

OIL SPILL PUBLIC INFO. CENTER



3 6653 00006431 5

EVOS
GC
1552
.P75
S42
1991
v.44

[Shoreline evaluations, 1991].

Prince William Sound GR-101 to GR-105

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1991 MAYSAP EVALUATION

SEGMENT: GR 101 SUB: A REGION: PWS SURVEY DATE: 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) Seabird colony,
Pinniped haulout, Eagle nest, Herring spawning, Subsistence -
Deer harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

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

COMMENTS:

INITIAL: Surveyed area indicates insufficient oil to be treated.
Unsurveyed area will require clearance from United States Fish
and Wildlife Service to complete the survey.

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.

Pinniped Haulout: Access restricted from 5/15 to 6/30 and 8/15 to 9/15 unless approved by NMFS. Maintain 1000' vertical and 1/2 mile (3 mile for sea lions at all times) horizontal buffer.

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

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. Three SEGMENT G/270i SUBDIVISION A DATE 5/2/91

ADEC

NAME

Wesley Ghorumley

SIGNATURE

Wesley Ghorumley☐ NTR ☒ TREATMENT RECOMMENDED

INVALID SURVEY due to active Eagle Nest. SSAT 90 mapping showed this area (southern 400m) to be the heaviest oiling on segment. Survey this area once eagles are fledged.

- Manually remove sporadic Ap (2x10) & (2x50) in N.E. portion of segment using hand trowels.

EXXON

NAME

Jon Czarnicki

SIGNATURE

Jon Czarnicki

☒ NTR Oil spill cleanup for 1050 No major sub surface oil. Some surface oil broken & picked up. Some remaining but however the left looks to be healthy and thriving on this beach. It is recovering well and needs to be left alone.

LANDMANAGER

NAME

OF

SIGNATURE

☐ NTR U.S.F.S. ~~not~~ Present on beach. but left the better segment was complete. Some foot. Did not return to beach. Garcia

Timothy M. Mays

USCG/NOAA

NAME

Morgan / Garcia

SIGNATURE

Timothy M. Mays

☒ NTR THERE WAS INSIGNIFICANT OILING OF THIS SEGMENT, THIS IS A HIGH ENERGY SHORELINE. NO SUBSURFACE OILING FOUND, HOWEVER, SOUTHERN END OF SEGMENT (LAST 400m) WAS NOT SURVEYED DUE TO EAGLE ON NEST.

3.

SEGMENT GR-101

SUBDIVISION 4

DATE 5 / 1 / 91

ENERGY LEVEL: ☐ H ☒ M ☐ L

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

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

EST. OIL CATEGORY LENGTH: W 0 m M 50 m N 60 m VL 500 m NO 380 m US 697 m

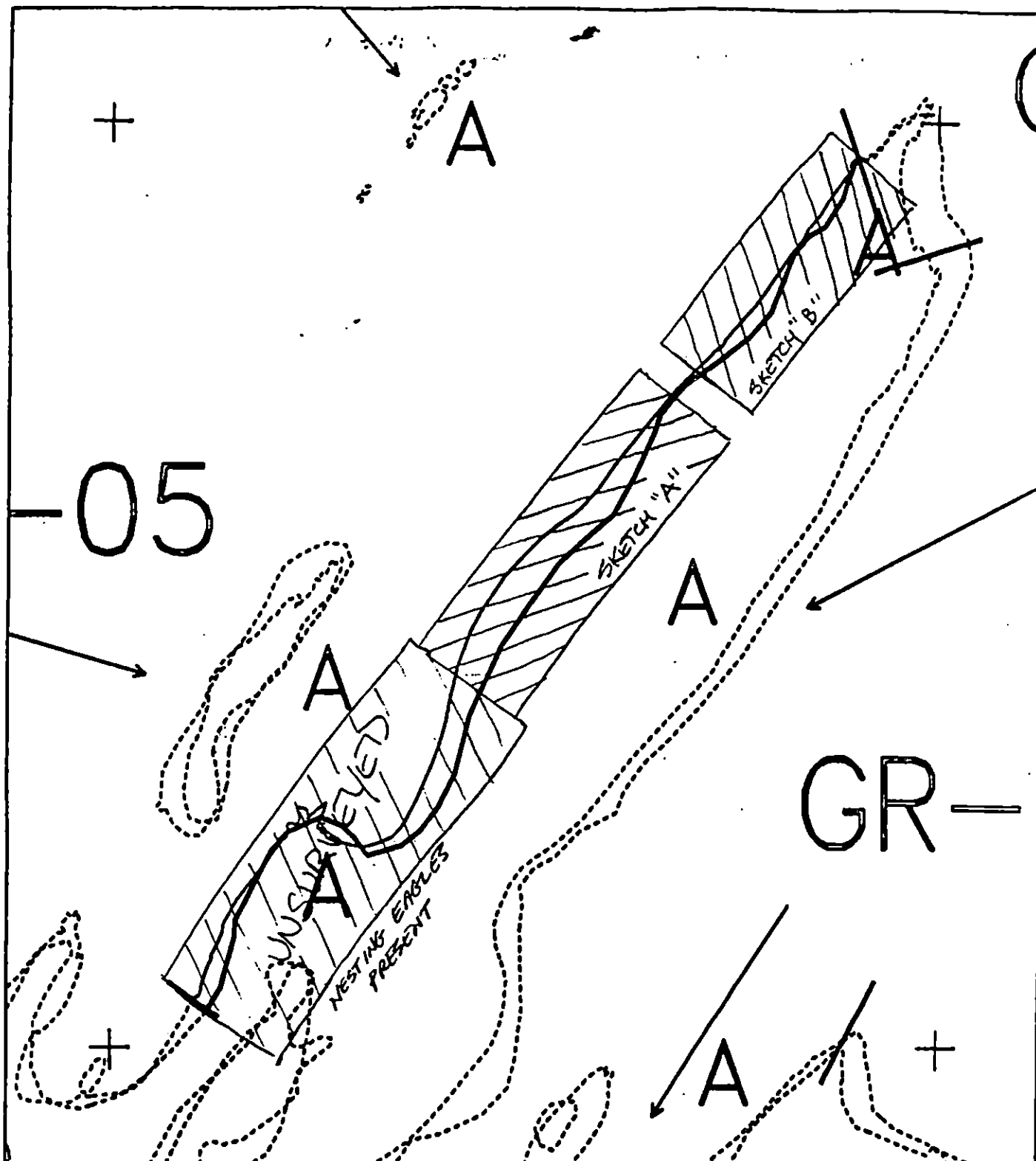
DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 3 - 07 FRAMES 3-8

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

No significant subsurface oiling was identified in the surveyed portion of the subdivisions.

revised 5/4/91 KG OG 1 of 5
revised 5/5/91



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

GR101 A
 ADEC Subsegment Length: 1687m
 METERS
 0 200 400
 AZ State Plane Zone 6
 pr101a



Subdivision Field Map
 Map Key: PWSGR101A
 Name: HARPER
 Date: 1 MAY 91
 Date Entered:

LOCATION MAP

OG 2 of 5

GR-05

REEF

0925

IMPASSABLE CLIFF

0915

START AT 0850

→

A2 C/M/BOLD
A3

A4

A5

A6

A7

BOULDER OVER RUBBLE

RIBBLE

STEEP CLIFF



A1

A2

A3

A4

A5

A6

A7

A8

A9

A10

A11

A12

A13

A14

A15

A16

A17

A18

A19

A20

A21

A22

A23

A24

A25

A26

A27

A28

A29

A30

A31

A32

A33

A34

A35

A36

A37

A38

A39

A40

A1 MITZ
BC/S,6
0-5 O.F.
5-20 N.O.

① BIO PLISTERS
CT/S
3x50
SUR/L/P
5x50

② CT/T
3x780
SOR/L/T
5x150

A2 MITZ 15
CB/SG N.O.
A3 VITZ 25
CB/SG N.O.

③ CT/T
5x150
SOR/L/T
5x150

A4 VITZ 25
N.O.
CB/SG
A7 MITZ/VITZ 7
CB/SG
N.O.

④ CT/S
10x150
SOR/L/T
5x150

BIO PLISTERS

BOULDER

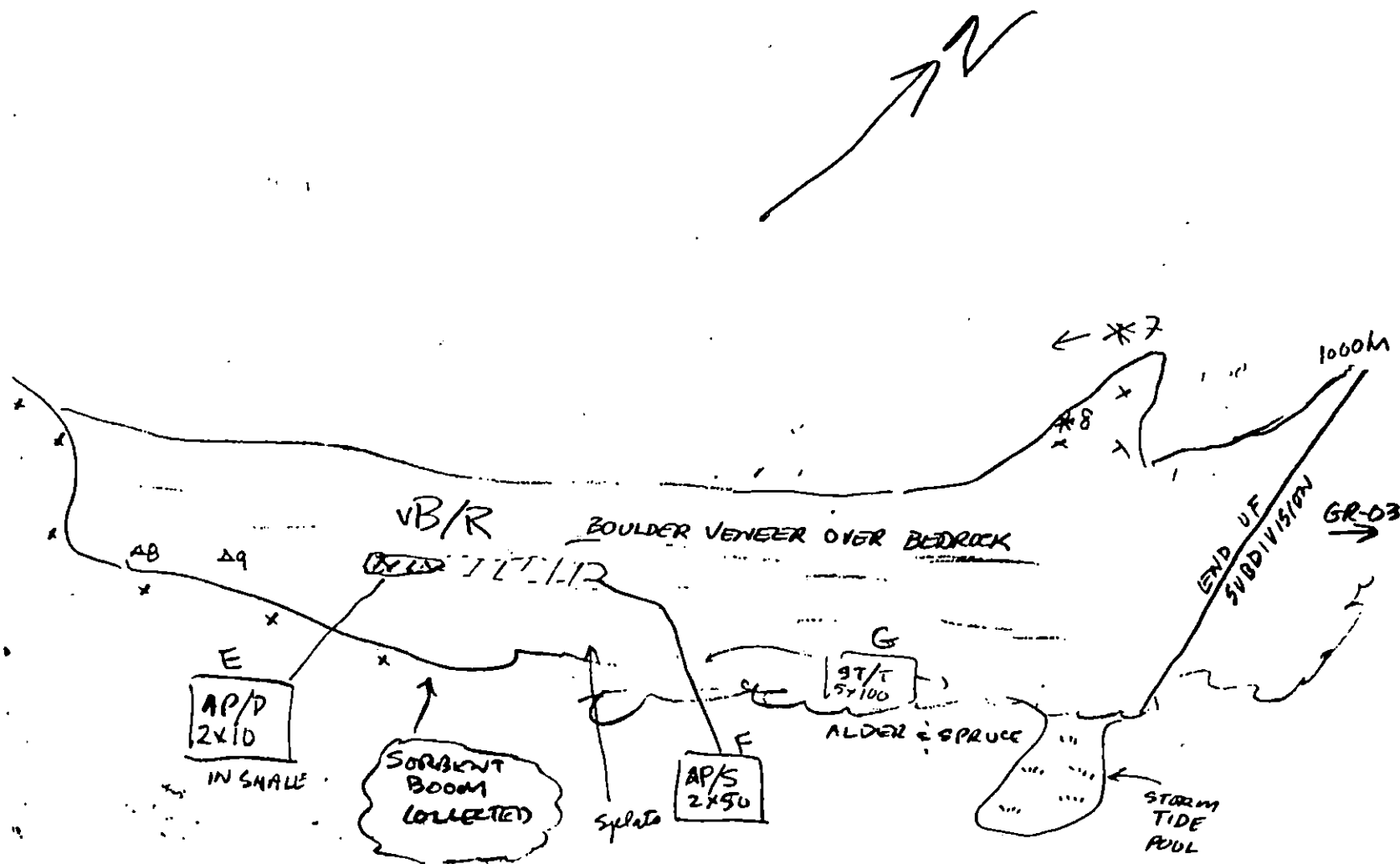
A4 MITZ 25
CP/SG N.O.
A5 MITZ 25
CB/SG
LUR D-10
10 NO

50m

- [X] BEDROCK
- [~] SHEENLETS
- [*] PHOTOS
- [↑] SPRUCE TREES

GR-101A
1 MAY 91
0850-0945
HARPER
SKETCH A

REVISED 5/4/91 KG DB 3075



REVISED 5/11/91 KLG
5/12/91
004045

Δ8 U112 ~30
P/P6 N.0
Δ9 M112 ~30
PC/50/R

100m

SKETCH B

GR-101A
1 MAY 91
0945 - 1000m
HARPER
SKETCH "B"

NAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 3

DATE 5/1/91

SEGMENT # GR 101

TIDAL HEIGHT(Range) -1 to -1

SUBDIVISION A

BIOLOGIST Stoker

SEA STATE 0-1'

WIND SPEED/DIRECTION NE 5-10

PHOTOGRAPHS: ROLL #

FRAME #

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

Generally Moderate to high exposure/wave energy beaches or rubble/boulder/bedrock.

Biota generally sparse or absent in upper intertidal, increasing downslope in both abundance and diversity.

Mid to lower intertidal generally characterized by dense Fucus (with new growth & recruitment), Ulva, various red algae (LITE), patchily dense barnacles and spat, spirorhiz, Littorina (dense clusters with eggs, MTZ), limpets (dense clusters of juveniles), variably dense patches of Mytilus (on MTZ), amphipods, and often Pagurus, smallest nudibranchs, chitons (K. Tunicata), Leptasterias, and eel blennies. In all cases distributions and densities are variable depending on exposure and substrate.

Biota within & adjacent to areas A-D on Sketch Map A consists of sparse to moderate barnacles and spat, sparse Mytilus, sparse limpets, patchily dense Littorina + eggs and amphipods. Biota downslope (MTZ) as described above.

Biota within/adjacent to oiled area on Sketch Map B very sparse. Downslope biota dense patches of new-growth Fucus, dense barnacles and spat patches, dense Mytilus patches, Littorina, limpets, etc. (as described for MTZ above).

If treatment is planned, avoid undue disturbance of this established lower biota, which is abundant, diverse, and recovering rapidly.

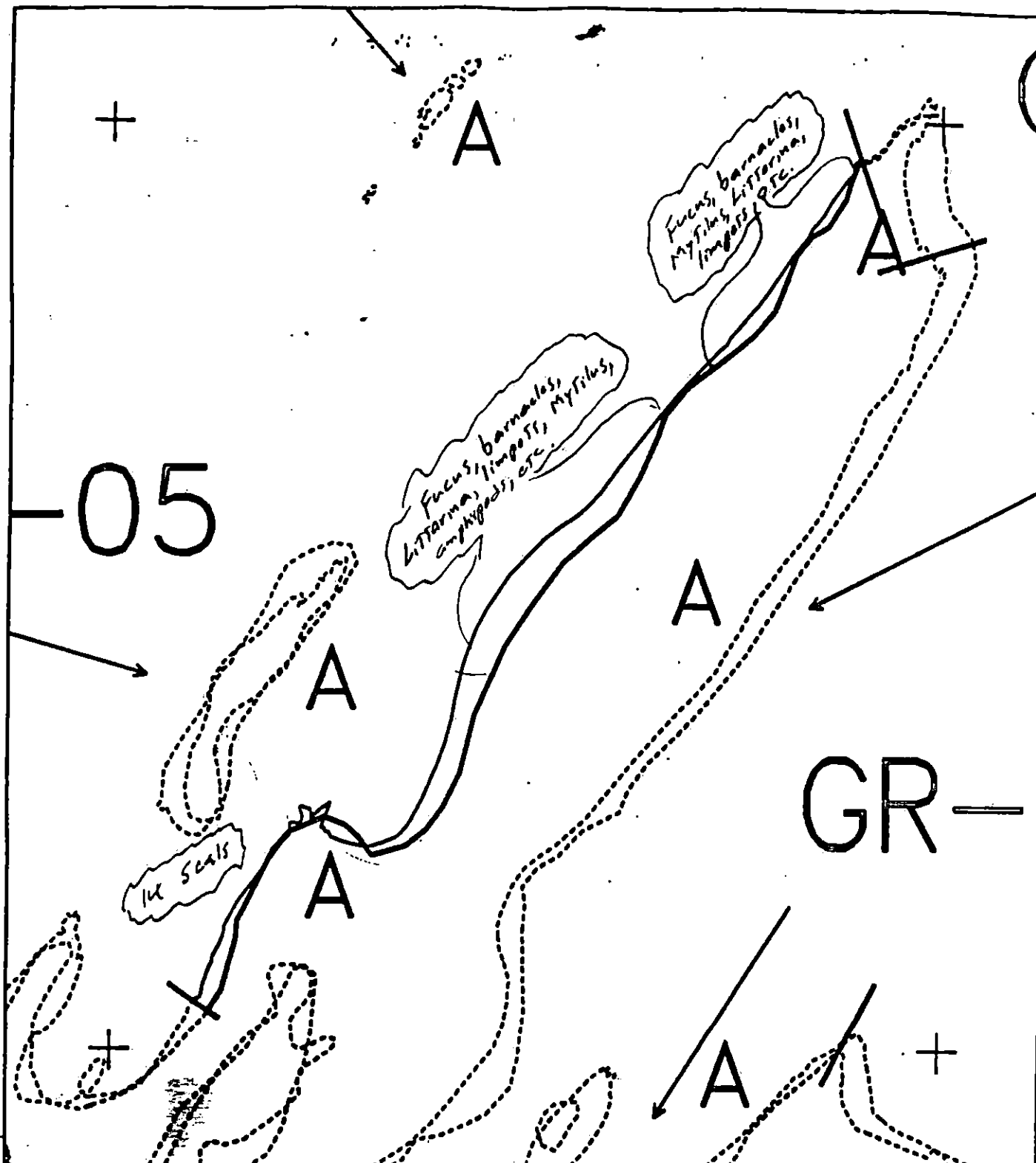
WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

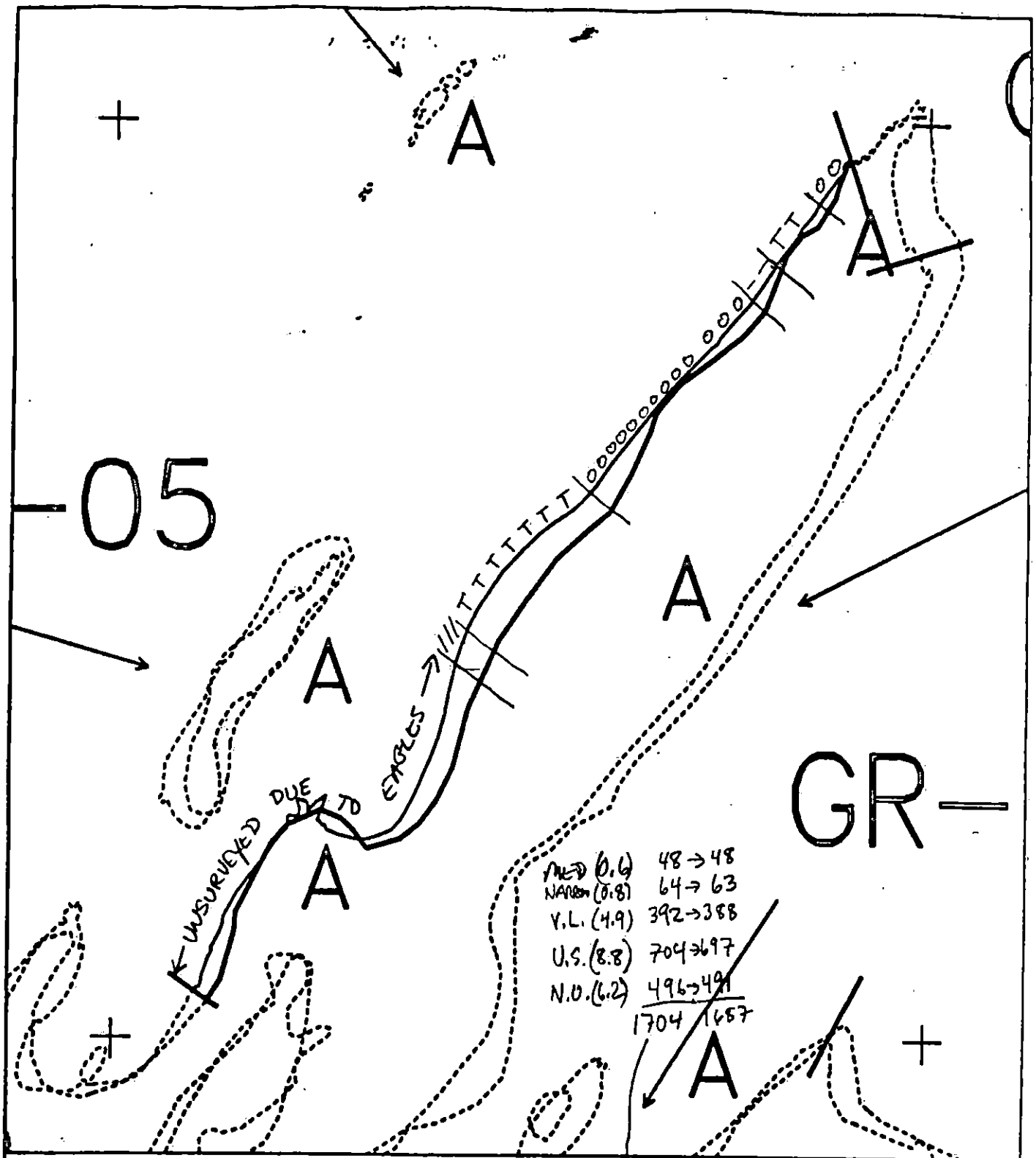
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	3 + nest	eel blennies
Seabirds	2	8-10	
Waterfowl	4	10-12	
Gulls/Kittiwakes	1	20-30	
Shorebirds			
Corvids	Crows	4	
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds(specify)	Harbor Seals - 14		
Carnivores(specify)			

Shoreline subdivision map showing important biological features attached.



XXXX	Wide	GR101 A		Subdivision Field Map	
////	Medium	ABEC Subsegment Length: 1687m		Map Key: PWGR101A	
----	Narrow	METERS		Name: _____	
TTTT	Very Light			Date: _____	
0000	No Oil	AK State Plane Zone 4 pg101a		Date Entered: _____	



MED (0.6) 48 → 48
 NARROW (0.8) 64 → 63
 V.L. (4.9) 392 → 388
 U.S. (8.8) 704 → 697
 N.D. (6.2) 496 → 491
 1704 / 1657

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

GR101 A
 ADEC Subsegment Length: 1087m
 METERS
 0 200 400
 AK State Plane Zone 4
 pr1010

Subdivision Field Map
 Map Key: PWSGR101A
 Name: HARPER
 Date: 1 MAY 91
 Date Entered:



reviewed 5/14/91 KLG
 reviewed 5/5 ES
 OG 5015

ADDENDUM: SUBDIVISION CONSTRAINTS**SEGMENT GR-101 SUBDIVISION A (1 of 2)****WORK WINDOW**

Manual Pickup Less Than 400m From Active Nest	CLOSED
Manual Pickup More Than 400m From Active Nest	OPEN
Bioremediation, Spot Washing & Other Approved Treatment Less Than 400m From Active Nest	CLOSED
Bioremediation, Spot Washing & Other Approved Treatment More Than 400m From Active Nest	WORK PRIOR TO 7/31

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M	Herring Spawning	Closed to bioremediation, spot washing and other approved treatment before 6/15. No constraint to manual pickup.
3N,P 3O,Q	Harbor Seal & Sea Lion Pupping and Molting	Closed to bioremediation, spot washing and other approved treatment before 7/2 and after 7/31. Closed to manual pickup before 7/2 and after 8/14.
5T	Bald Eagle Nest	USFWS 6/1/90 map indicates an active nest in adjacent Segment GR-3A. Closed to manual pickup, bioremediation, spot washing, and other approved treatment within 400m of active nest. No constraint to manual pickup, bioremediation, spot washing, and other approved treatment more than 400m from nest.
5R	Seabird Colony	No constraint to manual pickup, bioremediation, spot washing, and other approved treatment as per letter dated 7/10/90 from USFWS to Otto Harrison/Exxon.
5S	Shorebird/Waterfowl Concentration	No constraint after 5/15.
7II	Subsistence: Deer Harvesting	Closed to bioremediation, spot washing and other approved treatment after 8/15. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

Date

7-14-90

Prepared by

W.T. Kelley

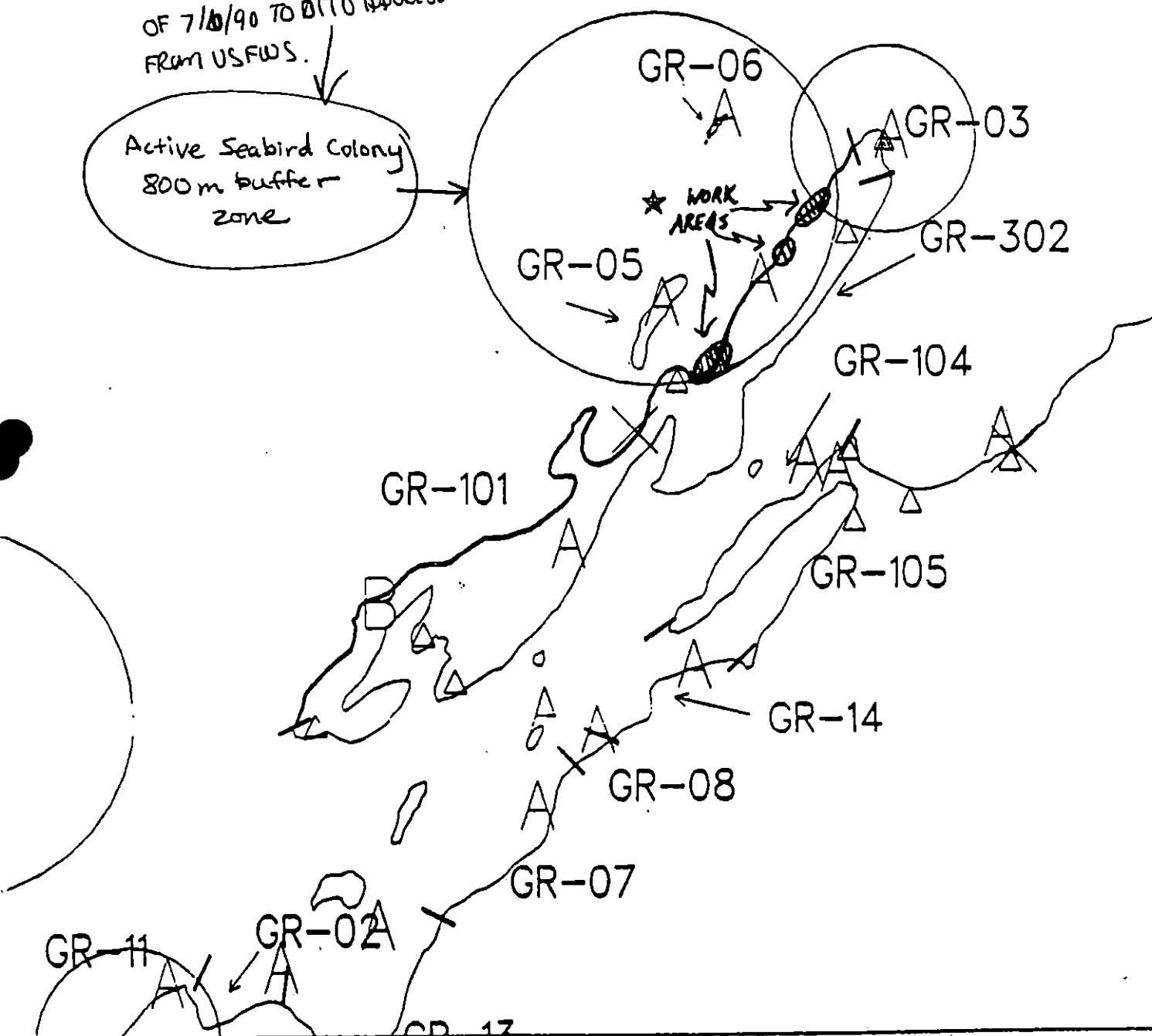
Date

7/13/90

REVISION 1
7/13/90

CONSTRAINT BUFFER
ZONE LIFTED BY LETTER
OF 7/10/90 TO OTTO HARRISON
FROM USFWS.

Active Seabird Colony
800 m buffer
zone



Exxon Company, USA
Map Key: PWS-GR-101
June 04, 1990

ECOLOGY MAP
SEGMENT GR-101
SUBDIVISION A (1 of 2)
METERS



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

WINDY AT PORT MAN

SHORELINE EVALUATION

SEGMENT ST/ GR-101 SUBDIVISION A (1 OF 2) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
5R Seabird colony (5/1 to 9/1) - within 1/2 a mile
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest on border between Subdivision A/B, near border within GR-302.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Hume DATE: 4/23/90

OILING CATEGORIZATION:

Wide 383 m: Medium 780 m: Narrow 0 m: V. Light 524 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 6 cm

RECOMMENDATIONS:

<u> </u> No Treatment Recommended	<u> </u> Snare/Absorbent Booms
<u>X</u> Treatment Recommended	<u>X</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> </u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes 1) removal of oiled debris and vegetation, 2) spot wash areas on map with wands and using snares/pom poms to control sheening, 3) bioremediation of areas shown on map. Work should be conducted between 7/2 and 8/14 due to above herring and pinned constraints and after approval of ADF&G and USFWS regarding seabird colony and eagle nest.

TAG COMMENTS: ASSESSMENT of SUITZ BY MONITORS AT TIME OF TREATMENT

IF POSSIBLE BREAK UP HARD PAN IN BETWEEN BOULDERS PRIOR TO SPOT WASHING AND BIO

TAG APPROVAL DATE: 4/21/90

ADEC Art Weiner Art Weiner

EXXON Andy Tate Andy Tate

NOAA Gail Werscott Gail Werscott

USCG Lizbeth Keane Lizbeth Keane

FOSC: DATE: 4-27-90

1991 MAYSAP EVALUATION

SEGMENT: GR 101 SUB: B REGION: PWS SURVEY DATE: 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) Seabird colony,
Pinniped haulout, Eagle nest, Herring spawning, Subsistence -
Deer harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Rufel Jan Doe Date: 5/21/91

RECOMMENDATIONS:

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

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: MAY 21 1991

FOSC APPROVAL DATE: 5/25/91

ADEC [Signature]

EXXON [Signature]

USCG [Signature]

NOAA [Signature]

FOSC

E. E. PAGE, CDR, USCG

CHIEF OF STAFF, FOSC

→ The state will consider a field visit of this site.

**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.

Pinniped Haulout: Access restricted from 5/15 to 6/30 and 8/15 to 9/15 unless approved by NMFS. Maintain 1000' vertical and 1/2 mile (3 mile for sea lions at all times) horizontal buffer.

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

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. Three SEGMENT GR101 SUBDIVISION B DATE 5/1/91

ADEC

ME Wesley Ghormley

SIGNATURE Wesley Ghormley

☐ NTR ☒ TREATMENT RECOMMENDED!! - Machinery easily unloaded at higher tide. 10x60m area located in sketch "C" consists of OP (ADEC determination) under boulders. Boulders were rolled over and black, fresh oozing oil was on the underside. Oil was scraped off and a vile was filled (see segment photos). This oil is not getting broke down due to the protection created by the boulders and w/o help it will be there for a long time. Little to no biota was present w/ this heavily oiled area. Recommend mechanical rolling of boulders, unload machinery at a higher tide so not to damage unrolled biota at LITZ. Expose oil either agitate w/ incoming tide or manually remove using hand tools. A large amount of SNARE boom will have to be used to contain sheers. 6x10m area in sketch C - manually remove using hand tools. 18 otters and a few seals were observed close to this contaminated zone!! - THIS AREA 10x60M OP IS ONE OF THE 2 HEAVIEST OILED BEACHES ON GREEN ISLAND.

EXXON

NAME Jon Zarnecki

SIGNATURE Jon Zarnecki

☒ NTR This Area has a few areas that have HOR to OP. Almost an OP the area has 40 pit dug of which only 14 have oil in them. The heaviest ~~area~~ area is in a 10x60 meter area of Boulder and Boulder cobble sand. It is under the rocks and boulders. This HOR is hidden and protected. The rest of the beach appears to be healthy and thriving. Any additional work could damage the regrowth which is slow in progress.

LANDMANAGER

NAME _____ OF _____

SIGNATURE _____

☐ NTR Carol Huber (USFS) NOT PRESENT ON THIS SEGMENT. DUE TO SORE ANKLE.
Timothy USCA

USCG/NOAA

NAME MODAWAY / BARAT

SIGNATURE Timothy / Andy Barato

☐ NTR This segment is comprised of several microbeaches, which are predominately Boulder, Cobble, Armor. Commonly the armor is a thin veneer on bedrock and is usually on the northeastern portion of the beach, while cobble, pebble, boulder armor comprise the southwestern portion of the beaches. This segment is in a high energy zone and generally only moderate to little residue surface and subsurface oil is present. However, two areas (SW end of sketch B & NE end of sketch C) show more to OP subsurface conditions. Both areas of concern are in a high energy zone which will remineralize some of this residue oil. A controlled release may prove more beneficial and less harmful to the area.

