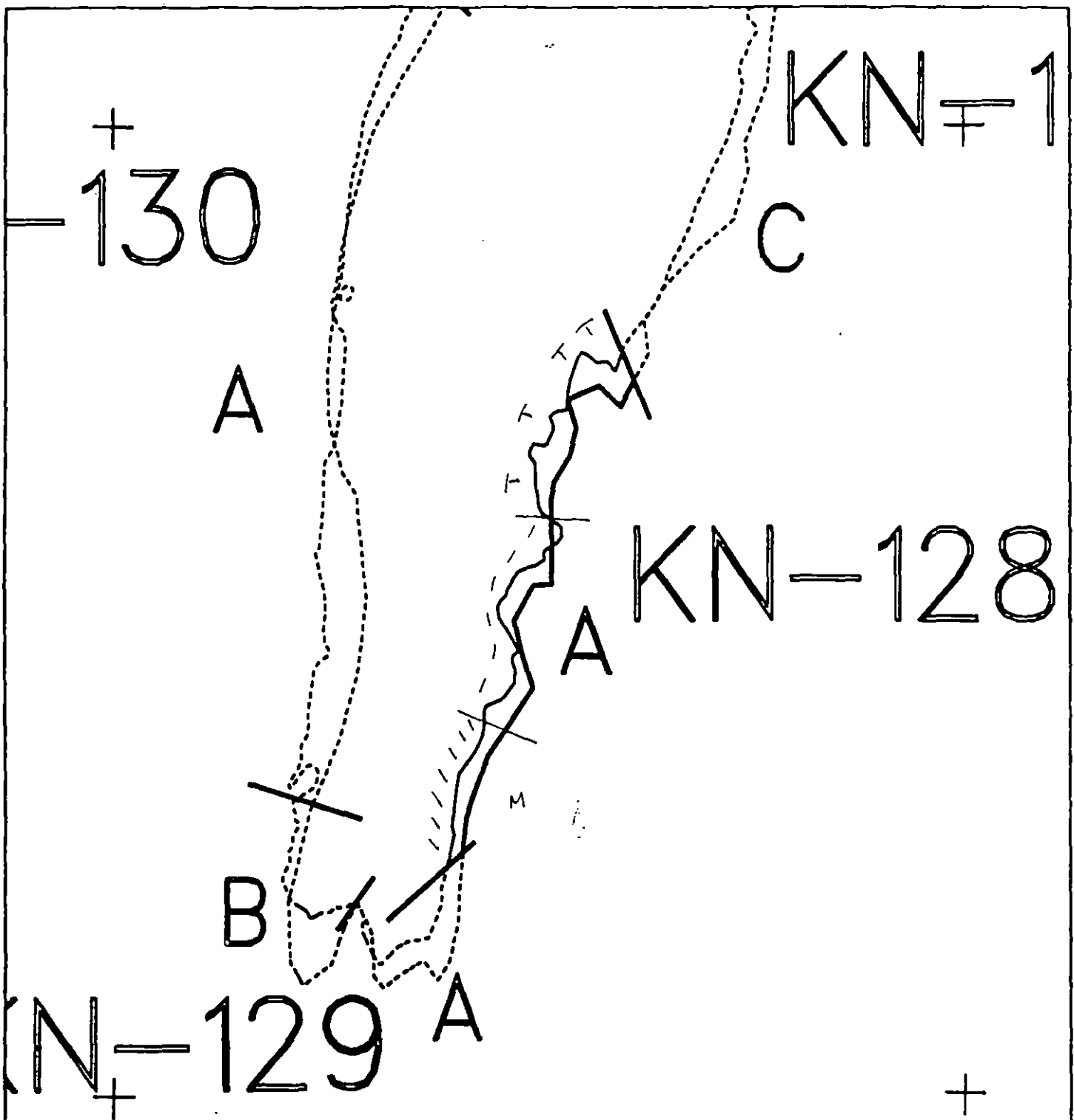
1850 - largest w/ stream

CT + 10 ft along vertical walls

1900 - BR/B avalanche date -

CT/SOR above b. str. - dense barn
lower MTZ

finish 1915



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

KN0128 A
 ADEC Subsegment Length: 819m
 METERS
 0 200 400
 AK State Plane Zone 4
 14N0128a



Subdivision Field Map
 Map Key: KNKN0128A
 Name: GM
 Date: 5.24.91
 Date Entered:

Reviewed: 5/24/91 me
 reviewed 5.27.93

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-128

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ KN-128 SUBDIVISION A (1 OF 1) DATE 4/23/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

No specific constraints identified.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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 237 m: Narrow 195 m: V.Light 386 m: No Oil 0 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 5 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: Recommend manual pickup of debris and bioremediation of area of subsurface oil shown on attached sketch map. No specific time constraints identified.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN-128 SUBDIVISION: A DATE 4.23.90

USCG

NAME Patrick Mahy SIGNATURE Patrick Mahy

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

This segment consisted of a lot of steep bedrock and boulder that contained heavily weathered stains and coats. Cleanup efforts should be concentrated in the vicinity of pit 3 where subsurface oil was found and the slope of the beach would allow treatment.

ADEC

NAME M. Cunningham SIGNATURE M. Cunningham

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Flip over boulders & Bioremediate on all accessible parts of segment. Check storm berm for debris. Note Rich biota in lower intertidal areas.

LAND MANAGER

NAME Steven Phillips SIGNATURE Steven Phillips

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

PomPoms remain frozen in supertidal - marked with a pallet. Bioremediate boulder areas of high intertidal along about the whole segment. Problem is that beach is higher angle and the fertilizer has to get stuck under the rocks where the oil is. Tar bands are not scrapable. Some visual degradation is present due to "bathtub rings" and wider tar bands. Breakup some of the bands through methods as they develop.

SHORELINE OILING SUMMARY

REVISION NO. 06/13/88

OG Greg Chaney USCG Pat Malay SEGMENT ST/ KN-128
 BIO Jim Ritz LAND REP DNR Steve Phillips SUBDIVISION A (1 OF 1)
 EXXON Ray Jotilo ADEC Mike Cunningham TIME 17:40 to 18:30
 TEAM NO. 7 TIDE LEVEL 1.1 ft to 0.5 ft DATE April 23, 1990
 EST. SUBDIVISION LENGTH: 944 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPPLAND DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock SNOW PATCHES / CLIFFS
 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 5 % Hang 45 % Vert 50 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 284 m N 255 m VL 405 m NO 0 m

SURFACE OIL

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

PAVEMENT H F S — sq. m by — cmPATTIES / TARBALLS collected BAGSNEAR SHORE SHEEN? NO BR FW SL TL

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

DID YOU COLLECT DEBRIS?

 YES ☒ NO ☐
old plastic bags
 TYPE pomfoms
 #BAGS 3+

Photographs:

Roll No. NONEFrames NONE

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 - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	SU	U	M	L				
1	20					X	.									X				N	0	BGP-CG
2	20					X	.										X			N	10	CPG-GS
3	15				X		0.5		X	X						X				Y	12	BGP-BPG
							.															
							.															
							.															

COMMENTS

See attached page.

REVIEWED MH DATE 4-25-10



SKETCH MAP

KN-128-A

HERRING BAY

5 METER BAND
PATCHY TAR COAT
10% COVERAGE

Low Rock

2 METER BAND
CONTINUOUS TAR COAT
TRANSLUCENT SHEEN



1.5 METER BAND
CONTINUOUS TAR COAT
BROKEN COATS UP TO 4 METERS
WIDE

TAR COAT BAND
4 METERS WIDE
40% COVERAGE
BOULDERS

SPECIAL SYMBOL
HEXAGONS MARK
TAR BAND UP TO
ONE METER HIGH,
BROKEN IN PLACES

DOWNED
TREES

SMALL STREAM

Pickup
Debris

TAR COVER UNDER BOULDERS
HANDFULS OF OILED
GRASS

SMALL STREAM

STEEP
SLOPES

RAINBOW
SHEEN
& FILM

POMPONS FROZEN IN ICE

BIO

TREES

AVALANCHE

OIL UNDER BOULDERS
BROWN & MOBILE

TREES

KNIGHT ISLAND



G. Shogren
EGMENT STI KN-128

UBDIVISION A

ATE April 12 1990

CHECKLIST

- N Arrow
- Approx. Scale
- Signable Entry
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HMR/LVL
- SSS
- Profile Location(s)
- Photo Location(s)

LEGEND

1 - No Subsurface Oil

2 -

1 - Subsurface Oil

CT/C

CT/B

when Distribution

CT/P

when Distribution

CT/S

when Distribution

Red Vegetation

1 -

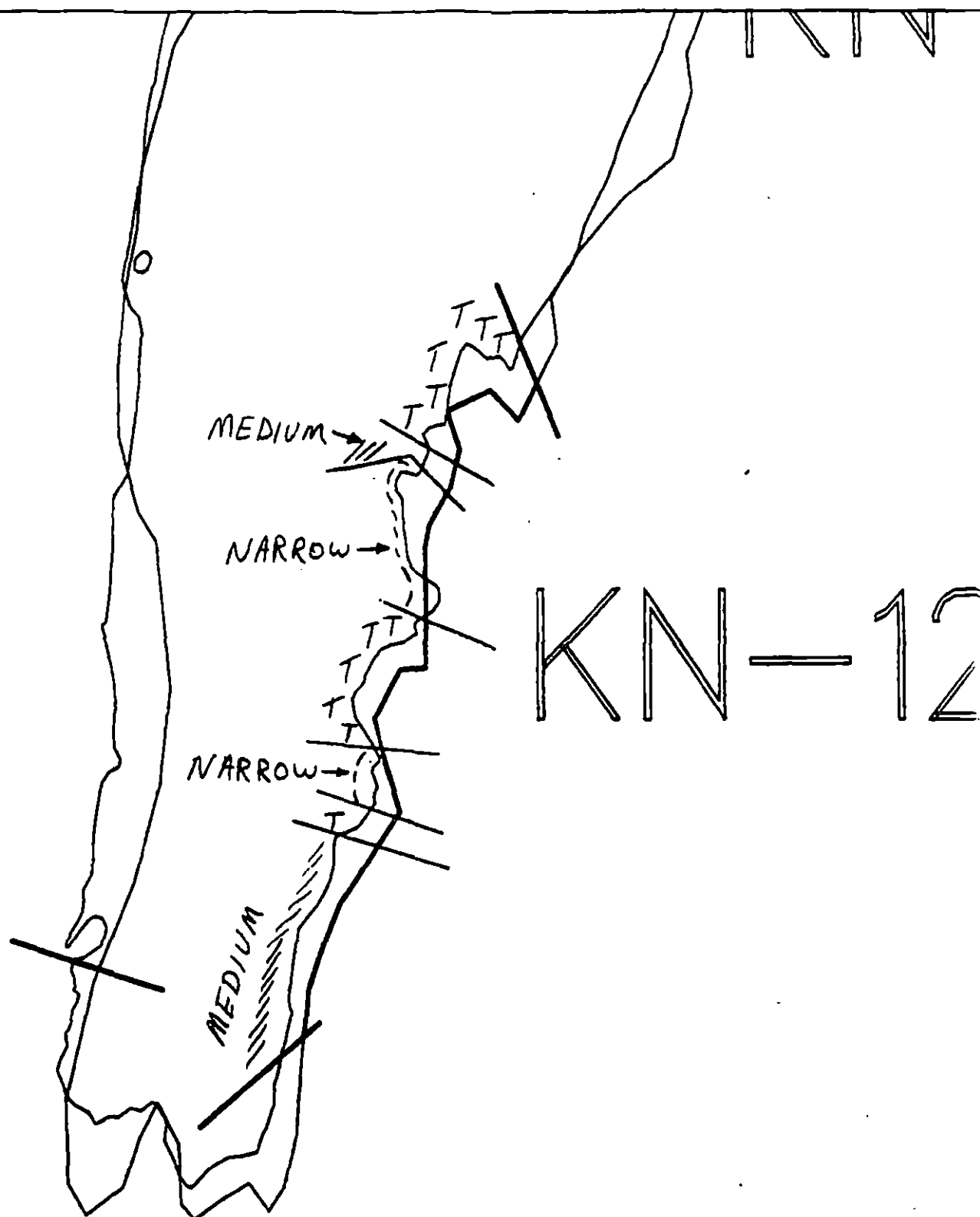
into location, direction,
if number

Character Length (m): AP - PO - cv 10 ct 944 st 800 ms - FT - TB - FL 50 NO

COMMENTS
SEGMENT 8T-KN-128-A

Greg Chaney
April 23 1990

Segment KN-128-A was surveyed under overcast skies. This segment runs along a steep bedrock and boulder face with very little fine sediment. The bedrock and littoral sediments were not entirely dry due to the falling tide and runoff from melting snow. Oil was present in some form along the entire length of the segment. This oil was primarily in the form of weathered tar coats and stains. It appeared that significant quantities of mobile oil had been present in the past but most of the oil had weathered to stable tar coats. This tar was often mixed with spruce and hemlock needles. In places tar cover was observed on the bottom of boulders. Although the surface oil present throughout the majority of the segment had weathered, brown mobile oil was still present under the boulders of the coarse beach at the southern end of the segment. Rainbow and translucent sheens observed in tide pools along the segment may be a result of this mobile subsurface oil. No pits were dug in the southern portion of the segment due to the rugged, coarse nature of this boulder beach. Three full bags of pospoms were collected from this segment and more remain frozen in the supra tidal.



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

KN-128

ADEC Segment Length: 819m

EXON SEGMENT LENGTH: 944m

0 100 200 300

Map Key: PWS-310

Name: Greg ChaneyDate: April 23 1990

Note Entered:

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/25/90

Segment ST / KN-128 Subdivision A Date (mo / day / yr) Apr 23, 90
 Time (24 hr) 1745-1930 Biologist ROTH

- (A) Substrate type and % of segments:
 (1) Bedrock 70 (2) Boulder 20 (3) Cobble 5 (4) Pebble 5 (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 20 Low 70
- (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	X	2	2	2	X	X	2
3	3	3	3	3	X	3	3	X	X	3	3
4	4	4	4	4	4	4	4	X	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	X	2	X	2	X	2	2
3	3	3	3	3	X	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:

A GOOD VARIETY OF INVERTEBRATE SPECIES WERE FOUND IN LITZ TIDEPOOLS IN THIS SEGMENT. OVERALL PERCENT COVER OF BIOTA IS LOW, HOWEVER, ESPECIALLY IN THE MITE. A FEW AREAS HAVE "NORMAL" FUCUS/BARNACLE/GASTROPOD COMMUNITIES, BUT

Ecological Considerations: MOST ARE QUITE BARE, WITH ONLY HOLDBASTS REMAINING WHERE NONE NOTED FUCUS HAD BEEN ATTACHED. NEW GROWTH ON ^{THESE} MITE BEDROCK/BOULDER WAS LIMITED TO FILAMENTOUS GREEN ALGAE AND BARNACLE SPAT. IT IS SPECULATED THAT INTENSIVE CLEAN-UP PROCEDURES DURING 198 MAY HAVE BEEN RESPONSIBLE FOR DENUDING MITE BEDROCK/BOULDER OUTCROPPINGS. VERY FEW MYTILUS WERE FOUND IN THIS SEGMENT

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-128 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

No time-dependent ecological constraints.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG ADDENDUM DATE

ADEC Art Weimer

EXXON Amy Goe

NOAA Joseph Talbott

USCG W. J. Hall

FOSC W L

DATE 5-21-90

Prepared by: Chris Nye

Date: 5/19/90

KN-131

KN-130

KN-127

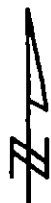
KN-128

KN-129

Work
Area



Exxon Company, USA
Map Key: KN-127-128
May 11, 1990



ECOLOGY MAP
SEGMENT KN-128
SUBDIVISION A (1 of 1)
METERS



- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1181 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-128 SUBDIVISION A (1 OF 1) DATE 4/23/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

No specific constraints identified.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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. Johnson DATE: 5/2/90

OILING CATEGORIZATION:

Wide 0 m: Medium 237 m: Narrow 195 m: V.Light 386 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 5 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 Removal	<u> </u> Beach Cleaner
	<u> </u> Other (see comments)

COMMENTS: Recommend manual pickup of debris and bioremediation of area of subsurface oil shown on attached sketch map. No specific time constraints identified.

SEE ADDENDUM DATED 5/19/90

REN C.

TAG COMMENTS: _____

TAG APPROVAL DATE: 5/2/90.
ADEC Art Wagner
EXXON Andrew L. [unclear]
NOAA Gary [unclear]
USCG Kenneth Keene

FOSC: my L DATE: 5-8-90

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16975

SEGMENT KN-129 SUBDIVISION B

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 (226-10-16975) is in Subdivision B. 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 ADDENDA KN-129A & KN-129B
FOR ADDITIONAL CONSTRAINT INFORMATION.

TAG APPROVAL DATE 6/04/90
ADEC RAY MORRIS
EXXON AMY TEAC
NOAA Joseph Talbott
USCG G.A. RENTER

FOSC

Date

Prepared by

Date

6/3/90

KN-130

KN-127

KN-128

TREATMENT AREAS

KN-129

UNCATALOGED ANADROMOUS STREAM
100M ZONE

ANADROMOUS STREAM
(226-10 -16975)
100M ZONE

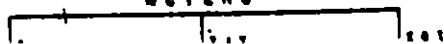


Exxon Company, USA
Map Key: KN1-KN-129



ECOLOGY MAP
SEGMENT KN-129
SUBDIVISION A (1 of 3)

METERS



- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1137 feet

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-129 B STREAM NO: 226-10-16975 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 stream is located in Subdivision X (1 of 2).

B ann 6/2/90

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: [Signature] DATE: 5/1/90

Subsurface Oil Observed: Yes X No Maximum Depth 8 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> </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 pickup of tar patties in area indicated on sketch map. Work should be conducted between 5/15 and 7/10 based on anadromous stream constraints.

See Addendum dated 6/3/90

TAG COMMENTS: MONITORS TO ASSESS SUITZ

TAG APPROVAL DATE: 5/7/90

ADEC Art Wenzel Detleim

EXXON Myron Reed

NOAA Gary B. [unclear]

USCG G.A. Reith G.A. Reiter

FOSC: ML DATE: 5-15-90

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-129 B

STREAM NO: 226-10-16975

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-129 B STREAM NO: 226-10-16975 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 stream is located in Subdivision A (1 of 2).

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: _____

Subsurface Oil Observed: Yes X No _____ Maximum Depth 8 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> </u> Bioremediation	<u> </u> Spot Washing: _____ Wands
<u> </u> Tarmat Removal	<u> </u> Beach Cleaner
	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pickup of tar
patties in area indicated on sketch map. Work should be conducted be-
tween 5/15 and 7/10 based on anadromous stream constraints.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

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 unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

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

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

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

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

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

ADF&G Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Rothy 267-2206

5T All Bald Eagle nests (3/1 to 6/1)

Active Bald Eagle nests (3/1 to 9/1)

Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6U Recreation: Tent sites (6/1 to 9/15)

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

6W Forest Service cabins (6/1 to 9/15)

6X Lodge (6/1 to 9/15)

6Y Special use destination

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)

7HH Finfish harvesting

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

7JJ Invertebrate harvesting

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

49/51

SEGMENT ST 1 KN-129 SUBDIVISION: ^{ASC*} 226-10-16 975 DATE 4-21-90

USCG

NAME Kerwin L. Dreher SIGNATURE CWO2 K.L. Dreher☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTEDAgree.~~ADEC~~ → ADFTGNAME Aimee Weseman SIGNATURE Aimee Weseman☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Snow pack covering upper portions of stream
send crew in after it melts & warms up to assess oiling
monitor site for sheening
Remove scattered tar patties in grassy area by boulder & avalanche chute

~~LAND MANAGER~~ → NONE

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY (ANAD)

REVISION NO. 04/12/90

OG GAL LARSON USCG DREHER, CWE SEGMENT ST/ KN 129 32/51
 BIO KEN CRITCHLOW LAND REP STREAM 224 10-16975 (OF)
 EXXON DARLHL YONES ADFG 28 KAYEN-AIMEE WESEMAN TIME 15:10 TO 15:45
 TEAM NO. 14 TIDE LEVEL +2 FT DATE 4 12 1990
 EST. SUBDIVISION LENGTH: 120 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 40 % B 30 % C 10 % P 10 % G 10 % S 10 % M 10 % V 10
 SLOPE: Lang 100 % Hang 100 % Vert 100 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 100 m M 100 m N 100 m VL 30 m NO 90 m

SURFACE OIL

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

PAVEMENT H F S 1 sq. m by 1 c

PATTIES / TARBALLS 1 BAGS

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
 #BAGS

Photographs:

ANAD-14- 3

Roll No.

Frames 20-26

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 SUBSURFA. SEDIMENT
		OP	OR	OL	OF	NO		SO	UD	1	2	3	4	SU	U	M	L					
1	18						58												N			PS 6430/ 746236
2	18																		N			PS 6430/ 746236

COMMENTS TAR / ASPHALT - PATCHES - MAT NOTE NO SHEEN OBSERVED
CONTINUING OFF BEACH - CHECK SSAT REPORT MARCH 30TH 1990 SSAT.

REVIEWED JW

DATE 4-29-90

33/51
 SEGMENT ST/LN/29
 STREAM 220-P-16975

DATE 4/21/90

CHECKLIST

- ☐ M. Aves
- ☐ Mammals
- ☐ Reptiles, Birds
- ☐ Invertebrates
- ☐ On Dec.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Ed. Humus
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PM Location(s)
- ☐ PM Location(s)

LEGEND

1 A

PM - No Substrate On

2 A

PM - Substrate On

CT/C

Continuum Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Spotted Distribution

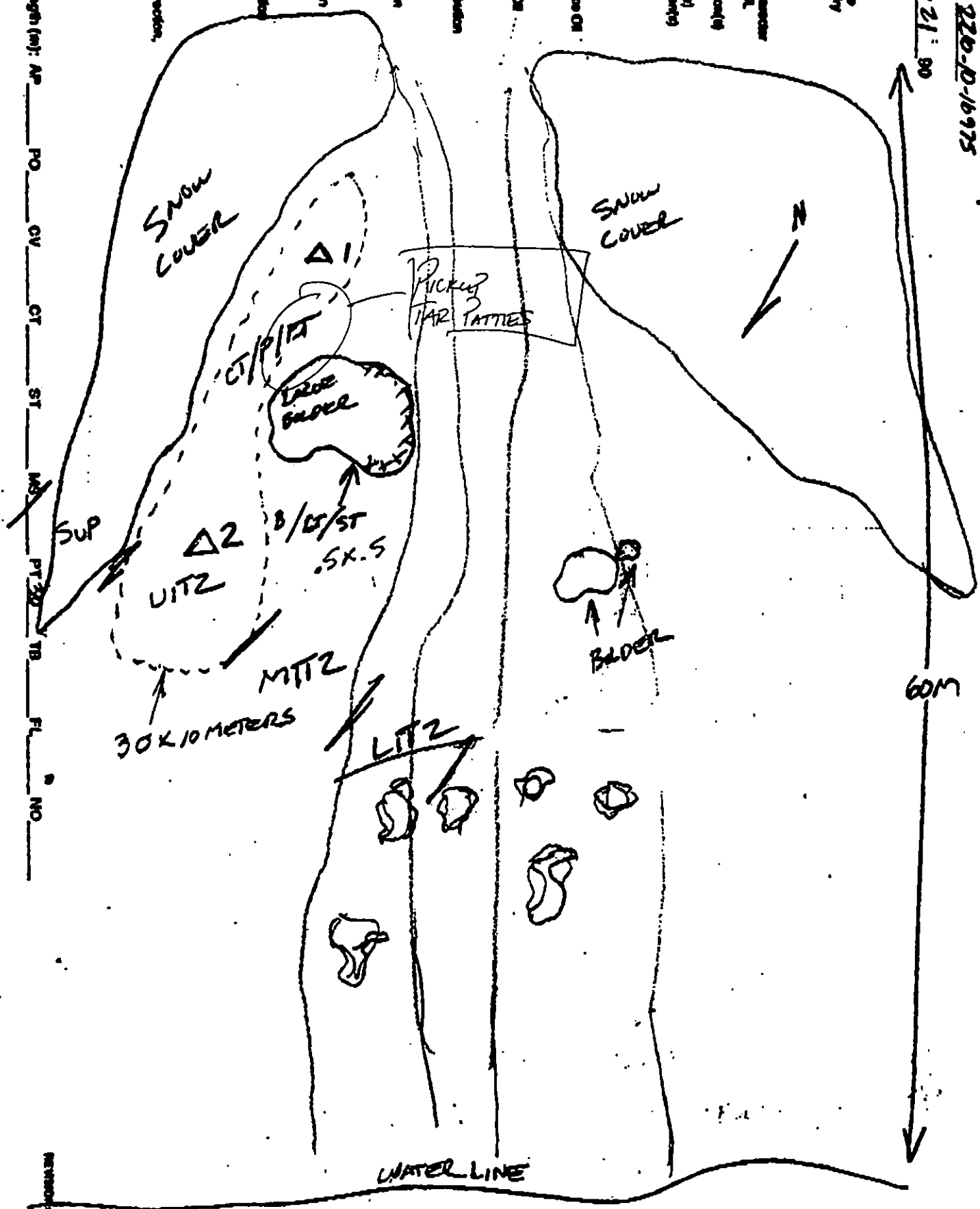
Other Vegetation

1

Photo location, direction, and number

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

SKETCH MAP



REVISED-05/1990

4/51

ACF&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: ES SS DS TS AVS SCRA MMS PTA 2 REGION: PYS KP,CI K,AP
METHOD: Aerial Ground Boat
3 DATE: 4-21-90 15 HIGH TIDE TIMES: 1 21 TEAM RECORDER: Aimee Wesemar
4 START TIME: 1510 16 HIGH TIDE HTS: 1 22 OBSERVERS: Rick Gustin
5 STOP TIME: 1545 17 LOW TIDE TIMES: 1730 23 AGENCY: ADF+6
6 SEGMENT #: KN-129 18 LOW TIDE HTS: 1 24 PHOTOS TAKEN: Y N
7 STATION #: _____ 19 TIDE HT AT SURVEY: _____ Roll #: _____ Frame: _____
8 K-UNIT: _____ Ebb Slack Flood Slack 25 VIDEO TAKEN: Y N TAPE: 90RLT001SS
9 STAT AREA: _____ 20 USCG QUAD: Sew B-3 Starts: _____ Ends: _____
10 LAT: _____ 11 LONG: _____ 26 SAMPLES TAKEN: Y N Number
12 SOURCE: Map Loran _____ Oil _____
13 LOCATION: South end Herring Bay - Knight I Sediment _____
14 DESCRIPTION: _____ Biological _____
Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	M	H	S	L	M	H	S
27 SURFACE COVERAGE								
28 SURFACE THICKNESS	<u>Coat</u>							
29 PENETRATION								
30 OVERALL OIL IMPACT:	N	VL	L	M	H	?		
31 OIL TYPE:	Pooled	House	<u>Tar</u>	Asphalt	Slack	Stain		
32 OILED DEBRIS?	Y	N						
33 SHORELINE TYPE:	Headland	Low-lying Rocks	Beach	<u>Cove</u>				
		Lagoon	Marsh					
34 WAVE EXPOSURE:	High	Moderate	Low					
35 SUBSTRATE TYPE:	Bedrock	Boulder	<u>5</u>	Cobble	<u>45</u>			
	Gravel	<u>20</u>	Sand		Mud/silt	<u>30</u>		

36 CATALOGED ANAD. FISH SKELET (Y) N
37 CATALOG #1: 226-10-16975
38 STREAM NAME: _____
39 OIL IN STREAM BED? (Y) N
40 OIL ON STREAM BANKS? (Y) N
41 OIL ON BEACH ADJACENT TO MOUTH? (Y) N (within 50 meters)
42 OIL WITHIN 1 MILE OF STREAM? (Y) N
Where: _____
43 ANADROMOUS FISH PRESENT? Y N
44 ANADROMOUS FISH OBSERVATION
Species Aerial Ground

COMMENTS: snow pack covering upper portions of stream
noted several tar balls in grassy area surrounding boulder & across from shoot
looks much better than last year - no visible sheen at this time

KN 129

42/5

48 PHOTOLOG

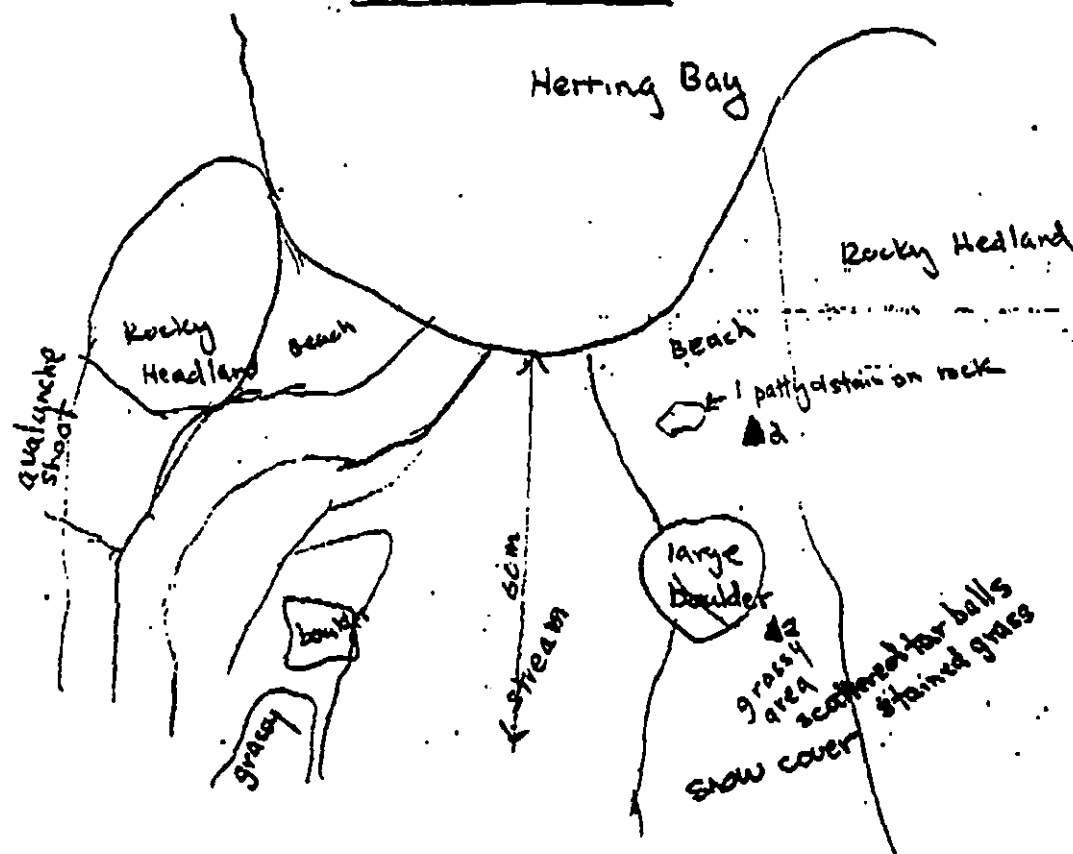
FRAME(S)

DESCRIPTION

pit 1 - 18m - 8cm - 18m light water oil surface

60 meter length

46 OIL DISTRIBUTION DIAGRAM



Recommended - treat after resurvey

assess after snow melts & periodically check for sheening
 remove scattered tar balls in grassy area by boulder & chute

Agreed

Ken Cutchlow

KN

SUBJECT
STREAM
LOCATED
WITHIN SUBDIVISION
KN-129B (2 of 2)

KN-129

Sub segment length 232

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-129B

ADEC Segment Length: 802m
EXXON Segment Length: 532



Map Key: PWS-311

Name: Chaney/Sawyer

Date: 3-30-90

Data Entered:

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. KN-129A Uncatalogued Stream

SEGMENT KN-129 SUBDIVISION A

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

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

An uncatalogued anadromous stream is 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 tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

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

SEE SUBDIVISION CONSTRAINT ADDENDA KN-129A & KN-129B
FOR ADDITIONAL CONSTRAINT INFORMATION.

TAG APPROVAL DATE 6/04/90
ADEC Roy Maguire R. Maguire
EXXON Amey Amey FOSC P. Zavaroff Date 6/4/90
NOAA Joseph Talbot J. Talbot
USCG G.A. REITER G.A. Reiter

Prepared by Anders May AM Date 6/3/90

KN-130

KN-127

KN-128

KN-129

WORK
AREA

UNCATALOGED ANADROMOUS STREAM
100M ZONE

ANADROMOUS STREAM
(226-10-16975)
100M ZONE

Anadromous Stream Evaluation: 226-10-16975



Exxon Company, USA
Map Key: KN1-KN-129



ECOLOGY MAP

SEGMENT KN-129

SUBDIVISION A (___ of ___)

METERS



Seabird Colony



Eagle Nest

1:25,000 - 1:50,000 Scale

ANADROMOUS FISH STREAM EVALUATION

uncatalogued Amn 6/2/90

SEGMENT ST/ KN-129 A STREAM NO: 226-10-16975 DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Subject salmon stream, previously uncatalogued, now numbered 226-10-16975 (P, 2/90)

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. No additional ecological constraints. ~~Subject stream is located in Subdivision B (2 of 2).~~ Amn 6/2/90

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: Rachel Jean Doe DATE: 5/22/90

Subsurface Oil Observed: Yes X No Maximum Depth 10 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: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes 1) manual tarmat removal, and 2) bioremediation of areas shown on attached sketch map. Work should be conducted between 5/15 and 7/10 based on salmon constraints with approval of ADF&G regarding bioremediation near stream bank.

See Addendum dated 6/3/90 (PP)

TAG COMMENTS: NO BIO WITHIN STREAM AREA (50m) PRIOR TO JUNE 1
PERMIT REQUIRED FOR BIO AFTER JUNE 1

TAG APPROVAL DATE: 5/18/90

ADEC ART WEINER

EXXON ANNY GAN

NOAA GARY PETRAC

USCG G.A. REITER

FOSC [Signature]

DATE: MAY 25

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-129 A STREAM NO: 226-10-16975 DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Subject salmon stream, previously uncatalogued, now numbered 226-10-16975 (P, 2/90)

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 unpoiled biota and substrate. No additional ecological constraints. Subject stream is located in Subdivision B (2 of 2).

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: Rachel Jean One DATE: 5/22/90

Subsurface Oil Observed: Yes X No Maximum Depth 10 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: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes 1) manual tarmat removal, and
2) bioremediation of areas shown on attached sketch map. Work should
be conducted between 5/15 and 7/10 based on salmon constraints with
approval of ADF&G regarding bioremediation near stream bank.

TAG COMMENTS: NO BIO WITHIN STREAM AREA (50m) PRIOR TO JUNE 1
PERMIT REQUIRED FOR BIO AFTER JUNE 1

TAG APPROVAL DATE: 5/18/90.

ADEC ART WEINER

EXXON ANDY GAN

NOAA GARY PETRAE

USCG G.A. REITER

FOSC [Signature]

DATE: MAY 25 1990

DATE 1/24/90

CHECKLIST

- _____ N Arrow
 _____ Approx. Scale
 _____ Bay/Sub Divdy
 _____ Oil Dist.
 _____ Width
 _____ Length
 _____ % Cover
 _____ Substrate Character
 _____ Est. HPA/LWL
 _____ SOL
 _____ Profile Location(s)
 _____ Profile(s)
 _____ PH Location(s)
 _____ Photo Location(s)

LEGEND

- 1 
 P1 - No Subsurface Oil
 2 
 P1 - Subsurface Oil

 Continuous Distribution

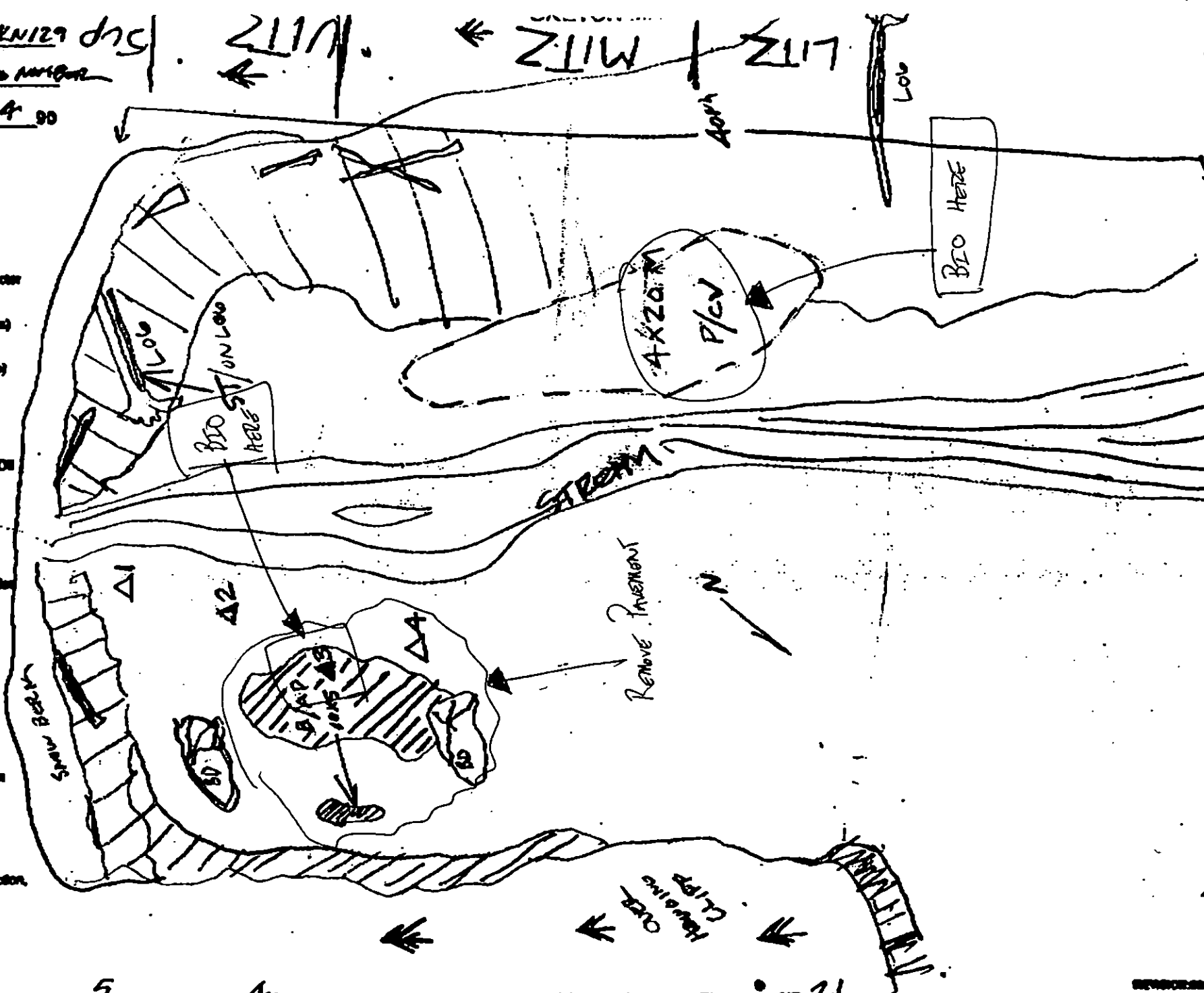
 Broken Distribution

 Patchy Distribution

 Spotted Distribution

 Old Vegetation
 1 
 Photo location, direction
 and number

Oil Character Length (in): AP 5 PO _____ CV 4 CT _____ ST _____ MS _____ PT _____ TB _____ FL _____ NO 21



A6/AE

48 PHOTOLOG

FRAMES

DESCRIPTION

SANDY 2nd. A. 1000

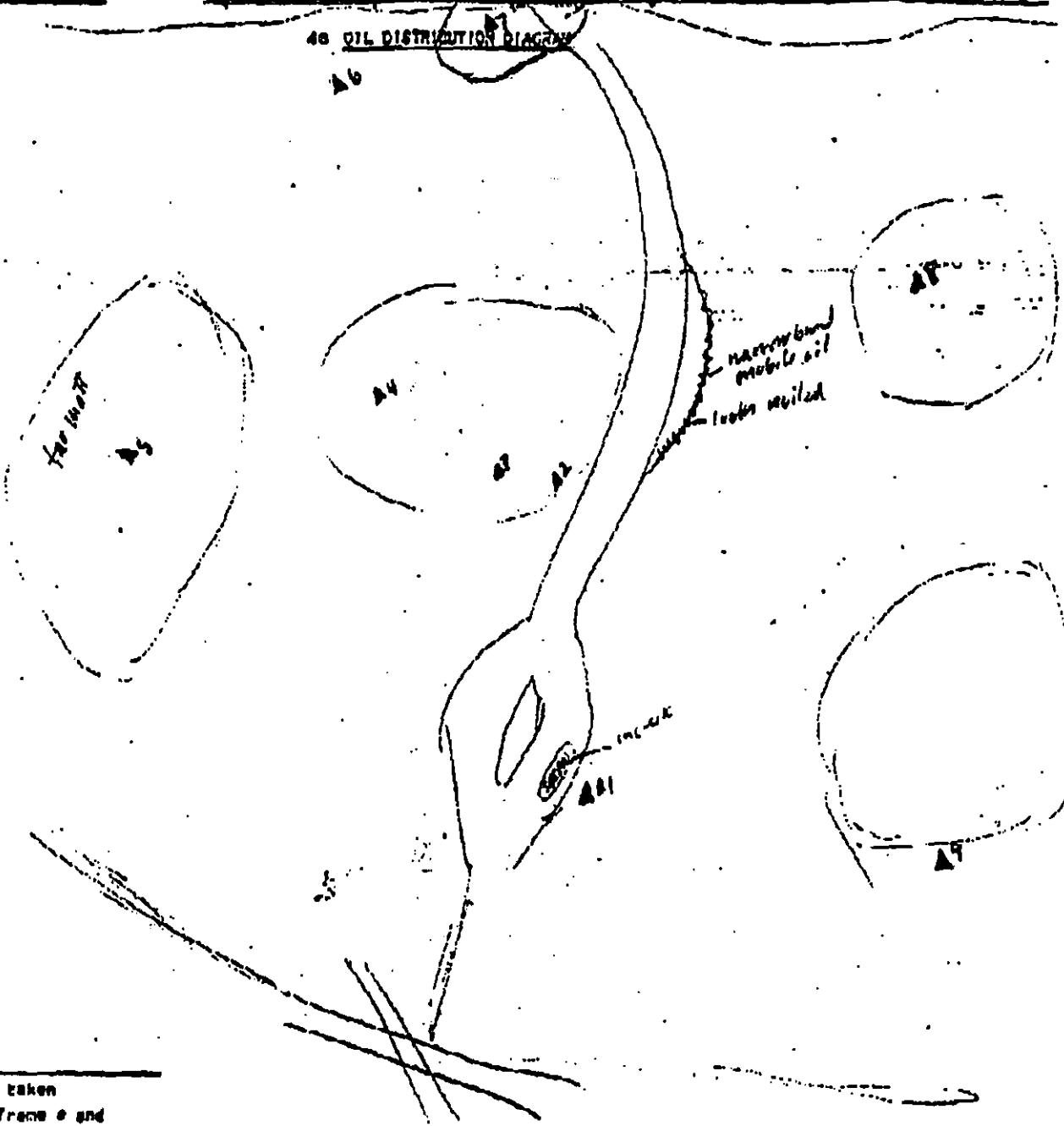
pit #1	15cm deep	4cm oil from top down
pit #2	25cm deep	18cm oil from top down
pit #3	30cm deep	30cm oil from top down
pit #4	30cm deep	8cm oil, clean in water
pit #5	15cm deep	3cm oil, heavy sheen
pit #6	19cm deep	no noticeable oil
pit #7	20cm deep	no oil visible
pit #8	28cm deep	28cm oil deep, sheen visible
pit #9	20cm deep	5cm oil, sheen visible

Ken Miller (Whittier)

Under 1000' present land.

48 OIL DISTRIBUTION DIAGRAM

written 1/1/68 - collected 1/1/68



Sample taken
Photo frame 6 and
show direction.

DRAFT

226-10

226-20

16835

16846

16844

16842

16848

16850

16868

226-30-16870

16889



KN-129

KN

SUBJECT
STREAM IS
LOCATED IN
HEADING BAY
WEST SIDE
KN-129 A (100%)

KN-129 A

KN-129 A 300 meters

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

KN-129 A

ADEC Segment Length: 802m
EXXON Segment Length: 532m

0 100 200 300

Map Key: PWS-311

Name: Greg Chapp / Tim SweeneyDate: March 30 1990

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-129

STREAM NO: 226-10-16975

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-129 A STREAM NO: 226-10-16975 DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Subject salmon stream, previously uncatalogued, now numbered 226-10-16975 (P, 2/90)

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. No additional ecological constraints. Subject stream is located in Subdivision B (2 of 2).

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: _____

Subsurface Oil Observed: Yes X No _____ Maximum Depth 10 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 tarmat removal, and
2) bioremediation of areas shown on attached sketch map. Work should
be conducted between 5/15 and 7/10 based on salmon constraints with
approval of ADF&G regarding bioremediation near stream bank.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

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

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

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

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

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

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

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

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

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

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

1H Remote release site

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

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

1D 1F 1G PWS Aquaculture Association John McMillan or Bruce 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

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

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

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

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

ADF&G Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Roth 267-2206

5T All Bald Eagle nests (3/1 to 6/1)

Active Bald Eagle nests (3/1 to 9/1)

Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6U Recreation: Tent sites (6/1 to 9/15)

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

6W Forest Service cabins (6/1 to 9/15)

6X Lodge (6/1 to 9/15)

6Y Special use destination

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)

HH 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

43/4

FIELD SHORELINE COMMENT SHEET

226-10-16175

ASC #

SEGMENT ST 1 KN-129 E SUBDIVISION: not documented cataloged DATE 24 APR 90

USCG

NAME Kerwin L. Dreher SIGNATURE cwo K. L. Dreher

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Withhold recommendation of Bolding (COH) method.

~~ADEO~~ → ADFGG

NAME Rick Gustin SIGNATURE Richard J. Gustin

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Perform work during proper tide window 0 → minus if possib
Remove oiled gravels, patches etc. along east side
of creek.

Survey entire beach area and remove oiled vegetation
or isolated oil patches where found.

Use Bolding Process on boulders on west bank of stream

~~LAND MANAGER~~ → NONE

NAME Rick Gustin SIGNATURE Richard J. Gustin

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

In the upper intertidal where oiled.

Fill areas after removal of oiled gravels/sediments

REYNOLDS NO. 64

DATE 4-26

3/ SEGMENT ST/LW129 dcs | 2117. 2117. MITZ | 2117

STRENGTH 400 N/m²

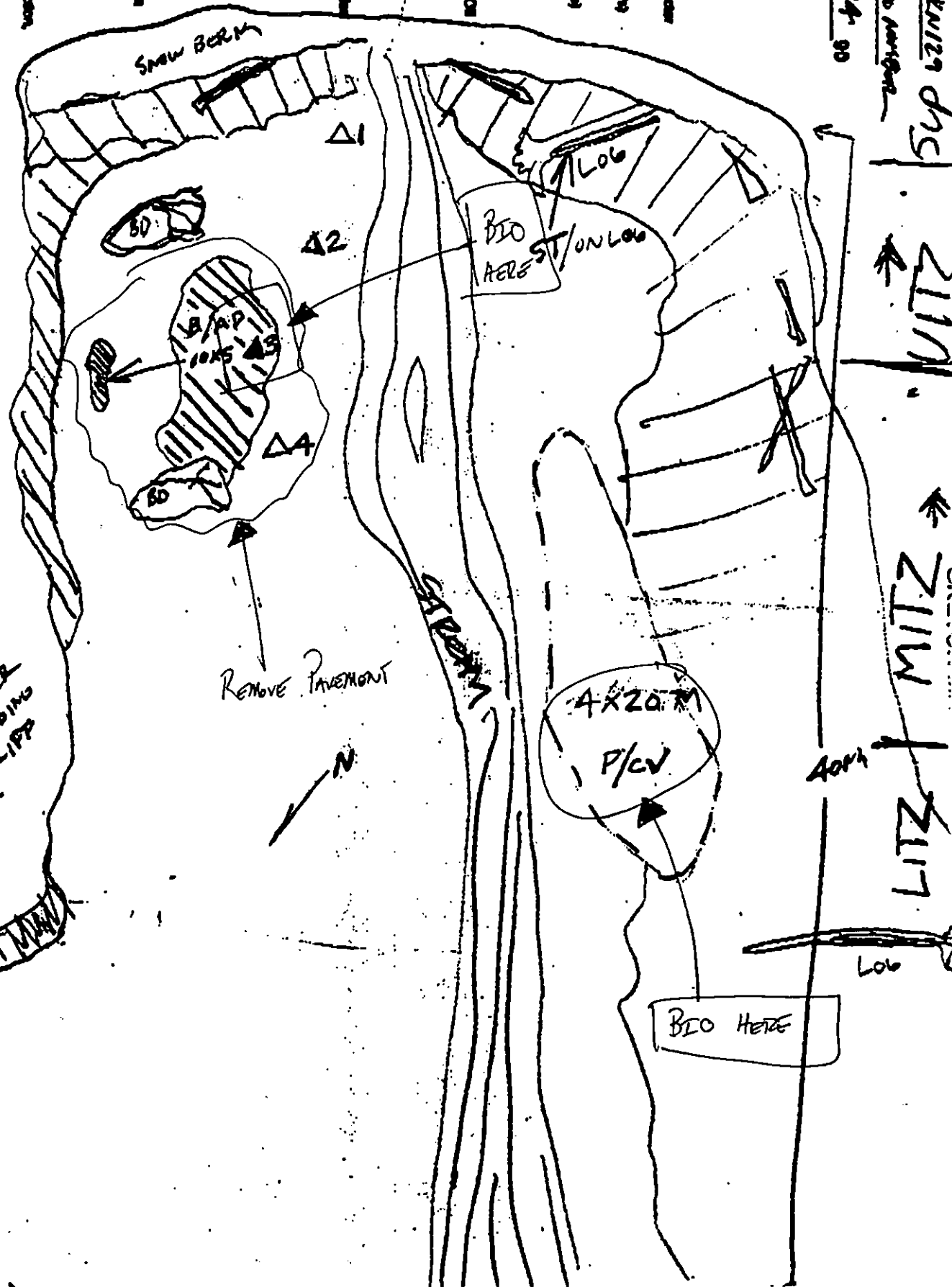
DATE 4/24/88

CHECKLIST

- ✓ N. Area
- ✓ Agency, State
- ✓ Supply Body
- ✓ ON Dkt.
- ✓ Notes
- ✓ Length
- ✓ % Cover
- ✓ Substrate Character
- ✓ Eel Habitat
- ✓ Silt
- ✓ Pseudo Location
- ✓ Pseudo
- ✓ Pseudo Location
- ✓ Pseudo Location

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
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- 93 A
- 94 A
- 95 A
- 96 A
- 97 A
- 98 A
- 99 A
- 100 A



ON Character Length (m): AP 5 PO CV 4 CT ST MS PT TB FL NO 21

40/48

ADFG MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: ES 3 DE TS AYS SONA NWS PTA 2 REGION: PTA EP, CI K, AP
 METHOD Aerial Point Boat
 3 DATE: 1-24-90 16 HIGH TIDE TIMES: 1 21 TEAM RECORDER: R. Lott
 4 START TIME: 0953 18 HIGH TIDE HTS: 1 22 OBSERVERS: A. W. Wagoner
 5 STOP TIME: 1011 17 LOW TIDE TIMES: 1 23 AGENCY: ADFG
 6 SEGMENT #: KN129E 19 LOW TIDE HTS: 1 24 PHOTOS TAKEN: Y (4)
 7 STATION #: _____ 10 TIDE HT AT SURVEY: _____ Roll #: _____ Frame: _____
 8 K-UNIT: _____ Sub Stack Flood Stack 25 VIDEO TAKEN: (1) N TAPES: _____
 9 STAT AREA: _____ 20 USCC QUAD: _____ Station 219 End 235
 10 LAT: _____ 11 LONG: _____ 26 SAMPLES TAKEN Y (2) INTERC
 12 SOURCE: NO Lorm _____ Oil _____
 13 LOCATION: South Arm, Klamath Bay Sediment _____
 14 DESCRIPTION: Crushed Xs Biological _____
 Water _____

EXTENT OF OIL

27 SURFACE COVERAGE

SHORELINE				STREAM			
L	Y	H	N	L	Y	H	N

28 SURFACE THICKNESS

1-2mm	1-2cm						
-------	-------	--	--	--	--	--	--

29 PENETRATION

Shallow	10cm						
---------	------	--	--	--	--	--	--

30 OVERALL OIL IMPACT: N VL L M H
 31 OIL TYPE: Pooled None Tar Asphalt Sticky Seain
 32 OILED DEBRIS? (Y) X
 33 SHORELINE TYPE: Mudflats Low-lying Rocks Beach Cave
 Lagoon Marsh
 34 WAVE EXPOSURE: High Moderate Low
 35 SUBSTRATE TYPE: Bedrock Boulder 40 Cobble 235
 Gravel 350% Sand _____ Mud/silt _____

36 CATALOGED ANAD. FISH BREED Y (4)
 37 CATALOG #: NONE
 38 STREAM NAME: _____
 39 OIL IN STREAM BED? Y (4)
 40 OIL ON STREAM BANKS? (Y) N
 41 OIL ON BEACH ADJACENT TO MOUTH (4) N
 (WITHIN 50 METERS)
 42 OIL WITHIN 1 MILE OF STREAM? (4) N
 Where: _____
 43 ANADROMOUS FISH PRESENT? Y N
 44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS: Submerged oil on east bank of stream
scattered patches of oiled gravel oiled area primarily east
bank - approx. mid T.T. Mixed organic/oil sludge
seen at water edge 30-40' long

A6/AE

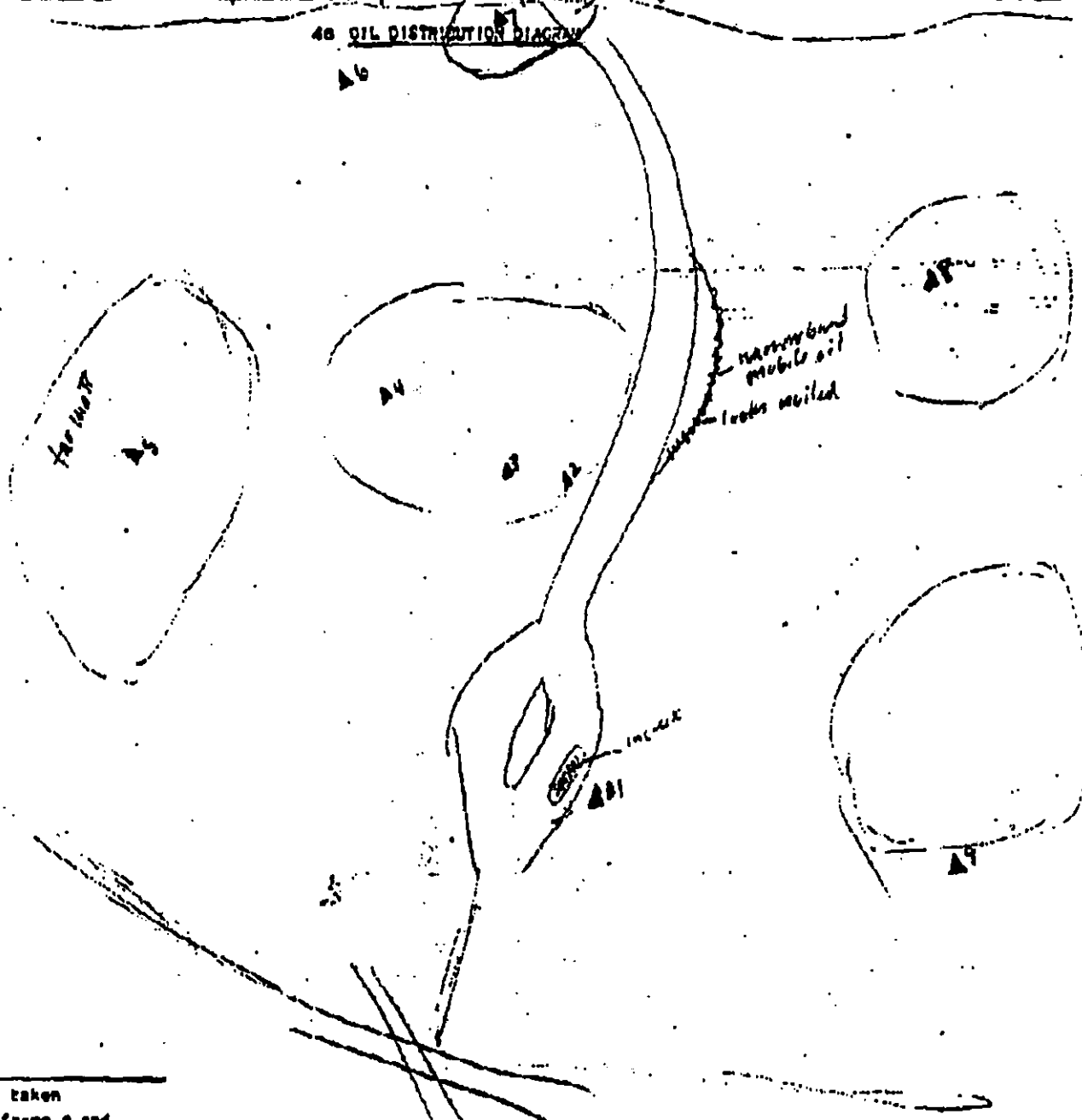
48 PHOTOLOG

FRAME(S)	DESCRIPTION
5401-5402	pit #1 19cm deep 4cm oil from top down
5403-5404	pit #2 25cm deep 18cm oil from top down
5405-5406	pit #3 30cm deep 30cm oil from top down
5407-5408	pit #4 30cm deep 8cm oil 20cm in water
5409-5410	pit #5 15cm deep 3cm oil 12cm in water
5411-5412	pit #6 14cm deep no visible oil
5413-5414	pit #7 20cm deep no oil visible
5415-5416	pit #8 20cm deep 20cm oil deep 20cm in water
5417-5418	pit #9 20cm deep 5cm oil 15cm in water

Ken Miller (Whittier)
Linda Hall passed word

48 OIL DISTRIBUTION DIAGRAM

written 10/10/50 - collected 10/10/50



Sample taken
Photo frame 5 and
shot direction.

Remove with scrapers tar bands on faces of bedrock cliffs. AS/AE

Remove oiled vegetation or other debris as found.

Remove oiled tar bands and sediments along stream edge (primarily N side of stream from upper I.T.Z. to top of L.I.T.Z.)

Remove and or wash with some type of ^{mechanical} rock washer the oiled portions on the north side of creek that are heavily oiled and penetrate up to 30cm.

Remove and or wash with rock washer, areas of tar matts and deep oil penetration on south side of stream.

Remove sediments in stream that produce sludge.

Use Bolsing Process (CaOH) on large substrate on south side of stream in upper I.T.Z.

After removal of oiled sediments fill the areas skimmed as well as other oiled areas and treat with the Bolsing Process (CaOH).

Consult with city council of Whittier, and Homer regarding acceptance of oiled gravels to be composted with Bolsing Process (CaOH) and used for road repair, maintenance, and construction rather than shipping to Oregon. Perhaps arrangements to haul to Whittier by landing craft or barge & shipment to Homer by truck/train could be arranged.

This is already being done by state cleanup crews.

(Ken Miller, Linda Hye) - State Oilspill Response.

Whittier Linda Hye 492-2345

Homer Planning Dept. 235-3106

4/4E
Seg ID: KN-129 E Subdiv: No ASC #
Survey Date: 4/24/90
Comments of: Ken Critchlow

About 25 percent of the UITZ, MITZ and LITZ were oiled (cover and asphalt pavement on this small pocket beach. Subsurface oil was found in association with asphalt pavement on the east side of the stream in the lower UITZ and upper MITZ. Some stain was observed on a log in the STZ.

I suggest that oiled surface sediments be removed by shovel. If asphalt pavement proves difficult to remove completely, till beach sediments to the depth of oil penetration and apply Inipol. Oil stain on the log may be removed by scraping the surface. Boom-off the entire cove and use snare boom on the beach to minimize contamination of the stream and to contain sheen.

KR Critchlow

DRAFT

226-10

226-20

16835

16846

16844

16842

16848

16850

16868

226-30-16870

16872

16874

16876

16878

16880

16882

KN-129

KN

KN-129 A 300 meters

SUBJECT
STREAM IS
LOCATED IN
HEADING BA.
WEST = NE
KN-129 A (100)

KN-129 A

XXXX Wide

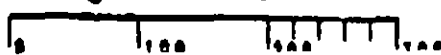
//// Medium

--- Narrow

TTTT Very Light

KN-129 A

ADEC Segment Length: 802m
EXXON Segment Length 532m



Map Key: PWS-311

Name: Greg Chapp / Tom Sawyer

Date: March 30 1990

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-129 B STREAM NO: 226-10-16975 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 stream is located in Subdivision A (1 of 2).

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

Subsurface Oil Observed: Yes X No Maximum Depth 8 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> </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 pickup of tar patties in area indicated on sketch map. Work should be conducted between 5/15 and 7/10 based on anadromous stream constraints.

TAG COMMENTS: MONITORS TO ASSESS SUITZ

TAG APPROVAL DATE: 5/7/90.

ADEC ART WENZEL

EXXON AMY GIL REAR

NOAA GARY PETRAE

USCG G.A. BEITER

FOSC: MYL DATE: 5-15-90

KN 129

A2/C

48 PHOTOLOG

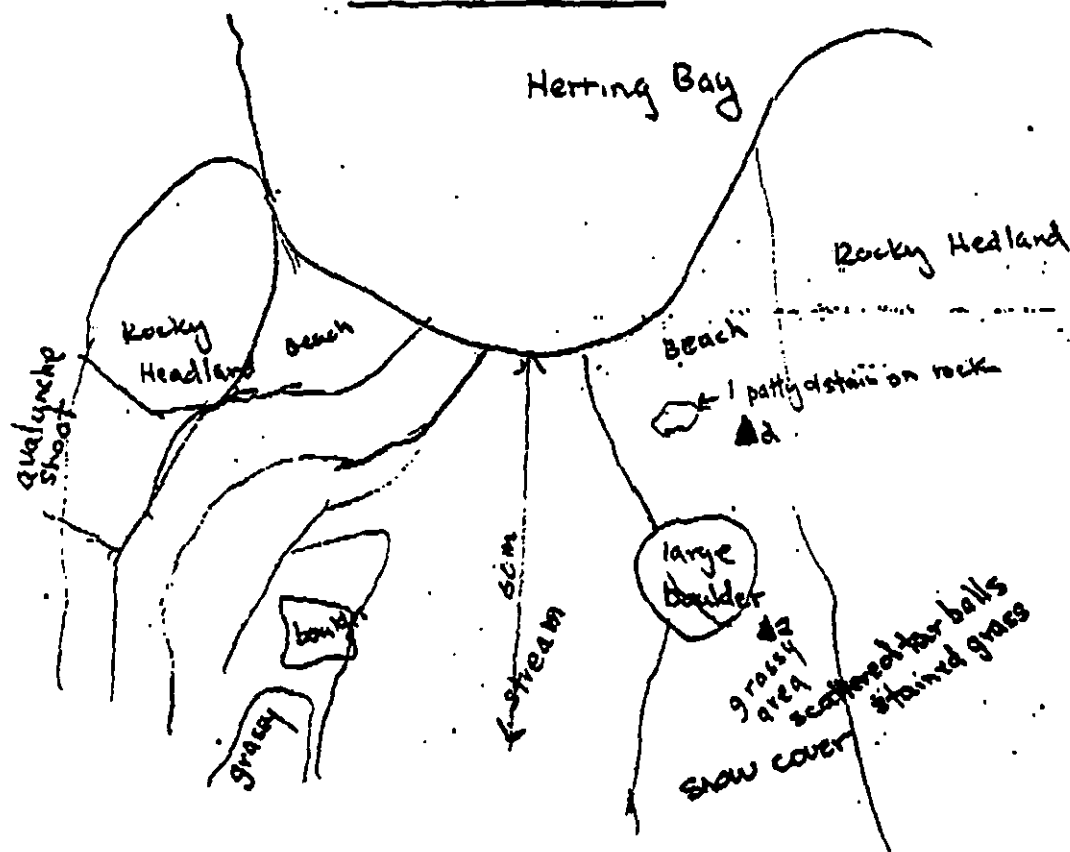
FRAME(S)

DESCRIPTION

pit 1 - 18m - 8cm - 18m light color surface

60 meter length

46 OIL DISTRIBUTION DIAGRAM



Recommended - treat after resurvey

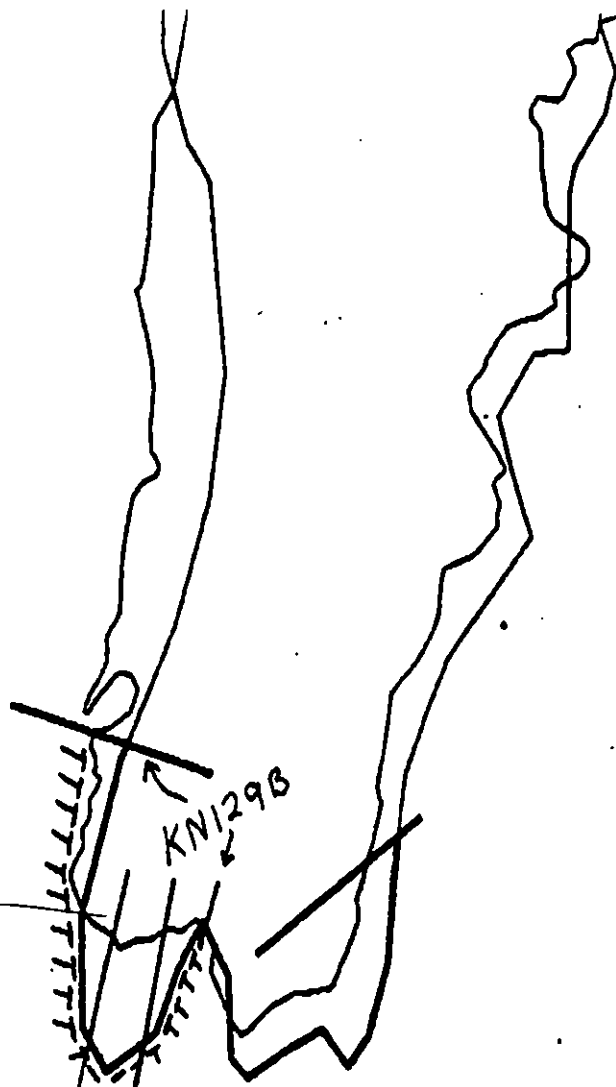
access after snow melts & periodically check for sheening.
 remove scattered tar balls in grassy area by boulder & chute

Agreed

Ken Cutchlow

KN

SUBJECT
STREAM
LOCATED
WITHIN SUBDIVISION
KN-129B (2 of 2)



KN-129

Sub segment length 232

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-129B

ADEC Segment Length: 802m

EXXON Segment Length: 532



Map Key: PWS-311

Name: Chaney/Sawyer

Date: 3-30-90

Date Entered:

1991 MAYSAP EVALUATION

SEGMENT: KN 129 SUB: B REGION: PWS SURVEY DATE: 4/27/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) 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)	<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**

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. 6 SEGMENT LN-129 SUBDIVISION B DATE 04/27/91

ADEC Representing ADEC & USFS

NAME Aimee Weseman ADFG SIGNATURE Aimee Weseman

- ☐ NTR ☒ Treatment Recommended: Anadromous fish stream, commercial recreational fishing. The Exxon oil lense (NOR/OR 15-18cm) on the west side of the stream should be manually removed & piled in an area adjacent to the stream, slopes & banks of stream should be inspected for the possibility of contamination. The exposed spawning areas & small crew with shovels could readily handle the work. The small patches of scattered AP sediments on the east side of the stream should also be picked up at that time. (Areas E & D)

EXXON

NAME Scott A. Nauman

SIGNATURE Scott A. Nauman

☒ NTR

Very healthy intertidal zone with essentially no remaining surface oil. Vast majority of subsurface region free of oil. Small patches of primarily LOR/OR do not warrant treatment. Extensive grass bed at the head of the stream. Would definitely not recommend further intrusion for surveys/treatment.

LANDMANAGER ADFG

NAME TOM CROWE

OF ADFG

SIGNATURE Tom Crowe

☐ NTR ☒ TREATMENT RECOMMENDED

BURIED OIL LENSE ADJACENT TO STREAM NEAR THE POND SHOULD BE MANUALLY TILLED AND EXPOSED OIL SHEEN MOPPED UP WITH SORBANT POMPONS. EXPOSED HSOR AND LSOR SEDIMENTS SHOULD BE PICKED UP AND OR TILLED. THIS WORK COULD EASILY BE ACCOMPLISHED BY A SMALL CREW IN A SHORT AMOUNT OF TIME.

USCG/NOAA

NAME CWOK SPUR / Rebecca Hoff

SIGNATURE R.P. Spurr / Rebecca Hoff

☐ NTR

Subsurface oil in gravel berm (pits #3 & 8) could represent a potential source to the stream. Gravel in this area could be manually tilled to allow subsurface weather. However this would increase exposure to organisms in the stream in the short term. Since no current pathway was noticed (ie no sheening) even with extensive freshwater runoff, the area will be left alone to weather slowly.

Do not recommend any activities in vegetated area in upper intertidal zone. Large areas of dense vegetation were removed but not completely with grasses (between pit 4 & 5). If treatment is undertaken, asphalt patches in E could be picked up, otherwise not be warranted.

PAGE 1 OF 2

REVISED M.C. 4/30/91

MAYSAP SHORELINE OILING SUMMARY (cont.)