MAYSAP SHORELINE OILING SUMMARY

PAGE 1 OF 3

TEAM NO. 3OG HARPERBIO J. STUKERSEGMENT GR-101ADEC W. CHURMLEYLANDMANAGER C. HUBER for FSSUBDIVISION BCOXON V. CEARNECKIUSCG/NOAA T. MOONEY / G. BARBISDATE 5 30 91TIME 07:15 to 08:30TIDE LEVEL 2.70 ft. to -1.36 ft.ENERGY LEVEL: ☐ H ☒ M ☐ LSURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELOWEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☒ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 2536 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONEEST. OIL CATEGORY LENGTH: W 0 m M 208 m N 0 m VL 748 m NO 1580 m US 250 m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A						S					BC	M	10	200		✓	✓		BIODEGRADED OIL
B				P							BC	M	10	60		✓	✓		SOR HEAVY
C			T								B	H	0.5	0.5		✓			THROW (BROWN UP)
D			T								B	H	0.5	0.5		✓			THROW (BROWN UP)
E			T								B	H	0.5	0.5		✓			PATLY
F							T				B,R	M	5	30			✓		SHEETS
G				T							B,C	M	10	10		✓			SOR HEAVY
H							T				B,C	M	10	10			✓		
I						S					B,C	M	5	35		✓			
J							S				BC	M	5	30		✓			
K							S				C,B	M	5	40		✓			
L				T							B,C	M	5	5		✓			SOR/H
M						T	T				R,B	M	5	50		✓			
N							T				R,B	M,H	10	40		✓			

CONTINUED ON PAGE 3

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = C1%

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

PHOTO ROLL # MAYSAP-

3 06
3 0710-23
FRAMES 1+2

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	15							X	-	Y	-	-		X			C/SG	
2	20				X				0-20	Y	5	R			X		CB/SG	
3	25				X				1-5	Y	-	-				X	CB/SG	
4	20			X					0-5	Y	-	-			X		CB/SG	PHOTO 12
5	25							X	-	Y	-	-		X			CB/SG	
6	20							X	-	Y	-	-			X		CB/SG	
7	25						X		0-25	Y	-	-				X	PC/SG	
8	20							X	-	Y	-	-			X		BC/SG	
9	20				X				0-10	Y	-	-			X		BC/SG	

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

OG COMMENTS:

This long subdivision consists of a series of boulder/cobble pocket beaches between rock headlands. Oil tends to be concentrated within the south end of the pocket beaches.

inface oiling consists primarily of residual coats and stains in the VITE/WHITE zone. One area of 10x60 SOR (location B) was located within "To Otter" Bay; this translated to a medium band width. (CONTINUED ON PAGE 3)

OB 1 of 11
Es Revised May 4

MAYSAP SHORELINE OILING SUMMARY (cont.)

PAGE 2 OF 3

TEAM NO. 3

SEGMENT GR-101 B

SUBDIVISION B

DATE 7/30/91

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		
10	20				X				0 - 20	N	-	-			X		BC/SG	
11	15					X			0 - 15	Y	-	-			X		BC/SG	
12	25				X				0 - 10	Y	-	-		X			BC/SG	
13	35							X	-	Y	-	-		X			BC/SG	
14	25		X						0 - 25	N	-	-			X		BC/SG	EST 6 x 10 @ 10%
15	LOST								-									THIS NUMBERED SKETCH SHEET PHOTOS 15, 16, 17, 18
16	15		X						0 - 10	Y	-	-			X		BC/SG	
17	20			X					10 - 20	Y	-	-			X		BC/SG	
18A	20		X						0 - 10	N	-	-			X		BC/SG	
18B	"			X					10 - 20	N	-	-			"		"	
19	~30							X	-	Y	-	-		X			BC/SG	
20	20							X	-	Y	-	-		X			BC/SG, SP	
21	25							X	-	Y	-	-				X	BC/SG, SP	
22	~30							X	-	Y	-	-			X		BC/SG/MS	
23	~30							X	-	Y	-	-		X			BC/SG/MS	
24	25							X	-	Y	24	N			X		BC/SG	
25	30							X	-	Y	0	N			X		BC/SG	
26	~30							X	-	Y	-	-		X			BC/SG/MS	
27	20					X			10 - 13	Y	-	-			X		BC/SG/MS	
28	~20							X	-	Y	-	-				X	BC/SG/R	
29	~20							X	-	Y	-	-		X			BC/SG/SM	
30	30							X	-	Y	-	-		X			G/G	LITS
31	25							X	-	Y	-	-			X		BC/MS	
32	15							X	-	Y	-	-				X	BC/MS/B	
33	~30							X	-	Y	-	-		X			C/SG	
34	~30							X	-	Y	-	-			X		C/SG	
35	~30							X	-	Y	-	-				X	C/SG	

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

OG COMMENTS:

SURFACE OILING CONTINUED (FROM P. 1)

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	
P						T					B, R	M	15	40		X			50% BIO DEGRADED
Q						T					B, R	M	10	100		X			50% BIO DEGRADED
R						P					R	V	0.3	2		X			15%
S						S					R, B	V/M	5	30		X			

OB 2 of 11
ET revised, May 4

PAGE 3 OF 3

SEGMENT GR-101B

SUBDIVISION B

DATE 5 / 1 / 91

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

Heavier subsurface oiling conditions were evident in several of the bays. MOR was located in "18 Other" Bay and is probably v. discontinuous and associated with the mapped SOR/H surface oil (Location B). The MOR noted on Sketch "B" (Pit 14) is estimated to extend 6×10 m with 10% coverage (i.e. 6 m^2). A relatively large area was located on Sketch "C" and was estimated at 10×60 at approx. 80% coverage (i.e. 480 m^2); This oil appears to have been trapped behind a bedrock outcrop and forms droplets and coats on the underside of boulders.

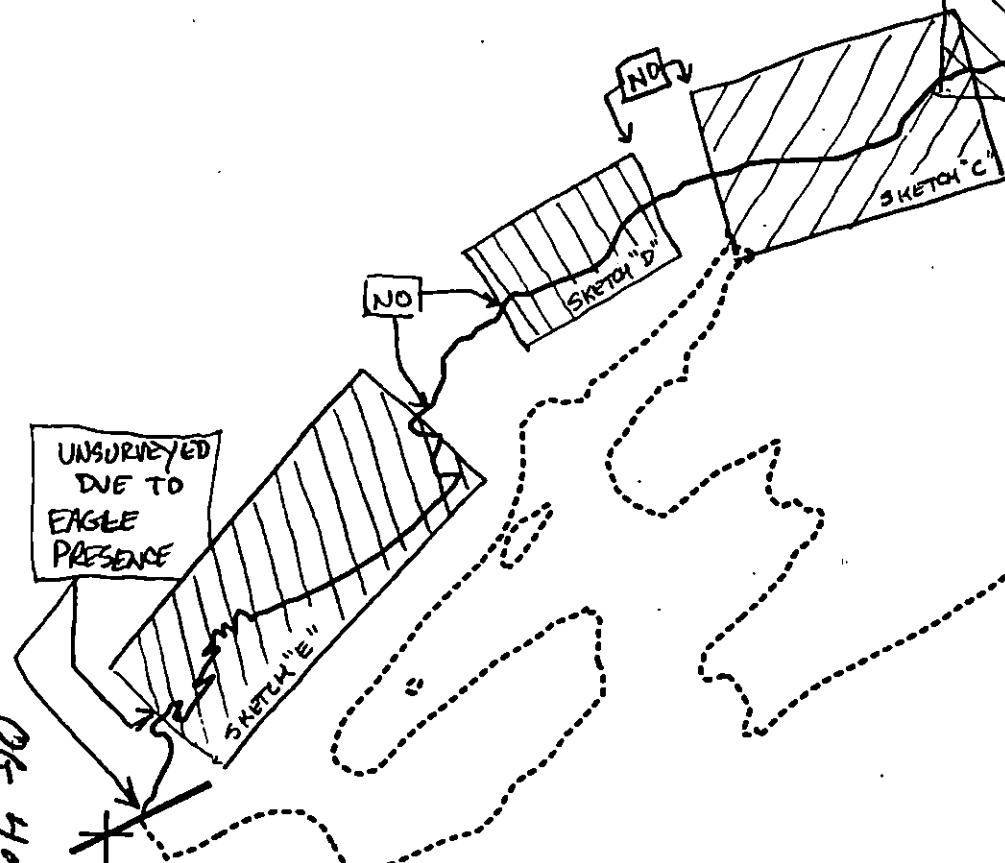
40 PITS
3 HOR PITS

Revised: MCS/6/91

Об закл 11

ST Reviled, Mar 4

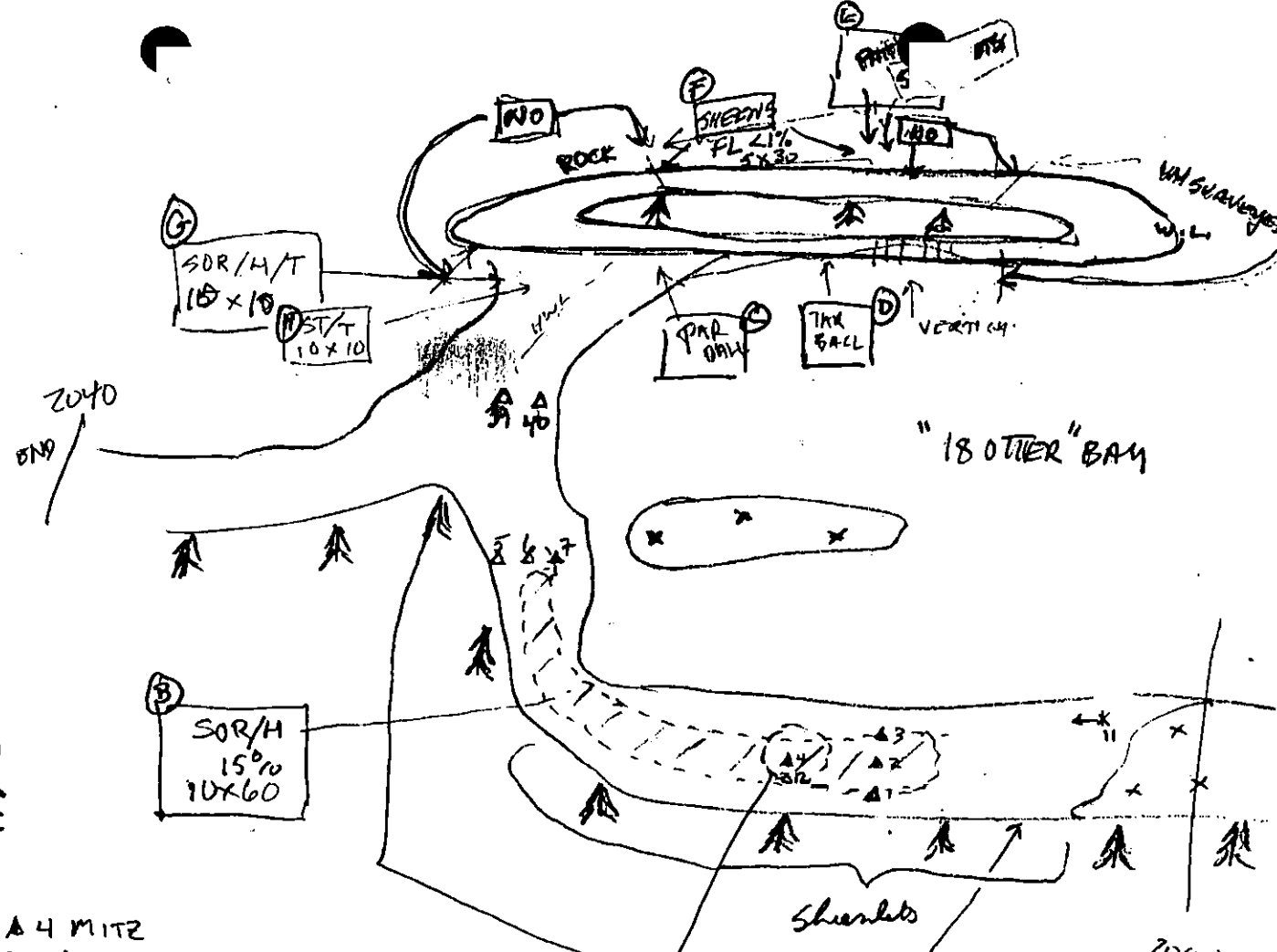
GR-101



06-404-11

GR-101 B
SKETCH LOCATION MAP

OR 5411



GR-101B
30 APRIL 91
2000-2040
HARPER

A 4 MITZ
CB/SG
0-5 MOR
5-20 N.O.
*12
A5 MITZ 25
CB/SG N.O.
A6 MITZ 20
CB/SG N.O.
A7 MITZ 25
OF 0-5
PC/SG

A39 MITZ 20
P/S N.O.
A40 MITZ 20
P/S N.O.

NO FIELD DATA
ASSUME!
5 x 10 m MOR

UBT2
A1 C/SG 15
NO
A2 MITZ
CB/SG 20
0-20 LOR
WT 5 R
A3 MITZ CB/SG LITZ
20CM
5-25 N.O.
1-15 LOR

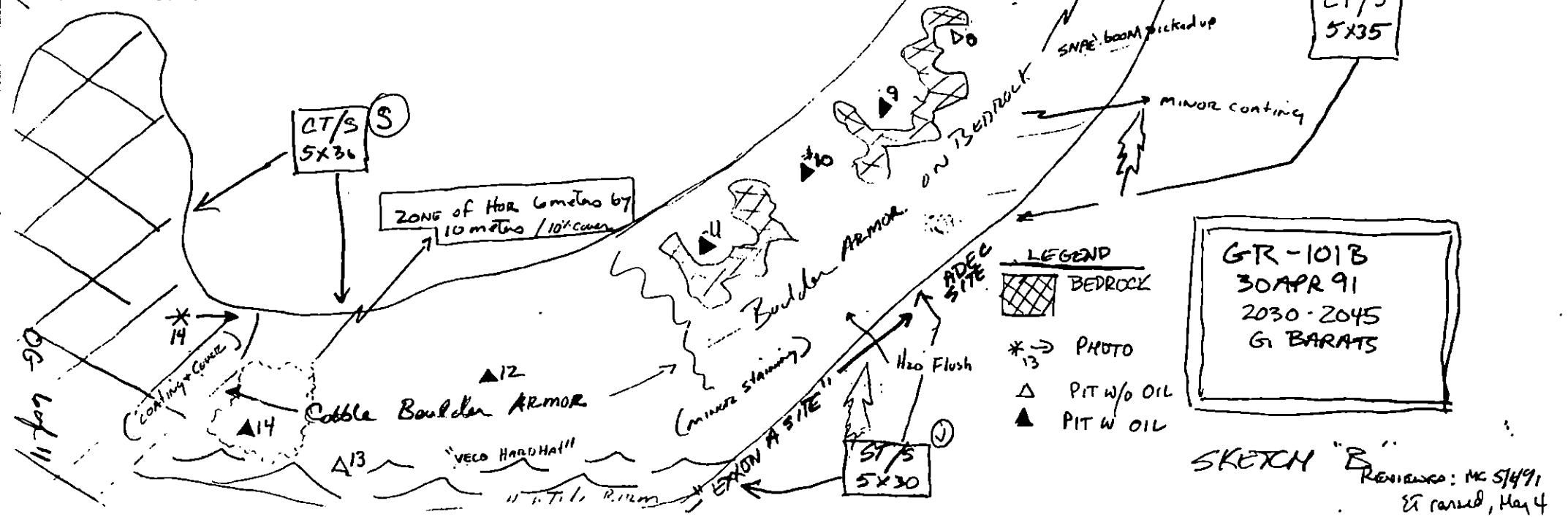
SKETCH "A"

REMOVED MC 5/6/91
ET Revised, May 4

GR 101 ~ Sketch B
Greg to 9-91

- A¹⁰ 0-20cm NO
 BICAMORE / MI ZONE
 A¹¹ 0-10cm LOR
 10-20cm NO
 MI ZONE
 BICAMORE
 A¹⁰ 0-20cm LOR
 MI ZONE
 A¹¹ 0-15cm OF
 MI ZONE / >15 NO
 A¹² 0-10cm LOR
 10-25cm NO
 Mid to up tidal zone
 A¹³ 0-25cm NO
 UI
 A¹⁴ 0-25cm HORZ
 MI ZONE

ALIGNMENT
MARK WITH SKETCH "C"



GR-101B
30 APR 91
2030-2045
G BARATS

SKETCH "B"
REVIEWED: MC 5/4/91
ET earned, May 4

SKETCH "D"
GR 101 B
1 MAY 91
0745 - 0800

← 0800h

UTZ

ST/T
10x40

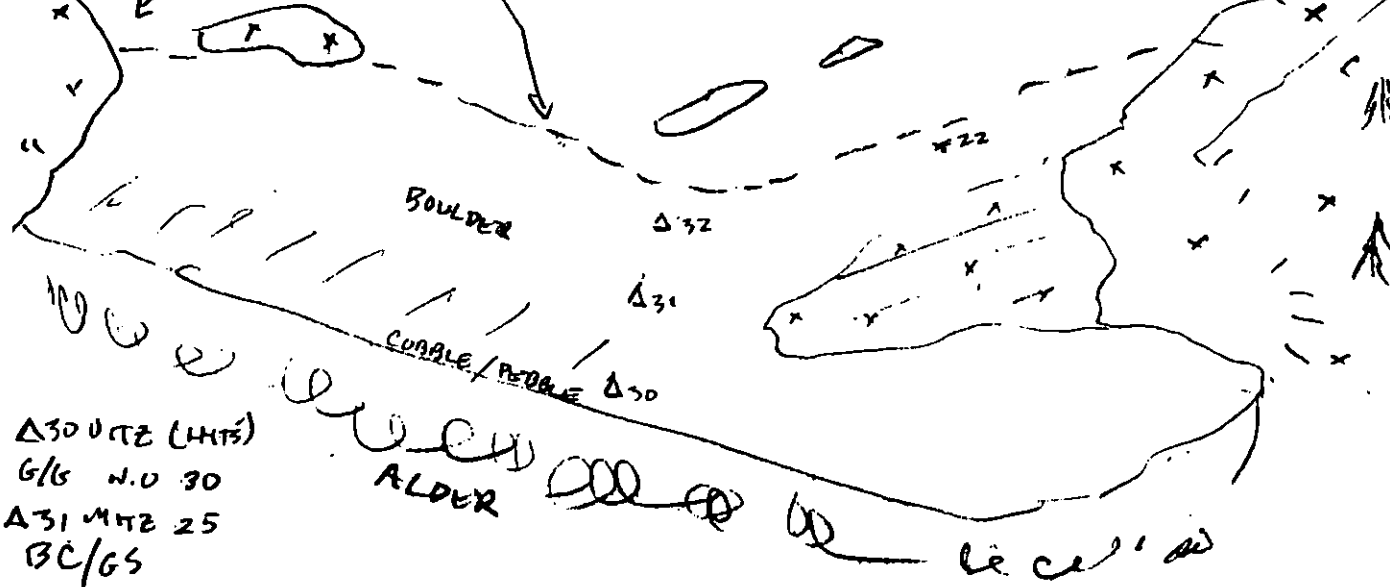
(N)

*23

NO

*21

0745

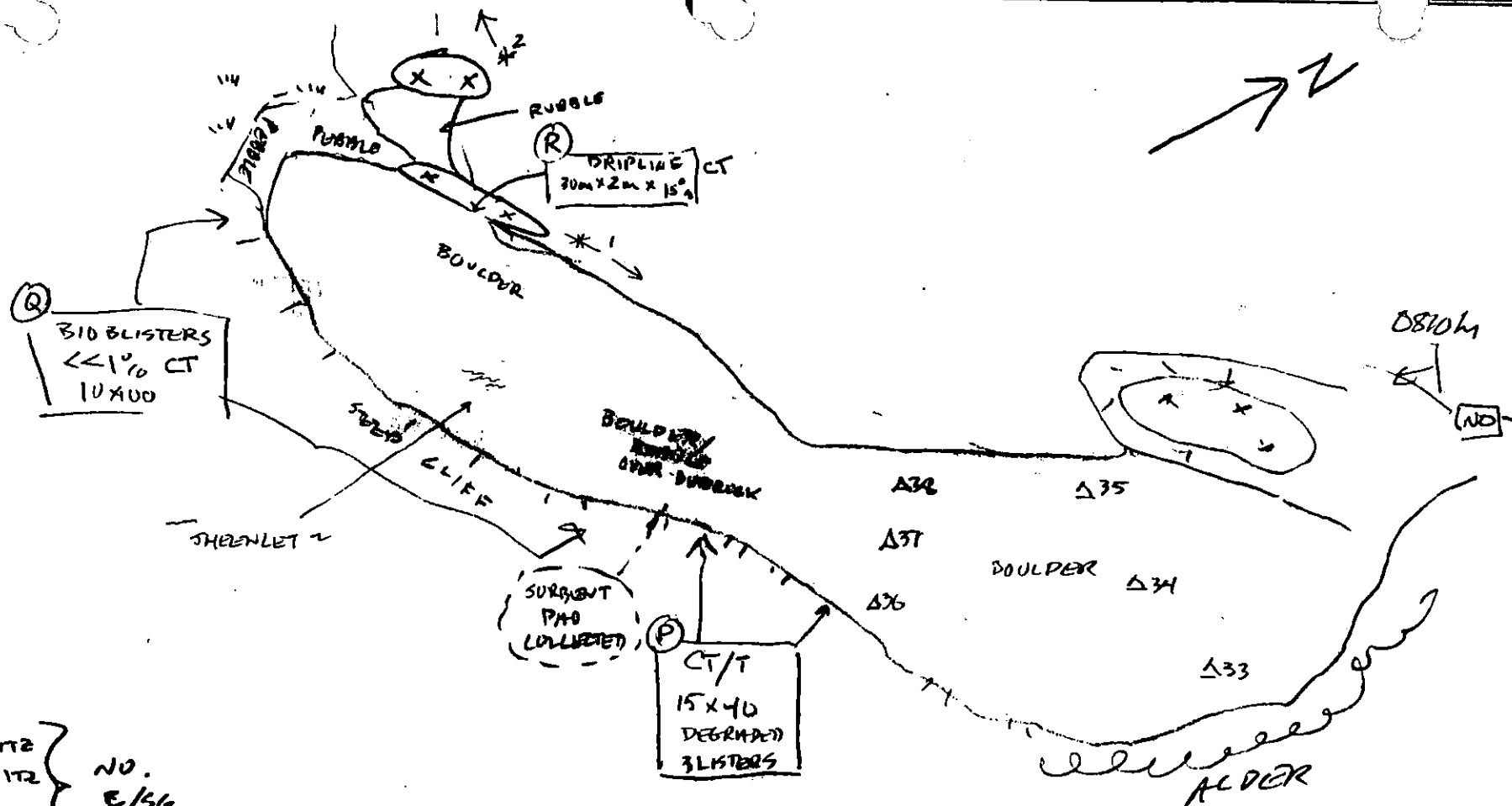


Δ30 UTZ (LHTS)
G/G N.O 30
Δ31 MHTZ 25
BC/GS
Δ32 LITZ 15
BC/GS/B N.O.

50m

REVIEWED MC 5/6/91
ET Reviewed, May 4
SKETCH "D"

OG 84711



Δ33 U1T2
 Δ34 M1T2
 Δ35 L1T2

NO.
 E/S6 30cm

Δ36 U1T2
 Δ37 M1T2
 Δ38 L1T2

N.O.
 C/S6 30cm

X X BEDROCK
 wavy ALDER
 ~ ~ SHREINLET

50m

SKETCH E
 GR-101B
 1 MAY 91
 0810 - 0830

REVISED: MC 5/5/91
 EX Revised, May 4

08-94/11

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 3

DATE 4/30/91 - 5/1/91

SEGMENT # GR101

TIDAL HEIGHT (Range) 0-4'

SUBDIVISION B

BIOLOGIST STAKOR

SEA STATE 0-1'

WIND SPEED/DIRECTION NE 10-15 & S-10

PHOTOGRAPHS: ROLL #

FRAME #

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

Exposure and wave energy variable low to high; diverse habitats ranging from exposed cobble/boulder/bedrock to low angle sheltered cobble/pobble flats.

Biota generally sparse in the upper intertidal, increasing downslope in diversity and abundance. Mid and lower intertidal characterized by Fucus, barnacles, Littorina, limpets. Also observed were amphipods, nudibranchs, anemones, Scerlosia, Nucella, Dermasterias, Lophasterias, Chitons (K. funicularis), Isopods (Cidesta), Pagurus, Oligochaetes, cel. blennies, Ulva, various red algae, and surf grass (Phyllospadix). Composition, distribution and density of taxa varied considerably throughout the subdivision according to exposure and substrate.

Biota within & adjacent to oiled zone (Sketch Map A) consists of patchily distributed Fucus, barnacles, Littorina and eggs, limpets, interbedded and attached Mytilus. Biota declines in abundance NE to SW. Biota downslope from oil of similar composition, somewhat greater abundance.

Biota within & adjacent to oiled area in Sketch Map B consists of patchily distributed and often dense barnacles, Fucus, Littorina, and dense interbedded Mytilus. Extensive dense Mytilus beds and Fucus on Tombolo.

Biota within/adjacent to oiled area in Sketch Map C consists of sparse barnacles. Downslope biota of dense Fucus, dense barnacles and spat, Mytilus patches, Littorina, limpets, amphipods, oligochaetes. Diversity & abundance declines NE to SW.

continued on attached sheet

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	cel blennies
Seabirds	2	6	
Waterfowl	1	2	
Gulls/kittiwakes	2	10-20	
Shorebirds	Pyrrhuloxia	4	
Corvids	maggie	1	
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters	18 + 1 dead	deer skull on	1
Phocids (specify)	Harbor Seal - 1		
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

REVIEWED: 5/6/91 MC
Darius M R - 1/1/91

BIO SHEET (CONTINUED)

Biota within/adjacent to oiled area on sketch Map D consists of patchy barnacles and spat (sparse to moderate abundance), dense clusters of Littorina, dense isopod (Idotea) clusters, and limpets. Downslope biota moderate to dense Fucus, Surf grass, Mytilus patches, barnacles and spat, red algae, limpets, amphipods, chitons (K. Tunicata), blennies, Idotea, Pagurus, Leptasterias.

Biota within/adjacent to oiled areas on sketch Map E consists of sparse barnacles, limpets, Littorina, oligochaetes and filamentous green algae. Downslope biota dense Fucus, patchy dense barnacles and spat, clusters of small limpets, amphipods, nudibranchs, anemones, Mytilus, Nucella, Scarlosia, Dormasterias, Leptasterias, Littorina,

If treatment is undertaken, avoid unnecessary disturbance to established biota, particularly of extensive interbedded mussel communities on the Tombolo. Numerous (18) sea otters were observed in this locale, probably feeding on mussels.

Map

GR-101

Dense Mussel
beds, Fucus

Fucus, barnacles,
Littorina, limpets, Mytilus

Fucus, sea grass
Mytilus, barnacles,
Littorina, limpets

Fucus, barnacles,
limpets, Littorina,
etc.

18 OTTORS

Fucus, barnacles,
Littorina, limpets,
Mytilus, etc.

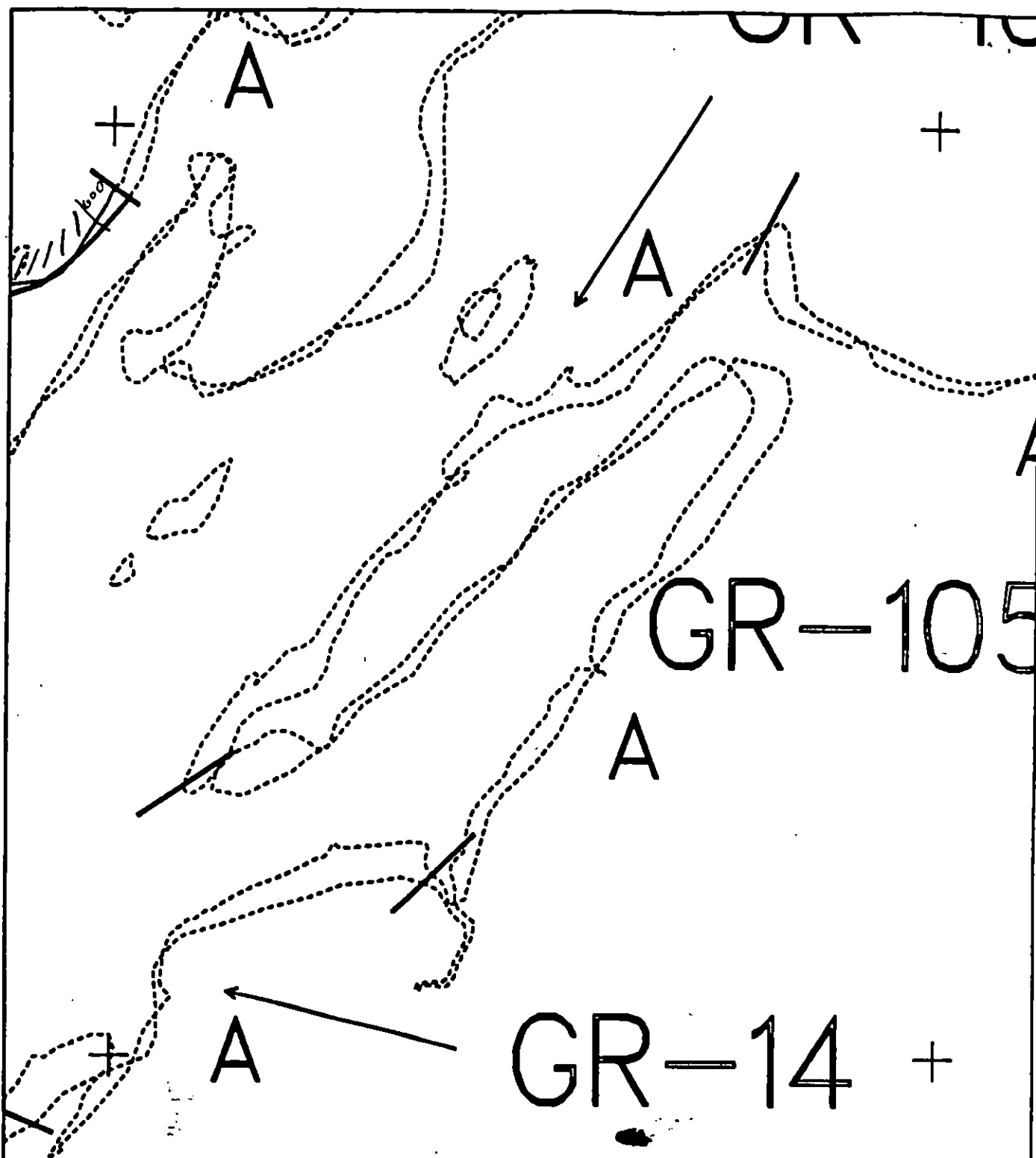
A

B

A

A

Reviewed S/01/1, MC.
Reviewed S/01/1, M.B.



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

GR101 B
 ADEC Subsegment Length: 2700m
 METERS
 0 200 400
 AK State Plane Zone 4
 pr101bb



Subdivision Field Map
 Map Key: PWSGR101Bb
 Name: HARPER
 Date: 30 APRIL 91
 Date Entered:

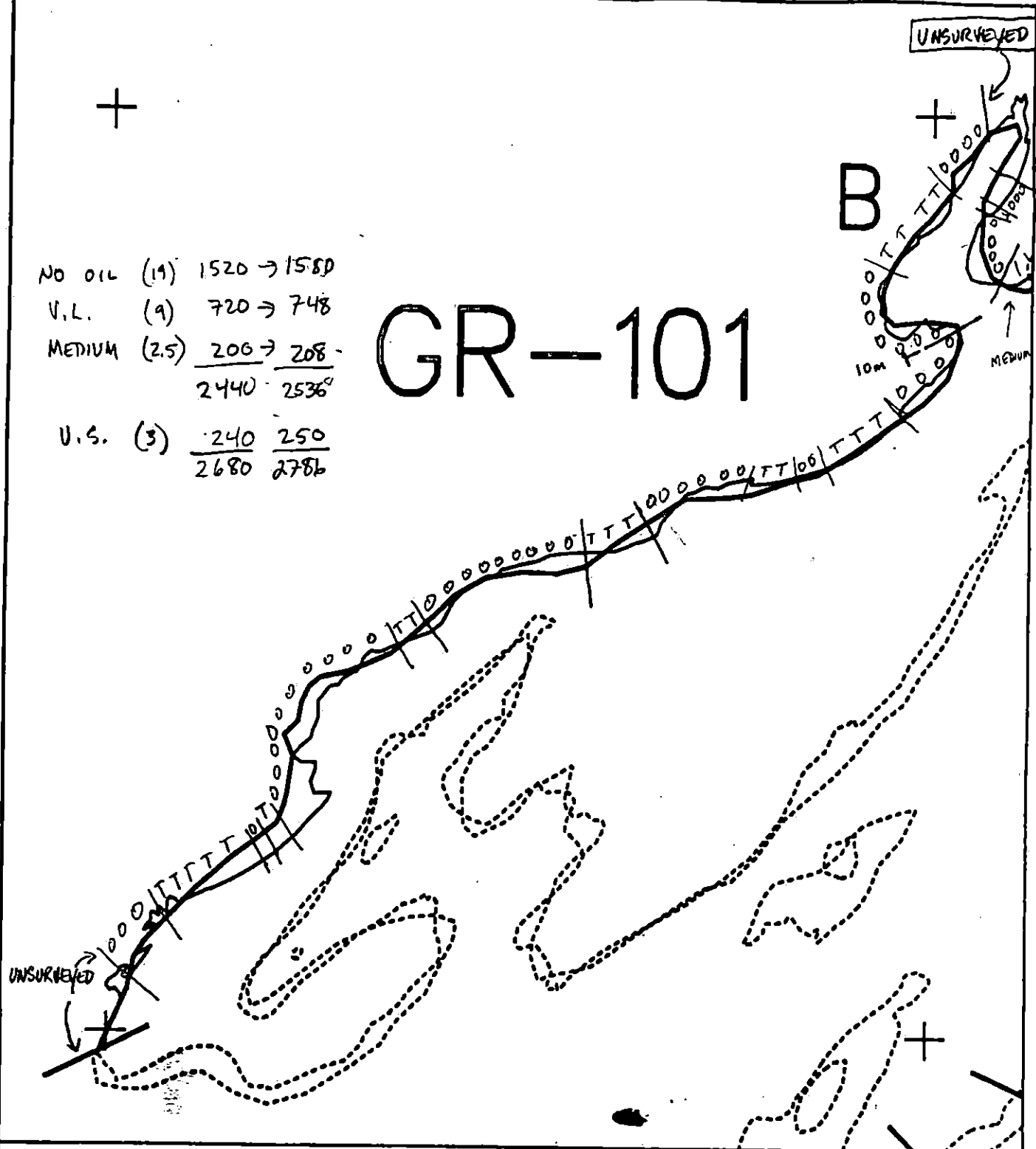


SURFACE OILING MAP (1 of 2)

OG 1004/11
 Reviewed May 4

NO OIL (11) 1520 → 1580
 V.L. (9) 720 → 748
 MEDIUM (2.5) $\frac{206}{2440} \rightarrow \frac{208}{2536}$
 U.S. (3) $\frac{240}{2680} \rightarrow \frac{250}{2786}$

GR-101



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

GR101 B
 ADEC Subsegment Length: 2786m
 METERS
 AK State Plane Zone 4
 pr101ba

Subdivision Field Map
 Map Key: PWSGR101Ba
 Name: HARPER
 Date: 1 May 91
 Data Entered:

SURFACE OILING MAP (2 of 2)

OG 11 of 11
 EX revised May 4

SEGMENT: GR 101 SUB: B REGION: PWS SURVEY DATE: 6/11/91ENVIRONMENTAL SENSITIVITIES:Work Window(s) RESTRICTED 5/15 - 9/15Ecological/Constraints (see page two for details) Seabird colony,
Pinniped haulout, Herring spawning, Subsistence - Deer harvestingARCHAEOLOGICAL CONSTRAINTS:If treatment is planned, a cultural resource evaluation is
required prior to shoreline treatment.SHPO Signature: Timothy A. Smith Date: 6/20/91RECOMMENDATIONS:

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: Original survey (5/1/91) interrupted because of
eagle activity. Survey addendum (6/11/91) completed survey.