PAGE 2 OF 2

TEAM NO. 6

SEGMENT KN-129

SUBDIVISION 8

DATE 04 / 27 / 91

[illegible]

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

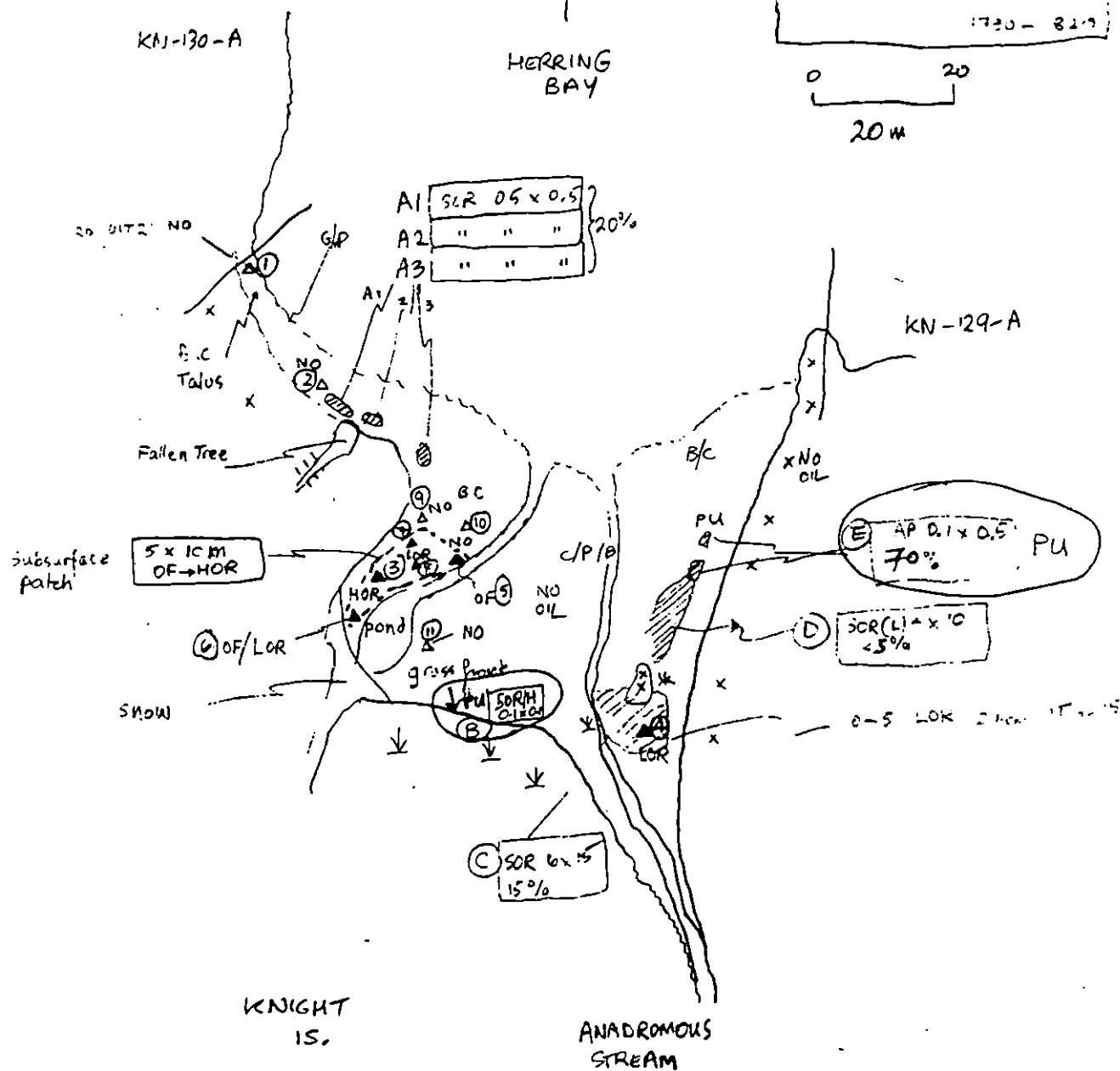
OG COMMENTS:

REVIEWED MC. 4/13/41

KN-129-B 04/27/91
OG map D I Little
1720 - 82.7

N
↑
HERRING BAY

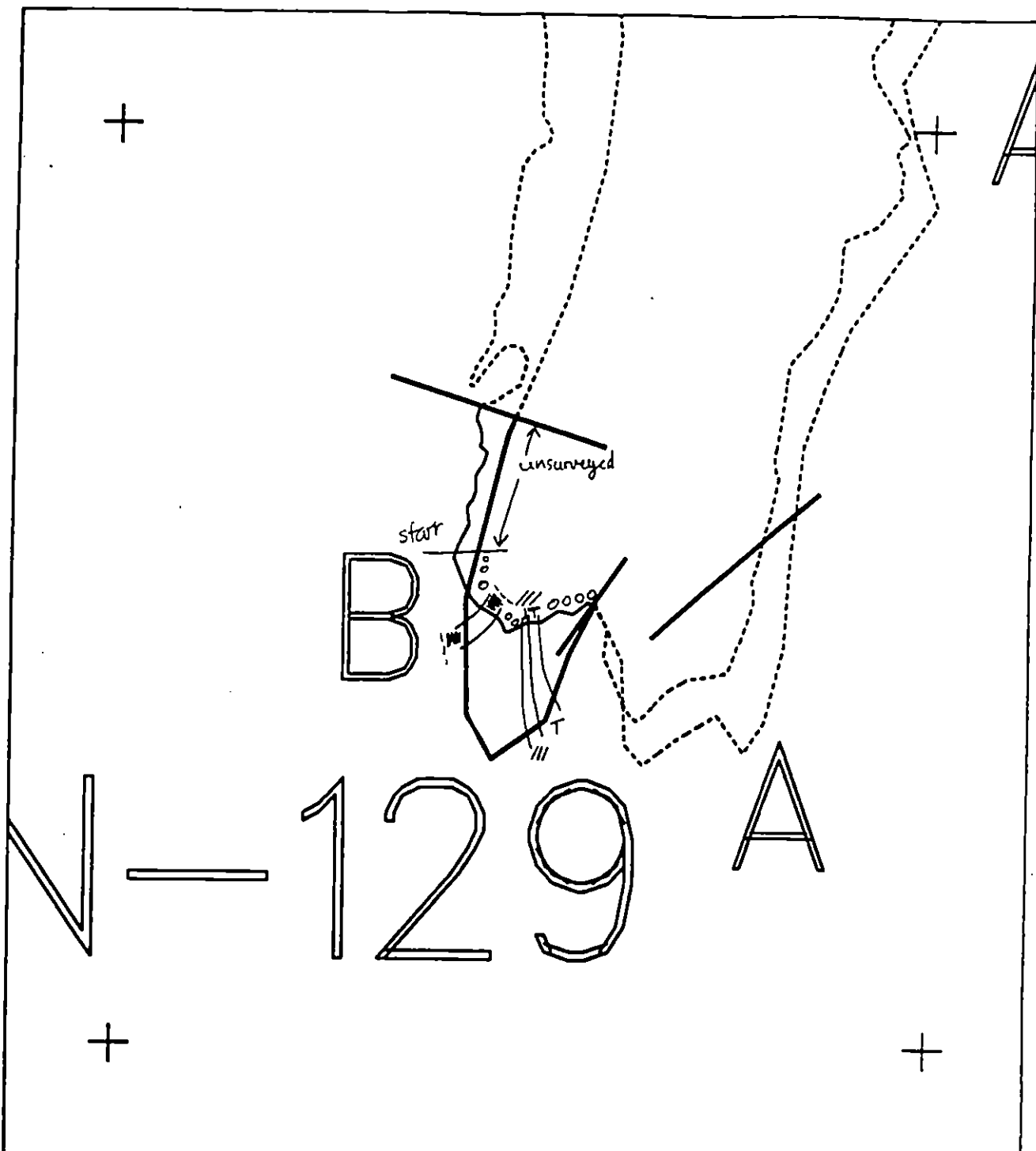
0 20
20m

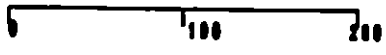


xx Bedrock

↓↓ Vegetation

REVIEWED MC 4/30/91



XXXX	Wide	KN0129 B ADEC Subsegment Length: 385m METERS  AR State Plane Zone 4 KN0129b	 	Subdivision Field Map
////	Medium			Map Key: KNKN0129B
----	Narrow			Name: <u>D.I. LITTLE</u>
TTTT	Very Light			Date: <u>04/27/91</u>
0000	No Oil			Date Entered:

REVISOR J.V. 4/29/91
 REVIEWED M.C. 4/30/91

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6
 SEGMENT # KN-129
 SUBDIVISION B
 SEA STATE Calm
 PHOTOGRAPHS: ROLL #
 DATE 4/27/91
 TIDAL HEIGHT (Range) +5 1/2 to 2 feet
 BIOLOGIST T.R. Schroeder
 WIND SPEED/DIRECTION N.E. 10
 FRAME #

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

(A₁, A₂, & A₃) = Extensive areas help regrowth occurring in LITZ. Sand fleas, worms, snails and snail egg clusters under rocks. Small liglets present on rocks. Intertidal community flourishing.

(C) = SOR present in grass bed along and stream. Growing entire front system near stream would be very intrusive and could destroy stream bank.

(D + E) = Intertidal community below SOR is very healthy. Subsurface small barnacles and littorids, snail egg masses present on or under rocks.

Intertidal communities are very healthy and flourishing. Even with considerable freshwater runoff percolation through area containing subsurface oil, no seepage was occurring in streams. Some small manual pickup could be done on (D) but subsurface oil and SOR in grass bed at (C) should be left alone. Once major work on these would be more intrusive and potentially destructive to anadromous stream than remaining oil.

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-179-B

4/27/95

Bio. Map

T.R. Schroeder

1730-1820

 Δ = no oil $\blacktriangle$ = oil

x = rocks

 ψ = grass

Herring Bay

Band of black lichen along KUTZ

lots of juvenile fucas regrowth beginning. some barnacle spat. Plentiful sand fleas and worms under rocks.

Small limpets < 1mm and Littoride snail egg clusters under rocks.

Large periwinkle snail egg masses under rocks. Fila. algae on rocks and worms plentiful. Small barnacles were numerous but no sign of spat.

A₁ SOR .5 x .5
A₂ " " "
A₃ " " "Subsurface
5 x 10 m

SNOW

B P.K.

Filamentous algae very thick in pond and stream outlet.

E AP. 1 x .5 P.K.
70%D SOR(L) 4 x 10
< 5%C SOR 6 x 15
15%and
Stream

1991 MAYSAP EVALUATION

SEGMENT: KN 129 **SUB:** A **REGION:** PWS **SURVEY DATE:** 4/27/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) 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)	<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**

Seabird Colony: Access restricted. USF&WS authorization required after 5/15. Maintain 1000' vertical and 1/2 mile horizontal buffer.

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 6 SEGMENT KN-129 SUBDIVISION A DATE 07/27/91

ADEC Representing ADEC & USFS

NAME Aimee Weseman ADEC SIGNATURE Aimee Weseman

☐ NTR ☒ Treatment Recommended

This site contains an EMERGENT FISH stream & has a commercial tourism designation. The near stream area contains HOB sediments (see p. 10 # 1, 5, 6, 8, 10, 11 - OG sketch) which should be manually removed or tilled. Treatment of this area should occur during the window period.

A mound of AP sediments in areas C&D, IITZ should be manually removed, as well as the AP sediments scattered through areas A&B.

EXXON

NAME Scott A. Nauman

SIGNATURE Scott A. Nauman

☒ NTR

Further intrusion and treatment not warranted at this site. Subsurface oil is very patchy and is generally thin and mixed with peat. Surface areas C&D are very limited in extent and consist of oil residue matted into small tufts of still connected grass, interspersed in a fairly steep slope boulder shoreline. The entire area has a healthy covering of green filamentous algae. Due to the limited distribution, difficulty in access and healthy intertidal, strongly recommend no treatment.

LANDMANAGER

NAME Tom Crowe

OF ADF+6

SIGNATURE Tom Crowe

☐ NTR

☒ TREATMENT RECOMMENDED

CONSIDERING THAT THERE APPEARS TO BE A SUBSTANTIAL LEASE OF BURIED OIL ON BOTH SIDES OF THIS STREAM, I RECOMMEND MECHANICAL TILTING WITH A SMALL JD 450 CAT WITH RAKER BARS AS WAS USED ON KN 500 IN 1990. ALSO CONCERNING THE HOB ON THE WEST END OF THIS COVE, IT SHOULD BE PICKED UP AND BROKEN UP BY A SMALL CREW.

USCG/NOAA

NAME CWO R. SARR / Rebecca Hoff

SIGNATURE R. SARR / Rebecca Hoff

☒ NTR

Small asphalt patches in areas C&D (partially removed) are high in intertidal & should not impact biological resources. Area A low in intertidal with SOC should be left to weather on its own. The lower intertidal is beginning to recover, but vegetation & invertebrates have probably been impacted by previous treatments & oil. Future physical impacts to the area should be avoided.

PAGE _____ OF _____

DATE 04 / 27 / 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 3 m N 15 m VL 20 m NO 250 m US 120 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- 6 - 01 FRAMES 19-22

↓ 9 cont'd

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

Four small patches of surface oil remain; (A) in an area of pebble/granule low on the shore, where beneath the surface clean layer is an SOR which is less than 5 cm deep. (B) SOR is also very intermittent in B/P/C area near 2 large fallen trees. (C) and (D) are AP high on the shore on either side of a small stream. The vegetated fringe of a cobble/pebble area is affected but partially picked up in the case of location (C).

Subsurface oil is most concentrated West of stream - was SOR last August (ASAP).
but has been probably buried overwinter. On East of stream 3 separate patches of subsurface oil were

- cut 'd

DATE 04 / 27 / 91

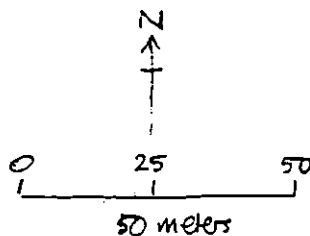
SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

cont'd

located. Separate because they were isolated by one or more of the following - heavy surface runoff, large boulders/bedrock outcrops, and/or intervening oil-free pits.

Additional, uncalled pits were also dug in Area (A) - 2 pits, both No. 0d - which were not logged.

Pits 10, 11 and 14 are shown as TR because the (m) oil residues found were in very small ($< 10 \text{ cm}^3$) pockets, either associated with vegetation lenses or cobble pockets.

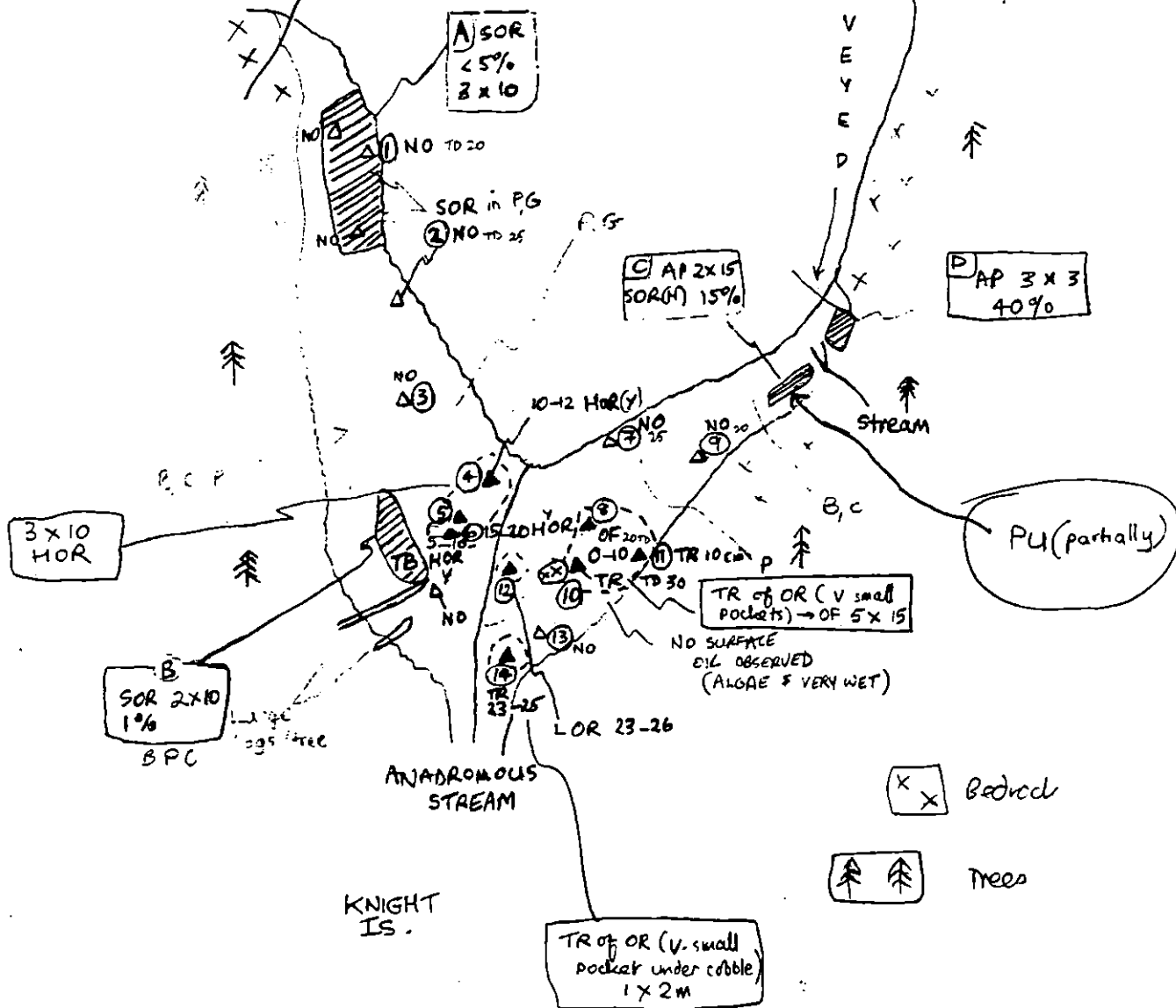


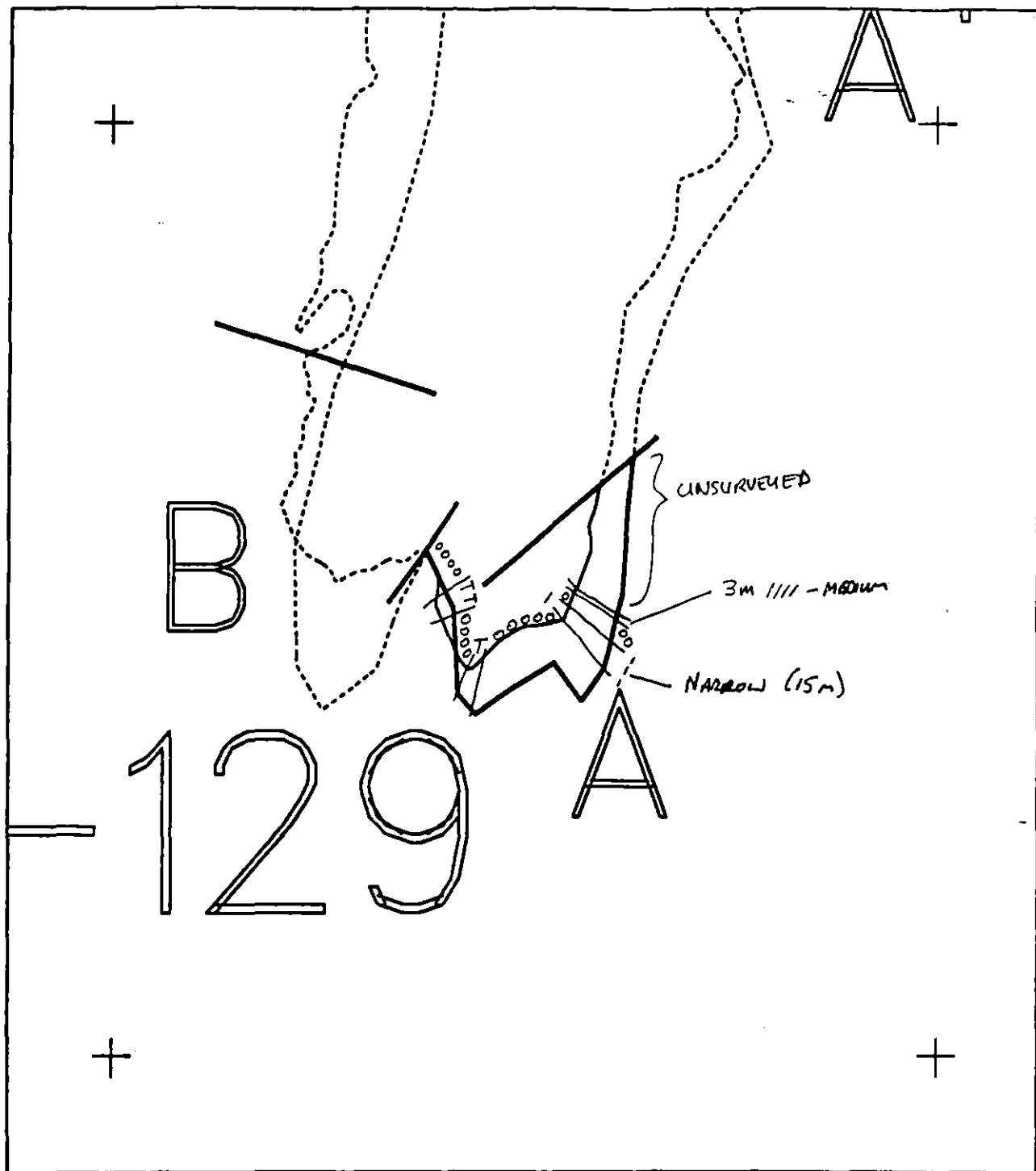
KN-129-A 04/27/91
OG Map L. Little
1:425 - 2:00

↑ KN-128-A

HERRING BAY

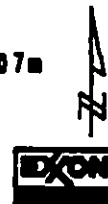
KN-129-B ←





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

KN0129 A
 ADEC Subsegment Length: 407m
 METERS
 0 100 200
 AK State Plane Zone 4
 kn0129a



Subdivision Field Map
 Map Key: KNKN0129A
 Name: D.I. LITTLE
 Date: 04/27/91
 Date Entered:

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6

DATE 4/27/91

SEGMENT # KN-129

TIDAL HEIGHT (Range) $+1\frac{1}{2}$ to $2\frac{1}{2}$ feet

SUBDIVISION A

BIOLOGIST T.R. Schroeder

SEA STATE Light chop

WIND SPEED/DIRECTION NE. 15-20

PHOTOGRAPHS: ROLL #

FRAME #

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

(A) Lower intertidal zone regrowth of fucus half and sea lettuce is good. Numerous intertidal organisms present especially Littorina snails and small sea urchins under rocks. Any additional pickup of oil would be greatly detrimental to near recruitment.

(B) Some sleeping observed near tree from SOA, but it does not appear to be effecting regrowth and repopulation of intertidal area.

(C + D) Lower intertidal zone (LITZ) very healthy. Bar codes thick and fucus half regrowth is good.

Area is not high energy beach. Some manual island has observed on E. If additional work is scheduled for COA D it would not impact biological community if conducted towards high water. Biological community appears to be regenerating area very well. Snail and fucus half would suffer with any major activity in area.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl	1	1	
Gulls/Kittiwakes			
Shorebirds			
Corvids			
Other Birds			

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

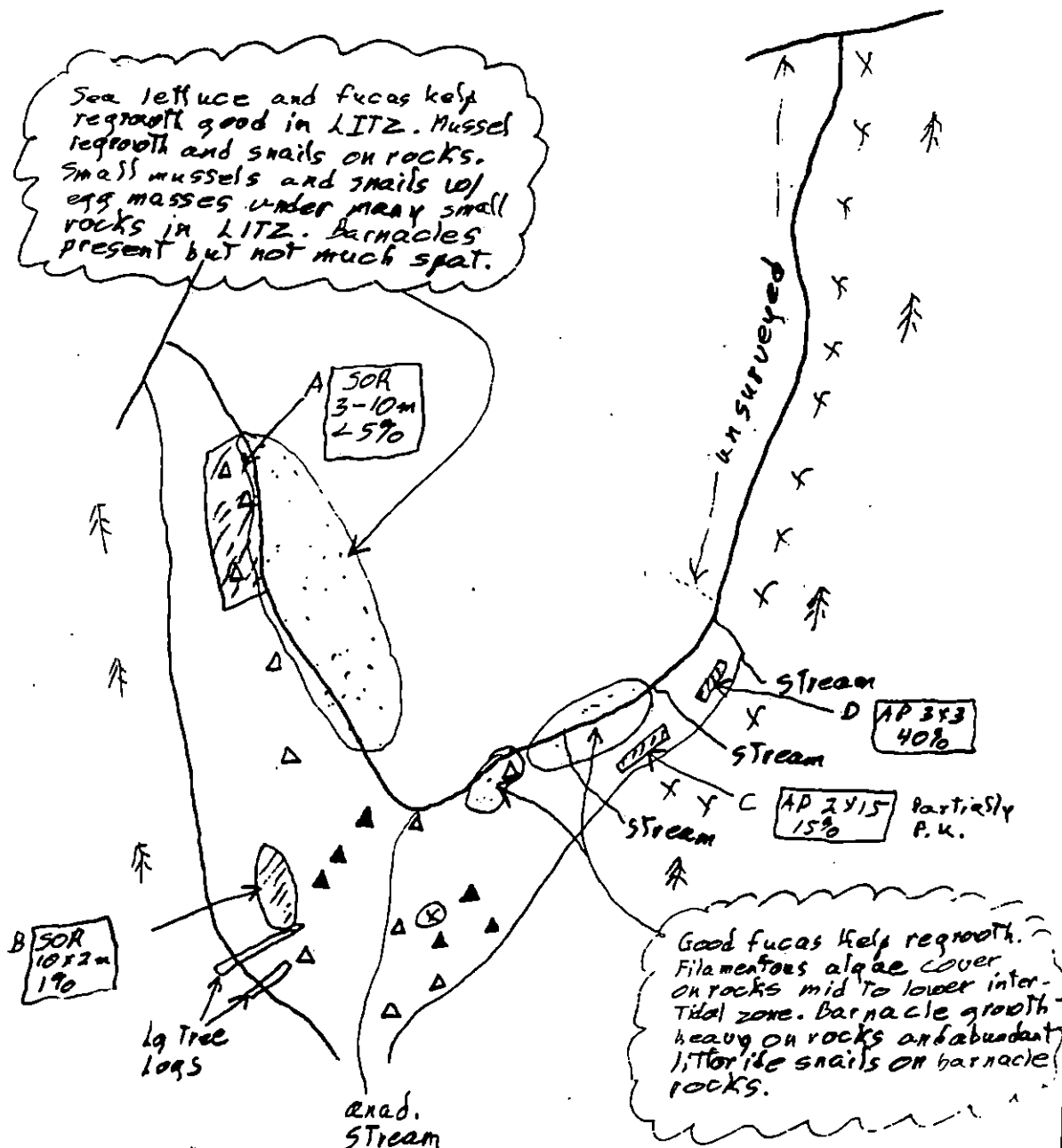
Shoreline subdivision map showing important biological features attached.

Bio. Map KN-129-A
1845-2000 4/27/91
T.R. Schroeder

Herring Bay

Δ = no oil
▲ = oil
⊗ = rock

Sea lettuce and fucus help regrowth good in LITZ. Mussel regrowth and snails on rocks. Small mussels and snails w/ egg masses under many small rocks in LITZ. Barnacles present but not much spat.



1991 MAYSAP EVALUATION

SEGMENT: KN 129 SUB: B REGION: PWS SURVEY DATE: 4/27/91ENVIRONMENTAL SENSITIVITIES:Work Window(s) OPEN 5/1 - 7/10 (EXCEPT STREAM BED); RESTRICTED 7/10 - 9/15Ecological/Constraints (see page two for details) Anadromous stream

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: 564-3276; 564-3657; (Anchorage) or 229-1514 (24 hrs.).

SHPO Signature: Charles E. Jones Date: 5/10/91RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

NYY

Manual Pickup (Check as Req.)

_____✓A.✓

Spot Washing

_____✓✓

Bio-Customblen Only

_____✓✓

Bio-Inipol/Customblen

_____✓✓Other MANUAL TILL_____✓✓Other ____________________COMMENTS:INITIAL: _____

TAG: MANUAL TILL AT PIT #3 AND VICINITY RAKE IN
CUSTOMBLEN. MANUALLY RAKE AREA OF SOR ON EAST
BANK OF THE STREAM.

FOSC: _____TAG APPROVAL DATE: MAY 9 1991FOSC APPROVAL DATE: 5/18/91ADEC [Signature]FOSC [Signature]EXXON [Signature]E. E. PAGE CDR, USCG
CHIEF OF STAFF, FOSCUSCG [Signature]NOAA [Signature]

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 6 SEGMENT LN-129 SUBDIVISION B DATE 04/27/91

ADEC Representing ADEC & USFS

NAME Aimee Weseman ADFG SIGNATURE Aimee Weseman

- ☐ NTR ☒ Treatment Recommended - Anadromous fish stream, commercial tourism tie. The 5x5m oil lense (HOR→LOR 15-18cm) on the west side of the stream should be manually removed & tiled. This area is adjacent to the stream, slopes towards it & is an unstable nature. The exist- the possibility of it migrating into the stream & spawning areas. A small crew with shovels could readily handle the work. The small patches of scattered AF sediments on the east side of the stream should also be picked up at that time (areas ETC)

EXXON

NAME Scott A. NaumanSIGNATURE Scott A. Nauman☒ NTR

Very healthy intertidal zone with essentially no remaining surface oil. Vast majority of subsurface region free of oil. Small patches of primarily LOR/OF do not warrant treatment. Extensive grass bed at the head of the stream. Would definitely not recommend further intrusion for surveys/treatment.

LANDMANAGER ADFG

NAME TOM CROWEOF ADFGSIGNATURE for Aimee☐ NTR☒ TREATMENT RECOMMENDED

BURIED OIL LENSE ADJACENT TO STREAM NEAR THE POND SHOULD BE MANUALLY TILLED AND EXPOSED OIL SHEEN MOPPED UP WITH SORBANT POMPONS. EXPOSED HOR AND LOR SEDIMENTS SHOULD BE PICKED UP AND OR TILLED. THIS WORK COULD EASILY BE ACCOMPLISHED BY A SMALL CREW IN A SHORT AMOUNT OF TIME.

USCG/NOAA

NAME WORKSPON/ Rebecca LoffSIGNATURE R.P. Finn / Rebecca Loff☐ NTR

Subsurface oil in gravel berm (pits #3 & 8) could represent a potential source to the stream. Gravel in this area could be manually tilled to allow subsurface weather. However this could increase exposure to organisms in the stream in the short term. Since no current pathway was noticed (ie no sheening) even with extensive freshwater runoff, this area could be left alone to weather slowly.

Do not recommend any activities in vegetated area in upper intertidal zone have been where sediments were removed have not reseeded with grass (between pit 4 & 5). If treatment is undertaken, asphalt patches in E could be picked up, otherwise it will not be warranted.

DATE 04 / 27 / 91

Cont'd

OG COMMENTS:

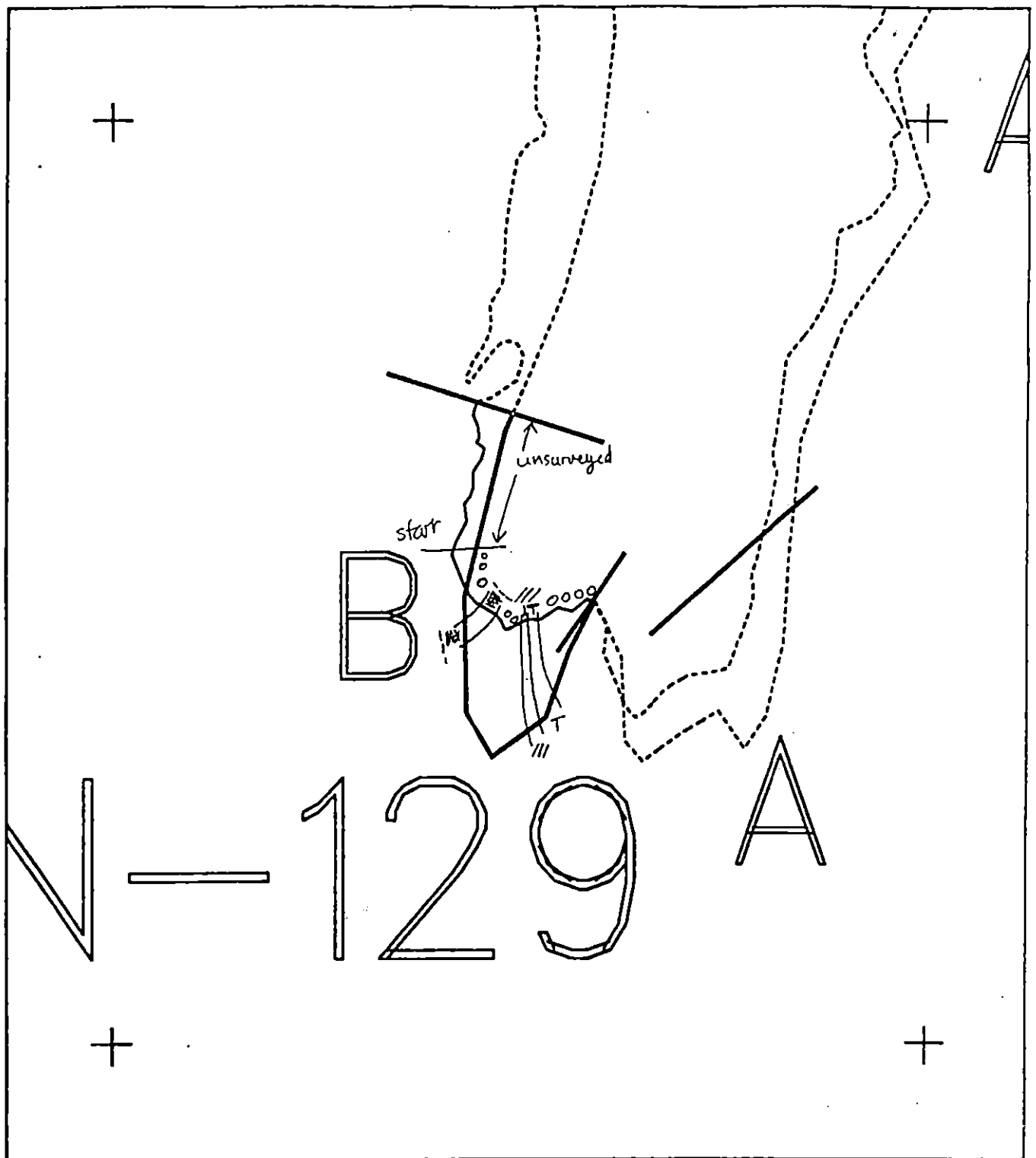
REVIEWED M.C. 4/30/91

HERRING
BAY

[illegible]

↓ ↓ vegetation

REVIEWS MC 4/30/91



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

KN0129 B
 ADEC Subsegment Length: 395m
 METERS
 0 100 200
 AK State Plane Zone 4
 kn0129b



Subdivision Field Map
 Map Key: KN0129B
 Name: D.I. LITTLE
 Date: 04/27/91
 Date Entered:

REVISER J.V. 4/29/91
 REVIEWED M.C. 4/30/91

MAXSAP BIOLOGICAL SUMMARY FORM

TEAM # 6 DATE 4/27/91
 SEGMENT # KN-129 TIDAL HEIGHT(Range) +5 1/2 to 2 feet
 SUBDIVISION B BIOLOGIST T.R. Schroeder
 SEA STATE Calm WIND SPEED/DIRECTION N.E. 10
 PHOTOGRAPHS: ROLL # FRAME #

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

(A₁, A₂, & A₃) = Extensive areas help regrowth occurring in LITZ. Sand fleas, worms, snails and snail egg clusters under rocks. Small limpets present on rocks. Intertidal community flourishing.

(C) = SOR present in grass bed along and stream. Removing entire root system near stream would be very intrusive and could destabilize stream bank.

(D & E) = Intertidal community below SOR is very healthy. & subsurface small barnacles and littorine snail egg masses present on & under rocks.

Intertidal communities are very healthy and flourishing. Even with considerable freshwater runoff percolation through area containing subsurface oil, no steeping was occurring in streams. Some small manual picking could be done on (D) but subsurface oil and SOR in grass bed at (C) should be left alone. Any major work on these would be more intrusive and potentially destructive to anadromous stream than remaining oil.

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			

LAND MAMMALS

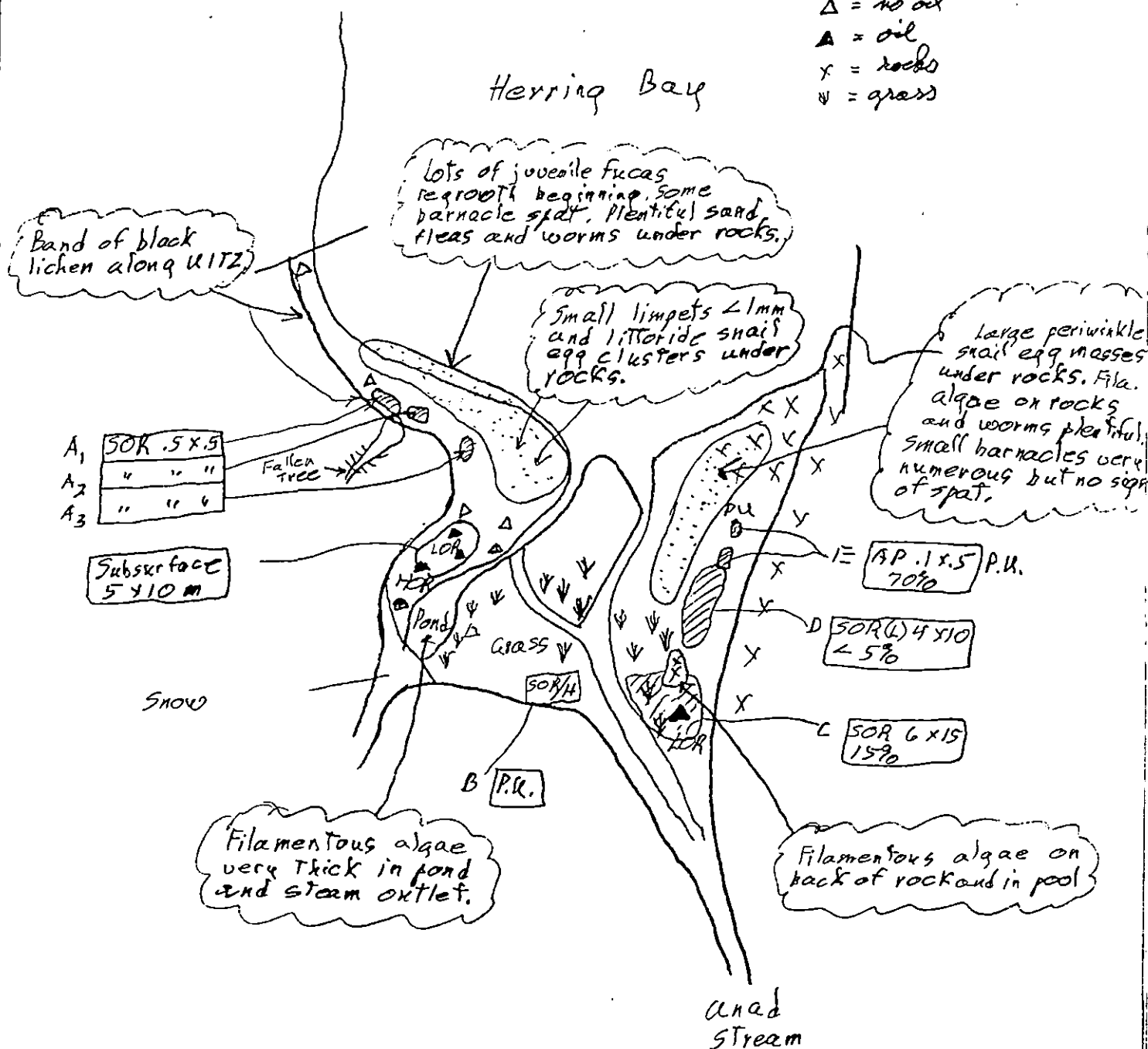
MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters	/	/	/
Pinnipeds(specify)			
Whales(specify)			

Shoreline subdivision map showing important biological features attached.

KN-129-B 4/27/95
 Bio. Map T.R. Schroeder
 1730-1820

Δ = no oil
 $\blacktriangle$ = oil
 x = rocks
 v = grass

Herring Bay



1991 MAYSAP EVALUATION

SEGMENT: KN 129 SUB: A REGION: PWS SURVEY DATE: 4/27/91

ENVIRONMENTAL SENSITIVITIES:

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

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

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: 564-3276; 564-3657; (Anchorage) or 229-1514 (24 hrs.).

SHPO Signature: Charles E. Hume Date: 5/9/91

RECOMMENDATIONS:

	INITIAL	TAG	FOSC
TREATMENT REQUIRED (Y or N)	<u>N</u>	<u>Y</u>	<u>Y</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>MANUAL RAKE & TILL</u>	<u>_____</u>	<u>✓</u>	<u>✓</u>
Other <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>

COMMENTS:

INITIAL: _____

TAG: MANUAL RAKE/TILL TO THE DEPTH OF THE OIL IN AREAS INDICATED BY PITS 4, 5, 6, 8, 10, 12, (BOTH SIDES OF THE STREAM). RAKE IN CUSTOMBLEN.

FOSC: _____

TAG APPROVAL DATE: MAY 9 1991

FOSC APPROVAL DATE: 5/13/91

ADEC [Signature]

FOSC [Signature]
E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC

EXXON [Signature]

USCG [Signature]

NOAA [Signature]

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 6 SEGMENT KN-129 SUBDIVISION A DATE 09/27/91

ADEC Representing ADEC & USFS

NAME Aimee Weseman ADF+6 SIGNATURE Aimee Weseman☐ NTR ☒ Treatment Recommended

This site contains an ANADROMOUS FISH stream & has a Commercial tourism designation. The near stream area contains HSR sediments (see p. 24 4, 5, 6, 8, 10, & 11 OG sketch) which should be manually removed & or tilled. Treatment of this area should occur during the window period.

A band of AP sediments in areas C+D, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z should be manually removed, as well as the AP sediments scattered through areas A+B

EXXON

NAME Scott A. NaumanSIGNATURE Scott A. Nauman☒ NTR

Further intrusion and treatment not warranted at this site. Subsurface oil is very patchy and is generally thin and mixed with peat. Surface areas C+D are very limited in extent and consist of oil residue matted into small tufts of still connected grass, interspersed in a fairly steep slope boulder shoreline. The entire area has a healthy covering of green filamentous algae. Due to the limited distribution, difficulty in access and healthy intertidal, strongly recommend no treatment.

LANDMANAGER

NAME Tom CroweOF ADF+6SIGNATURE Tom Crowe☐ NTR☒ TREATMENT RECOMMENDED

CONSIDERING THAT THERE APPEARS TO BE A SUBSTANTIAL CAUSE OF BURIED OIL ON BOTH SIDES OF THIS STREAM, I RECOMMEND MECHANICAL TILLING WITH A SMALL 30 450 CAT WITH RAKER BARS AS WAS USED ON KN 500 IN 1990. ALSO CONCERNING THE HSR ON THE WEST END OF THIS COVE, IT SHOULD BE PICKED UP AND BREAKED UP BY A SMALL CREW.

USCG/NOAA

NAME CWO R. SPURR / Rebecca HoffSIGNATURE R. P. Spurr / Rebecca Hoff☒ NTR

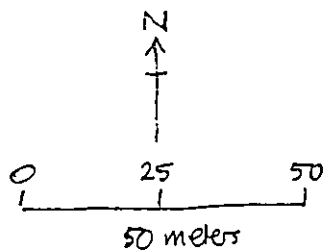
Small asphalt patches in areas C+D (partially removed) are high in intertidal & should not impact biological resources. Area A low in intertidal with SCR should be left to weather on its own. The lower intertidal is beginning to recover, but vegetation & invertebrates have probably been impacted by previous treatments & oil. Further physical impacts to the area should be avoided.

cont'd

DATE 04 / 27 / 91

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

Pits 10, 11 and 14 are shown as TR because the (M) oil residues found were in very small ($< 10 \text{ cm}^3$) pockets, either associated with vegetation lenses or cobble pockets

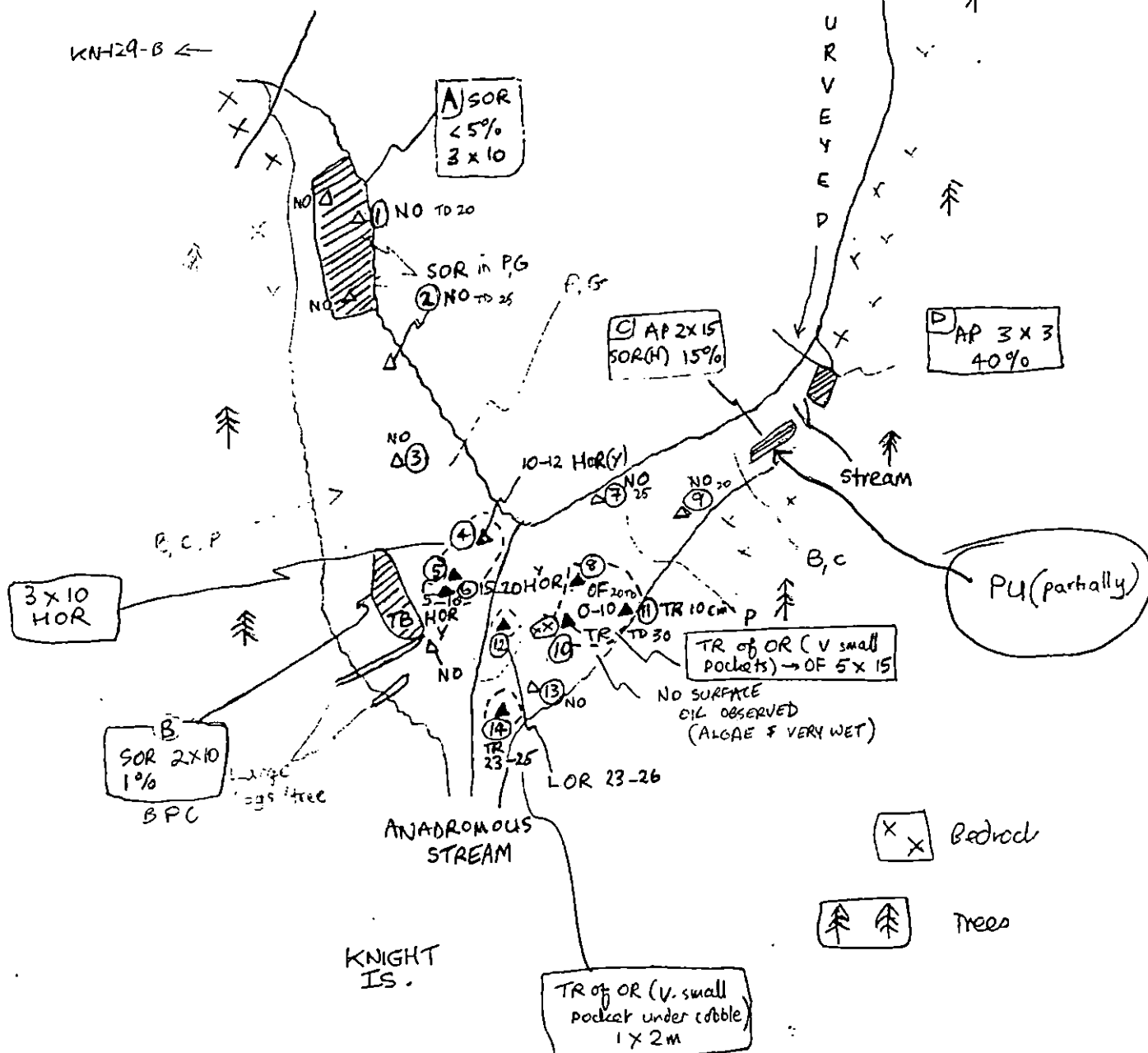


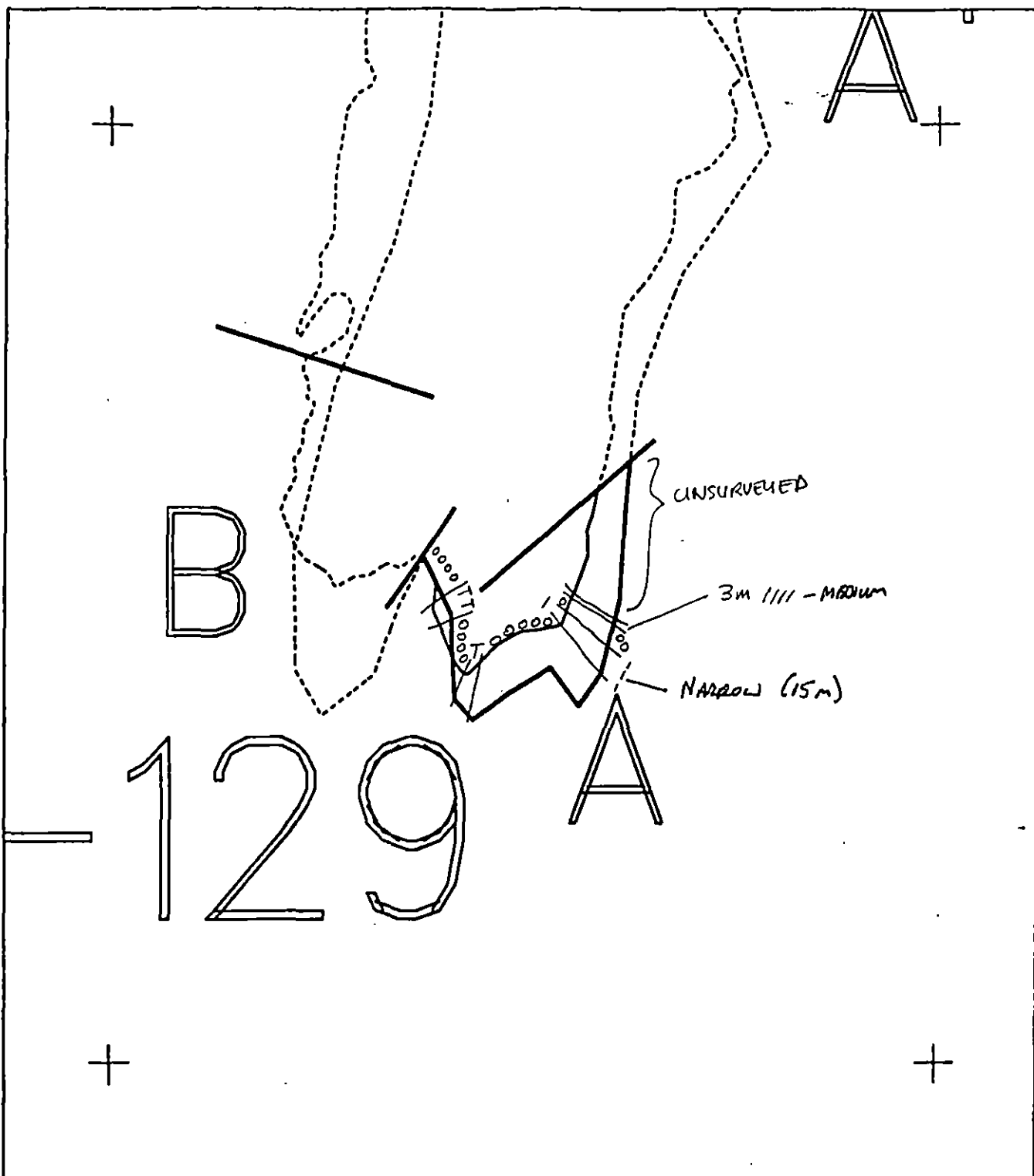
KN-129-A 07/27/91
OG Map L. Little
1:2500

↑
KN-128-A

HERRING BAY

KN-129-B ←





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

KN0129 A
 ADEC Subsegment Length: 407m
 METERS

AK State Plane Zone 4
 kn0129a



Subdivision Field Map
 Map Key: KNKN0129A
 Name: D.I. LITTLE
 Date: 04/27/91
 Date Entered:

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6

DATE 4/27/91

SEGMENT # KN-129

TIDAL HEIGHT(Range) +1 1/2 to 2 1/2 feet

SUBDIVISION A

BIOLOGIST T.R. Schroeder

SEA STATE Light chop

WIND SPEED/DIRECTION NE, 15-20

PHOTOGRAPHS: ROLL #

FRAME #

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

(A) Lower intertidal zone regrowth of fucus kelp and sea lettuce is good. Numerous intertidal organisms present especially Littorina snails and snail egg masses under rocks. Any additional pickup of oil would be secondary-productive to near recruitment.

(B) Some sheering observed near tree from SOR, but it does not appear to be affecting regrowth and repopulation of intertidal area.

(C & D) Lower intertidal zone (LITZ) very healthy. Barnacles thick and fucus kelp regrowth is good.

Area is not high energy beach. Some manual removal has already occurred on C. If additional work is scheduled for C or D, it would not impact biological community if conducted towards high water. Biological community appears to be regenerating area very well. Snail and fucus kelp would suffer with any major activity in area.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl	1	1	
Gulls/kittiwakes			
Shorebirds			
Corvids			
Other Birds			

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

Shoreline subdivision map showing important biological features attached.

T. R. Schroeder

⊗ = each

Good fucus help regrowth.
Filamentous algae cover
on rocks mid to lower inter-
tidal zone. Barnacle growth
heavy on rocks and abundant
littoride snails on barnacle
rocks.

ADDENDUM: SUBDIVISION CONSTRAINTS**SEGMENT KN-129 SUBDIVISION B (2 of 2)****WORK WINDOW****Manual Pickup****OPEN****Bioremediation and Manual Raking
Less Than 100m From Stream****WORK PRIOR TO 7/10
(ADF&G MONITOR REQ.)****ARCHAEOLOGICAL STANDARD CONSTRAINT**

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS**1A,1B Salmon Stream**

ADF&G catalogued anadromous stream (226-10-16975) is in Subdivision B. This subdivision is closed to bioremediation and manual raking less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation and manual raking are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation and manual raking more than 100m from stream. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

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

**SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16975)
FOR ADDITIONAL CONSTRAINT INFORMATION**

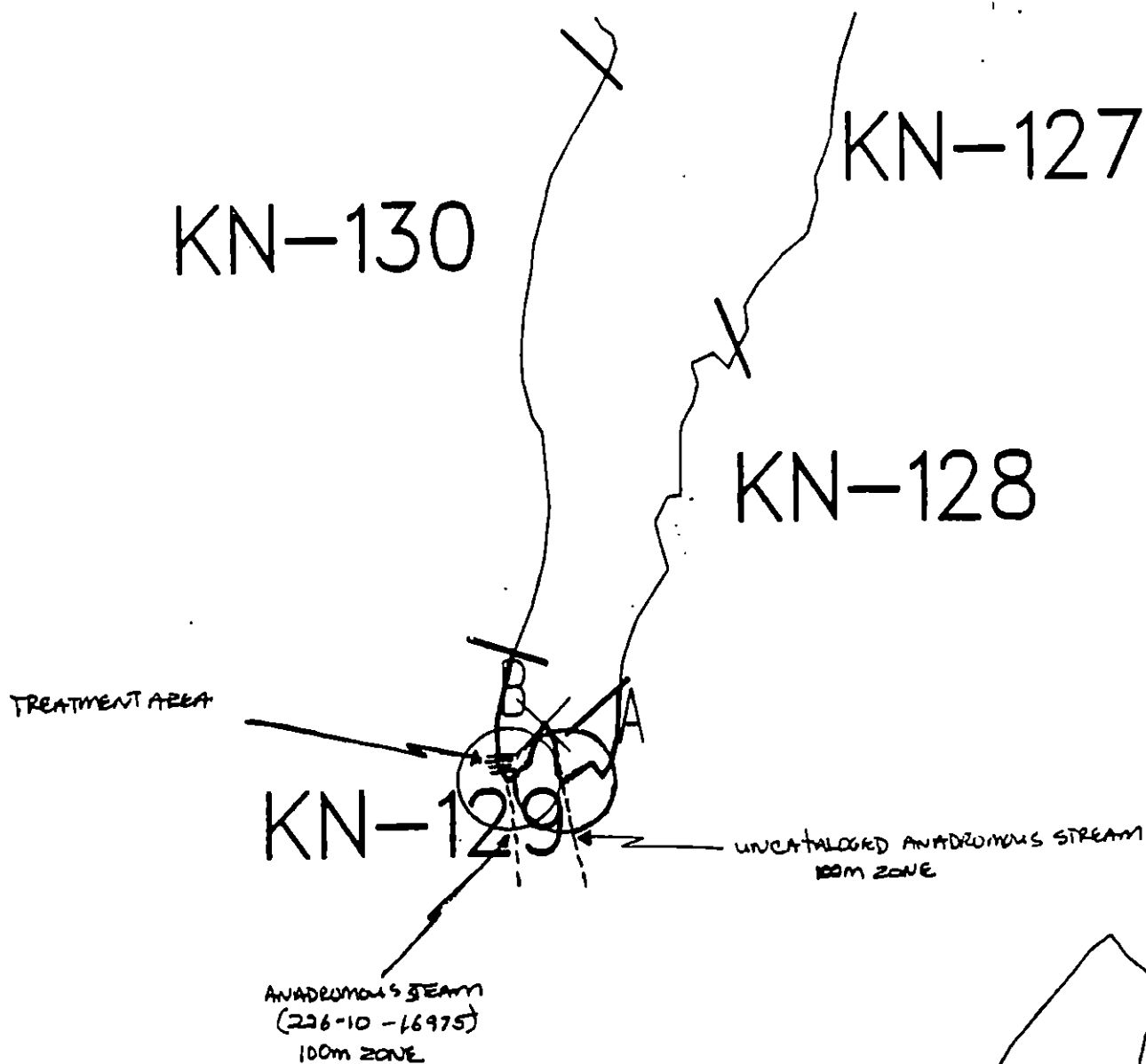
TAG APPROVAL DATE 6/04/90
 ADEC Ray Morris
 EXXON ANDY GEAR
 NOAA Joseph Talbot
 USCG G. A. Reiter

FOSC [Signature] DATE 6/5/90

Prepared By: London Meyer

Date 6/4/90

* Incorporates USFWS Active
Bald Eagle Nest Survey
Map 6/1/90



Exxon Company, USA
Map Key: KNI-KN-129
May 11, 1990



ECOLOGY MAP
SEGMENT KN-129
SUBDIVISION B (2-013-1)
METERS
0 347 693

★ Seabird Colony
▲ Eagle Nest

1 inch = 1137 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-129 SUBDIVISION B (2 OF 2) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Salmon stream mouth (ADF&G catalogue Rev. 2190, #226-10-16975) - fry outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

(1A,1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for nits.

ARCHAEOLOGICAL CONSTRAINTS: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a required prior 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 0 m: Narrow 49 m: V.Light 346 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: <u> </u> Wands
☐ Tarmat: <u> </u> Breakup	☐ <u> </u> Beach Cleaner
☐ <u> </u> Removal	☐ Other (see comments)

COMMENTS:

+ PATTIES
MANUAL PICKUP OF OILED DEBRIS AND TRASH. MANUAL RAKING IN AREA OF PIT 1 PRIOR TO BIOREMEDIATION (SEE SKETCH)

TAG COMMENTS:

SEE REVISION 1, Addendum dated 6/4/90 [Signature]

TAG APPROVAL DATE: 4/18/90

ADEC ART WEINER Art Weiner
EXXON ANDY TATE Andy Tate
NOAA Bert Westcott Bert Westcott
USCG G.A. FEITER G.A. Feiter

FOSC: DATE:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-129 SUBDIVISION A (1 of 2)

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

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

An uncatalogued stream is in Subdivision A. This subdivision is closed to bioremediation and manual tilling less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation and manual tilling are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation and manual tilling more than 100m from stream. No constraint to tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

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

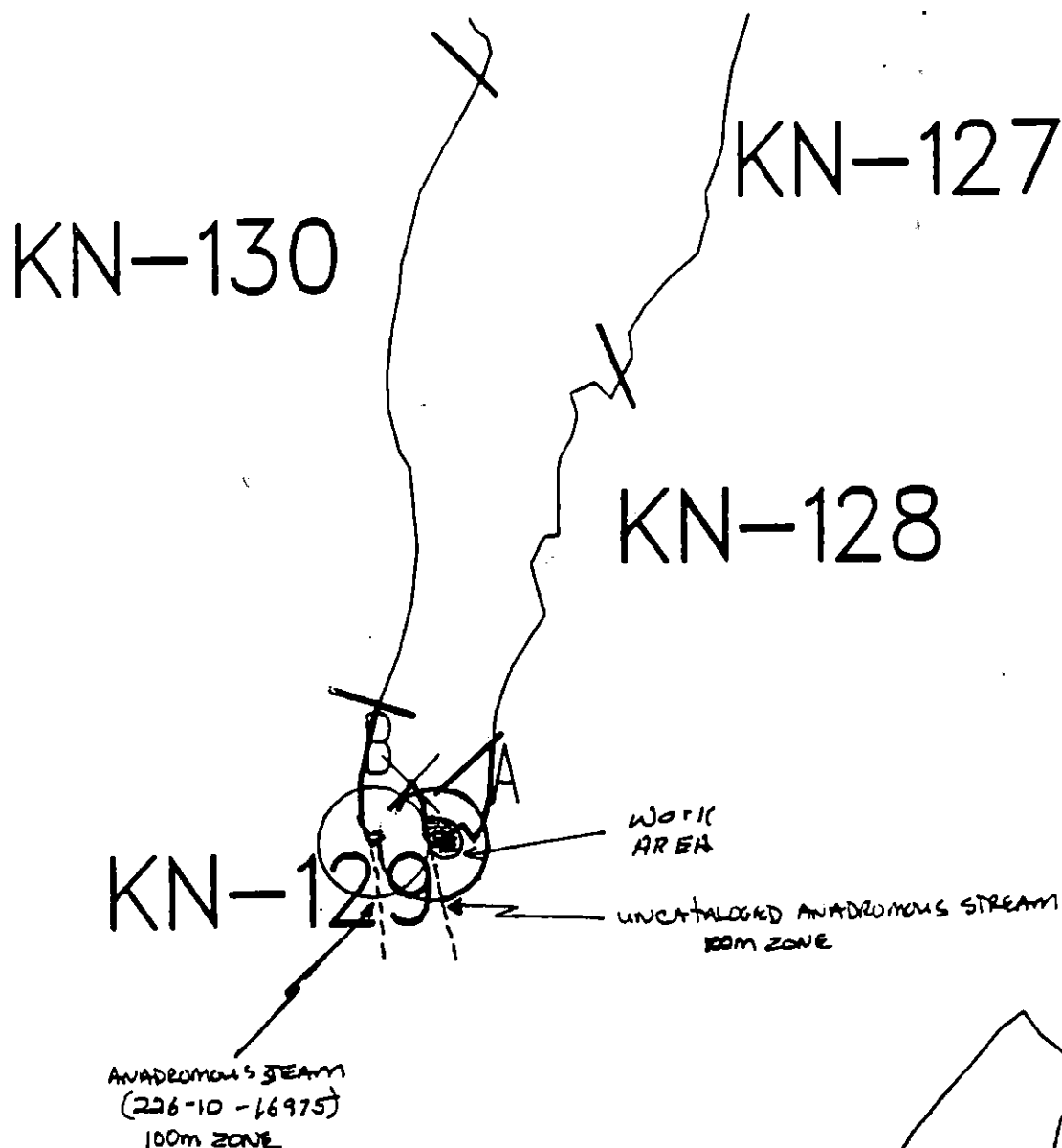
**SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (UNCATALOGUED STREAM)
FOR ADDITIONAL CONSTRAINT INFORMATION**

TAG APPROVAL DATE 6/04/90
 ADEC R. M. Morris R. M. Morris
 EXXON Andy T. T. T. T. T.
 NOAA Joseph T. T. T. T. T.
 USCG G. T. T. T. T.

FOSC [Signature] Date 6/5/90

Prepared by [Signature] Date 6/4/90

* INCORPORATES USFWS 01110
MAP OF ACTIVE BALD EAGLE
NESTS.

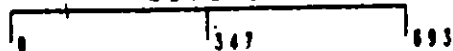


Exxon Company, USA
Map Key: KN1-KN-129
May 11, 1990

ECOLOGY MAP SEGMENT KN-129

SUBDIVISION A (1-013-)

METERS



- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1137 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-129 SUBDIVISION A (1 OF 2) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS: Uncatalogued 6/2/90
Salmon stream mouth (ADF&G catalogue Rev. 2190, ~~#226-10-16975~~) - fry
outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

(1A,1B) No disturbance of stream bed or banks unless authorized by ADF&G.
Contact ADF&G Habitat Division prior to treatment for permits. Restrict
disturbance of uncoiled fucus and barnacles in L and M ITZ.

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 Zeffner

DATE: 4/18/90

OILING CATEGORIZATION:

Wide 0 m: Medium 34 m: Narrow 78 m: V.Light 296 m: No Oil 0 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>X</u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> <u>X</u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommend manual removal of tarmats as shown on attached
sketch map. Work should be conducted between 5/15 and 7/10 based on
above constraints.

MANUAL TILL IN AREA OF ANAEROBIC CONDITION (PIT #7) PRIOR TO BIOREMEDIATION
BIOREMEDIATE WHERE APPLICABLE AS INDICATED ON SKETCH.

TAG COMMENTS:

SEE ADDENDUM DATED 5/20/90
RAC.

SEE REVISION 1, Addendum dated 6/4/90 gpp

TAG APPROVAL DATE: 4/18/90

ADEC

ART WEINER

EXXON

ANDY TEAL

FOSC:

DATE: 4-22-90

NOAA

Burt Wescott

USCG

G.A. Heister

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-129 SUBDIVISION B (2 of 2)

WORK WINDOW	
Manual Pickup	OPEN
Bioremediation Manual Raking	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream Mouth

NO CONSTRAINT. ADF&G catalogued stream 226-10-16975 is in Subdivision A and more than 100m from work area.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG ADDENDUM DATE 5/16/90
ADEC Art Weimer
EXXON Andy Gar
NOAA Joseph Talbot
USCG G.A. REITER
FOSC W L DATE 5-17-90

Prepared by: Art Weimer

Date: 5/14/90

KN-130

KN-127

KN-128

KN-129

WORK
AREA B

WORK
AREA A

AVADROMOUS STREAM
226-10-16975



Exxon Company, USA
Map Key: KNI-KN-129
May 11, 1990



ECOLOGY MAP
SEGMENT KN-129
SUBDIVISION B (2 of 2)
METERS

0 347 693

★ Seabird Colony
▲ Eagle Nest

1 inch = 1137 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-129 SUBDIVISION B (2 OF 2) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Salmon stream mouth (ADF&G catalogue Rev. 2190, #226-10-16975) - fry outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

(1A,1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for ~~for~~ nits.

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

SHPO SIGNATURE: J. David McManis DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 49 m: V.Light 346 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: <u> </u> Wands
☐ Tarmat: <u> </u> Breakup	☐ Beach Cleaner
☐ Removal	☐ Other (see comments)

COMMENTS:

MANUAL PICKUP OF OILED DEBRIS AND TRASH ^{+ PATTIES}. MANUAL RAKING IN AREA OF PIT 1 PRIOR TO BIOREMEDIATION (SEE SKETCH)

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90.

ADEC

EXXON

NOAA

USCG

ART WEINER
ANDY TEAL
Bruce Wescott
G.A. SEITER

FOSC: ML

DATE: 4-29-90

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of

SHORELINE EVALUATION

SEGMENT ST/ KN-129 SUBDIVISION B (2 OF 2) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Salmon stream mouth (ADF&G catalogue Rev. 2190, #226-10-16975) - fry outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

(1A,1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for units.

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

SHPO SIGNATURE: *J. David McManis* DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 49 m: V.Light 346 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: <u> </u> Wands
☐ Tarmat: <u> </u> Breakup	☐ <u> </u> Beach Cleaner
☐ <u> </u> Removal	☐ Other (see comments)

COMMENTS:

+ PATTIES
MANUAL PICKUP OF OILED DEBRIS AND TRASH. MANUAL RAKING IN AREA OF PIT 1 PRIOR TO BIOREMEDIATION (SEE SKETCH)

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90.

ADEC *Art Weiner*
EXXON *Andy Teal*
NOAA *Burt Wescott*
USCG *G.A. Reiter*

FOSC: *ML* DATE: 4-27-90

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of

OG Greganey / Tom Sawyer

SEGMENT ST/ 129

SUBDIVISION B

DATE Mar 130 90

CHECKLIST

- ✓ N Arrow
- ✓ Approx. Scale
- ✓ Seg/Sub Entry
- ✓ Oil Diet
- ✓ Width
- ✓ Length
- ✓ % Cover
- ✓ Substrate Character
- ✓ Est. HML/LML
- ✓ SSI
- ✓ 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

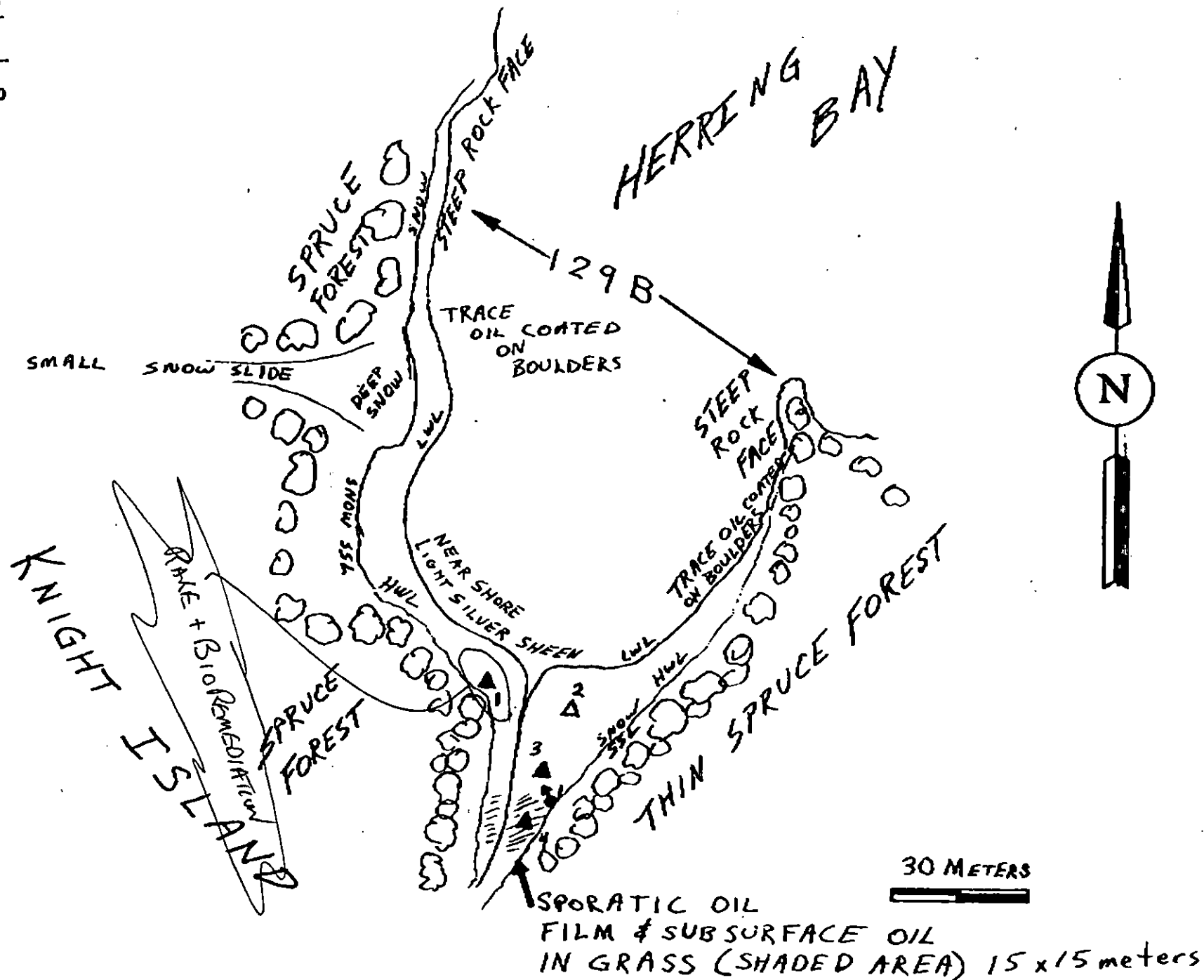
Splashed Distribution

Oiled Vegetation

1 →

Photo location, direction,
and number

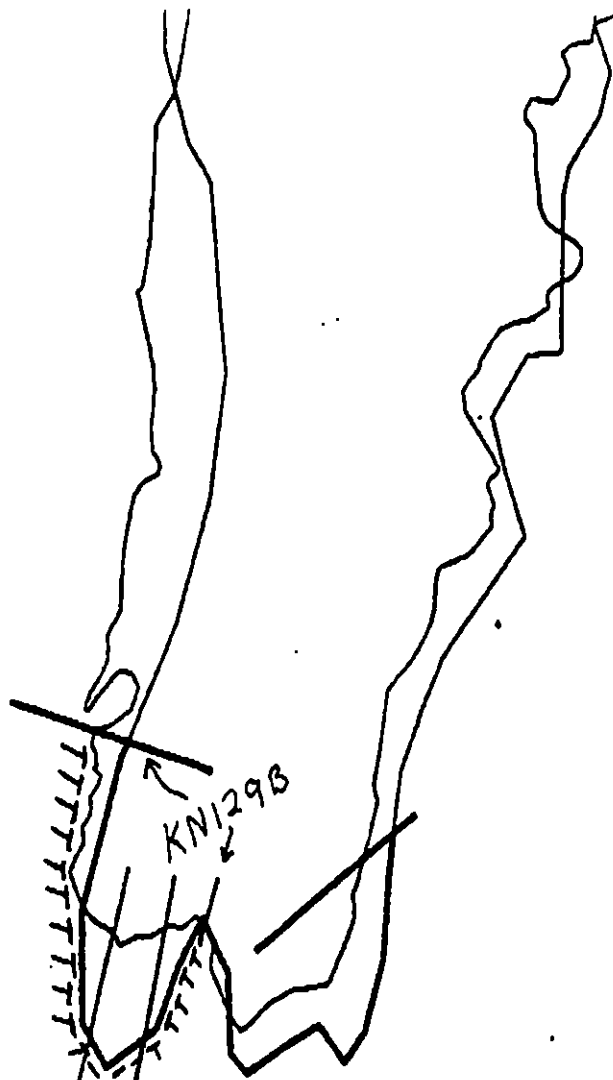
S TCH MAP



Oil Character Length (m): AP — PO — CV — CT 60 ST — MS — PT 80 TB — FL 15 NO. —

REVISION 03/24/90

KN



KN-129

Sub segment length 232

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-129B

ADEC Segment Length: 802m

EXXON Segment Length: 532



Map Key: PWS-311

Name: Chaney/Sawyer

Date: 3-30-90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-129 SUBDIVISION A (1 OF 2) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Salmon stream mouth (ADF&G catalogue Rev. 2190, #226-10-16975) - fry outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

(1A,1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits. Restrict disturbance of uncoiled fucus and barnacles in L and M ITZ.