TAG:

FOSC:

TAG APPROVAL DATE: JUNE 19 1991FOSC APPROVAL DATE: 6/21/91

ADEC

FOSC

EXXON

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

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.

Pinniped Haulout: Access restricted from 5/15 to 6/30 and 8/15 to 9/15 unless approved by NMFS. Maintain 1000' vertical and 1/2 mile (3 mile for sea lions at all times) horizontal buffer.

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

EXXON COMPANY, U.S.A.
ALASKA OPERATIONS

MEMORANDUM

To: File
From: Julie Arin *JA*
Date: June 13, 1991
Subject: MAYSAP Subdivisions EV-71A^C, GR-101A^B, LA-15A & WH-501^M

Additional surveying was performed on the subdivisions listed above. These subdivisions were not completed during the initial survey due to eagles in the area. This survey report is an addendum to the survey information previously submitted.

CENTRAL FILE
OFFICIAL COPY

MAYSAP FIELD SHORELINE COMMENT SHEET

ADDENDUM

TEAM NO. 00 SEGMENT GR101 SUBDIVISION B DATE 11 Nov 91

ADEC

NAME Marianne Profita SIGNATURE Marianne Profita

☒ NTR

No treatment recommended - not enough oiled observed to warrant any treatment.

EXXON

NAME Rex Coulter SIGNATURE Rex D. Coulter

☒ NTR

THE ONLY OILING FOUND WAS REMOVED. NO ADDITIONAL ATTENTION OR CONSIDERATION NEEDED IN THIS PORTION OF THE SUBDIVISION.

LANDMANAGER

NAME _____ OF _____ SIGNATURE _____

☐ NTR

LANDMANAGER NOT PRESENT.

USCG/NOAA

NAME CWO R. SPURR SIGNATURE R. Spurr

☒ NTR

only one tarball was observed during survey which was removed by Veco worker. No other oil found in portion of segment surveyed this date.

USCG/NOAA CWO Spurr

ENERGY LEVEL: ☐ H ☒ M ☐ L

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

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

EST. OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 0 m NO 100 m US 2686 m*

* ABOVE VALUES DO NOT INCLUDE 300-APR-91 SURVEY INFORMATION

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

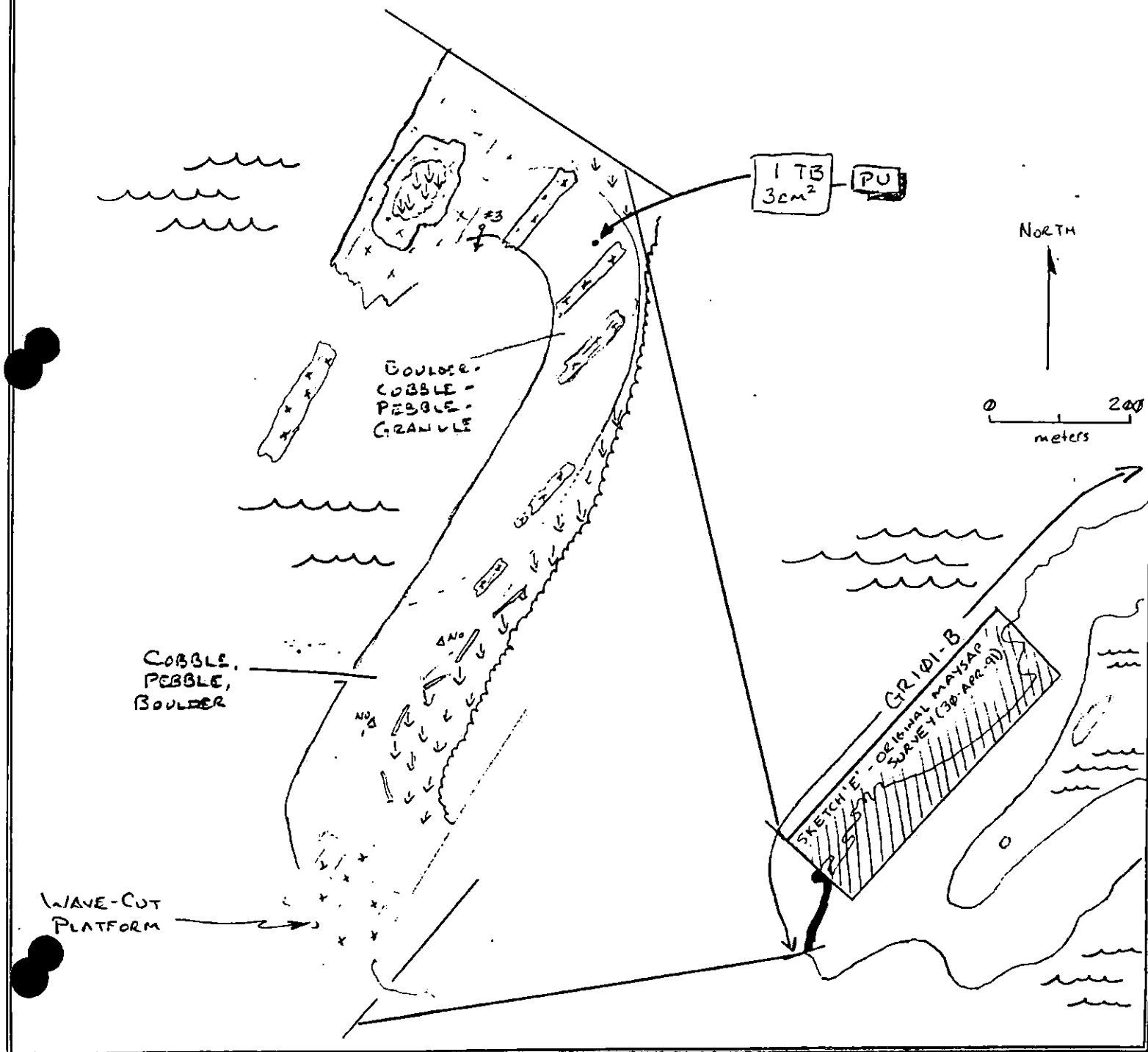
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 00 - 02 FRAMES #3

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

ONLY OILING FOUND WAS A 3cm^2 TAR BALL ON A COBBLE.

GR101-B-ADDENDUM
OG SKETCH MAP
11-JUNE-91
1140-1200
BRYAN TRIMM

LOC.0



REVISED CD 6-13-91

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 00 DATE 6/11/91
 SEGMENT # GR101 TIDAL HEIGHT (Range) +6.5' ~ +7.0'
 DIVISION B BIOLOGIST D. McCORMICK
 SEA STATE 1' WIND SPEED/DIRECTION 5/S
 PHOTOGRAPHS: ROLL # — FRAME # —

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

This subdivision had only one patch of oil which was not impacting any of the intertidal biota within the immediate area.

*The lower ITZ at this site could not be observed due to tide height. The mid zone had adult + juvenile *Fucus* that was dense in patches but not a dominant feature of the beach; mussels, barnacles, limpets & littorines were present in sparse concentrations.*

The upper ITZ had little to no biota, with an occasional mussel or littorine seen on cobble & bedrock outcrops.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

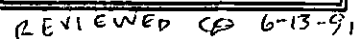
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds <i>p. guillemot</i>	1	1	
Waterfowl			
Gulls/kittiwakes	1	2	
Shorebirds			
Corvids			
Other Birds			

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

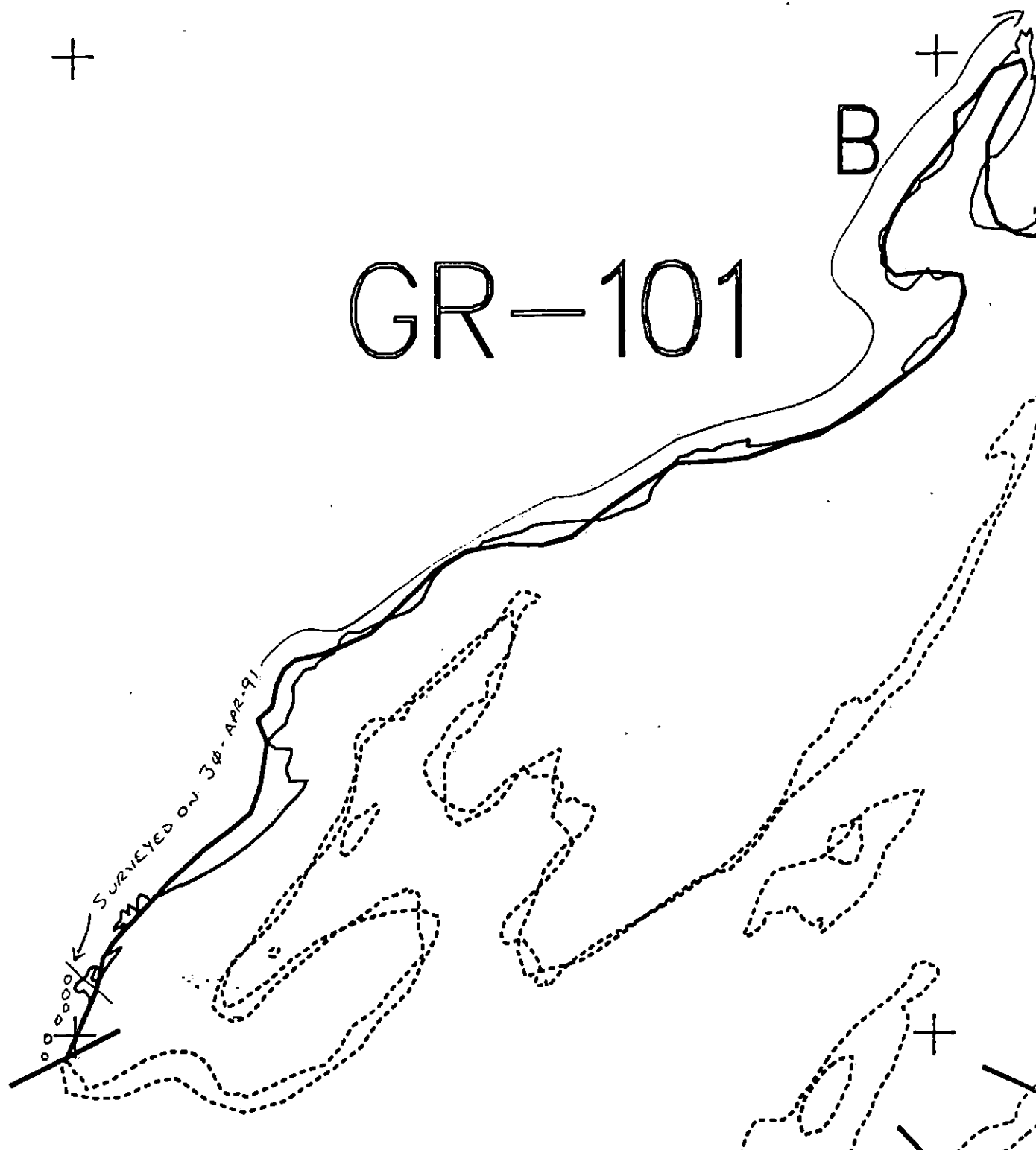
Shoreline subdivision map showing important biological features attached.

REVIEWED LD 6-13-91

GR101-B-ADDENDUM
SKETCH MAP
11-JUNE-91
1140-1200



GR-101



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

GR101 B
 ADEC Subsegment Length: 2786m
 METERS

AK State Plane Zone 4
 pg101ba



Subdivision Field Map
 Map Key: PWSCR101Ba
 Name: TRIMM
 ADDENDUM TO 30-APR-91 SURVEY
 Date: 11-JUNE-91
 Date Entered:

SURFACE OIL CATEGORY MAP

REVIEWED CD 6-13-91

SEGMENT: GR 101 SUB: B REGION: PWS SURVEY DATE: 6/11/91ENVIRONMENTAL SENSITIVITIES:Work Window(s) RESTRICTED 5/15 - 9/15Ecological/Constraints (see page two for details) Seabird colony,
Pinniped haulout, Herring spawning, Subsistence - Deer harvestingARCHAEOLOGICAL 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: Original survey (5/1/91) interrupted because of
eagle activity. Survey addendum (6/11/91) completed survey.

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.

Pinniped Haulout: Access restricted from 5/15 to 6/30 and 8/15 to 9/15 unless approved by NMFS. Maintain 1000' vertical and 1/2 mile (3 mile for sea lions at all times) horizontal buffer.

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

EXXON COMPANY, U.S.A.
ALASKA OPERATIONS

MEMORANDUM

To: File
From: Julie Arin *JA*
Date: June 13, 1991
Subject: MAYSAP Subdivisions EV-71A^C, GR-101A^B, LA-15A & WH-501^M

Additional surveying was performed on the subdivisions listed above. These subdivisions were not completed during the initial survey due to eagles in the area. This survey report is an addendum to the survey information previously submitted.

CENTRAL FILE
OFFICIAL COPY

MAYSAF FIELD SHORELINE COMMENT SHEET
ADDENDUM

TEAM NO. 00 SEGMENT GR101 SUBDIVISION B DATE 11 Jun/91

ADEC

NAME Marianne Profita SIGNATURE Marianne Profita

☒ NTR

No treatment recommended - not enough oiled observed to warrant any treatment.

EXXON

NAME Rex Coulter SIGNATURE Rex D. Coulter

☒ NTR

THE ONLY OILING FOUND WAS REMOVED. NO ADDITIONAL ATTENTION
CONSIDERATION NEEDED IN THIS PORTION OF THE SUBDIVISION.

LANDMANAGER

NAME _____ OF _____ SIGNATURE _____

☐ NTR

LANDMANAGER NOT PRESENT.

USCG/NOAA

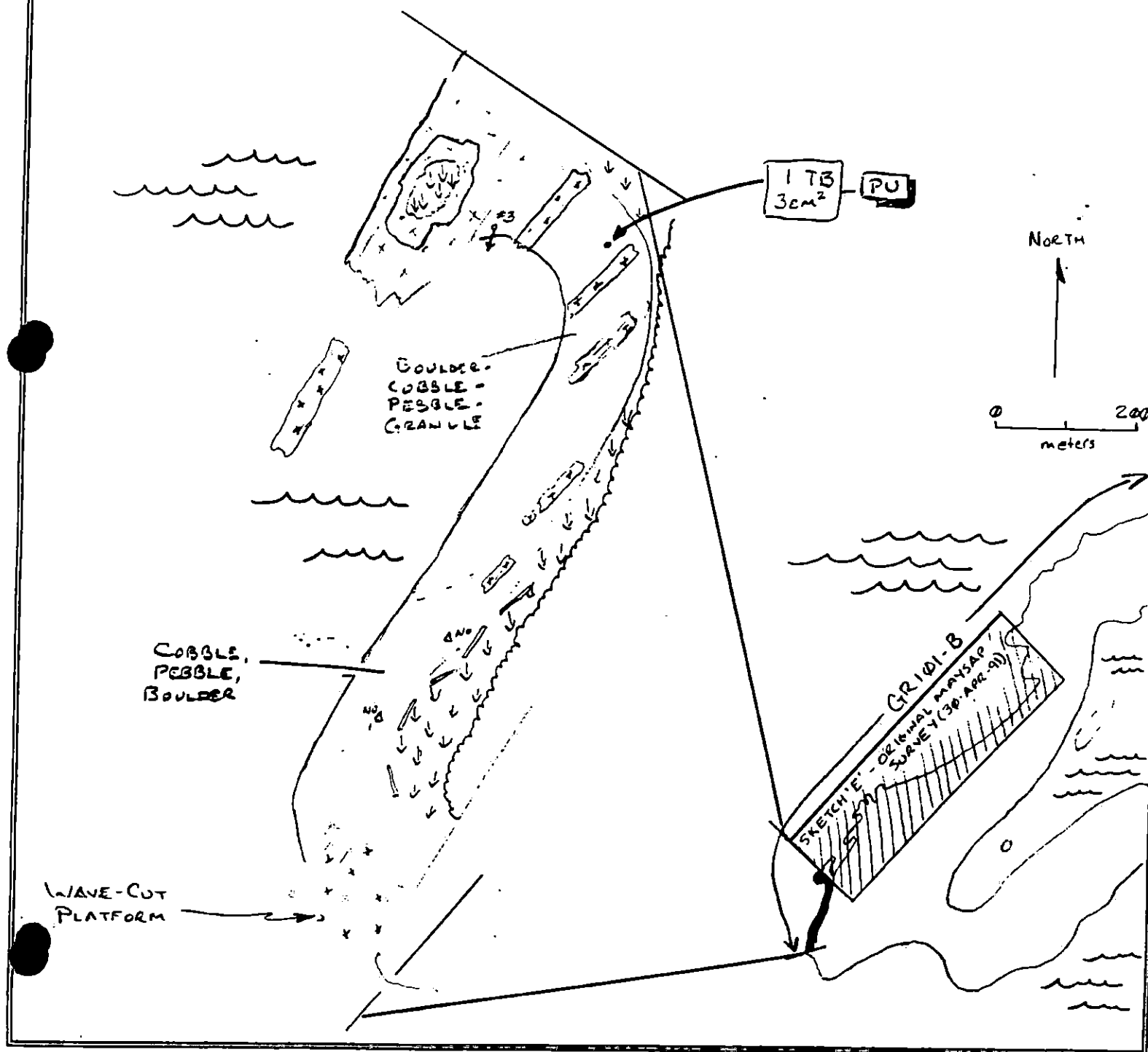
NAME CWO R. SPURR SIGNATURE R. Spurr

☒ NTR

only one tarball was observed during survey which was removed by Veco worker. No other oil found in portion of segment surveyed this date.

GRID 1-B - ADDENDUM
CG SKETCH MAP
11-JUNE-91
1140-1200
BRYAN TRIMM

LOC. 0



REVISED CA 6-13-91

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # $\phi\phi$ DATE 6/11/91
 SEGMENT # GR101 TIDAL HEIGHT(Range) +6.5' ~ +7.0'
 SUBDIVISION B BIOLOGIST D. McCormick
 AREA STATE 1' WIND SPEED/DIRECTION 5/S
 PHOTOGRAPHS: ROLL # — FRAME # —

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

This subdivision had only one patch of oil which was not impacting any of the intertidal biota within the immediate area.

The lower ITZ at this site could not be observed due to tide height. The mid zone had adult & juvenile *Fucus* that was dense in patches but not a dominant feature of the beach; mussels, barnacles, limpets & littorines were present in sparse concentrations.

The upper ITZ had little to no biota, with an occasional limpet or littorine seen on cobble & bedrock outcrops.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds <i>p. guillemot</i>	1	1	
Waterfowl			
Gulls/kittiwakes	1	2	
Shorebirds			
Corvids			
Other Birds			

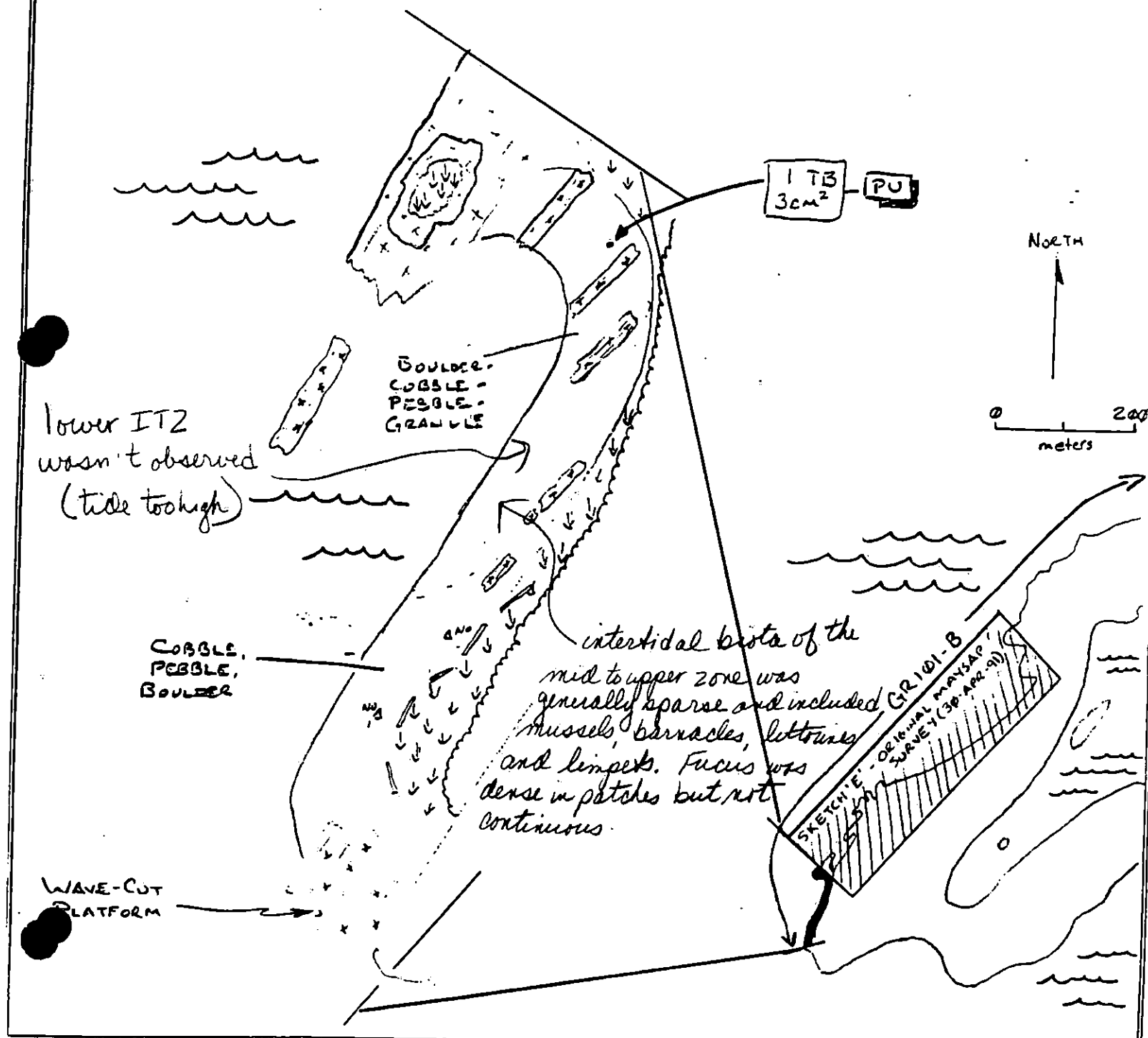
MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

REVIEWED LE 6-13-91

Bio Sketch
D McCormick
6/11/91

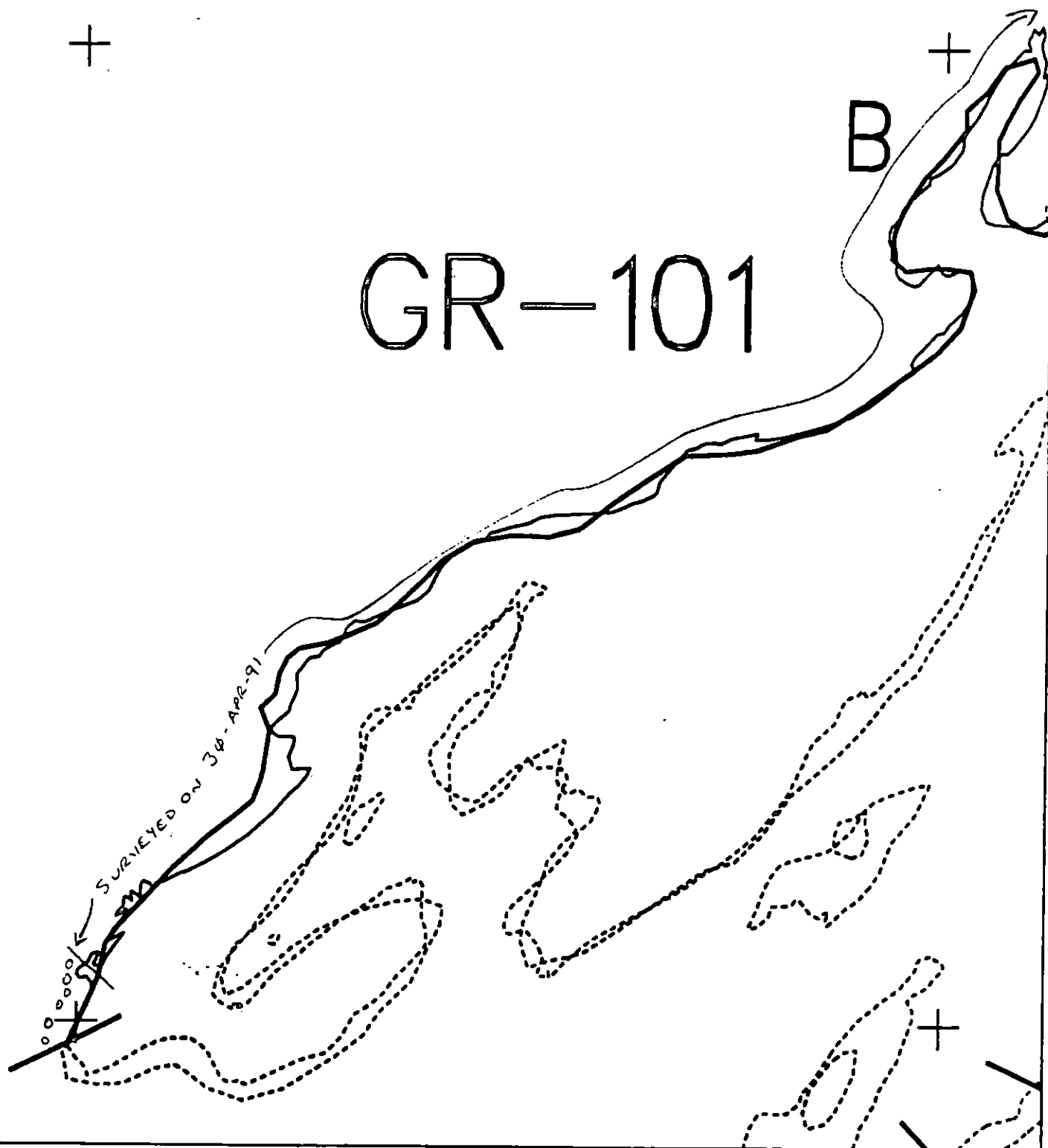
GR101-B-ADDENDUM
SKETCH MAP
11-JUNE-91
1140-1200



REVIEWED 6-13-91

GR-101

B



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

GR101 B

ADEC Subsegment Length: 2788m

METERS

0 200 400

AK State Plane Zone 4
 pg101b



Subdivision Field Map

Map Key: PWSCR101B

Name: TRIMM

ADDENDUM TO 30-APR-91 SURVEY

Date: 11-JUNE-91

Date Entered:

SURFACE OIL CATEGORY MAP

REVIEWED 10-15-91

1991 MAYSAP EVALUATION

SEGMENT: GR 101 SUB: A REGION: PWS SURVEY DATE: 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) Seabird colony, Pinniped haulout, Eagle nest, Herring spawning, Subsistence - Deer harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Timothy Christy

Date: 6/6/91

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: Surveyed area indicates insufficient oil to be treated.

Unsurveyed area will require clearance from United States Fish and Wildlife Service to complete the survey.

TAG:

FOSC:

TAG APPROVAL DATE: JUNE 4 1991

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**

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

Pinniped Haulout: Access restricted from 5/15 to 6/30 and 8/15 to 9/15 unless approved by NMFS. Maintain 1000' vertical and 1/2 mile (3 mile for sea lions at all times) horizontal buffer.

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

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. Three SEGMENT GRT01 SUBDIVISION A DATE 5/2/91

DEC
NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ NTR ☒ TREATMENT RECOMMENDED

INVALID SURVEY due to active Eagle Nest. SSAT 90 Mapping showed this area (southern 400m) to be the heaviest oiling on segment. Survey this area once eagles are fledged.

- Manually remove sporadic Ap (2x10) & (2x50) in N.E. portion of segment using hand trowels.

EXXON
NAME Jon Czarnicki SIGNATURE Jon Czarnicki

☒ NTR 9 ft. deep 1 for 10 ft. No major sub surface oil. Some surface oil broken & picked up. Some remaining for however the left looks to be healthy and thriving on this beach. It is recovering well and needs to be left alone

LANDMANAGER
NAME _____ OF _____ SIGNATURE _____

☐ NTR U.S.F.S. Present on beach. but left the bolder segment was complete. Some foot. Did not return to beach. Gannets

Timothy usch

USCG/NOAA
NAME MOONEY / BARATS SIGNATURE Timothy Mooney

☒ NTR THERE WAS INSIGNIFICANT OILING OF THIS SEGMENT, THIS IS A HIGH ENERGY SHORELINE. NO SUBSURFACE OILING FOUND, HOWEVER, SOUTHERN END OF SEGMENT (LAST 400m) WAS NOT SURVEYED DUE TO EAGLE ON NEST.

MAYSAP SHORELINE OILING SUMMARY

PAGE 1 OF 1TEAM NO. 3SEGMENT GR-101OG HARPERBIO J. STOKERSUBDIVISION AADEC W. GAURMLEYLANDMANAGER C. HUBER for FSDATE 5/1/91EXXON V. CZARNECKIUSCG/NOAA T. MOONEY/C. BARATZTIME 08:50 to 10:00TIDE LEVEL -1.32 ft. to .21 ft.ENERGY LEVEL: ☐ H ☒ M ☐ LSURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELOWEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☐ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 990 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONEEST. OIL CATEGORY LENGTH: W 0 m M 50 m N 60 m VL 500 m NO 380 m US 697 m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A1						S					CB	M	3	50		X	X		
A2				P							CB	M	5	50		X	X		SOR/L
B1						T					CB	M	3	150					
B2				T							CB	M	5	150		X	X		SOR/L
C1						T					CB	M	5	150		X	X		
C2				T							CB	M	5	150		X	X		SOR/L
D1						S					CB	M	10	150		X	X		
D2				T							CB	M	5	150		X	X		SOR/L
E	P										PC		2	10		X			in shale
F	S										PC		2	50		X			
G							T				PC		5	100	X				

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

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

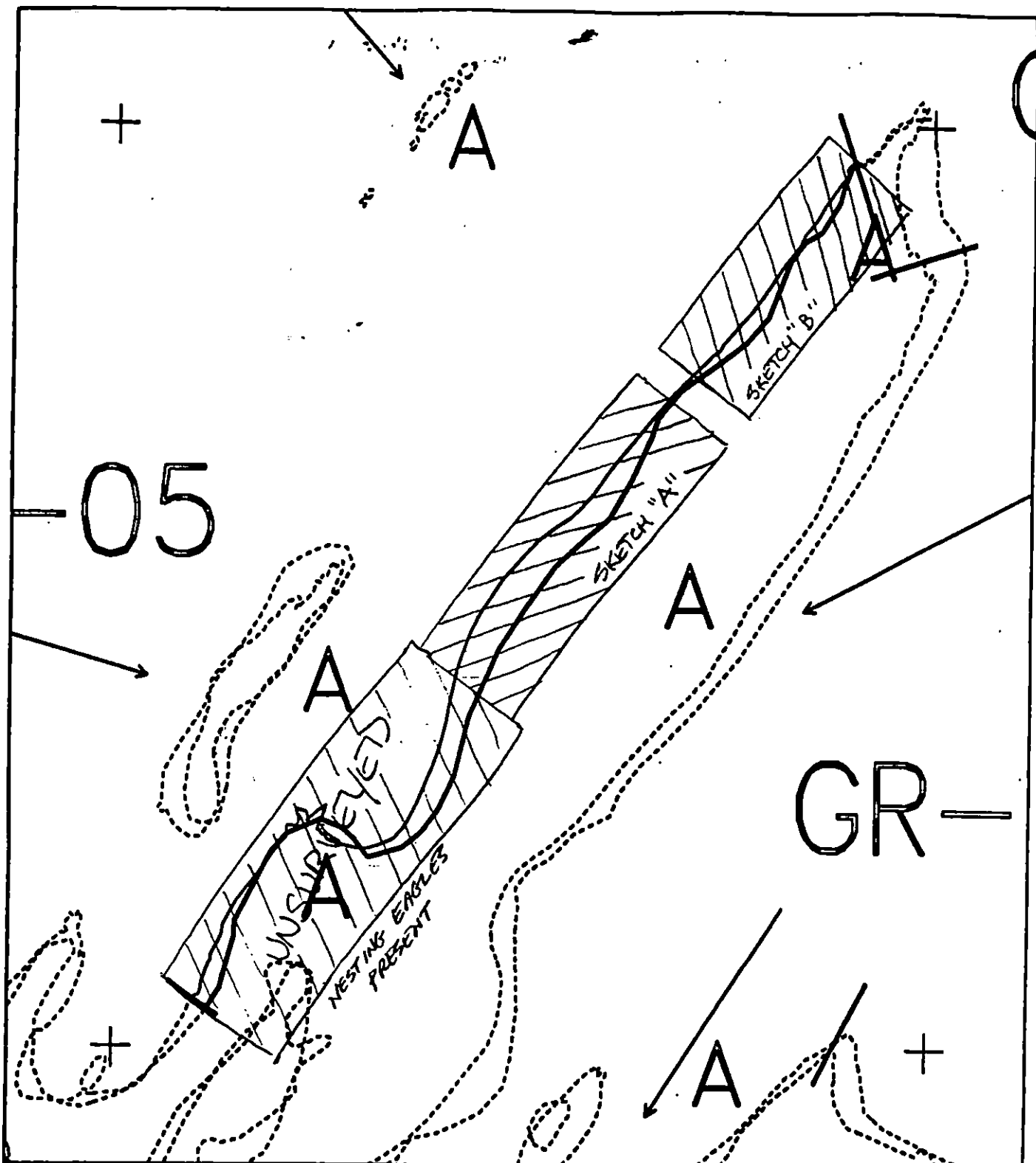
PHOTO ROLL # MAYSAP- 3 - 07 FRAMES 3-8

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	20					X			0-5	Y	-	-			X		BC/SG	
2	15							X	-	Y	-	-			X		CB/SG	
3	25							X	-	Y	-	-		X			CB/SG	
4	25							X	-	Y	-	-			X		CB/SG	
5	25				X				0-10	Y	-	-			X		CB/SG	
6	25							X	-	Y	-	-		X			CB/SG	
7	~30							X	-	Y	-	-		X	X		CB/SG	
8	~30							X	-	Y	-	-		X			P/PG	
9	~30							X	-	Y	-	-			X		PC/SG/R	

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

OG COMMENTS: Surface oiling on this sublineation was generally light although the more recently oiled section in the sand (SSAT96) could not be surveyed due to nesting eagles. A 5m-wide band of patchy SOR resulted in a medium categorization at the southern end of the segment.

No significant subsurface oiling was identified in the surveyed portion of the sublineation.



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

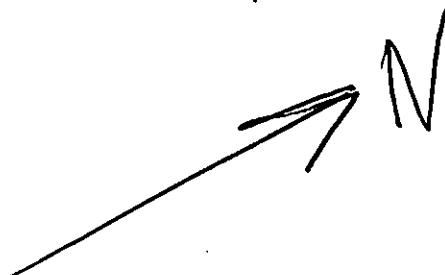
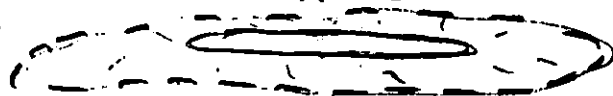
GR101 A
 ADEC Subsegment Length: 1687m
 METERS
 0 200 400
 AK State Plane Zone 4
 projection

Subdivision Field Map
 Map Key: PWSGR101A
 Name: HARPER
 Date: 1 MAY 91
 Date Entered:

LOCATION MAP

OG 2045

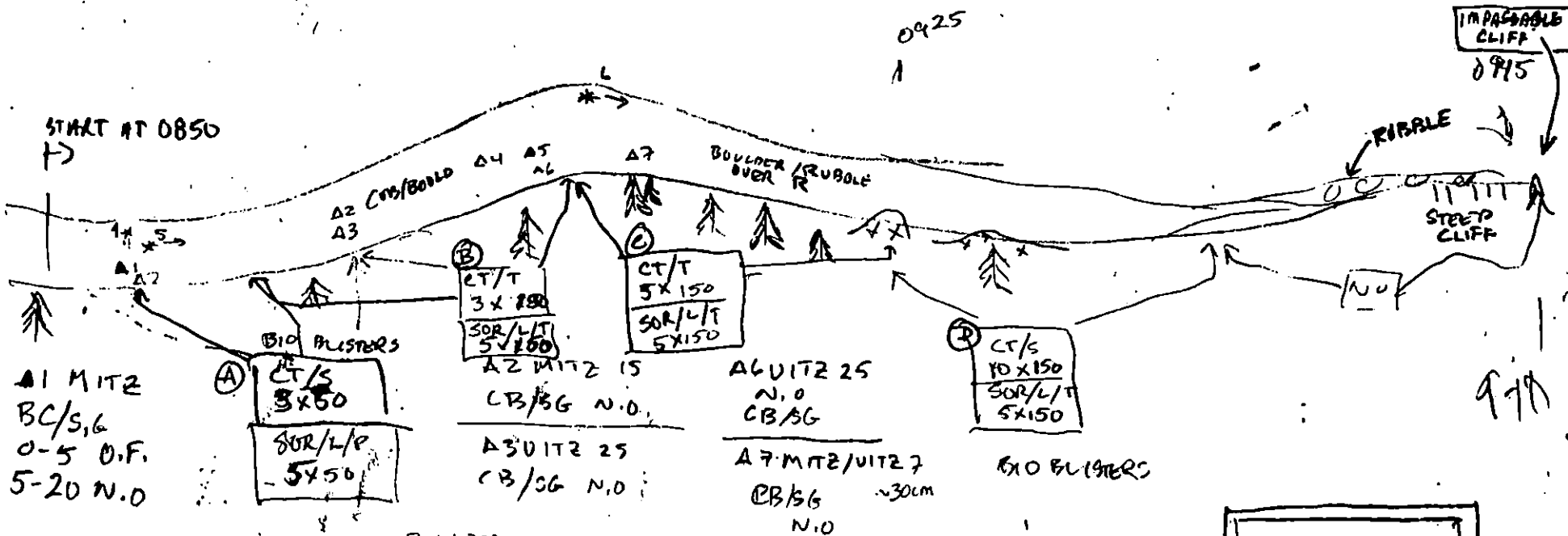
GR-05



0925
1

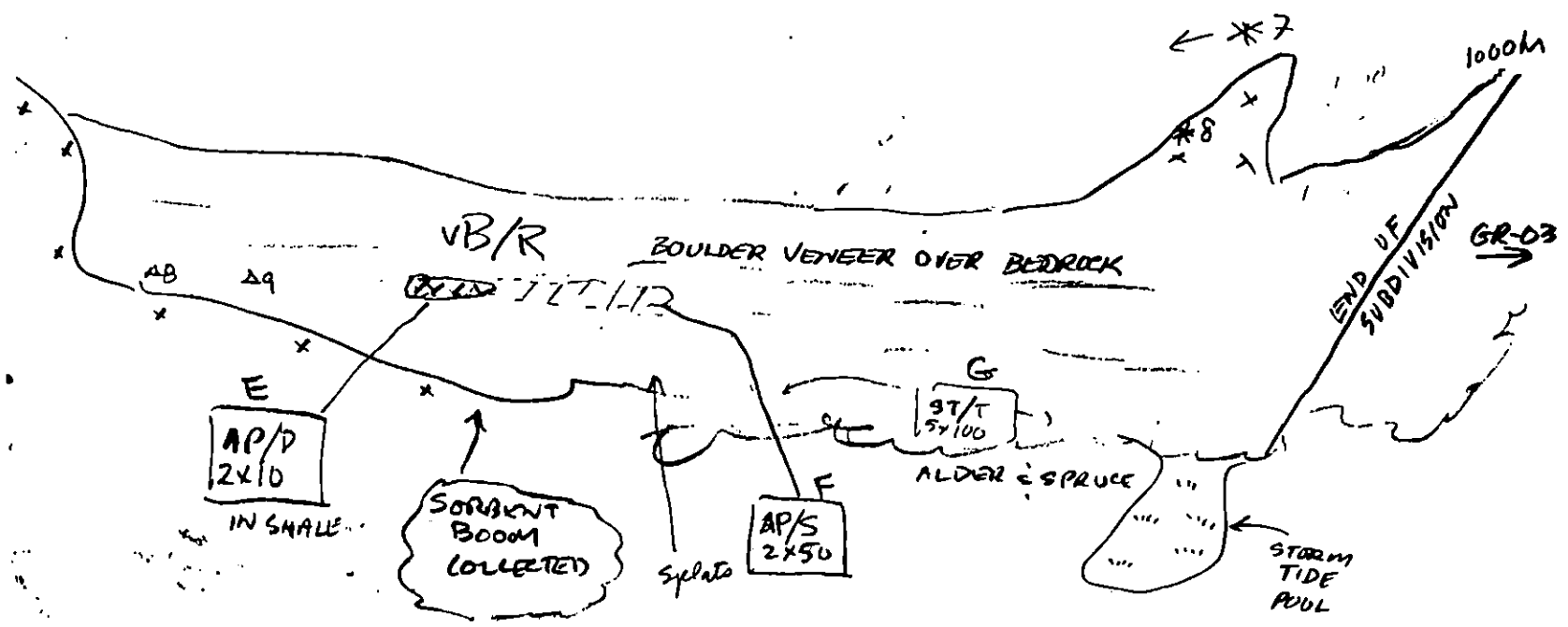
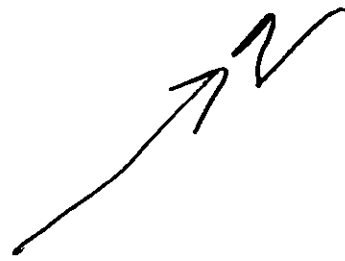
IMPASSABLE CLIFF
0915

START AT 0850



- [X] BEDROCK
- [~] SHEENLETS
- [X] PHOTOS
- [T] SPRUCE TREES

GR-101A
1 MAY 91
0850-0915
HARPER
SKETCH A



Δ8 U/TZ ~30
P/PG N.O
Δ9 M/TZ ~30
PC/SG/R

100m

SKETCH B

GR-101A
1 MAY 91
0945 - 1000h
HARPER
SKETCH "B"

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 3

DATE 5/1/91

SEGMENT # GR 101

TIDAL HEIGHT (Range) -1 to -1

SUBDIVISION A

BIOLOGIST S. Baker

SEA STATE 0-1'

WIND SPEED/DIRECTION NE 5-10

PHOTOGRAPHS: ROLL #

FRAME #

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

Generally Moderate to high exposure/wave energy beaches of cobble/boulder/bedrock.

Biota generally sparse or absent in upper intertidal, increasing downslope in both abundance and diversity.

Mid to lower intertidal generally characterized by dense Fucus (with new growth or recruitment), Ulva, various red algae (LTF), patchily dense barnacles and spat, spirorbis, Littorina (dense clusters with eggs, MT2) limpets (dense clusters of juveniles), variably dense patches of Mytilus (on MT2), amphipods, and often Pagurus, undant nudibranchs, chitons (K. Tunicata), Leptasterias, and eel blennies. In all cases distributions and densities are variable depending on exposure and substrate.

Biota within adjacent to areas A-D on sketch map A consists of sparse to moderate barnacles and spat, sparse Mytilus, sparse limpets, patchily dense Littorina + eggs and amphipods. Biota downslope (MT2) as described above.

Biota within/adjacent to oiled area on sketch map B vary sparse. Downslope biota dense patches of new-growth Fucus, dense barnacle and spat patches, dense Mytilus patches, Littorina, limpets, etc. (as described for MT2 above).

If treatment is planned, avoid undue disturbance of this established lower biota, which is abundant, diverse, and recovering rapidly.

WILDLIFE OBSERVATIONS

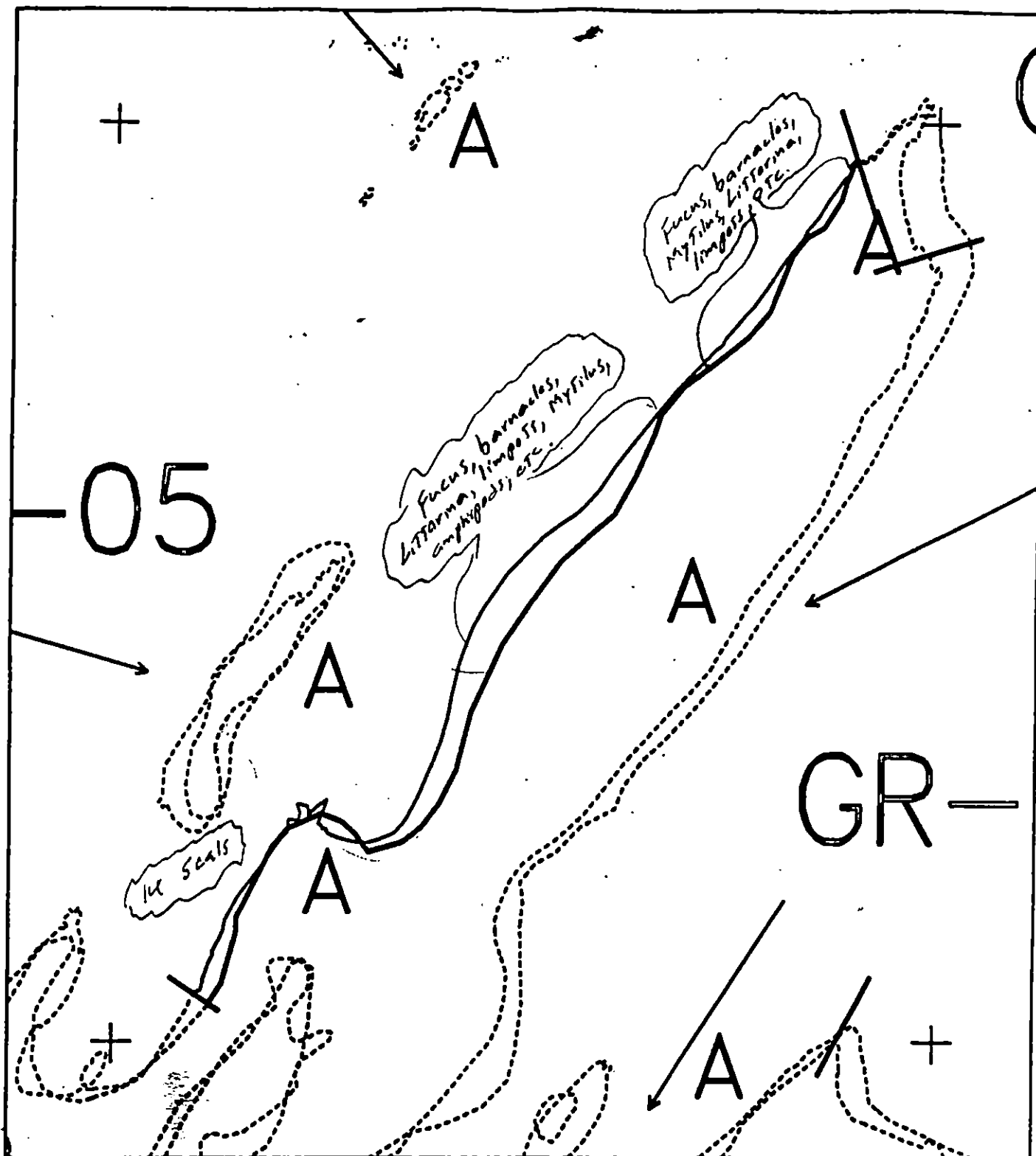
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	3 + nest	eel blennies
Seabirds	2	8-10	
Waterfowl	4	10-12	
Gulls/kittiwakes	1	20-30	
Shorebirds			
Corvids	Crows	4	
Other Birds			

LAND MAMMALS

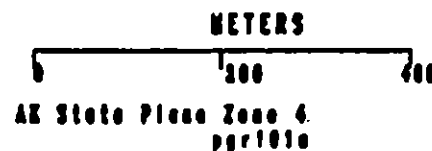
MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters			
Amphipeds (specify)	Harbor Seal - 14		
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

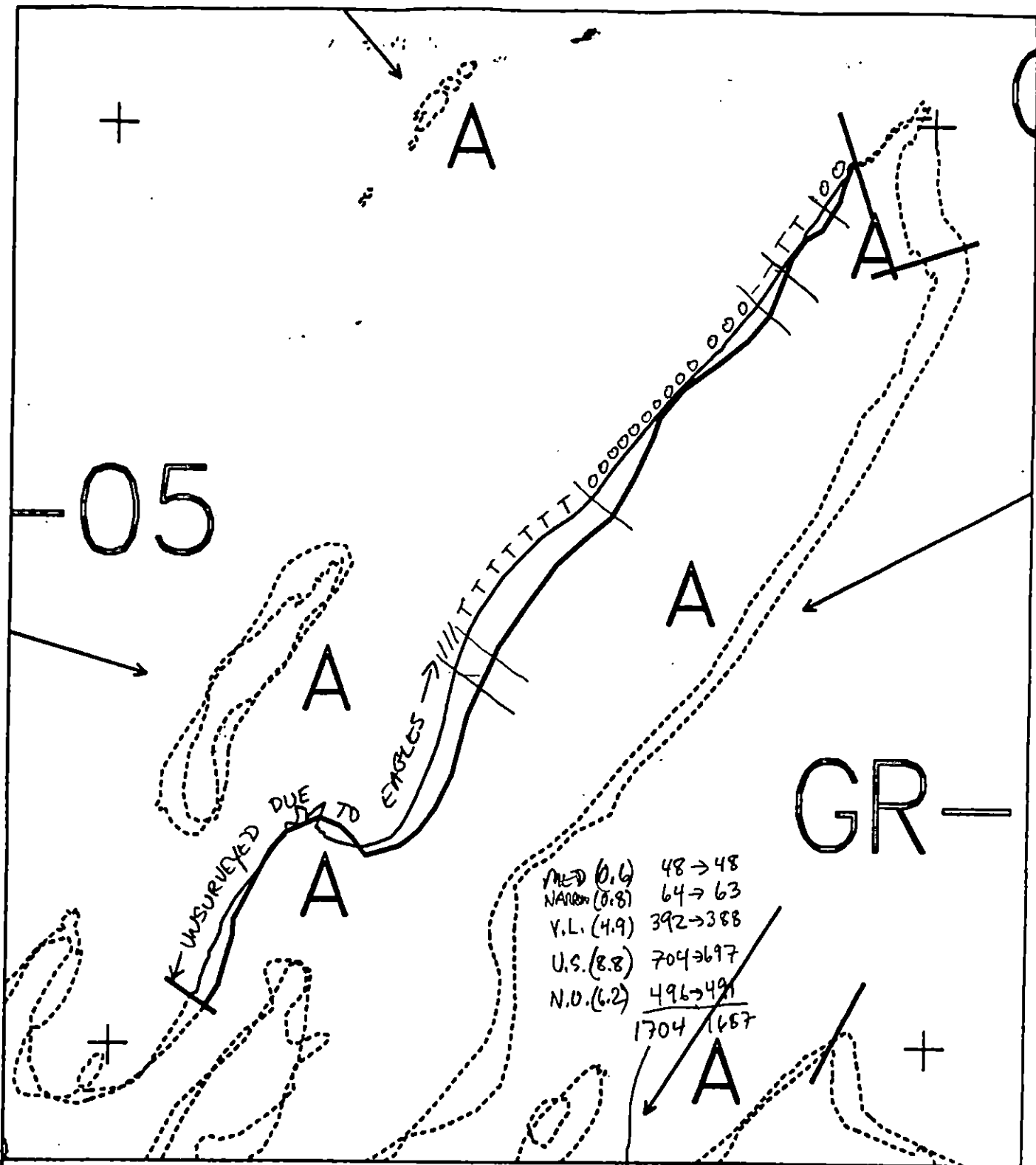


XXXX Wide
 //// Medium
 ---- Narrow
 TTTT Very Light
 0000 No Oil

GR101 A
 ADEC Subsegment Length: 1687m



Subdivision Field Map
 Map Key: PWSGR101A
 Name: _____
 Date: _____
 Data Entered: _____



XXXX	Wide	GR101 A	Subdivision Field Map
////	Medium	ADEC Subsegment Length: 1687m	Map Key: PWSGR101A
----	Narrow	METERS	Name: <u>HARPER</u>
TTTT	Very Light	0 200 400	Date: <u>1 MAY 91</u>
0000	No Oil	AK State Plane Zone 4 pr101a	Data Entered:

reviewed 5/14/91 KLG
 reviewed 5/5 ES
 Dr. K. A. S.

1991 MAYSAP EVALUATION

SEGMENT: GR 101 SUB: B REGION: PWS SURVEY DATE: 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) Seabird colony,
Pinniped haulout, Eagle nest, Herring spawning, Subsistence -
Deer harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

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**

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

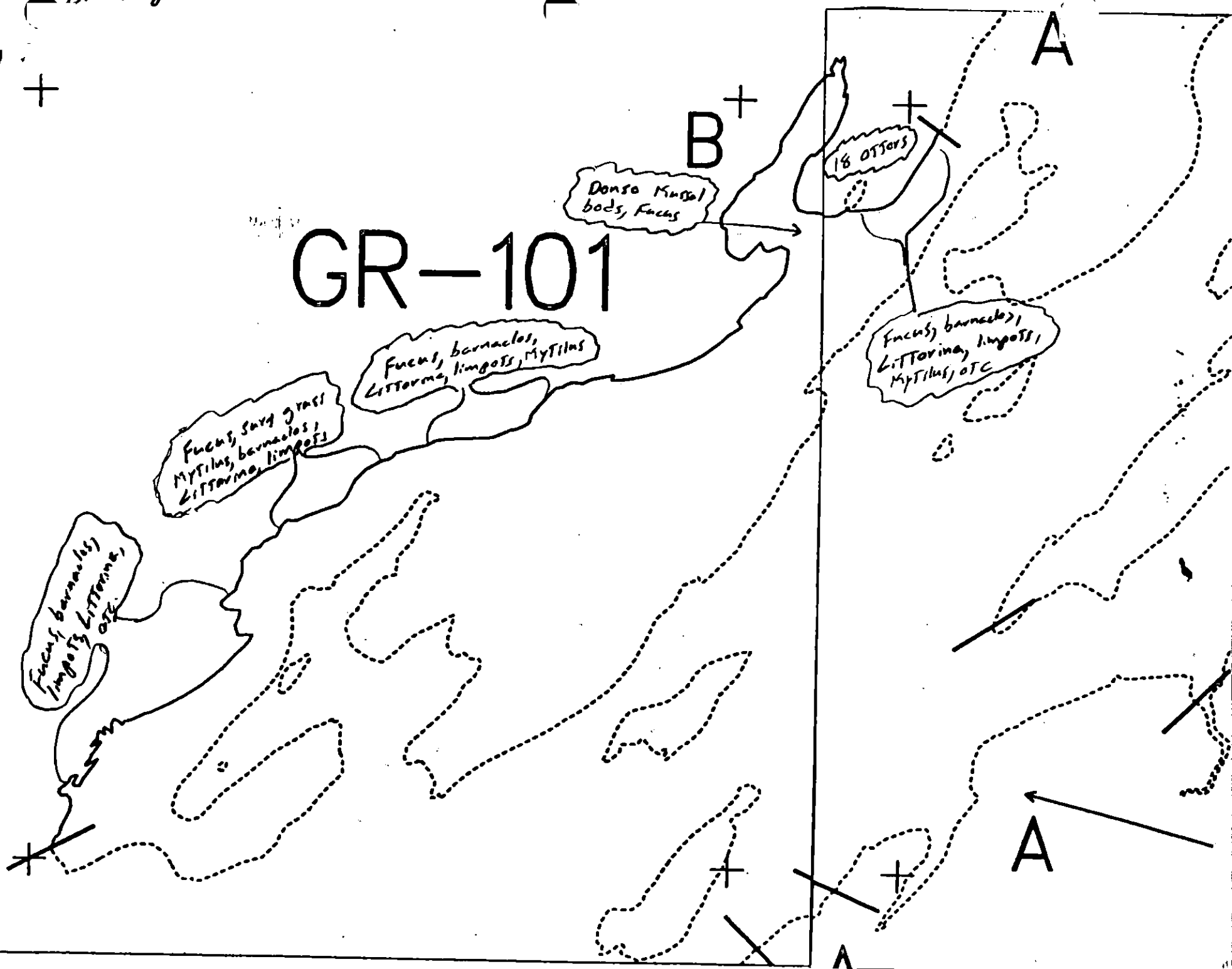
Pinniped Haulout: Access restricted from 5/15 to 6/30 and 8/15 to 9/15 unless approved by NMFS. Maintain 1000' vertical and 1/2 mile (3 mile for sea lions at all times) horizontal buffer.

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

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

GR-101



BIO SHEET (CONTINUED)

Biota within/adjacent to oiled area on sketch Map D consists of patchy barnacles and spat (sparse to moderate abundance), dense clusters of Littorina, dense isoped (Idotea) clusters, and limpets. Downslope biota moderate to dense Fucus, Surf grass, Mytilus patches, barnacles and spat, red algae, limpets, amphipods, chitons (Ch. Tunicata), blennies, Idotea, Pagurus, Leptasterias.

Biota within/adjacent to oiled areas on sketch Map E consists of sparse barnacles, limpets, Littorina, oligochaetes and filamentous green algae. Downslope biota dense Fucus, patchy dense barnacles and spat, clusters of small limpets, amphipods, nudibranchs, anemones, Mytilus, Nucella, Scarlaxia, Dermasterias, Leptasterias, Littorina,

If treatment is undertaken, avoid unnecessary disturbance to established biota, particularly of extensive interbedded mussel communities on the Tombolo. Numerous (18) sea otters were observed in this locale, probably feeding on mussels.

Reviewed: 5/6/91 MC
Reviewed MB 5/6/91

NAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 3 DATE 4/30/91 - 5/1/91
 SEGMENT # GR101 TIDAL HEIGHT (Range) 0-4'
 SUBDIVISION B BIOLOGIST STOKER
 SEA STATE 0-1' WIND SPEED/DIRECTION NE 10-15 & S-10
 PHOTOGRAPHS: ROLL # _____ FRAME # _____

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

Exposure and wave energy variable low to high; diverse habitats ranging from exposed cobble/boulder/bedrock to low angle sheltered cobble/pobble flats.

Biota generally sparse in the upper intertidal, increasing downslope in diversity and abundance. Mid and lower intertidal characterized by Fucus, barnacles, Littorina, limpets. Also observed were amphipods, nudibranchs, anemones, Scapharia, Nucella, Parmasterias, Lepadasterias, Chitons (K. tunnicliffei), Isopods (Idotea), Pagurus, Aligochanates, Gel blennies, Ulva, various red algae, and surf grass (Phyllospadix). Composition, distribution and density of taxa varied considerably throughout the subdivision according to exposure and substrate.

Biota within adjacent to oiled zone (Sketch Map A) consists of patchily distributed Fucus, barnacles, Littorina and eggs, limpets, interbedded and attached Mytilus. Biota declines in abundance NE to SW. Biota downslope from oil of similar composition, somewhat greater abundance.

Biota within adjacent to oiled area in Sketch Map B consists of patchily distributed and often dense barnacles, Fucus, Littorina, and dense interbedded Mytilus. Extensive dense Mytilus beds and Fucus on boulders.

Biota within/adjacent to oiled area in Sketch Map C consists of sparse barnacles. Downslope biota of dense Fucus, dense barnacles and spat, Mytilus patches, Littorina, limpets, amphipods, aligochanates. Diversity & abundance declines NE to SW.

continued on attached sheet

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

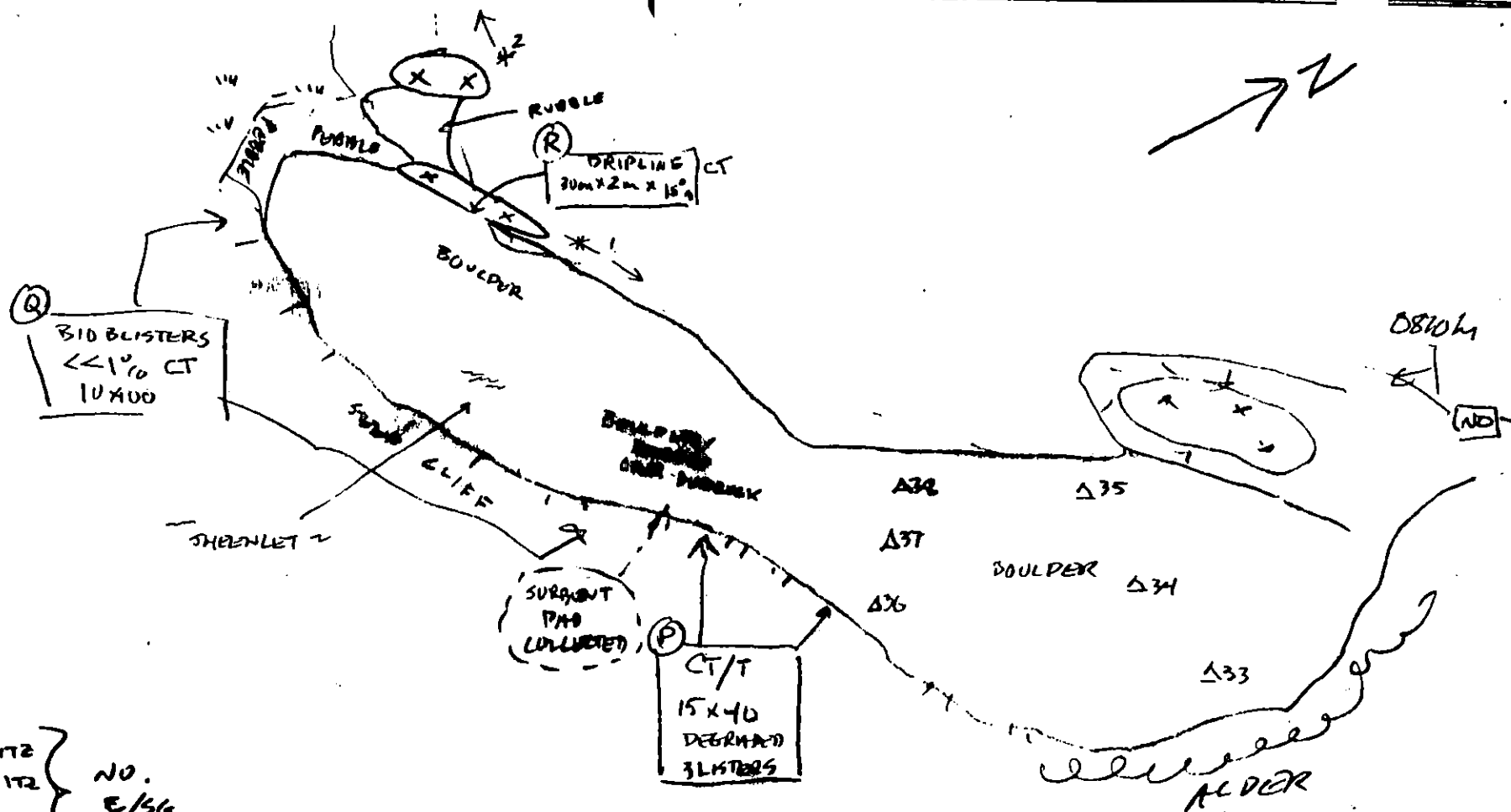
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	Gel blennies
Seabirds	2	6	
Waterfowl	1	2	
Gulls/kittiwakes	2	10-20	
Shorebirds	Oystercatchers	4	
Corvids	magpie	1	
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters	18 + 1 dead	deer skeleton	1
Pinnipeds (specify)	Harbor Seal - 1		
_____ (specify)			
_____ (specify)			

Shoreline subdivision map showing important biological features attached.

REVIEWED: 5/6/91 MC

REVIEWED M.B. 5/6/91



Δ33 U1T2 }
 Δ34 M1T2 } NO.
 Δ36 L1T2 } E/56 30cm

Δ36 U1T2 }
 Δ37 M1T2 } N.O.
 Δ38 L1T2 } C/36 30cm

X BEDROCK
 ALDER
 SHEDNET

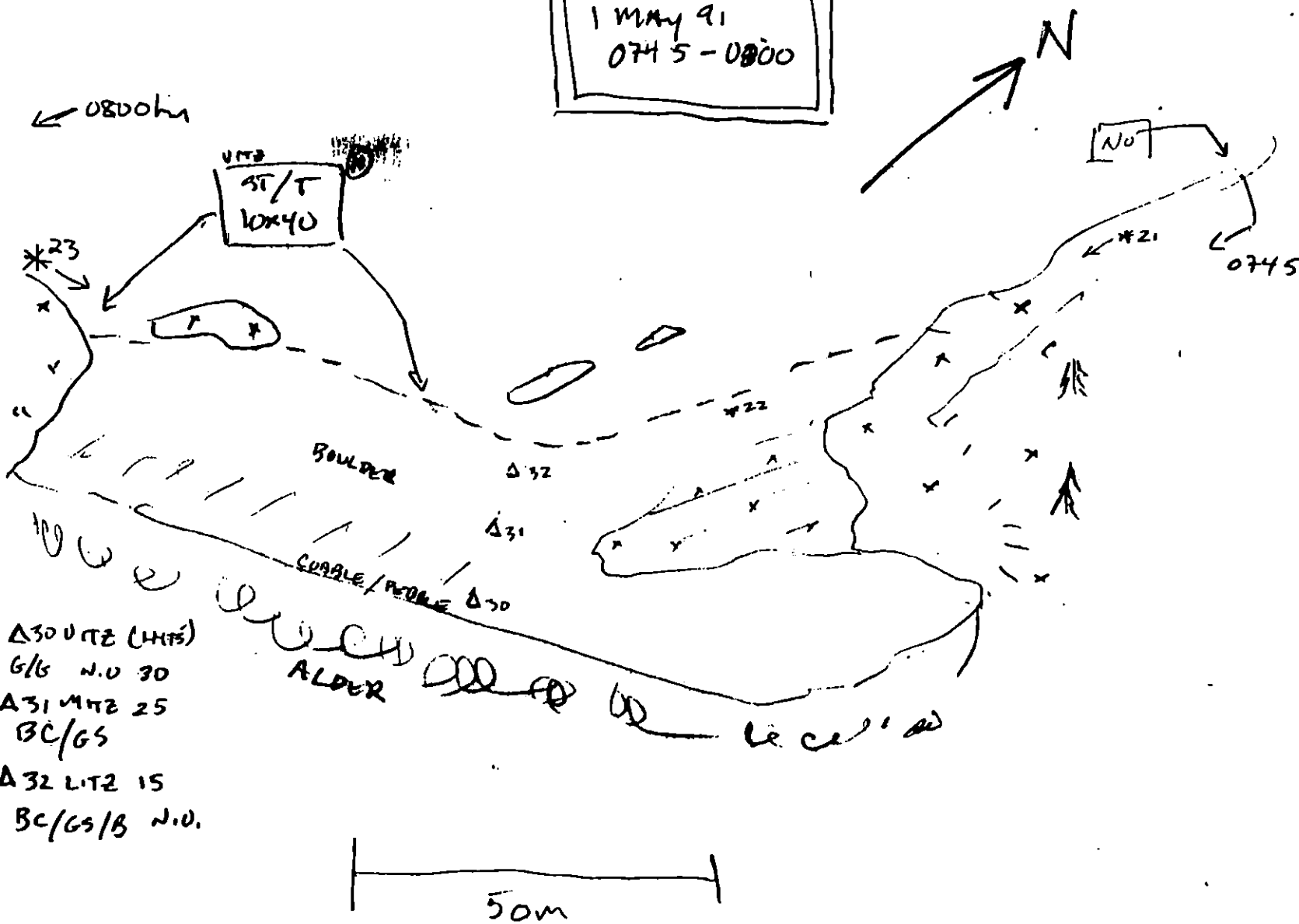
50m

SKETCH E
 GR-101B
 1 MAY 91
 0810-0830

REVIEWED: AG 5/6/91
 ET Revised, May 4

08-9-11

SKETCH "D"
GR 101 B
1 MAY 91
0745 - 0800



Δ30 UTE (HTS)

G/G N.O 30

Δ31 UTE 25

BC/GS

Δ32 LIT 15

BC/GS/B N.O.