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 Z. Hume

DATE:

4/18/90

OILING CATEGORIZATION:

Wide 0 m: Medium 34 m: Narrow 78 m: V.Light 296 m: No Oil 0 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>X</u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> <u>X</u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommend manual removal of tarmats as shown on attached sketch map. Work should be conducted between 5/15 and 7/10 based on above constraints.

MANUAL TILL IN AREA OF ANAEROBIC CONDITION (PIT #7) PRIOR TO BIOREMEDIATION
BIOREMEDIATE WHERE APPLICABLE AS INDICATED ON SKETCH.

TAG COMMENTS:

TAG APPROVAL DATE:

4/18/90

ADEC

Art Weimer

EXXON

Andy Teal

FOSC:

[Signature]

DATE: 4-22-90

NOAA

Burl Westcott

USCG

G.A. Reiter

Greg F. Chaney / Tom L. Sawyer SKETCH MAP

MENT ST/ 129 K-14

DIVISION A

E Mar 1 30 90

ECKLIST

1 Arrow
1 Approx. Scale
1 Seg/Sub Body
1 Dist.
1 Width
1 Length
1 Cover
1 Substrate Character
1 st HML/LVL
1 SL
1 Hole Location(s)
1 Hole(s)
1 Location(s)
1 Hole Location(s)

SEND

1 Δ

to Subsurface Oil

2 Δ

to Surface Oil

CT/C

to Distribution

CT/B

to Distribution

CT/P

to Distribution

CT/S

to Distribution

Vegetation

location, direction,
number

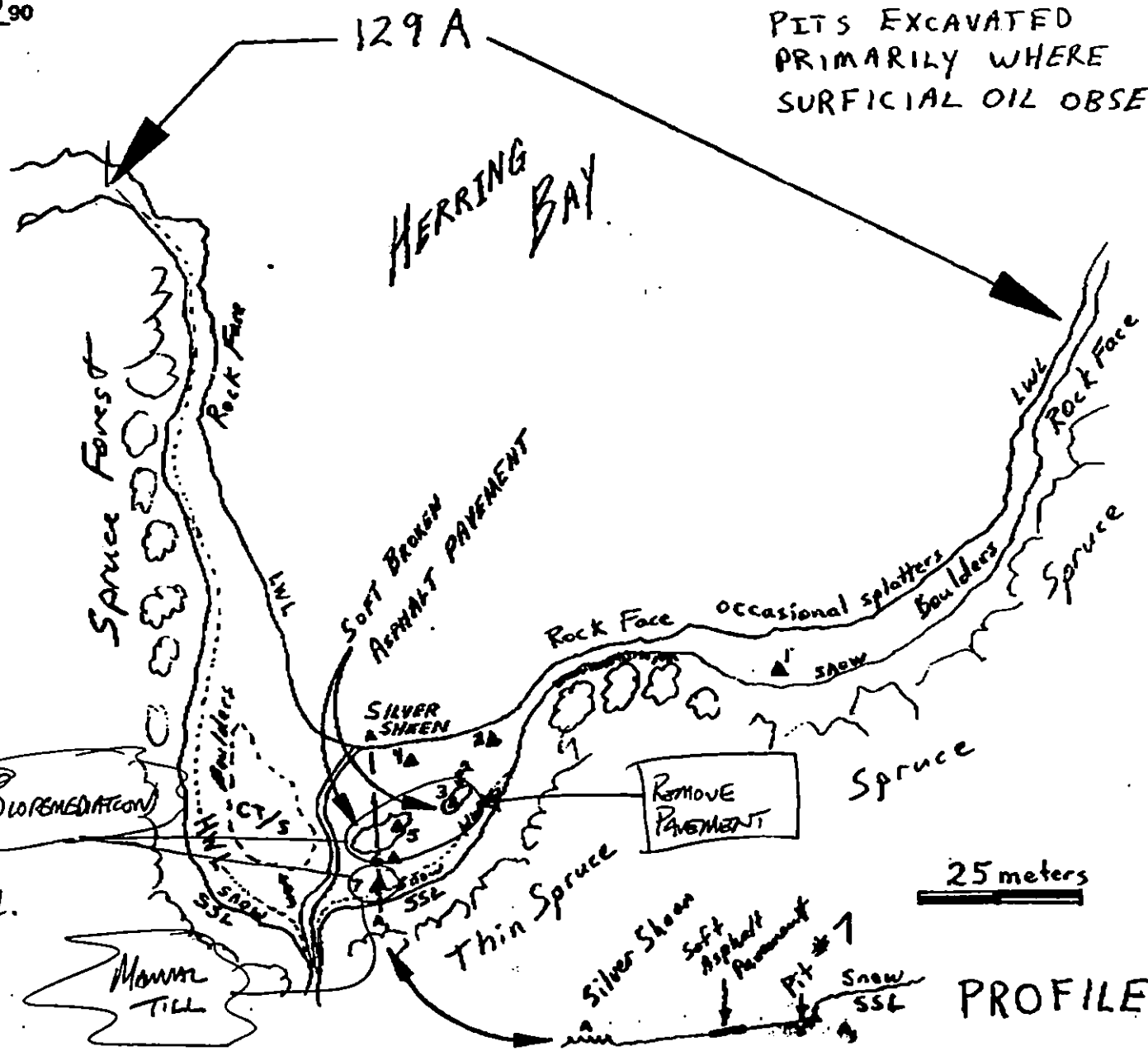
SUB SURFACE OILING
NOT CONTINUOUS.
PITS EXCAVATED
PRIMARILY WHERE
SURFICIAL OIL OBSERVED



DEC-10-1989 08:53 FROM YUKON RIVER

TO

P.22



Factor Length (m): AP 16 PO - CV - CT 25 ST - MS - PT 5 TB - FL 40 NO 214

REVISION: 03/24/89

ty observed approximately every 25 meters along subsegment. Total continuous pattys observed ~ 5m.

KN-129

KN

KN-129 A

KN-129 A 300 meters

XXX Wide

/// Medium

--- Narrow

TTTT Very Light

KN-129 A

ADEC Segment Length: 802m
Exxon Segment Length: 532m

Map Key: PWS-311

Name: Greg Choney/Tom Sawyer

Date: March 30 1990

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-129

SUBDIVISIONS: A (1 OF 2)

SHORELINE EVALUATION

SEGMENT ST/ KN-129 SUBDIVISION A (1 OF 2) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Salmon stream mouth (ADF&G catalogue Rev. 2190, #226-10-16975) - fry outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

(1A,1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits. Restrict disturbance of uncoiled fucus and barnacles in L and M ITZ.

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 34 m: Narrow 78 m: V.Light 296 m: No Oil 0 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 manual removal of tarmats as shown on attached sketch map. Work should be conducted between 5/15 and 7/10 based on above constraints.

TAG COMMENTS:

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN 129 SUBDIVISION: A (172) DATE 3.30.90

USCG

NAME MST May / PS Ed White SIGNATURE Patrick May / Ed E. White

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Broken pavement in U.I. zone to remove manually. Boulders in U.I. zone turned to expose coated areas. Residual oil in subsurface U.I. zone to 30 cm. (and) Silver & Rainbow sheens on both ends of the subdivision (25m²) at the waterline. Sensitive ~~area~~ stream runs through the middle of the subdivision. Would not recommend bioremediation.

ADEC

NAME Cunningham / Munson SIGNATURE M. Cunningham / D. Munson

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Turn boulders at high tide to expose oil coating, use a beach crew to team and flush. From mid to high tide where subsurface oil was served at 15-20 cm use mechanical dredging / cleaning of native beach materials with redeposition of the same materials on site. Physical removal of asphalt / pavement. Use a type of silt boom to collect mobile sheen which is leaching out at water's edge. Note: possible anadromous stream. Low energy environment.

LAND MANAGER

NAME Phillips (ONE) Mandrella (USE) SIGNATURE Steve Phillips Dave Mandrella

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

turn over boulders scoop up asphalt
disturb moderate oil layers
may need absorbent boom along creeks (sensors)
pick up debris especially pom-pom strands
bioremediation around boulders
sensitive stream # 14932. in A or B?

SHORELINE OILING SUMMARY

REVISION NO. 06/23/90

OG Chaney / Sawyer USCG Malay / White SEGMENT ST/ KN129
 BIO Roth / Benson LAND REP Phillips / Mandrella SUBDIVISION A (1 of 2)
 EXXON Sotelo / Katsimanolis ADEC Cunningham / Munson TIME 10:50 to 1:00
 TEAM NO.: 7 and 8 TIDE LEVEL: -0.5 ft to 5.0 ft DATE March / 30 / 80
 EST. SUBDIVISION LENGTH: 300 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock Snow
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 10 % B 40 % C 10 % P 30 % G 10 % S - % M - % V - %
 SLOPE: Long 90 % Hang - % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W - m M 16 m N 54 m VL 230 m NO - m

SURFACE OIL

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

PAVEMENT: H F 70 sq. m by 8 cmPATTIES / TARBALLS 2 BAGSNEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris	X		

DEBRIS COLLECTED
☒ YES ☐ NOTYPE pom-pom / rope#BAGS 1

Photographs:

Roll No. St-8-1Frames 1, 2, 3

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	BRN / BK	DRK / GRN	GY / BL	LT / WHT	SU	U	M	L									
1	25				X		0.25		X				X						X							G P C	
2	30		X				0.5		X					X							X						S G P
3	30		X				0.5		X						X							X					S G P
4	30		X				0.5		X						X							X					G S P
5	30		X				0.8		X						X							X					G C G
6	25					X	- -		X													X					G C G

COMMENTS St/KN129A: low angle boulder and pebble beach bordered by high angle bedrock cliffs. Broken pavement in upper tidal zone appears to be erosional remnants of formerly more extensive pavement. Snow covering supratidal zone. Sub-surface oiling not continuous. Pits excavated where surficial oil observed. Sporadic oil coats bottom of boulders in upper intertidal zone. * Oiled intervals of 0-5 cm in Pits 2, 3 & 4 do not constitute subsurface oiling.

4-4-90

REVISION 03-22-78

2 of 6

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/23/90

Segment ST / KN0129 Subdivision A Date (mo / day / yr) 3/30/90

Time (24 hr) 1050 Biologist Benson/Roth

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

Photographs:
 Roll No. ST-8-1

Frames 1-3

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	X	2	X	2	2	
3	3	3	3	3	3	3	3	3	X	X	X	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

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	X	X	X	
3	3	3	3	3	3	3	3	3	2	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	X	X	X	
3	3	3	3	3	3	3	3	3	X	X	X	
4	4	4	4	4	4	4	4	4	X	X	X	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

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	X	X	X	1L	
3	3	3	3	3	3	3	3	3	X	X	X	
4	4	4	4	4	4	4	4	4	3	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:

- 3 Killer Whales (Orcinus orca) in mid-Herring Bay (2 large, 1 small)
- Adult Sea Otter (Enhydra lutra) between ship (Yukon River) and site (KN0129)

Ecological Considerations:

Sensitivities: 1B (Salmon spawning)

Greg F. Chaney / Tom L. Sawyer SKETCH AP

SEGMENT ST/ 12 K14

DIVISION A

DATE Mar 130 90

ECKLIST

N Arrow
Approx. Scale
Seg/Sub Bndry
On Dist
Width
Length
% Cover
Substrate Character
Est. HAIL/LVL
SSL
Profile Location(s)
Profile(s)
Pit Location(s)
Photo Location(s)

GEND

1 Δ
No Subsurface Oil

2 Δ
Subsurface Oil

CT/C
Continuous Distribution

CT/B
n Distribution

CT/P
y Distribution

CT/S
Red Distribution

Vegetation

→
Location, direction,
number

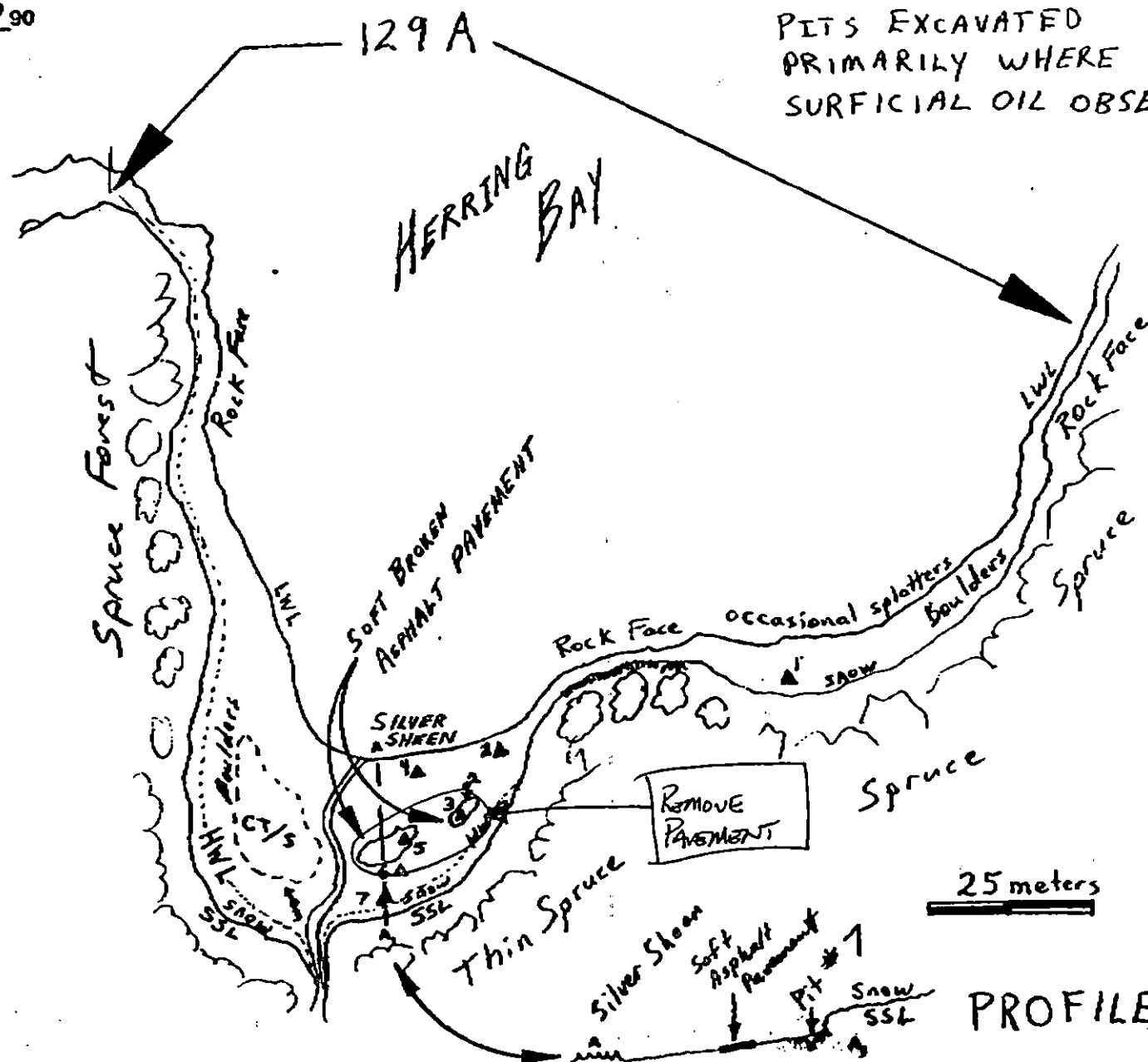
SUB SURFACE OILING
NOT CONTINUOUS.
PITS EXCAVATED
PRIMARILY WHERE
SURFICIAL OIL OBSERVED



DEC-10-1989 08:53 FROM YUKON RIVER

TO

0.02



Character Length (m): AP 16 PO - CV - CT 25 ST - MS - PT 5 TB - FL 40 NO 214

REVISION 03/24/00

ty observed approximately every 25 meters along subsegment. Total continuous patches observed ~ 5m.

KN-129

KN-

KN-129 A 300 meters

XXX Wide

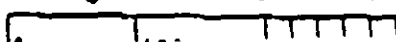
//// Medium

--- Narrow

TTTT Very Light

KN-129A

ADEC Segment Length: 802m
Exxon Segment Length: 532m



Map Key: PWS-311

Name: Greg Chaney/Tom Sawyer

Date: March 30 1990



REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-129

SUBDIVISIONS: B (2 OF 2)

SHORELINE EVALUATION

SEGMENT ST/ KN-129 SUBDIVISION B (2 OF 2) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Salmon stream mouth (ADF&G catalogue Rev. 2190, #226-10-16975) - fry outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

(1A,1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

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 49 m: V.Light 346 m: No Oil 0 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 15 cm

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: _____

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN 129 SUBDIVISION: B DATE 3-30-90

USCG

NAME 1st Lt Phil / PSE White SIGNATURE Phil / PSE White

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Sporadic oil coats on bottom of boulder in U.I.T. zone. Grass in the upper intertidal should be monitored for recovery this summer. If it doesn't recover top layer should be removed. A stream runs through the middle of the subdivision. Small amount of trash and debris (pom-poms). Suggest boulders in the upper intertidal be turned.

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Turn boulders at h.i.t.z. to expose oil coating, use a beach crew to steam and flush. Where oil was observed at 0-15cm use mechanical dredging/cleaning of native beach materials with redeposition of the same materials on the site. At h.i.t.z. where oil was observed under grass mat to 5cm. remove manually. Pick-up debris.

Note: Snow at supra tidal (unobserved)
Anadromous Stream.

LAND MANAGER

NAME Mandrella / Phillips SIGNATURE Dave Mandrella / Steve Phillips

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Sensitive Stream # 16932

UI behind large rock: monitor for grass recovery (June)

turn over boulders (UI)

may need absorbant boom along creek

if grass doesn't recover, pick up top 5cm.

pick up debris esp. pom-pom strands

SHORELINE OILING SUMMARY

REVISION NO. 08/28/90

OG Chaney/Sawyer USCG Malay/White SEGMENT ST/ KN129
 BIO Roth/Benson LAND REP Phillips/Mandrella SUBDIVISION B (2 of 2)
 EXXON Sotelo/Kotimpolis ADEC Cunningham/Munson TIME 13:00 to 13:45
 TEAM NO.: 7 and 8 TIDE LEVEL: 5 10 7 DATE March 1 30 190
 EST. SUBDIVISION LENGTH: 232 m ☒ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock Snow
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 10 % B 70 % C 10 % P 10 % G - % S - % M - % V - %
 SLOPE: Long 90 % Hang - % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W - m M - m N 5.3 m VL 179 m NO - m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	10	15	20	25	30	35	40	45	50	55	60	65	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL																

PAVEMENT: H F S - sq. m by - cmPATTIES/TARBALLS 1 BAGSNEAR SHORE SHEEN? ☒ BR ☒ RW ☒ TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Pom Pom#BAGS 1

Photographs:

Roll No. St-8-1Frames 4, 5

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	UG	30 BR	35 OR	40 PW	45 GY	50 SL	55 BL	60 FL	65 LBR	SU	U	M	U				
1	20		X				05-15		X						X			X							GP
2	20					X	- - -		X									X							GPS
3	15				X		- - -		X							X		X							GPS
4	20		X				0-5		X						X			X							GPS
							.																		
							.																		

COMMENTS ST/KN129B: Sporadic oil coats bottom of boulders in upper inter tidal.
 Snow covers supratidal zone. Possible debris and trash within storm surge line
 * Oiled interval from 0-5 cm in Pit 4 does not constitute subsurface oil. YH

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN0129 Subdivision B Date (mo / day / yr) 3/30/90
Time (24 hr) 1300 Biologist Roth / Benson

- (A) Substrate type and % of segments:
(1) Bedrock 10 (2) Boulder 70 (3) Cobble 10 (4) Pebble 10 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 0 Moderate 30 Low 70
- (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-B-2
Frames 4, 5

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	X	2	2	X	2	X	2	2
3	3	3	3	3	3	3	X	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	X	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	X	2	2
3	3	3	3	3	3	3	3	3	3	X	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	X	2	X	2	2
3	3	3	3	3	3	3	X	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:

We did not observe the low intertidal zone in this Subdivision.

Ecological Considerations:

Sensitivities: 1B (Salmon spawning)

OG Greg C. ney / Tom Sawyer

SEGMENT ST/ 129

SUBDIVISION B

DATE Mar 130 90

CHECKLIST

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

LEGEND

1 Δ
Pti - No Subsurface Oil

2 Δ
Pti - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

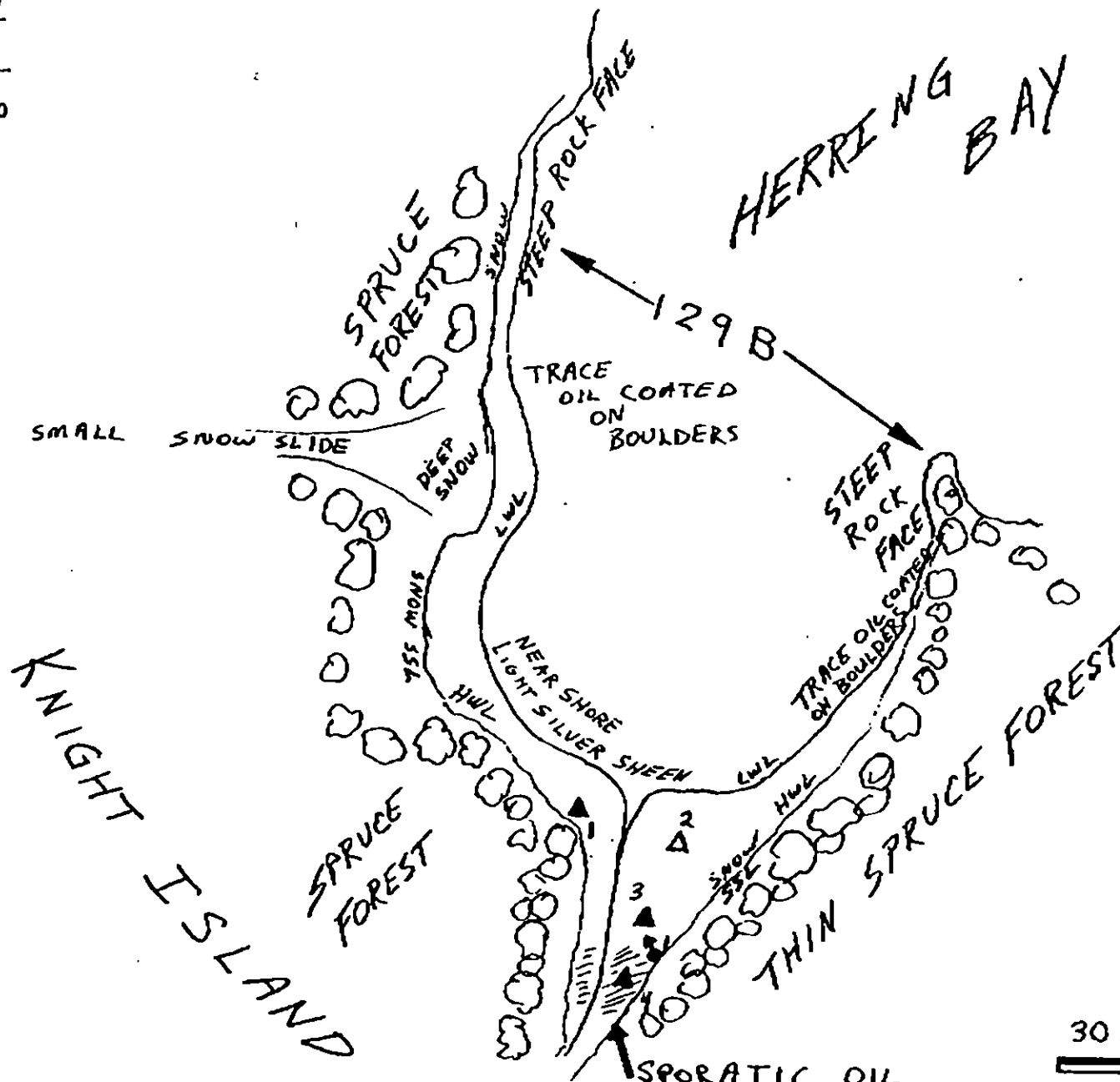
CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

1 →
Photo location, direction,
and number

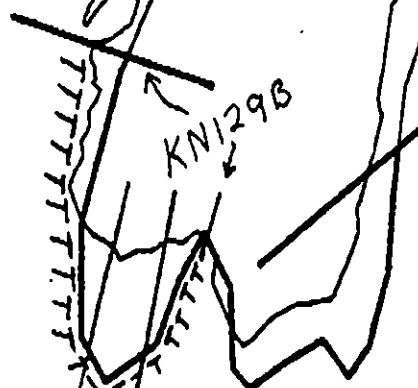
SKETCH MAP



Oil Character Length (m): AP — PO — CV — CT 60 ST — MS — PT 80 TB — FL 15 NO. —

REVISION 002400

KN



KN-129

Sub segment length 232

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-129B

ADEC Segment Length: 802m
EXXON Segment Length: 532



Map Key: PWS-311

Name: Chaney/Sawyer

Date: 3-30-90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-129 SUBDIVISION A (1 of 2)

WORK WINDOW	
Tarmat Removal	OPEN
Bioremediation less than 100m from stream	PERMIT REQUIRED
Manual Tilling less than 100m from stream	

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon stream

Uncatalogued anadromous stream. No constraint to tarmat removal. Subdivision is closed to bioremediation and manual tilling more than 100m from stream without ADF&G authorization.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance of stream bed or banks. No flushing of pollutants or sediments into stream drainage. Avoid any unnecessary disturbance or damage to uncolled substrate and biota.

TAG ADDENDUM DATE 5/21/90
ADEC ART WENGER
EXXON ANDY TGAZ
NOAA Joseph Tallant
USCG M. J. HALL, MTS

FOSC W L

DATE 5-21-90

Prepared by: Anders Meyer

Date: 5/20/90

KN-130

KN-127

KN-128

TREATMENT AREAS

KN-129

UNCATALOGED ANADROMOUS STREAM
100m ZONE

ANADROMOUS STREAM
(226-10 -16975)
100m ZONE



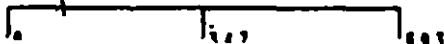
Exxon Company, USA
Map Keys: KN-129

M. 11 100m

ECOLOGY MAP
SEGMENT KN-129

SUBDIVISION A (1 of 3)

METERS



Seabird Colony



Eagle Nest

1 inch = 1137 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-129 SUBDIVISION A (1 OF 2) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Salmon stream mouth (ADF&G catalogue Rev. 2190, #226-10-16975) - fry outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

(1A, 1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits. Restrict disturbance of uncoiled fucus and barnacles in L and M ITZ.

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 R. Hume

DATE: 4/13/90

OILING CATEGORIZATION:

Wide 0 m: Medium 34 m: Narrow 78 m: V. Light 296 m: No Oil 0 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>X</u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> <u>X</u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommend manual removal of tarmats as shown on attached sketch map. Work should be conducted between 5/15 and 7/10 based on above constraints.

MANUAL TILL IN AREA OF ANAEROBIC CONDITION (PIT #7) PRIOR TO BIOREMEDIATION.
BIOREMEDIATE WHERE APPLICABLE AS INDICATED ON SKETCH.

TAG COMMENTS:

SEE ADDENDUM DATED 5/20/90
RXC.

TAG APPROVAL DATE: 4/18/90

ADEC ART WEINER

EXXON ANDY TATE

NOAA Bruce Wescott

USCG G.A. HEITER

FOSC:

DATE: 4-22-90

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-130

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ KN-130 SUBDIVISION A (1 OF 1) DATE 4/23/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

No specific constraints identified.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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 956 m: V.Light 215 m: No Oil 0 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: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 KN 130 SUBDIVISION: A DATE 4-23-90**USCG**NAME BM3 David A. Sylvester SIGNATURE BM3 David A. Sylvester☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

There was a light sheen in the lower to subtidal zone.
The tips on 3 logs were splattered with oil however it was less than 10% of the log. Removal of the tips of those logs could create a safety hazard, due to the fact they support the other end of the log. This area should be reassessed at a later date.

ADECNAME Dianne Munson SIGNATURE Dianne Munson☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

- Primarily high angle boulder beach with bedrock cliff behind.
- Surface at high has splashy, sporadic, patchy coats.
- Low tide area is actively sheening although no subsurface oil was detected in pits. Wading with slight agitation produces brown/rainbow sheen.
- Oiled trees and logs, 50% oiled.
- Recommend removal of oiled trees/logs and passive collection with sorbents where active sheening is taking place for interim protection of possible sensitive resources.

LAND MANAGERNAME David Mandrella SIGNATURE David Mandrella☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

- Primarily low to high angle boulder cobble beach with 1-2 meter band of patchy coats in upper intertidal zones.
- Remove oiled portions of logs and branches.
- No subsurface oil was noted in Pits 8,9,10 however disturbance of substrates in shallow water produced a brown/rainbow sheen.
- This portion of segment could be rechecked at time of cleanup operations to determine whether further treatment techniques are necessary.

SHORELINE OILING SUMMARY

REVISION NO. 04/13/90

OG A. Pittenger USCG D. Sylvester SEGMENT ST/ KN130
 BIO J. Boncarri LAND REP J.D. Mandrella SUBDIVISION A (1 OF 1)
 EXXON C. Katchampalis ADEC D. Muncan TIME 06:24:09:04
 TEAM NO. #P TIDE LEVEL -1.4 to -1.3 ft DATE 4/23/90
 EST. SUBDIVISION LENGTH: 1291 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: South to North
 SURFACE SEDIMENTS: R 30 % B 40 % C 25 % P 5 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 20 % Hang 60 % Vert 10 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 1091 m VL 200 m NO 0 m

SURFACE OIL

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

PAVEMENT H F S _____ sq. m by _____ cm

PATTIES/ TARBALLS < 1 BAGSNEAR SHORE SHEEN? NO ☒ BR ☒ RW ☒ SL TL

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

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE Random/Rep#BAGS < 1

Photographs:

Roll No. ST-8-4Frames 15

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR				PIT ZONE				ANALYSIS	DEPTH (m)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	W	Y	OR	BL	SU	U	M	L				
1	40					X	.											N	>40		P.G.S-G, S
2	25					X	.								X			N	15		C, P-B, C, I
3	30					X	.									X		N	2		P.G-P, G
4	40					X	.									X		N	>40		C, P-P, G
5	35					X	.									X		N	>35		P, G-P, G, S
6	25					X	.								X			N	>25		B, C-C, P, G

COMMENTS

 REVIEWED 7/00 DATE 4/24/90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 06-13-90

SEGMENT ST/ KN130 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	SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS		
		OP	OR	OL	OF	NO		VO	UD	1/2	3/4	5/8	1/4	1/2	SU	U	M	U							
7	40					X	.			1/2	3/4	5/8	1/4	1/2					X			N	30	C,P,G-A,S	
8	35					X	.												X			N	30	C,P-P,G	
9	45					X	.												X			N	35	C,P-C,P,G	
10	35					X	.												X			N	25	C,P-C,P	
11	35					X	.												X			N	>35	P-P,G	
							.																		
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COMMENTS

REVIEWED YW DATE 4/24/90

OG Pittwater
SEGMENT ST. 130

SUBDIVISION A

DATE 4/23/90

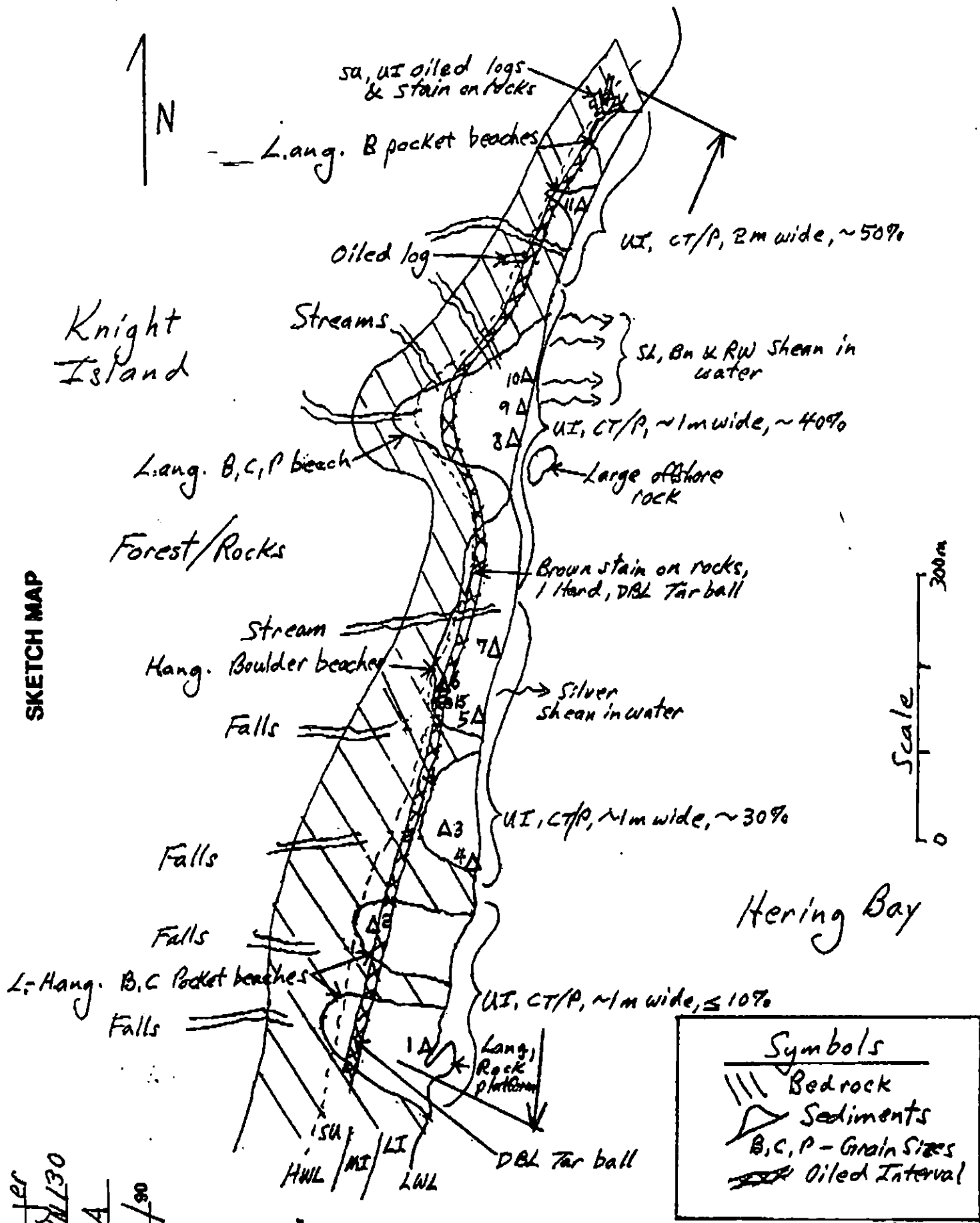
CHECKLIST

- Map Area
- Approx. Scale
- Seagull Study
- Oil Dist.
- Wetland
- Length
- % Cover
- Substrate Character
- Est. HML/LML
- SSE
- 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 Stippled Distribution
- ree Oiled Vegetation
- 1 ● Photo location, direction and number

SKETCH MAP



SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/88

Segment ST / KN130 Subdivision A Date (mo / day / yr): 4/23/90

Time (24 hr) 0630-0900 Biologist Benson

- (A) Substrate type and % of segments:
 (1) Bedrock 30 (2) Boulder 40 (3) Cobble 25 (4) Pebble 5 (5) Sand 0 (6) Silt 0
- (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:
 Roll No. ST-B-4

Frames 15

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:

mature bald eagle (*Haliaeetus leucocephalus*) flying over bay

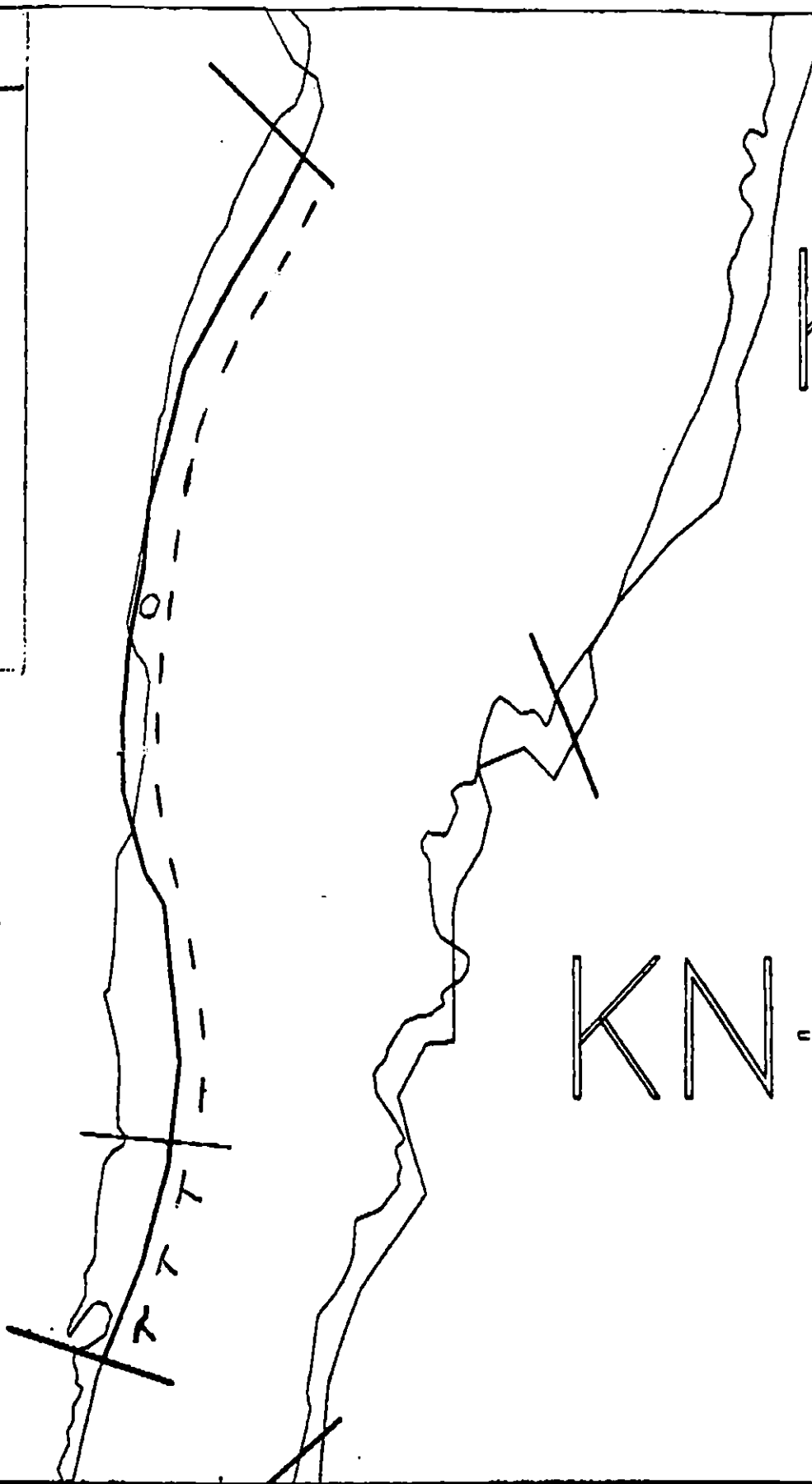
Ecological Considerations: None

The number of species is moderately high. This is surprisingly high compared to nearby segments and considering the paucity of tidepools. Heterogeneity of substrate and crevice sizes may promote species diversity here. The standing stock of algae (primarily *Fucus* and filament green algae) is very high on the southern third of this segment or seems to be correlated with increased shade cast by surrounding hills.

ECOLGY MAP (1 OF 1)

RESOURCE CODES FOR ENTIRE
SEGMENT:

NONE



XXXX Wide

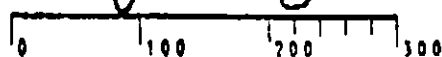
//// Medium

--- Narrow

TTTT Very Light

KN-130

ADEC Segment Length: 1171m
Exxon Segment Length: 1291m



Map Key: PWS-313

Name: Pittenger

Date: 4/23/90

SHORELINE EVALUATION

SEGMENT ST/ KN-130 SUBDIVISION A (1 OF 1) DATE 4/23/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

No specific constraints identified.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Horner DATE: 5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 956 m: V.Light 215 m: No Oil 0 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 Removal	<u> </u> Beach Cleaner
	<u> </u> Other (see comments)

COMMENTS:

TAG COMMENTS: MONITORS TO ~~ASSESS~~ AREA CHECK SHEENING AND
NEED FOR TARBALL PICKUP.

TAG APPROVAL DATE: 5/3/90.

ADEC ART WEINER Art Weiner

EXXON ANDY TAYLOR Andy Taylor

NOAA GARY PETRO Gary Petro

USCG KENNETH KEANE Kenneth Keane

FOSC: DATE: 5-8-90

OG Pittenger
SEGMENT ST. 129/130

SUBDIVISION A

DATE 4/23/90

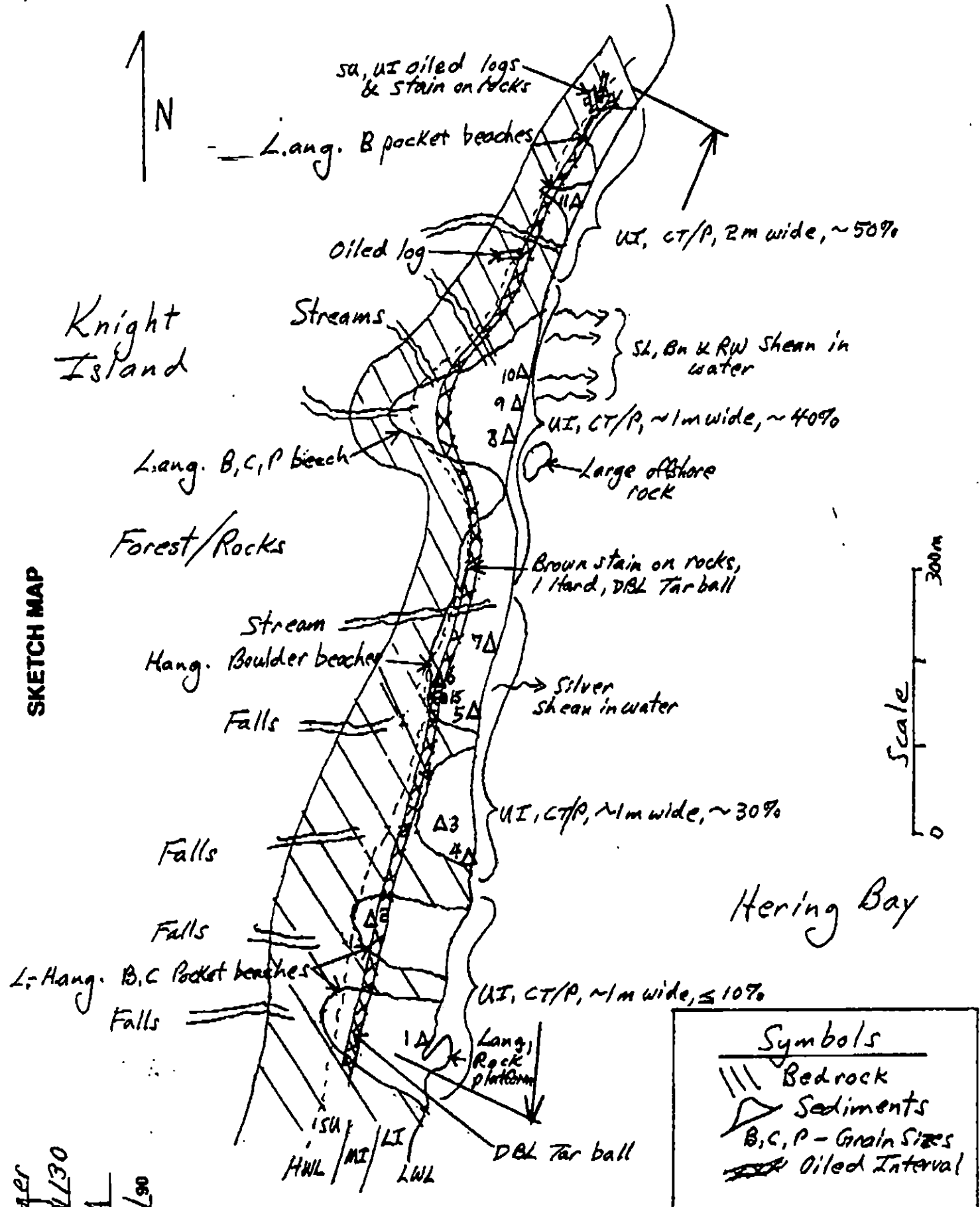
CHECKLIST

- ☐ At Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Bathy
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWL & LWL
- ☐ S.S.
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pts Location(s)
- ☐ Photo Location(s)

LEGEND

- 1 Δ Pts - No Subsurface Oil
- 2 Δ Pts - Subsurface Oil
- CT/C Contaminant Distribution
- CT/B Broken Distribution
- CT/P Pterid Distribution
- CT/S Sphagnum Distribution
- Cloud Vegetation
- 1 ● Photo location, direction, and number

SKETCH MAP



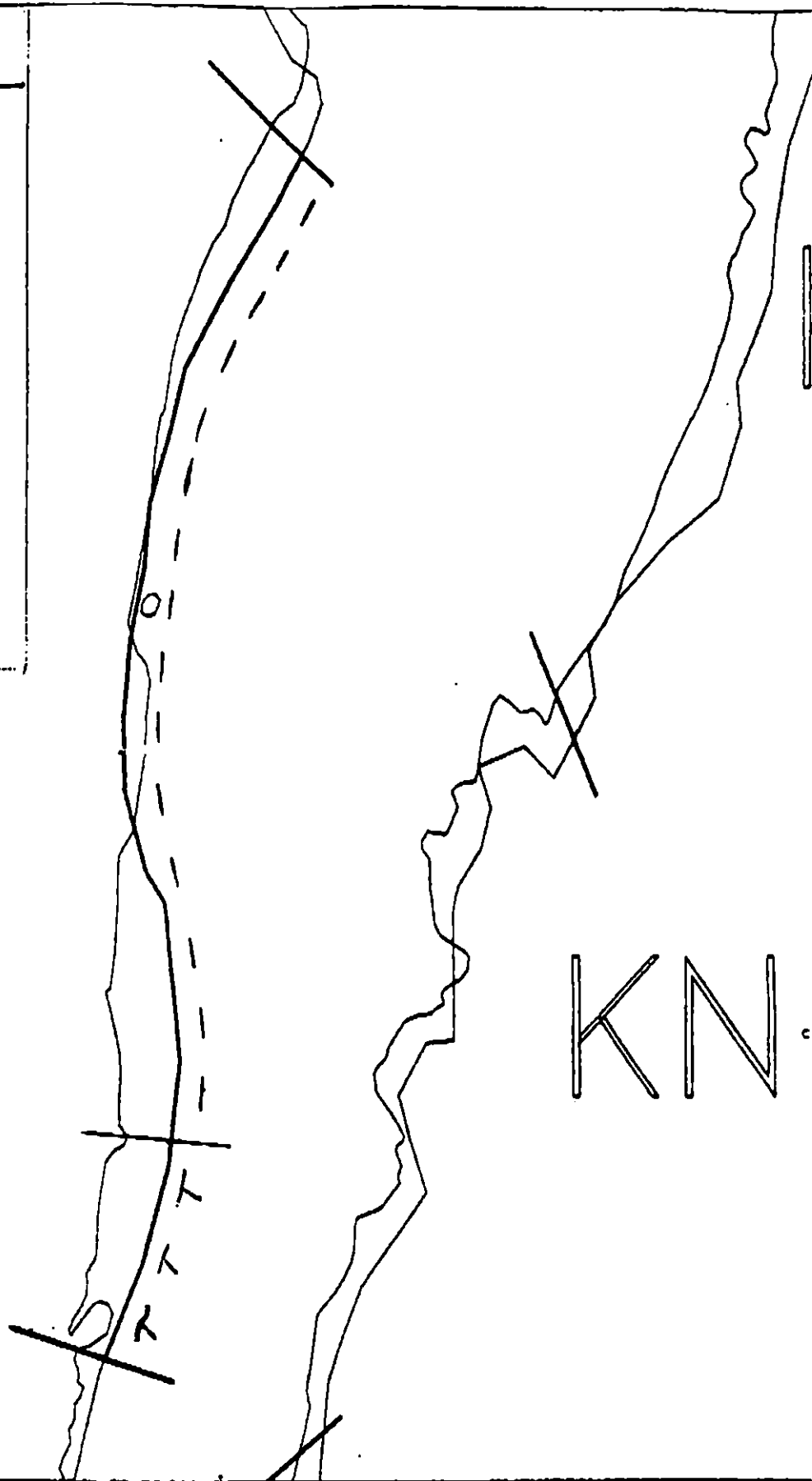
Symbols

- Bedrock
- Sediments
- B, C, P - Grain Sizes
- Oiled Interval

ECOLOGY MAP (1 OF 1)

RESOURCE CODES FOR ENTIRE
SEGMENT:

NONE



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-130

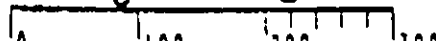
ADEC Segment Length: 1171m

Exxon Segment Length: 1291m

Map Key: PWS-313

Name: Pittenger

Date: 4/23/90



ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-132 SUBDIVISION C (3 of 4)

WORK WINDOW

Bioremediation More Than 100m From Stream OPEN

Bioremediation Less Than 100m From Stream PERMIT REQUIRED

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

>>> PHONE 564-3274 (Anchorage) OR 229-1508 (24 hrs.) <<<

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16982) is located in this Subdivision. Subdivision is closed to bioremediation less than 100m from stream without ADF&G authorization. No constraint to bioremediation more than 100m from stream.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or bank. No flushing of pollutants or sediment into stream drainage. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

TAG ADDENDUM DATE

ADEC

EXXON

NOAA

USCG

Art Wagoner

Andi Tash

Joseph Tarkenton

M. J. Hall

FOSC

DATE

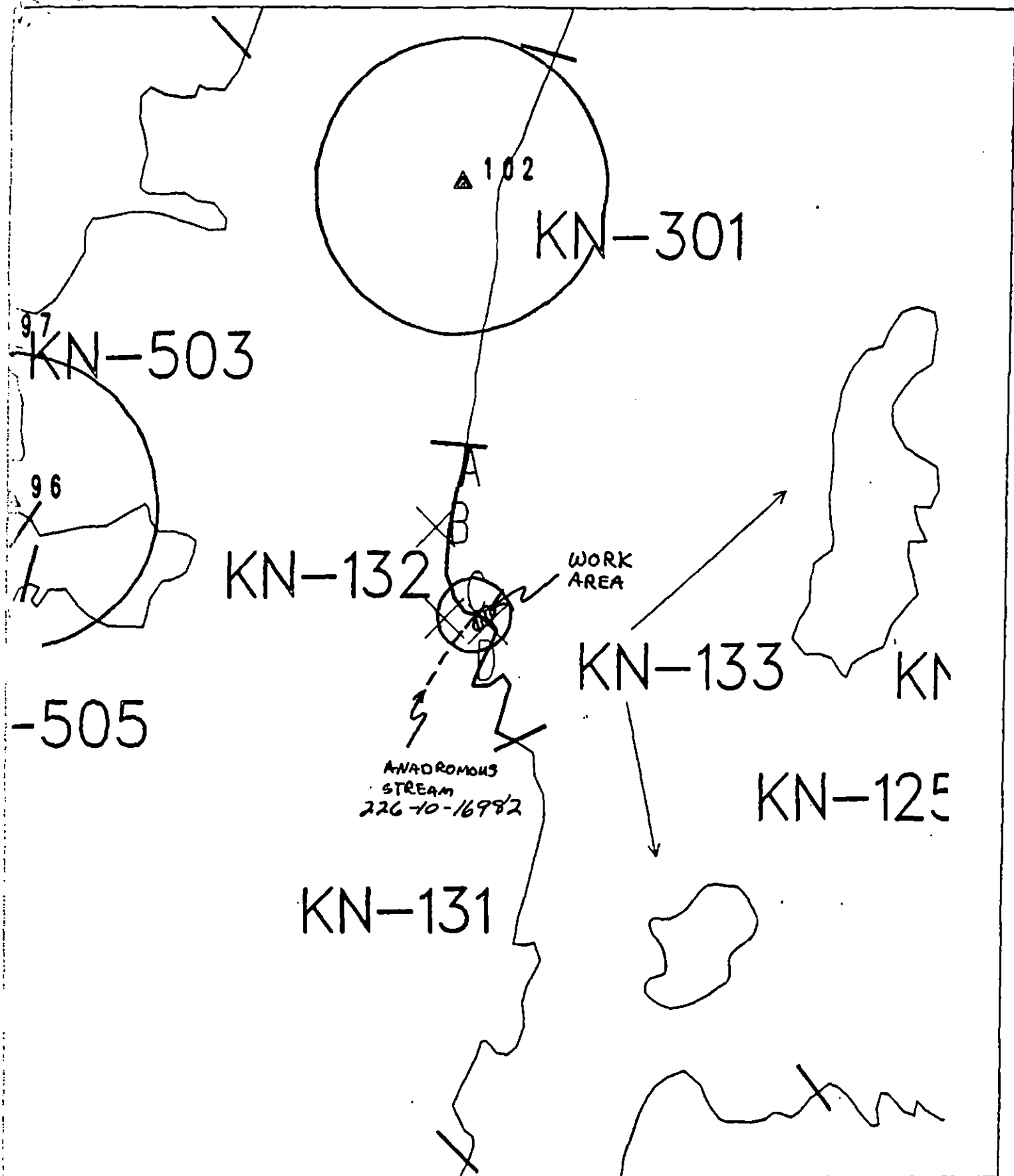
5-21-90

Prepared by:

Andi Tash

Date:

5/20/90



Exxon Company, USA
Map Key: KN-132
May 11, 1990



ECOLOGY MAP
SEGMENT KN-132
SUBDIVISION C (3 of 4)
METERS
0 355 710

- ★ Seabird Colony
- △ Eagle Nest

1 inch = 1164 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION C (3 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-
migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or
banks unless authorized by ADF&G. Contact ADF&G Habitat Division
prior to treatment for permits.

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.

ARCHAEOLOGICAL CONSTRAINTS: An Exxon archaeological monitor is required on-site during shoreline treatment.

SHPO SIGNATURE: Charles E. Adams DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 63 m: No Oil 106 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: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> Removal	<u> </u> Other (see comments)

COMMENTS: Bioremediate area shown on sketch map. Work between
5/15 and 7/10 based on constraints.

SEE ADDENDUM DATED 5/20/90
ROY C.

TAG COMMENTS: SUGGEST CUSTOMBLEN FOR BIOREMEDIATION
AS INDICATED ON SKETCH.

TAG APPROVAL DATE: 4/13/90
ADEC JOHN BAUER
EXXON ANDY TATE FOSC: DATE:
NOAA Burt Wesscott
USCG G.A. REITER

REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-132

SUBDIVISIONS: A (1 OF 4)

SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION A (1 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-
migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-
oiled 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 Re-
source Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 235 m: No Oil 0 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 pickup of rope/pom-pom found during survey. Bio-
remediation of area where surface coat found.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

EGMENT ST / KN 132 SUBDIVISION: A DATE 3/31/90**USCG**NAME D. F. White SIGNATURE D. F. White☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

MANUALLY REMOVING OF OIL - DEBRIS AND TRASH REMOVAL.

ADECNAME Dianne Munson SIGNATURE Dianne Munson☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Low angle boulder beach. Coats are primarily on under surface of boulders. Recommend turning boulders over and manually removing oil. Possible tools could be a putty knife or wire brush. Debris and trash removal.

LAND MANAGERNAME David Mandrella SIGNATURE David Mandrella☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Low angle boulder beach with sporadic coating of oil primarily on underside of boulders in the upper to lower intertidal zone. Suggest scraping and/or rinsing underside of boulders. Debris pickups in supratidal zone.

SHORELINE OILING SUMMARY

REVISION NO. 000000

OG Sawyer USCG White SEGMENT ST/ KN132
 BIO Benson LAND REP Mandrella SUBDIVISION A (1 of 4)
 EXXON Katsimpalis ADEC Munson TIME 7:30 to 9:00
 TEAM NO.: 2 TIDE LEVEL: +5.5 to +1.0 DATE Mar 13 / 1990
 EST. SUBDIVISION LENGTH: 350-290m ☒ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 5 % B 90 % C 5 % P — % G — % S — % M — % V — %
 SLOPE: Long 100 % Hang — % Vert — % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W — m M — m N — m VL 290 m NO — m

SURFACE OIL

CHARACTER	DISTRIBUTION					OIL / FILM COLOR					IMPACTED ZONES			
	C	R	P	B		1	2	3	4	5	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? ☒ BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Panther/Rope
#BAGS 1

Photographs:

Roll No. ST-8-1Frames 6, 7

SUBSURFACE OIL

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

COMMENTS ST/KN132 Low angle boulder beach. Coats are primarily on the underside of boulders in the upper to lower intertidal zone. Subsurface pits were not excavated because of boulder substrate.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/28/90

Segment ST / KN132 Subdivision A Date (mo / day / yr) 3/31/90

Time (24 hr) 0730 Biologist J. Benson

(A) Substrate type and % of segments:
(1) Bedrock 5 (2) Boulder 90 (3) Cobble 5 (4) Pebble 0 (5) Sand 0 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 10 Moderate 60 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 (3)

Photographs: Roll No. ST-8-1

Frames 6,7

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

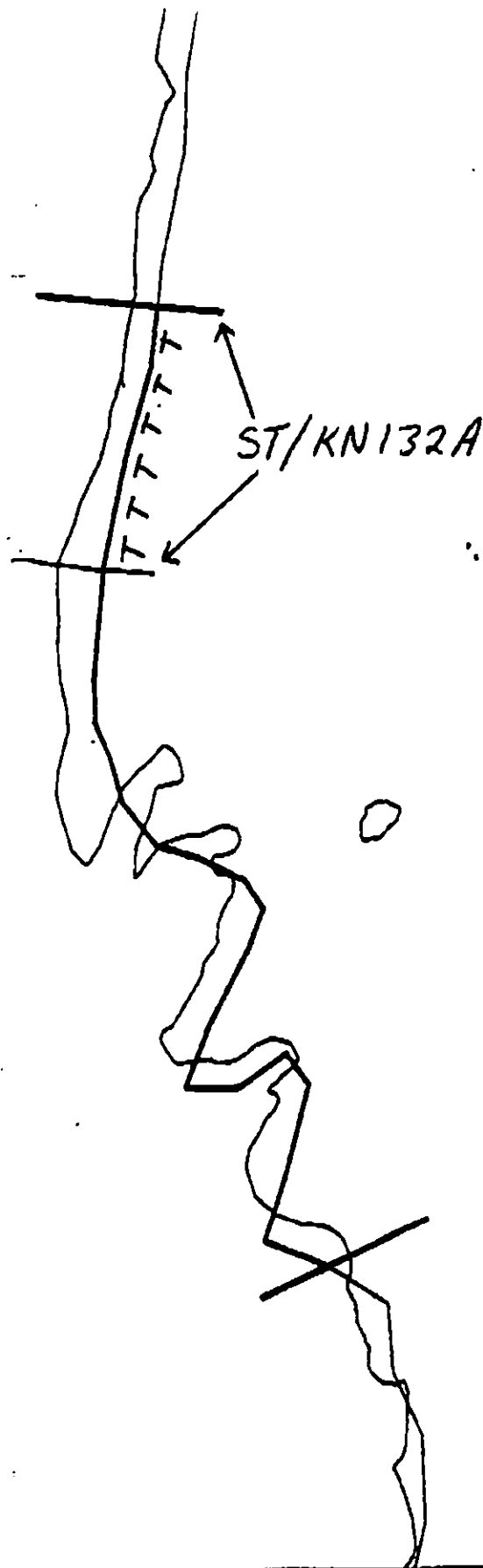
NOT PRESENT

Wildlife Observations/ General Comments:

sea otter (Enhydra lutris)

Ecological Considerations:

sensitivities: 1B (stream mouth - salmon spawning)



KN-

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-132

ADEC Segment Length: 1108m



Map Key: PWS-315

Name: SawyerDate: Mar 31, 1990

Data Entered:

OG Sawyer

SEGMENT ST/KN132

SUBDIVISION A (1 of 4)

DATE Mar 1 31 90

CHECKLIST

- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWL/HWL
- ☐ 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

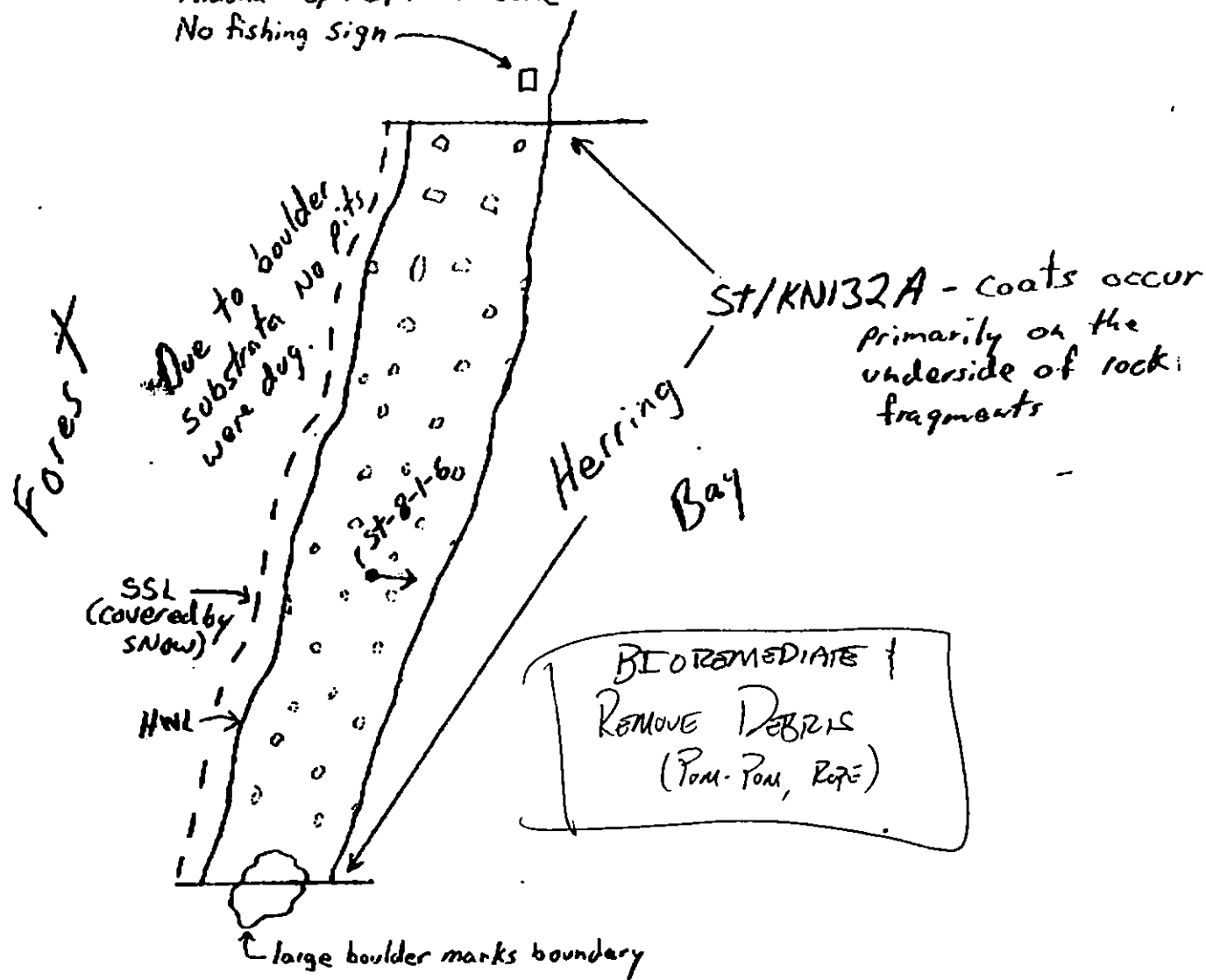
Oil on Vegetation

1 ●→

Photo location, direction,
and number

SKETCH MAP St-8-1-7

Alaska Dept. of Fish + Game
No fishing sign



REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-132

SUBDIVISIONS: B (2 OF 4)

SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION B (2 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-
migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or
banks unless authorized by ADF&G. Contact ADF&G Habitat Division
prior to treatment for permits.

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 46 m: Medium 69 m: Narrow 55 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 22 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: Bioremediate area of surface coat as shown on sketch map.
Breakup and remove asphalt mats. Work between 5/15 and 7/10 based
on constraints.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

SEGMENT ST KN 132 SUBDIVISION: B DATE 3-31-90

SCG
NAME W.E. WHITE SIGNATURE W.E. White

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

TREATMENT OF THIS SEDIMENT - RECOMMEND HIGH QUALITY
TREATMENT - DUE TO FISH AND GAME - HEAVY OIL
SHORE LINE.

ADEC
NAME Dianne Munson SIGNATURE Dianne Munson

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED This subsegment
COMMENTS is adjacent to a high quality anadromous stream. Very
extensive asphalt/pavement (ca 1300 sq. meters with a maximum
thickness of greater than 22 cm). Oil saturates pore spaces between
subsurface sediments. Black oil globules surface in pits interstitial
water (definitely mobile). This subsegment definitely needs further
attention. Because cobbles lie on top of the asphalt it would be difficult
to remove manually. Recommend mechanical dredging or mechanical
tilling with water washing. Possible bioremediation polishing.
Note: All recommendations pending Alaska Fish and Game Regulations.

LAND MANAGER
NAME David Mandrella SIGNATURE David Mandrella

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Station is adjacent to high quality anadromous stream. Substantial
areas of asphalt pavement occur, primarily in upper intertidal zone.
Subsurface oil was measured to be up to 22 cm. thick in pit nearest stream.
Isolated and patchy coats of oil occur in all zones.

Recommend: Selected removal of asphalt pavement.

Scraping and absorbing underside of boulders and cobbles.

Manual tilling of heavily impacted areas along with spot flushing
and placement of sandbars.

Possible bioremediation if in compliance with AK fish and game regulations.

SHORELINE OILING SUMMARY

REVISION NO. 05/28/90

OG Sawyer USCG White SEGMENT ST/ KN132
 BIO Benson LAND REP Mandrella SUBDIVISION B (2 of 4)
 EXXON Katsimpalis ADEC Munson TIME 9:00 to 11:30
 TEAM NO.: 8 TIDE LEVEL: +1 to -0.5 DATE Mar 13 / 1990
 EST. SUBDIVISION LENGTH: 310 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 5 % B 20 % C 70 % P 5 % G - % S - % M - % V - %
 SLOPE: Long 95 % Hang - % Vert 5 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 70 m M 60 m N 35 m VL - m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	10	20	30	40	50	60	70	80	90	100	110	120	SU	U	M	L
ASPHALT PAVEMENT				✓										✓		
POOLED																
COVER																
COAT				✓									✓	✓	✓	✓
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM							✓						✓	✓		
NO OIL																

PAVEMENT: H F 5 1300 sq. m by 5 22 cm ^{Avg = 14cm}PATTIES / TARBALLS - 0 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-8-1Frames 8, 9, 10, 11, 12

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	UO	50	60	70	80	90	100	110	120	SU	U	M	L		
1	20	✓					0.5															N	B, G, P
2	25						- - -															N	G, P, S
3	30	✓					50 - 22															N	P, G
							.																
							.																
							.																