05-04-11

REVIEWED: MC 5/6/91

Et Reviewed May 4 SKETCH "D"

N
ALIGNMENT
MARK WITH
SKETCH "B"

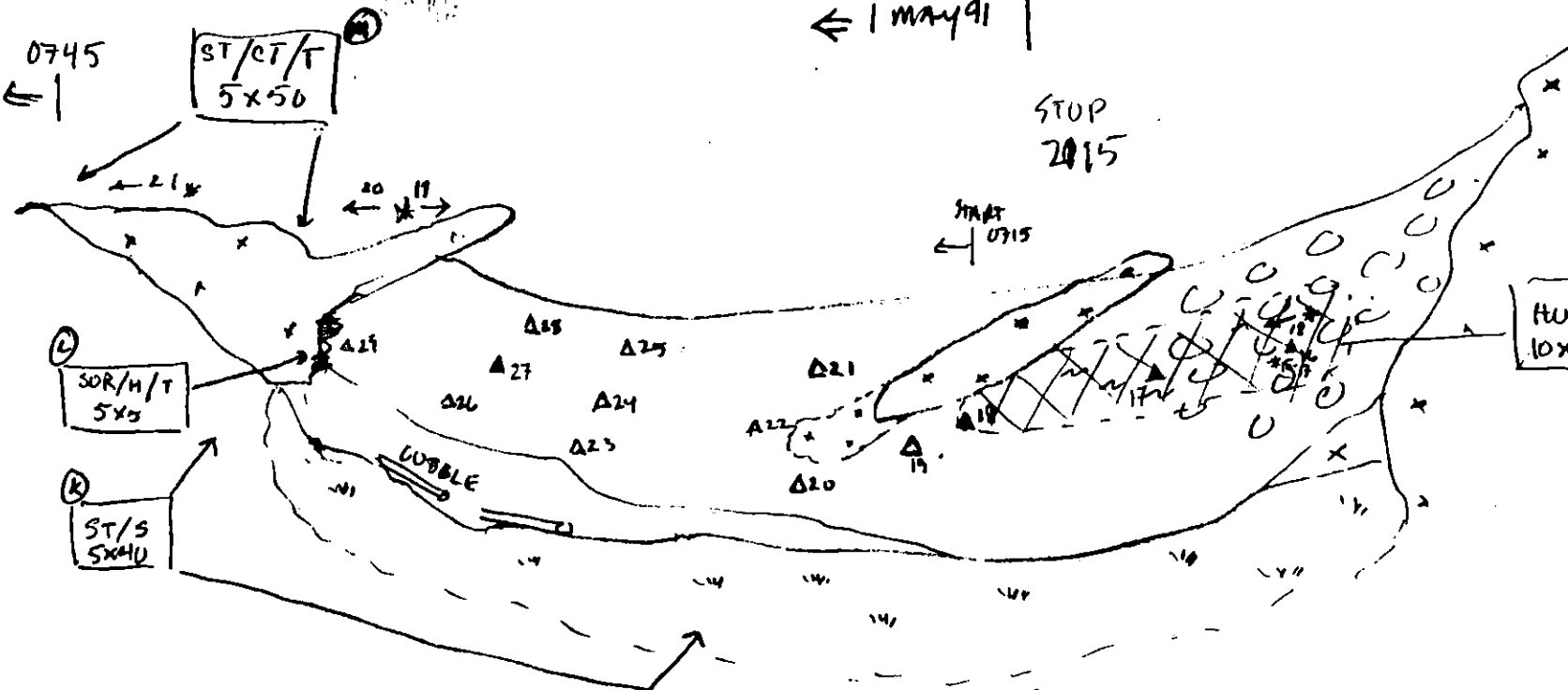
← 30 APRIL 91

← 1 MAY 91

STOP
2015

START
0715

HUR > 80%
10x60



▲ 16 MITZ
THICK BLACK VISCOUS
OIL ON BOTTOM SIDE
OF BOULDERS

* 15, 16, 17
* 18
HUR 0-10
NO 10-15

▲ 17 MITZ
BC/SG
0-10 N.O.
10-20 MOR
NO

▲ 18 MITZ
BC/SG
0-10 HUR
10-20 MOR

▲ 19 UITE
BC/SG
N.O.
~30 cm
▲ 20 UITE 20
BC/O, S, P
N.O.
▲ 21 UITE 25
BC/A, SP
N.O.

▲ 22 MITZ 30
BC/SG/MS
N.O.
▲ 23 UITE 20
BC/SG/MS
N.O.
▲ 24 MITZ 25
BC/SG N.O.
WT 24 N

▲ 25 MITZ 30
BC/SG N.O.
WT. 0 N
▲ 26 UITE 30
BC/SG/MS
N.O.
▲ 27 MITZ
BC/SG/MS
0-10 N.O.
10-15 OF
15-20 N.O.

▲ 28 UITE 20
BC/SG/R
N.O.
▲ 29 UITE 20
BC/SG/MS
N.O.

SKETCH "C"

GR-10/B
30 APRIL 91 2010-2115
1 MAY 91 0715-0745
V HARPER

REVIEWED: 5/6/91 MC EG revised, May 1

06 7/4/11

GR 1013 Sketch B
CORE data 1-91

Δ⁸ 0-20cm NO
BIC AMORE / MI ZONE

Δ⁹ 0-10cm LOR
10-20cm NO
MI ZONE
BIC AMORE

Δ¹⁰ 0-20cm LOR
MI ZONE

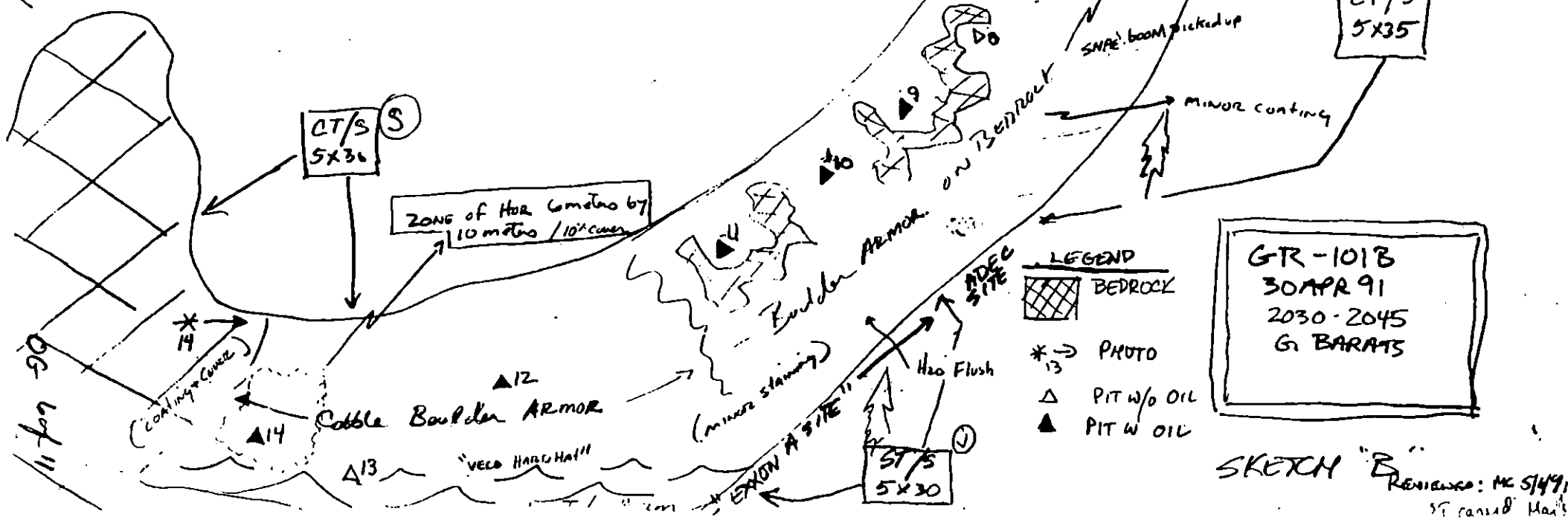
Δ¹¹ 0-15cm OF
MI ZONE / >15 NO

Δ¹² 0-10cm LOR
10-25cm NO
Mid to up tidal zone

Δ¹³ 0-25cm NO
UI

Δ¹⁴ 0-25cm HOR
MI ZONE

ALIGNMENT
MARK WITH SKETCH "C"



08-54/11

A4 MITZ
CB/SG
0-5 MOR
5-20 N.O.
*12
A5 MITZ 25
CB/SG N.O.
A6 MITZ 20
CB/SG N.O.

A7 MITZ 20
0-5
PC/SG

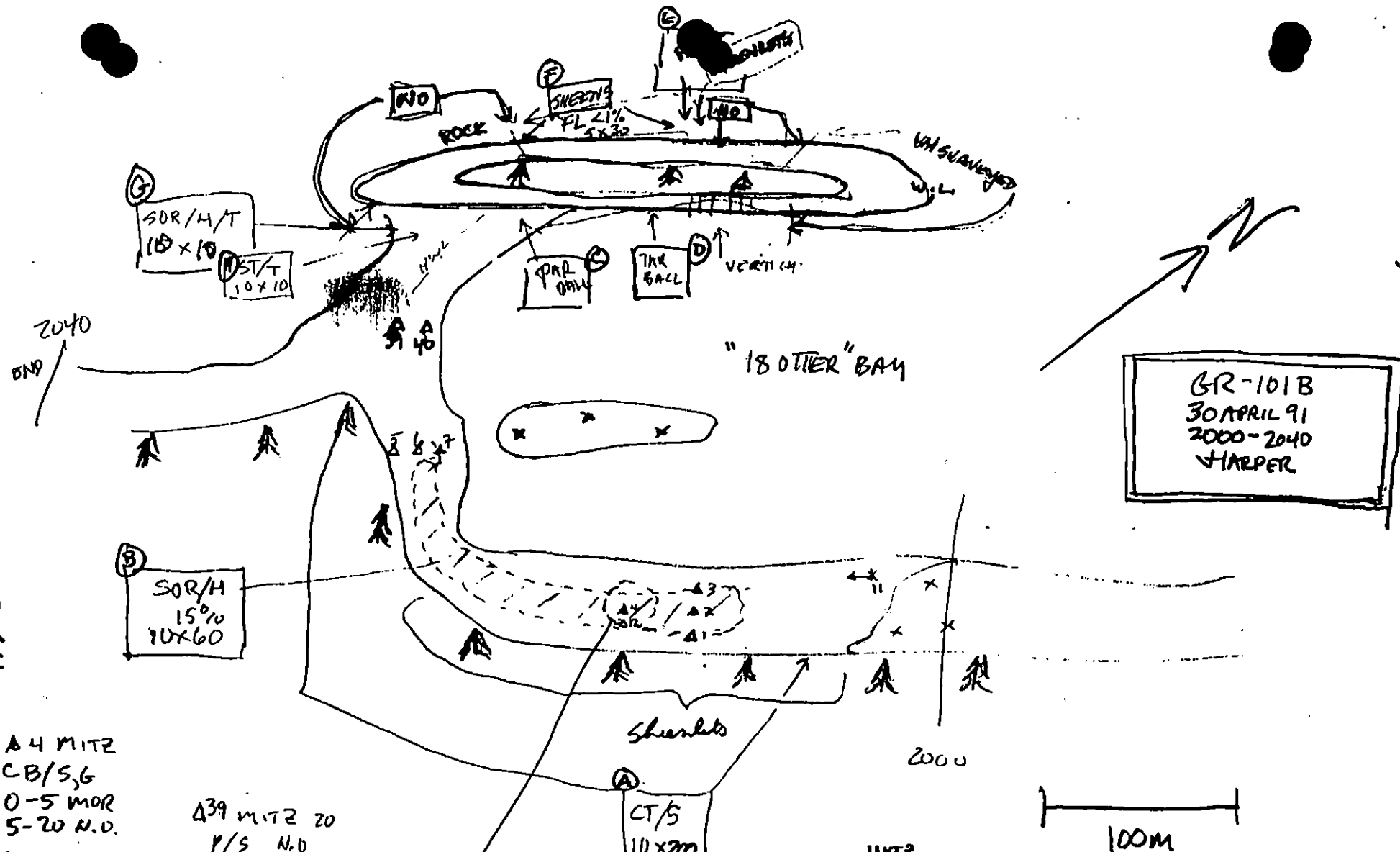
A39 MITZ 20
P/S N.O.
A40 MITZ 20
P/S N.O.

NO FIELD DATA
ASSUMED:
5 x 10 m MOR

UNIT
A1 C/SG 15
NO
A2 MITZ
CB/SG 20
0-20 MOR
WT 5 R
A3 MITZ CB/SG LITZ
20CM
5-25 N.O.
1-15 MOR

SKETCH "A"

REMOVED MC 5/6/71
EX Revised May 4



GR-101



GR-101 B
SKETCH LOCATION MAP

08-44-11

DATE 5/1/1991

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

Heavier subsurface ailing conditions were evident in several of the bays. MOR was located in "18 Other" Bay and is probably v. discontinuous and associated with the mapped SOR/M surface oil (location B). The MOR noted on Sketch "B" (Pic 14) is estimated to extend 6×10 m with 10% coverage (i.e. $.6 \text{ m}^2$). A relatively large area was located on Sketch "C" and was estimated ~~at~~ 10×60 at approx. 80% coverage (i.e. 480 m^2); This oil appears to have been trapped behind a bedrock outcrop and forms droplets and coats on the underside of boulders.

40 PITS
340R PITS

Revised: MG/6/9/

OB 3af 11
ET Revised, Mar 4

DATE 7 130 / 91

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

SURFACE OLINGS- CONTINUED (FROM p.1)

OB 2 of 11
ET received, May 4

TEAM NO. 3

WATERWAY SHORELINE OILING SUMMARY

PAGE 1 OF 3OG HARPERBIO J. STUKERSEGMENT ER-101ADEC W. GAURMLEYLANDMANAGER C. HUBER for FSSUBDIVISION BEXXON V. CERNICKIUSCG/NOAA T. MOONEY / C. BARRISDATE 5 30 91TIME 00:00 to 21:15
07:15 to 08:30TIDE LEVEL 1.70 ft. to 3.97 ft.
1.14 ft. to -1.36 ft.ENERGY LEVEL: ☐ H ☒ M ☐ LSURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELOWEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☒ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 2536 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONEEST. OIL CATEGORY LENGTH: W 0 m M 208 m N 0 m VL 740 m NO 1580 m US 250 m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A						S					BC	M	10	200		✓	✓		BIODEGRADED OIL
B				P							BC	M	10	60		✓	✓		SOR HEAVY
C			T								B	H	0.5	0.5		✓			TAR OIL (PAKEN UP)
D			T								B	H	0.5	0.5		✓			TAR OIL (PAKEN UP)
E			T								B	H	0.5	0.5		✓			PATY
F							T				B,R	M	5	30			✓		SHEETS
G			T								B,C	M	10	10		✓			SOR HEAVY
H							T				B,C	M	10	10			✓		
I						S					B,C	M	5	35		✓			
J							S				BC	M	5	30		✓			
K							S				C,B	M	5	40		✓			
L			T								B,C	M	5	5		✓			SOR/H
M						T	T				R,B	M	5	50		✓			
N							T				R,B	M,H	10	40		✓			

CONTINUED ON PAGE 2

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

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

3 06 10-23
3 -07 FRAMES 1+2

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	15							X	-	Y	-	-		X			C/SK	
2	20				X				0-20	Y	5	R			X		CB/SG	
3	25				X				1-5	Y	-	-				X	CB/SG	
4	20			X					0-5	Y	-	-			X		CB/SG	PHOTO 12
5	25							X	-	Y	-	-		X			CB/SG	
6	20							X	-	Y	-	-			X		CB/SG	
7	25						X		0-25	Y	-	-				X	PC/SG	
8	20							X	-	Y	-	-			X		BC/SG	
9	20								0-10	Y	-	-			X		BC/SG	

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

OG COMMENTS:

This long subdivision consists of a series of boulder/cobble pocket beaches between rock headlands. Oil tends to be concentrated within the south end of the pocket beaches.

Surface oiling consists primarily of residual coats and stains in the VITE/HITE zone. One area of 10x60 SOR (location B) was located within "To Other" Bay; this translated to a medium band width. (CONTINUED ON PAGE 3)

05-10/11
Revised May 4

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. Three SEGMENT GR101 SUBDIVISION B DATE 5/1/91

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ NTR ☒ **TREATMENT RECOMMENDED!!** - Machinery easily unloaded at higher tide. 10x60m area located in sketch "C" consists of OP (ADEC determination) under boulders. Boulders were rolled over and black, fresh oozing oil was on the underside. Oil was scraped off and a vile was filled (see segment photos). This oil is not getting broke down due to the protection created by the boulders and w/o help it will be there for a long time. Little to no biota was present w/ this heavily oiled area. Recommend mechanical rolling of boulders, unload machinery at a higher tide so not to damage unrolled biota at Lit 2. Expose oil either agitate w/ incoming tide or manually remove using hand tools. A large amount of snare boom will have to be used to contain sheers. 6x10m area in sketch C - manually remove using hand tools. 18 otters and a few seals were observed close to this contaminated zone!!
- THIS AREA 10x60m OP IS ONE OF THE 2 HEAVIEST OILED BEACHES ON GREEN ISLAND.

EXXON

NAME Jon Czarnecki SIGNATURE Jon Czarnecki

☒ NTR This Area has a few areas that have HOR to OP. Almost an OP the area has 40 pit dug of which only 14 have oil in them. The heaviest oil area is in a 10x60 meter area of Boulder and Boulder cobble sand. It is under the rocks and boulders. This HOR is hidden and protected. The rest of the beach appears to be healthy and thriving. Any additional work could damage the regrowth which is slow in progress.

LANDMANAGER

NAME _____ OF _____ SIGNATURE _____

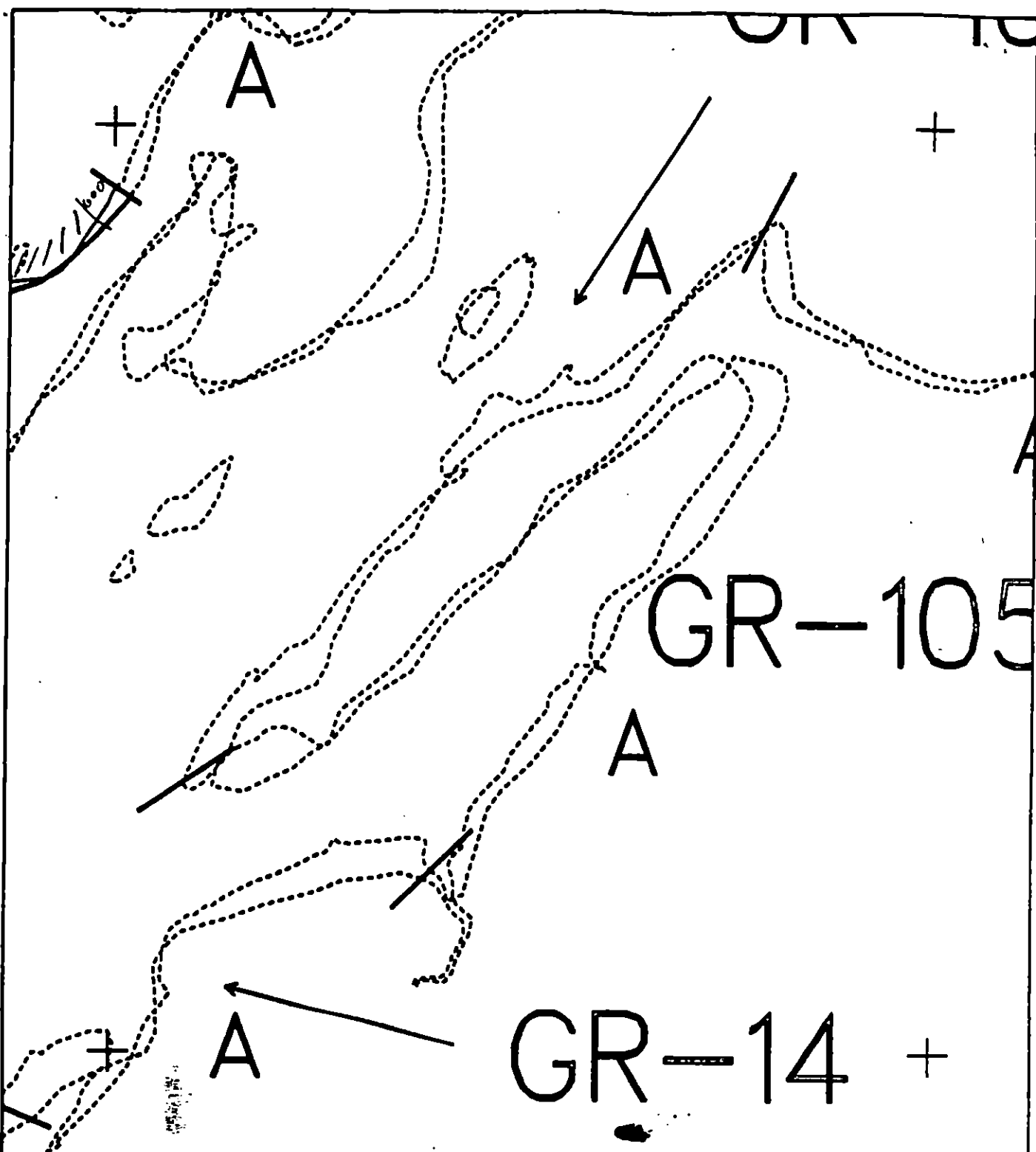
☐ NTR Carol Husar (USFS) NOT PRESENT ON THIS SEGMENT. DUE TO SORE ANKLE.
Timothy USCG

USCG/NOAA

NAME Monica Carato SIGNATURE Monica Carato

☐ NTR This segment is comprised of several microbeaches, which are predominantly Boulder, Cobble, Armor. Commonly the armor is a thin veneer on bedrock and is located on the northeastern portion of the beach, while cobble, pebble, boulder armor comprise the southwestern portion of the beaches.

This segment is in a high energy zone and generally only moderate to light residue surface and subsurface oil is present. However, two areas (SW end of sketch B & NE end of sketch C) show more to OP subsurface conditions. Both areas of concern are in a high energy zone which will remineralize some of this residue oil. A controlled release may prove more beneficial and less harmful to the area.



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

GR101 B
 ADEC Subsegment Length: 2700m
 METERS
 0 200 400
 AK State Plane Zone 4
 pr101bb

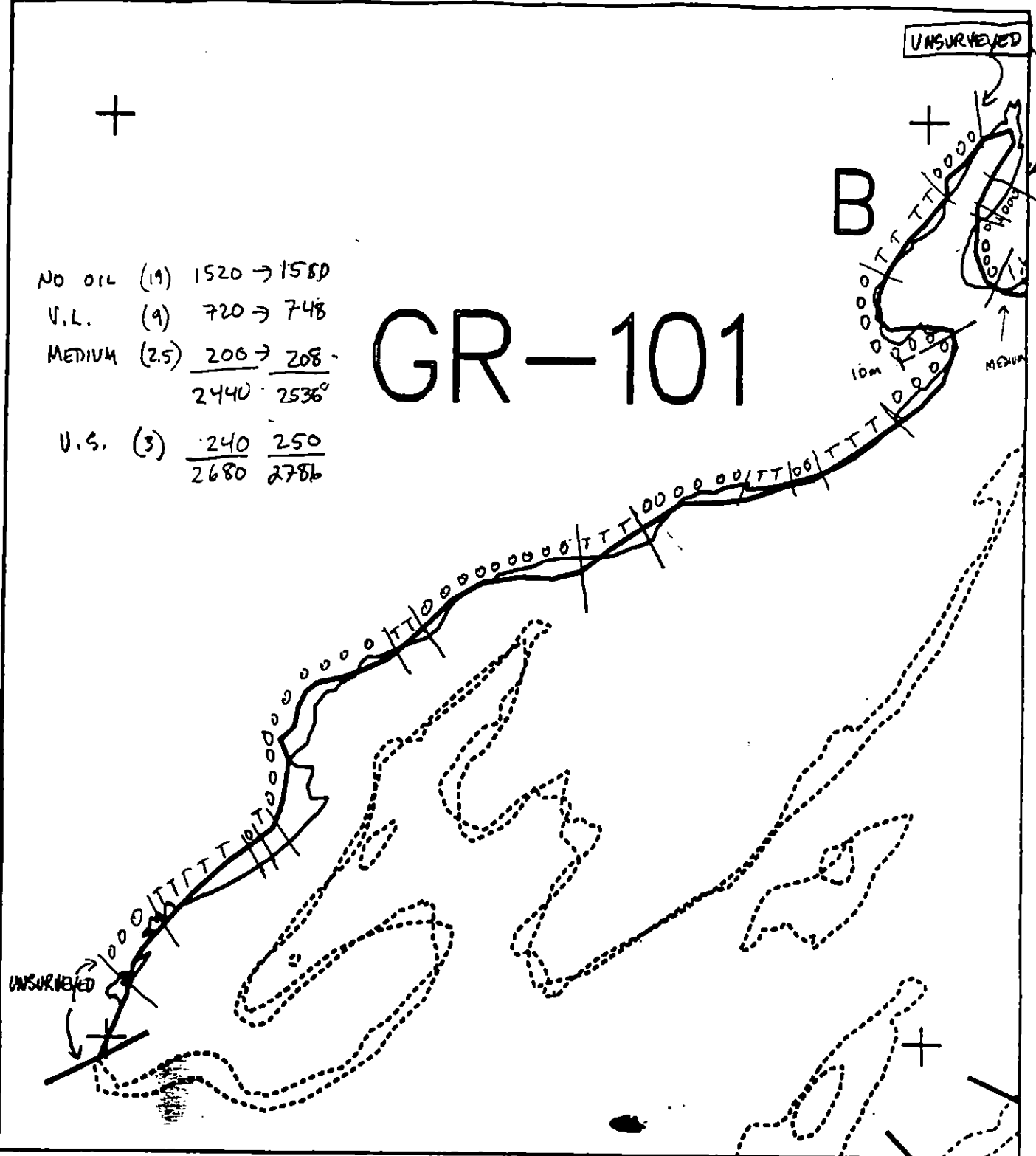
Subdivision Field Map
 Map Key: PWSGR101Bb
 Name: HARPER
 Date: 30 APRIL 91
 Date Entered:

SURFACE OILING MAP (1 of 2)

OG 100/11
 Reviewed May 4
 REVISION: 5/6/91 MK

NO OIL (19) 1520 → 1580
 V.L. (9) 720 → 748
 MEDIUM (25) $\frac{206}{2440} \rightarrow \frac{208}{2536}$
 U.S. (3) $\frac{240}{2680} \frac{250}{2786}$

GR-101



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

GR101 B
 ADEC Subsegment Length: 2786m
 METERS
 0 200 400
 AK State Plane Zone 4
 pr101ba

Subdivision Field Map
 Map Key: PWSGR101Ba
 Name: HARPER
 Date: 1 MAY 91
 Data Entered:



SURFACE FILING MAP (2 of 2)

OG 11 of 11

EX revised, Pa 4
REVIEWED 5/6/91 MC

1991 MAYSAP EVALUATION

SEGMENT: GR 101 SUB: B REGION: PWS SURVEY DATE: 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) Seabird colony, Pinniped haulout, Eagle nest, Herring spawning, Subsistence - Deer harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ Date: _____

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

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____ FOSC APPROVAL DATE: _____

ADEC _____ FOSC _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

Pinniped Haulout: Access restricted from 5/15 to 6/30 and 8/15 to 9/15 unless approved by NMFS. Maintain 1000' vertical and 1/2 mile (3 mile for sea lions at all times) horizontal buffer.

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

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

TEAM NO. Three SEGMENT GR101 SUBDIVISION B DATE 5/1/91

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ NTR **TREATMENT RECOMMENDED!!** - Machinery easily unloaded at higher tide. 10x60m area located in sketch "C" consists of OP (ADEC determination) under boulders. Boulders were rolled over and Black, Fresh oozing oil was on the underside. Oil was scraped off and a vile was filled (see segment photos). This oil is not getting broke down due to the protection created by the boulders and w/o help it will be there for a long time. Little to no biota was present w/ this heavily oiled area. Recommend mechanical rolling of boulders, unload machinery at a higher tide so not to damage un-oiled biota at LitZ. Expose oil either agitate w/incoming tide or manually remove using hand tools. A large amount of snare boom will have to be used to contain sheers. 6x10m area in sketch C - manually remove using hand tools. 18 otters and a few seals were observed close to this contaminated zone!!
- THIS AREA 10x60M OP IS ONE OF THE 2 HEAVIEST OILED BEACHES ON GREEN ISLAND.

EXXON

NAME Jon Zarnecki SIGNATURE Jon Zarnecki

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LANDMANAGER

NAME _____ OF _____ SIGNATURE _____

☐ NTR CAROL HUBER (USFS) NOT PRESENT ON THIS SEGMENT. DUE TO SORE ANKLE.
Timothy usca

USCG/NOAA

NAME MONDAY / BARTO SIGNATURE Timothy / Andy Barto

☐ NTR This segment is comprised of several microbeaches, which are predominantly Boulder, Cobble, Armor. Commonly the armor is a thin veneer on bedrock and is located on the Northeastern portion of the beach, while cobble, pebble, boulder armor comprise the southwestern portion of the beaches.
This segment is in a high energy zone and generally only moderate to light residue surface and subsurface oil is present. However, two areas (SW end of sketch B & NE end of sketch C) show more to OP subsurface conditions. Both areas of concern are in a high energy zone which will reminiscence some of this residue oil. A controlled release may prove more beneficial and less harmful to the area.

OG HARPER

BIO J. STOKER

SEGMENT ER-101

ADEC W. GORMLEY

LANDMANAGER C. HUBER for FS

SUBDIVISION B

DATE 5 30 91

XON V. CERNICKI

USCG/NOAA T. MOONEY / G. BARATZ

TIME 00 00 to 21 15
07:15 to 08:30

TIDE LEVEL 2.70 ft. to 3.97 ft.
.14 ft. to -1.36 ft.

ENERGY LEVEL: ☐ H ☒ M ☐ L

SURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELO

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

TOTAL LENGTH SHORELINE SURVEYED: 2536 m

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

EST. OIL CATEGORY LENGTH: W 0 m M 208 m N 0 m VL 740 m NO 1580 m US 250 m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m					
															S	UI	MI	LI	
A						S					BC	M	10	200		✓	✓		BIODEGRADED CMT
B				P							BC	M	10	60		✓	✓		SOR HEAVY
C			T								B	H	0.5	0.5		✓			TAR BALL (BROWN UP)
D			T								B	H	0.5	0.5		✓			TAR BALL (BROWN UP)
E			T								B	H	0.5	0.5		✓			PATY
F							T				B,R	M	5	30			✓		SHEETS
G				T							B,C	M	10	10		✓			SOR HEAVY
H							T				B,C	M	10	10			✓		
I					S						B,C	M	5	35		✓			
J							S				BC	M	5	30		✓			
K							S				C,B	M	5	40		✓			
L				T							B,C	M	5	5		✓			SOR/H
						T	T				R,B	M	5	50		✓			
							T				R,B	M,H	10	40		✓			

CONTINUED ON PAGE 2

DISTRIBUTION: C = 91-100%; B = 61-90%; P = 11-60%; S = 1-10%; T = 1%

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

3 04 10-23
3 -07 FRAMES 1+2

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	15							X	-	Y	-	-		X			C/SG	
2	20				X				0-20	Y	5	R			X		CB/SG	
3	25				X				1-5	Y	-	-				X	CB/SG	
4	20			X					0-5	Y	-	-			X		CB/SG	PHOTO 12
5	25							X	-	Y	-	-		X			CB/SG	
6	20							X	-	Y	-	-			X		CB/SG	
7	25					X			0-25	Y	-	-				X	PC/SG	
8	20							X	-	Y	-	-			X		BC/SG	
9	20								0-10	Y	-	-			X		BC/SG	

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

OG COMMENTS:

This long subdivision consists of a series of boulder/cobble pocket beaches between rock headlands. Oil tends to be concentrated within the south end of the pocket beaches.

Surface oiling consists primarily of residual coats and stains the VITE/MITE zone. One area of 10x60 SOR (location B) was located within "To Other" Bay; this translated to a medium band width. (CONTINUED ON PAGE 3)

OB 10/11
5 Revised May 4

TEAM NO. 3

SEGMENT GR-101 B

SUBDIVISION B

DATE 7 130 / 91

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		
10	20				X				0-20	N	-	-			X		BC/SG	
11	15					X			0-15	Y	-	-			Y		BC/SG	
12	25				X				0-10	Y	-	-		X			BC/SG	
13	35							X	-	Y	-	-		X			BC/SG	
14	25		X						0-25	N	-	-			X		BC/SG	EST 6 x 10 @ 10%
15	LOST								-									MIS NUMBERED REMOVED FROM PHOTOS 15, 16, 17.
16	15		X						0-10	Y	-	-			X		BC/SG	
17	20			X					10-20	Y	-	-			X		BC/SG	
18A	20		X						0-10	N	-	-			X		BC/SG	
18B	"			X					10-20	N					"		"	
19	~30							X	-	Y	-	-		X			BC/SG	
20	20							X	-	Y	-	-		X			BC/SG, S.P.	
21	25							X	-	Y	-	-				X	BC/SG	
22	~30							X	-	Y	-	-			X		BC/SG/MS	
23	~30							X	-	Y	-	-		X			BC/SG/MS	
24	25							X	-	Y	24	N			X		BC/SG	
25	30							X	-	Y	0	N			X		BC/SG	
26	~30							X	-	Y	-	-		X			BC/SG/MS	
27	20					X			10-13	Y	-	-			X		BC/SG/MS	
28	~20							X	-	Y	-	-				X	BC/SG/R	
29	~20							X	-	Y	-	-		X			BC/SG/SM	
30	30							X	-	Y	-	-		X			G/10	2 MTS
31	25							X	-	Y	-	-			X		BC/125	
32	15							X	-	Y	-	-				X	BC/125/B	
33	~30							X	-	Y	-	-		X			C/SG	
34	~30							X	-	Y	-	-			X		C/SG	
35	~30							X	-	Y	-	-				X	C/SG	

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

OG COMMENTS:

SURFACE OLIGOS- CONTINUED (FROM p.1)

[illegible]

DATE 5/1/1 / 91

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

40 PITS
3 HOR PITS

Revised: MC/6/9/

Об закл 11

ET Revised, Mar 4

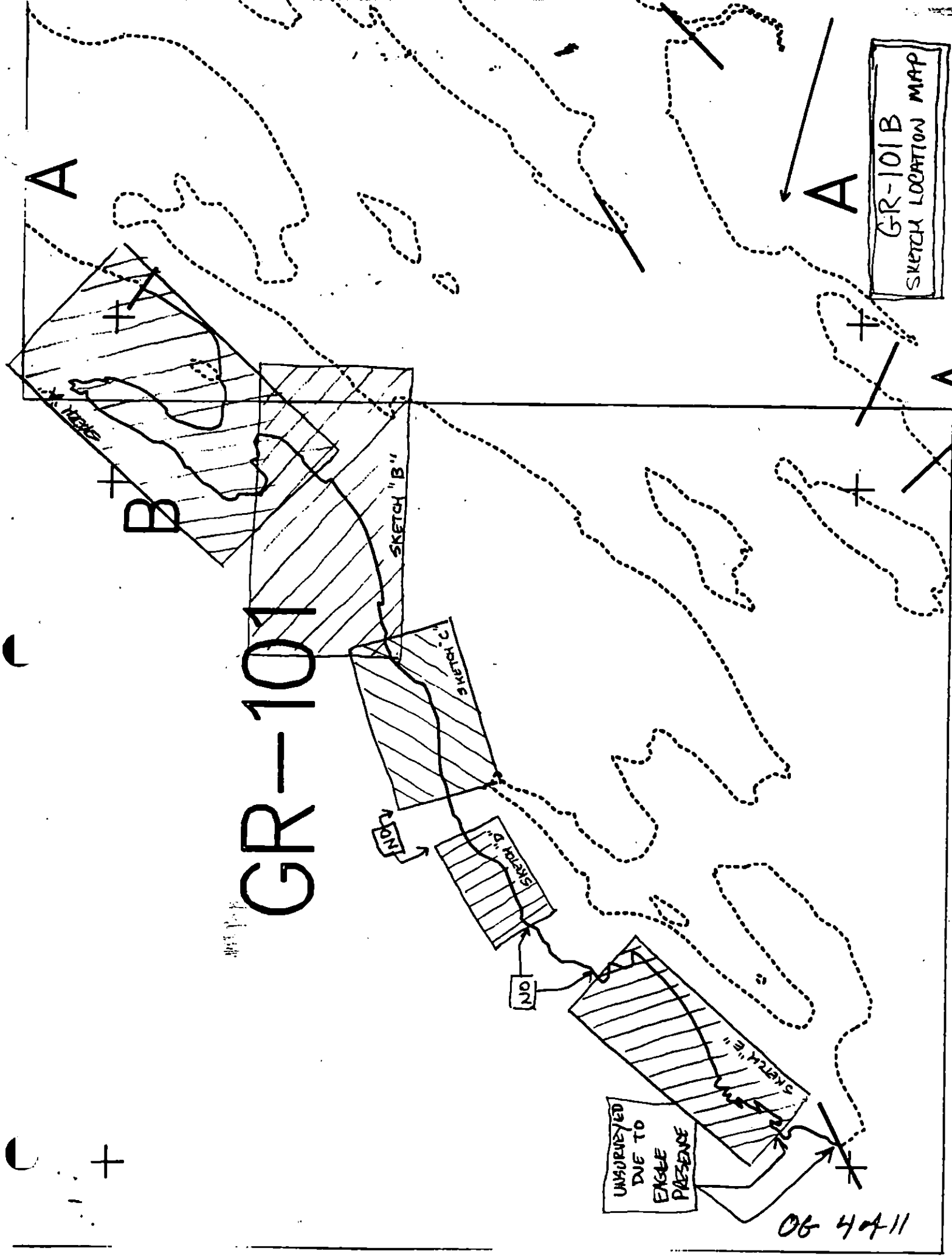
GR-101

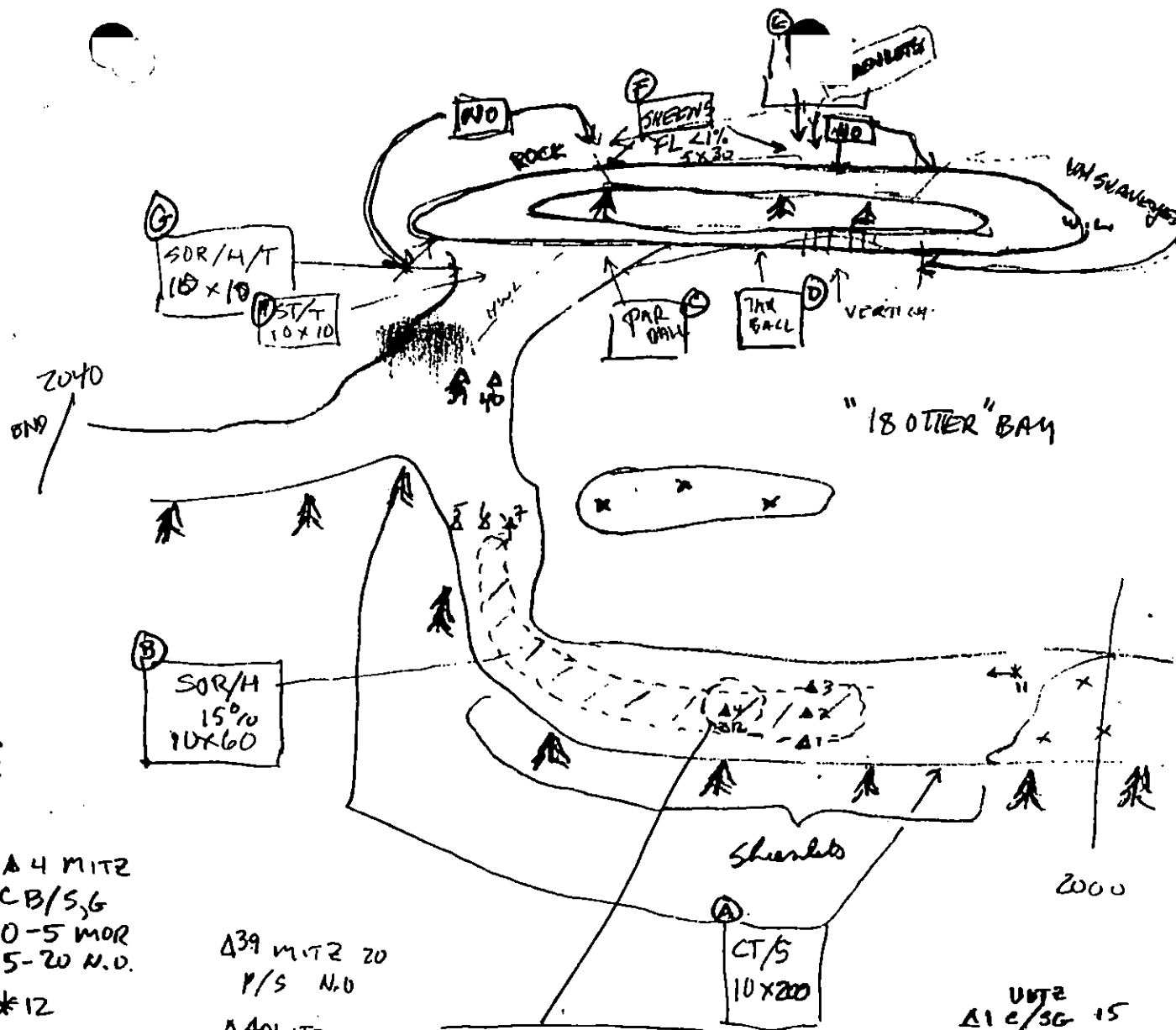
GR-101B
SKETCH LOCATION MAP

SKETCH "A"
101

UNOBSERVED
DUE TO
EDGE
PRESENCE

06 4 of 11





GR-101B
30 APRIL 91
2000-2040
HARPER

100m

NO FIELD DATA
ASSUME:
5 x 10 m MOR

UNIT 2
A1 C/SG 15
NO
A2 C/SG 20
0-20 LOR
WT 5 R
A3 C/SG LITZ
20CM
5-25 N.O.
1-15 LOR

SKETCH "A"

REMOVED INC 5/6/91
15 Revised May 4

A4 MITZ
CB/SG
0-5 MOR
5-20 N.O.
*12
A5 UNIT 25
CB/SG N.O.
A6 MITZ 20
CB/SG N.O.
A7 UNIT 20
OF 0-5
PC/SG

A39 MITZ 20
P/S N.O.
A40 MITZ 20
P/S N.O.

08 54/11

2040
END

GR 101-B Sketch B
Core made 4-91

4/8 0-20cm NO
BIC AMORE / MI ZONE

4/9 0-10cm LOR
10-20cm NO
MI ZONE
BIC AMORE

4/10 0-20cm LOR
MI ZONE

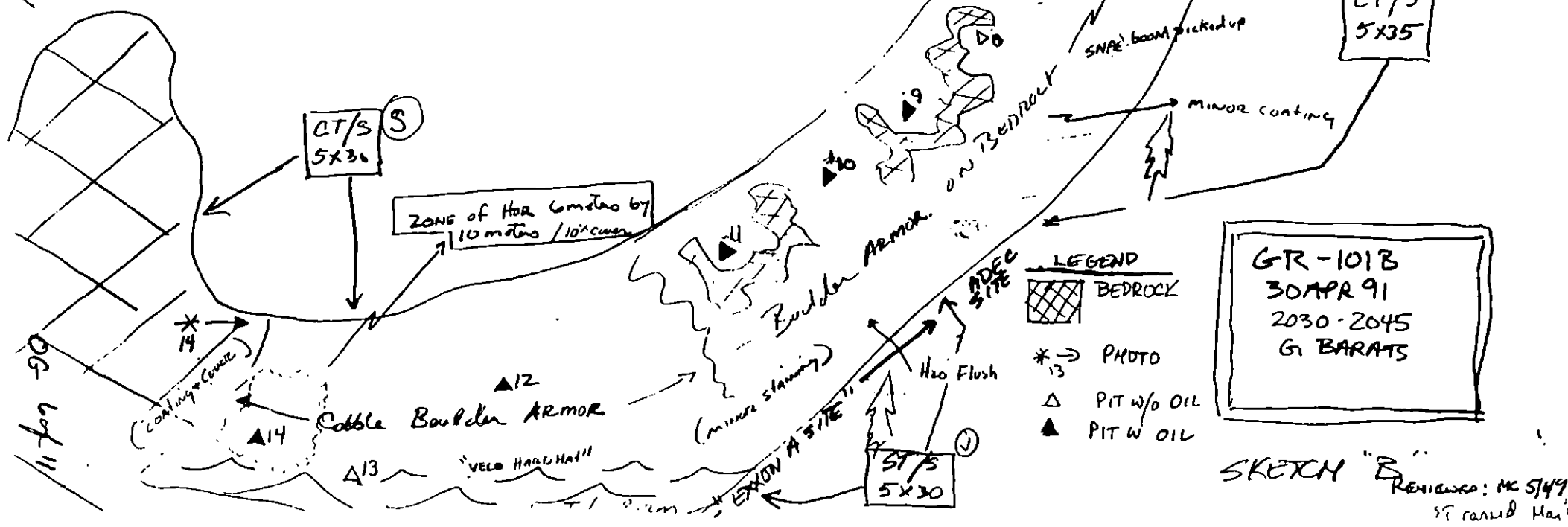
4/11 0-15cm OF
MI ZONE / >15 NO

4/12 0-10cm LOR
10-25cm NO
Mid to up tidal zone

4/13 0-25cm NO
UI

4/14 0-25cm HOR
MI ZONE

ALINEMENT
MARK WITH SKETCH "C"



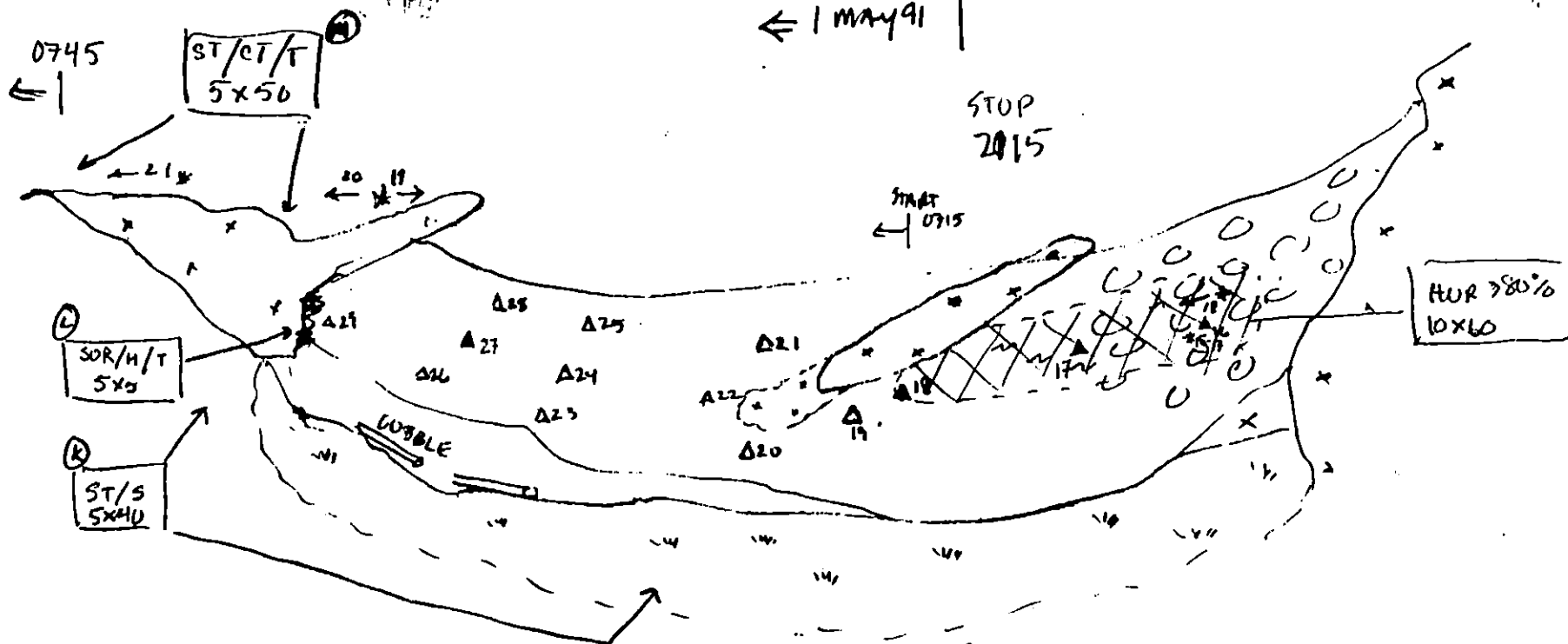
N
ALIGNMENT
MARK WITH
SKETCH "B"

← 30 APRIL 91

← 1 MAY 91

STOP
2015

START
0715



▲ 16 MITZ
THICK BLACK VISCOUS
OIL ON BOTTOM SIDE
OF BOULDERS

* 15, 16, 17
* 18

HOR 0-10
NO 10-15.

▲ 17 MITZ
BC/SG
0-10 N.O.
10-20 MOR
NO

▲ 18 MITZ
BC/SG
0-10 HUR
10-20 MOR

▲ 19 UIF2
BC/SG
N.O.
~30 cm
Δ 20 UIF2 20
BC/0, 3, 12
N.O.
Δ 21 UIF2 25
BC/0, 3, 12
N.O.

Δ 22 MITZ 30
BC/SG/MS
N.O.
Δ 23 UIF2 ~20
BC/SG/MS
N.O.
Δ 24 MITZ 25
BC/SG N.O.
WT 24 N

Δ 25 MITZ 30
BC/SG N.O.
WT. 0 N
Δ 26 UIF2 ~30
BC/SG/MS
N.O.
Δ 27 MITZ
BC/SG/MS
0-10 N.O.
10-13 OF
13-20 N.O.

Δ 28 UIF2 ~20
BC/SG/R
N.O.
Δ 29 UIF2 ~20
BC/SG/MS
N.O.

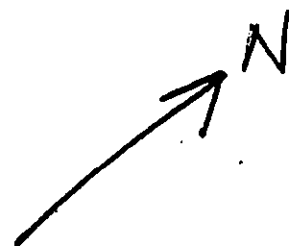
SKETCH "C"

GR-10/B
30 APRIL 91 2010-2115
1 MAY 91 0715-0745
VHARPER

REVIEWED: 5/6/91 MC EG revised, May 4

08 July 11

SKETCH "D"
GR 101 B
1 MAY 91
0745 - 0800

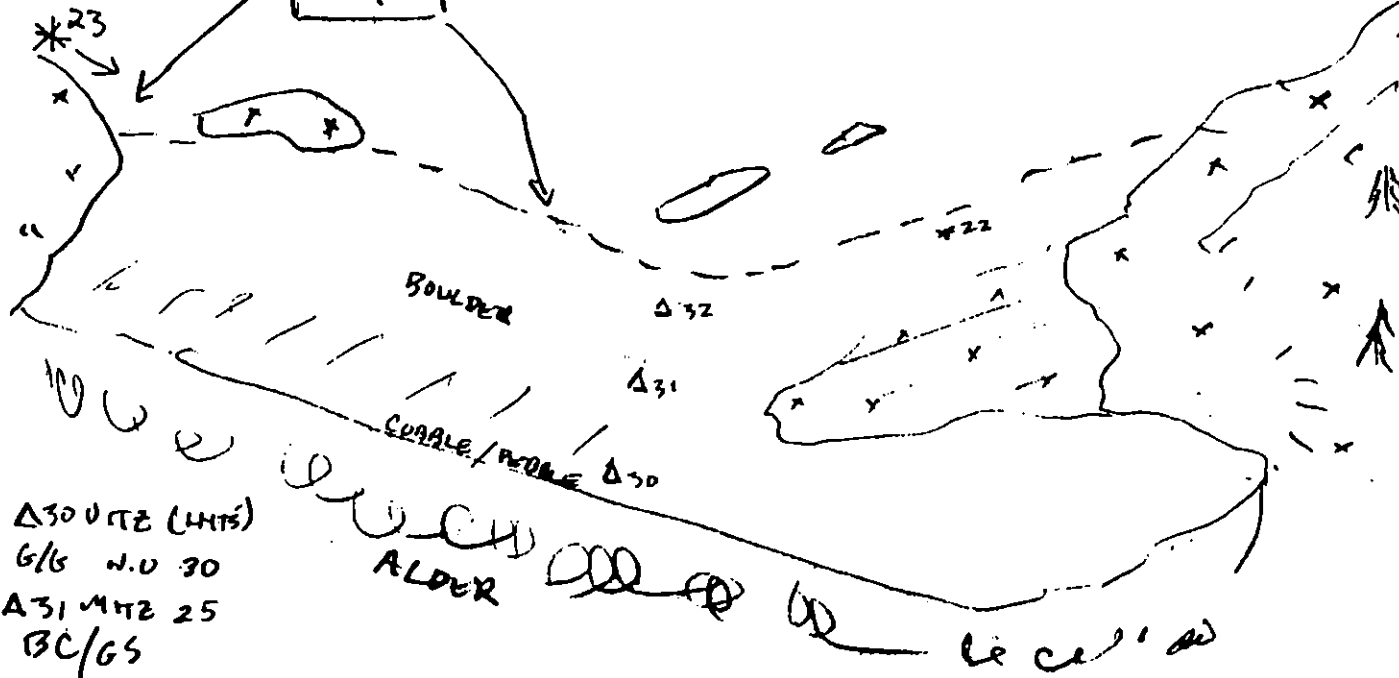


← 0800hr

VITE
ST/T
10x40

NO

0745

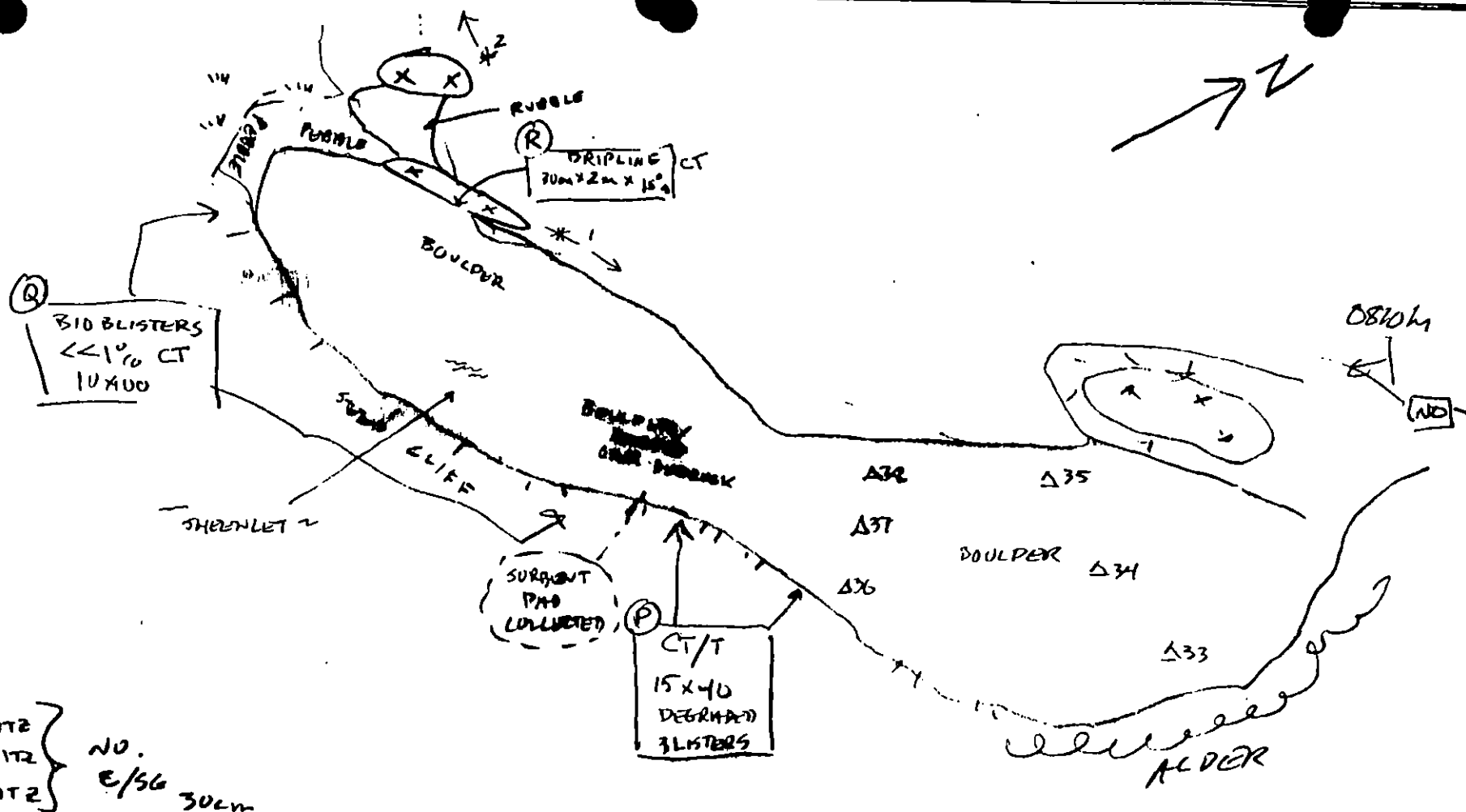


Δ30 VITE (LITE)
G/G N.O. 30
Δ31 MITE 25
BC/GS
Δ32 LITE 15
BC/GS/B N.O.

50m

OG 8477

REVIEWED MC 5/6/91
ET Reviewed May 4
SKETCH "D"



A33 U1T2 }
 A34 M1T2 } NO.
 A35 L1T2 } E/36 30cm

A36 U1T2 }
 A37 M1T2 } N.D.
 A38 L1T2 } C/36. 30cm

X X BEDROCK
 wavy ALDER
 ~ ~ SHOENLET

50m

SKETCH E
 GR-101B
 1 MAY 91
 0810 - 0830

REVIEWED: AG 5/5/91
 EX Revised, May 4

08-9411

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 3
 SEGMENT # GR101
 SUBDIVISION B
 SEA STATE 0-1'
 PHOTOGRAPHS: ROLL #
 DATE 4/30/91 - 5/1/91
 TIDAL HEIGHT (Range) 0-4'
 BIOLOGIST Staher
 WIND SPEED/DIRECTION NE 10-15 & S-10
 FRAME #

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

Exposure and wave energy variable low to high; diverse habitats ranging from exposed cobble/boulder/bedrock to low angle sheltered cobble/cobble flats.

Biota generally sparse in the upper intertidal, increasing downslope in diversity and abundance. Mid and lower intertidal characterized by Fucus, barnacles, Littorina, limpets. Also observed were amphipods, nudibranchs, anemones, Scerlella, Nucella, Dermasterias, Lepassterias, Chitons (K. funicularis), Isopods (Idotea), Pagurus, Oligochaetes, cel blennies, Ulva, various red algae, and surf grass (Phyllospadix). Composition, distribution and density of taxa varied considerably throughout the subdivision according to exposure and substrate.

Biota within adjacent to oiled zone (Sketch Map A) consists of patchily distributed Fucus, barnacles, Littorina and eggs, limpets, interbedded and attached Mytilus. Biota declines in abundance NE to SW. Biota downslope from oil of similar composition, somewhat greater abundance.

Biota within adjacent to oiled area in Sketch Map B consists of patchily distributed and often dense barnacles, Fucus, Littorina, and dense interbedded Mytilus. Extensive dense Mytilus beds and Fucus on talus.

Biota within/adjacent to oiled area in Sketch Map C consists of sparse barnacles. Downslope biota of dense Fucus, dense barnacles and spat, Mytilus patches, Littorina, limpets, amphipods, oligochaetes. Diversity & abundance declines NE to SW.

continued on attached sheet

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	cel blennies
Seabirds	2	6	
Waterfowl	1	2	
Gulls/Kittiwakes	2	10-20	
Shorebirds	Nyctrochelidon	4	
Corvids	magpie	1	
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters	18 + 1 dead	deer skeleton	1
Pinnipeds (specify)	Harbor Seal - 1		
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

REVIEWED: 5/6/91 MC
 Reviewed M.B. 5/6/91

BIO SHEET (CONTINUED)

Biota within/adjacent to oiled area on sketch Map D consists of patchy barnacles and spat (sparse to moderate abundance), dense clusters of Littorina, dense isoped (Idotea) clusters, and limpets. Downslope biota moderate to dense Fucus, Surf grass, Mytilus patches, barnacles and spat, red algae, limpets, amphipods, Chitons (Ch. Tunicata), blennies, Idotea, Pagurus, Leptasterias.

Biota within/adjacent to oiled areas on sketch Map E consists of sparse barnacles, limpets, Littorina, oligochaetes and filamentous green algae. Downslope biota dense Fucus, patchy dense barnacles and spat, clusters of small limpets, amphipods, nudibranchs, anemones, Mytilus, Nucella, Scarlaxia, Parmasterias, Leptasterias, Littorina,

If treatment is undertaken, avoid unnecessary disturbance to established biota, particularly of extensive interbedded mussel communities on the Tombolo. Numerous (18) sea otters were observed in this locale, probably feeding on mussels.

GR-101

B

A

A

Donso Mussel
beds, Fucus

18 OTTORS

Fucus, barnacles,
Littorina, limpets,
Mytilus, etc

Fucus, barnacles,
Littorina, limpets, Mytilus

Fucus, sea grass
Mytilus, barnacles,
Littorina, limpets

Fucus, barnacles,
limpets, Littorina,
etc.

Reviewed 5/6/91 MC
Reviewed 5/6/91 M.B.

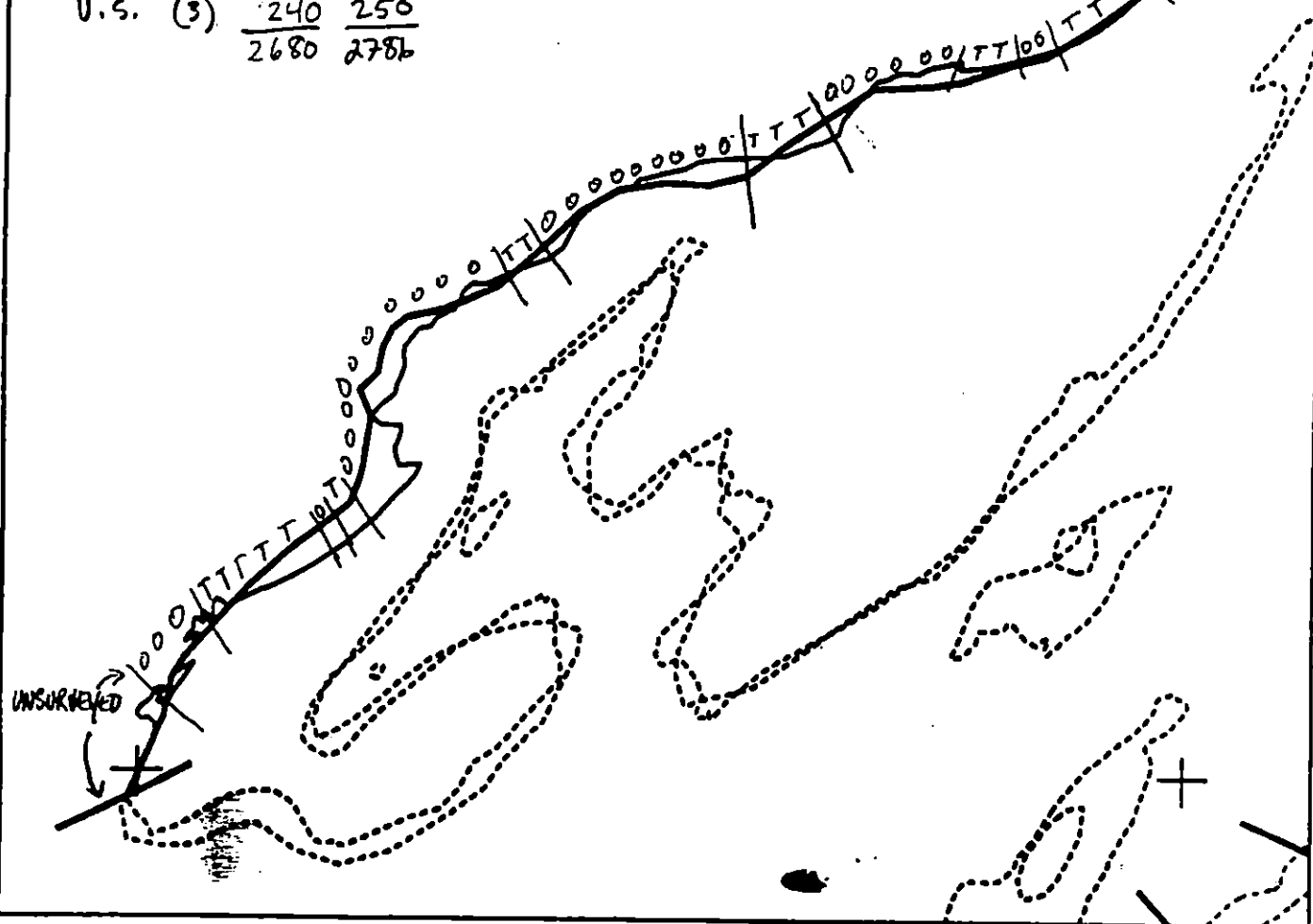
NO OIL (19) 1520 → 1580

V.L. (9) 720 → 748

MEDIUM (25) $\frac{206}{2440} \rightarrow \frac{208}{2536}$

U.S. (3) $\frac{240}{2680} \frac{250}{2786}$

GR-101



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

GR101 B
ADEC Subsegment Length: 2780m
METERS

AK State Plane Zone 4
ppr101ba

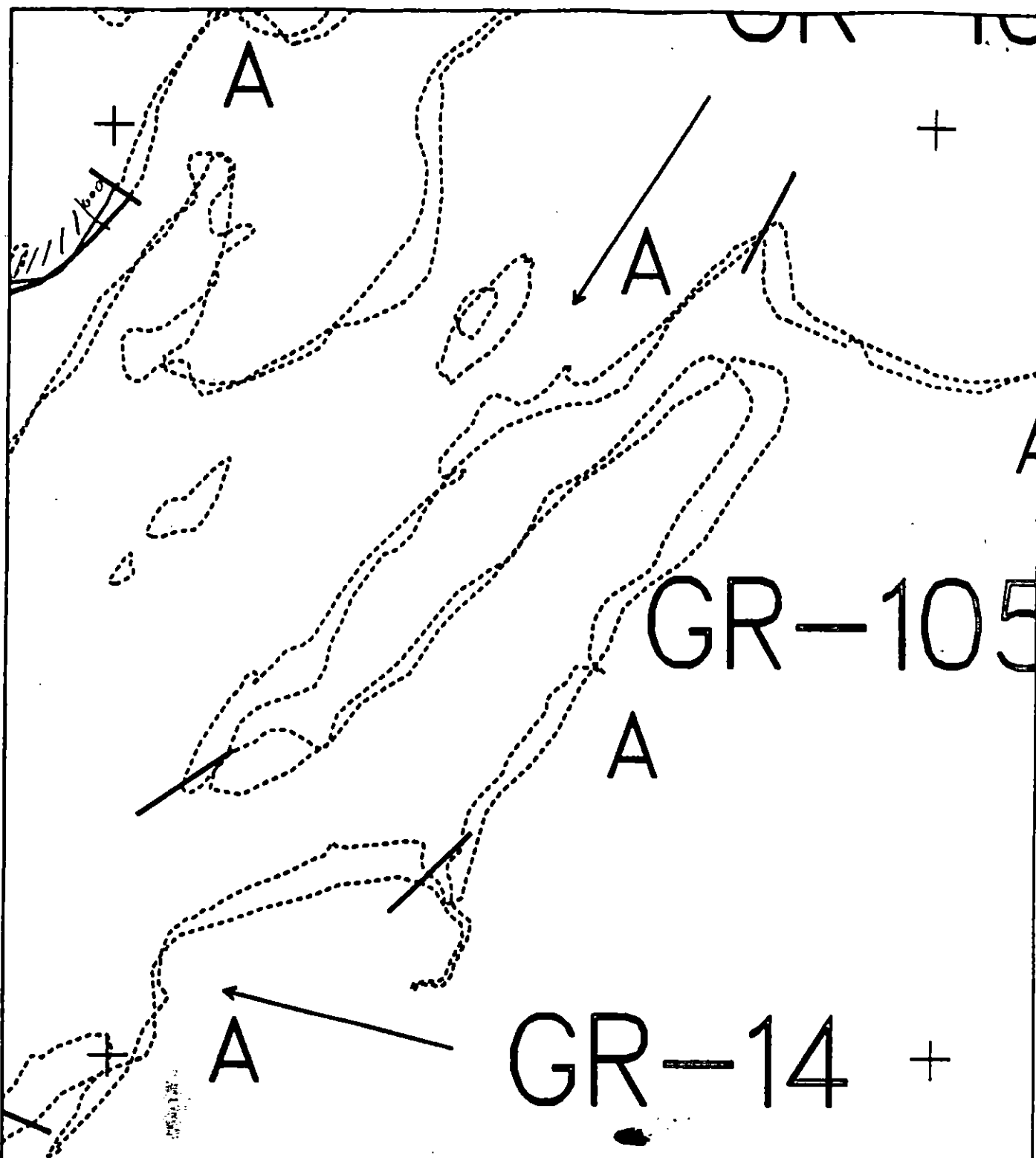


Subdivision Field Map
Map Key: PWSR101Ba
Name: HARPER
Date: 1 MAY 91
Data Entered:

SURFACE OILING MAP (2 of 2)

OG 11 of 11

EX serial, Map 4
REVIEWED 5/6/91 MC

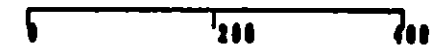


XXXX Wide
 //// Medium
 ---- Narrow
 TTTT Very Light
 0000 No Oil

GR101 B

ADEC Subsegment Length: 2780m

METERS



AZ State Plane Zone 4
 pr101bb



Subdivision Field Map

Map Key: PWSGR1018b

Name: HARPER

Date: 30 APRIL 91

Date Entered:

SURFACE OILING MAP (1 of 2)

OG-100/11
 EX-100/11
 REVISED: 5/6/91

SHORELINE EVALUATION

SEGMENT ST/ GR-101 SUBDIVISION B (2 OF 2) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
30,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
5R Seabird colony (5/1 to 9/1) - within 1/2 a mile
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest on border between Subdivision A/B, near border with GR-03.