COMMENTS ST/KN132B Low angle cobble, boulder beach with patchy and splashes of pavement in upper intertidal zone. Subsurface oil was measured to be up to 22 cm thick in pit #3. Films occur occasionally within upper and middle intertidal zones throughout segment.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / K132 Subdivision B Date (mo / day / yr) 3/31/90Time (24 hr) 0920 Biologist J. Benson

(A) Substrate type and % of segments:

(1) Bedrock 5 (2) Boulder 20 (3) Cobble 70 (4) Pebble 5 (5) Sand 0 (6) Silt 0(B) Overall % cover of biota (% of segment): Dense 10 Moderate 70 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-8-1Frames 8-12

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:

gull

Ecological Considerations:

sensitivities: 1B (stream mouth; salmon spawning)

DATE Dec 131 90

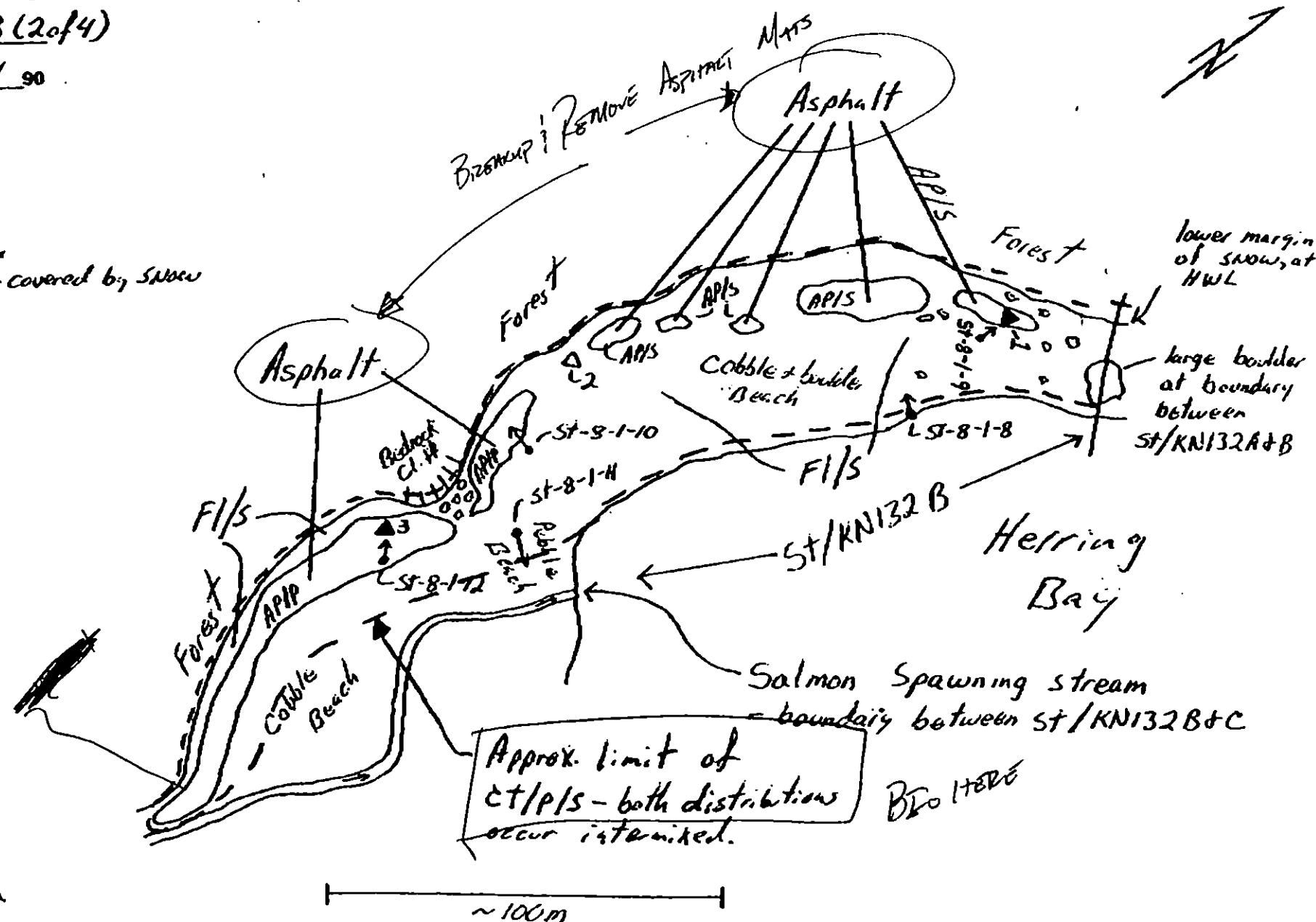
SKETCH MAP

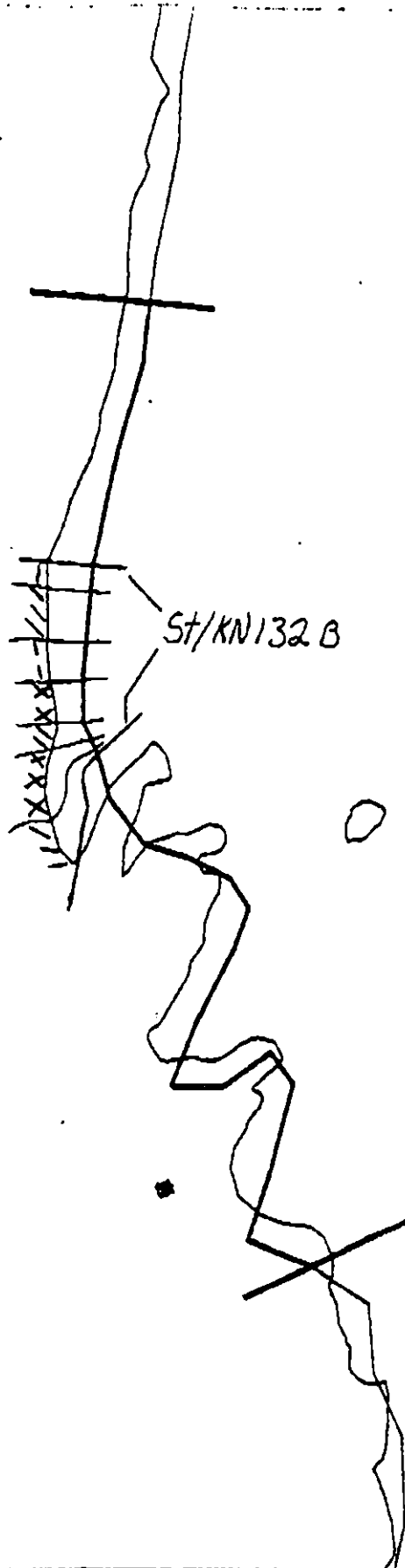
CHECKLIST

- At Anter
 Approx. Scale
 Sep/Sub Endry
 Oil Dist.
 Width
 Length
 % Cover
 Substrate Character
 Est. HML/LWL
 SSI ←
 Profile Location(s)
 Profile(s)
 Pz 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





KN-

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-132

ADEC Segment Length: 1108m



Map Key: PWS-315

Name: Sawyer

Date: 3-31-90

Data Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-132

SUBDIVISIONS: C (3 OF 4)

SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION C (3 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-
migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or
banks unless authorized by ADF&G. Contact ADF&G Habitat Division
prior to treatment for permits.

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 Re-
source Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 63 m: No Oil 106 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: Bioremediate area shown on sketch map. Work between
5/15 and 7/10 based on constraints.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

EGMENT ST 1 AN 132 SUBDIVISION: C DATE 3-31-90**USCG**NAME W. F. WHITE SIGNATURE William F. White☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

SMALL AMOUNTS OF OIL ON COBBLES, DEBRIS
AND TRASH REMOVAL.

ADECNAME Dianne Munson SIGNATURE Dianne Munson☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Small amounts of coats on cobbles, sheen in interstitial
water. Debris and trash removal in supratidal.

LAND MANAGERNAME David Mandrella SIGNATURE David M. Mandrella☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Sporadic coat noted on underside of boulder cobble
substrate. Debris pickups in supratidal.

SHORELINE OILING SUMMARY

REVISION NO. 06/28/90

OG Sawyer USCG White SEGMENT ST/ KN132
 BIO Benton LAND REP Mandrella SUBDIVISION C (3 of 4)
 EXXON Katsimpalis ADEC Munson TIME 11:30 to 11:40
 TEAM NO.: 8 TIDE LEVEL: -0.5 to -1 DATE Mar 13 / 1990
 EST. SUBDIVISION LENGTH: 471 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 40 % B 30 % C 10 % P 20 % G — % S — % M — % V — %
 SLOPE: Long 60 % Hang — % Vert 40 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W — m M — m N — m VL 300 m NO 171 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES				
	C	B	P	R	SP	OR	OL	OF	NO	SV	U	M	U	
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT				/			/			/				
STAIN														
MOUSSE														
PATTIES														
TARBALLS														
FILM				/			/					/		
NO OIL											NO OIL			/

PAVEMENT: H F S 0 sq. m by 0 cmPATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Part of Boat#BAGS 4

Photographs:

Roll No. ST-8-1Frames 13-14

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
		OF	OR	OL	OF	NO			SV	U	M	U	SV	U	M	U			
1	30						---										N		P, G, S
2	30						---										N		G, P
* 3	15						---										N		C, P, S
							.												
							.												
							.												

COMMENTS ST/KN132C: Pocket beaches separated by vertical bedrock cliffs.

* No oil layers observed in subsurface, however a sheen was noted in pit # 3.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN 132 Subdivision C Date (mo / day / yr) 3/31/90Time (24 hr) 1130 Biologist J. Bensen(A) Substrate type and % of segments:
(1) Bedrock 40 (2) Boulder 30 (3) Cobble 10 (4) Pebble 20 (5) Sand 0 (6) Silt 0(B) Overall % cover of biota (% of segment): Dense 20 Moderate 50 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 (3)

Photographs:
Roll No. ST-8-1Frames 13, 14

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

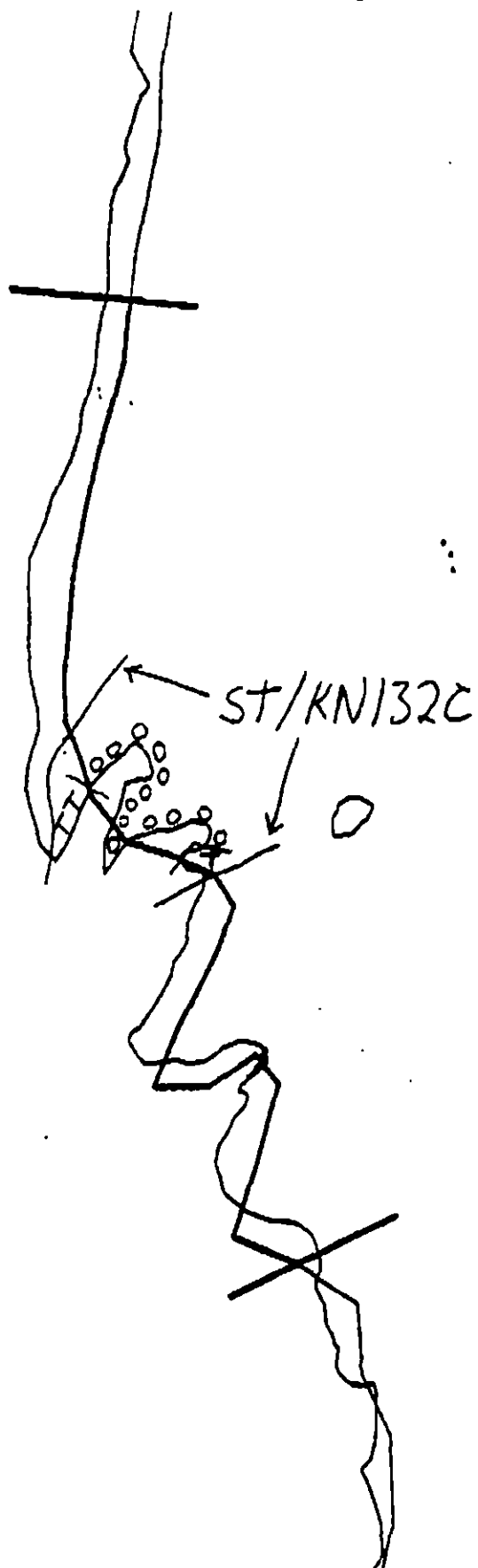
Wildlife Observations/ General Comments:

Bald Eagle (Haliaeetus leucocephalus)

Overall ~2% cover of biota was dense when a green filamentous alga (not among 4 groups above) covered many cobbles

Ecological Considerations:

sensitivities: 1B (stream mouth - salmon spawning)



KN-

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

KN-132

ADEC Segment Length: 1108m



Map Key: PWS-315

Name: _____

Date: _____

Data Entered: _____

SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION D (4 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-
migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-
oiled substrate and biota.

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 Re-
source Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: Paula E. Hoffman DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 246 m: No Oil 319 m
Subsurface Oil Observed: Yes X No Maximum Depth 14 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: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> <u>X</u> Removal	<u> </u> Other (see comments)

COMMENTS: Bioremediate area(s) shown on sketch map. Remove asphalt
mats. Work between 5/15 and 7/10 based on constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90

ADEC JOHN BAUER D.H. Ba
EXXON ANDY TEAL Real FOSC: DATE: 4-20-90
NOAA Burt Worscott
USCG G.A. KEITER G.A. Keiter

00. Sawyer

SKETCH MAP

SEGMENT ST/KN132

SUBDIVISION 0(40/4)

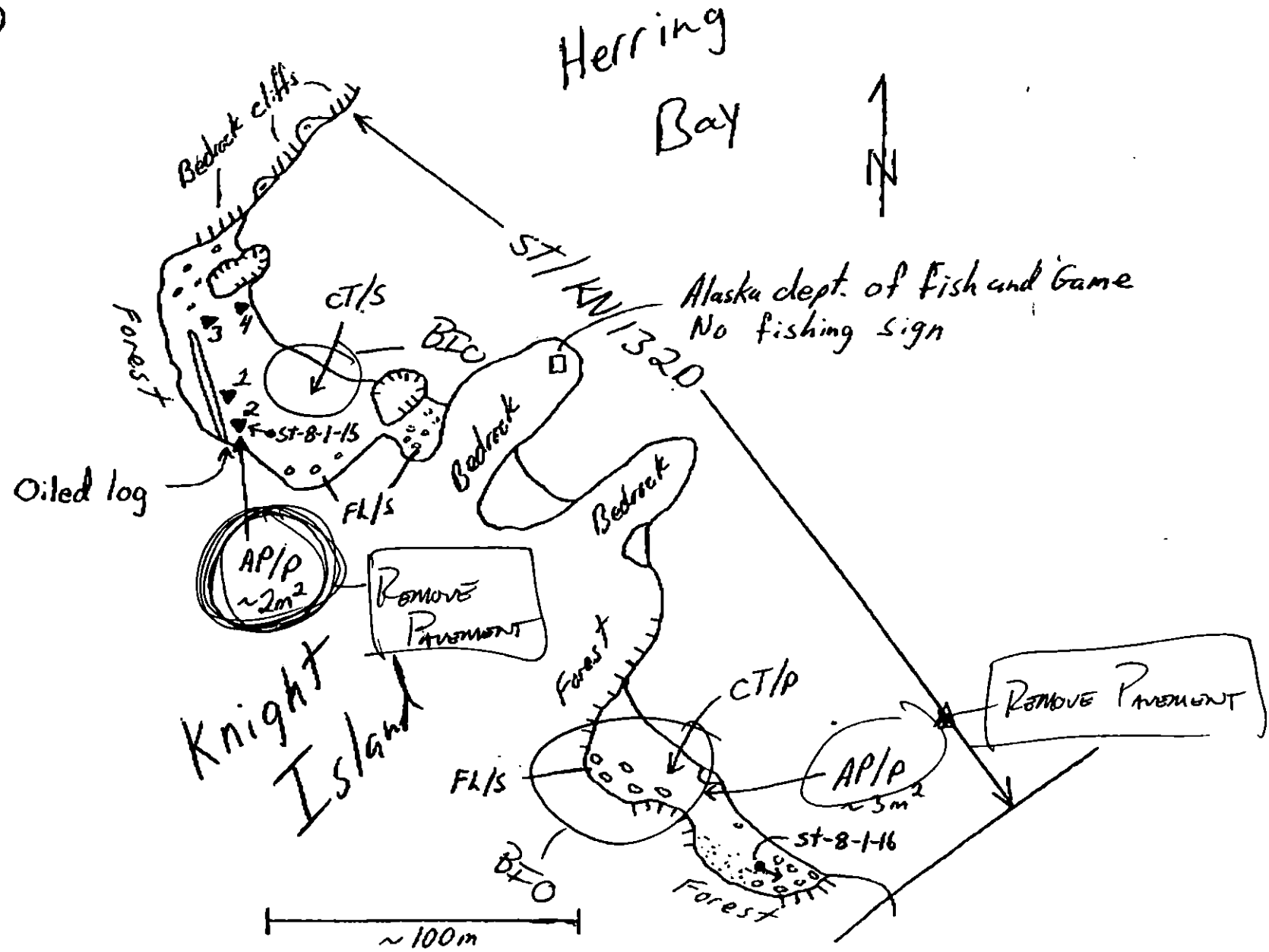
DATE Mar 13/ 90

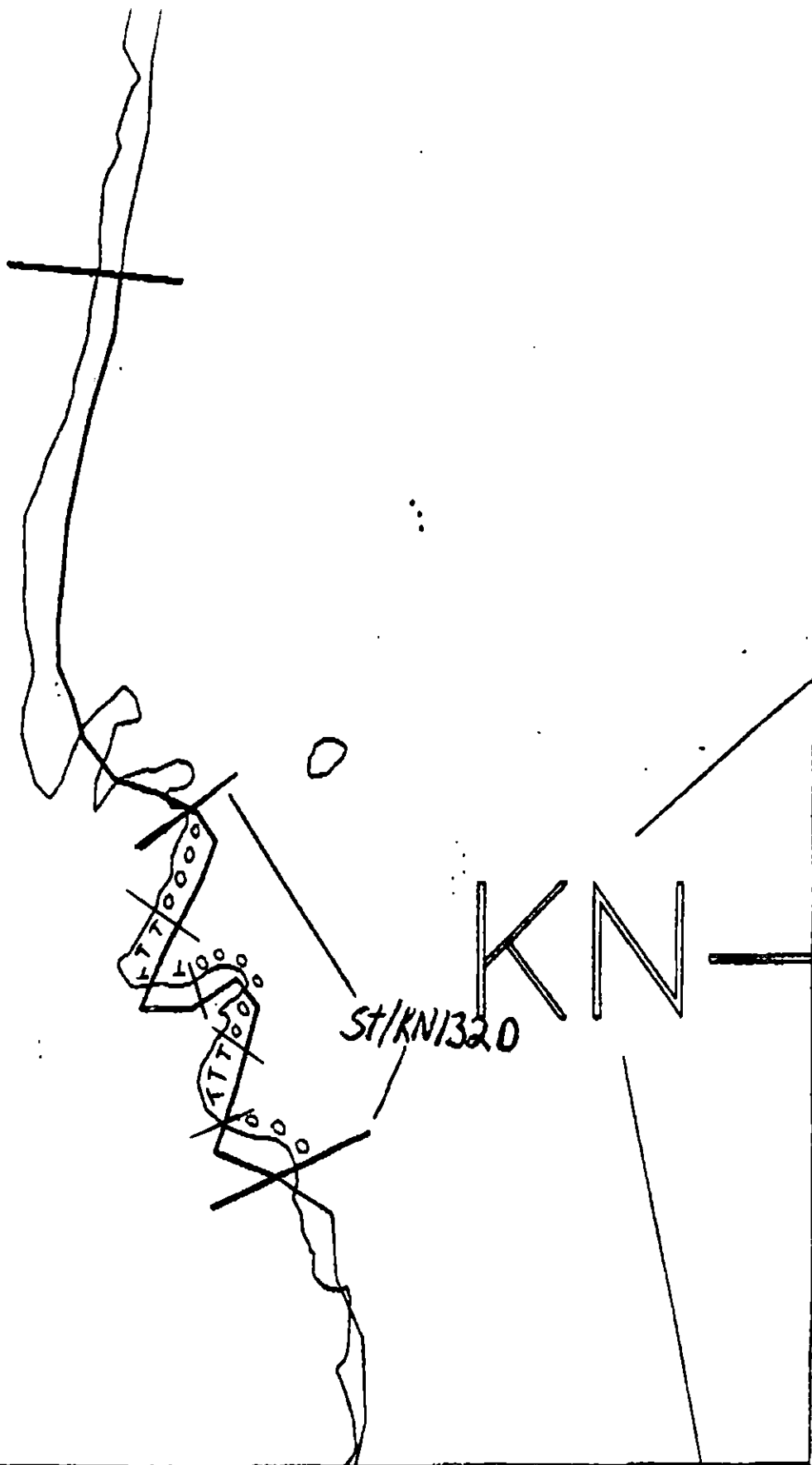
CHECKLIST

- M Arrow
- Approx. Scale
- Seg/Sub Bathy
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HML/LWL
- SSL
- Profile Location(s)
- Profile(s)
- Pl Location(s)
- Photo Location(s)

LEGEND

- 1 Δ
- Pl - No Subsurface Oil
- 2 Δ
- Pl - 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





XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-132

ADEC Segment Length: 1108m



Map Key: PWS-315

Name: _____

Date: _____

Data Entered: _____

REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-132

SUBDIVISIONS: D (4 OF 4)

SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION D (4 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-
migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-
oiled substrate and biota.

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 Re-
source Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 246 m: No Oil 319 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 14 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: Bioremediate area(s) shown on sketch map. Remove asphalt
mats. Work between 5/15 and 7/10 based on constraints.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN-132 SUBDIVISION: D DATE 3-31-90

JSCG

NAME W. F. WHITE SIGNATURE W. F. White

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

RECOMMEND REMOVAL OF OILED LOG, HOT WATER/
STEAM WASHING.

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

This subsegment is a boulder, cobble, cove separated by bedrock headlands. Coats on surface and undersides of boulders and cobbles. Pit shows sheen in interstitial water. Sporadic asphalt pavement at h.i.t.z. Large log at h.i.t.z is 70% oiled. Recommend removal of oiled log, hot water/steam washing with cold water flush (shore crew).

LAND MANAGER

NAME David Mandrella SIGNATURE David Mandrella

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Oiled condition consists of small patches of asphalt pavement which should be removed. Treat large woody debris covered with coat of oil. Gravel and pebble areas in intertidal have no apparent oiling. Sporadic coats on underside of rocks should be manually scraped.

SHORELINE OILING SUMMARY

REVISION NO. 03-28-90

OG Sawyer USCG White SEGMENT ST/ KN132
 BIO Benson LAND REP Mandrella SUBDIVISION D (4 of 4)
 EXXON Katsimpalis ADEC Munson TIME 11:40 to 13:00
 TEAM NO.: B TIDE LEVEL: -0.5 to +3.0 DATE Dec 131 1990
 EST. SUBDIVISION LENGTH: 440 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 ISLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 40 % B 20 % C 20 % P 10 % G 10 % S - % M - % V - %
 SLOPE: Long 70 % Hang - % Vert 30 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W - m M - m N - m VL 170 m NO 270 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	10	15	20	25	30	35	40	45	50	55	60	65	SU	U	M	U
ASPHALT PAVEMENT			✓													✓
POOLED																
COVER																
COAT			✓	✓											✓	✓
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL																

PAVEMENT: H (F) S 5 sq. m by 14 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#BAGS 1

Photographs:

Roll No. ST-8-1Frames 15-16

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	30	35	40	45	50	55	60	65	SU	U	M	U		
*1	20				✓		②-③															N	P, G, S, wt
2	25						50-14															N	P, G, S
*3	25				✓		②-③															N	P, S, wt
*4	35				✓		②-③															N	C, P, G, wt

COMMENTS ST/KN132D: Boulder and cobble beaches separated by bedrock ridges. Sporadic pavement occurs only in small areas (2 to 3 m²), but may be buried in places. Large oiled log in upper tidal zone of westernmost "pocket" beach. *Pits 1, 3, and 4 had silver sheens (Film. on water in pits, but films were not observed on subsurface sediment.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN132 Subdivision D Date (mo / day / yr) 3/31/90Time (24 hr) 1150 Biologist J. Benson

(A) Substrate type and % of segments:

(1) Bedrock 40 (2) Boulder 20 (3) Cobble 20 (4) Pebble 5 (5) Sand 5 (6) Silt 0(B) Overall % cover of biota (% of segment): Dense 50 Moderate 25 Low 25

(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 15, 16

BARNACLES

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

gull
high % cover of green filamentous algae

Ecological Considerations:

sensitivities: 1B (stream mouth - salmon spawning)

OG. Sawyer

SEGMENT ST/KN132

SUBDIVISION 0 (40/4)

DATE Mar 13/ 90

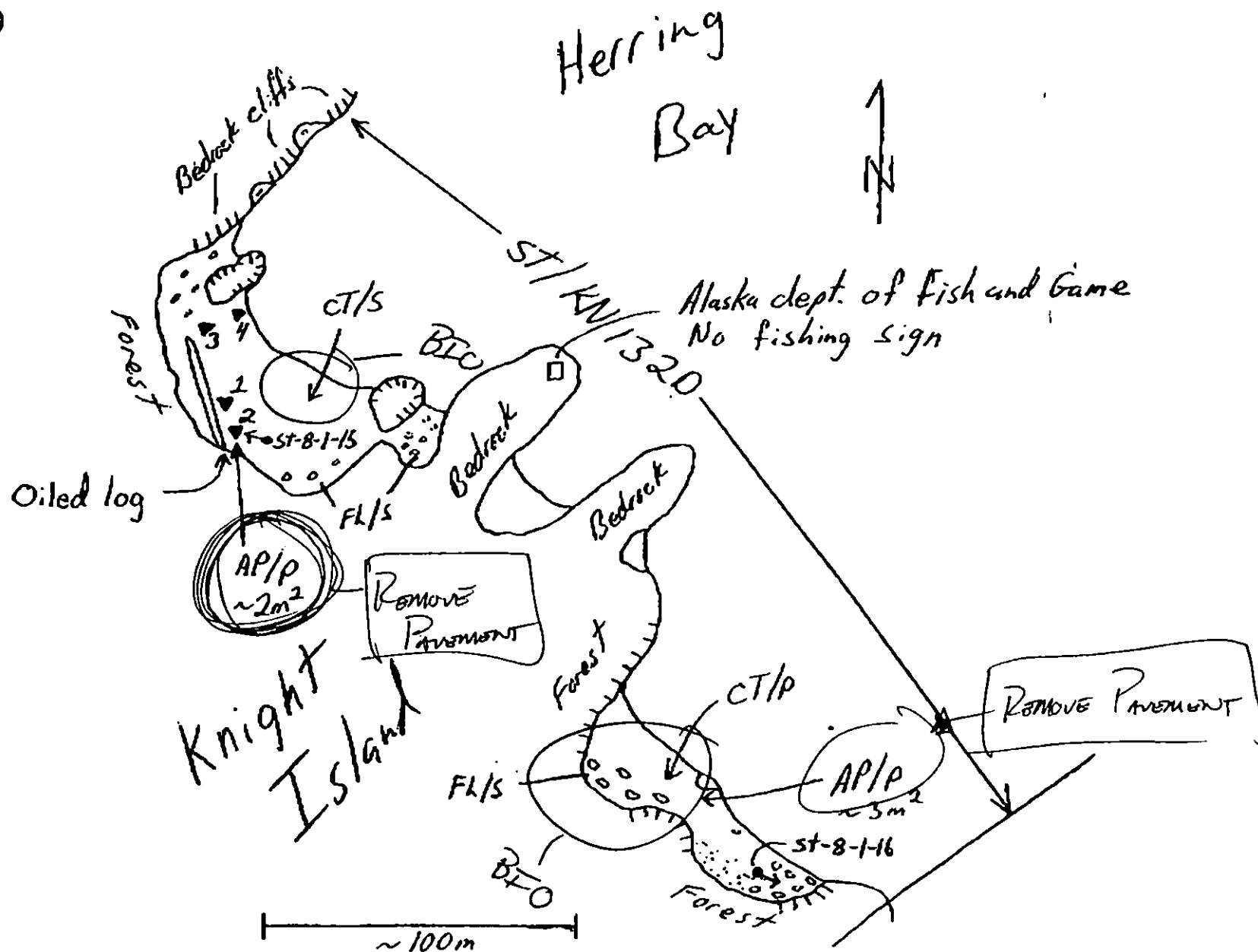
CHECKLIST

- ___ N Area
- ___ Approx. Scale
- ___ Seg/Sub Entry
- ___ Oil Dist.
- ___ Width
- ___ Length
- ___ % Cover
- ___ Substrate Character
- ___ Est. FIMLA WL
- ___ 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, and number

SKETCH MAP



Oil Character Length (m): AP 5 PO - CV - CT 80 ST - MS - PT - TB - FL 60 NO -

REVISION 938400



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-132

ADEC Segment Length: 1108m



Map Key: PWS-315

Name: _____

Date: _____

Date Entered: _____

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-132 SUBDIVISION A (1 of 4)

WORK WINDOW	
Manual Pickup	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A, 1B Salmon Stream

No constraint to Manual Pickup. ADF&G catalogued anadromous stream is in Subdivision C (226-10-16982) and more than 100m from the treatment area.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG ADDENDUM DATE 5/18/90
ADEC Art Weimer
EXXON Andy Katz
NOAA Joseph Talbot
USCG C.A. Beiter

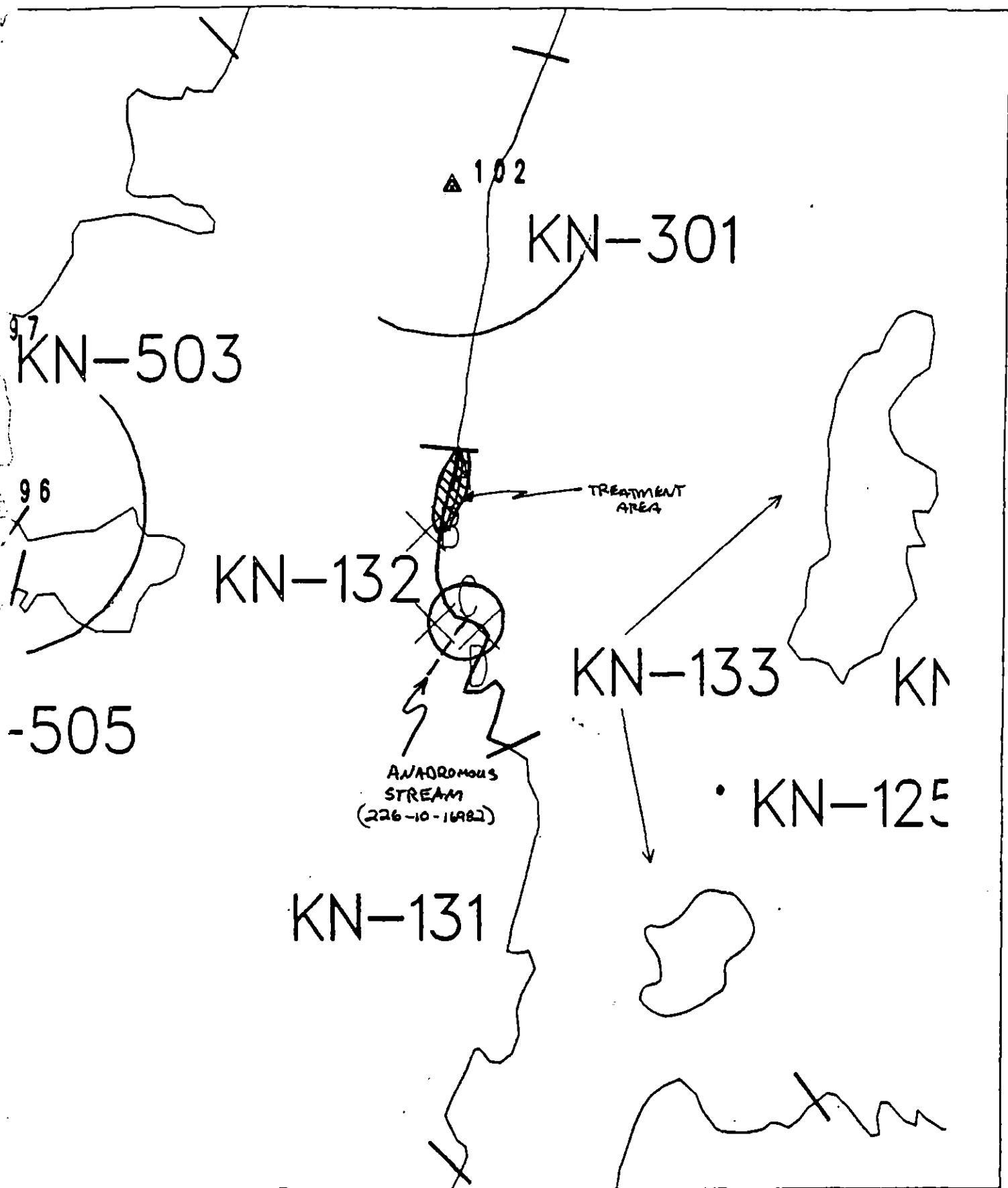
FOSC

DATE 5-18-90

Prepared by:

Anders Meyer WTK

Date: 5/17/90



Exxon Company, USA
 Map Key: KN1-KN-132
 May 11, 1990



ECOLOGY MAP
 SEGMENT KN-132
 SUBDIVISION A (1 of 4)
 METERS
 0 355 710

- ★ Seabird Colony
- △ Eagle Nest

1 inch = 1164 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION A (1 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-
migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-
oiled 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 Re-
source Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: Charles E. Hahn DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 235 m: No Oil 0 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)

COMMENTS: Manual pickup of rope/pom-pom found during survey. Bio-
remediation of area where surface coat found.

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90.

ADEC JOHN BAUER John Bauer
EXXON ANDY TETZ Andy Tetz FOSC: DATE:
NOAA Burl Warratt Burl Warratt
USCG G.A. BEITER G.A. Beiter

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-132 SUBDIVISION B (2 of 4)

WORK WINDOW	
Tarmat Removal	OPEN
Bioremediation Over 100m From Stream	OPEN
Bioremediation less than 100m From Stream	PERMIT REQUIRED

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

>>> PHONE 564-3274 (Anchorage) OR 229-1508 (24 hrs.) <<<

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16982) is located in adjacent Subdivision C. Subdivision B 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 tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or bank. No flushing of pollutants or sediment into stream drainage. Avoid any unnecessary disturbance or damage to uncolled biota and substrate.

TAG ADDENDUM DATE 5/21/90.

ADEC Art Weimer Art Weimer

EXXON ANDY TEAL Andy Teal

NOAA Joseph T. Gault Joseph T. Gault

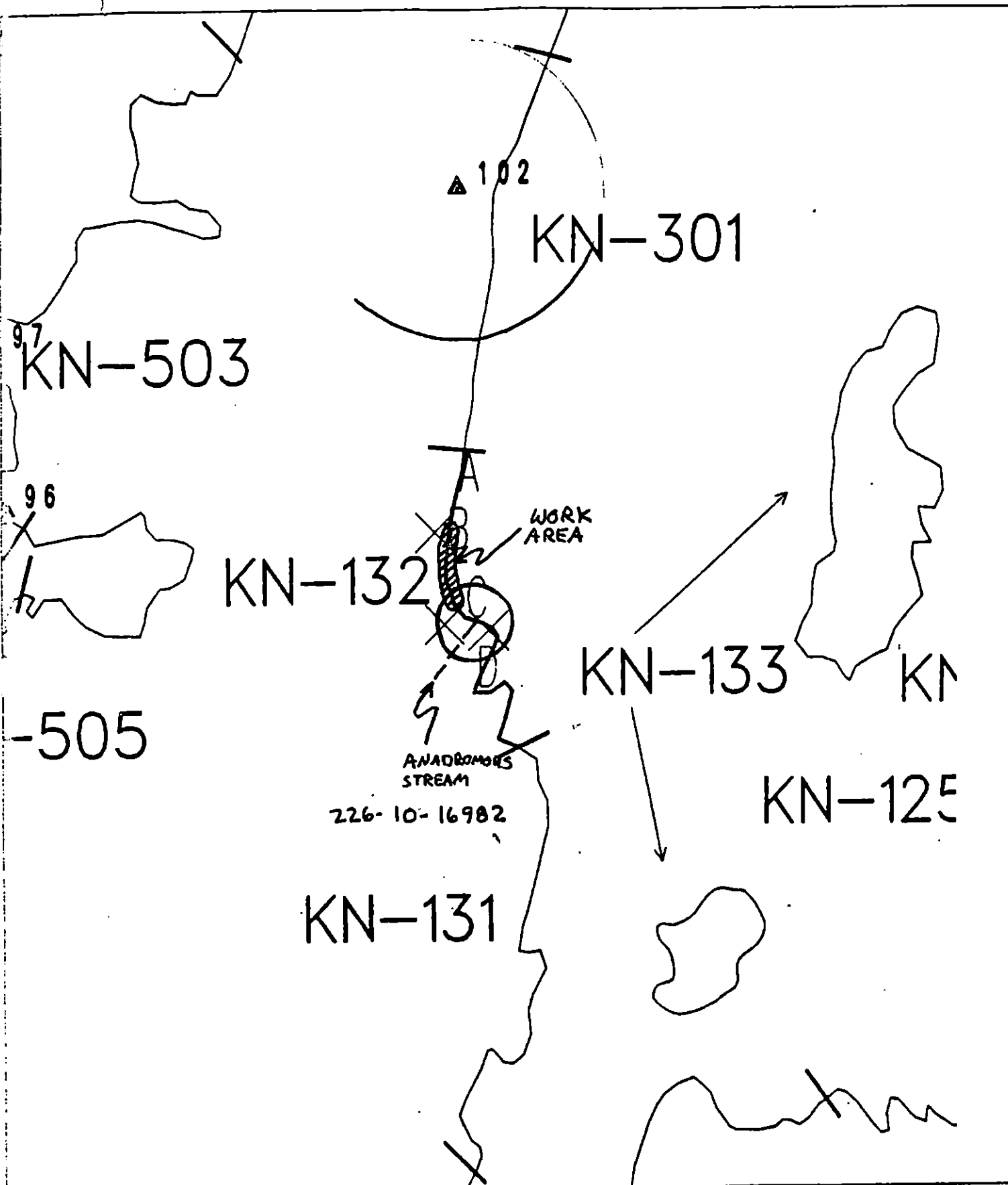
USCG W. J. Hall W. J. Hall

FOSC

DATE 5-21-90

Prepared by: Anden Mege

Date: 5/20/90



Exxon Company, USA
 Map Keys KN-1-KN-132
 May 11, 1990

ECOLOGY MAP
 SEGMENT KN-132
 SUBDIVISION B (2014)
 METERS
 0 355 710

- ★ Seabird Colony
- △ Eagle Nest

1 inch = 1164 feet

SEGMENT ST/ KN-132 SUBDIVISION B (2 OF 4) DATE 3/31/90

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

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: [Signature] DATE: April 14, 1990

Wide 46 m: Medium 69 m: Narrow 55 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 22 cm

<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: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> X Removal	<u> </u> Other (see comments)

COMMENTS: Bioremediate area of surface coat as shown on sketch map.
Breaks and Remove asphalt mats. Work between 5/15 and 7/10 based
on constraints.

SEE ADDENDUM DATED 5/20/90
Box C.

TAG COMMENTS:_____

TAG APPROVAL DATE: 4/13/10.
ADEC JOHN BAUER
EXXON ANDY TATE FOSC: _____ DATE: _____
NOAA Burl Wescott
USCG G.A. REITER

ADDENDUM: SUBDIVISION CONSTRAINTS**SEGMENT KN-132 SUBDIVISION B (2 of 4)**

WORK WINDOW	
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 INSPECTION/CONSULTATION REQUIRED.

>>> PHONE 564-3274 (Anchorage) OR 229-1508 (24 hrs.) <<<

APPLICABLE ECOLOGICAL TIME CONSTRAINTS**1A,1B Salmon Stream**

ADF&G catalogued anadromous stream (226-10-16982) forms the boundary between Subdivision B and C. Subdivision B 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 tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

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

**SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16982)
FOR ADDITIONAL CONSTRAINT INFORMATION**

TAG ADDENDUM DATE 6/04/90ADEC Ron Morris R-22EXXON AMY GARCIANOAA Joseph TallantUSCG G. A. ReiterFOSC [Signature]DATE 6/5/90Prepared by: [Signature] JPPDate: 6/4/90

* Incorporates USFWS
6/1/90 Active BALD EAGLE
NEST SURVEY MAP INFO.

▲ 102
ACTIVE
NEST

KN-301

97
KN-503

WORK
AREA

KN-132

KN-133

KN

-505

ANADROMOUS
STREAM

226-10-16982

KN-125

KN-131



Exxon Company, USA
Map Keys KN1-KN-132
May 11, 1990

ECOLOGY MAP
SEGMENT KN-132
SUBDIVISION B (2 of 4)
METERS
0 355 710

★ Seabird Colony
▲ Eagle Nest

1 inch = 1184 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION B (2 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-
migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or
banks unless authorized by ADF&G. Contact ADF&G Habitat Division
prior to treatment for permits.

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: *Charles E. Adams* DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 46 m: Medium 69 m: Narrow 55 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 22 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: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> <u> X </u> Removal	<u> </u> Other (see comments)

COMMENTS: Bioremediate area of surface coat as shown on sketch map.
Breakup and Remove asphalt mats. Work between 5/15 and 7/10 based
on constraints.

SEE ADDENDUM DATED 5/20/90

SEE REVISION 1, Addendum dated 6/4/90 PP

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90
ADEC *JOHN BAKER*
EXXON *ANDY GAZ*
NOAA *Burt Wescott*
USCG *G.A. REITER*

FOSC: DATE:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-132 SUBDIVISION C (3 of 4)

WORK WINDOW

Bioremediation More Than 100m From Stream	OPEN
Bioremediation Less Than 100m From Stream	WORK PRIOR TO 7/10 (ADF&G MONITOR REQ.)

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

>>> PHONE 564-3274 (Anchorage) OR 229-1508 (24 hrs.) <<<

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16982) is located in this Subdivision. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or bank. No flushing of pollutants or sediment into stream drainage. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16982) FOR ADDITIONAL CONSTRAINT INFORMATION

TAG ADDENDUM DATE 6/04/90
 ADEC Ray Morris
 EXXON Amy Tera
 NOAA Joseph Kilgob
 USCG G.A. Hunter

FOSC

[Signature]

DATE

6/5/90

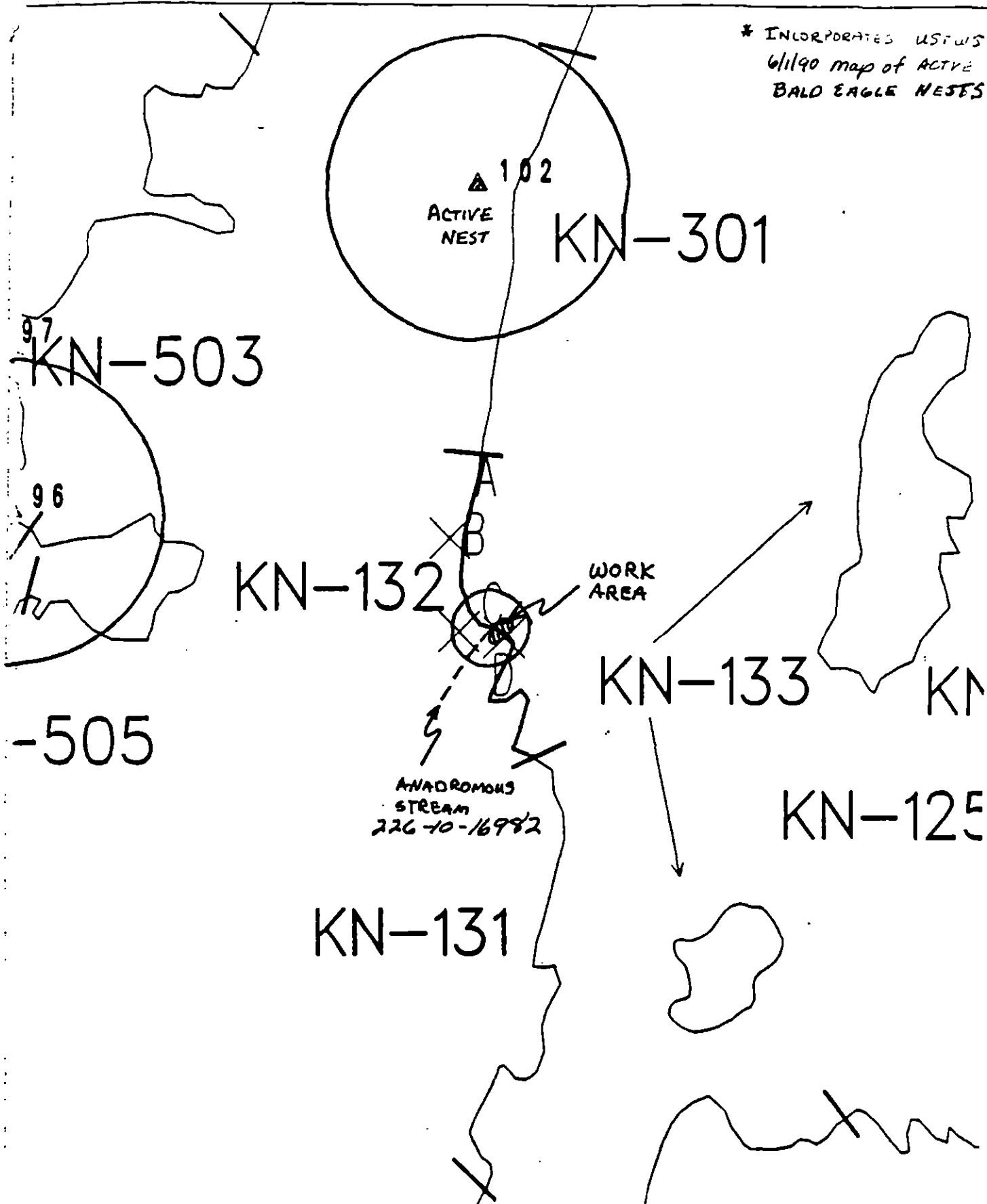
Prepared by:

[Signature]

Date:

6/4/90

* INCORPORATES USFWS
6/1/90 map of ACTIVE
BALD EAGLE NESTS



Exxon Company, USA
Map Keys KN1-KN-132
May 11, 1990



ECOLOGY MAP
SEGMENT KN-132
SUBDIVISION C (3 of 4)
METERS
0 355 710

★ Seabird Colony
▲ Eagle Nest

1 inch = 1164 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION C (3 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-
migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or
banks unless authorized by ADF&G. Contact ADF&G Habitat Division
prior to treatment for permits.

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. vered

ARCHAEOLOGICAL CONSTRAINTS: An Exxon archaeological kl the
monitor is required on-site during shoreline treatment. at Re-

SHPO SIGNATURE: Charles E. Hume DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 63 m: No Oil 106 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: Bioremediate area shown on sketch map. Work between
5/15 and 7/10 based on constraints.

SEE ADDENDUM DATED 5/29/90

SEE REVISION 1, Addendum dated 6/4/90 Rex C. PP

TAG COMMENTS: SUGGEST CUSTOMER FOR BIOREMEDIATION
AS INDICATED ON SKETCH.

TAG APPROVAL DATE: 4/13/90
ADEC John Bauer JWB
EXXON Andy Tate AT FOSC: _____ DATE: _____
NOAA Barry Weiselt BW
USCG G.A. Reiter G.A. Reiter

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-132 SUBDIVISION D (4 of 4)

WORK WINDOW	
Tarmat Removal	OPEN
Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon stream

NO CONSTRAINT. ADF&G catalogued anadromous stream (226-10-16982) is in adjacent Subdivision C and more than 100m from treatment areas.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid disturbance or damage to uncolled biota and substrate.

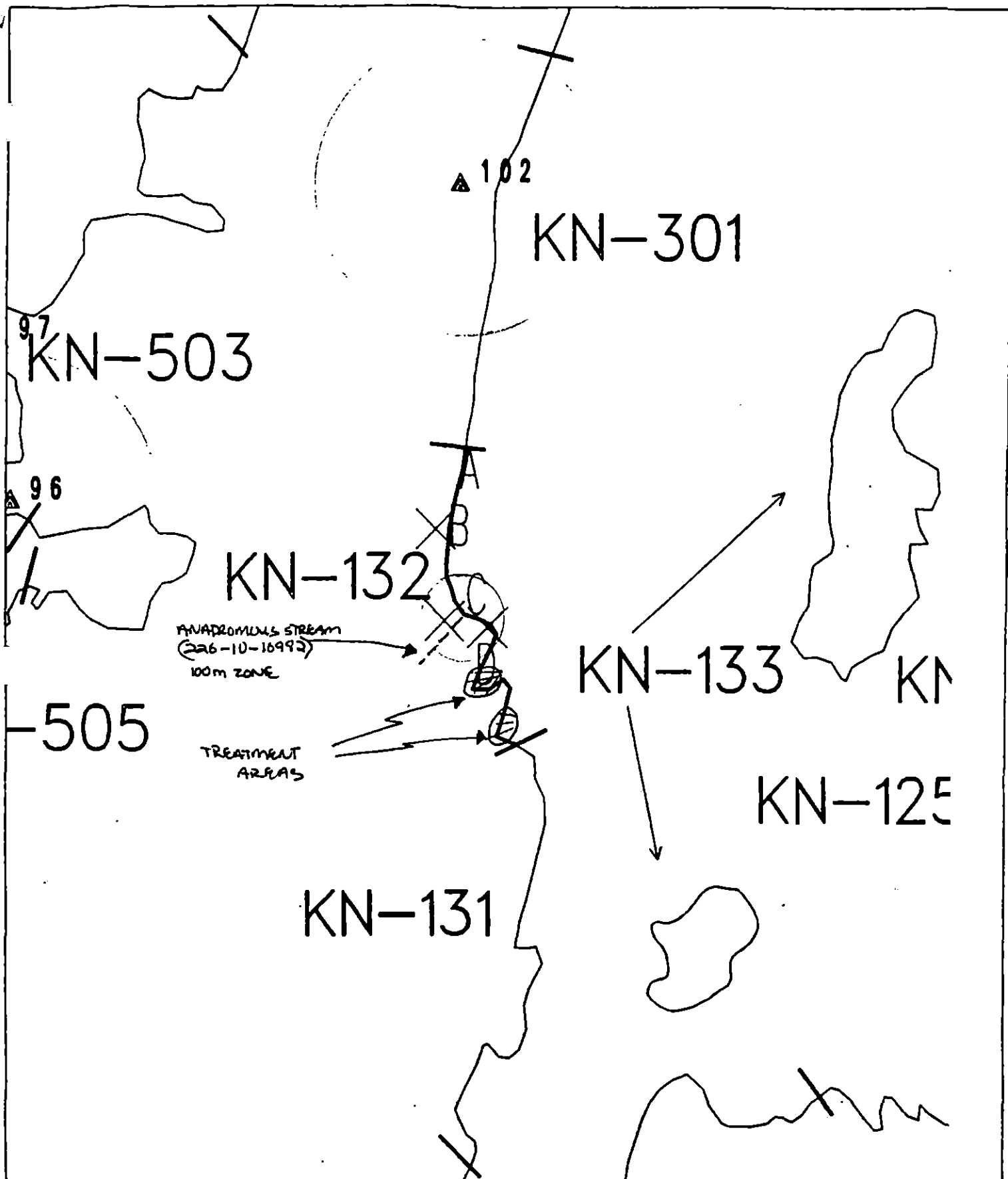
TAG ADDENDUM DATE 5/16/90
ADEC Aret Weagen
EXXON Amoy Telle
NOAA Joseph Talbot
USCG G.A. NEITER

FOSC my L

DATE 5-17-90

Prepared by: Andrus Meyer WKS

Date: 5/14/90



Exxon Company, USA
Map Keys: KN1-KN-132
May 11, 1990



ECOLOGY MAP
SEGMENT KN-132
SUBDIVISION D (4 of 4)
METERS
0 355 710

★ Seabird Colony
▲ Eagle Nest

1 inch = 1164 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION D (4 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-
migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-
oiled substrate and biota.

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 Re-
source Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: Charles J. Johnson DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 246 m: No Oil 319 m
Subsurface Oil Observed: Yes X No Maximum Depth 14 cm

RECOMMENDATIONS:

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

COMMENTS: Bioremediate area(s) shown on sketch map. Remove asphalt
mats. Work between (5/15 and 7/10) based on constraints.

See Addendum
Dated 5/14/90 WMC

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90

ADEC John Bauer D. H. Ba
EXXON Andy Tate FOSC: DATE:
NOAA Burk W. Gifford
USCG G.A. Kelter G.A. Kelter

SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION A (1 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-
migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-
oiled 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 Re-
source Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: Charles E. Holman DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 235 m: No Oil 0 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)

COMMENTS: Manual pickup of rope/pom-pom found during survey. Bio-
remediation of area where surface coat found.

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90.

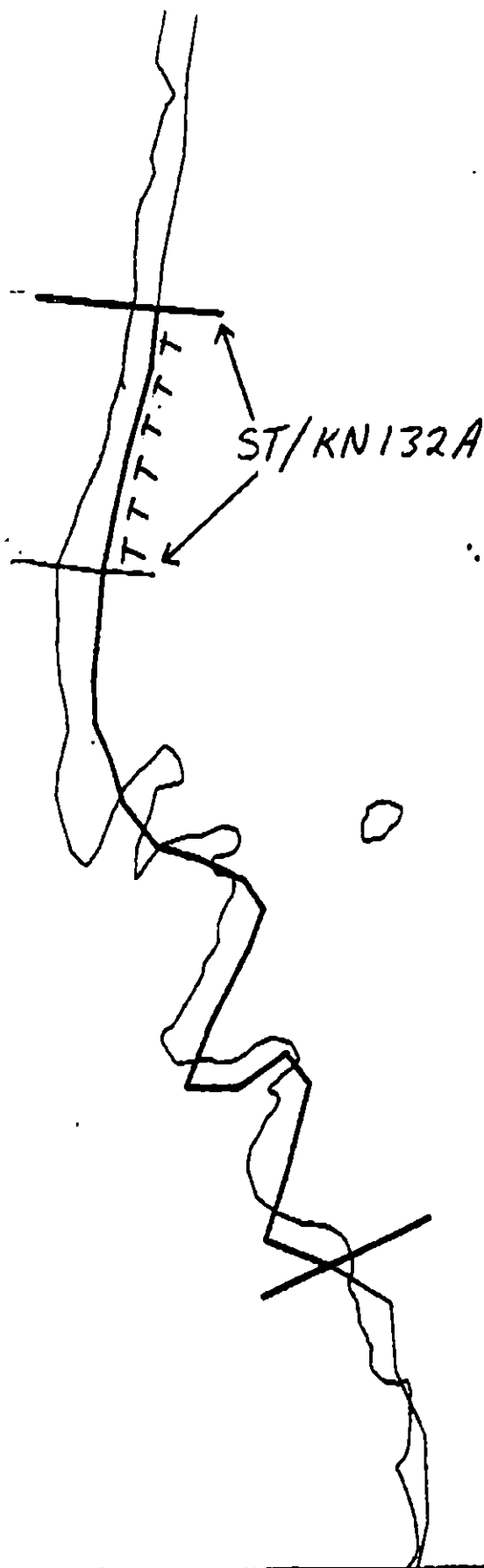
ADEC JOHN BAUER John Bauer

EXXON ANDY TEAL Andy Teal

NOAA Burl Warrent Burl Warrent

USCG G.A. Reiter G.A. Reiter

FOSC: h y L DATE: 4-20-90



KN-

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-132

ADEC Segment Length: 1108m



Map Key: PWS-315

Name: Sawyer

Date: Mar 31, 1990

Data Entered:

OG Sawyer
 SEGMENT ST/KN132
 SUBDIVISION A (1 of 4)
 DATE Mar 13/90

SKETCH MAP ST-8-1-7

Alaska Dept. of Fish + Game
 No fishing sign



CHECKLIST

- ☒ H Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HNL/WL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pt Location(s)
- ☐ Photo Location(s)

LEGEND



Pt - No Subsurface Oil



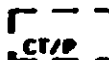
Pt - Subsurface Oil



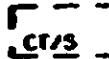
Continuous Distribution



Broken Distribution



Patchy Distribution

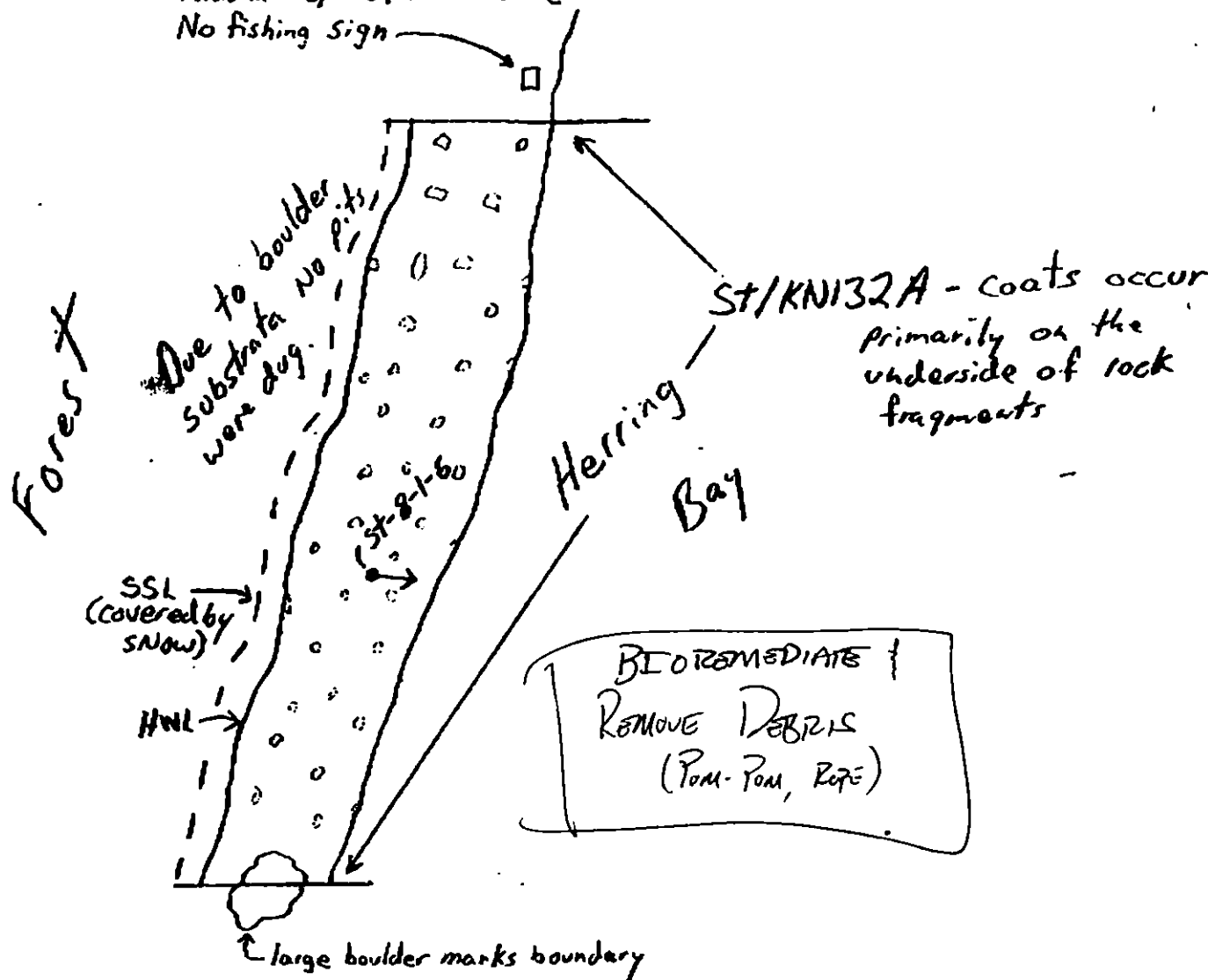


Splashed Distribution

Oiled Vegetation



Photo location, direction, and number



~100m

SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION B (2 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

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: Charles E. Adams DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 46 m: Medium 69 m: Narrow 55 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 22 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
☐ X Removal	☐ Other (see comments)

COMMENTS: Bioremediate area of surface coat as shown on sketch map.
~~Breakup and Remove asphalt mats. Work between 5/15 and 7/10 based~~
on constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 9/13/10

ADEC JOHN BAKER JOHN

EXXON ANDY GAZ REED

NOAA Burl Wescott Burl Wescott

USCG G.A. REITER G.A. Rei

FOSC:

DATE: 4-20-90

OG. Sawyer

SEGMENT ST/KN132

SUBDIVISION B (2 of 4)

DATE Mar 13/ 90

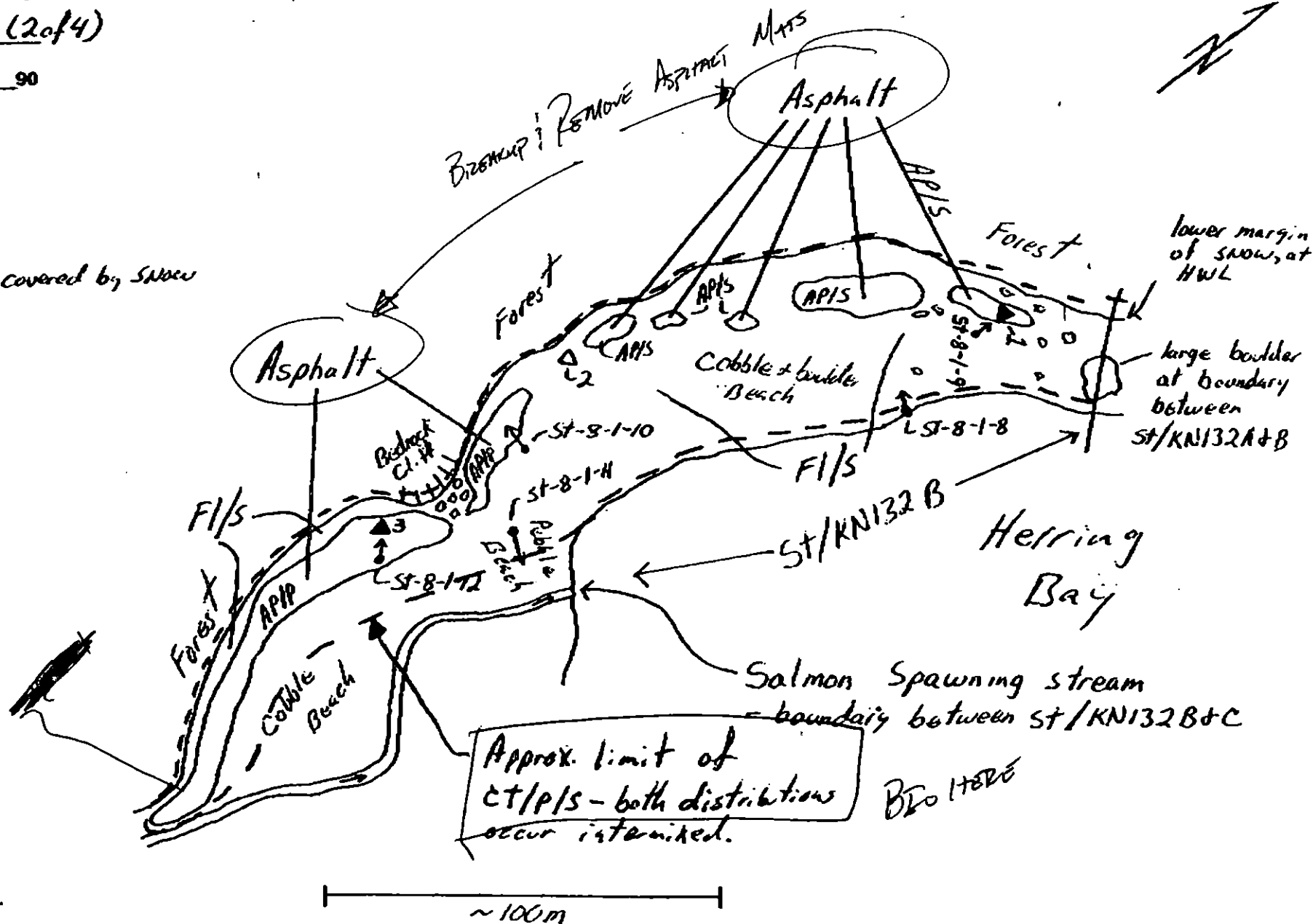
CHECKLIST

- N Arrow
- Approx. Scale
- Seg/Sub Bndry
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HML/VML
- SSI ← covered by snow
- Profile Location(s)
- Profile(s)
- Pt Location(s)
- Photo Location(s)

LEGEND

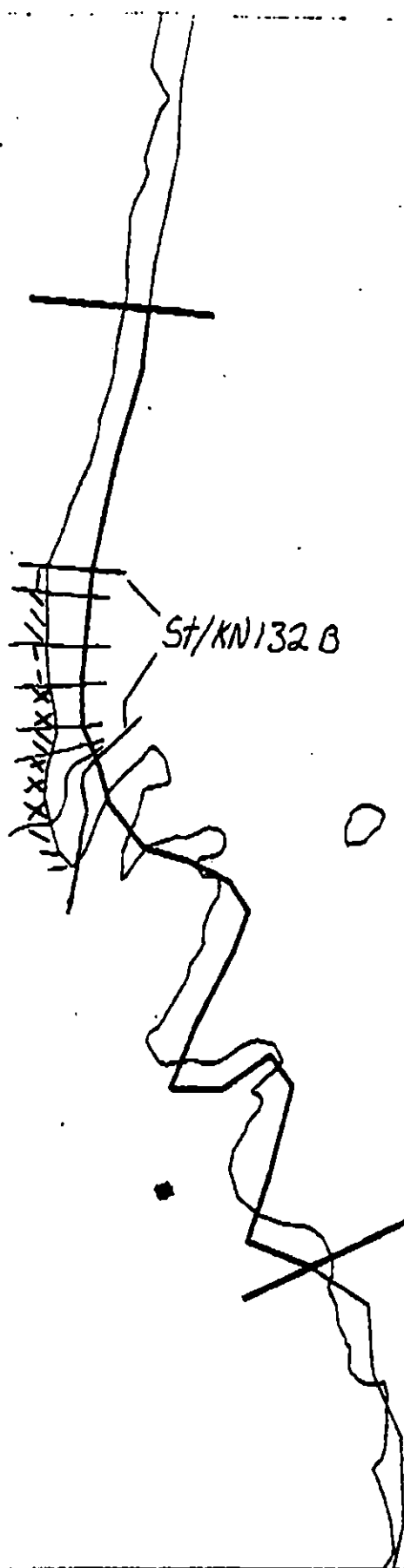
- 1 Δ
- Pt - No Subsurface Oil
- 2 Δ
- Pt - Subsurface Oil
- CT/C
- Continuous Distribution
- CT/B
- Broken Distribution
- CT/P
- Patchy Distribution
- CT/S
- Spaced Distribution
- Oiled Vegetation
- 1 →
- Photo location, direction, and number

SKETCH MAP



Oil Character Length (m): AP 215 PO — CV — CT 100 ST — MS — PT — TB — FL 30 NO —

REVISION 02/2000



KN-

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-132

ADEC Segment Length: 1108m



Map Key: PWS-315

Name: Sawyer

Date: 3-31-90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION C (3 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-
migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or
banks unless authorized by ADF&G. Contact ADF&G Habitat Division
prior to treatment for permits.

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. wered

ARCHAEOLOGICAL CONSTRAINTS: An Exxon archaeological _____
monitor is required on-site during shoreline treatment. Re-

SHPO SIGNATURE: Charles E. Adams DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 63 m: No Oil 106 m
Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

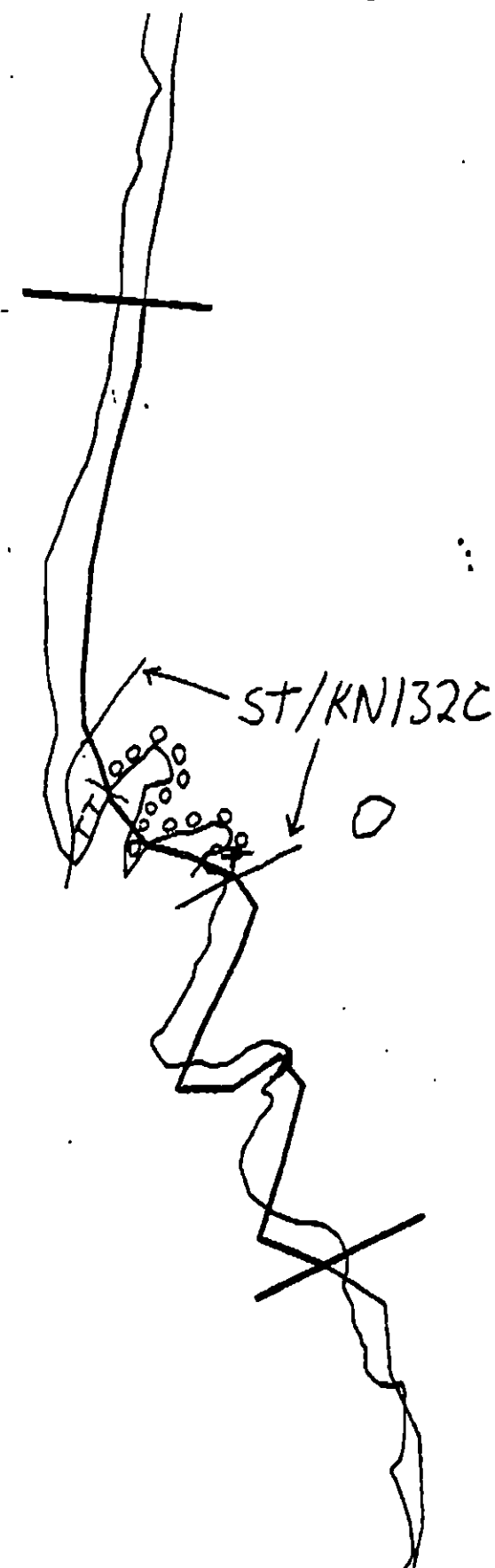
☐ No Treatment Recommended	☐ Snare/Absorbent Booms
☒ Treatment Recommended	☐ Oil Snares (pom poms)
☐ Manual Pickup	☐ Absorbents (pads, rolls, etc)
☒ Bioremediation	☐ Spot Washing: _____ Wands
☐ Tarmat: _____ Breakup	☐ Beach Cleaner
☐ Removal	☐ Other (see comments)

COMMENTS: Bioremediate area shown on sketch map. Work between
5/15 and 7/10 based on constraints.

TAG COMMENTS: SUGGEST CUSTOMBLEN FOR BIOREMEDIATION
AS INDICATED ON SKETCH.

TAG APPROVAL DATE: 4/13/90

ADEC JOHN BAUER FOSC: [Signature] DATE: 4-20-90
EXXON ANDY TEAL
NOAA Burt Wiggott
USCG G.A. REITER



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-132

ADEC Segment Length: 1108m



Map Key: PWS-315

Name: _____

Date: _____

Date Entered: _____

1991 MAYSAP EVALUATION

SEGMENT: KN 132 SUB: D REGION: PWS SURVEY DATE: 5/24/91ENVIRONMENTAL 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 D. Arnold Date: 6/07/91RECOMMENDATIONS:

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: JUNE 6 1991FOSC APPROVAL DATE: 6/10/91

ADEC

EXXON

USCG

NOAA

FOSC

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

MAYSAP FIELD SHORELINE COMMENT SHEET

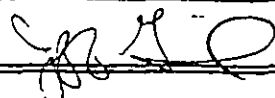
TEAM NO. 1 SEGMENT KN 132 SUBDIVISION 0 DATE 5/24/91

ADEC

NAME

JEFF GINALLAS

SIGNATURE



NTR

I RECOMMEND NO TREATMENT AS I SEE NO FEASIBLE MEANS TO REMOVE THE OIL WHICH IS PRESENT. AT OG MAP SITE "F", A SUBSURFACE LENS RUNS PRETTY MUCH THE LENGTH OF THE BEACH, ALONG MITE, MOR VARYING LOR. IT IS EASILY LOCATED, JUST BELOW THE SURFACE (5-10 CM) MANUAL TREATMENT WOULD NOT WORK. MECHANICAL WOULD BE TOO INTENSIVE WHEN CONSIDERED WITH THE OIL TO BE REMOVED/RECOVERED A FEW BOUNDER/BEDROCK AREAS IN BEACH MAY HINDER MECHANICAL OPERATION, PLUS HEMOLANDS FAIRLY FAR APART, MAKES ANCHORING CONTAINMENT BOOM DIFFICULT. BEACH IS NOT SUGGESTING, UNLESS AGGRAVATED (ONLY OBSERVED ONE TIDE CYCLE, NOT FAMILIAR WITH PRIOR HISTORY OF BEACH AREA AT PIT #1 (HOR) RELATIVELY ISOLATED, EXPOSED AND SPREAD BY MAYSAP TEAM. TECHNOLOGY FOR TREATMENT MAY NOT EXIST. OPEN FOR SUGGESTIONS.

EXXON

NAME

LARRY D. OLSON

SIGNATURE

☒ NTR

no removable oil located. Beaches are healthy with very good growth and healthy recolonization. Any further intrusion would destroy established inter tidal Biota.

INDMANAGER

NAME

MARSHA HALL

OF

DNR

SIGNATURE

☒ NTR

Any removable oil is too sporadic - not consistent enough across beach to require crew. Much of SOR is weathered greatly.

USCG/NOAA

NAME

SCHULTZ / CHILDS

SIGNATURE

☒ NTR

ANY FURTHER INTROSION WOULD NOT BE WARRANTED, & WOULD LIKELY CAUSE MORE ENVIRONMENTAL HARM THAN GOOD

VERY RUGGED PILLOW BEACH SHORELINE. POCKET BEACHS & CHUTES APPEAR TO BE JOINT CONTROLLED. BEACHES GROWING/ENCROACHING ON FOREST - BOUNDER ON UPPER BEACH GRADING IN SIZE DOWNWARD TO THE LITE. OIL OBSERVED AS CT 1 ST < 100' WIDE PATCHES ACROSS MOST OF THE SEGMENT. HEAVY COVERAGE OF CT 1 CV IN REAS OF EEP. LO SOR in B'D. SUBSURFACE OIL - "D" HOR in AREA N 2 x 1 in - AREA "F" 8 x 75 m - LOR then MOR - in the LITE - MITE

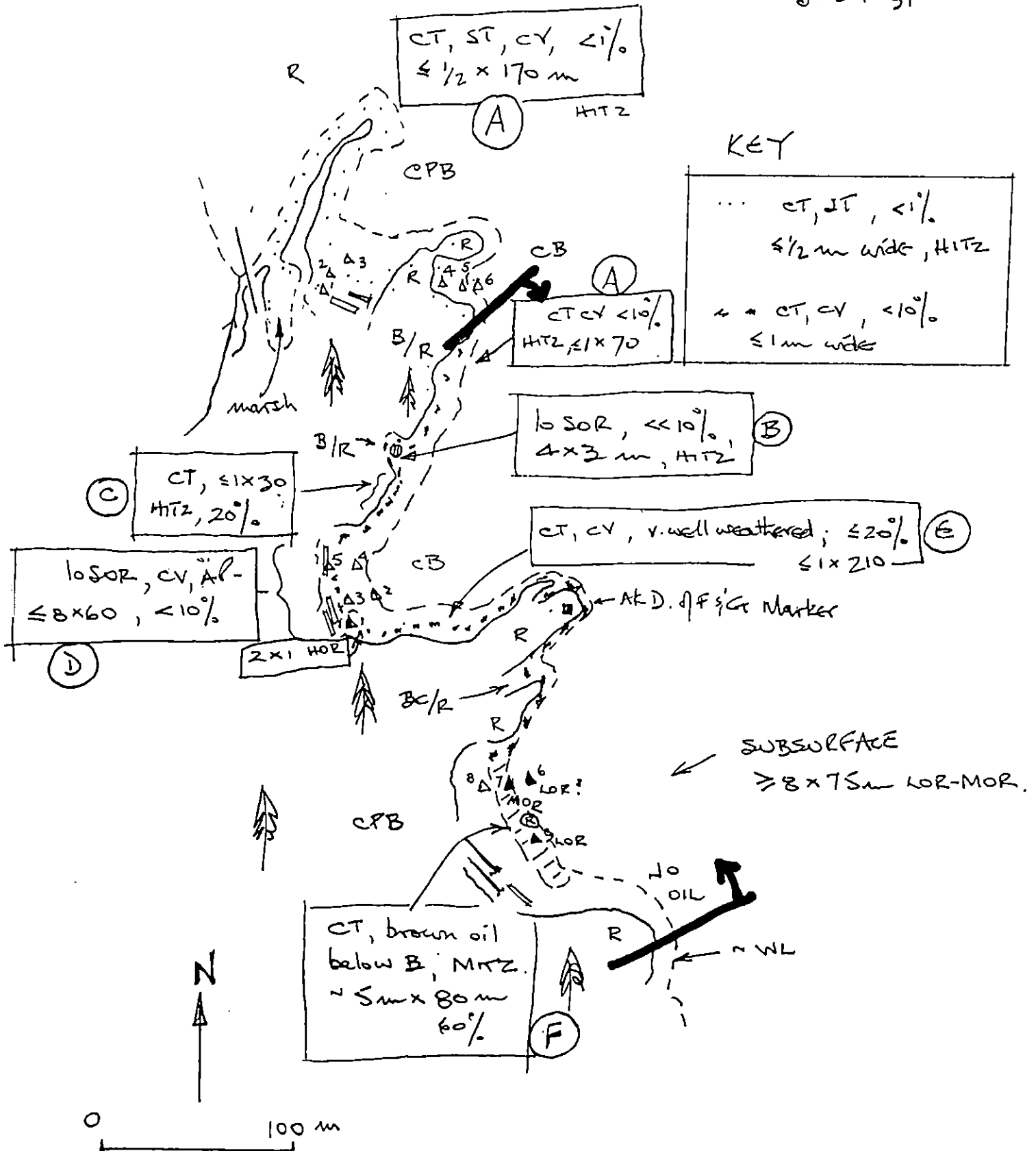
REVISOR: MC 5/28/98

KN-132D

KN-132C,D

G. MACDONALD

5.24.91



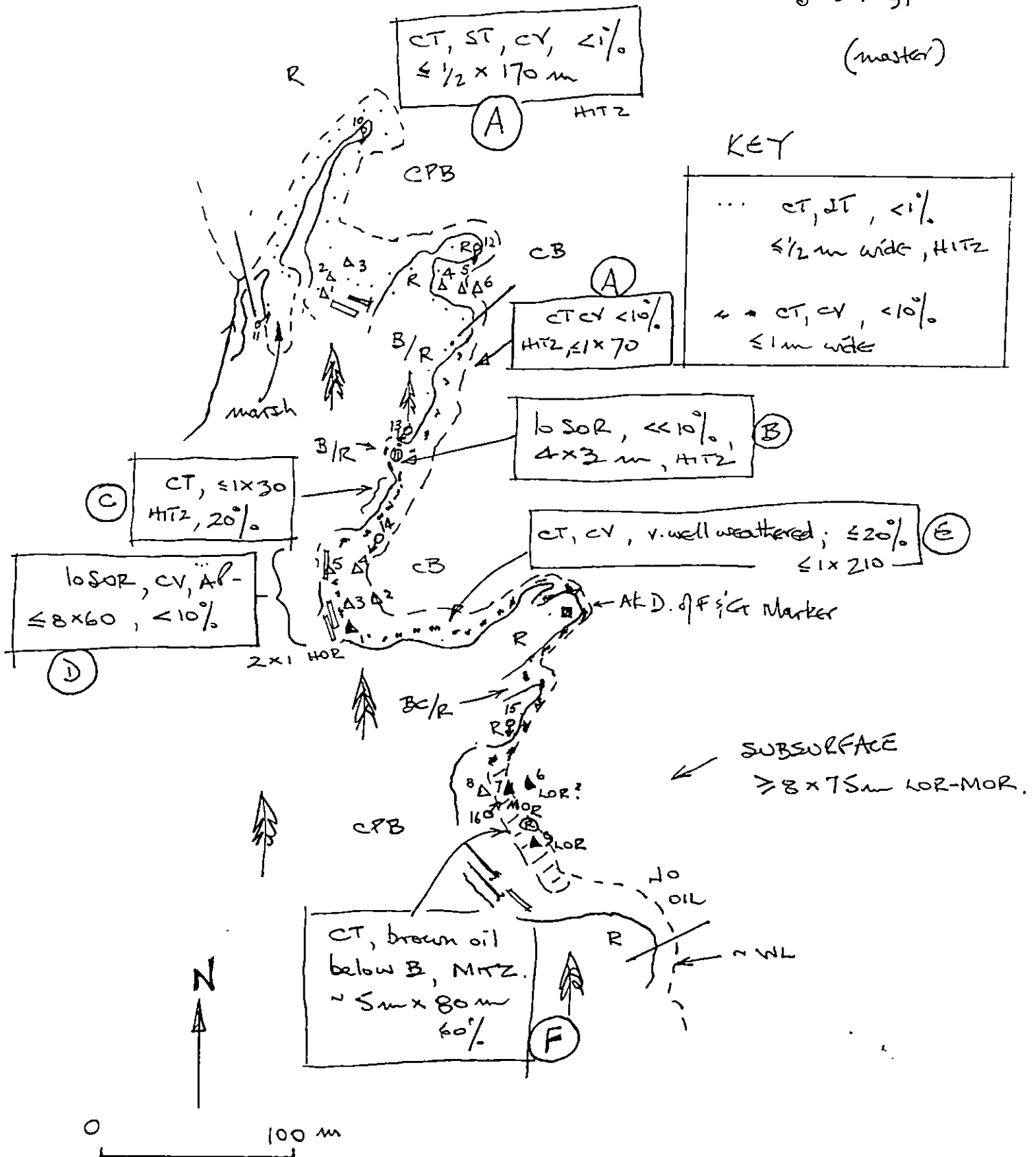
REVIEWED: F.W. 5/27/91
REVIEWED: MC 5/28/91

KN-132C, D

G. MACDONALD

J. 24.91

(master)



REVIEWED: F.W. 5/27/91 3

TEAM # 1 DATE 5/24/91
 SEGMENT # KN132 TIDAL HEIGHT(Range) +2.5 to +2.7 ft MLLW
 SUBDIVISION D BIOLOGIST Michael Fawcett
 SEA STATE 1/2 ft seas WIND SPEED/DIRECTION N 5-10 knots
 PHOTOGRAPHS: ROLL # _____ FRAME # _____

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

The main areas of concern in this subdivision are two small NE facing coves (D & F on sketch map). At site D the residual oil is surficial and high on the beach in the supratidal zone. At site F buried oil extends through MTZ and into LTZ, and lies beneath a healthy and fairly diverse boulder community typical of this region (see sketch map). Removing the buried oil would necessitate destroying the existing community.

The presence of dioporate worms among surface oil residue in MTZ-LTZ supports hypothesis that they consume decaying oil. These worms normally occur in UTZ or SUTZ and feed on decaying seaweed.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

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

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

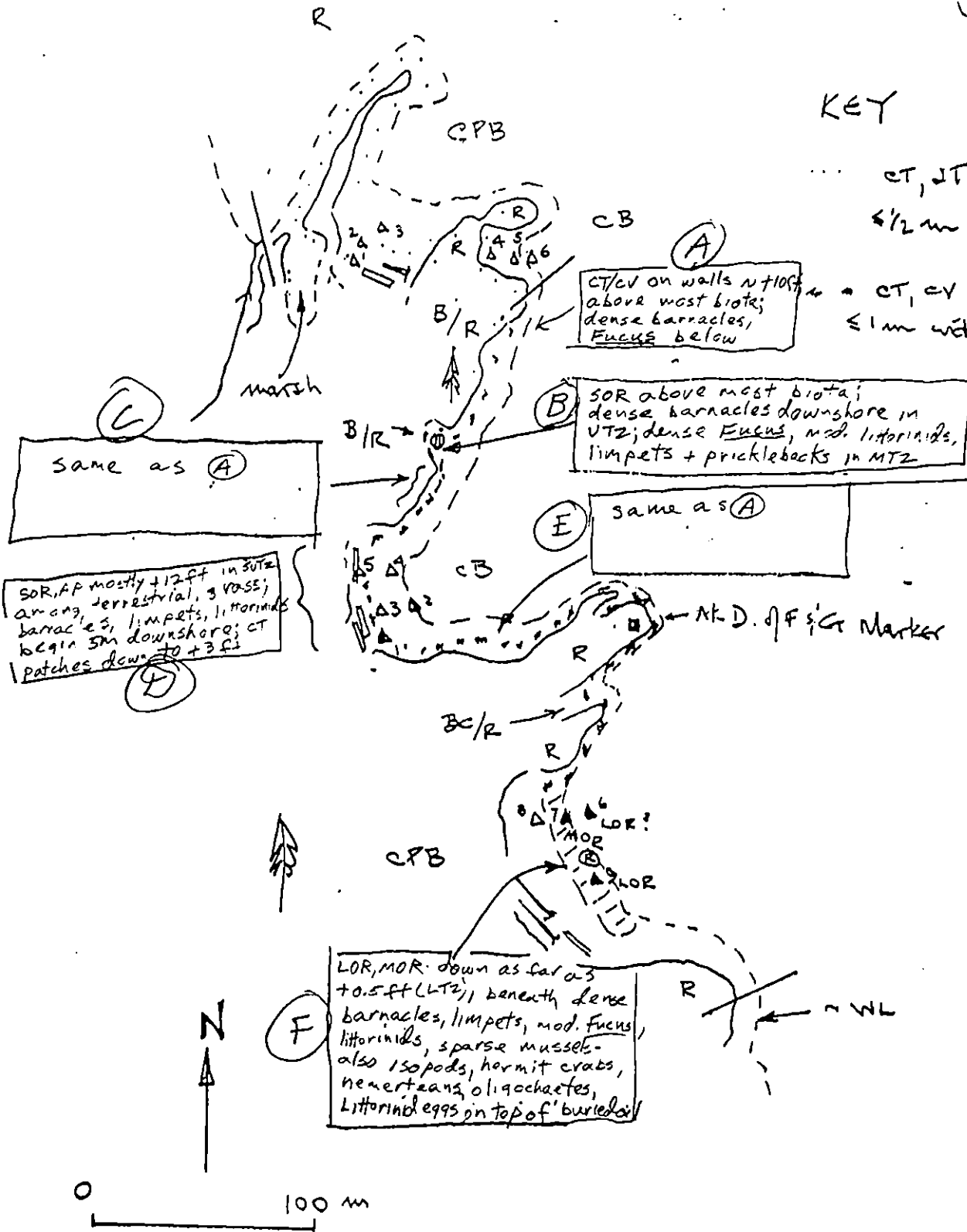
Shoreline subdivision map showing important biological features attached.

KN-132 D
Bio Sketch Map
M. H. Fawcett
5/24/91

KEY

CT, JT, <1%
1/2 m wide, HITZ

CT, CV, <10%
1 m wide



KN132-D 5/24/91

Fauvel

Start 1645 -

- same general description as C -

dense barn & Fucus MTZ on borders,

up to VTZ on BR walls

- CT & ST on walls + 10 ft or so

above most biota

- pos of oysters, calcareous on island

- 1650 - pocket B/BR - ET/ST/CL/BR

+ 8-12 ft above dense barns

(up to 8 ft), dense Fucus & barn

+ 2-5 ft

- prickly pears, lump, mod litt.

- LTZ Rhodospira, Cladophora, UVA

- dense barn spot LTZ - MTZ

1700 - 1st big cone - B/C/P barn

North end of cone has AP barn in

VTZ 1/2 among for. glass

+ 12 ft - barnacles, lump, litt.

~ 3-5 m barnacle -

- Barnacles mod. dense in MTZ,

Fucus sparse, both on larger

cobble

- Hemigrapsus, sparse lump, litt, MTZ-CTZ

sparse mud - bits of CT & Cuscuta

shells down to +3 ft

KN 132D (cont) 5/24/91 Fawcett

1730 - 2nd big core - same as BT
for benthos - dense Fucus, barn on walls,
sparse in HC, except barnacles
which are dense in some MTZ areas
on larger C & B

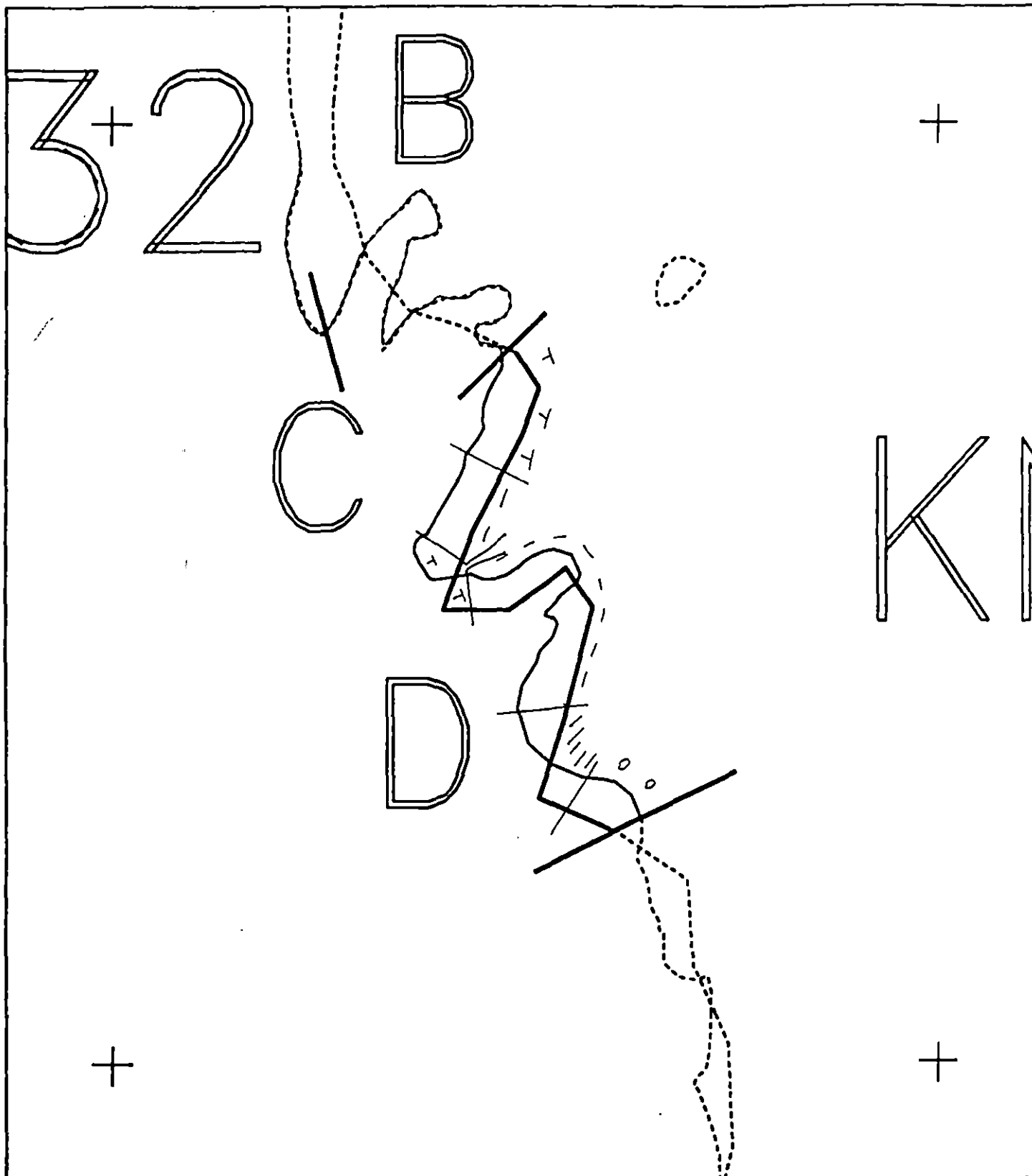
- buried oil down to +4 ft
among dense barn, sparse Fucus,
dense lump (mostly ^{mostly} many young, 30m,
some larger) - sparse mussels

- Lot goes down to about
+0.5 ft (unburied) in dense
Fucus

- LTZ MTZ - +3-6 ft also has
mod dense spat; oligochaetes in oil
residue, isopods (Idotea), remaneans,
hermit crabs, - all seems normal
except presence of oligochaetes + is
low on shore

- sparse Littorinid eggs
- customblen pellets

finish @ 1805 hrs



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

KN0132 D
 ADEC Subsegment Length: 535m
 METERS

AK State Plane Zone 4
 kn0132d

Subdivision Field Map
 Map Key: KN1KN0132D
 Name: GM
 Date: 5-24-91
 Date Entered:



REVIEWED: F.W. 5/27/91
 REVIEWED: MC 5/28/91

1991 MAYSAP EVALUATION

SEGMENT: KN 132 SUB: A REGION: PWS SURVEY DATE: 5/24/91

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: 6/04/91

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: JUNE 4 1991 FOSC APPROVAL DATE: 6/8/91

ADEC John B...

FOSC E. E. PAGE

EXXON Real

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

USCG SM...

NOAA John J...

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 1 SEGMENT KN 132 SUBDIVISION A DATE 5/24/91

ADEC

NAME JEFF GINALIAS SIGNATURE [Signature]☒ NTRNO RECOVERABLE OIL. ONLY OIL WAS OCCASIONAL COAT/COVER
ON BOULDERS, STEEP INCLINE UITS.

EXXON

NAME LARRY D. OLSON SIGNATURE [Signature]☒ NTR

No treatable oil conditions found.

LANDMANAGER

NAME Marsha Hall OF DNR SIGNATURE Marsha Hall☒ NTR

Coat on boulders only, was observed.

USCG/NOAA

NAME SCHULTZ / CHILPS SIGNATURE [Signature] / 72C☒ NTR NOTHING LEFT TO RECOVEREROSIONAL HI-ANGLE BOULDER - COBBLE SHORELINE - OILING DETECTED CONSISTS
OF CT & CV ALONG HI-SE, TYPICAL FOR AREA, <10% COVERAGE. NO SUSPECTIBLE
OIL.

PAGE 1 OF 1

DATE 5 / 24 / 91

ENERGY LEVEL: ☐ H ☐ M ☒ L

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

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

EST. OIL CATEGORY LENGTH: W m M m N m VL 235 m NO m US m

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

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 1 - 30 FRAMES 9

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

OG COMMENTS: Steep bc shore, over 2. Surface oil only, no sporadic CT w/ trace CV splatr. There was no substrate adequate for pitting ~ no soil was observed.

REVIEWED: F.W. 5/27/91

Reviewed: MC 5/28/91

AK D.8 F3 G

M-H angle,
BC/R shore

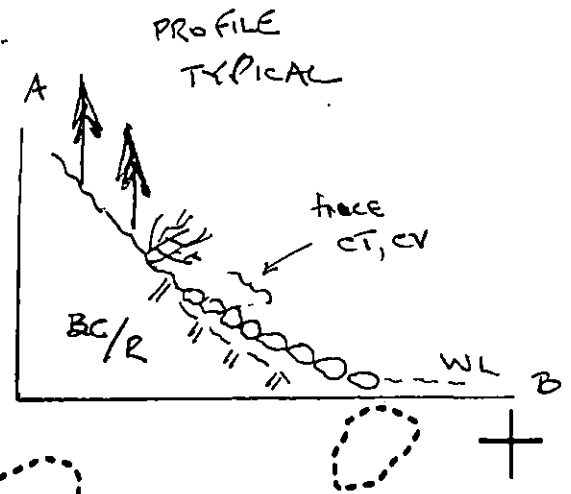
(A)

CT, $< 10\%$ HTZ,
 $\leq 2 \times 235$, algae o' growth.
CV/I, $< 1\%$ as splatry
under B; A/A.

A

B

13
+



XX Wide
// Medium
-- Narrow
| Very Light
00 No Oil

KN0132 A

ADEC Subsegment Length: 235m
METERS



Subdivision Field
Map Key: KNKN0132
Name: G. MACDONALD
Date: 5-24-91
Date Entered:

REVIEWED: F.W. 5/27/91
REVIEWED: MC 5/18/91

TEAM # 1 DATE 24 May 91
 SEGMENT # KN 132 TIDAL HEIGHT (Range) + 3.2 ft + MLLW
 SUBDIVISION A BIOLOGIST Michael Fawcett
 CFA STATE 1/2 ft seas WIND SPEED/DIRECTION N 5-10 Knots
 PHOTOGRAPHS: ROLL # _____ FRAME # _____

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
short subdivision, narrow, medium-to-high angle bedrock/boulder
shoreline dominated rockweed and other algae in MTZ-LTZ,
and barnacles in VTZ. Only traces of oil coat remain,
at the upper edge of the barnacles' distribution (2+9ft
MLLW). (see sketch map) CT often covered by filamentous
green algae.

WILDLIFE OBSERVATIONS
 TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/Kittiwakes			
Shorebirds			
Corvids	1 Steller's Jay	1	
Other Birds			

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

Shoreline subdivision map showing important biological features attached.

4
 Rec'd 5/27/91 NM

Bio Sketch Map
KN 132 A
M. Fawcett
5/24/91

AK D.8Fp'G

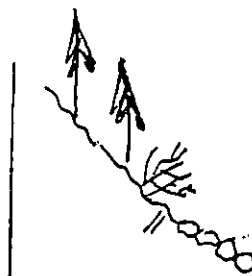
M-H angle,
Bc/r

CT/0 B.

CT ~ +9ft among upper
edge of barnacles; dense
spat, rockweed, whelks, &
moderate littorinids, scytosiphon,
Rhodomela, Ulva, and filamentous
brown algae below; also brach.
whelks and nudibranchs

13. B.

13
+



0 +

KN0132 A

ADEC Subsegment Length: 235m

METERS

0 100 200

AK State Plane Zone 4
4401320



Subdivision Field

Map Key: KN1KN0132

Name: G. MACDONALD

Date: 5.24.91

Date Entered:

5

XX Wide
// Medium
-- Narrow
.. Very Light
00 No Oil

KN 132 A 5/24/91

Fawcett

Start 1530

- narrow BRB mod. angle shore

MTZ +3-6 ft - dense Fucus, mod
barnacles, dense whelks (*N. lanellosa*)

- dense Spal MTZ-UTZ, mod litt.
CT +9 ft among upper edge
of mod. barnacles

- *Lanellobius* & *N. lanellosa* breeding
below +4 ft

0 ths MTZ-CTZ algae *Vlva*, *fil* in
Scyto, Rhodo

- sparse limpets

1 Steller's goby

End - 1555

+

+

B

A

-132

B

0 +

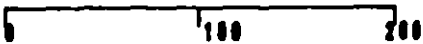
XXXX
////

TTTT
0000Wide
Medium
Narrow
Very Light
No Oil

KN0132 A

ADEC Subsegment Length: 235m

METERS


 AK State Plane Zone 4
 660132a


Subdivision Field Map

Map Key: KNKN0132A

Name: GMDate: 5-24-91

Date Entered:

REVIEWED: F.W. 5/27/91

REVIEWED: MC 5/28/91

1991 MAYSAP EVALUATION

SEGMENT: KN 132 SUB: C REGION: PWS SURVEY DATE: 5/24/91

ENVIRONMENTAL SENSITIVITIES:

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

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

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**

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.

WATSON FIELD SHORELINE COMMENT SHEET

TEAM NO. 1 SEGMENT KN 132 SUBDIVISION C DATE 5/24/91

DEC NAME JEFF GIMARAS SIGNATURE [Signature]

☒ NTR NO RECOVERABLE OIL. COBBLE/PEBBLE/BOULDER BEACH, MID INCLINE WITH BEACH HEADLANDS. OCCASIONAL COAT/COVER ALONG UFTZ. LET IT BE.

EXXON NAME LARRY D. OLSON SIGNATURE [Signature]

☒ NTR No recoverable oil located.

LANDMANAGER NAME MARSHA HALL OF DNR SIGNATURE [Signature]

☒ NTR No recoverable oil.

USCG/NOAA NAME SCHULTZ / CITELOS SIGNATURE [Signature]

☒ NTR NOTHING LEFT TO RECOVER

RUGGED PILLON LAKE BEACH SHORELINE w/ SHELTERED TIDAL MARSH OFF STREAM TO SW. A COBBLE PEBBLE BEACH IN THE CENTER OF THE SEGMENT. NO SUBSURFACE OIL, ONLY SURFACE OIL OBSERVED WAS "TYPICAL" CT, CV, ST & THE HITZ-SLTZ.

PAGE 1 OF 1

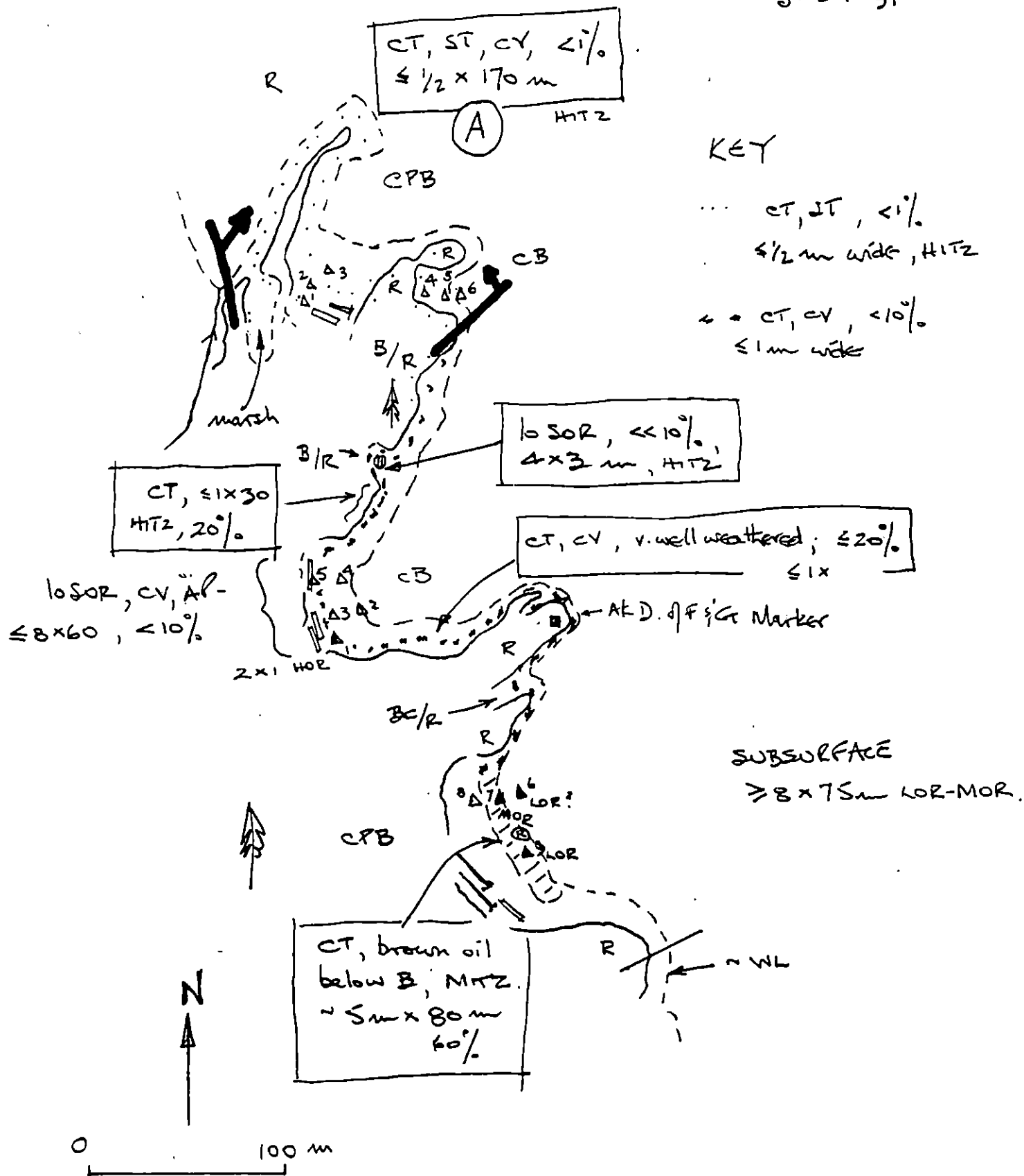
REVISED: MC 5/18/91

KN-132C

KN-132C, D

G. MACDONALD

5.24.91



REVIEWED: F.W. 5/27/91

TEAM # 1 DATE 24 May 91
 SEGMENT # KN 132 TIDAL HEIGHT(Range) 4.0 ft MLLW
 SUBDIVISION C BIOLOGIST Michael Fawcett
 SEA STATE 1/2 ft WIND SPEED/DIRECTION N 5-10 knots
 PHOTOGRAPHS: ROLL # FRAME #

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

This short subdivision includes a salmon stream with an active
 A&FG weir operation, a small marsh, and two pocket B/C/P
 beaches separated by steep rock walls. 'Residual' oil consists
 of light coat, cover, and stain in the upper intertidal zone at
 N + 8 to 10 ft MLLW. The oil in the beaches is above all biota
 except lichen and oligochaete worms; on rock walls the
 oil is within the upper edge of the range of barnacles,
 limpets, littorinids and Fucus. see sketch map.

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)			

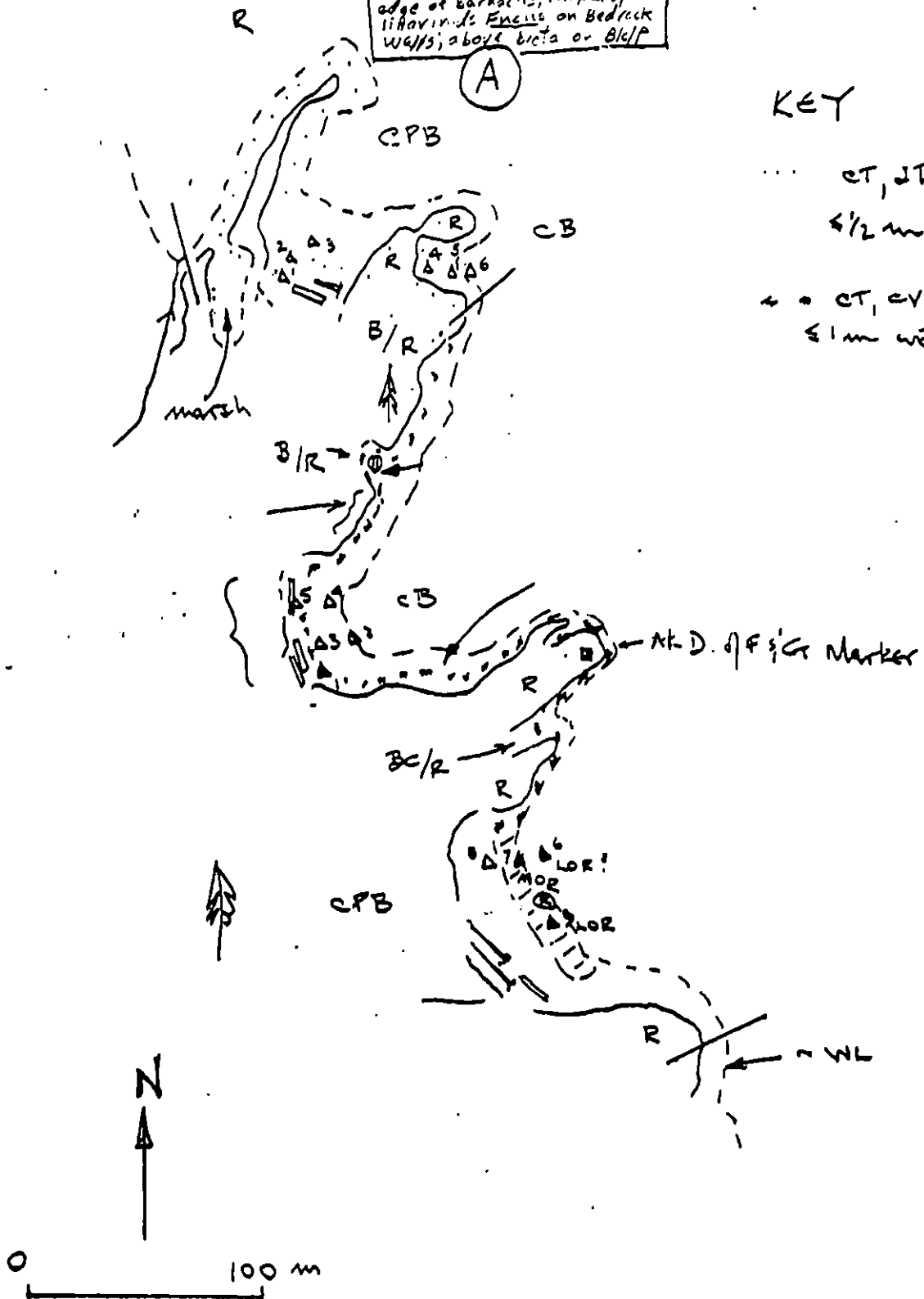
Shoreline subdivision map showing important biological features attached.

KN-122C
 BIO Sketch Map
 M.H. Fawcett
 5/24/91

KN 122C: Lign + CT/ST/ev in
 UT2 + 8-10 ft. along upper
 edge of barrois, impact, 11
 liharinids fossils on Bedrock
 WGS, above brcta or Blc/P

KEY

... CT, ST, <1%
 1/2 m wide, HITZ
 * CT, CV, <10%
 1 m wide



132 C (KAY) 24 May 91 Fawcett

start 1615 at AFG main

MTZ - gravel flat in Della w/
mod mussel / ~~low~~ F very bed
all over it, sparse barnacles -
mussels very few in places

- CT on R wall above creek
+ 8-10 ft among mod barn,
1 mf, 1 lt, Fucus

1625 - pocket behind creek

B/C/P beach, bigger sedd lamellae

CT on C/P UTZ-SUTZ + 9-10 ft -
worms only -- barnacles ^{high} ^{high} short 3-4 m

lamellae + 7-8 ft

- dense barn on MTZ B/C - sparse

Fucus & mussels - becomes sand
in LTZ w/ isolated ~~colts~~ -

dense mussels & barn to sides in LTZ
MTZ where there are no B/C & DR

- very dense algae on LR at mouth
of cove

1635 next small pocket B/C/P

rock work - dense Fucus & MTZ-LTZ

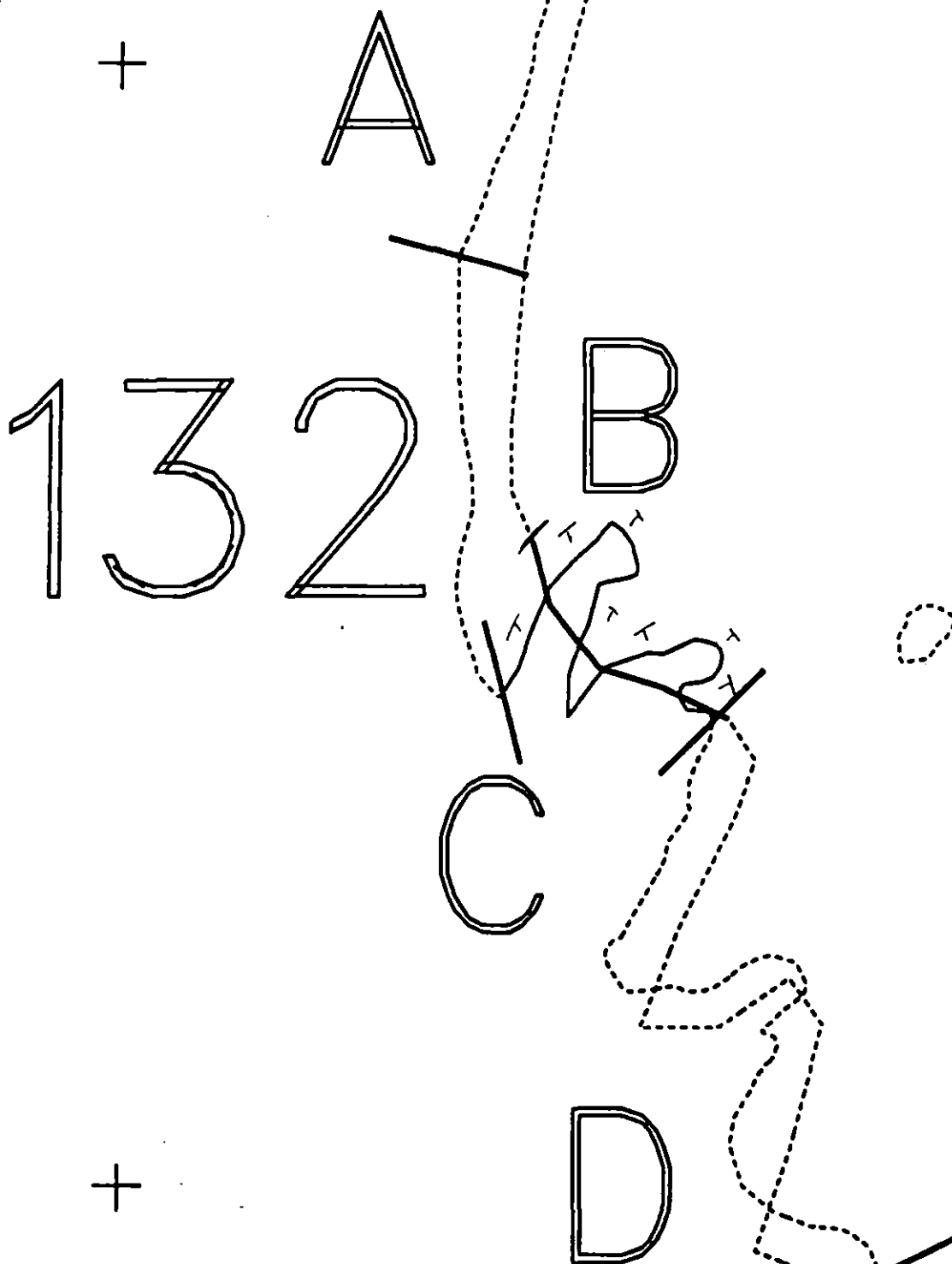
dense 1lt (many young) - still some

1lt eggs - amphipod - dense barn

& Fucus on walls

End 1640

CT/ST SUTZ above all but amphipod



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

KN0132 C
 ADEC Subsegment Length: 169m
 METERS
 0 100 200
 AK State Plane Zone 4
 6601320



Subdivision Field Map
 Map Key: KNKN0132C
 Name: G.M.
 Date: 5.24.91
 Date Entered:

REVIEWED: F.W. 5/27/91
 REVIEWED: MC 5/28/91

SEGMENT: KN 132 SUB: C REGION: PWS SURVEY DATE: 5/24/91

ENVIRONMENTAL SENSITIVITIES:

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

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: [Signature] Date: _____

Date:

RECOMMENDATIONS:

INITIAL**TAG**

FOSC-

TREATMENT REQUIRED (Y or N)

N

N

1

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: JUNE 4/99

FOSC APPROVAL DATE: 6/8/91

ADEC

FOSC

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

EXXON

USCG

NOAA

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

WATERWAY FIELD SHORELINE COMMENT SHEET

TEAM NO. 1 SEGMENT KN 132 SUBDIVISION C DATE 5/28/91

ADEC

NAME JEFF GILMARS SIGNATURE [Signature]

NTR

NO RECOVERABLE OIL. COBBLE/PEBBLE/BOULDER BEACH, MID INCLINE
WITH BEACH HEADLANDS. OCCASIONAL COAT/COVER ALONG UTE. LOT 15 BE.

EXXON

NAME LARRY D. OLSON SIGNATURE [Signature]



NTR

No recoverable oil located.

NDMANAGER

NAME MARSHA HALL OF DNR SIGNATURE [Signature]



NTR

No recoverable oil.

USCG/NOAA

NAME SCHULTZ / CITILDS SIGNATURE [Signature]



NTR

NOTHING LEFT TO RECOVER

RUGGED Pillow Lava BEDROCK SHORELINE w/ SHELTERED TIDAL MARSH OFF STREAM TO SW!
A COBBLE PEBBLE BEACH IN THE CENTER OF THE SEGMENT. NO SUBSURFACE OIL, ONLY
SURFACE OIL OBSERVED WAS "TYPICAL" CT, CV, ST & THE HITZ-SUTZ.

PAGE 1 OF 1

SEGMENT KN-132

SUBDIVISION C

DATE 5 / 24 / 91

ENERGY LEVEL: ☐ H ☐ M ☒ X ☐ 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 170 m NO 0 m US - 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- 1 - 30 FRAMES 10~12

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

OG COMMENTS: Rocky shore w/ CPB beach held in a rock headland. Surface oil only, as a trace of CT, ET & CV @ HTZ; well weathered, rarely tacky; no odor.

REVIEWED: F.W. 5/27/91

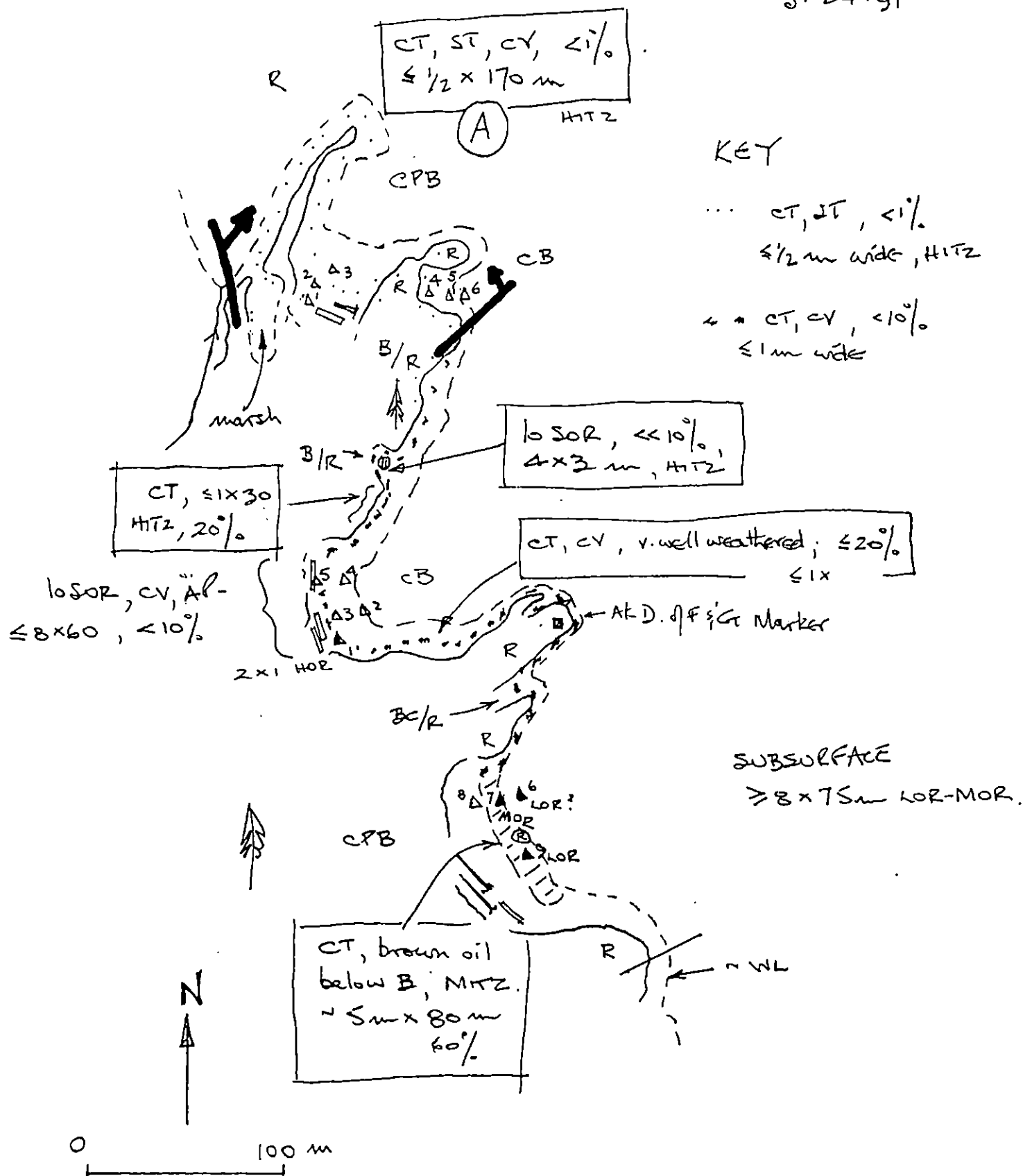
REVISED: MC 5/28/91

KN-132C

KN-132C, D

G. MACDONALD

S. 24.91



REVIEWED: F.W. 5/27/91

TEAM # 1 DATE 24 May 91
 SEGMENT # KW 132 TIDAL HEIGHT(Range) 4.0 ft MLLW
 SUBDIVISION C BIOLOGIST Michael Fawcett
 SEA STATE 1/2 ft WIND SPEED/DIRECTION N 5-10 knots
 PHOTOGRAPHS: ROLL # FRAME #

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

This short subdivision includes a salmon stream with an active A&FG weir operation, a small marsh, and two pocket B/C/P beaches separated by steep rock walls. 'Residual' oil consists of light coat, cover, and stain in the upper intertidal zone at N +8 to 10 ft MLLW. The oil in the beaches is above all biota except lichen and oligochaete worms; on rock walls the oil is within the upper edge of the range of barnacles, limpets, littorinids and Fucus. see sketch map.

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.

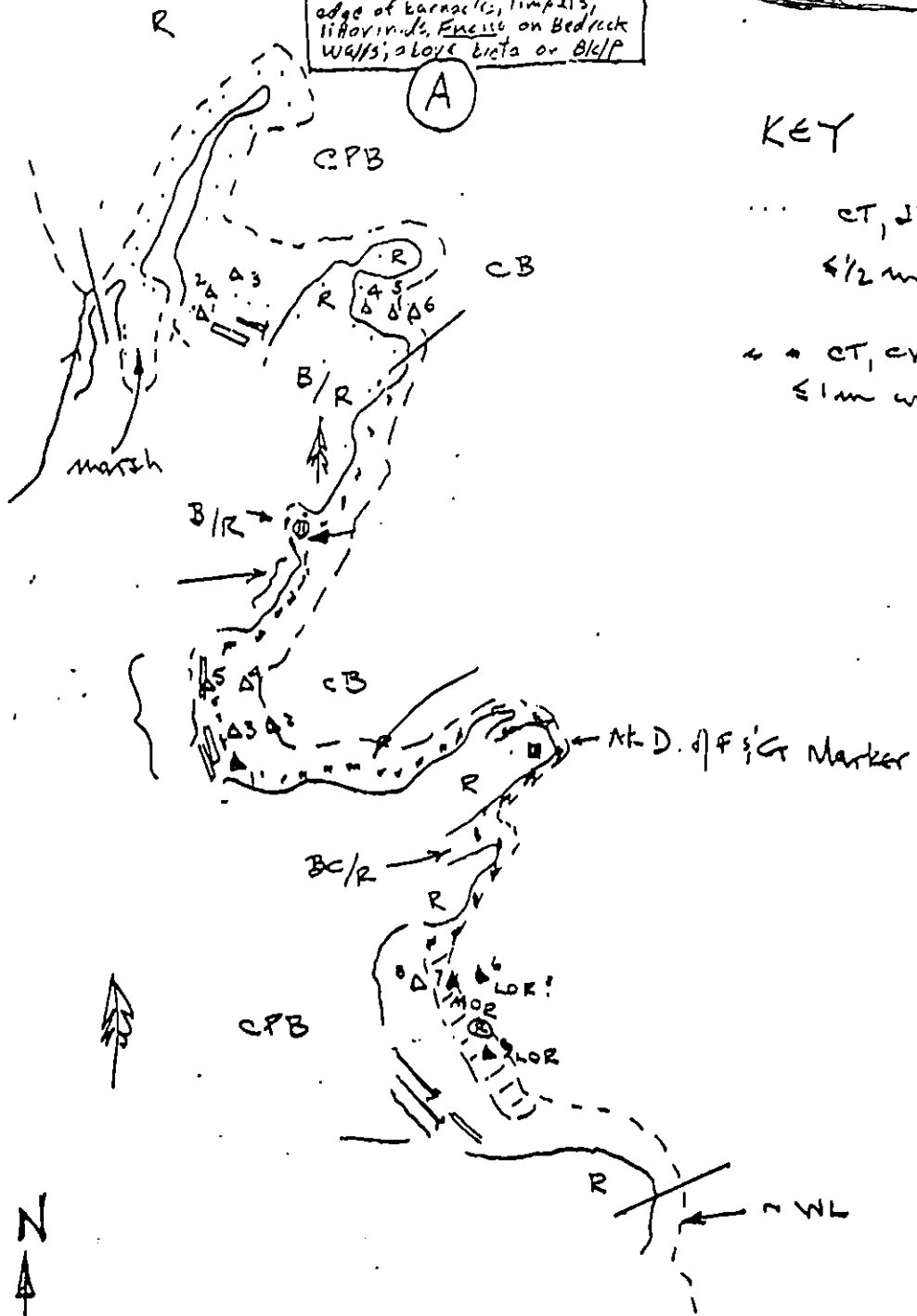
KN-132C
 Bio Sketch Map
 M.H. Fawcett
 5/24/91

KN132C: Light CT/ST/UV in
 UT2 + 8-10 ft. a nice upper
 edge of barnacles, limpets,
 lithovirids, Eucella on Bedrock
 walls; above brata on Blk/P

(A)

KEY

... CT, ST, <1%
 1/2 m wide, HITZ
 * * CT, CV, <10%
 1 m wide



132 C (KM) 24 May 91 Fawcett

start 1615 at ~~AFG~~ Gurnis

MTZ - gravel flat in Della w/
mod mussel / ~~from~~ Fucus bed
all over it, sparse barnacles -
mussels very few in places

- CT on R wall along creek
+ 8-10 ft among mod barny,
limp, litt, Fucus

1625 - pocket behind creek

B/C/P beach, bigger sedd laminae

CT on C/P UTZ-SUTZ + 9-10 ft -
worms only -- barnacles ^{limp + litt} about 3-4 m

laminae + 7-8 ft

- dense barn on MTZ B/C - sparse

Fucus & mussels - becomes sand
in LTZ w/ isolated corals

dense mussels & barn to sides in LTZ

MTZ where there are no B/C / DR

- very dense algae on LR at mouth
of cove

1635 next small pocket B/C/P

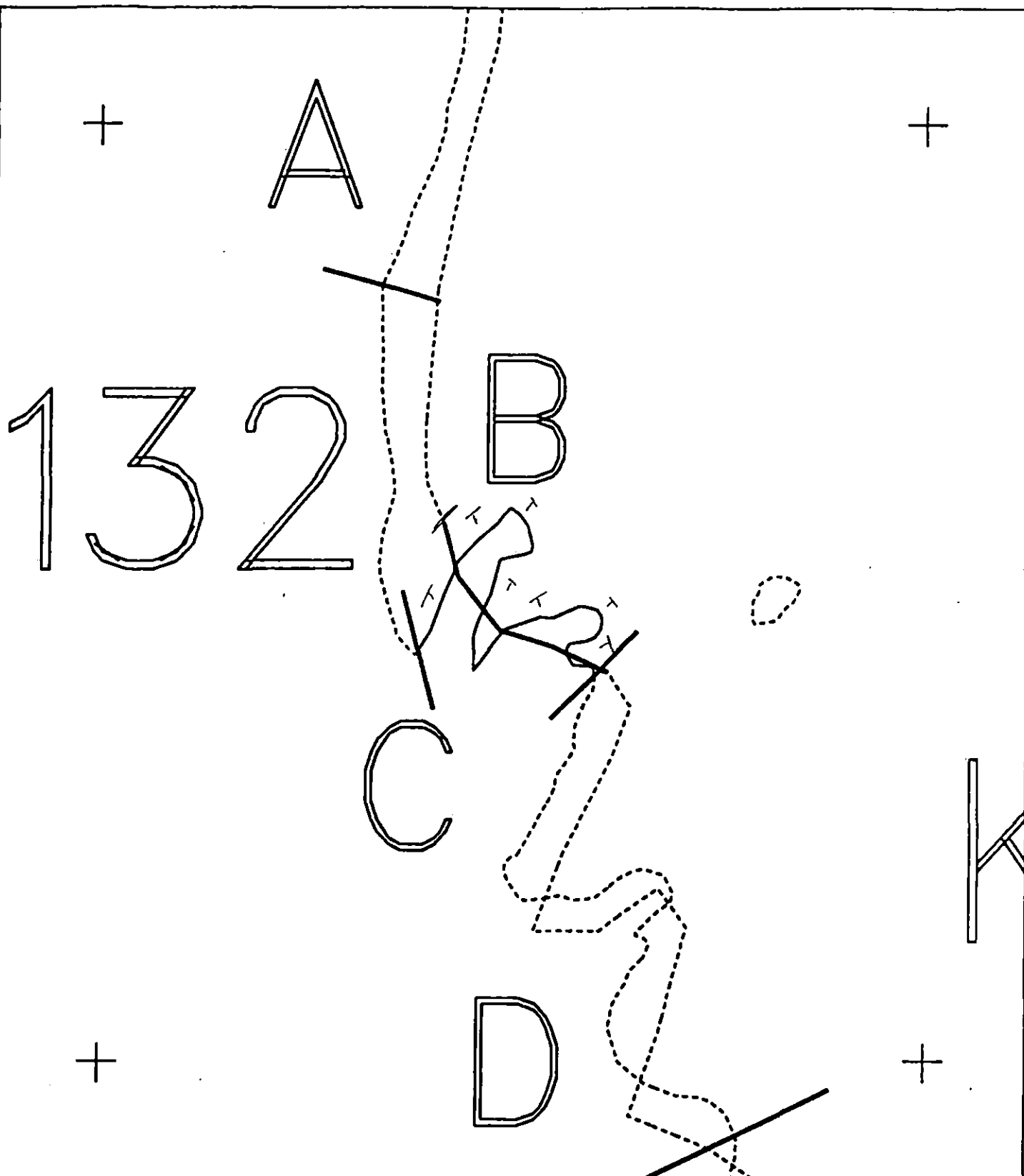
rock wall - dense Fucus & MTZ-LTZ

dense litt (many young) - still some

Litt eggs - amphipods - dense barn

& Fucus on walls (End 1640)

CT/ST SUTZ above all but a few barn



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

KN0132 C
 ADEC Subsegment Length: 100m
 METERS

5 100 200
 AK State Plane Zone 6
 kn0132c



Subdivision Field Map

Map Key: KNKN0132C

Name: G.M.

Date: 5.24.91

Date Entered:

REVIEWED: F.W. 5/27/91

REVIEWED: MC 5/28/91

1991 MAYSAP EVALUATION

SEGMENT: KN 132 SUB: B REGION: PWS SURVEY DATE: 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

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

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**

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. 6 SEGMENT KN-132 B SUBDIVISION B DATE 5/1/91

ADEC / USFS

NAME TOM CROWE

SIGNATURE

[Signature]

☐ NTR ☒

THIS LOW ENERGY BEACH AREA HAS GREATLY IMPROVED OILING CONDITIONS SINCE LAST TREATED IN 1990. HOWEVER THERE STILL REMAINS A SIGNIFICANT LAYER OF OILING ADJACENT TO THE ANADROMOUS STREAM THAT TRAVERSES THIS SEGMENT. AN EFFORT SHOULD BE MADE TO REDUCE OR REMOVE THE OIL REMAINING. SUGGESTED TREATMENT OF MECHANICAL TILLING SUCH AS USED TO TILL THIS AREA IN 1990. THIS METHOD HAS PROVEN TO BE VERY EFFECTIVE.

EXXON

NAME Scott A. Nauman

SIGNATURE

[Signature]

☒ NTR

Oiling on this subdivision is limited to the surface - pits were all free of oil with the exception of one shallow hole (10 cm). Surface band is patchy sor and AP. The AP present adjacent to the stream was collected to its practical limit during the survey. Moving north down the beach, the shoreline gains more angular cobbles and boulders. The practicality of recovering the isolated patches in this area is low (would involve boulder flipping, etc). I see no benefit to treatment.

LANDMANAGER

NAME Aimee Weseman OF ADFG

SIGNATURE

[Signature]

☐ NTR

☒ Treatment Recommended
This productive Anadromous fish stream still contains appreciable amounts of AP, HSOR sediments along the stream bank. The resident ADFG personnel report that when the sun comes out, the oil liquifies & "oozes" out of the ground-downhill towards the channel. At the very least the AP HSOR sediments should be removed. A more thorough treatment would include mechanically filling these areas as well as the MOR oil located closer to the channel.

USCG/NOAA

NAME CWO SPURR / Rebecca HFF

SIGNATURE

[Signature] / *[Signature]*

☐ NTR

Areas with remaining oil in upper intertidal could be manually turned over & remaining asphalt pieces picked up. However, this activity should be restricted to upper & mid tid zones, i.e. areas E, H, I & B. Mechanical tilling is not called for & would be too intrusive. Care should be taken not to impact marsh/peat areas, such as those above stream bed in 132-C.

PAGE 1 OF 2

revised 5/3/91 KE=

0 25 50
m



KN-132-B

05/01/91

OG-Map

D.I. Little

0805-0945

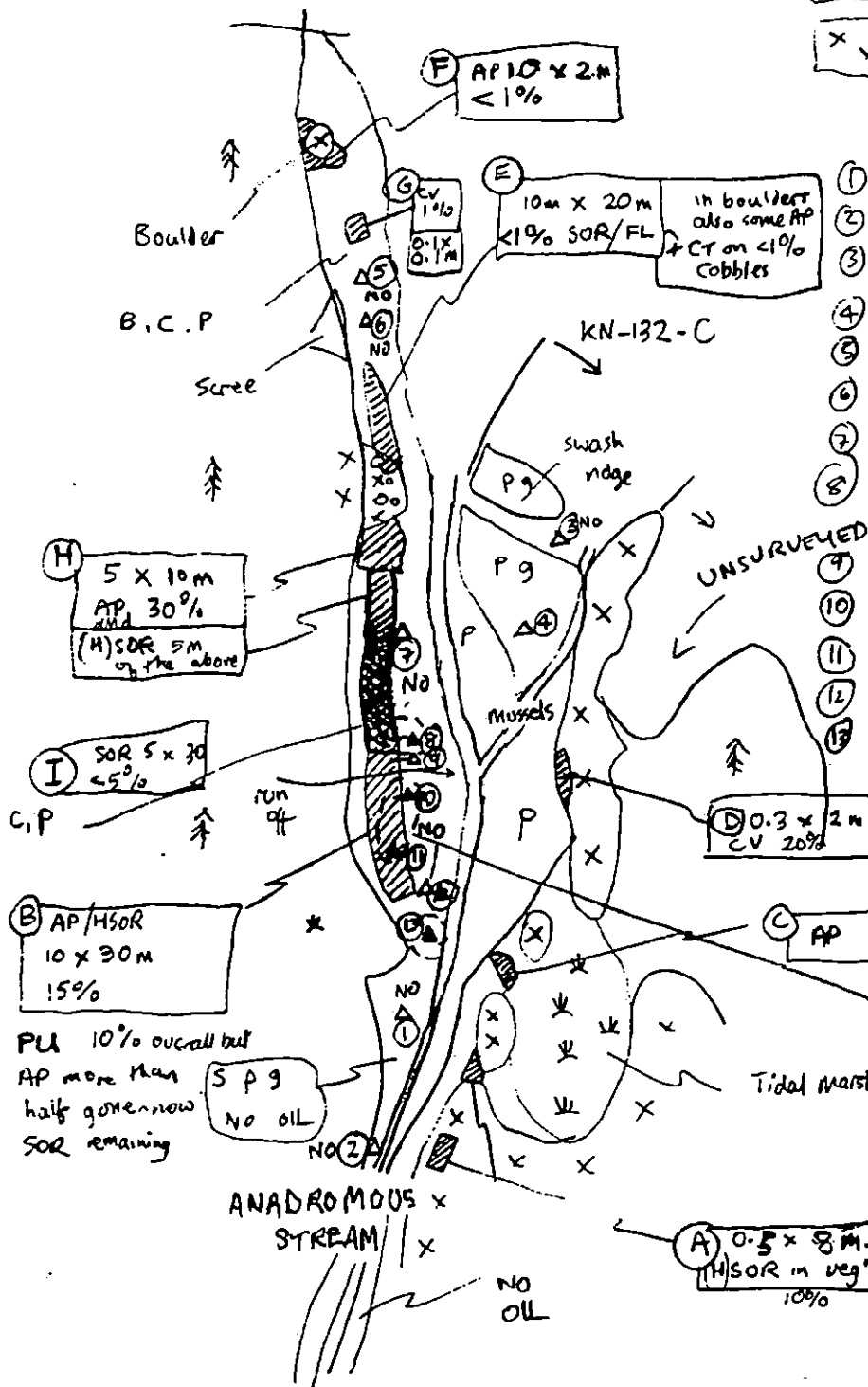
KN-132-A



Tidal marsh



Bedrock



#	PIT TO	deambel.	Y/N	3/p	NO. WASH	WIT
1	30		Y	g/p	"	20
2	25		Y	g/p	"	23
3	25		Y	g/p	"	10
4	25		Y	g/p	"	—
5	20		Y	c/p/g	"	5
6	25		Y	b/p/g	"	25
7	20		Y	S P g	"	UIT2—
8	25		0-10	(M) OR g sp	"	UIT2—
9	20		0-3	only p/g/s	"	UIT2 10 FL
10	20		0-15	(M) OR g/s/p	"	5
11	20		0-10	(4) OR g/s	"	5
12	20		0-3	only	"	—S
13	10		0-7	(4) OR p/g	"	MIT2—

SUBSURFACE OIL MAP
IN 3 PATCHES of
about 2 x 5 m.

A/C and D are
part of KN-132-B
since they are
east of the stream.

Reviewed
Reviewed: 5/7/91 MC

Photo Locations



KN-132-B

05/01/91

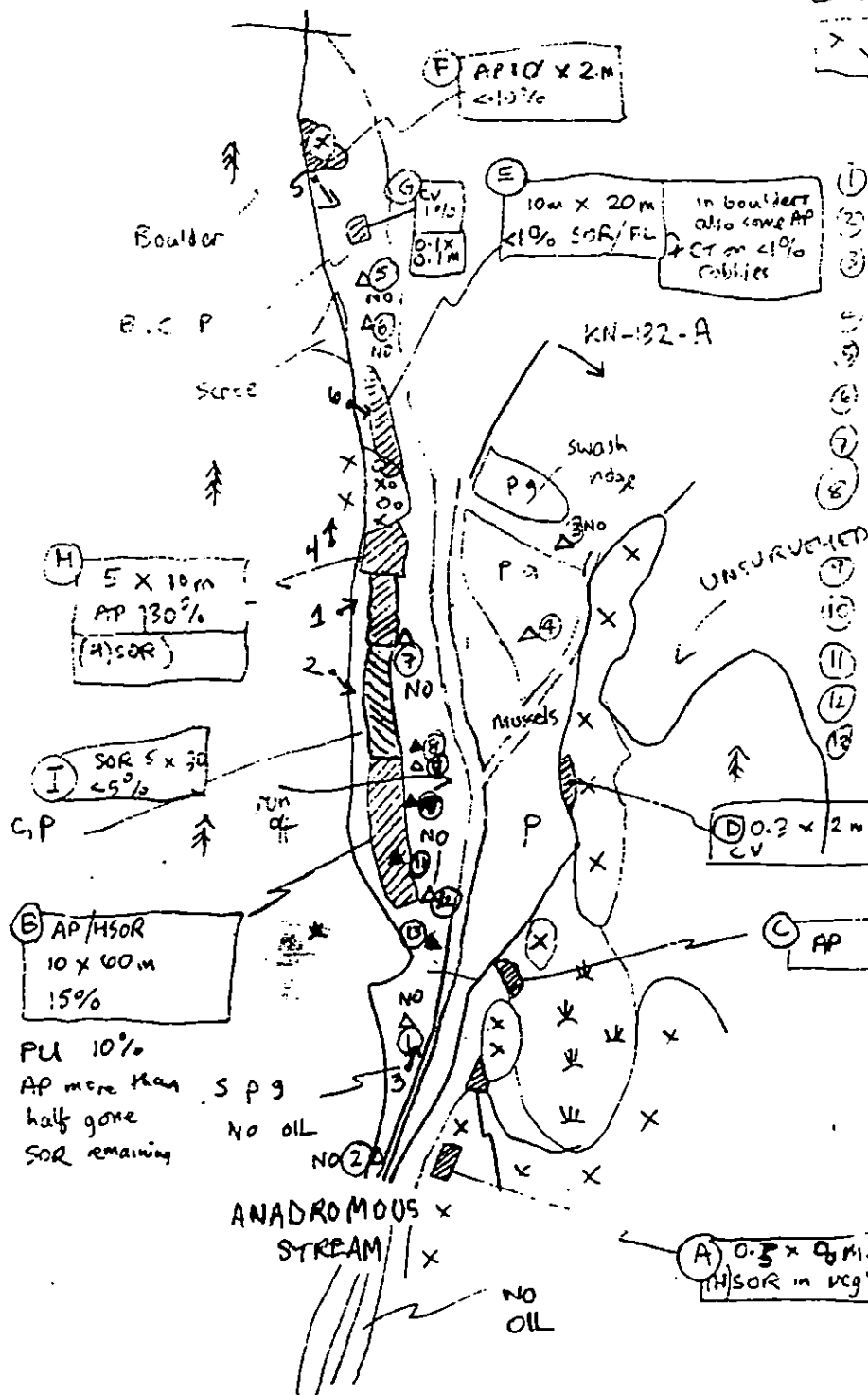
OG. Map

D.I. Little

0805-0995

✕ ✕ Tidal marsh

> < Bedrock



#	PIT TO	Y/n	g/p	NO. OF	UNIT
1	30	Y	g/p		20
2	25	Y	g/p		23
3	25	Y	g/p		10
4	35	Y	g/p		—
5	20	Y	g/p/3		5
6	25	Y	g/p/3		25
7	20	Y	g/p/3		UNIT 2
8	25	Y	g/p/3		UNIT 2
9	20	Y	g/p/3		UNIT 2
10	20	Y	g/p/3		UNIT 2
11	20	Y	g/p/3		UNIT 2
12	20	Y	g/p/3		UNIT 2
13	20	Y	g/p/3		UNIT 2

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6 DATE 5/1/91
 SEGMENT # KN-132 TIDAL HEIGHT (Range) +1 to -1 feet
 SUBDIVISION B BIOLOGIST T.A. Schroeder
 SEA STATE Light Chop WIND SPEED/DIRECTION N=10-15 mph
 PHOTOGRAPHS: ROLL # FRAME #

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

(E, F & G) = Intertidal area along these patches of CV, AP and SDA are very lush and productive. Fucus and mussel growth is excellent and large cable racks are providing shelter for vast numbers of Littorine snails, limpets and barnacles.

(B, H & I) = Fucus kelp and mussels are reestablishing themselves in LITZ along these patches of SDA and AP. Due to LITZ had extensive mechanical cleaning and is virtually lacking in any animal life or vegetation. Snails, limpets and amphipods very abundant in LITZ.

(A, C & D) = Located in close proximity to salmon stream. The intertidal spawning area of this stream is very productive and should not be jeopardized by any intrusive cleaning methods.