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 J. Johnson DATE: 4/23/90

OILING CATEGORIZATION:

Wide 28 m: Medium 1521 m: Narrow 0 m: V.Light 985 m: No Oil 252 m
Subsurface Oil Observed: Yes X No Maximum Depth 20+ cm

RECOMMENDATIONS:

<u> </u> No Treatment Recommended	<u> </u> Snare/Absorbent Booms
<u>X</u> Treatment Recommended	<u>X</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> </u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes 1) spot washing with wands and using snares/pom poms to control sheen, 2) bioremediation after washing and on areas indicated on attached sketch map, 3) manual pick up of oil-ed debris, and vegetation. Work should be conducted between 7/2 and 8/14 due to above herring and pinned constraints and after approval of ADF&G and USFWS regarding seabird colony and eagle nest.

TAG COMMENTS: MANUALLY RAKE + BIO AREA OF PIT 10. AS SHOWN ON SKETCH.

TAG APPROVAL DATE: 4/21/90.

ADEC Art Weiner Art Weiner

EXXON Andy Tera Andy Tera

NOAA Burt Wescott Burt Wescott

USCG Kenneth Keane Kenneth Keane

FOSC: h L DATE: 4-27-90

OG England

SEGMENT ST/ GR-101

SUBDIVISION B

DATE 4/7/90

CHECKLIST

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

LEGEND

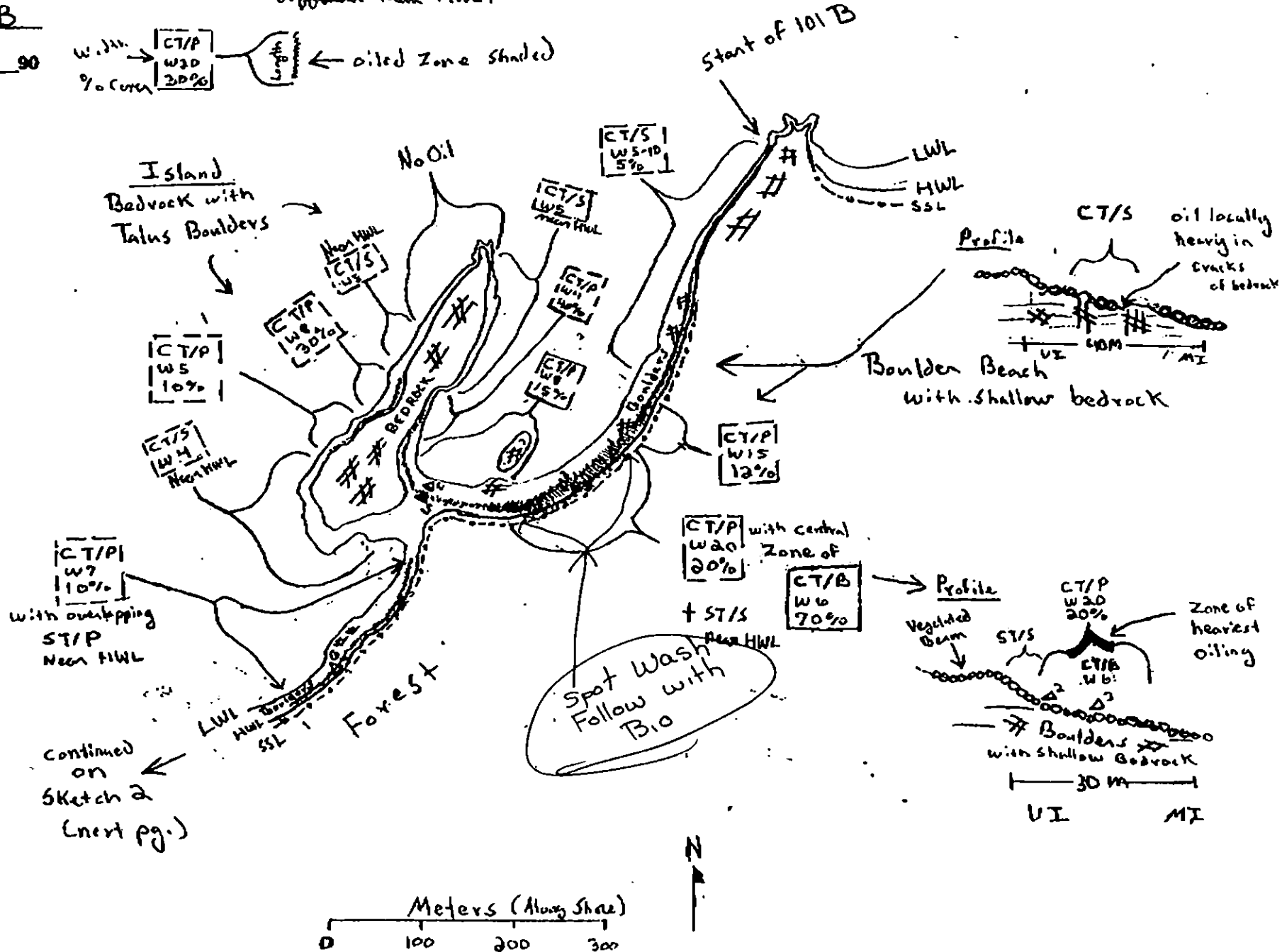
- 1 Δ
Pt - No Subsurface Oil
- 2 Δ
Pt - Subsurface Oil
- $\boxed{CT/C}$
Continuous Distribution
- $\boxed{CT/B}$
Broken Distribution
- $\boxed{CT/P}$
Patchy Distribution
- $\boxed{CT/S}$
Splashed Distribution
- $\circ$
Oiled Vegetation
- 1 $\rightarrow$
Photo location, direction, and number

* Exposed Bedrock

--- SSL (where significantly different than HWL)

SKETCH MAP (1 of 2)

W. 1/4 $\rightarrow$ $\boxed{CT/P}$ W 30 30% $\rightarrow$ oiled zone shaded



Oil Character Length (m): AP _____ PO _____ CV _____ CT 324 ST 120 MS _____ PT _____ TB _____ FL 180 NO 410

Combined Totals:

REVISION: 202408

SCAT 11 7 47 P.13 TO DON BOLLINGER 2152 APR-09-1990 17:28 FROM

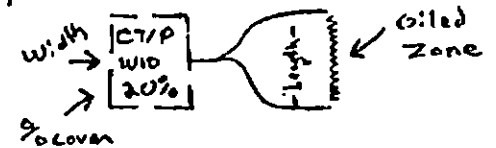
OG Berglund
SEGA ST/GR-101
SUBDIVISION B
DATE 4/17/90

CHECKLIST

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

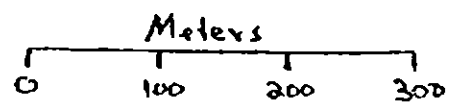
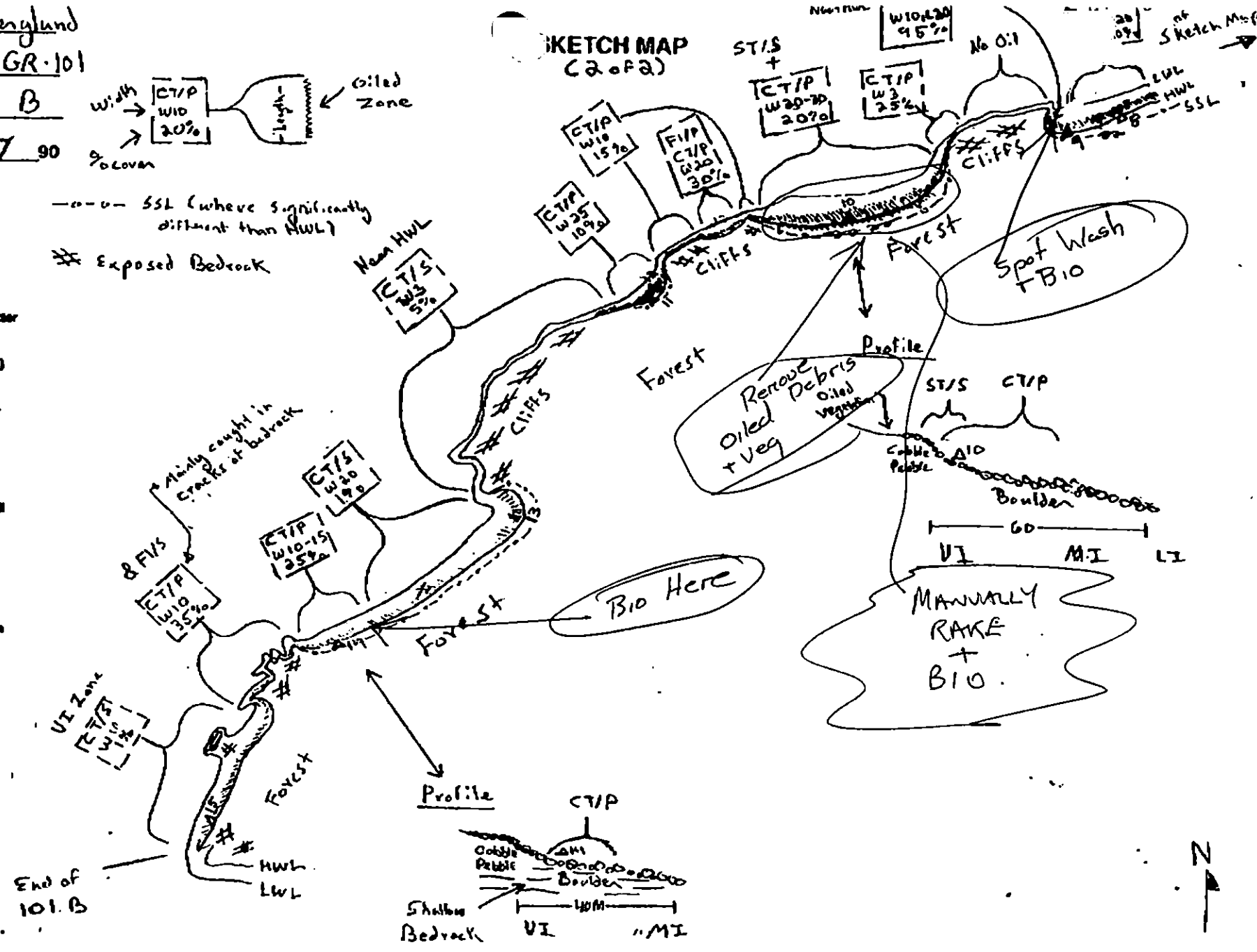
LEGEND

- 1 Δ Pit - No Subsurface Oil
- 2 Δ Pit - Subsurface Oil
- $\boxed{CT/C}$ Continuous Distribution
- $\boxed{CT/B}$ Broken Distribution
- $\boxed{CT/P}$ Patchy Distribution
- $\boxed{CT/S}$ Splashed Distribution
- $\overline{\text{~}}$ Oiled Vegetation
- 1 $\rightarrow$ Photo location, direction, and number



--- SSL (where significantly different than HWL)
* Exposed Bedrock

SKETCH MAP (2 of 2)



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

See sketch 1 for totals.

R-05

Seabird Colony

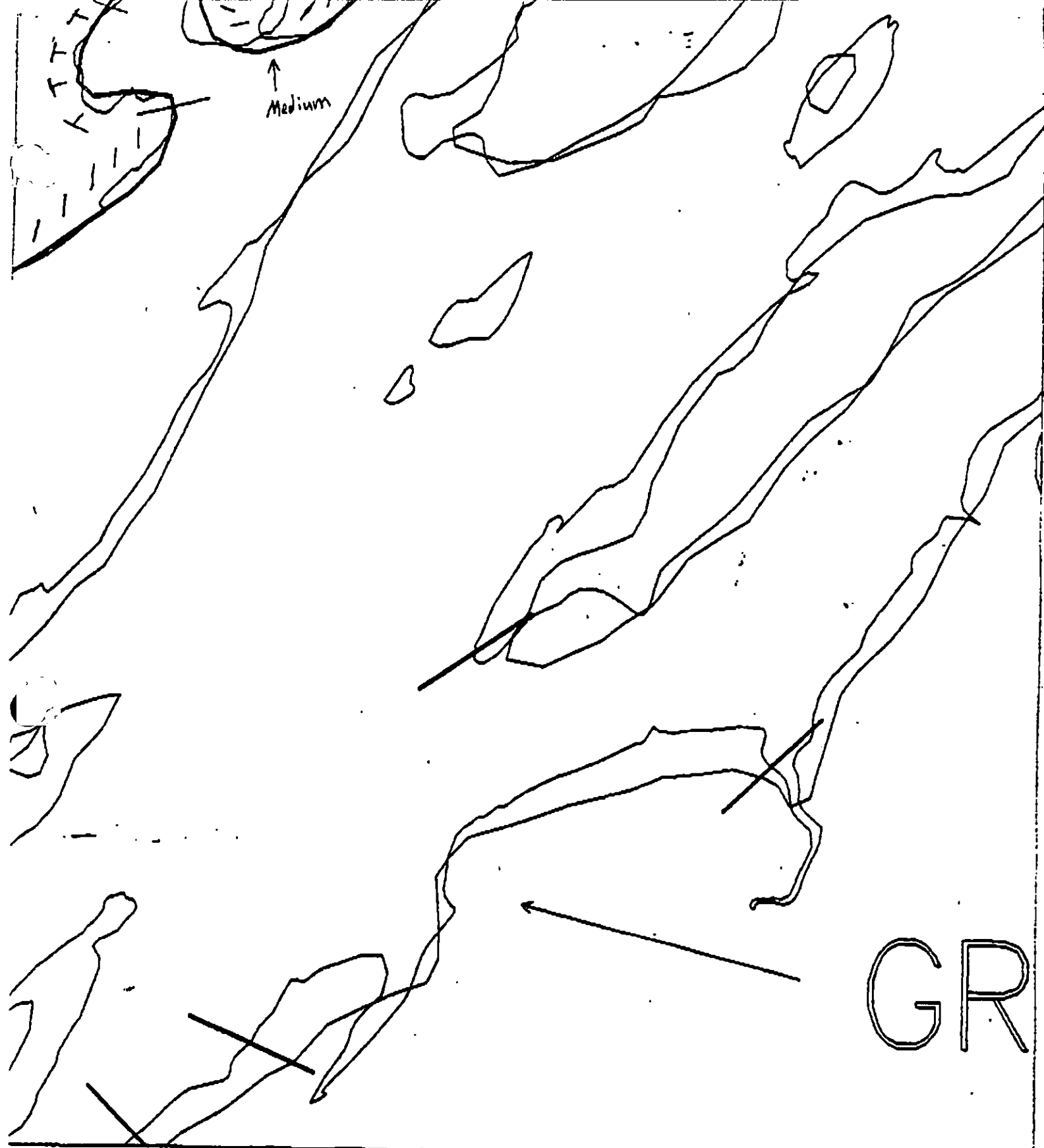
103B

103A

Eagle
nest
(SWS)

A horizontal scale bar with markings at 0, 100, 200, and 300 meters.

Data Entered:



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

GR-101

ADEC Segment Length: 4473m



Map Key: PWS-247b

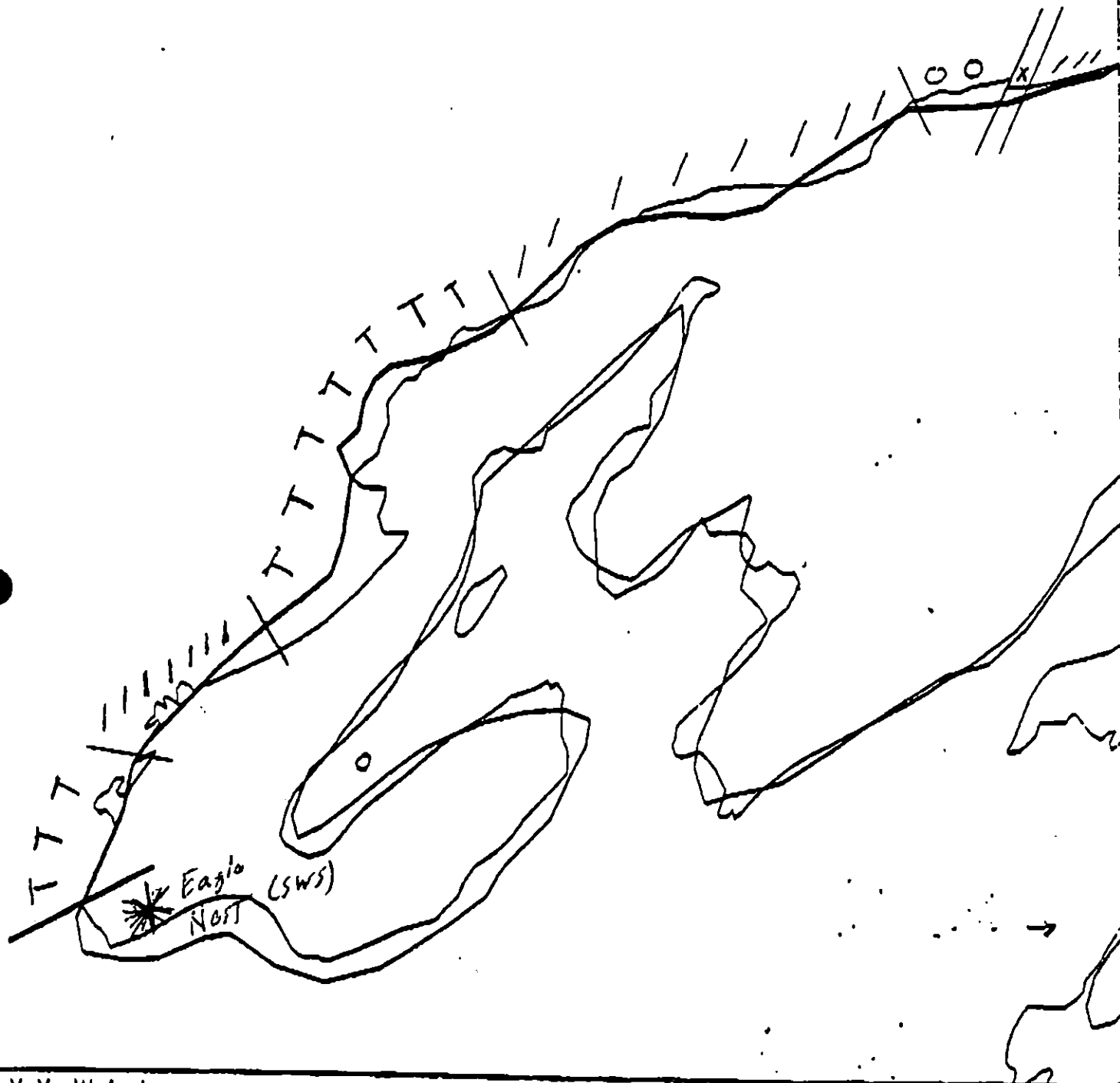
Name: B. Berglund

Date: 4/7/90

Data Entered:

page 6 of 11

GR-101



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

GR-101

ADEC Segment Length: 4473m



Map Key: PWS-2470

Name: B. Berglund

Date: 4/7/98

Data Entered:

11 of 700

GR-302

GR-104

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

GR-101

ADEC Segment Length: 4473m



METERS

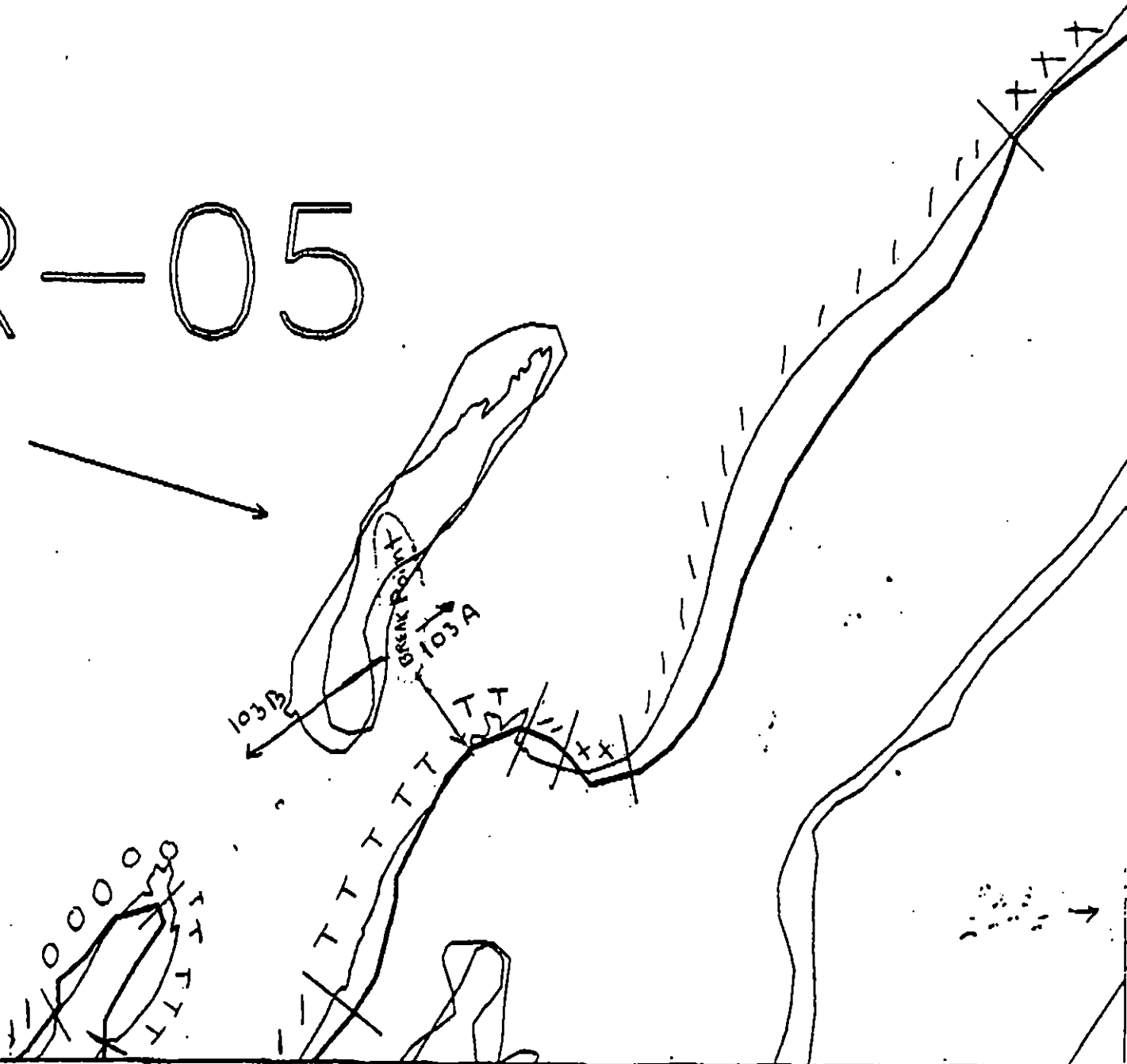
Map Key: PWS-2471

Name: B. Benglund

Date: 4/7/90

Data Entered:

R-05



XXXX Wide

GR-101

/// Medium

--- Narrow

ADEC Segment Length: 4473m

TTTT Very Light

0000 No Oil

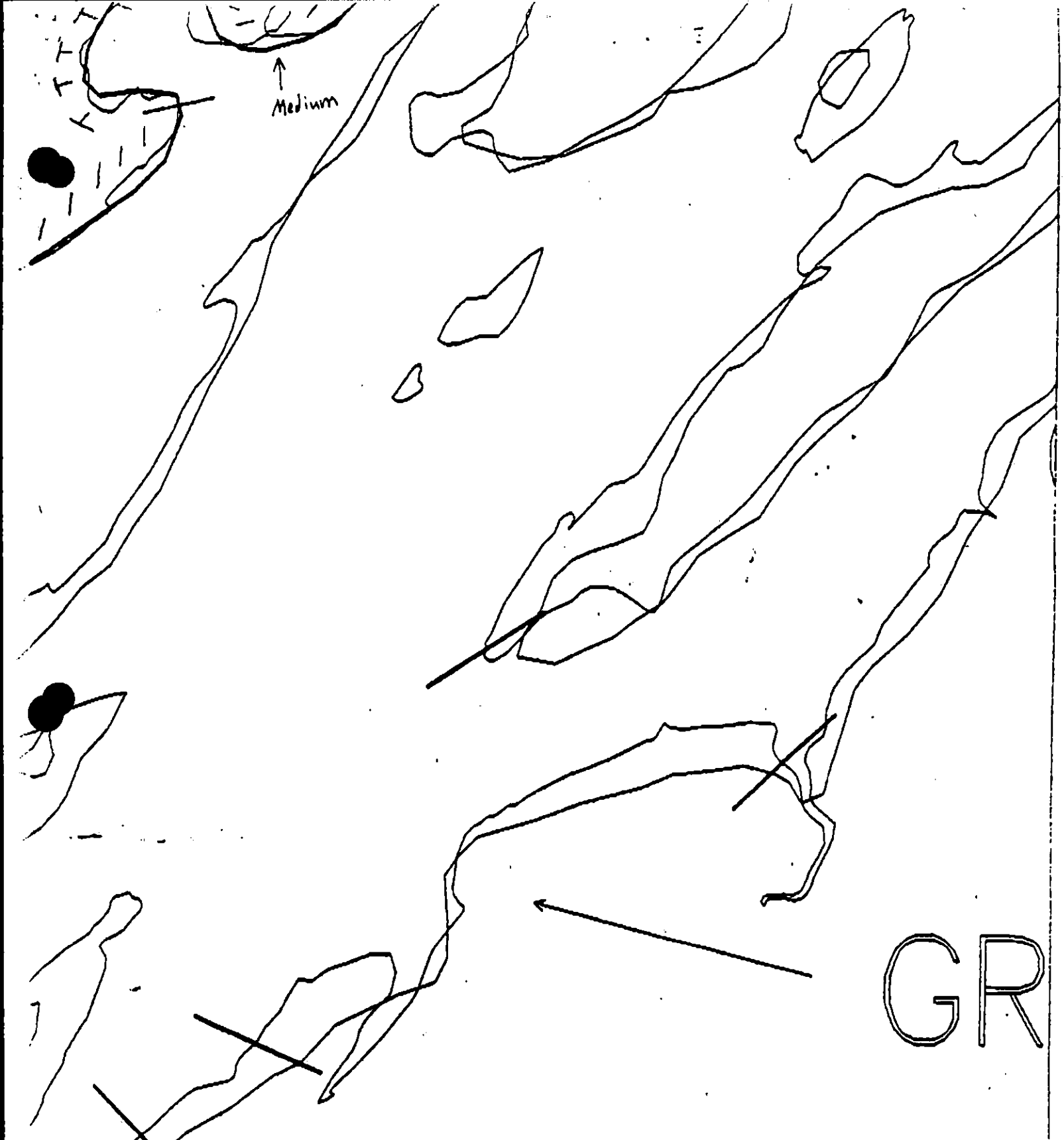


Map Key: PWS-2470

Name: B. Bengland

Date: 4/7/90

Date Entered:



XXXX Wide

//// Medium

●●●● Narrow

TTTT Very Light

0000 No Oil

GR-101

ADEC Segment Length: 4473m



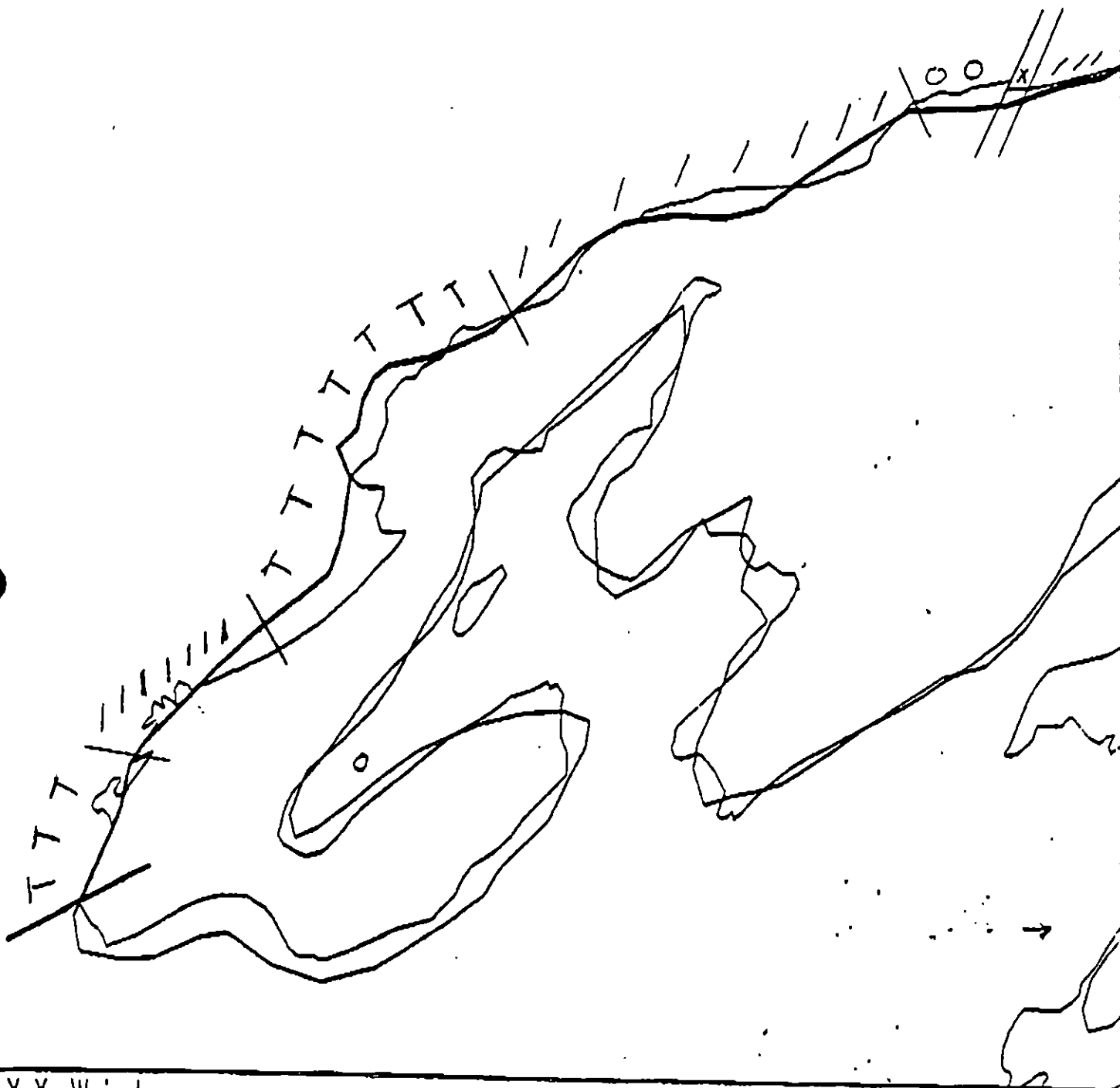
Map Key: PWS-247b

Name: B. Berglund

Date: 4/7/90

Data Entered:

GR-101



XXX Wide
 /// Medium
 --- Narrow
 TTT Very Light
 000 No Oil

GR-101

ADEC Segment Length: 4473m



Map Key: PWS-2470

Name: B. Berglund

Date: 4/7/98

Date Entered:

Page 7 of 11

SCAT P.16

TO

DON BOLLINGER 2152

FROM

APR-09-1998 17:31

SHORELINE EVALUATION

SEGMENT ST/ GR-101 SUBDIVISION A (1 OF 2) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
5R Seabird colony (5/1 to 9/1) - within 1/2 a mile
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest on border between Subdivision A/B, near border within GR-302.