While this area is exposed to considerable storm activity, the intertidal area is very rich with plant and animal life. The area treated with more intrusive mechanical methods (B, H & I) is almost lacking in any plant or animal life, whereas the area treated with less intrusive methods (E, F & G) is very rich and lush.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			1 Sculpin
Seabirds			560 pink salmon
Waterfowl	1	17	fyg in bucket.
Gulls/Kittiwakes	1		
Shorebirds			2 pink fyg in stream.
Corvids			
Other Birds			

LAND MAMMALS

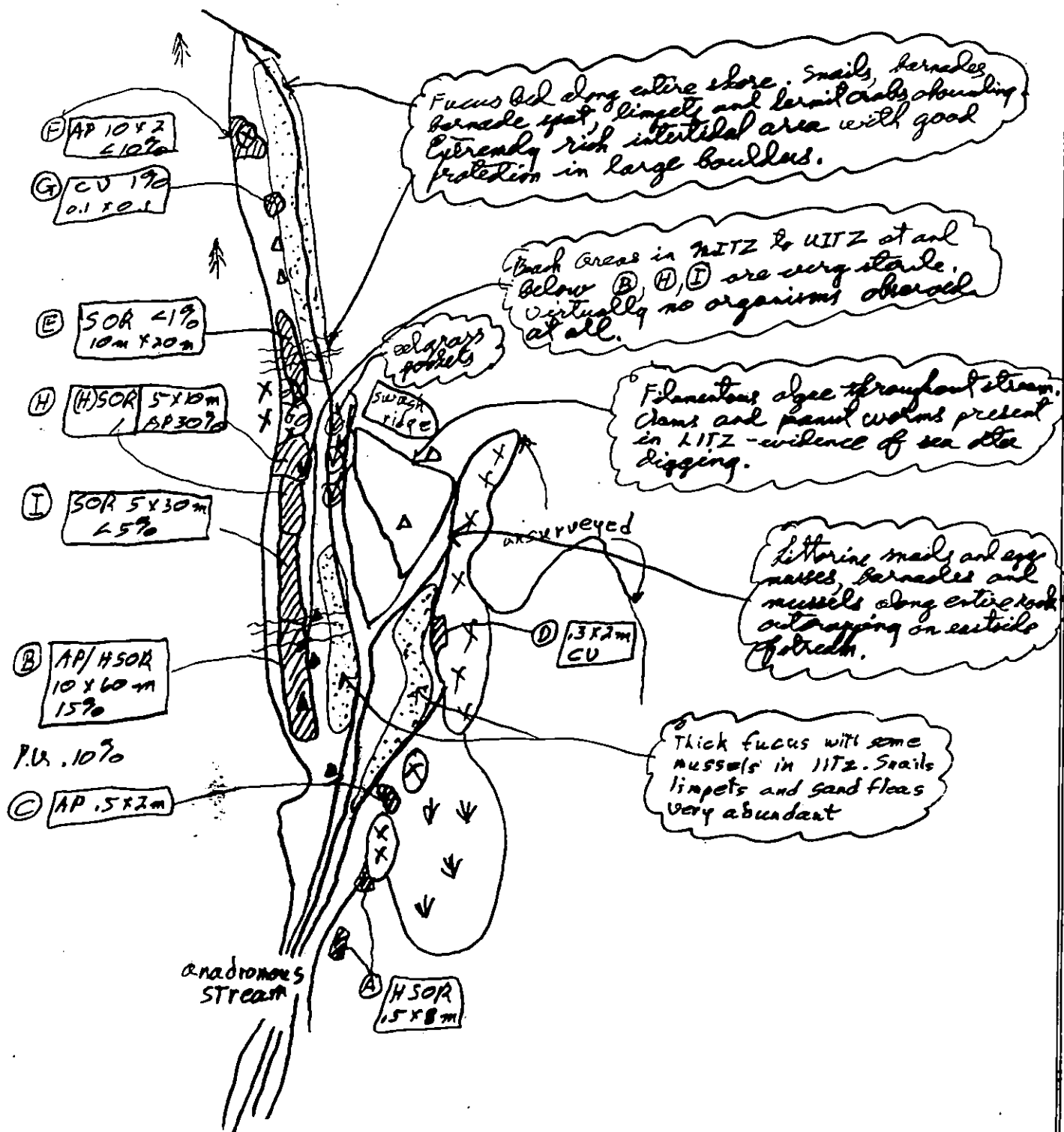
MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

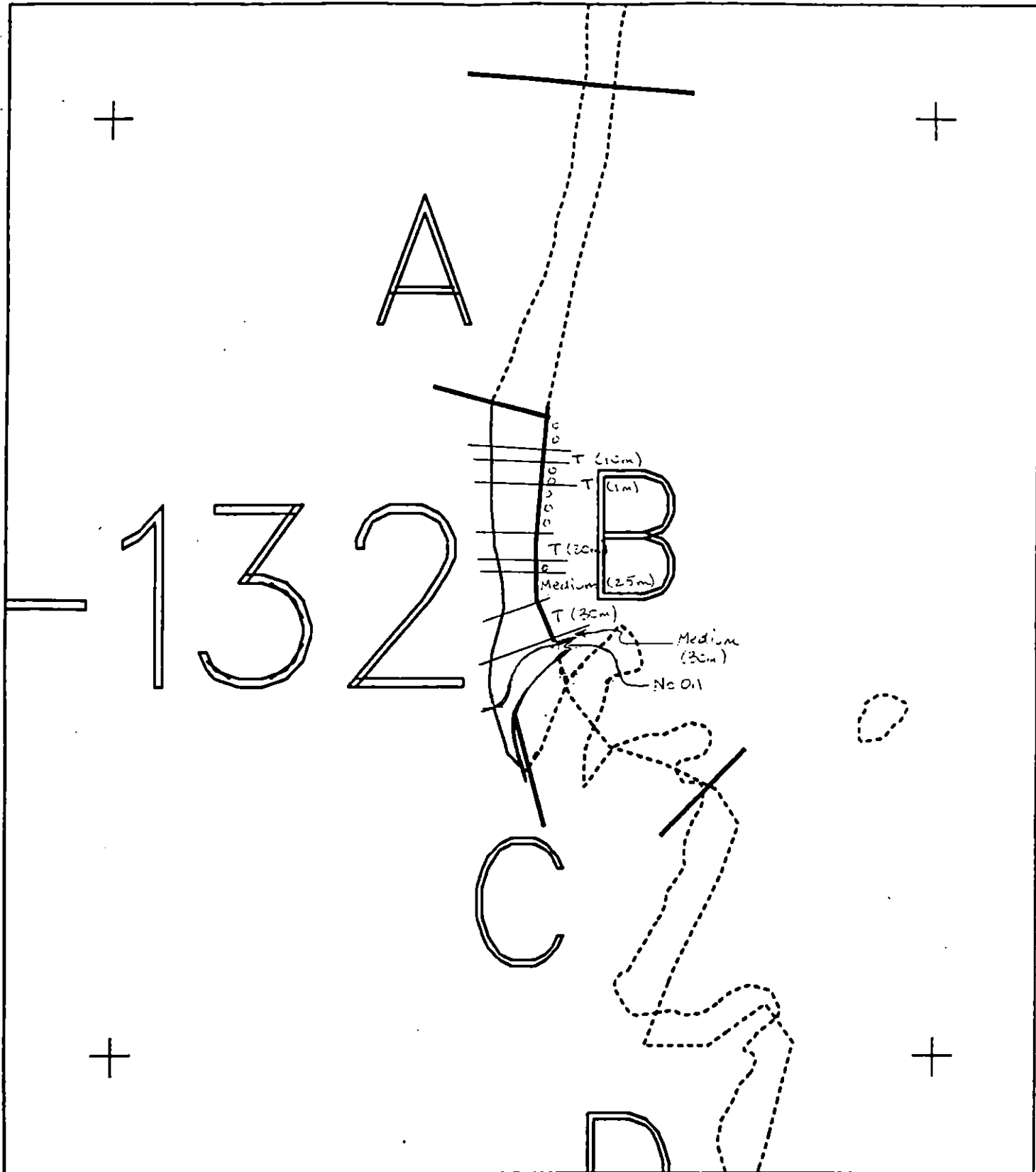
Shoreline subdivision map showing important biological features attached.

REVIEWED: 5/7/91 MC
 D. J. H. S.

KN-132-B 5/01/91
 Bio. Map T.R. Schroeder
 0805-0945

0 25 50
 meters





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

KN0132 B
 ADEC Subsegment Length: 170m
 METERS
 0 100 200
 AK State Plane Zone 4
 440132b

Subdivision Field Map
 Map Key: KNIK0132B
 Name: Midland
 Date: 5/10/91
 Date Entered:

1991 MAYSAP EVALUATION

SEGMENT: KN 132 SUB: D REGION: PWS SURVEY DATE: 5/24/91

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. 1 SEGMENT KN 132 SUBDIVISION 0 DATE 5/24/81

ADEC

NAME JEFF GINALAS

SIGNATURE [Signature]

☒ NTR I RECOMMEND NO TREATMENT AS I SEE NO FEASIBLE MEANS TO REMOVE THE OIL WHICH IS PRESENT. AT OG MAP SITE "F", A SUBSURFACE LENS RUNS PRETTY MUCH THE LENGTH OF THE BEACH, ALONG MITZ, MIZ VARYING LOR. IT IS EXISTING LOCATED, JUST BELOW THE SURFACE (5-10 CM) MANUAL TREATMENT WOULD NOT WORK. MECHANICAL WOULD BE TOO INTENSIVE WHEN CONSIDERED WITH THE OIL TO BE REMOVED/REMOVED A FEW BOUNDER/BEDROCK AREAS IN BEACH MAY HINDER MECHANICAL OPERATION, PLUS HEADLANDS FAIRLY FAR APART, MAKES ANCHORING CONTAINMENT BECOM DIFFICULT. BEACH IS NOT SHUENING, UNLESS AGIMED (ONLY OBSERVED ONE TIDE CYCLE, NOT FAMILAR WITH PRIOR HISTORY OF BEACH AREA AT PIT #2 (AGE) RELATIVELY ISOLATED, EXPOSED AND SPREAD BY MAYSAP TEAM. TECHNIQUES FOR TREATMENT MAY NOT EXIST. OPEN FOR SUGGESTIONS.

EXXON

NAME LARRY D. OLSON

SIGNATURE [Signature]

☒ NTR no recoverable oil located. Beaches are healthy with very good growth and healthy recolonization. any further intrusion would destroy established inter tidal biota.

LANDMANAGER

NAME MARSHA HALL OF DNR

SIGNATURE [Signature]

☒ NTR Any removable oil is too sporadic - not consistent enough now need to require crew. Much of SOR is weathered greatly.

USCG/NOAA

NAME SCHOLTZ / CHILDS

SIGNATURE [Signature]

☒ NTR ANY FURTHER INTROSION WOULD NOT BE WARRANTED, & WOULD LIKELY CAUSE MORE ENVIRONMENTAL HARM THAN GOOD

VERY RUGGED PILLOW BEACH SHORELINE. POCKET BEACHS & CHUTES APPEAR TO BE JOINT CONTROLLED. BEACHES GROWING/ENCROACHING ON FOREST - BOUNDER ON UPPER BEACH grading in size DOWNWARD TO THE LITZ. OIL OBSERVED AS CT 1 ST 1 1/2 IN 1/4 WIDE PATCHES ACROSS MOST OF 7-8 SEGMENT. HEAVIER COVERAGES OF CT 1/2 IN AREAS OF ETC. LO SOR in B&D. SUBSURFACE OIL - "D" HOR in AREA 2 1/2 x 1/2 - AREA "F" 8 x 7 1/2 M - LOR thru shore - in the LITZ - MITZ

PAGE 1 OF 1

SEGMENT KN-132

SUBDIVISION D

DATE 5 / 24 / 91

ENERGY LEVEL: ☐ H ☐ M ☒ L

EST. OIL CATEGORY LENGTH: W 1 m M 80 m N 2300 m VL 105 m NO 40 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 - 30 FRAMES 13276

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

Reviewed: F.W. 5/27/91

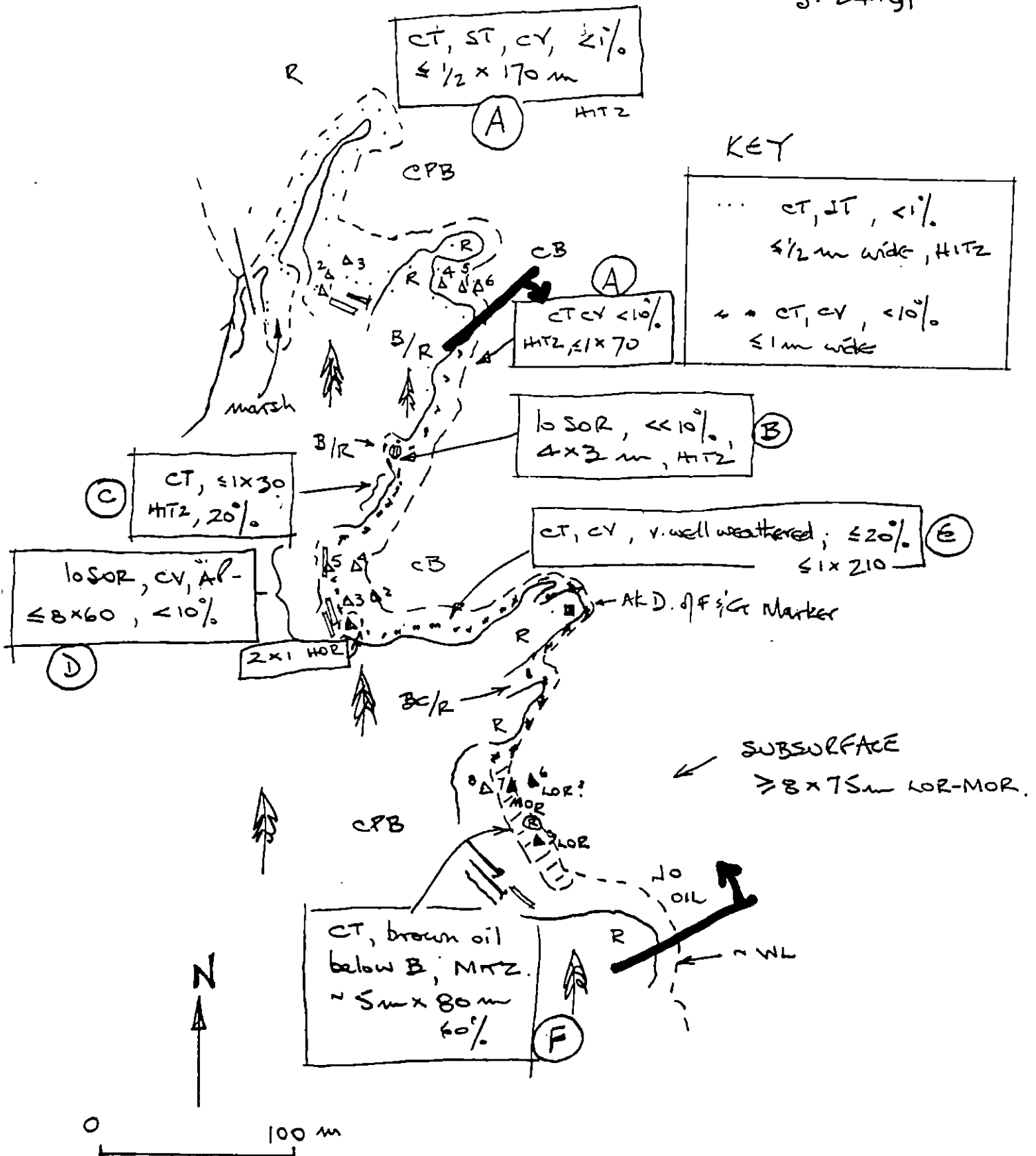
REVISED: MC 5/28/98

KN-132D

KN-132C,D

G. MACDONALD

5.24.91



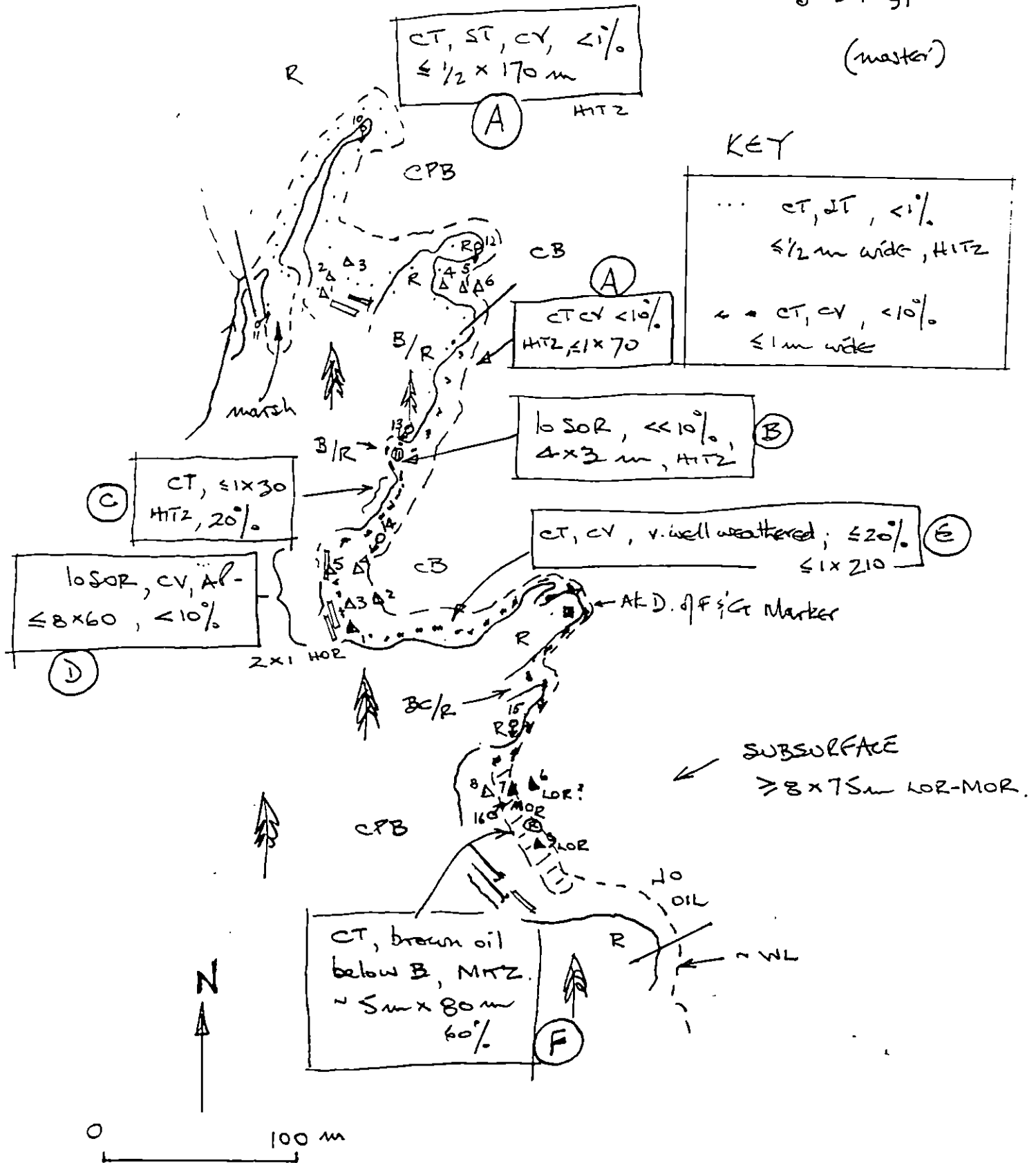
REVIEWED: F.W. 5/27/91
 REVIEWED: M.C. 5/28/91

KN-132C,D

G. MACDONALD

5.24.91

(master)



REVIEWED: F.W. 5/27/91 3

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #

1

DATE

5/24/91

SEGMENT #

KN 132

TIDAL HEIGHT(Range)

+2.5 to +2.7 ft MLLW

SUBDIVISION

D

BIOLOGIST

Michael Fawcett

SEA STATE

1/2 ft seas

WIND SPEED/DIRECTION

N 5-10 knots

PHOTOGRAPHS: ROLL #

FRAME #

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

The main areas of concern in this subdivision are two small NE facing coves (D & F on sketch map). At site D the residual oil is surficial and high on the beach in the supratidal zone. At site F buried oil extends through MTZ and into LTZ, and lies beneath a healthy and fairly diverse boulder community typical of this region (see sketch map). Removing the buried oil would necessitate destroying the existing community.

The presence of diophrate worms among surface oil residue in MTZ-LTZ supports hypothesis that they consume decaying oil. These worms normally occur in UTZ or SUTZ and feed on decaying seaweed.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

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

MARINE MAMMALS

OBSERVED

LAND MAMMALS

SPECIES

OBSERVED

Sea Otters			
Pinnipeds(specify)			
Whales(specify)			

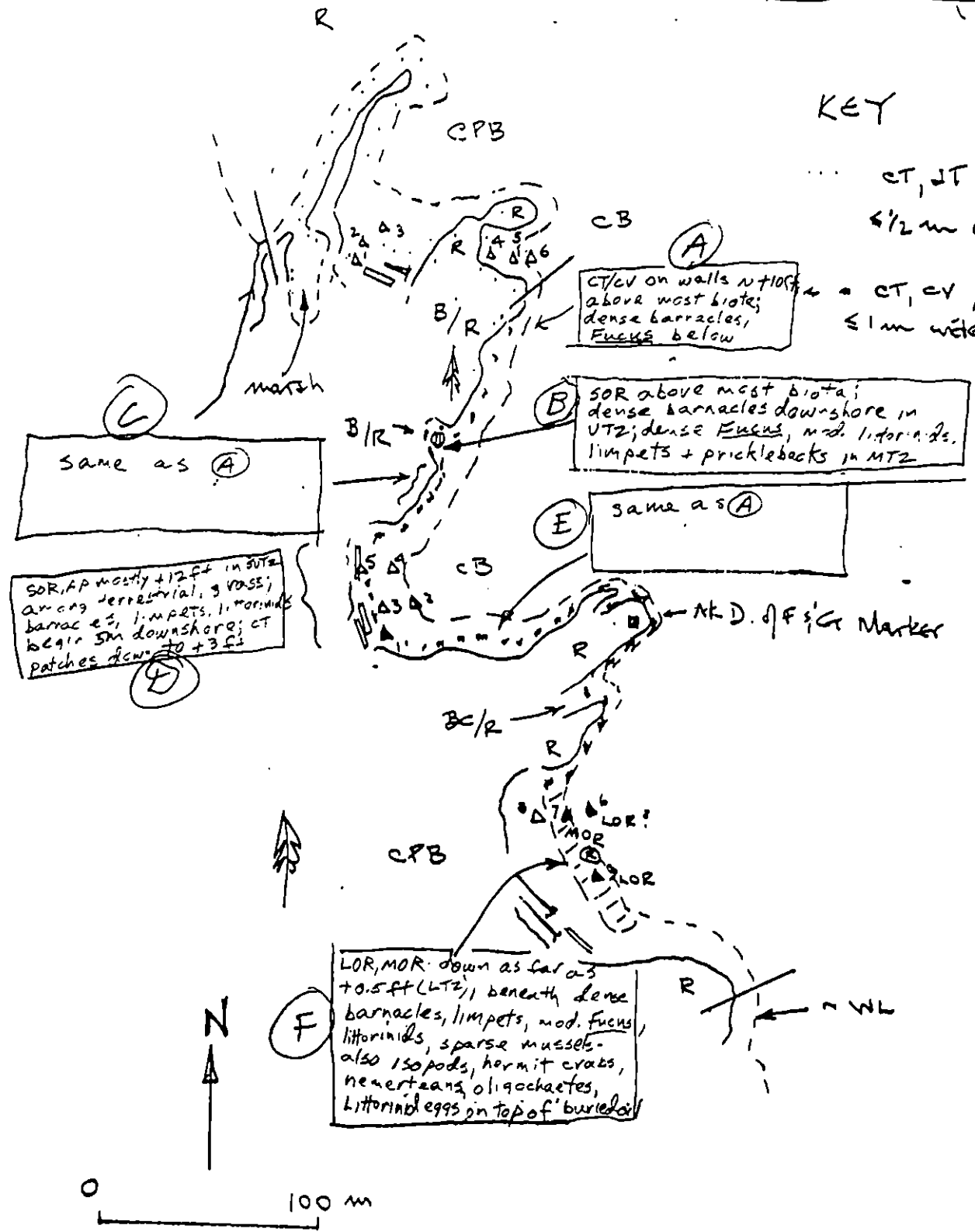
Shoreline subdivision map showing important biological features attached.

KN-132 S
 Bio Sketch Map
 M. H. Fawcett
 5/24/91

KEY

CT, JT, <1%
 1/2 m wide, HITZ

CT, CV, <10%
 1 m wide



KN132-D 5/24/91 Fawcett

start 1645-

- same general description as C -

dense barn & Fucus MTZ on borders,
up to VTZ on B.R. walls

- CT & ST on walls + 10 ft or so
above most biota

- pos of oysters calders on island

- 1650 - pocket B/BR- CT/ST/CL/BR

+ 8-12 ft above dense barns
(up to 8 ft), dense fucus barn
+ 2-5 ft

- prickly hock, lump, mod litt,

- LTZ Rhodospira, Cladophora, UVA

- dense barn spot LTZ-MTZ

1700 - 1st big cone - B/C/P barns

North end of cone has AP barn in

= VTZ i/c among tall grass

+ 12 ft - barnacles, lump, litt,

~ 3-5 m barnacle -

- Barnacles mod. dense in MTZ,

Fucus sparse, both on larger
cobble

- Hemigrapsus, sparse lump, litt, MTZ-cr2

sparse mud - bits of CT & Cuscuta
shells down to + 3 ft

KN 132 D (cont) 5/24/91 Fawcett

1730 - 2nd big core - same as BT
for berta - dense Fucus barn on alga,
sparse in AC except barnacles
which are dense in some MTZ areas
on larger C & B

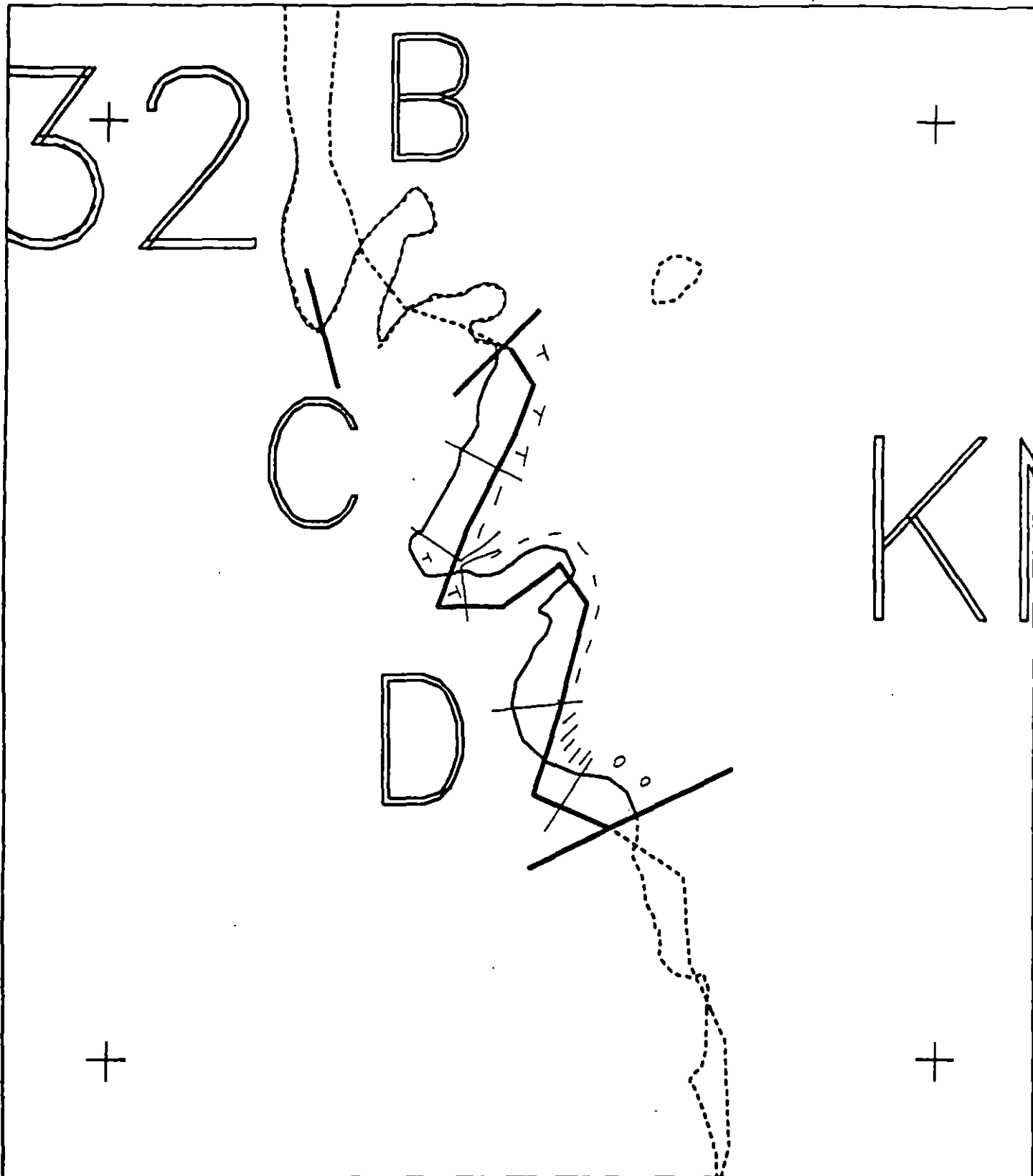
- buried out down to +4 ft
among dense barn, sparse Fucus,
dense lump (^{mostly} many young 304,
some larger) - sparse mussels

- Lot goes down to about
+0.5 ft (unburied) in dense
Fucus

- LTZ MTZ - +3-6 ft also has
mod dense spat; oligochaetes in soil
readine, isopods (Idotea), vermetus,
hermit crabs, - all seems normal
except presence of oligochaetes is
low on shore

- sparse Littorinid eggs
- Columbellan pellets

finish @ 1805 hrs



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

KN0132 D
 ADEC Subsegment Length: 535m
 METERS
 0 100 200
 AK State Plane Zone 6
 hha0132d

Subdivision Field Map
 Map Key: KNIK01320
 Name: GM
 Date: 5.24.91
 Date Entered:

REVIEWED: F.W. 5/27/94
 REVIEWED: MC 5/28/94

SUPPLEMENTAL

1991 MAYSAP EVALUATION

SEGMENT: KN132 SUB: B REGION: PWS SURVEY DATE: JULY 8 -TAG

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) _____

RECEIVED

Ecological/Constraints (see page two for details) _____

JUL 18 1991

ANCHORAGE-A00/A

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____

Date: 7/19/91

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: NO FURTHER MANUAL TREATMENT REQUIRED, INIPOL APPLICATION
NOT RECOMMENDED DUE TO PRESENT LAND USE - ADF+G CAMP
AND AT THE REQUEST OF ADF+G

FOSC: _____

TAG APPROVAL DATE: July 9, 1991

FOSC APPROVAL DATE: 10 July 1991

ADEC _____

FOSC _____

EXXON _____

USCG T. M. Murphy LT

NOAA _____

1991 MAYSAP EVALUATION

SEGMENT: KN 132 SUB: B REGION: PWS SURVEY DATE: 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

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

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.).

Rachel Jean Dale

5/14/91

RECOMMENDATIONS:

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

COMMENTS:

INITIAL: _____

TAG WILL ASSESS FOLLOWING TREATMENT TO ASSESS THE NEED FOR FURTHER TILLING

TAG: MANUAL PICKUP OF AP/HSOR (EASILY ACCESSIBLE LOCATIONS) FOLLOWED BY MANUAL RAKE/TILL + CUSTOMBLEN. EXXON RECOMMENDS INIPOL HOWEVER ADFGC REQUESTED NOT TO APPLY INIPOL DUE TO PROXIMITY TO

FOSC: FISH CAMP

TAG APPROVAL DATE: MAY 14 1991

FOSC APPROVAL DATE: 5/20/91

ADEC *John Bauer*

FOSC *E. E. Page*

EXXON *Beal*

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

USCG *J. M. Murphy*

NOAA *Long*

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 6 SEGMENT KN-132 B SUBDIVISION B DATE 5/1/91

ADEC / USFS

NAME TOM CROWESIGNATURE [Signature]

NTR



THIS LOW ENERGY BEACH AREA HAS GREATLY IMPROVED OILING CONDITIONS SINCE LAST TREATED IN 1990. HOWEVER THERE STILL REMAINS A SIGNIFICANT LAYER OF OILING ADJACENT TO THE ANADROMOUS STREAM THAT TRAVERSES THIS SEGMENT. AN EFFORT SHOULD BE MADE TO REDUCE OR REMOVE THE OIL REMAINING. SUGGESTED TREATMENT OF MECHANICAL TILLING SUCH AS USED TO TILL THIS AREA IN 1990. THIS METHOD HAS PROVEN TO BE VERY EFFECTIVE.

EXXON

NAME Scott A. NaumanSIGNATURE [Signature]

NTR

Oiling on this subdivision is limited to the surface - pits were all free of oil with the exception of one shallow hole (10 cm). Surface band is patchy sor and AP. The AP present adjacent to the stream was collected to its practical limit during the survey. Moving north down the beach, the shoreline gains more angular cobbles and boulders. The practicality of recovering the isolated patches in this area is low (would involve boulder flipping, etc). I see no benefit to treatment.

LANDMANAGER

NAME Aimee Weseman OF ADFGSIGNATURE [Signature]

NTR

☒ Treatment Recommended

This productive Anadromous fish stream still contains appreciable amounts of AP, HSOR sediments along the stream bank. The resident ADFG personnel report that when the sun comes out, the oil liquifies & "oozes" out of the ground-down towards the channel. At the very least the AP HSOR sediments should be removed. A more thorough treatment would include mechanically tilling these areas as well as the MOR oil located closer to the channel.

USCG/NOAA

NAME CWO SPURR / Rebecca HoffSIGNATURE [Signature]

NTR

Areas with remaining oil in upper intertidal could be manually turned over & remaining asphalt pieces picked up. However, this activity should be restricted to upper & mid tid zones, e.g. areas E, H, I & B. Mechanical tilling is not called for & would be too intrusive. Care should be taken not to impact marsh/peat areas, such as those above stream bed in 132-C.

SEGMENT KN-132

SUBDIVISION B

DATE 05/01/91

[illegible]

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

OG COMMENTS:

Reviewed 5/3/91 KG
REVIEWED: 5/7/91 me

0 25 50
m



KN-132-B

05/01/91

OG. Map

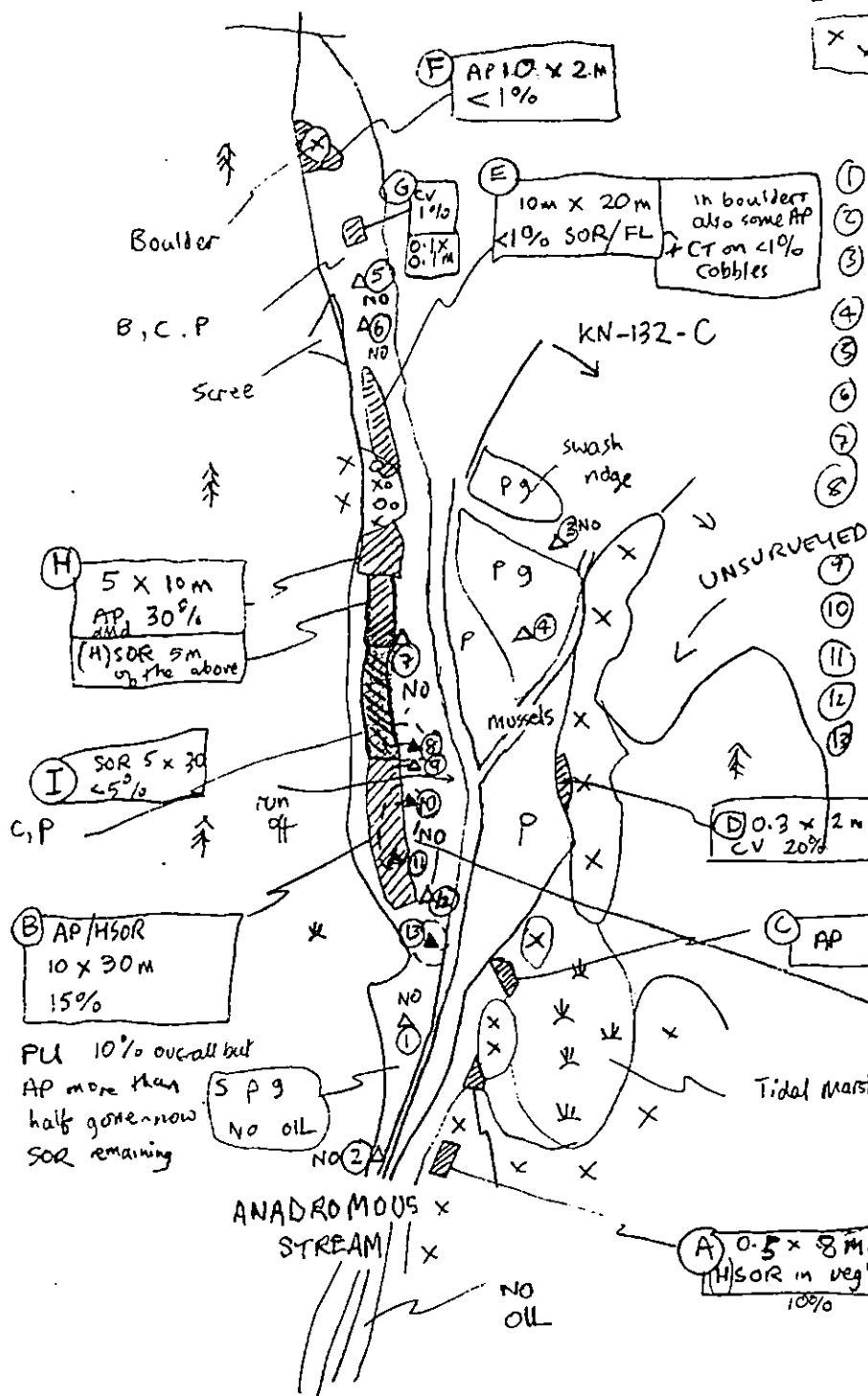
D.I. Little

0805-0945

KN-132-A

✕ ✕ Tidal marsh

✕ ✕ Bedrock



#	PIT TO	deambel.	Y/N	g/p	NO W/SCM	WIT
①	30	Y	g/p	"		20
②	25	Y	g/p	"		23
③	25	Y	g/p	"		10
④	25	Y	g/p	"		—
⑤	20	Y	C/P/g	"		5
⑥	25	Y	b/p/g	"		25
⑦	20	Y	S P/g	"	UIT2	—
⑧	25	0-10 (M) OR g/s	Y		UIT2	—
⑨	20	0-3 mly	Y	P/g/s	UIT2	10 FL
⑩	20	0-15 (M) OR g/s/r			"	5
⑪	20	0-10 (L) OR g/s			"	5
⑫	20	0-3 mly			"	5
⑬	10	0-7 (L) OR P/g			MIT2	—

SUBSURFACE OIL MAP
IN 3 PATCHES of
about 2 x 5 m.

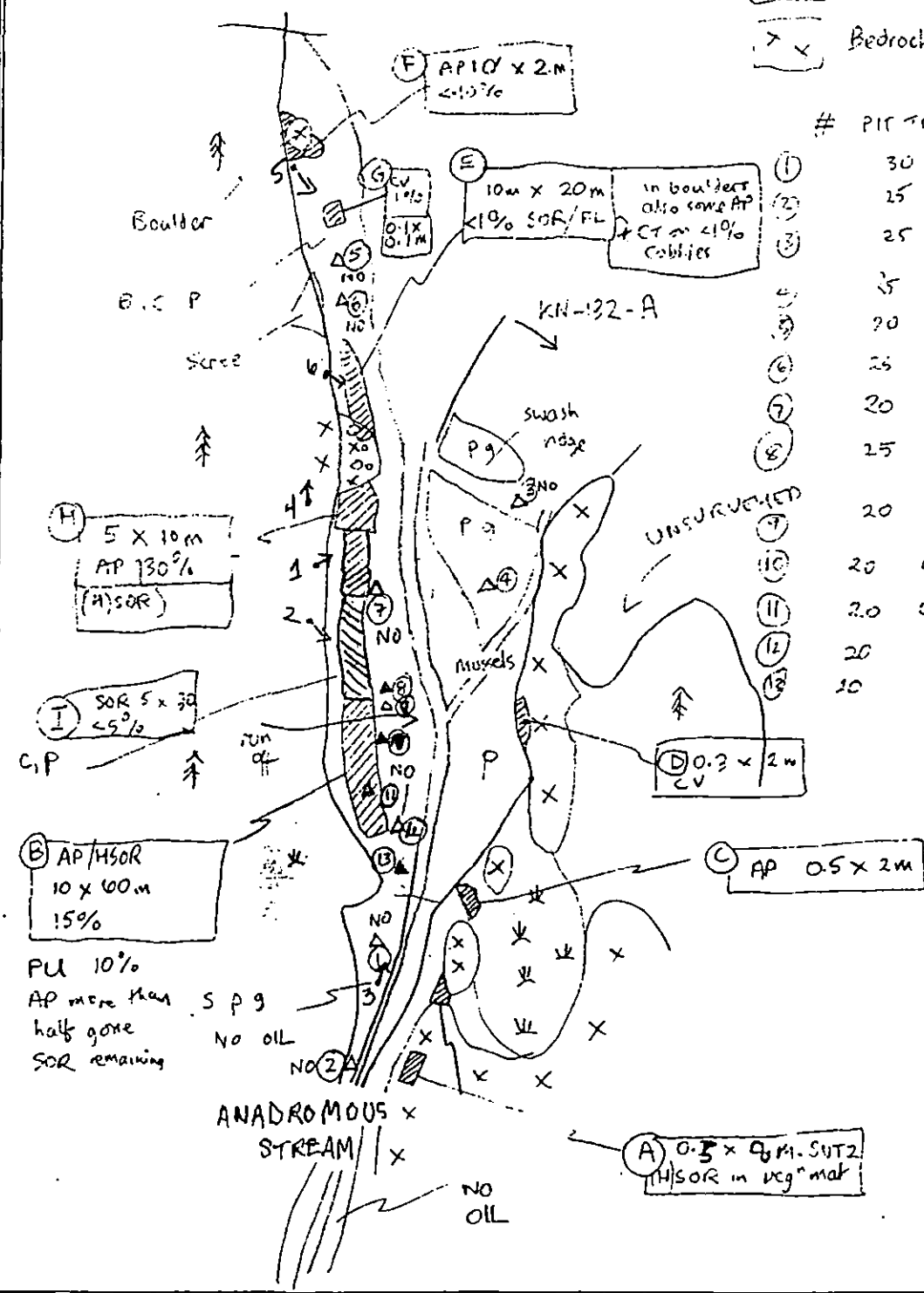
A, C, and D are not
part of KN-132-B,
since they are located
east of the stream

reviewed 5/3/91 KG
REVIEWED: 5/7/91 MC



KN-132-B 05/01/91
OG. Map D.I. Little
0805-0945

✕ ✕ Tidal marsh
✕ ✕ Bedrock



#	PIT	diam. bet.	Y/m	g/p	NO. H/SOR	W
1	30	Y	g/p			20
2	25	Y	g/p			13
3	25	Y	g/p			10
4	35	Y	g/p			—
5	20	Y	g/p/3			5
6	25	Y	g/p			25
7	20	Y	S p g		MITZ	—
8	25	0-10	(M) OR g/p		MITZ	—
9	20	0-3 mly	g/p		MITZ	—
10	20	0-15	(M) OR g/p			—
11	20	0-10	(L) OR g/p			—
12	20	0-3 mly				—
13	10	0-7	(L) OR p/g		MITZ	—

HAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6 DATE 5/1/91
 SEGMENT # KN-132 TIDAL HEIGHT (Range) +1 to -1 feet
 SUBDIVISION B BIOLOGIST T.A. Schroeder
 SEA STATE Light Chop WIND SPEED/DIRECTION N = 10-15 mph
 PHOTOGRAPHS: ROLL # FRAME #

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

(E, F & G) = Intertidal area below these patches of CV, AP and SQA are very lush and productive. Fucus and mussel growth is excellent and large cable racks are providing shelter for vast numbers of Littorine snails, limpets and barnacles.

(B, H & I) = Fucus kelp and mussels are reestablishing themselves in LITZ below these patches of SQA and AP. Much of LITZ has extensive mechanical cleaning and is virtually lacking in any animal life or vegetation. Snails, limpets and amphipods are abundant in LITZ.

(A, C & D) = Located in close proximity to salmon stream. The intertidal spawning area of this stream is very productive and should not be jeopardized by any intrusive cleaning methods.

While this area is exposed to considerable storm activity, the intertidal area is very rich with plant and animal life. The area treated with more intrusive mechanical methods (B & D) is almost lacking in any plant or animal life, whereas the area treated with less intrusive methods (E, F & G) is very rich and lush.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			1 Sculpin
Seabirds			560 pink salmon
Waterfowl	1	17	fly in bucket.
Gulls/kittiwakes	1	1	
Shorebirds			2 pink fly in stream
Corvids			
Other Birds			

ADF
 LK
 ne
 D.I

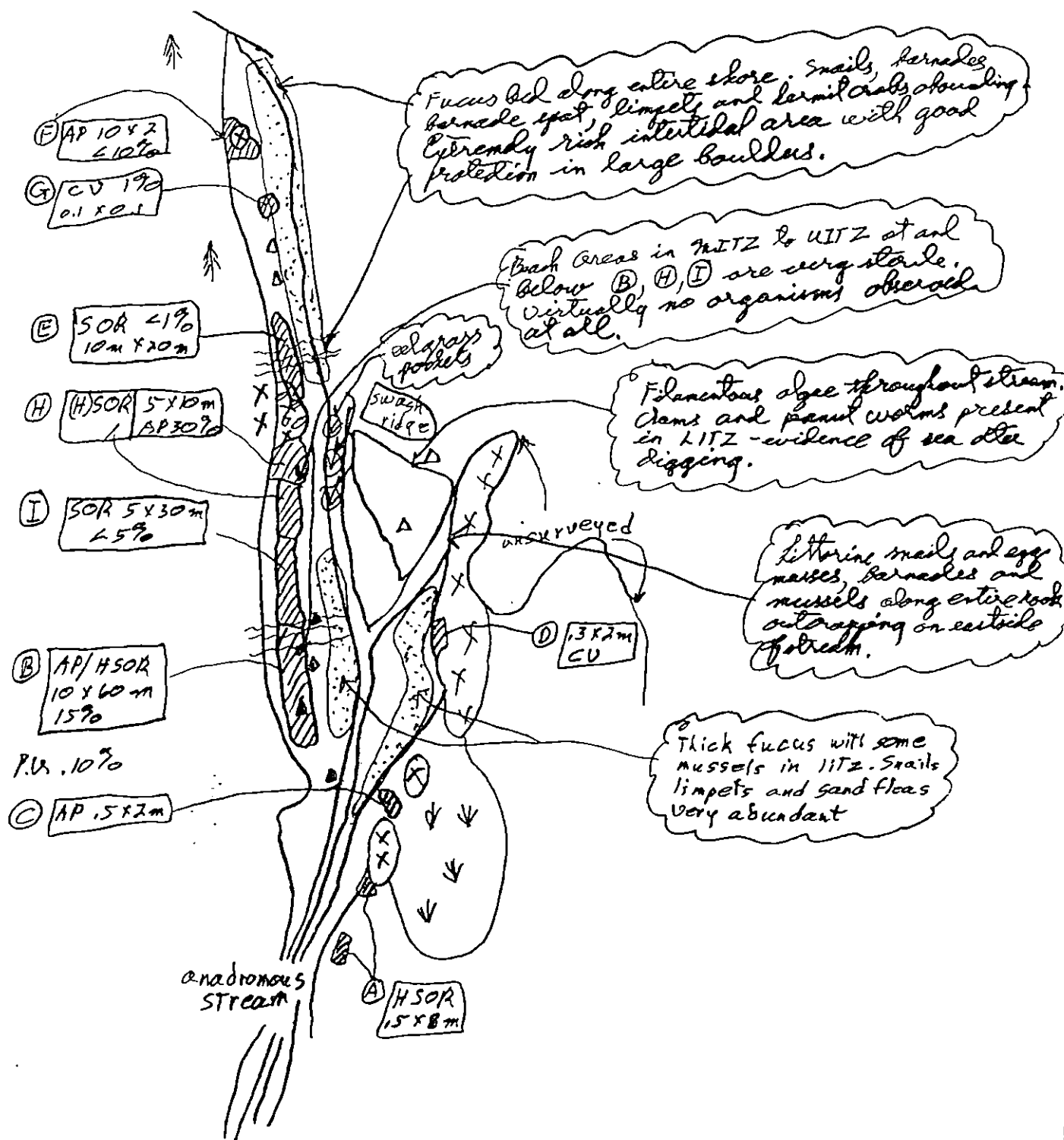
MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

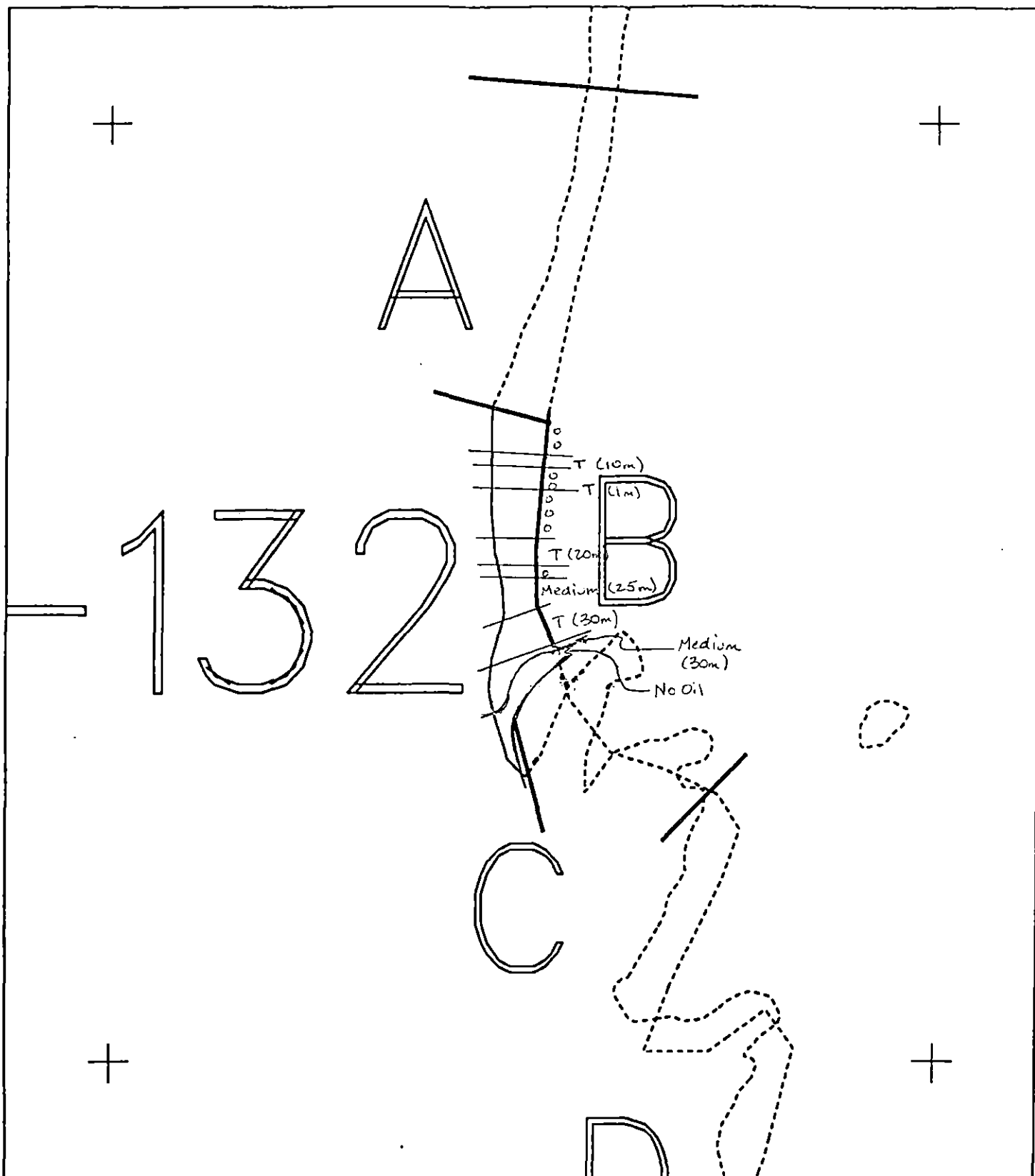
Shoreline subdivision map showing important biological features attached.

REVIEWED: 5/7/91 MC
 D. I. A. S.

KN-132-B 5/01/91
 Bio. Map T.R. Schroeder
 0805-0945

0 25 50
 meters





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

KN0132 B
 ADEC Subsegment Length: 170m
 METERS
 0 100 200
 AK State Plane Zone 4
 kn0132b



Subdivision Field Map
 Map Key: KN1KN0132B
 Name: David Little / KG
 Date: 5/6/91
 Date Entered:

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-132 STREAM NO: 226-10-16982 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 stream is located at boundary of Subdivision B and C (2 and 3 of 4).

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: *J. David McMan* DATE: 5/10/90

Subsurface Oil Observed: Yes X No Maximum Depth 8 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>X</u> Spot Washing: <u>X</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 pickup oiled vegetation and mousse patties, 2) spot wash area under tarmat after removal, and 3) bioremediation of area shown on attached sketch map. Work should be conducted between 5/15 and 7/10 with approval of ADF&G regarding bioremediation of stream bank.

TAG COMMENTS: _____

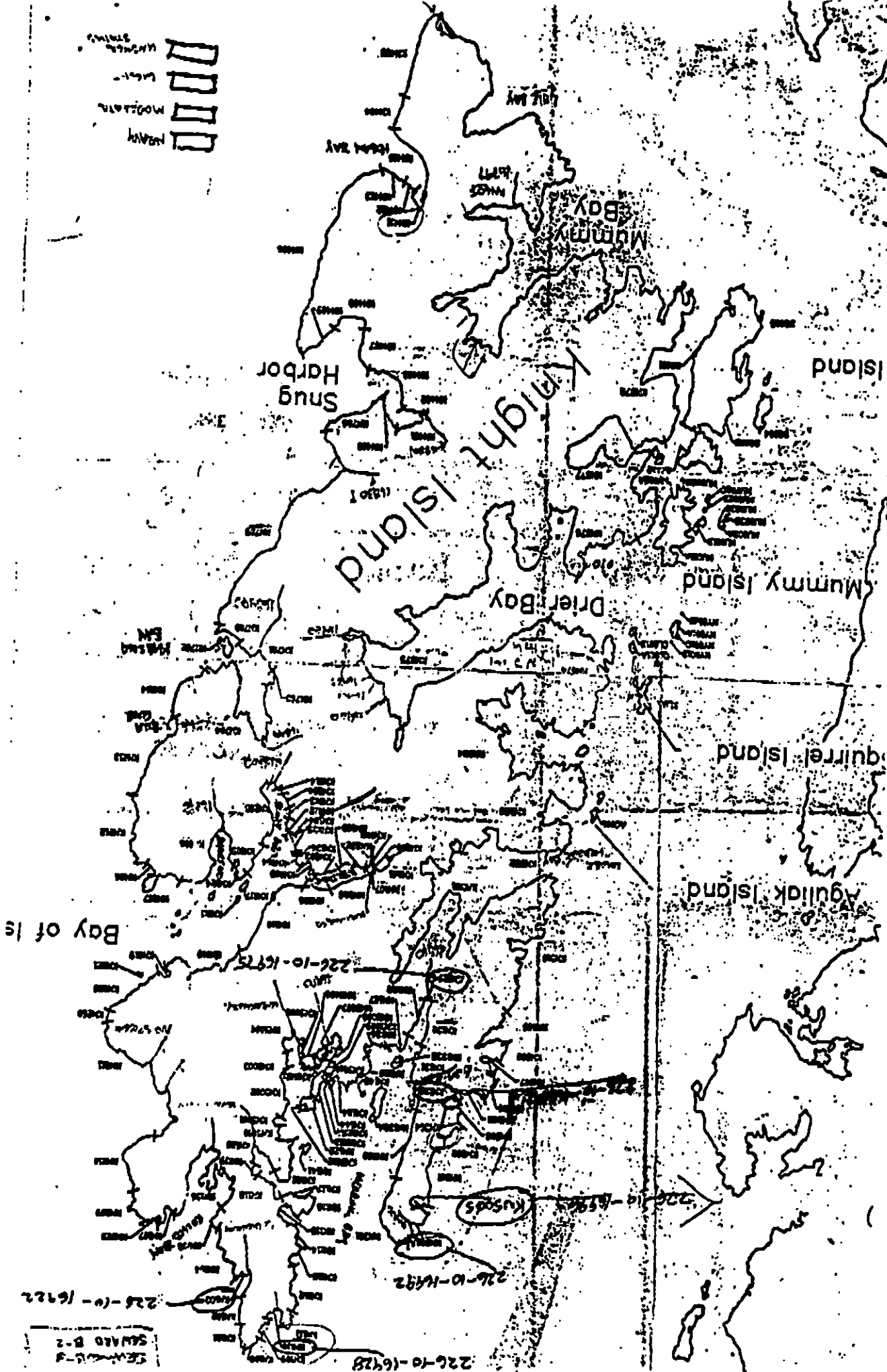
TAG APPROVAL DATE: 5/10/90

ADEC *Art Weiner*
EXXON *Andy Teal*
NOAA *Burt Wacziarg*
USCG *D.D. Rome*

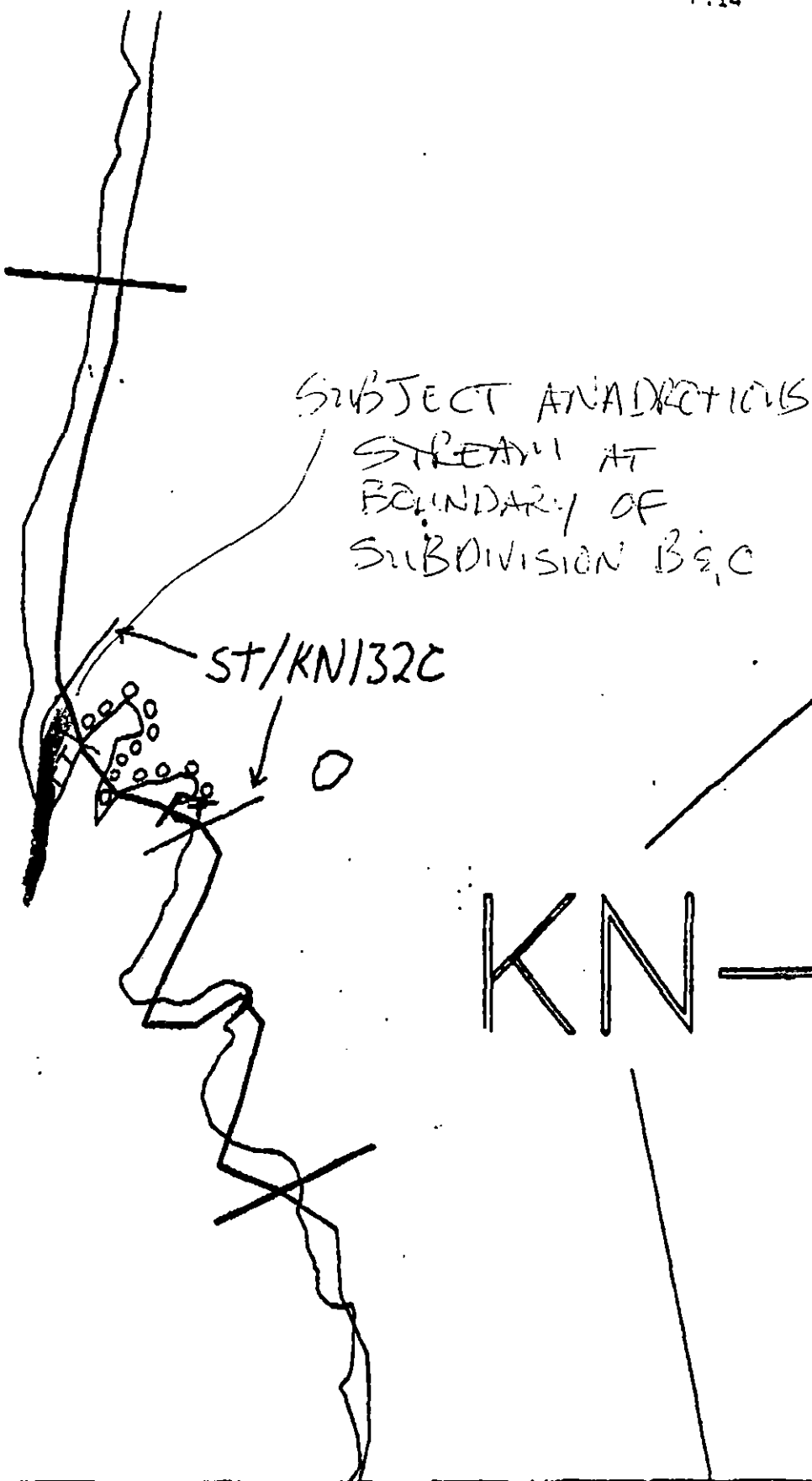
FOSC: *W L* DATE: 5-15-90

SEVAD-3
SEVAD B-2

2/51



HEAVY
MODERATE
LIGHT
UNUSUAL STIMULI



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-132

ADEC Segment Length: 1108m

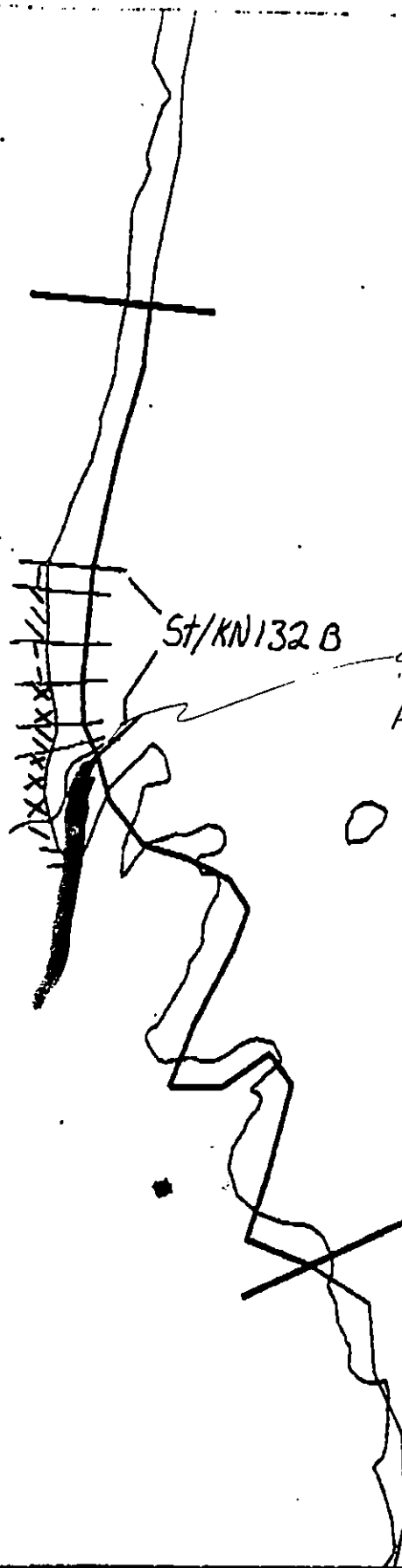


Map Key: PWS-315

Name: _____

Date: _____

Data Entered: _____



SUBJECT
ANADROMOUS
STREAM
AT BOUNDARY
OF SUBDIVISION
B & C

KN-

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

KN-132

ADEC Segment Length: 1108m



Map Key: PWS-315

Name: Sawyer

Date: 3-31-90

Data Entered:



ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16982

SEGMENT KN-132 SUBDIVISION B

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

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16982) forms the boundary between Subdivision B and C. Subdivision B is closed to bioremediation less than 100m from stream 7/10 to 8/31. Prior to 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, tarmat removal and spot washing.

OTHER ECOLOGICAL CONSIDERATIONS

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

SEE SUBDIVISION CONSTRAINT ADDENDUM KN-132B
FOR ADDITIONAL CONSTRAINT INFORMATION

TAG APPROVAL DATE

ADEC Art Weiner Art Weiner

EXXON Amy Galt Art Weiner

NOAA B. Wescott Charles D.

USCG G.A. REITER G.A. Reiter

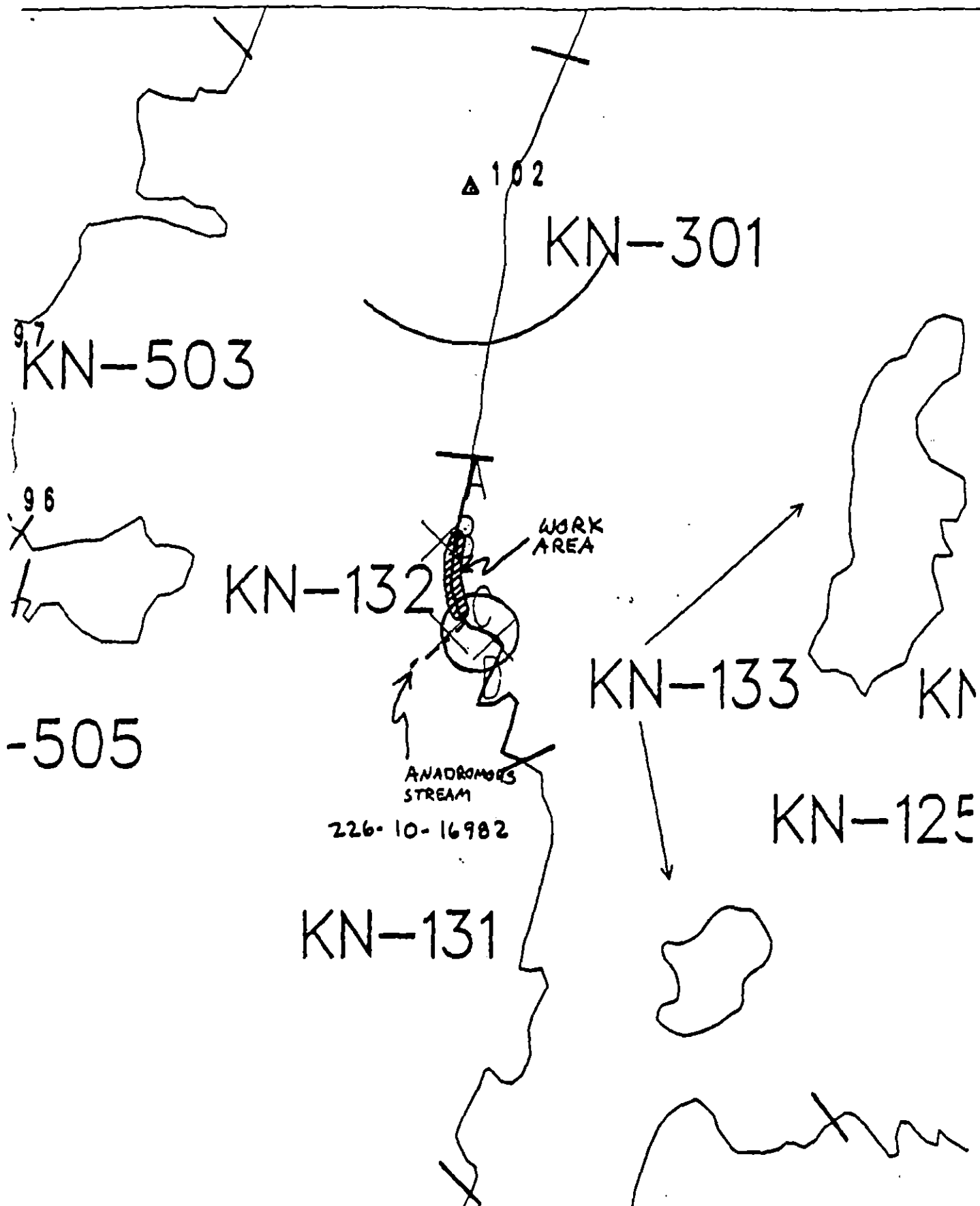
FOSC

DATE MAY 29 1990

Prepared By: Anden Meyer WIK

Date

5/28/90



Exxon Company, USA
Map Key: KN1-KN-132
May 11, 1990



ECOLOGY MAP
SEGMENT KN-132
SUBDIVISION B. (2-14)
METERS
0 355 710

★	Seabird Colony
△	Eagle Nest

1 inch = 1164 feet

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-132 STREAM NO: 226-10-16982 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 stream is located at boundary of Subdivision B and C (2 and 3 of 4).

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: [Signature] DATE: 5/10/90

Subsurface Oil Observed: Yes X No Maximum Depth 8 cm

RECOMMENDATIONS:

 No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

X Tarmat Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

X Spot Washing: X Wands

 Beach Cleaner

 Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of tarmat and pickup oiled vegetation and mousse patties, 2) spot wash area under tarmat after removal, and 3) bioremediation of area shown on attached sketch map. Work should be conducted between 6/15 and 7/10 with approval of ADF&G regarding bioremediation of stream bank.

TAG COMMENTS: [See Addendum Dated 5/28/90] WR

TAG APPROVAL DATE: 5/10/90

ADEC ART WEINER
EXXON ANDY TEAL
NOAA Burt Wescott
USCG D.D. Rome

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

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-132

STREAM NO: 226-10-16982

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-132 STREAM NO: 226-10-16982 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 stream is located at boundary of Subdivision B and C (2 and 3 of 4).

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: _____

Subsurface Oil Observed: Yes X No _____ Maximum Depth 8 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> X </u> Spot Washing: <u> X </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 pickup oiled vegetation and mousse patties, 2) spot wash area under tarmat after removal, and 3) bioremediation of area shown on attached sketch map. Work should be conducted between 5/15 and 7/10 with approval of ADF&G regarding bioremediation of stream bank.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____
ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

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 unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)**
3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
 ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)**
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)**
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
 ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)**
Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (6/1 to 9/15)**
6V Anchorages (6/1 to 9/15)
6W Forest Service cabins (6/1 to 9/15)
6X Lodge (6/1 to 9/15)
6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)**
7HH Finfish harvesting
7II Deer harvesting (8/15 to 2/28)
7JJ Invertebrate harvesting
 Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
 AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

51/51

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN-132 SUBDIVISION: ASC# 226-10-16982 DATE 4-21-90

USCG

NAME Kerwin L. Dreher SIGNATURE CWO2 K. R. Dreher

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

This is a heavily oiled area and does need special attention. I concur with the below recommendation but would also consider bioremediation after those steps.

~~ADEC~~ → ADFG

NAME Aimee Weseman SIGNATURE Aimee Weseman

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Heaviest oiling occurs within a 60m x 10m band in MY41T2 on west bank of stream. Put aside top layer of rocks & manually remove oil saturated fines in areas of highest oil concentration. Replace rocks & wash area with hot water. Recover oil. String 6 of pom-poms at intervals to prevent erosion & oil deposition in stream. Removal of oiled material would be facilitated by use of 4-wheeler with trailer. Remove scattered tar mats within grassy tide pool area, upstream or wherever encountered.

Remove oiled vegetation

~~LAND MANAGER~~ → NONE

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

SHORELINE OILING SUMMARY (ANAO)

REVISION NO. 04/19/90

OG EAL LARSON USCG DREHER, CWE SEGMENT ST/ KN 132 8/5
 BIO KEN CRITCHLOW LAND REP STREAM 226 #16782 (OF)
 EXXON DARLHL YVES ADFG 22K GUSTIN-AIMEE WESEMAN TIME 16:00 to 17:00
 TEAM NO. 14 TIDE LEVEL +2.81 DATE 4/21/90
 EST. SUBDIVISION LENGTH: 150 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R % B % C 30 % P 30 % G 30 % S 10 % M % V
 SLOPE: Lang % Hang % Vert % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 60 m M 40 m N 5 m VL m NO 45 m

SURFACE OIL

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

PAVEMENT H (F) (S) 680 sq. m by 1.8 cm

PATTIES / TARBALLS BAGS

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

#BAGS

Photographs:

Roll No.

Frames

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	Y	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		NO	OD	1	2	3	4	SU	U	M	U				
1	16	✓					5-8		✓			✓		✓							CB/PB/GR, S
2	14		✓				5-8		✓			✓		✓							CB/PB/GR, S
3	14					✓	-		-			✓		✓							CB/PB, S
4	18				✓		5-8		✓			✓		✓					Y	Y	CB/PB/GR - CB, PB, GR

COMMENTS. FISH & CRABESK-MON START SITE. LARGE BAND OF ASPHALT ON EAST SIDE OF LOVE. COATING ON BOLDERS/BED. IS DRY NON MOBIL. RICH HEALTHY BETA IN LOWER TIDAL ZONE.

REVIEWED

DATE 4-23-90

OG CAL LARSON

SEGMENT ST/LN/12

STRAIGHT 226-0-16902

DATE 4/21/90

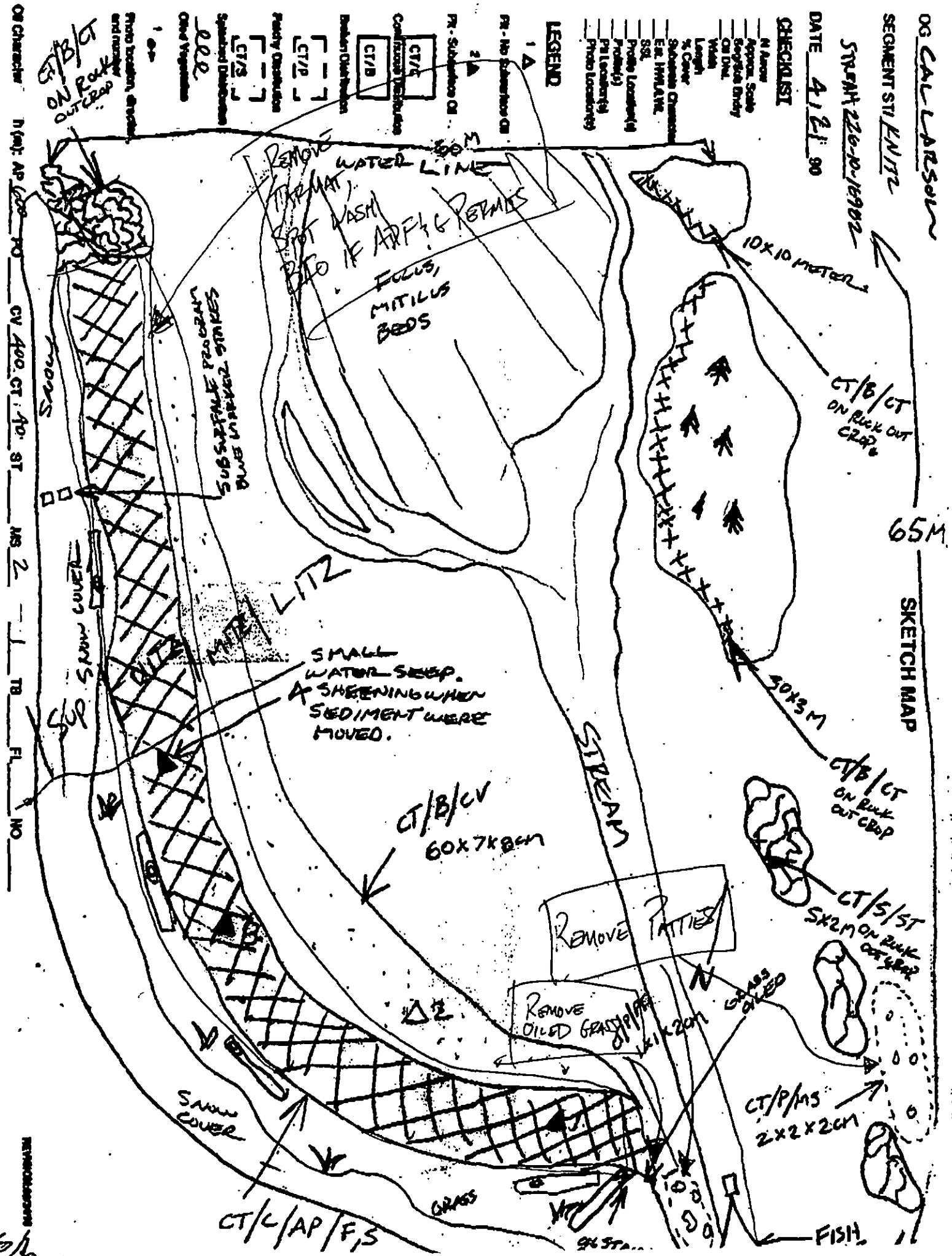
CHECKLIST

- N Arrow
- Approx. Scale
- Topographic Data
- On DML
- Water
- Length
- % Cover
- Shoreline Character
- Est. HWA/LWL
- SSL
- Profile Location(s)
- Profile(s)
- Photo Location(s)

LEGEND

- 1 A
- 2 A
- FR - Substrate CI
- CT/A
- Conditioned Vegetation
- CT/B
- Broken Distribution
- CT/P
- Fracture Distribution
- CT/S
- Spaced Distribution
- CT/C
- One Vegetation

65M SKETCH MAP



OG Character N (m): AP CV 400 CT 10 ST MS 2 TB FL NO

REVISIONS

36/51

ADFG MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS (SS) DS TS AVS SCMA MMS PTA2 REGION: (PVS) KP,CI K,APMETHOD: Aerial (Ground) Boat3 DATE: 4-21-9015 HIGH TIDE TIMES: 121 TEAM RECORDER: Aimee W. Resemar4 START TIME: 160016 HIGH TIDE HTS: 122 OBSERVERS: Rick Gustin5 STOP TIME: 171517 LOW TIDE TIMES: 173023 AGENCY: ADFG6 SEGMENT #: KN-13218 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: sec B-3Starts: 0 Ends: 111

10 LAT:

11 LONG:

26 SAMPLES TAKEN Y (N) Number12 SOURCE: (Map) Loran13 LOCATION: West side Herring Bay14 DESCRIPTION: ADFG study site

Oil _____

Sediment _____

Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	V	H ²		L	V	H ²	
27 SURFACE COVERAGE	60m	10m	heavily oiled					

28 SURFACE THICKNESS

29 PENETRATION

30 OVERALL OIL IMPACT: N YL L N (10)31 OIL TYPE: Pooled Messen (Tar) Asphalt (Sticky) (Stain)32 OILED DEBRIS: (Y) N - driftwood33 SHORELINE TYPE: Headland Low-lying Rocks Beach (Cove)

Lagoon Marsh

34 WAVE EXPOSURE: High Moderate Low

35 SUBSTRATE TYPE: Bedrock 10 Boulder 5 Cobble 40Gravel 35

Sand

Mud/silt

36 CATALOGED ANAD. FISH SREANT (Y) N37 CATALOG #: 226-10-16982

38 STREAM NAME:

39 OIL IN STREAM BED? (Y) N40 OIL ON STREAM BANKS? (Y) N41 OIL ON BEACH ADJACENT TO MOUTH? (Y) N
(within 50 meters)42 OIL WITHIN 1 MILE OF STREAM? (Y) N

Where: _____

43 ANADROMOUS FISH PRESENT? Y N

44 ANADROMOUS FISH OBSERVATION

Species Aerial Ground

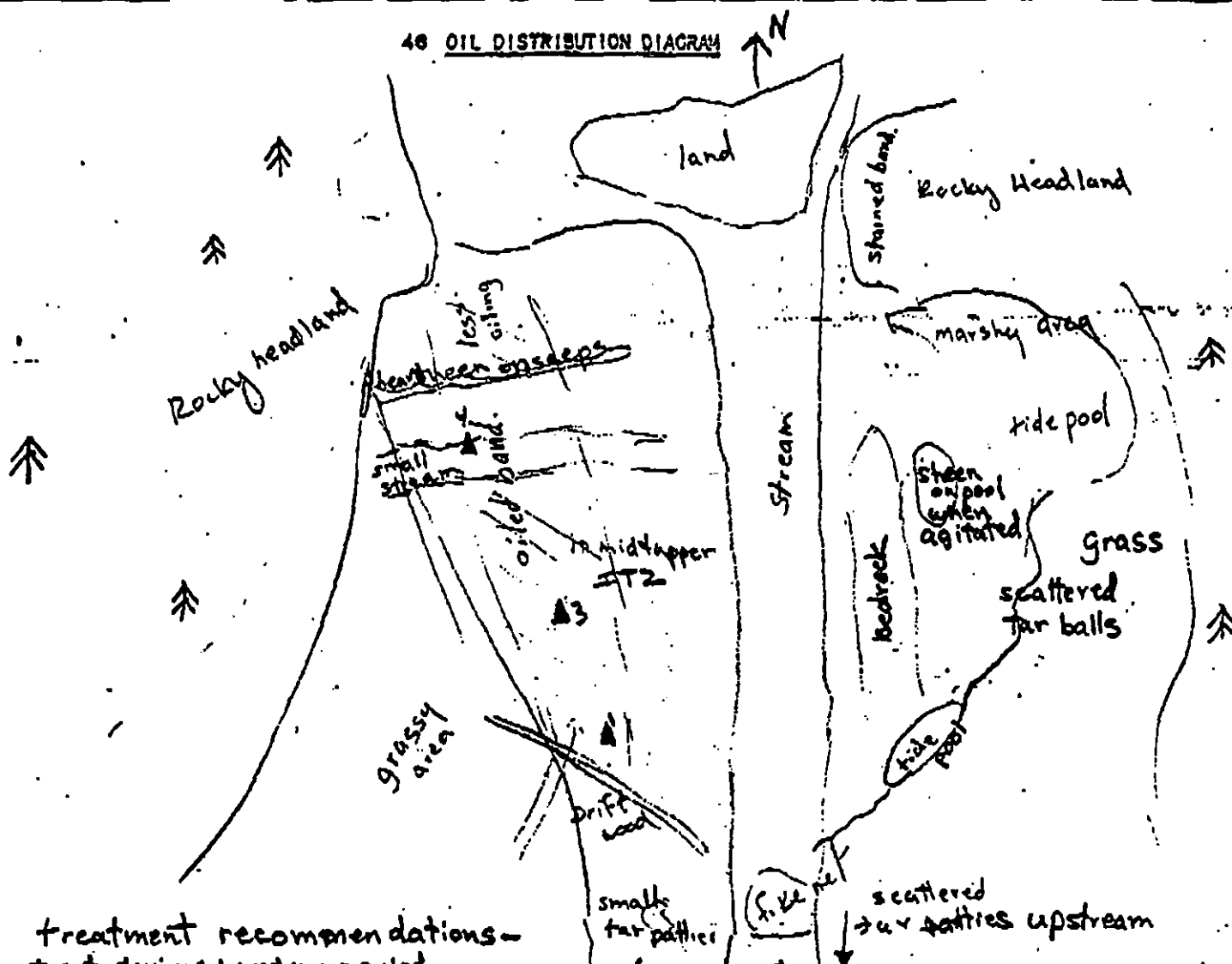
COMMENTS: Heaviest oiling occurs in a 60m long x 10m wide band in the M4 U TZ on the west bank of the stream. A thin layer of angular rocks/cobble covers the oil saturated fines. The underside of the surface rocks have a sporadic oil coat. Scattered tar balls are present within the grassy tide pool.

KN132 ³⁴/₅₁

PHOTOLOG

[illegible]

48 OIL DISTRIBUTION DIAGRAM



treatment could consist of a combination of ^(or twin pack steam) hot water wash & removal of oiled sediment on west bank - work area systematically - put aside stained surface rocks on section of beach remove layer of oil saturated fines. Place surface rocks from next section on previously worked area then remove saturated fines. Continue across beach in this manner on heaviest oil portions. When completed hot water wash the area (twin pack). Removal of oiled material would be enhanced by use of 4-wheeler with trailer.

On East bank - manually remove scattered tar balls within grassy tide pool area & upstream, also remove cross oiled material.

ANAD KM-132

STREAM # 226-10-16982

5/51

OPS RECOMMENDATION ATTACHMENT
TO ANNOTATED OPS SKETCHTREATMENT RECOMMENDATION OF 60X10X8CM C/C/AP/F,S

MOVE LARGE COBBLE AND MANUALLY REMOVE AP SEDIMENTS AS
PRACTICAL LINE LITZ WITH PM PM TO PROTECT STREAM
AND SPOT WASH REMAINING COBBLE / PEBBLE IN AP IMPACTED
AREA. BIOREMEDIATE BATH AREA AFTER TREATMENT IF
APF #6 WILL ALLOW.

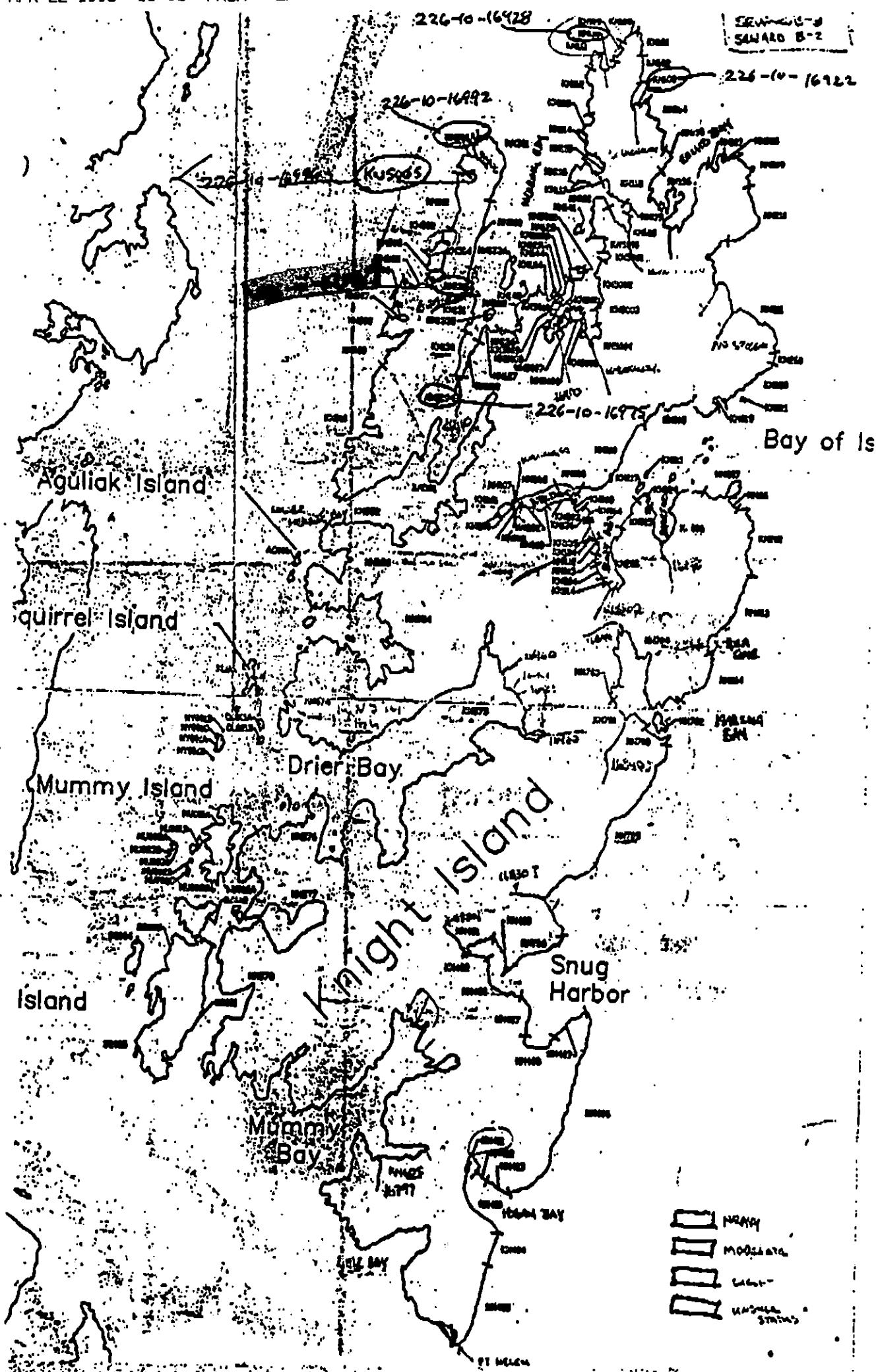
Comments of Ken Critchlow -

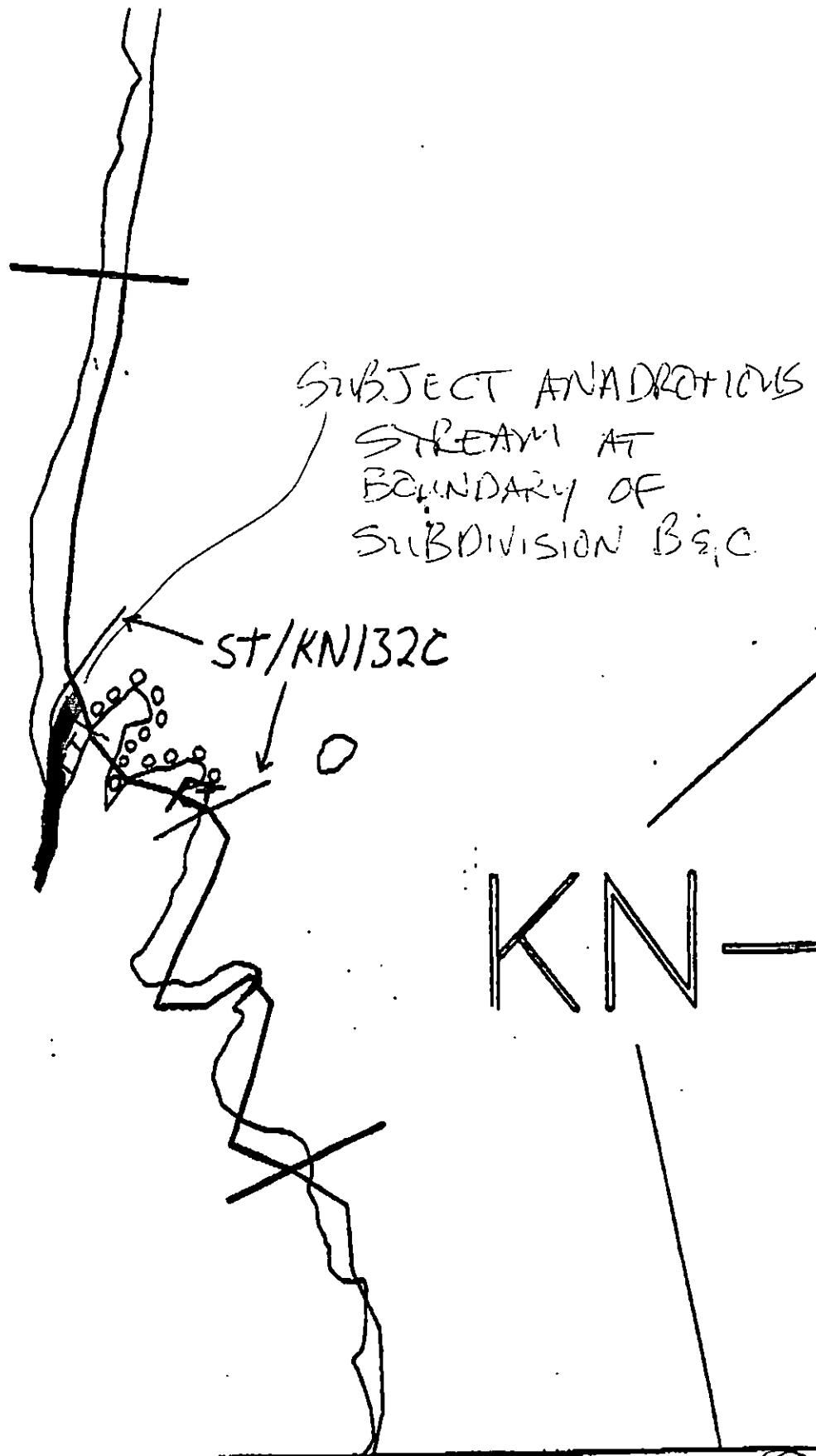
38/51

Agree with ADFB cleanup recommendations, but also suggest use of bioremediation as last step to provide enhanced longer term cleaning to degrade residual oil.

2/51

SEWARD B-2





XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-132

ADEC Segment Length: 1108m

0 100 200 300
METERS

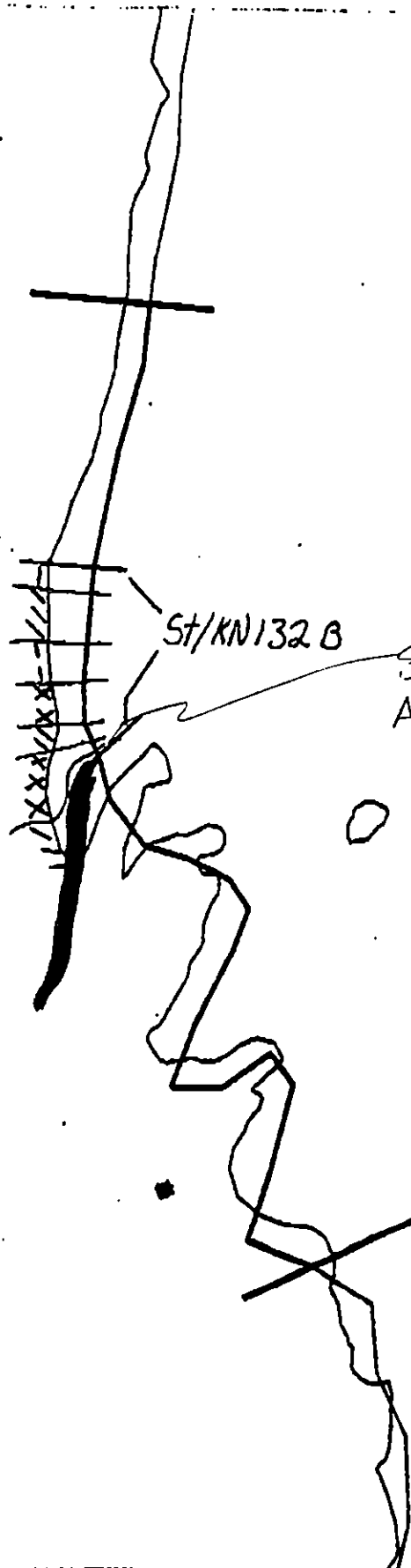
Map Key: PWS-315

Name: _____

Date: _____

Data Entered: _____

(38)



SUBJECT
ANADROMOUS
STREAM
AT BOUNDARY
OF SUBDIVISION
B & C

KN-

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-132

ADEC Segment Length: 1108m



Map Key: PWS-315

Name: Sawyer

Date: 3-31-90

Data Entered:

(58)

1991 MAYSAP EVALUATION

SEGMENT: KN 132 SUB: A REGION: PWS SURVEY DATE: 5/24/91

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. 1 SEGMENT KN 132 SUBDIVISION A DATE 5/24/91

ADEC

NAME JEFF GINALIAS SIGNATURE [Signature]

☒ NTR NO RECOVERABLE OIL. ONLY OIL WAS OCCASIONAL COAT/COVER
ON BOULDERS, SLOPE INCLINE VITZ.

EXXON

NAME LARRY D. OLSON SIGNATURE [Signature]

☒ NTR No treatable oil conditions found.

ANDMANAGER

NAME Marsha Hall OF DNR SIGNATURE Marsha Hall

☒ NTR Coat on boulders only, was observed.

USCG/NOAA

NAME SCHULTZ / CHILDS SIGNATURE [Signature]

☒ NTR NOTHING LEFT TO RECOVER

EROSIONAL HI-ANGLE BOULDER - COARSE SHORELINE - OILING DETECTED CONSISTS
OF CT & CV ALONG HI-SE, TYPICAL FOR AREA, <10% COVERAGE. NO SUSPENDED
OIL.

PAGE 1 OF 1

DATE 5 / 24 / 91

ENERGY LEVEL: ☐ H ☐ M ☒ L

EST. OIL CATEGORY LENGTH: W m M m N m VL 235 m NO m US m

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

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 1 - 30 FRAMES 9

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

OG COMMENTS: Steep bc shore, over R. Surface oil only, no sporadic CT w/ trace CV splatr. There was no substrate adequate for pitting ~ no soil was observed.

REVIEWED: F.W. 5/27/91

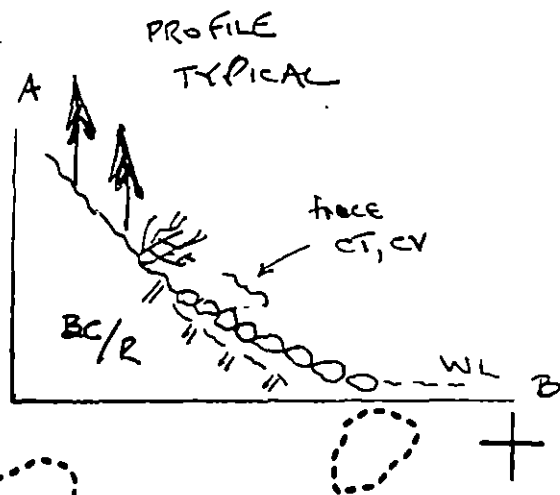
REVIEWED: MC 5/28/91

M-H angle,
BC/R shore

AK D.8 F₂ G

CT, < 10% HTZ,
≤ 2 x 235, algae o' growth.
CV/I, < 1% as splatry
under B; A/A.

13
+



XX Wide
// Medium
-- Narrow
T Very Light
00 No Oil

KN0132 A

ADEC Subsegment Length: 235m

METERS



AK State Plane Zone 4
KN0132a



Subdivision Field

Map Key: KNKN0132

Name: G. MACDONALD

Date: 5-24-91

Date Entered:

REVIEWED: F.W. 5/27/91

REVIEWED: ACC 5/28/91

TEAM # 1 DATE 24 May 91
 SEGMENT # KN 132 TIDAL HEIGHT(Range) + 3.2 ft + MLLW
 SUBDIVISION A BIOLOGIST Michael Fawcett
 SEA STATE 1/2 ft seas WIND SPEED/DIRECTION N 5-10 Knots
 PHOTOGRAPHS: ROLL # _____ FRAME # _____

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

short subdivision, narrow, medium-to-high angle bedrock/boulder
shoreline dominated rockweed and other algae in MTZ-LTZ,
and barnacles in VTZ. Only traces of oil coat remain
at the upper edge of the barnacles' distribution (N+9ft
MLLW). (see sketch Map) CT often covered by filamentous
green algae.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/Kittiwakes			
Shorebirds			
Corvids	<u>1 Steller's Jay</u>	<u>1</u>	
Other Birds			

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

Shoreline subdivision map showing important biological features attached.

4
 P. 512713. 1M

Bio Sketch Map
KN 132 A
M. Fawcett
5/24/91

AK D. 8 F₂ G

M-H angle,
Bc/r

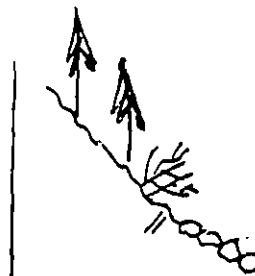
CT/UB

CT n + 9ft among upper
edge of barnacles; de.
spat, rockweed, whelks, &
moderate littorinids, Scytosiphon
Rhodomela, Ulva, and filamentous
brown algae below; also brachiopods
whelks and nudibranchs

13.2

13

+



0

+

XX Wide
// Medium
-- Narrow
- Very Light
O No Oil

KN0132 A

ADEC Subsegment Length: 235m

METERS

0 100 200

AK State Plane Zone 4

6601320



Subdivision Field

Map Key: KNKN0132

Name: G. MACDONALD

Date: 5-24-91

Date Entered:

KN 132 A 5/24/91

Fawcett

start 1550

- narrow BRB med. angle shore

MTZ + 2-6 ft - dense Fucus, mod

barnacles, dense mussels (*N. lamellosa*)

- dense spat MTZ-UTZ, mod litt

CT + 9 ft among upper edge
of mod. barnacles

- *Lamellidorsalis* & *N. lamellosa* breeding
below + 4 ft

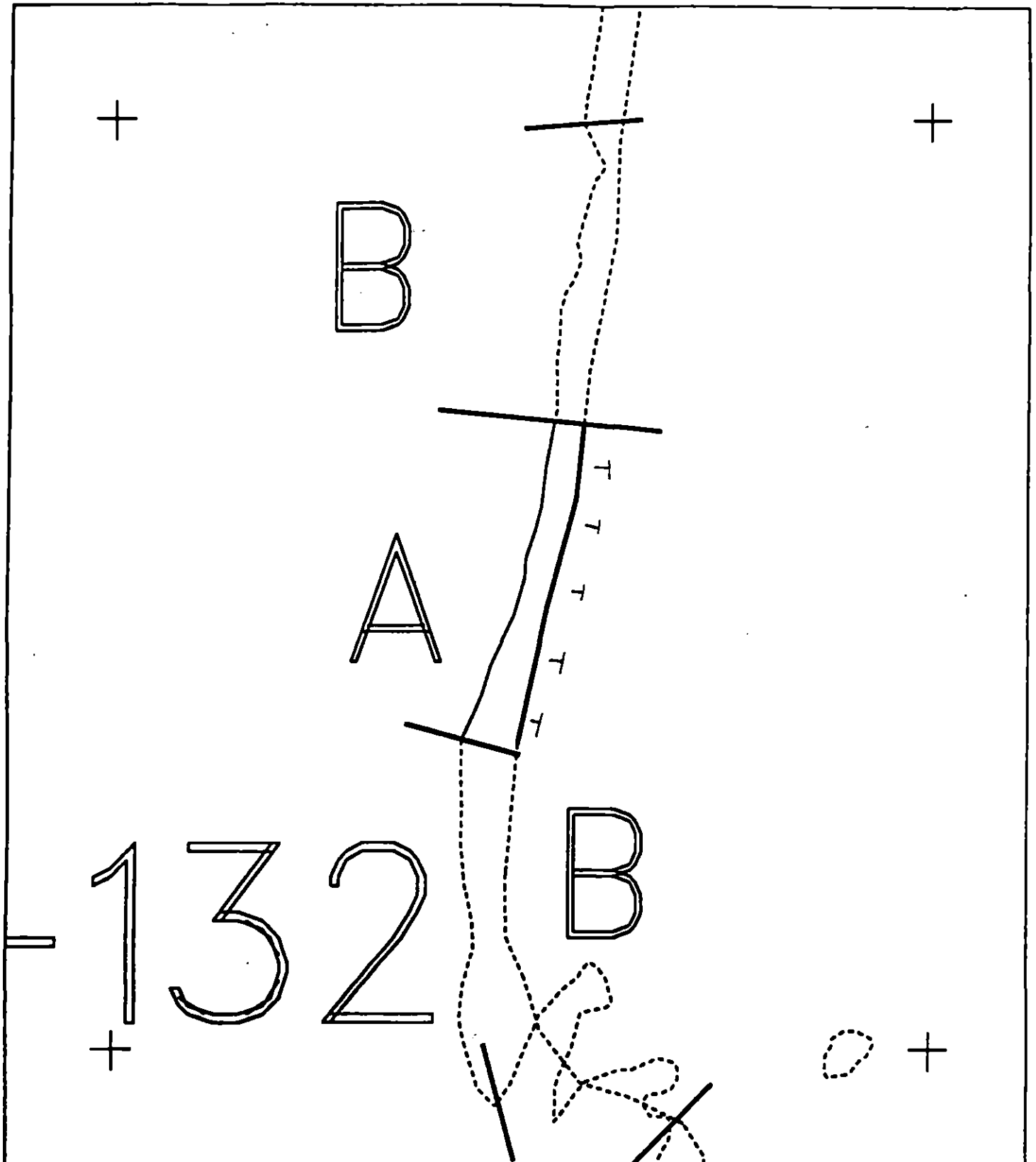
Other MTZ-CTZ algae: *V. l.*, *F. l.* in

Scyto, Rhodo

- sparse limpets

1 Steller's gull

End - 1550



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

KN0132 A
 ADEC Subsegment Length: 235m
 METERS

0 100 200
 AK State Plane Zone 4
 hkn0132a



Subdivision Field Map

Map Key: KNKN0132A

Name: GM

Date: 5-24-91

Date Entered:

REVIEWED: F.W. 5/27/91

REVISOR: MC 5/28/91

1991 MAY8AP EVALUATION

SEGMENT: KN 133 **SUB:** A **REGION:** PWS **SURVEY DATE:** 5/25/91

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.

NATURAL FIELD SHORELINE COMMENT SHEET

TEAM NO. 1 SEGMENT KN 133 SUBDIVISION A DATE 5/25/91

DEC NAME JEFF GINALIAS SIGNATURE [Signature]

☒ NTR DOUBTFUL WHETHER MORE RECOVERABLE OIL EXISTS. MANUAL REMOVAL BY MAGSAP CREW OCCURRED AT SITE ~~24~~ SITES H, I, K, K1, K2 REMOVALS OF HITE REMOVED MAINLY ~~AT~~ AT SITE K1. SOME REMOVAL LOW SOL REMAINS ~~AT~~ AT HITE BUT VERY WEATHERED AND THIN DOUBTFUL IF ANY MORE REMOVAL POSSIBLE. SOME SOL MAY EXIST UNDER Boulders, BUT DIFFICULT TO ACCESS AREA SHOULD CONTINUE TO WEATHER. MIGHT ~~WANT~~ WANT TO OBSERVE AT MID SUMMER TO SEE IF REMAINING OIL IS BECOMING MOBILE.

EXXON NAME LARRY D. OLSON SIGNATURE [Signature]

☒ NTR Survey located remnants of old Tarnat. Between tide cycles, the Vero crew returned to an area of beach and removed 226 EO Bags. No Further treatment necessary as weathering will degrade and deteriorate what remains.

LANDMANAGER NAME MARSHA HALL OF DNR SIGNATURE [Signature]

☒ NTR Areas H, I, J, K at site ~~24~~ had sediments removed by Vero crew. There is remaining oil - Lo SOR to AP at boulder bases. Difficulty in working area due size of boulders.

USCG/NOAA NAME SCHOITZ SIGNATURE [Signature]

☒ NTR WHAT WAS PRACTICAL TO REMOVE WAS, THAT REMAINING IS LOCATED UNDER BOULDERS TO LARGE TO MOVE.

TWO SEPERATE ISLANDS - RUGGED SHORELINE w/ NUMEROUS BCP over R. ROCK POLICETS. HASLRAFE OIL LOCATED IN SITE C-6 AS MOR IN AREA 10x20m. ALL REMAINING OIL WAS URFAFE ONLY - TYPICAL CT, CVIST @ HITE-SITE 410% - SOR DETECTED ON ALL BEACHES AT THE HITE-SITE. AP/I & HITEOR FOUND ON SITE "4" WHICH WAS PICKED UP OR WORKED OVER BY TEAM

MAYSAP SHORELINE OILING SUMMARY

PAGE 1 OF 2

TEAM NO. 1OG G. MACDONALDBIO M. FAWCETTSEGMENT KN-123ADEC J. GINERIASLANDMANAGER M. HALL for BNRSUBDIVISION AEXXON L. OLSONUSCG/NOAA SCHULTZ/CHILDSDATE 5/25/91TIME 08:25 to 10:30TIDE LEVEL +2 1/2 ft. to +7.0 ft.ENERGY LEVEL: ☐ H ☒ M ☐ LSURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELOWEATHER: ☐ SUN ☐ CLOUDS ☒ FOG ☐ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 512 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONEEST. OIL CATEGORY LENGTH: W - m M 21 m N 56 m VL 400 m NO 35 m US 3,348 m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA		ZONE				NOTES
	AP	MS	TB	SB	CV	CT	ST	FL	DB	NO			WIDTH	LENGTH	S	UI	MI	LI	
													m	m					
A						S					R	H	<1/2	20		X			
B				S							BPV	M	15	3	X	X	X		10 sol over boat
C						T					R	V	<1/2	25		X			
D				S							B	M	5	8		X			10 sol/I below B
E				S							B	M	3	6			X		10 sol/I " "
F				S		S					BCV	M	52	40	X	X			10 sol - 2x5m
G				P							BC	M	3	4	X				10 sol
H			T		S	S					RB	H	<1/2	20	X	X			interstitial patches
I	S			S							BC	M	7	15					10 sol + AP/I
J					S	S					BCR	H	54	120	X	X			total - H + K2.
K	S				S						BR	M	3	2		X			below B & R.
L				S							BC	M	7	12	X	X			10 sol
M	S			S							BCP	M	2	10		X			AP/I 10 sol
N				S							BCP	M	3	20		X			10 sol
O				P							qPCV	L	3	15	X				oil in boat; 10 sol
P					S	S					R	H	51	50	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- 1-31 FRAMES 11-21

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER								OILED ZONE	CLEAN BELOW	H2O LEVEL	SHEEN COLOR	PIT ZONE				SURFACE- SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO	cm-cm	Y/N	Y/N	(cm)	B R S N	S	UI	MI	LI		
1	10							X	0-5	Y	-	-		X				BCP - CV.	
2	15							X	0-4	Y	2	3		X				BCP - PC	
3	10							X	5-8	Y	3	38			X			BC - CPM	
4	20							X	10-15	Y	3	3				X		BC - CM	
5	15							X	3-5	Y	-	-			X			PC - CPM	10 sol
6	15							X	-	-	-	-		X				BC - CPMR	
7	15							X	-	-	-	-		X				CP - PGV	organic
8	20							X	-	-	5	N			X			P - PB	
9	10							X	2-5	Y	-	-		X				BC - BCP	10 sol

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

OG COMMENTS: 2 rocky islands w/ coarse-grained beaches and channels. 5 sites were surveyed; all had surface oil. In general, surface oil was sporadic CT, CV w/ associated patches of sol amongst BCV sediments. Site (4), on the east shore of the northern island, had some thick (≤ 20 cm) patches

REVISED: F.W. 5/27/91

SEGMENT KN-133

SUBDIVISION A

DATE 5 / 25 / 91

OG COMMENTS:

OG COMMENTS: of At/I ; hi sol/I ; most of the recoverable oil was picked up at this time (22 bags). The remaining sol was typically light, often covering a peaty layer, and was difficult to detect without rolling boulder.

Subsurface oil was present @ site (3) b), where a band of MOR was found down slope of hi soil..

All sites showed evidence of having had severe oiling. No nearshore shears were observed during the survey.

NOTE: TO AVOID CONFUSION, 'SITE' DESIGNATIONS A, B, Ca, Cb, D and E have been changed to 1, 2, 3a, 3b, 4 and 5.

[illegible]

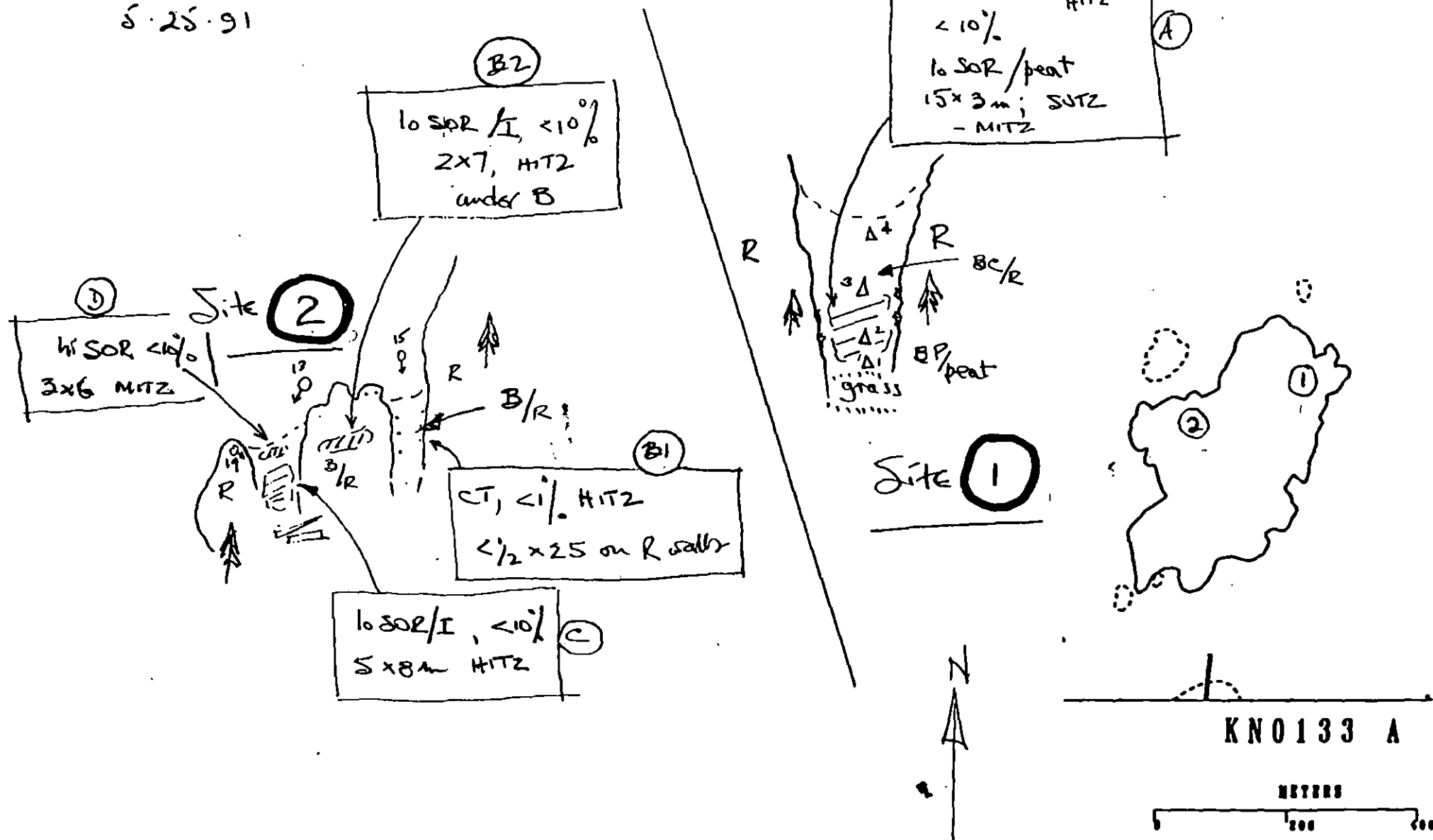
SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

REVISED: F.W. 5/27/94

KN-133A

G. MACDONALD

6.25.91



REVISED: F.W. 5/27/91

under 8 ft - HIT?

I / v. hisor - AP soft
3x2; 70% 20 cur

PU —
3 bags.

6.50R/I, $\angle 10^\circ$. (J)
7x12m; H1-3W12.

Site ④

⑤

CT, 1050R
10% HITZ-50TZ
x40m

$$\frac{1050R}{3 \times 5m} < 10\%$$

PU 18 bags

HTZ	AP/I, L/SOR
total 2 x 10 m; 20%	

BCP/peat/R

10202, $< 10\%$
3x30m, HITZ (K2)

Site
③³

③ 3b)

see
sketch. B. CHILDS
(p. 343).

Site ④⁴

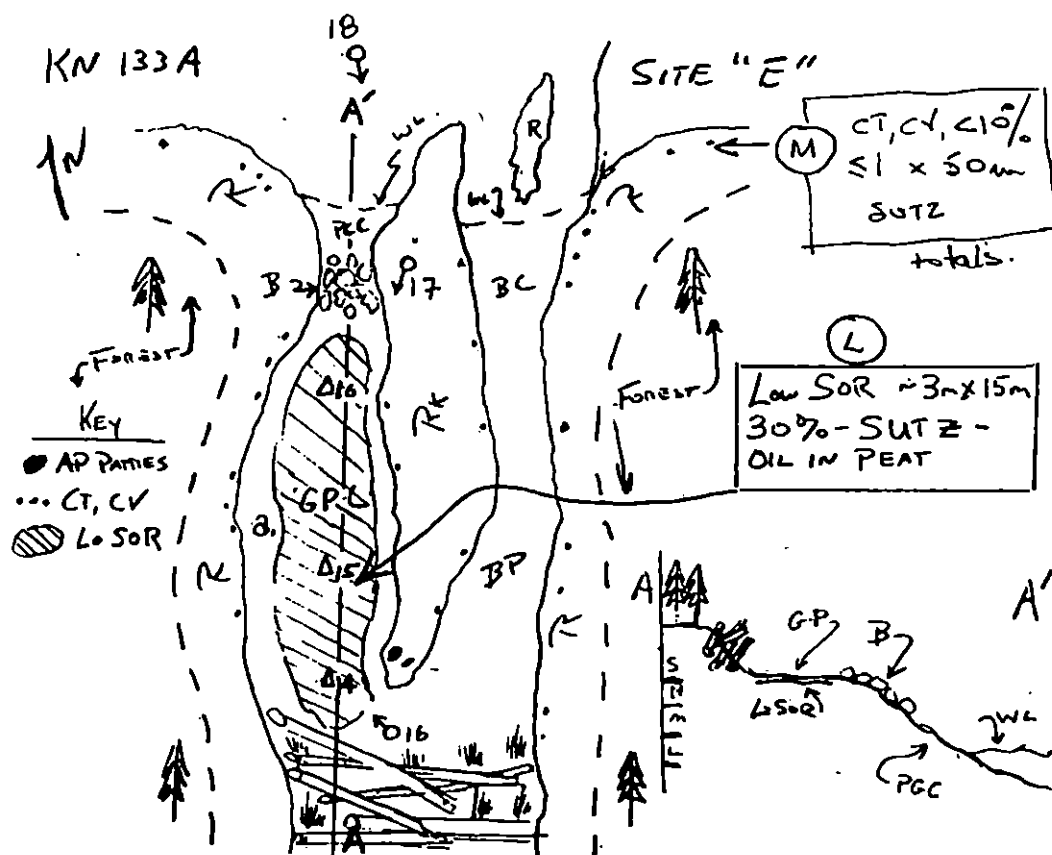
Site (3) a)

KN-133A

G. MACDONALD
5.25.91

REVISED: F.W. 5/27/91
A

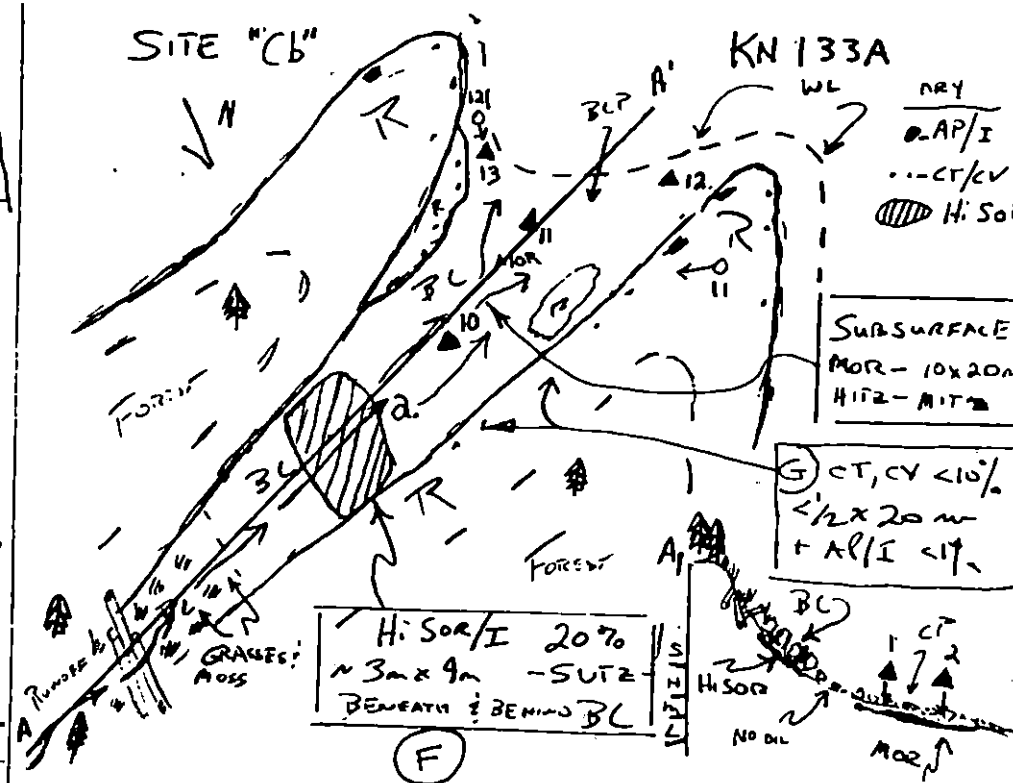
K1-133A Site (5)



2. Low SOR GPC-PEAT Low Slope ~ 3m x 14m SI 30%

Site (3) b).

3/3



2. Hi SOR/I BC - PC Organic (Peat Detritus Interstices) Med Slope 3m x 4m SI - 20%

REVISED: F.W. 5/27/91

PITS	D	OZ	CB	WL	SH	LITH	OIL CHAR	TIDE ZN	COMMENTS
14.	25	1-3	Y	5	S	GP-OGP	NO	SI	Lo SOR IN PEAT
15	10	1-2	Y	5	S	GP-OGP	NO	SI	Lo SOR IN PEAT
16.	10	1-3	Y	5	S	GP-OGP	NO	SI	Lo SOR IN PEAT

PITS	D	OZ	CB	WL	SH	LITH	OIL CHAR	TIDE ZN
10.	20	7-15	Y	N	N	BC-PG	MOR	HITZ
11.	30	10-15	Y	N	N	BC-PG	MOR	HITZ
12.	30	10-18	Y	28	B	BC-PG	MOR	MITZ
13.	25	7-20	Y	5	BGLab	BC-PG	MOR	MITZ

5/25/91
B. CHILDS

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 1 DATE 25 May 91
 SEGMENT # KN 133 TIDAL HEIGHT (Range) +2.5 to 7.0 ft MLLW
 SUBDIVISION A BIOLOGIST Michael Fawcett
 SEA STATE 1/2 ft seas WIND SPEED/DIRECTION N 5-10 knots
 PHOTOGRAPHS: ROLL # _____ FRAME # _____

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

subdivision contains two islands --- oiled sites are pocket beaches on north shore of smaller south island, and north, south & east shores of north island. The sites on the south island are typical boulder/cobble beaches with moderate to dense barnacles, mussels, littorinids, limpets, and algae in MTZ-LTZ. Low densities in VTZ, and generally higher densities and higher upper limits on bedrock walls. However, the beaches on the north island have quite low overall abundance of biota in the boulder-cobble areas and typical abundance on steep walls. The MTZ boulders & cobble have a slippery bacterial film and dark brown stain, and abundant oligochaete worms beneath them (these worms are usually associated with decaying vegetation, and in the spill region, with decaying SOR or CV), but have few limpets, littorinids, barnacles, mussels, or macro-algae. These areas give the impression of having been heavily treated and disturbed, probably in 1990, and are in early stage of succession and recovery. See sketch maps for descriptions of biota near oiled sites.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	
Seabirds			
Waterfowl			
Gulls/Kittiwakes	2 (E-W gull - 12, bl. Kittiwake ~ 15)	~ 25-30	
Shorebirds	1 (bl. oystercatcher)	1	
Corvids	2 (crow, Steller's jay 1)	3	
Other Birds			

LAND MAMMALS

MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
_____les (specify)			

Shoreline subdivision map showing important biological features attached.

KN-133A

Bio Sketch Map

M. Fawcett

5/25/91

Lo SOR +10-12 ft in B/ above most biota, but reaches upper edge of sparse litt, limpets, barnacles, & mussels. (B2)

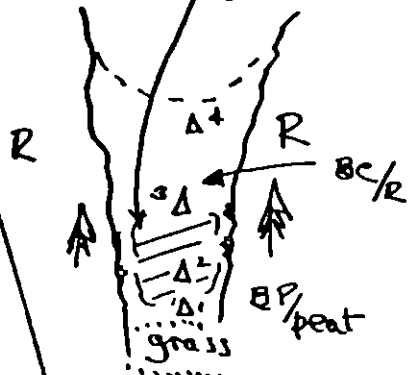
Ct on Br. walls +8 ft, above dense barnacles; SOR on peat +8-12 ft, among sparse barnacles in lower part, worms & amphipods higher (A)

hi SOR down to +4 ft among dense barnacles, littorinids, and laminar brown algae (D)

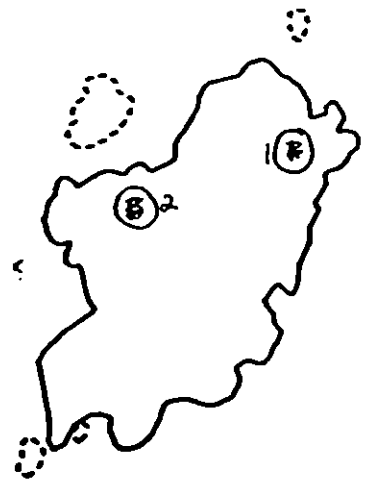
Site (B)

CT on walls +9-12 ft, among or above upper edge of dense barnacles; dense spat below (B1)

Same as (B2) (C)



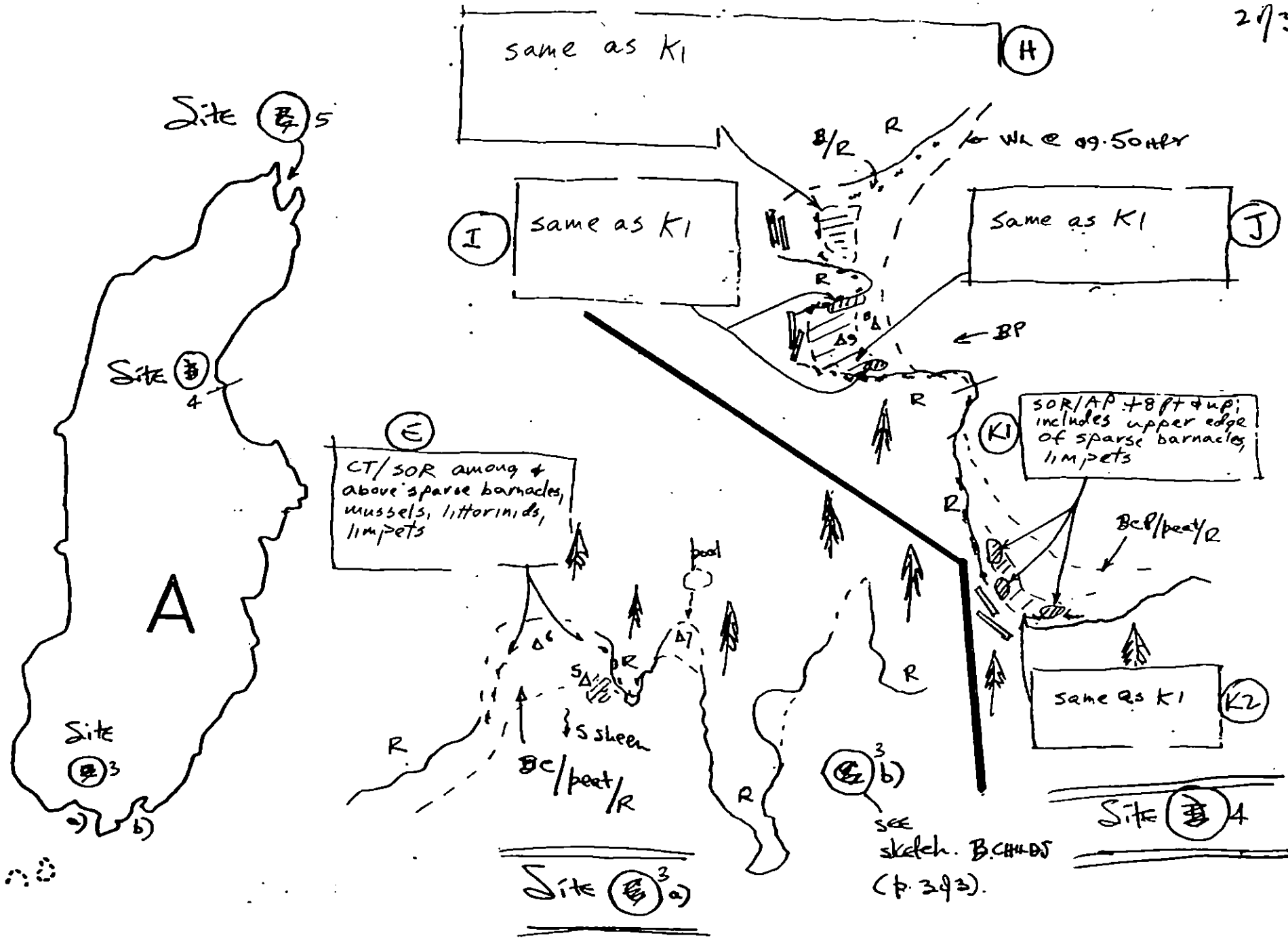
Site (A)



KN0133 A

METERS





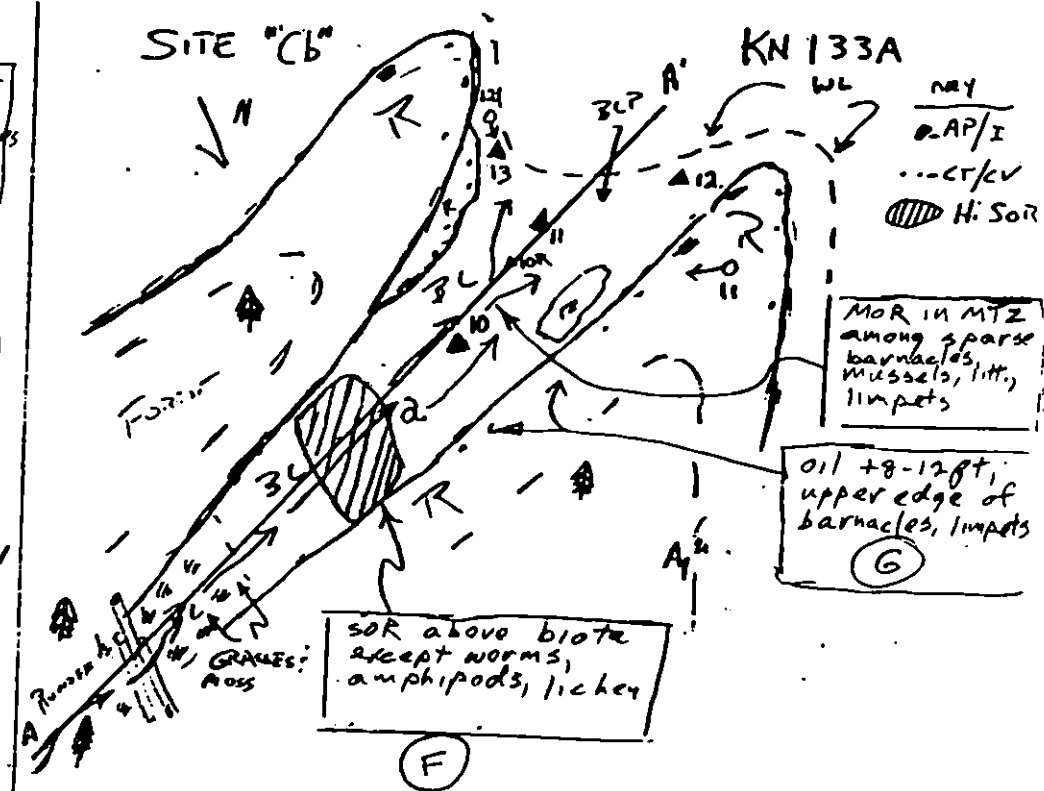
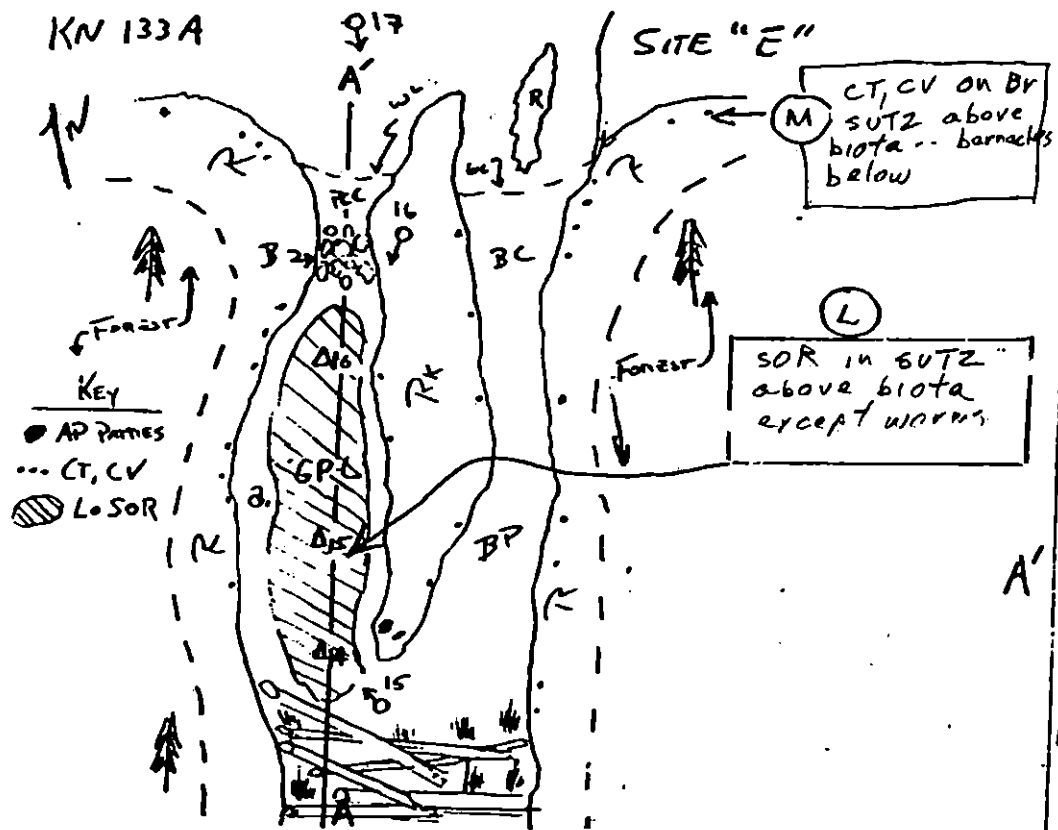
KN-133A

KN-133A Site 

KN-133A Site (E5)

Site ~~(c)~~³ b).

373



KN 133A. 25 May 91. Fawcett

START 0825 south island

CT on wall +8 above dense barn

- Bk/p. barn - dense barn. MTZ -

- Shallow pits +8-12 ft. - sparse

barn down part, worms, amph. holes

- LOR-SOR on part in MTZ - none seen

- heard crabs on wall

- many kittiwakes overhead in fog

0840

CT +12 ft - on wall, no birds

dense fil. barn, litt. down to

mod. Fucus, limp, anemone, nudibranch

Tr CT next wall +9 ft among

upper edge dense barn - dense

spot below

- 20 m west 0845 - SOR +10 ft

in B above ^{most} barn, but reaches

down to upper edge of

sparse litt. barn, barn, nudibranch

1 Steller's jay

Furber inspection shows H. SOR goes

down to +4 ft among dense barn,

litt. fil. br algae

Finish 0855

KN133A (cont) 5/25/91 Fawcett

Start 0900 north island

12 GW gulls 1 eagle

1 crow - 2 Magarons

6 Kittiwakes harassing gulls

BR/B/C/P. podet - mod barn on

west wall MTZ, sparse alga

- alga sparse on beach - looks

like a heavily treated area - rocks

have kind of a green film, dark

brown stain - many worms

under rocks, but few limps,

Litt. barn in MTZ

SOR - goes down to MTZ

in gravel - sparse barn on

1 - dense mussels at sides

0920 - podet 20M East R/B/C/P/G

mod barn, sparse Fucus MTZ,

dense mussels below +4ft also

mod. Fucus - dense barn on walls

+4-6ft - also mod litt, sparse limps

& 10 terns nearby

- crow

0935 - under light - gravel beach w/ boulders

moderate wave energy

Sparse bryla MTZ - VTZ boulders

SOR & buried oil & seaweed

- inner (+8) zone along sparse barn, limps,
worms, little else

CT on walls 10-12ft above sparse
to mod barn, filgrn

1000 - ~~25m~~ 25m north of 0935

heavier AP/SOR on 8-10m rock

rough in R/B/C - heavier SOR

above +8ft - no bryla

below +8ft have mod filgrn

sparse barn, Fucus, limps, litt, mod

down to waterline at +6ft

Lerabam below +6 (underwater) in

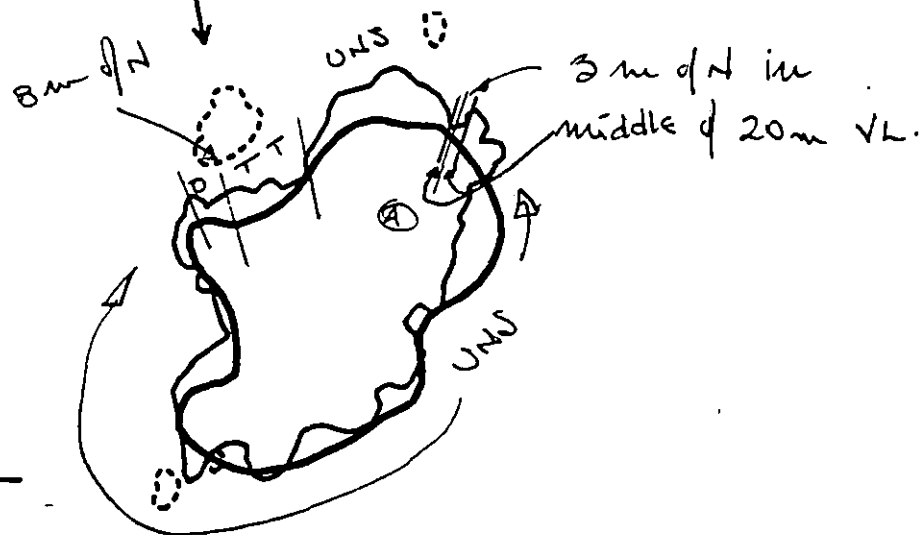
boulders

Finish 1030

KN-133

KN-

KN-125



XXXX
////

TTTT
0000

Wide
Medium
Narrow
Very Light
No Oil

KN0133 A

ADEC Subsegment Length: 3880m

METERS

0 200 400

AK State Plane Zone 4
kn0133a



Subdivision Field Map

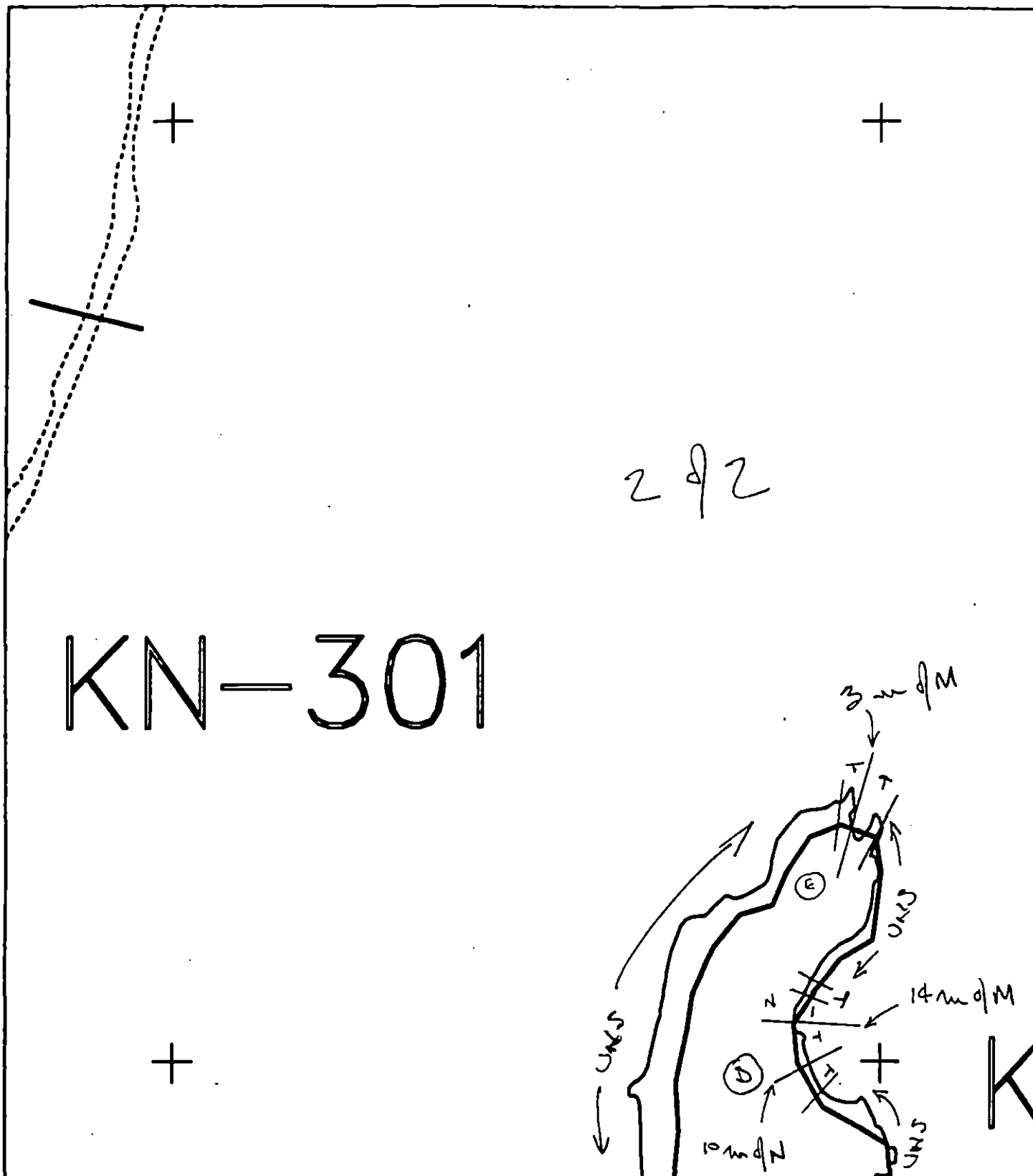
Map Key: KNKN0133Aa

Name: G.M.

Date: 5.25.91

Date Entered:

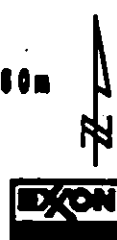
REVIEWED: F.W. 5/27/91



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

KN0133 A
 ADEC Subsegment Length: 3800m
 METERS

5 200 400
 AK State Plane Zone 4
 1400133ab



Subdivision Field Map
 Map Key: KNKN0133Ab
 Name: GM
 Date: 5-25-91
 Date Entered:

REVIEWED: F.W. 5/27/91

1991 MAYSAP EVALUATION

SEGMENT: KN 133 SUB: A REGION: PWS SURVEY DATE: 5/25/91

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: Timothy A. Smith

Date: 6/04/91

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: JUNE 4 1991

FOSC APPROVAL DATE: 6/08/91

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.

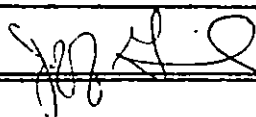
TEAM NO. 1 SEGMENT KN 133 SUBDIVISION A DATE 5/25/91

ADEC

NAME

JEFF GINALIAS

SIGNATURE

☒ NTR

DOUBTFUL WHETHER MORE RECOVERABLE OIL EXISTS. MANUAL REMOVAL BY MAYSAF CREW OCCURRED AT SITE ~~84~~ SITES H, I, K, K1 & K2. REMNANTS OF HITE REMOVED MAINLY ~~AT~~ AT SITE K1. SOME REMNANT LOW SOL REMAINS ~~AT~~ AT K12, BUT VERY WEATHERED AND THIN DOUBTFUL IF ANY MORE REMOVAL POSSIBLE. SOME SOR MAY EXIST UNDER Boulders, BUT DIFFICULT TO ACCESS. AREA SHOULD CONTINUE TO WEATHER. MIGHT ~~BE~~ WANT TO OBSERVE AT MID SUMMER TO SEE IF REMAINING OIL IS BECOMING MOBILE

EXXON

NAME

LARRY D. OLSON

SIGNATURE

☒ NTR

Survey located remnants of old Tarmat. Between tide cycles, the Vico crew returned to an area of beach and removed 22 GEO Bags. No Further treatment necessary as weathering will degrade and deteriorate what remains.

NDMANAGER

NAME

MARSHA

HALL

OF

DNR

SIGNATURE

☒ NTR

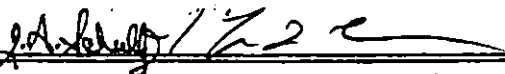
Areas H, I, J, K at site ~~84~~ had sediments removed by Vico crew. There is remaining oil - Lo SOR to AP at boulder bases. Difficulty in working area due size of boulders.

USCG/NOAA

NAME

SCHULTZ / CHILDS

SIGNATURE

☒ NTR

WHAT WAS PRACTICAL TO REMOVE WAS, THAT REMAINING IS LOCATED UNDER BOULDERS TO LARGE TO MOVE.

TWO SEPERATE ISLANDS - RUGGED SHORELINE W/ NUMEROUS BCP OVER B. ROCK POLICETS. SUBSURFACE OIL LOCATED IN SITE C-b AS MOR IN AREA 10x20m. ALL REMAINING OIL WAS SURFACE ONLY - TYPICAL CT, CV, ST @ HITE-SITE 410% - SOR DETECTED ON ALL BEACHES - THE HITE-SITE. AP/E & HITE SOR FOUND ON SITE "84" WHICH WAS PICKED UP & WORKED OVER BY TEAM

MAYSAP SHORELINE OILING SUMMARY

PAGE 1 OF 2

TEAM NO. 1

OG G. MACDONALD

BIO M. FANCETT

SEGMENT KN-133

ADEC J. GINAZIAS

LANDMANAGER M. HALL for DNR

SUBDIVISION A

EXXON L. OLSON

USCG/NOAA SCHULTZ/CHILDS

DATE 5/25/91

TIME 08:25 to 10:30

TIDE LEVEL +2 1/2 ft. to +7.0 ft.

ENERGY LEVEL: ☐ H ☒ M ☒ LSURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELOWEATHER: ☐ SUN ☐ CLOUDS ☒ FOG ☐ RAIN ☐ SNOW

TOTAL LENGTH SHORELINE SURVEYED: 512 m

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

EST. OIL CATEGORY LENGTH: W - m M 21 m N 56 m VL 400 m NO 25 m US 3,348 m

SITE	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	
SITE 1	A					S						R	H	<1/2	20		X			
					S							BPV	M	15	3	X	X	X		10 SOL over boat
SITE 2	B						T					R	V	<1/2	25		X			
	C				S							B	M	5	8		X			10 SOL/I below B
SITE 3	D				S							B	M	3	6			X		10 SOL/I " "
	E				S	S						BCV	M	52	40	X	X			10 SOL - 2x5m
SITE 3b	F				P							BC	M	3	4	X				10 SOL
	G			T		S	S					KB	H	<1/2	20	X	X			interstitial patches
SITE 4	H	S			S							BC	M	7	15					10 SOL + AP/I
	I	S				S	S					BCR	H	54	120	X	X			total - H & K2.
SITE 5	J				S							BR	M	2	2		X			below B & K.
	K				S							BC	M	7	12	X	X			10 SOL
	K1	S			S							BCP	M	2	10		X			AP/I 10 SOL
	K2				S							BCP	M	2	20		X			10 SOL
	L				P							apcv	L	3	15	X				oil in boat; 10 SOL
	M					S	S					R	H	51	50	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-

1 - 31 FRAMES 11-21

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	10							X	0-5	Y	-		X				BCP - CV.	
2	15							X	0-4	Y	2	5		X			BCP - PC	
3	10						X		5-8	Y	3	5B			X		BC - CPM	
4	20						X		10-15	Y	3	5				X	BC - CM	
5	15							X	3-5	Y	-				X		PC - CPM	10 SOL
6	15							X	-		-			X			BC - CPMR	
7	15							X	-		-			X			CP - PGV	organic
8	20							X	-		5	N			X		P - PB	
9	10							X	2-5	Y	-			X			BC - BCP	10 SOL

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

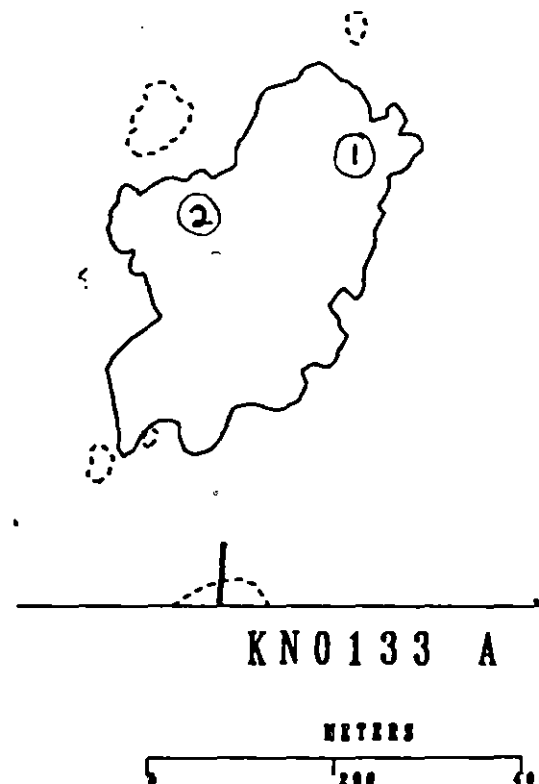
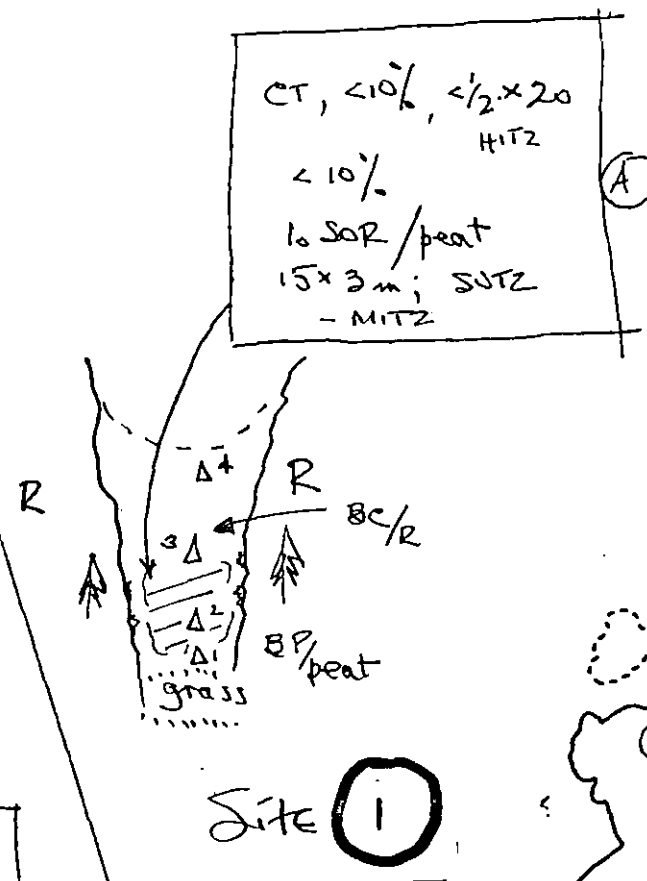
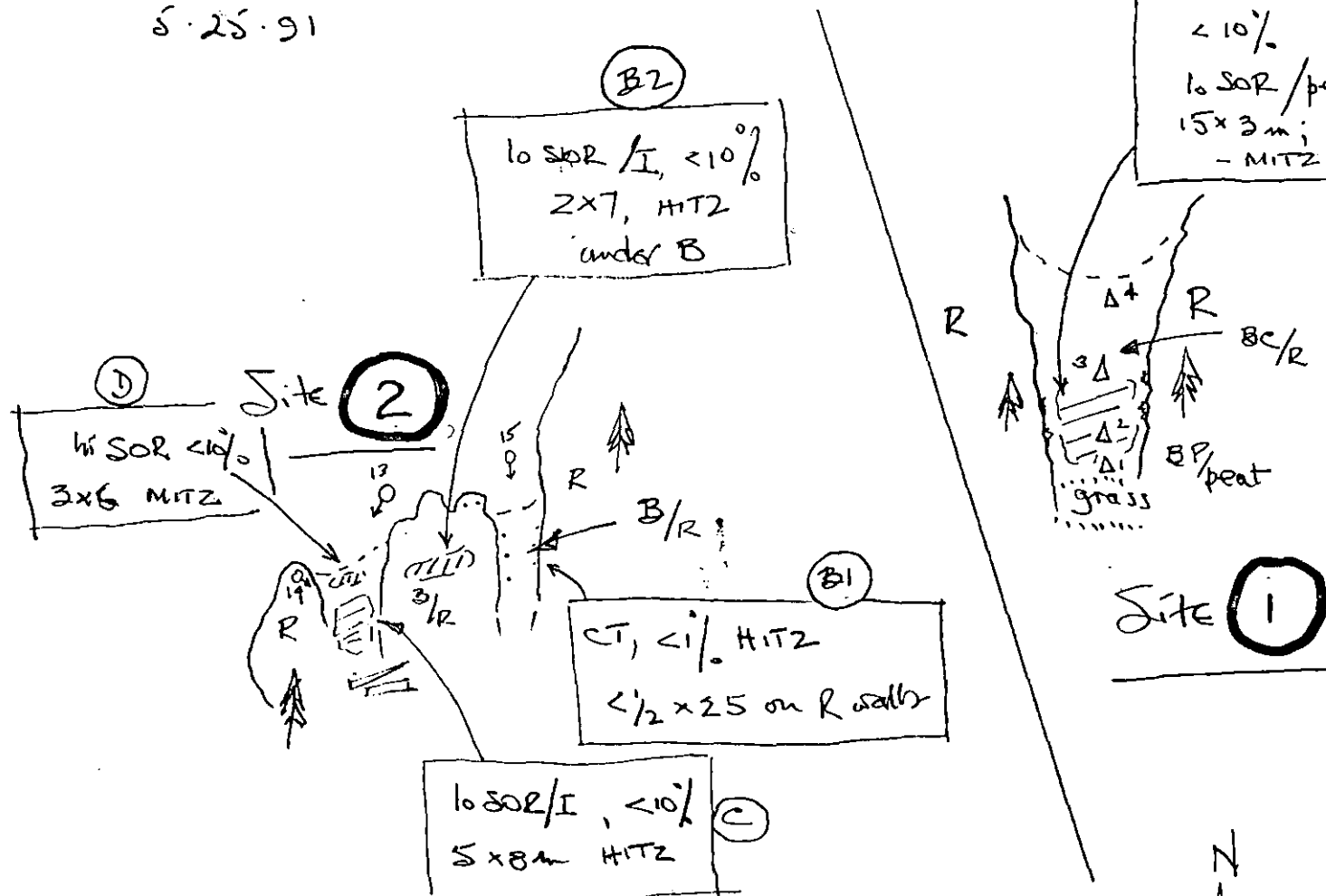
OG COMMENTS: 2 rocky islands w/ coarse-grained beaches and channels. 5 sites were surveyed; all had surface oil. In general, surface oil was sporadic CT, CV w/ associated patches of SOL amongst BCV sediments. Site (4), on the east shore of the northern island, had some thick (≤ 20 cm) patches

REVISED: F.W. 5/27/91

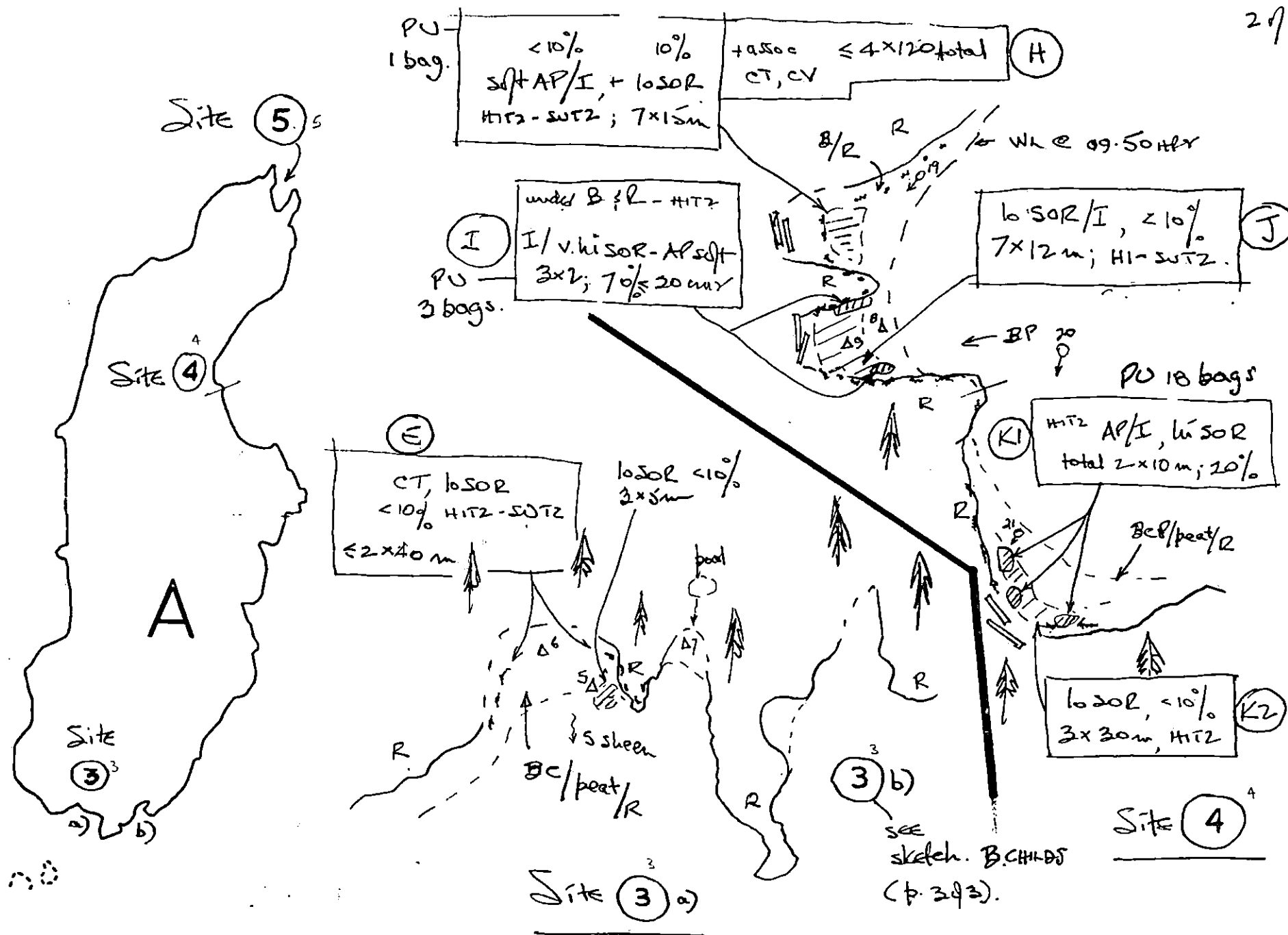
KN-133A

G. MACDONALD

5.25.91



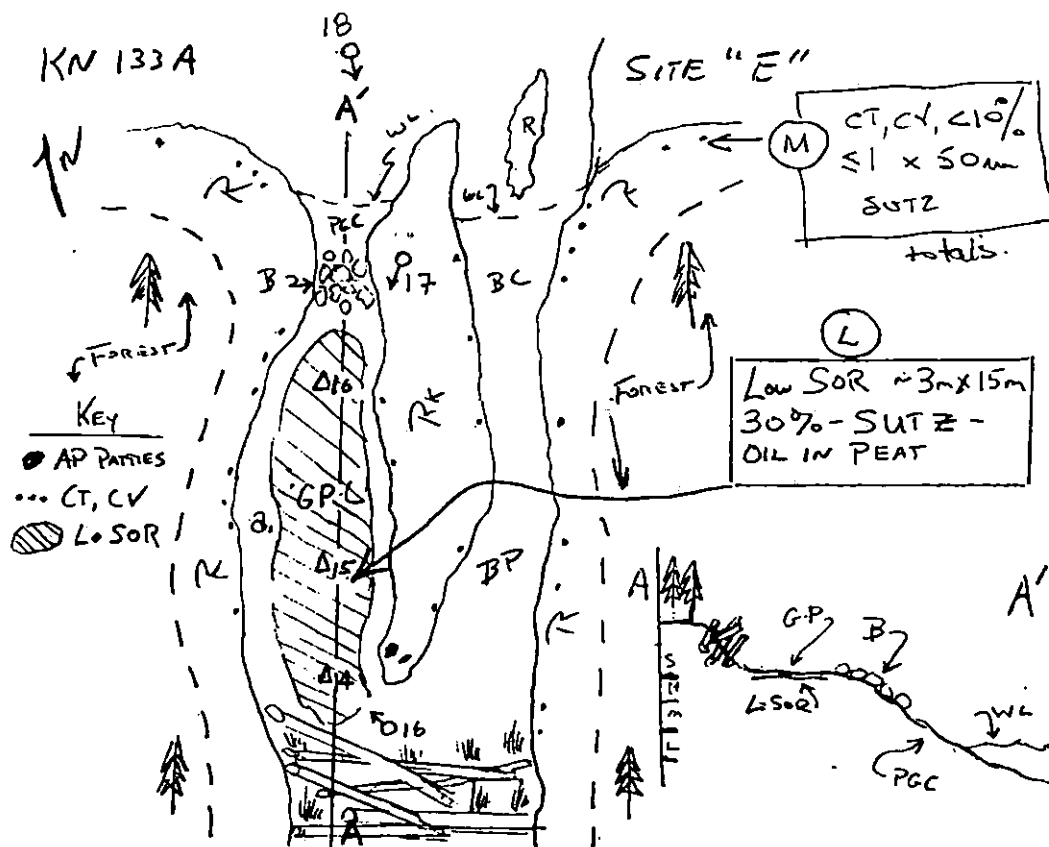
273



KN-133A

G. MACDONALD
5.25.91

KN-133A Site (5)

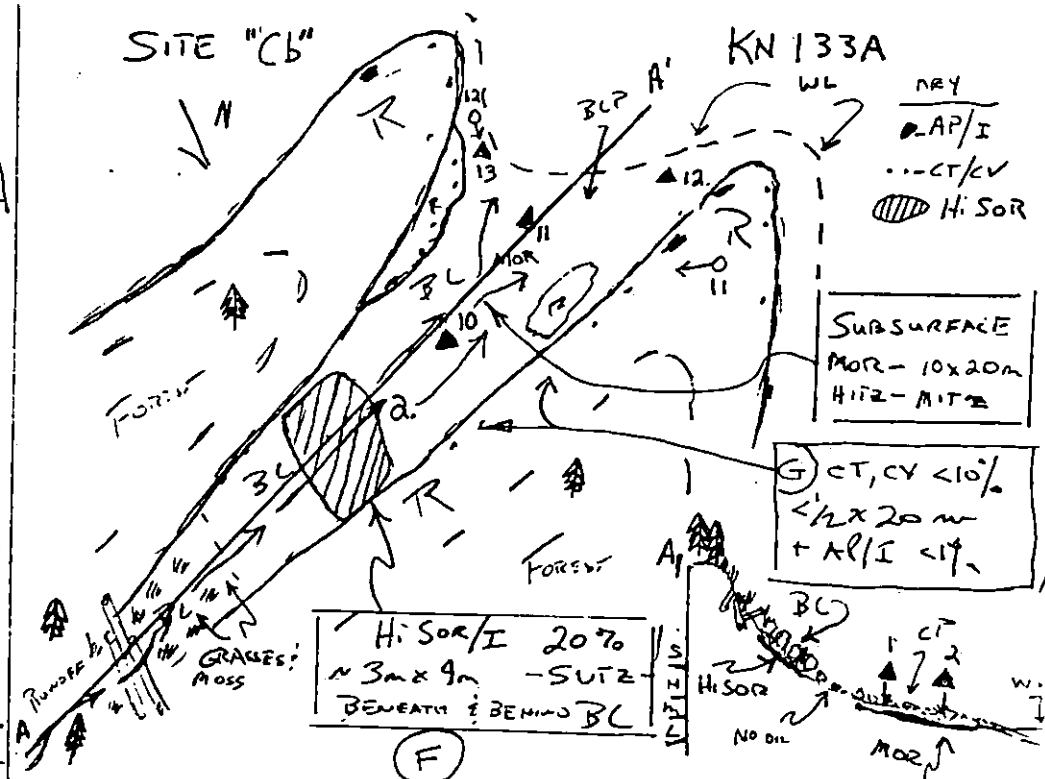


2. Low SOR GPC-PEAT Low slope ~3m x 14m SI 30%

PITS	D	OR	CB	WL	SH	LITH	OIL CHAR	TIDE ZN	COMMENTS
14.	25	1-3	Y	5	S	GP-OGP	NO	SI	Lo SOR IN PEAT
15	10	1-2	Y	5	S	GP-OGP	NO	SI	Lo SOR IN PEAT
16.	10	1-3	Y	5	S	GP-OGP	NO	SI	Lo SOR IN PEAT

Site (3) b).

3 of 3



2. Hi SOR/I BC - PLOrganic (PEAT DETRITUS) INFESTILES MED SLOPE 3m x 4m SI - 20%

PITS	D	OR	CB	WL	SH	LITH	OIL CHAR	TIDE ZN
10.	20	7-15	Y	N	N	BC-PG	MOR	HITZ
11.	30	10-15	Y	N	N	BC-PG	MOR	HITZ
12.	30	10-18	Y	28	B	BC-PG	MOR	MITZ
13.	25	7-20	Y	5	B, Glob	BC-PG	MOR	MITZ

5/25/91
B. CHILDS

REVISED: F.W. 5/27/91

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #

1

DATE

25 May 91

SEGMENT #

KN 133

TIDAL HEIGHT(Range) +2.5 to 7.0 ft MLLW

SUBDIVISION

A

BIOLOGIST Michael Fawcett

SEA STATE

1/2 ft seas

WIND SPEED/DIRECTION N 5-10 knots

PHOTOGRAPHS: ROLL #

FRAME #

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

subdivision contains two islands --- oiled sites are pocket beaches on north shore of smaller south island, and north, south, & east shores of north island. The sites on the south island are typical boulder/cobble beaches with moderate to dense barnacles, mussels, littorinids, limpets, and algae in MTZ-LTZ, low densities in VTZ, and generally higher densities and higher upper limits on bedrock walls. However, the beaches on the north island have quite low overall abundance of biota in the boulder-cobble areas and typical abundance on steep walls. The MTZ boulders & cobble have a slippery bacterial film and dark brown silt, and abundant oligochaete worms beneath them (these worms are usually associated with decaying vegetation, and in the spill region, with decaying SOR or CV), but have few limpets, littorinids, barnacles, mussels, or macro-algae. These areas give the impression of having been heavily treated and disturbed, probably in 1990, and are in early stage of succession and recovery. See sketch maps for descriptions of biota near oiled sites.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	
Seabirds			
Waterfowl			
Gulls/kittiwakes	2 (6-W gull 1-12, bl. Kittiwake N 15)	N 25-30	
Shorebirds	1 (bl. oystercatcher)	1	
Corvids	2 (crow 2, Steller's jay 1)	3	
Other Birds			

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

Shoreline subdivision map showing important biological features attached.

KN-133A

Bio Sketch Map

M. Fawcett

5/25/91

Lo SOR +10-12 ft in B/ above most biota, but reaches upper edge of sparse litt, limpets, barnacles, & mussels.

B2

C+ on Br. walls +8ft, above dense barnacles; SOR on peat +8-12ft, among sparse barnacles in lower part, worms & amphipods higher

A

③

hi SOR down to +4ft among dense barnacles, littorinids, and filamentous brown algae

Site

②



CT on walls +9-12ft, among or above upper edge of dense barnacles; dense spat below

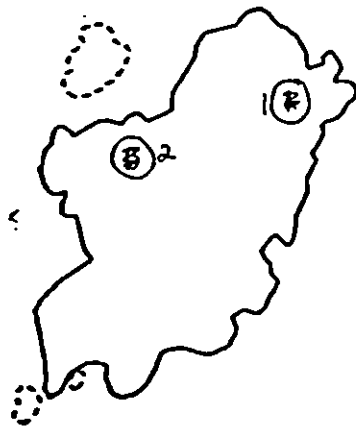
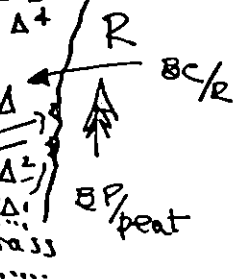
B1

Same as B2

C

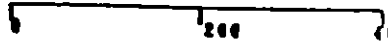
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Site A1

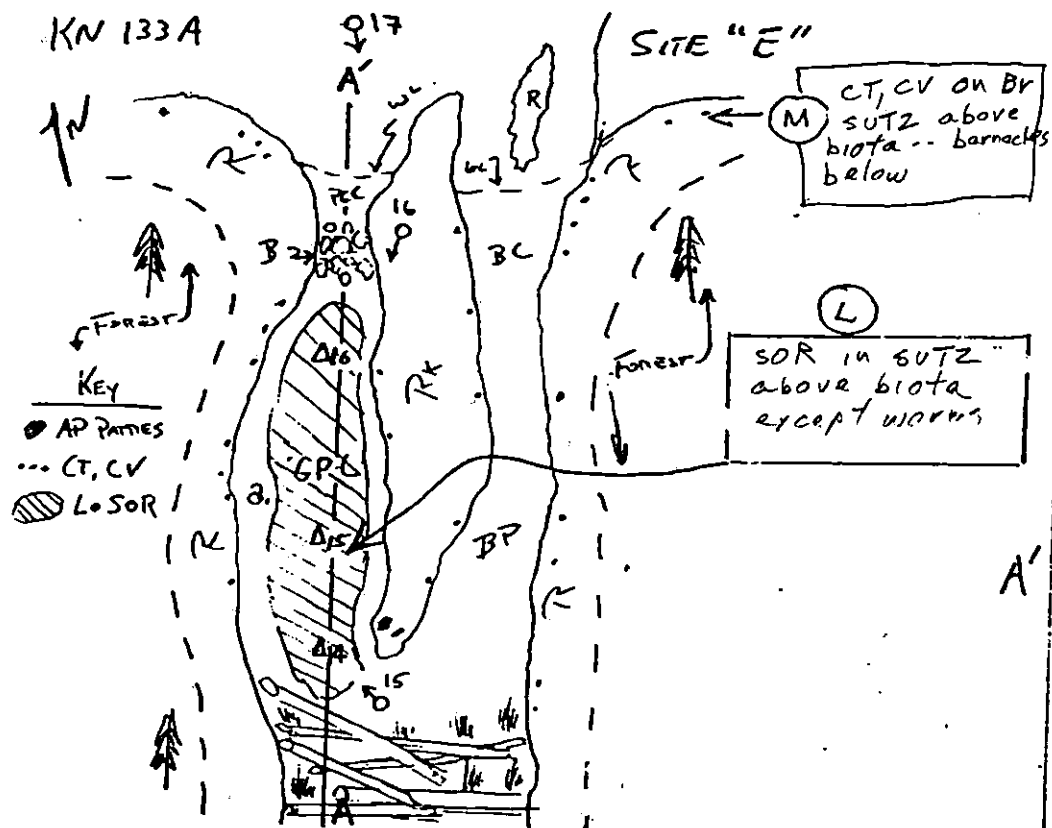


KN0133 A

METERS

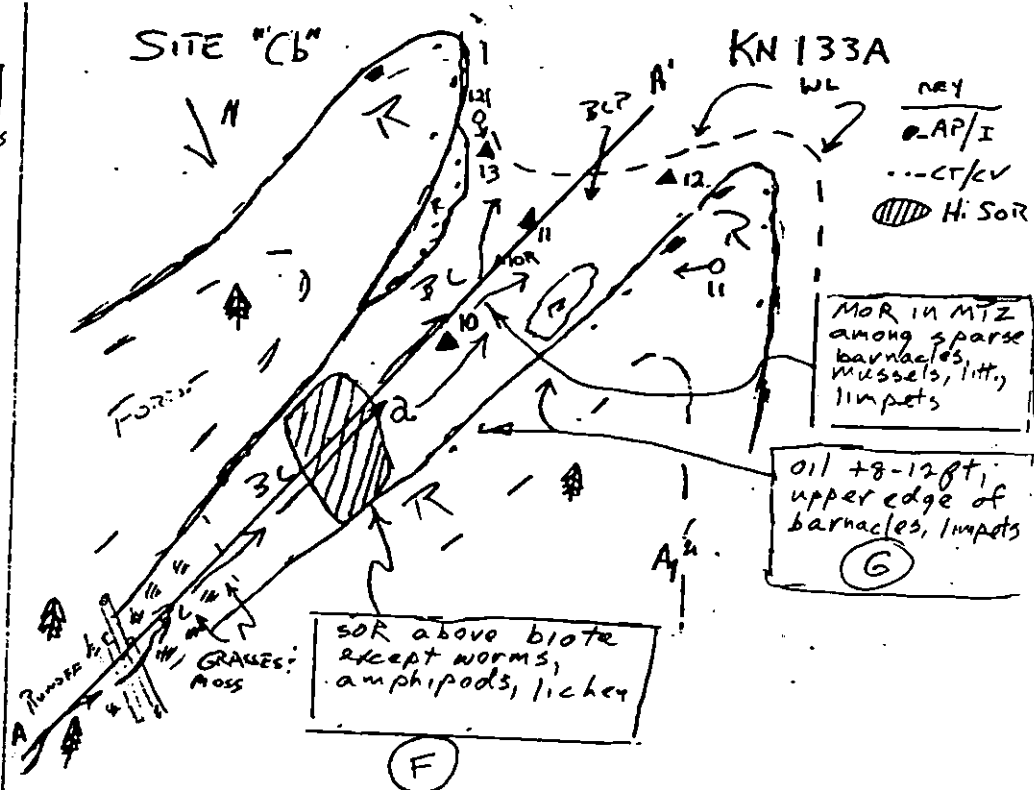


KN-133A Site ~~E~~⁵



Site ~~E~~³ b).

2 of 3.



KN 133A 25 May 91 Fawcett

START 0825 South island

CT on wall +8 above dense barn

- Bk/p channel dense barn - MZ -

- Shearwater pits +8-12 ft - sparse

barn lower part, worms, amph. holes

- LOR-SOR on peat in SUTZ - NORMS only

- heard oriolecatcher very

- many kittiwakes overhead in F02

0840

CT +12 ft - on wall, no birds

dense fil. bin, barn, litt. down to

mod Fucus, limp, anemone, mussel

Tr CT next wall +9 ft among

upper edge dense barn - dense

spat below

- 20 m west 0845 - SOR +10 ft

in B above ^{most} barn, but reaches

down to upper edge of

sparse litt, limp, barn, ^{algae}

1 Steller's jay

Further inspection shows H. SOR goes

down to +4 ft among dense barn,

litt. fil. br algae

Finish 0855

KN133A (cont) 5/25/91 Fancett

Start 0900 north island

12 BW gulls 1 eagle

1 crow - 2 Mergansers

6 Kittiwakes harassing gulls

BR/B/C/P. pocket - mod barn on

west wall MTZ, sparse alga

- all biota sparse on beach - looks

like a heavily treated area - rocks

have kind of a grey film, dark

brown stain - many worms

under rocks, but few limpets,

Litt. barn in MTZ

SOR - goes down to MTZ

in gravel - sparse barn on

it - dense mussels at sides

0920 - pocket 20M East R/B/C/P/G

mod barn, sparse Fucus MTZ,

dense mussels below +4ft also

mod. Fucus - dense barn on walls

+4-6 ft - also mod Litt, sparse limps

at 10 fms nearby

- crow

0935 - wide bright - gravel beach w/ boulders

moderate wave energy

Sparse biota MTZ - VTZ boulders

SOR + boulders + seaweed

- lower (+8) for anag sparse barn, limps,
worms, little else

CT on walls 10-12 ft above sparse
to mod barn; filgrn

1000 - ~~25m~~ 25m north of 0935

heaves AP/SOR on 8-10m arch

low in R/B/C = heaviest SOR

above +8 ft - no biota

below +8 ft have mod filgrn

sparse barn, Fucus, limps, Litt, mod

down to waterline at +6 ft

dense barn below +6 (underwater) in

boulders

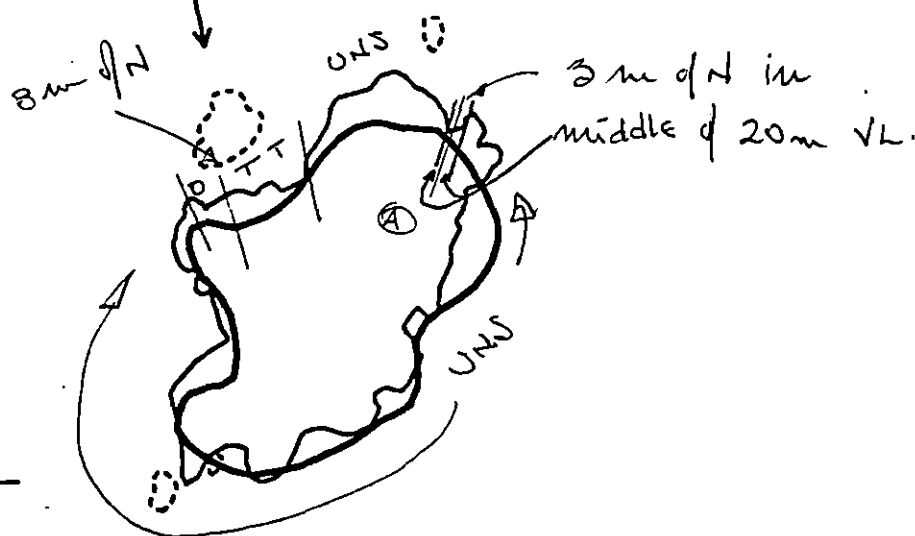
Finish 1030

KN-133

KN-

KN-125

10/2



XXXX
////

TTTT
0000

Wide
Medium
Narrow
Very Light
No Oil

KN0133 A

ADEC Subsegment Length: 3860m

METERS

0 200 400

AK State Plane Zone 4
kn0133a



Subdivision Field Map

Map Key: KNKN0133Aa

Name: G.M.

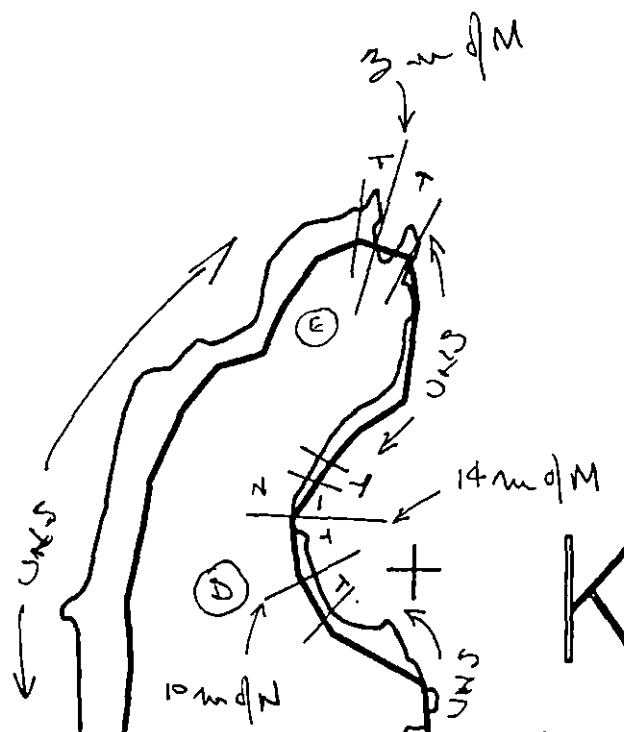
Date: 5.25.91

Date Entered:

REVIEWED: F.W. 5/27/91

KN-301

292



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

KN0133 A
 ADEC Subsegment Length: 3860m
 METERS

AK State Plane Zone 4
 kn0133ab

Subdivision Field Map
 Map Key: KNIK0133Ab
 Name: GIM
 Date: 5-25-91
 Date Entered:



REVIEWED: F.W. 5/27/91

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/ KN-133

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ KN-133 SUBDIVISION A (1 OF 1) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Harbor seal and sea lion molting (30, Q) - 8/15 to 9/15.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict boat traffic, air traffic and general disturbance to minimum essential. Contact ADF&G habitat director prior to treatment.

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 41 m: Medium 673 m: Narrow 3813 m: V.Light 0 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: Manual pickup of oiled vegetation. Tarmat breakup and removal where indicated on sketch maps. Patchy distribution of coat and tar patties does not require treatment as area not a high human use location. Bioremediate broken coat area found on smaller island (2nd sketch map). Work prior to 8/15 based on molting constraints. The two small areas with subsurface oil indicated on the larger island may require hand raking prior to bioremediation.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN 133 SUBDIVISION: None DATE 4-1-90**USCG**NAME W.E. WHITE SIGNATURE William E White☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Recommended treatment - manual removal of asphalt/pavement.
Subsurface oil, mechanical - Hot water / STEAM washing with
cold water flush.

ADECNAME Dianne Munson SIGNATURE Dianne Munson☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Sheen was consistently observed surrounding the island segment. Several pocket beaches have subsurface sediments with residual, free floating brown oil. Recommended treatment includes manual removal of asphalt/pavement, and removal of subsurface oil via mechanical or manual tilling and hot water/steam washing with cold water flush (shore crew).

LAND MANAGERNAME David Mandrella SIGNATURE David M. Mandrella☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Treatments on northern island are primarily needed in cobble and pebble coves where pits 1 and 6 were excavated. Suggested methods include manual tilling steam washing and cold water flush along with bioremediation. Other treatments include manual pickups of asphalt pavement and spot washing of underside of coated rocks along 3m band.

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG Sawyer USCG White SEGMENT ST/ KN133
 310 Benson LAND REP mandrella SUBDIVISION None
 EXXON Katsimpalis ADEC Munson TIME 10:00 to 14:30
 TEAM NO.: 8 TIDE LEVEL: +4 to +3 DATE Apr-1 1 /90
 EST. SUBDIVISION LENGTH: 4764 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 70 % B 20 % C 5 % P 5 % G — % S — % M — % V — %
 SLOPE: Lang 20 % Hang 50 % Vert 30 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 70 m M 950 m N 3744 m VL — m NO — m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	B	P	S	SR BR	OR RW	GY	SL	DBR	TL	LR	SU	UI	M	U	
ASPHALT PAVEMENT		/	/										/			
POOLED																
COVER																
COAT			/	/									/	/		
STAIN			/	/									/	/		
MOUSSE																
PATTIES			/	/					/				/			
TARBALLS																
FILM				/			/	/				/	/	/		
NO OIL												/				

PAVEMENT: H F (S) 450 sq. m by 5 cmPATTIES / TARBALLS — BAGSNEAR SHORE SHEEN? NO BR (RW) (SL) TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED

☒ YES ☐ NOTYPE Net, Plastic#BAGS 1

Photographs:

Roll No. St-8-1Frames 18-27

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CA)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UD	UC	SEC BR	DEL FW	GY SL	DEL TL	LR	SU	UI	M	U					
1	30		/				5-30+	/		/						/				N	C, G, P, wt		
2	20						- - -	/		/						/				N	G, P		
3	30						- - -	/								/				N	P, G		
*4	30				/		HL - -	/		/	/	/	/	/	/	/				N	C, P, G, wt		
*5	20				/		HL - -	/		/	/	/	/	/	/	/				N	C, P, G, wt		
6	25		/		/		4-25	/		/		/				/				N	C, P, G, S, wt		

COMMENTS ST/KN133: Two small islands with numerous boulders and cobble beaches bordered by bedrock cliffs. Broken pavement occurs between boulders and cobbles in upper intertidal zone on beaches. Also, within this zone silver and translucent sheens were observed on pooled water and sporadic coats on boulders.
 * Sheen on water in pits, not subsurface oil as defined. YH

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN 133 Subdivision None Date (mo / day / yr) 4/1/90Time (24 hr) 1000-1230 Biologist J. Benson(A) Substrate type and % of segments: 5
(1) Bedrock 70 (2) Boulder 20 (3) Cobble 5 (4) Pebble 5 (5) Sand 0 (6) Silt 0(B) Overall % cover of biota (% of segment): Dense 40 Moderate 30 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 (3)

Photographs:
Roll No. ST-8-1Frames 18-27

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	X	X	X	2	2	X	
3	3	3	3	3	3	X	X	X	3	3	X	
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	

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	X	X	X	2	X	
3	3	3	3	3	3	3	X	X	3	X	X	
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	

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	X	X	X	2	X	
3	3	3	3	3	3	3	X	X	3	X	X	
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	

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	X	2	2	
3	3	3	3	3	3	3	X	X	3	X	X	
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:

sea otter (*Enhydra lutris*) observed near island all day
 cormorants, merganser, golden eye?
 The north and south ends of each island are more different from each other than the two islands from one another. Also, the biological diversity was markedly higher

Ecological Considerations:

Sensitivities: 3 N₁P : Harbor seal & sea lion pupping
 3 O₁Q : " " " " " molting
 1 B : stream mouth - salmon spawning

was on the north end of the large island, probably due to the increased wave exposure and especially the intertidal tidepools found there. Much of the "dense" overall % cover ("B" above) is filamentous green algae which may be seasonally abundant or unneeded by runoff or bioremediation

SKETCH MAP

OG Sawyer

SEGMENT ST/KN 133

SUBDIVISION

DATE Apr 1 90

CHECKLIST

N Arrow
 Approx. Scale
 Seg/Sub Body
 Oil Dist.
 Width
 Length
 % Cover
 Substrate Character
 Est. HML/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

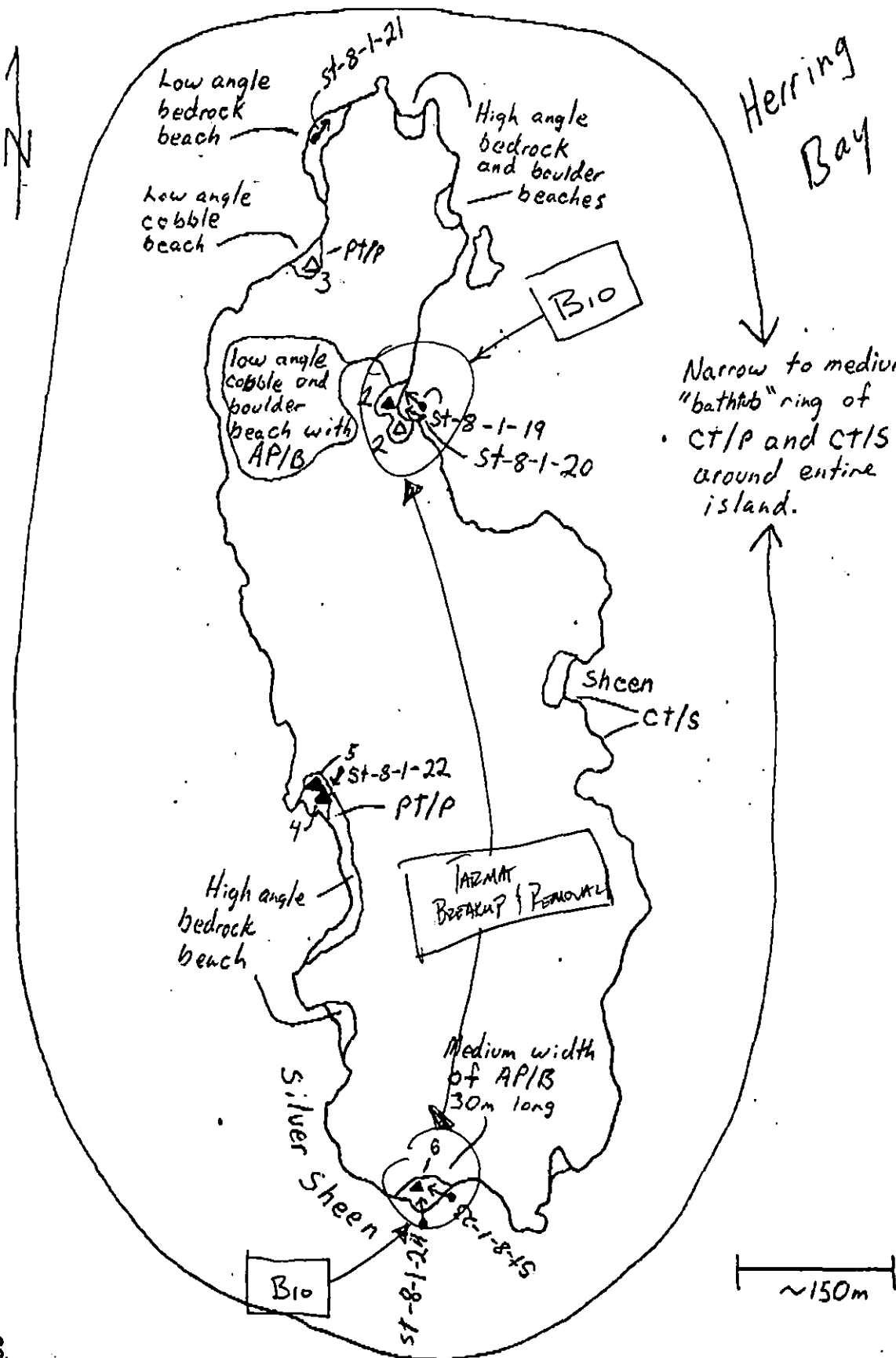
CT/S

Splashed Distribution

Oil Vegetation

1 ●

Photo location, direction, and number



Oil Character Length (m): AP 90 PO CV CT 3000 ST 1000 NB PT 50 TB FL 300 NO

REVISED 06/04/88

OG Saw KN133

SI CH MAP

SUBDIVISION _____

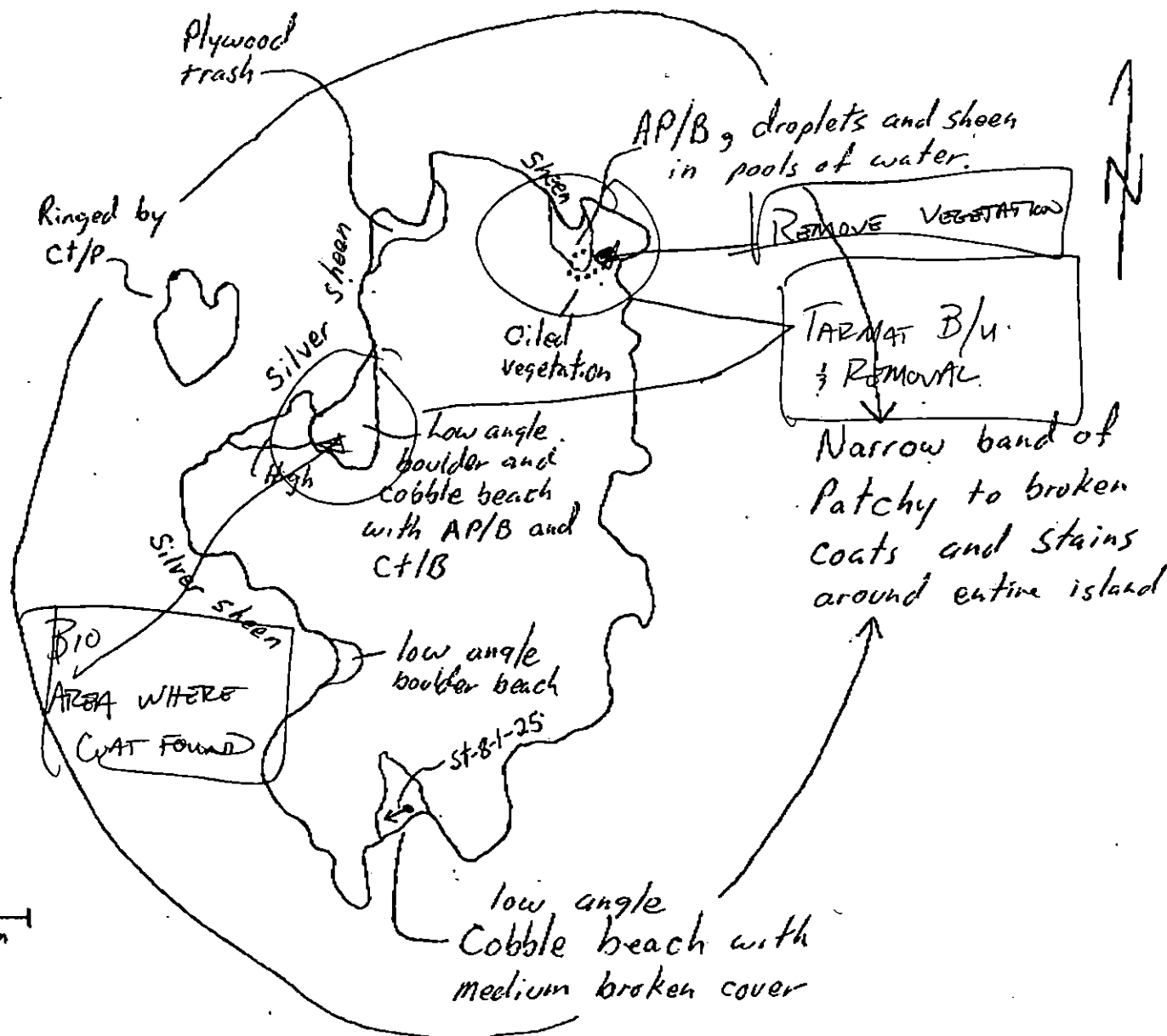
DATE Apr 1 90

CHECKLIST

- ___ N Arrow
- ___ Approx. Scale
- ___ Seg/Sub Bndry
- ___ Oil Dist.
- ___ Width
- ___ Length
- ___ % Cover
- ___ Substrate Character
- ___ Est. H/W/L/WL
- ___ SSL
- ___ Profile Location(s)
- ___ Profile(s)
- ___ PR Location(s)
- ___ Photo Location(s)

LEGEND

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

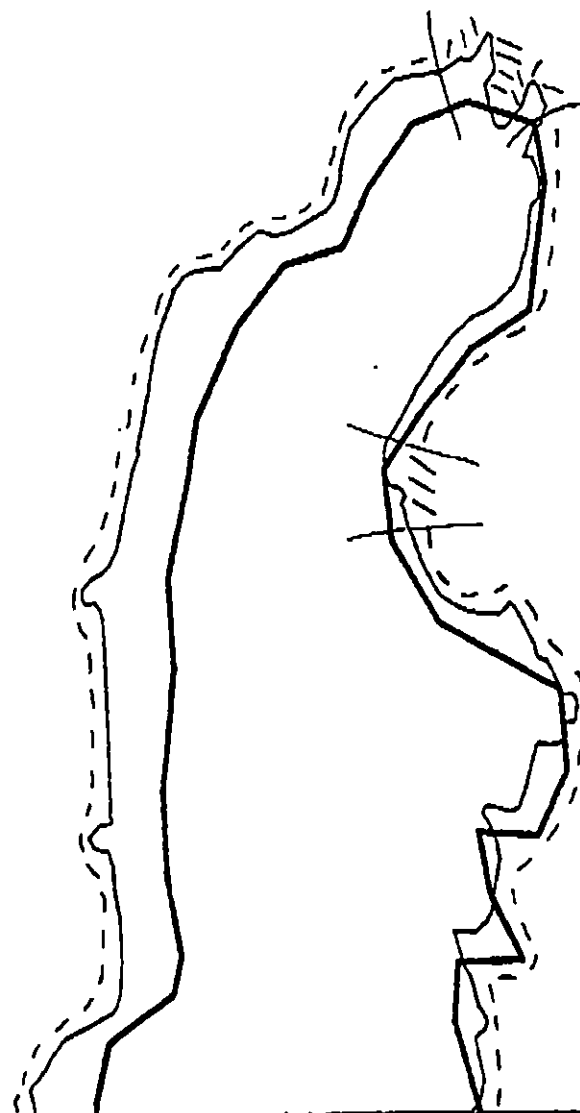


See other map

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

REVISION: 000000

PWS 316A



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

OOOO No Oil

KN-133

ADEC Segment Length: 3860m



Map Key: PWS-316b

Name: SawyerDate: Apr. 1, 1990

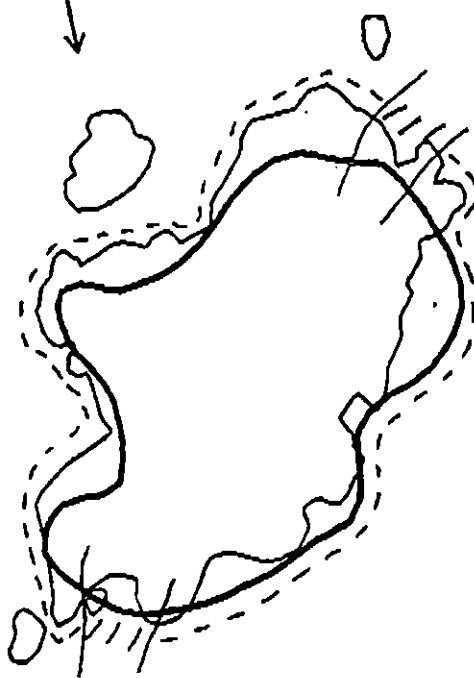
Data Entered:

↑ PWS
316B

KN-133

KN-

KN-125



8

(XXX Wide

//// Medium

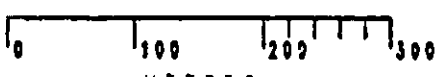
---- Narrow

TTTT Very Light

OOOO No Oil

KN-133

ADEC Segment Length: 3860m



Map Key: PWS-316a

Name: Sawyer

Date: Apr. 1, 1990

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-133 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup Tarnat Removal	OPEN
Bioremediation Manual Raking	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q

Harbor Seal and Sea Lion
Pupping and Molting Area

NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.

OTHER ECOLOGICAL CONSIDERATIONS

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

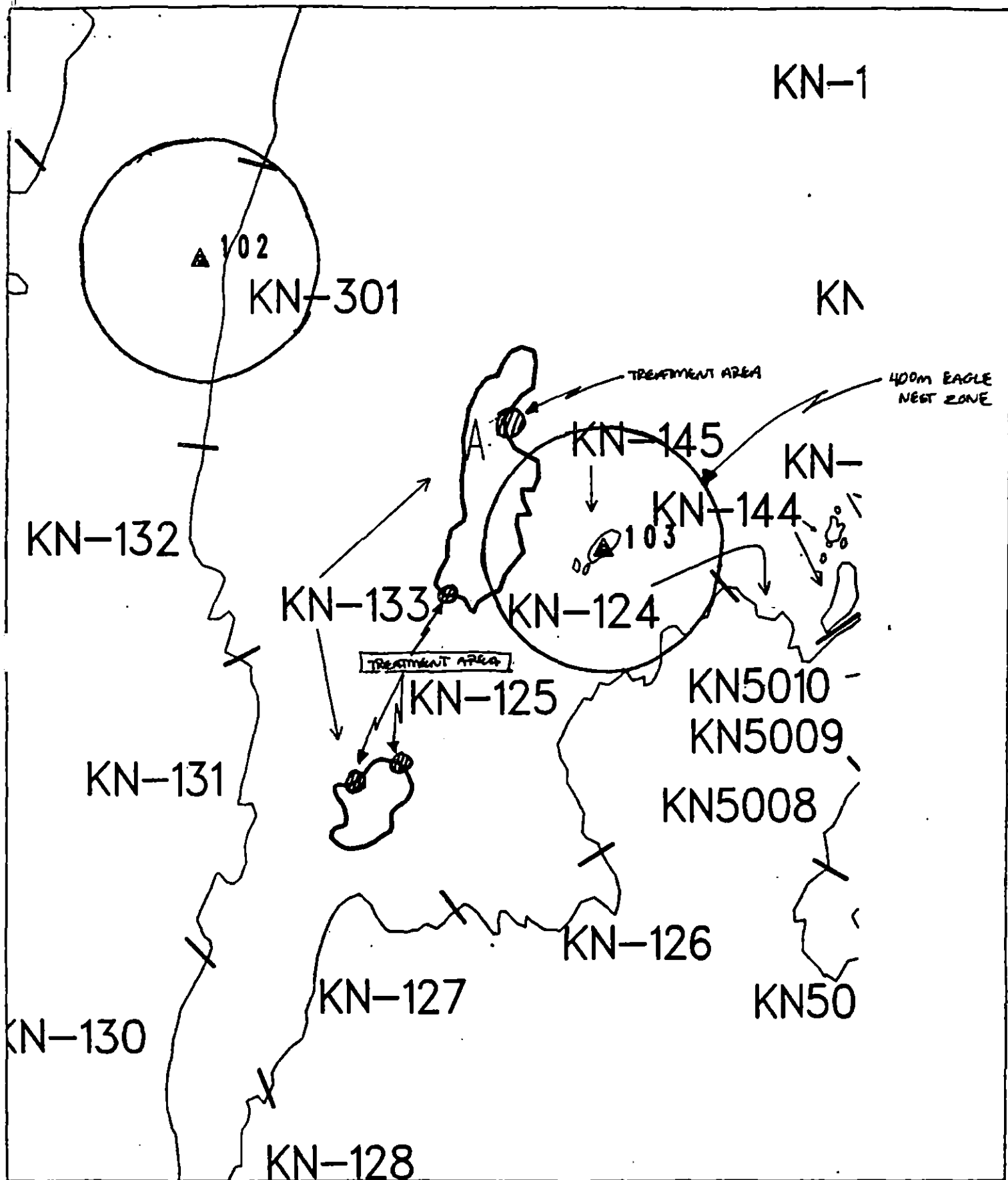
TAG ADDENDUM DATE 5/21/90.
ADEC Art Weiner
EXXON Andy TGH
NOAA Joseph Talbot
USCG W. J. Hall

FOSC

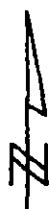
DATE 5-21-90

Prepared by: Anders Meyer

Date: 5/20/90



Exxon Company, USA
Map Key: KNI-101-133
May 11, 1990



ECOLOGY MAP
SEGMENT KN-133
SUBDIVISION A (1 of 1)
METERS
0 455 911

★	Seabird Colony
▲	Eagle Nest

1 inch = 1494 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-133 SUBDIVISION A (1 OF 1) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Harbor seal and sea lion molting (30, 0) - 8/15 to 9/15.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict boat traffic, air traffic and general disturbance to minimum essential. Contact ADF&G habitat director prior to treatment.

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 Z. Homan DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 41 m: Medium 673 m: Narrow 3813 m: V. Light 0 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> </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> <u>X</u> Other (see comments)

COMMENTS: Manual pickup of oiled vegetation. Tarmat breakup and removal where indicated on sketch maps. Patchy distribution of coat and tar patties does not require treatment as area not a high human use location. Bioremediate broken coat area found on smaller island (2nd sketch map). Work prior to 8/15 based on molting constraints. The two small areas with subsurface oil indicated on the larger island may require hand raking prior to bioremediation.

TAG COMMENTS: SEE ADDENDUM DATED 5/20/90
TRC

TAG APPROVAL DATE: 4/13/90
ADEC JOHN BAKER
EXXON ANDY TEAL FOSC: DATE:
NOAA Byrd Warratt
USCG G.A. REITER G.A. Reiter

SHORELINE EVALUATION

SEGMENT ST/ KN-133 SUBDIVISION A (1 OF 1) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Harbor seal and sea lion molting (30, Q) - 8/15 to 9/15.

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 Treatment Recommended Oil Snares (pom poms)
X Manual Pickup Absorbents (pads, rolls, etc)
X Bioremediation Spot Washing: Wands
X Tarmat: Breakup Beach Cleaner
 X Removal X Other (see comments)

COMMENTS: Manual pickup of oiled vegetation. Tarmat breakup and removal where indicated on sketch maps. Patchy distribution of coat and tar patties does not require treatment as area not a high human use location. Bioremediate broken coat area found on smaller island (2nd sketch map). Work prior to 8/15 based on molting constraints. The two small areas with subsurface oil indicated on the larger island may require hand raking prior to bioremediation.

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90

ADEC JOHN BAKER John Baker
EXXON ANDY TEAL Andy Teal FOSC: W. L. L. DATE: 4-20-90
NOAA Burt Wescott Burt Wescott
USCG G.A. REITER G.A. Reiter

SKETCH MAP

OG Sawyer

SEGMENT ST/KN 133

SUBDIVISION

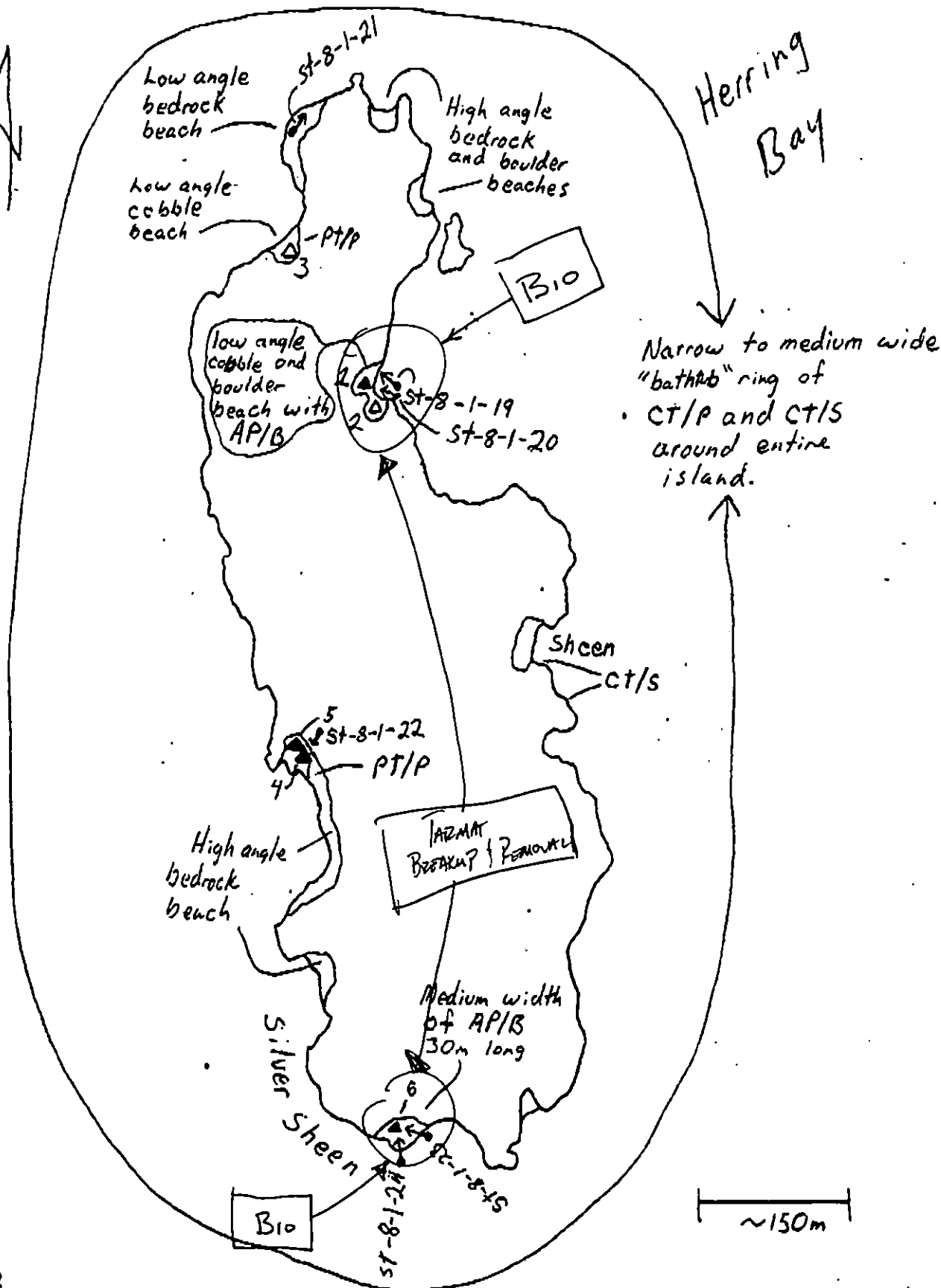
DATE Apr 1 / 90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Grid
- ☐ Oil Dial
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ E.g. HMMA/M
- ☐ S.S.
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ P/L Location(s)
- ☐ Photo Location(s)

LEGEND

- 1 Δ Pt - No Substrate Oil
- 2 Δ Pt - Substrate Oil
- CT/C Continuous Distribution
- CT/B Broken Distribution
- CT/P Patchy Distribution
- CT/S Splashed Distribution
- Oiled Vegetation
- Photo location, direction, and number



OG Se er
SEGMENT ST KN133

SUBDIVISION _____

DATE Apr 1 1990

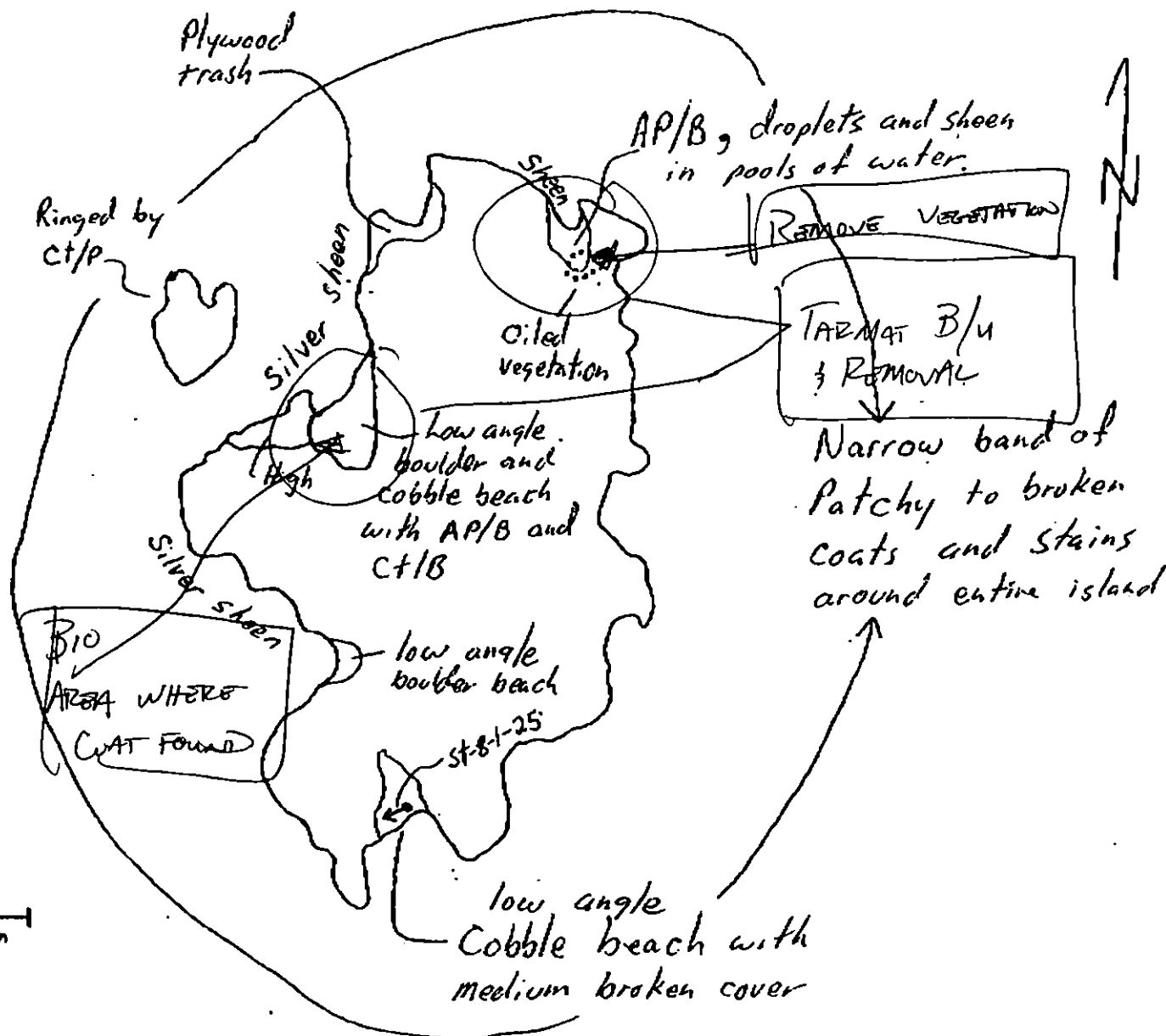
CHECKLIST

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

LEGEND

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

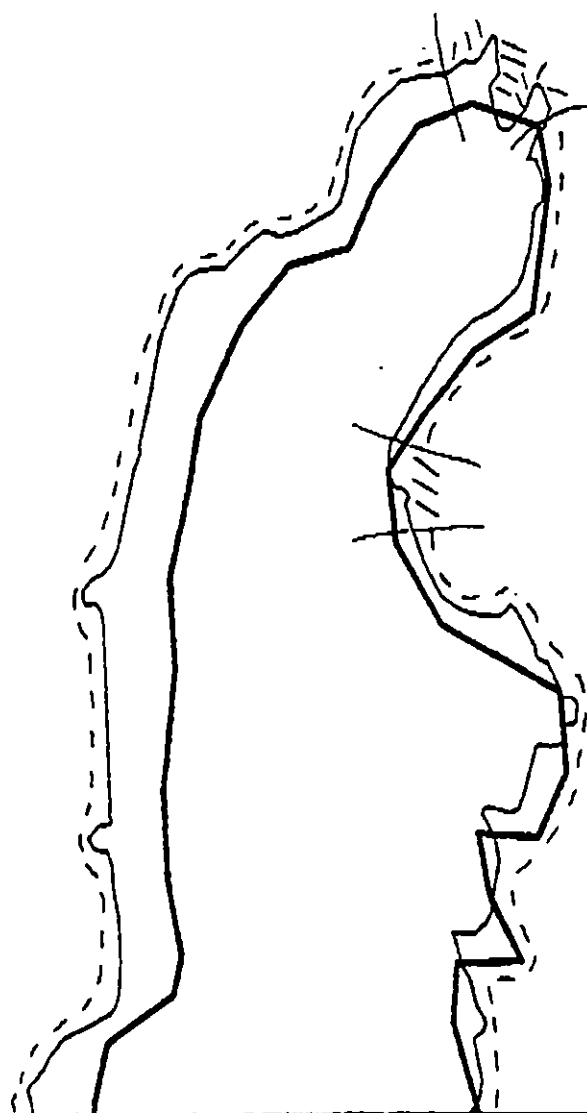
SKETCH MAP



see other map

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

REVISION: 880990



✓ PWS 316A

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-133

ADEC Segment Length: 3860m



Map Key: PWS-316b

Name: Sanyo

Date: Apr. 1, 1990

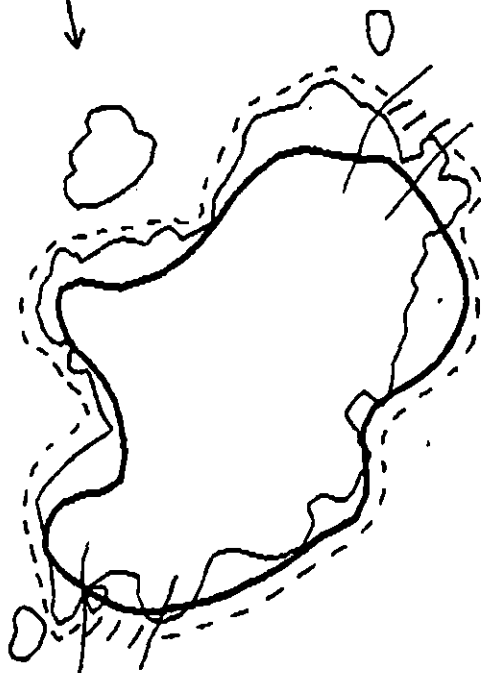
Date Entered:

↑ PWS
316B

KN-133

KN

KN-125



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-133

ADEC Segment Length: 3860m



Map Key: PWS-316a

Name: Sawyer

Date: Apr. 1, 1990

Date Entered:

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