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: 4/23/90

OILING CATEGORIZATION:

Wide 383 m: Medium 780 m: Narrow 0 m: V.Light 524 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 6 cm

RECOMMENDATIONS:

<u> </u> No Treatment Recommended	<u> </u> Snare/Absorbent Booms
<u>X</u> Treatment Recommended	<u>X</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> </u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes 1) removal of oiled debris and vegetation, 2) spot wash areas on map with wands and using snares/pom poms to control sheening, 3) bioremediation of areas shown on map. Work should be conducted between 7/2 and 8/14 due to above herring and pinned constraints and after approval of ADF&G and USFWS regarding seabird colony and eagle nest.

TAG COMMENTS: ASSESSMENT of HERRING SUITS BY MONITORS AT TIME OF TREATMENT.

IF POSSIBLE BREAK UP HARD PAN IN BETWEEN BOUNDRS PRIOR TO SPOT WASHING AND BIO.

TAG APPROVAL DATE: 4/21/90.

ADEC ART WEAVER Art Weaver

EXXON ANDY TATE Andy Tate

NOAA BILL WESCOTT Bill Wescott

USCG KENNETH KEANE Kenneth Keane

FOSC: DATE: 4-27-90

OG B. Berglund

SEGMENT ST/ GR-101

SUBDIVISION A

DATE 4 / 7 90

CHECKLIST

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

LEGEND

1 ▲
Pli - No Subsurface Oil

2 ▲
Pli - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

width

CT/P
Patched Distribution

CT/S
Splashed Distribution

CT/S
Oiled Vegetation

1 →
Photo location, direction, and number

Exposed Bedrock

-o-o- SSL where significantly different from HML

Oiled Zone Shaded

Non HML

End of GR-101-A

Profile

CT/S CT/P
cable Boulder

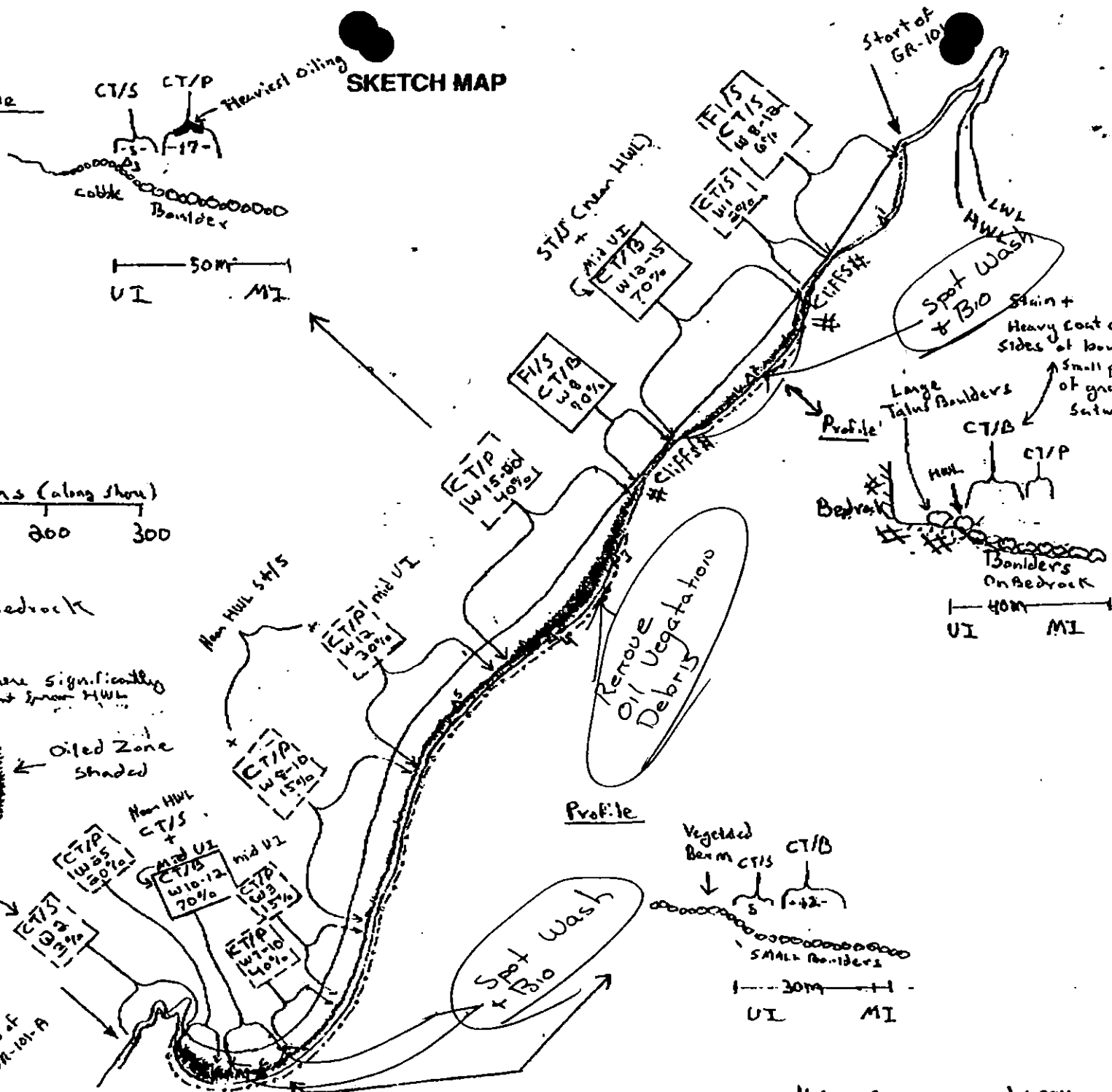
50M
UI MI

N

Meters (along shore)

0 100 200 300

SKETCH MAP

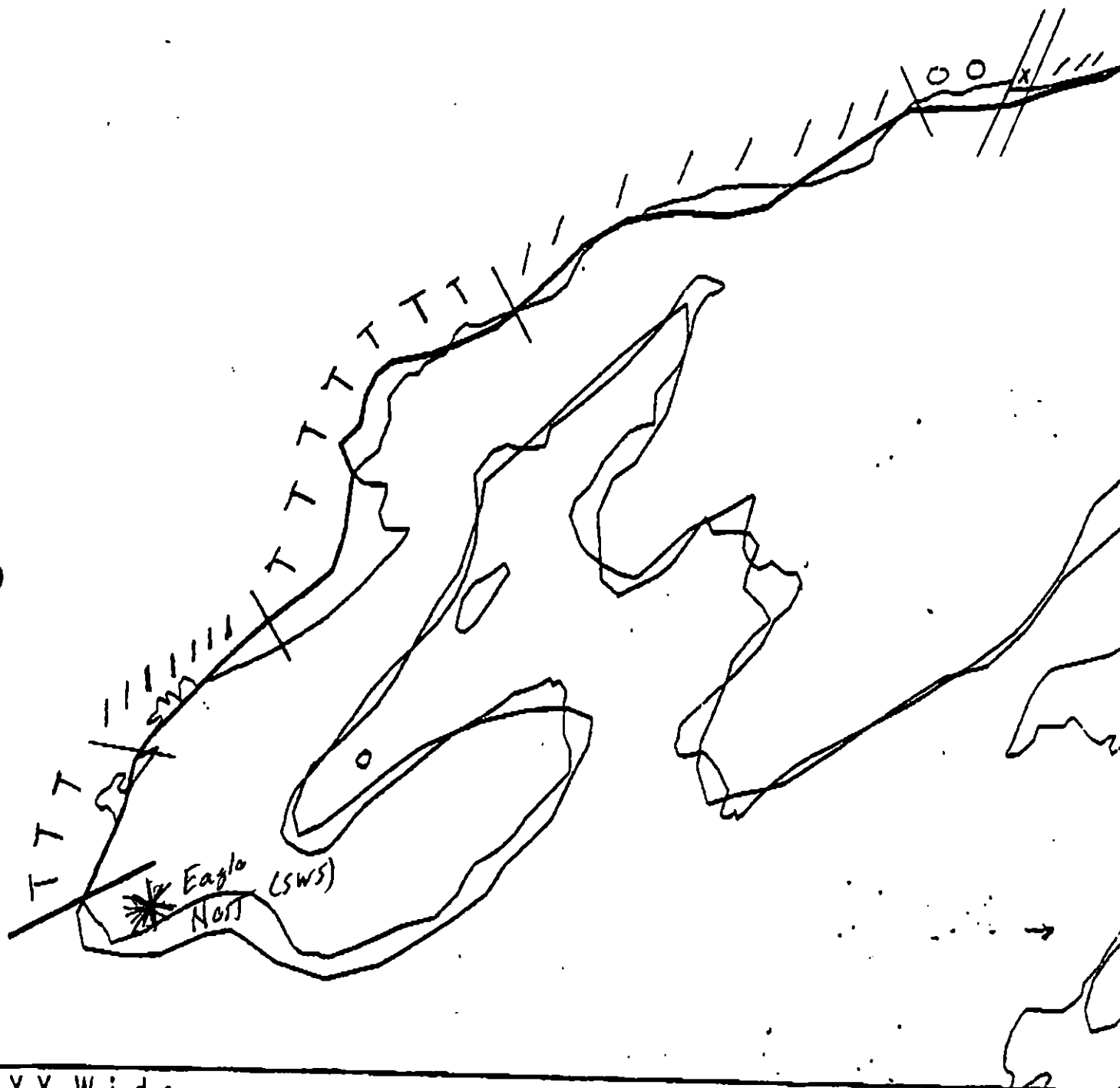


Oil Character Length (m): AP PO CV CT 1398 ST 360 MS PT TB FL 180 NO

Note: Snow covered upper storm berm in most localities at

ECOLOGY
MAP

GR-101



XXXX Wide

//// Medium

--- Narrow

TT Very Light

0000 No Oil

GR-101

ADEC Segment Length: 4473m



Map Key: PWS-2470

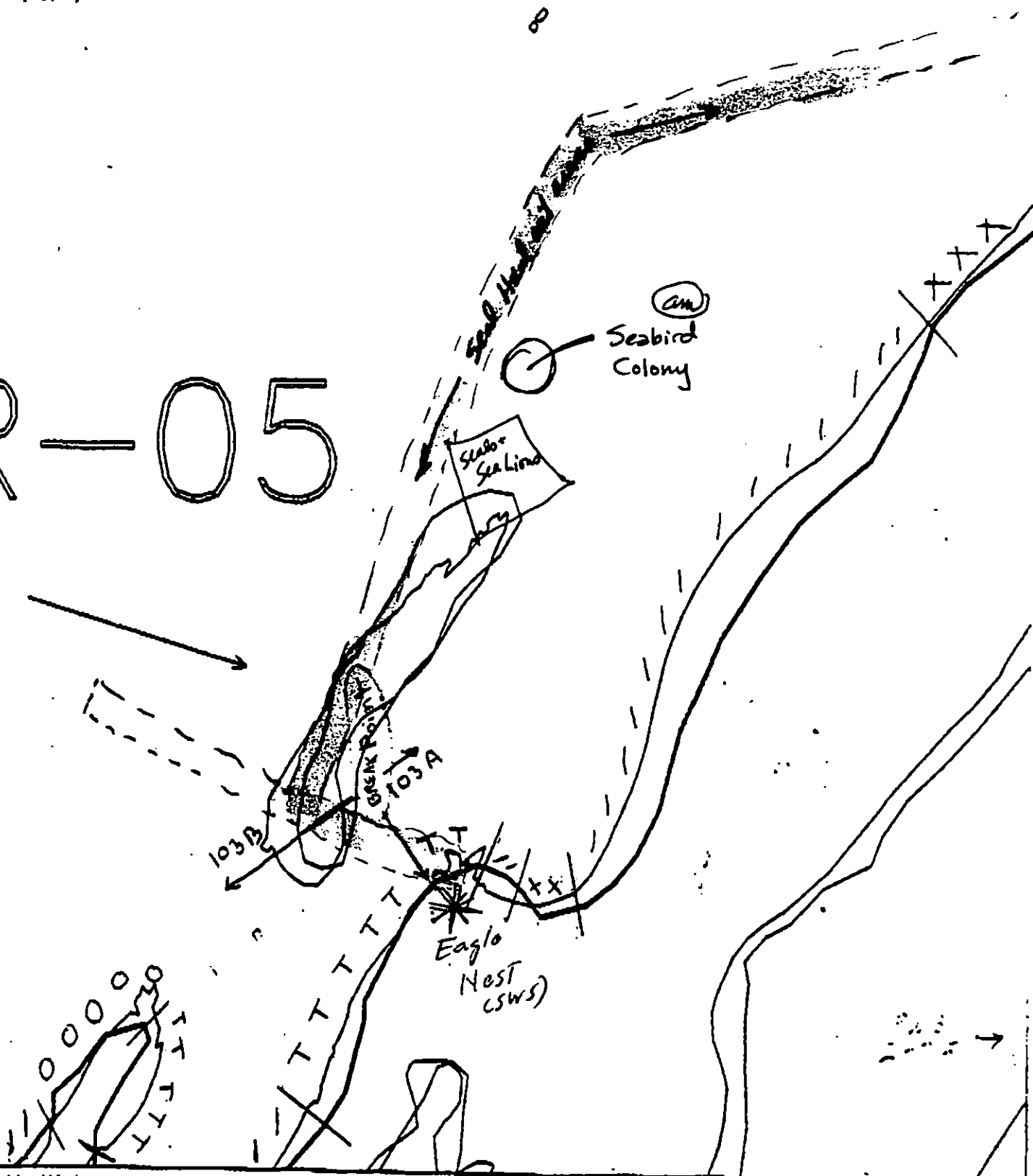
Name: B. Berglund

Date: 4/7/98

Data Entered:

Page 7 of 11

PR-05



0000 No Oil

GR-101

ADEC Segment Length: 4473m



Date Entered:

GR-302

GR-104

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

GR-101

ADEC Segment Length: 4473m



Map Key: PWS-2471

Name: B. Benglund

Date: 4/7/90

Data Entered:



GR-101.A

ADEC Segment Length: 4473m

0 100 200 300
METERS

0000 No Oil

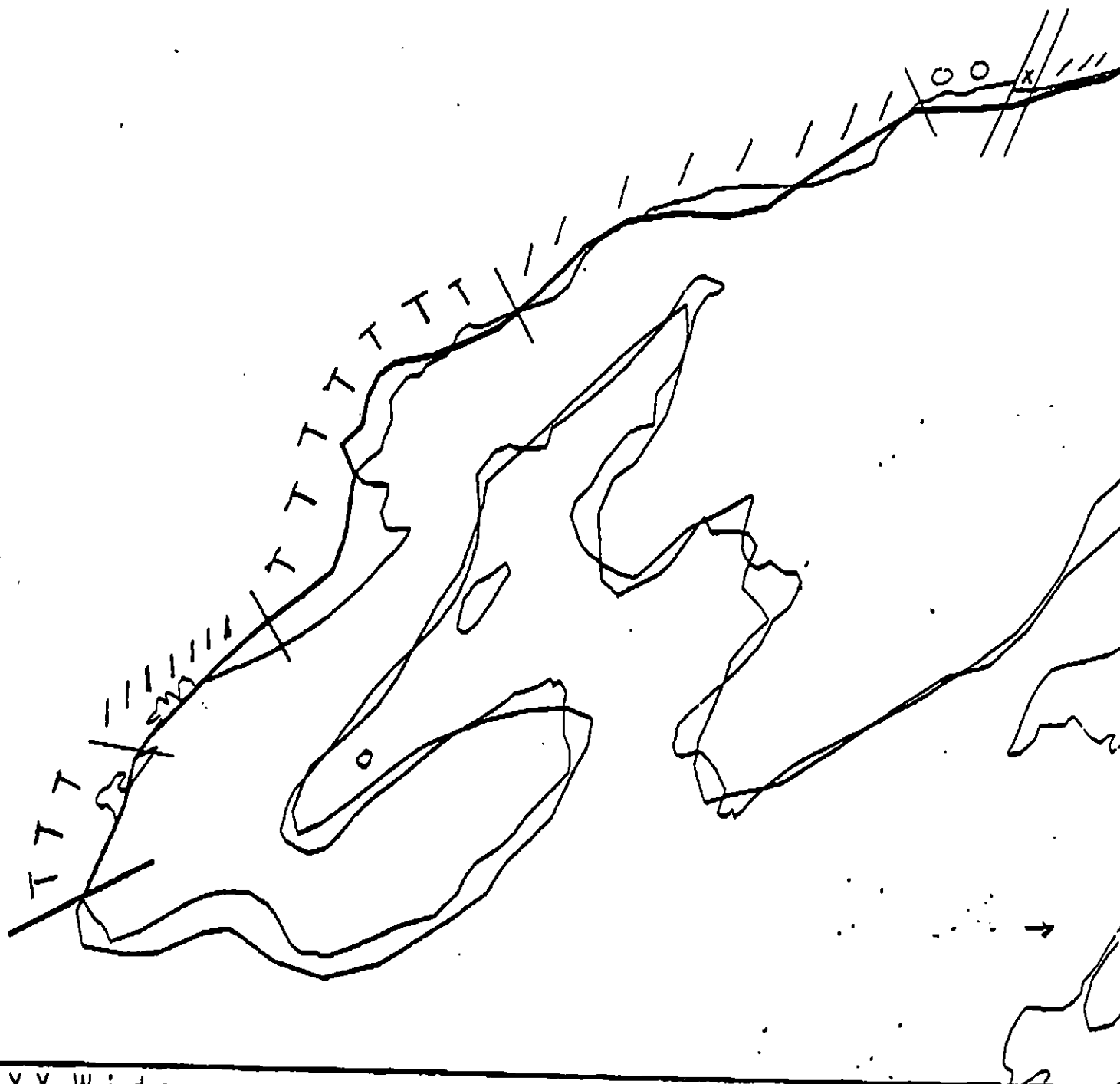
Map Key: PWS-247e

Name: B. Benglund

Date: 4/7/90

Data Entered:

GR-101



XXX Wide

/// Medium

--- Narrow

T Very Light

000 No Oil

GR-101

ADEC Segment Length: 4473m



Map Key: PWS-2470

Name: B. Berglund

Date: 4/7/98

Date Entered:

Page 7 of 11

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/GR-101

SUBDIVISIONS: A (1 OF 2)

SHORELINE EVALUATION

SEGMENT ST/ GR-101 SUBDIVISION A (1 OF 2) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
5R Seabird colony (5/1 to 9/1) - within 1/2 a mile
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest on border between Subdivision A/B, near border within GR-302.

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 383 m: Medium 780 m: Narrow 0 m: V.Light 524 m: No Oil 0 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 6 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) removal of oiled debris and vegetation, 2) spot wash areas on map with wands and using snares/pom poms to control sheening, 3) bioremediation of areas shown on map. Work should be conducted between 7/2 and 8/14 due to above herring and pinneped constraints and after approval of ADF&G and USFWS regarding seabird colony and eagle nest.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
 1D Esther Hatchery release (4/15 to 6/1)
 1E Main Bay Hatchery release (4/20 to 5/10)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 1I Gill net area (6/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (6/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

~~2M~~ Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

~~3N, 3P~~
~~3O, 3Q~~ Harbor seal and sea lion pupping (5/15 to 7/1)
 Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

~~4R~~ Seabird colony (5/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

~~5S~~ Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic.

~~5T~~ All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

6U Recreation: Tent sites (6/1 to 9/15)
 6V Anchorages (6/1 to 9/15)
 6W Forest Service cabins (6/1 to 9/15)
 6X Lodge (6/1 to 9/15)
~~6Y~~ Special use destination

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 7HH Finfish harvesting
~~7H~~ Deer harvesting (8/15 to 2/28)

7JJ Invertebrate harvesting
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST GR101 SUBDIVISION: A DATE 4-7-90

2G
NAME James C. Campbell SIGNATURE James C. Campbell

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

mostly patchy oil extending from 10m to 20m wide MITZ TO UITZ, Light sheening noted. Several eagles sighting. Lot of seals along rocks. Eelgrass pockets are most oiled then others. See Exxon sketch map, please.

ADEC

NAME Brian K. FitzSimons SIGNATURE Brian K. FitzSimons

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

MENTS 100% of segment has been contaminated; light sheening into H₂O observed along most of segment. Majority of oiling consists of a patchy coat on boulders, cobbles and bedrock (sticky, fatty). Areas of concern requiring treatment are the second beach to the southwest of the Northeast end of the segment (#1) and the mid 1/3 of the last beach on the south west end of the segment. (#2)

Beach #1. x B → CT → Patchy/Darker
PGS } 10cm → OP talus overlaying a discontinuous layer of
BR → CT fine sediments (saturated) on bedrock (black)

Much leaching is occurring forming rainbow sheens on H₂O. Both boulders and bedrock within @ 25-40m band (MITZ to MITZ) are coated with dark grey/dull black tar. See Attached

LAND MANAGER

NAME Carol S. Huber SIGNATURE Carol S. Huber

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Mostly patchy band of oil 10-20m wide in MITZ and UITZ. Thickness is from coat to cover (>1mm). Some leaching of oil noted.

Resource sensitivities include: eagle nests (eagle sighted), Special Use destination, deer harvesting, penneped pupping & molting, herring spawning and shorebird/waterfowl concentration.

GR 101 A

Suggested Treatment(s):

1. If boulders can be moved to access saturated fine sediments - HP/HT wash with header flood entire area of beach

2. Bio-remediate if no other option available.

Beach #2. B → CT → Broken This beach consists of medium to small boulders overlaying a pebble/PG } 6cm OP Gravel layer that is saturated and beginning to form pavement. Underneath BC G → NO this layer are boulder, cobble gravels that contain no observable oil. The boulders are coated with a dull black, tarry type oil within @ 12 meter band from HITZ to MITZ.

Suggested Treatment(s):

1. This may be an area where discing/trenching to rip up the subsurface fine sediments would prove beneficial. The boulders are not overly large and this would break up the hardpan which is beginning to form in the fine sediments.

2. Bio-remediation and/or natural cleansing may be sufficient to complete the task.

NOTE: The HITZ storm berm was frozen and snow covered throughout most of segment and needs to be re-evaluated

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG B. Berglund USCG J. Gamble SEGMENT ST/ GR-101
 BIO S. Schroeder LAND REP C. Huber (NPS) SUBDIVISION A
 EXXON C. Levine ADEC B. Fritzsimons TIME 7:00 10:4 :30
 TEAM NO.: 2 TIDE LEVEL: 1.7 10 6 DATE 4 7 1990
 T. SUBDIVISION LENGTH: 1398 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 ISLANDS DESCRIPTION: ☐ Grass ☐ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N2 to SW
 SURFACE SEDIMENTS: R 15 % B 70 % C 10 % P 5 % G — % S — % M — % V — %
 SLOPE: Long 85 % Hang 15 % Vert — % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 280 m M 768 m N — m VL 250 m NO — m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	IC	IS	IP	IS	SP	DP	FP	GP	TP	LP	SU	U	M	L
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT			1	2	3	1-3					3	1-2		
STAIN				1				1			1			
MOUSSE														
PATTIES														
TARBALLS														
FILM					X						X			
NO OIL													X	X

PAVEMENT: H F S None sq. m by — cmPATTIES / TARBALLS None BAGSNEAR SHORE SHEEN? ☒ NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation	X		
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NOTYPE —#BAGS —

Photographs:

Roll No. ST-1-3Frames 10-141

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		VO	UC	SP	DP	FP	GP	TP	LP	SU	U	M	L		
1	30					X	—		X								X				P/G/S (Lower Berm)
2	10	X					0-1		X	X							X				G (Beneath Boulder)
3	30					X	—		X								X				P/G (Berm)
4	30					X	—		X								X				P/G (Berm)
5	20		X				0-1		X									X			P/G (Beneath Boulder)
6	20	X					0-6		X								X				G/S (Beneath Boulder)

COMMENTS

This segment has a patchy to broken coat of oil centered near the the mid Upper Intertidal Zone. The coat is relatively thick & hard (tar). It coats the surfaces of boulders and at times saturates the surrounding gravels at the base of the boulders. Subsurface oiling does not appear to be a problem based on test pits and the shallow bedrock. There is considerable vegetation along the storm berm but it is generally unoiled.

OG B. D. Lund

SEGMENT ST/ GR-101

SUBDIVISION A

DATE 4 / 7 90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Bndry
- ☐ 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

PI - No Subsurface Oil

2 Δ

PI - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patched Distribution

CT/S
Splashed Distribution

Oiled Vegetation

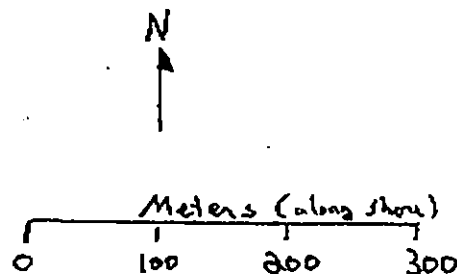
Oiled Zone Shaded

Photo location, direction, and number

Profile

CT/S CT/P
cobble Boulder
50m
VI MI

SKETCH MAP



* Exposed Bedrock

-o-o- SSL where significantly different from HML

Width Length
CT/P wao 15%
% Cover

Near HML

End of GR-101-A

Mid HML S/S

CT/P mid VI
wao 30%

CT/P wao 15%

CT/P wao 20%

Mid HML CT/S + Mid VI
CT/B wao 70%

CT/P wao 15%

CT/P wao 40%

ST/S Green HML

CT/B wao 70%

CT/B wao 70%

CT/P wao 40%

Profile

Spot Wash + Bio

Vegetated Berm CT/S

CT/B wao 15%

30m
VI MI

Start of GR-101-A

LWL HML

Spot Wash + Bio

Strain + Heavy Coat on Sides of Boulder

Small pockets of gravel saturated

Large Talus Boulders

CT/B

CT/P

40m
VI MI

Oil Character Length (m): AP PO CV CT 1398 ST 360 MS PT TB FL 180 NO

Note: Snow covered upper storm berm in most localities not

SHORELINE ECOLOGICAL SUMMARY

REVISION: 05/22/90

Segment ST / GR101 Subdivision A Date (mo / day / yr) 4/7/90

Time (24 hr) 0700 Biologist Steve Schroeter

(A) Substrate type and % of segments:
(1) Bedrock 20 (2) Boulder 47 (3) Cobble 20 (4) Pebble 13 (5) Sand 0 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 28 Moderate 37 Low 34

(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. N/A

Frames None

BARNACLES

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

MYTILUS

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

STROPODS

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

FUCUS

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

Wildlife Observations/ General Comments: 2-3 oystercatchers every 300-400 meters for beach. No principal haulouts observed

sensitivity	GV	FM	SNP	SNB	SNP	SNB
priority	3	4	1	1	3	1

Ecological Considerations: Segment is series of boulder + cobble pocket beaches, separated by shallow bedrock headlands. There is little freshwater in this intertidal area. There are high densities of *Intormes* + the *mpet*, *L. scutum* on + particularly under the boulders + cobbles in the pocket beaches in the mid + upper-low intertidal. Bedrock beaches have high cover of *Halosaccus* + *Rhodomydion* in the mid intertidal + about 10-20% cover of leaf grass (*P. scabrifolius*). Pools in the mid intertidal contain occasional dense aggregations of *P. ochraceus*. Large *Teuthis* mid intertidal pools which have high cover of *Crithidia* corolla.

Segment: GR-103 Subdivision: A
BIO: S. Schroeter OG: S. Berglund

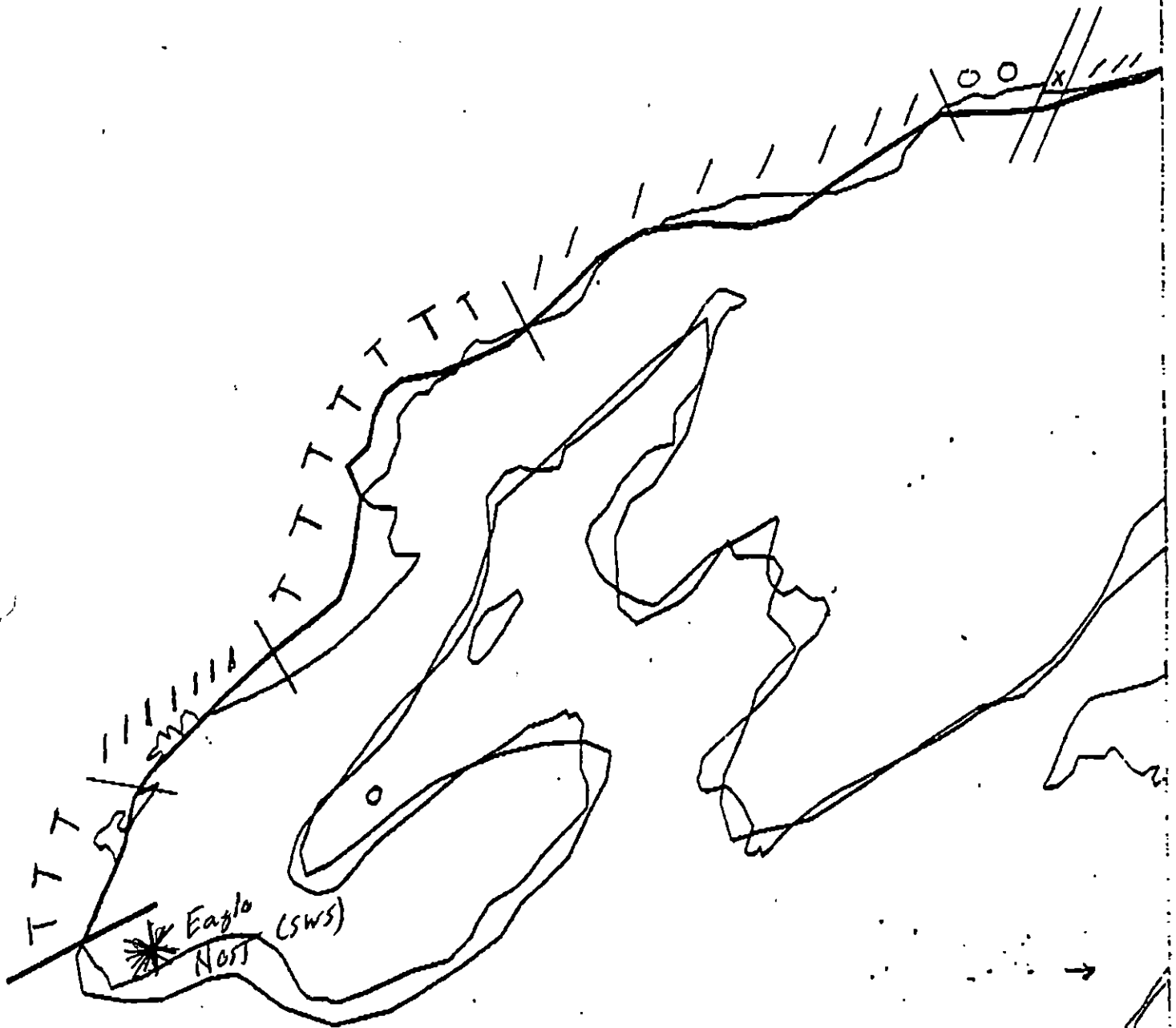
Date: April 7, 1990
Time: 0700-0930
Tidal Range: >+1.3

This subdivision is a series of boulder/cobble pocket beaches separated by bedrock headlands composed of vertically tilted shale. There is one location at the NE end of the segment where a small freshwater streamlet trickles through the fractures in the bedrock, but by and large, there is little fresh water in this intertidal. Some notable features of this subdivision include:

1. High densities of gastropods (littorines and *N. scutum*) throughout the intertidal in the boulder cobble pocket beaches. On the headlands, *Siphonaria* are occasionally found in dense patches.
2. High densities of *Halosaccus* and *Rhodomya* in the mid intertidal on bedrock benches. Pools in the mid intertidal average about 10% cover of eelgrass.
3. Pools in the high intertidal have high cover of crustose coralline algae and commonly contain large *Tealia crassicornis*.
4. *Endocladia* occurs rarely on bedrock and large boulders in the high intertidal.
5. *E. obraccus* are common in mid-intertidal pools on the bedrock benches.
6. High densities of *N. lima*, mussels, and barnacles (mainly *B. glandula*) in cobble/boulder/pebble pocket beaches near the SE end of this segment. Moderate densities of *L. hexactis* under boulders (stars found under 2/10 boulders).

ECOLOGY
MAP

GR-101



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

GR-101

ADEC Segment Length: 4473m



Map Key: PWS-2470
 Name: B. Berglund
 Date: 4/7/98
 Data Entered:

ECOLOGY
MAP

R-05

Seabird Colony

Seabird Sea Line

Eagle
Nest
(SW)

XXXX Wide

//// Medium

-- Narrow

TTTT Very Light

0000 No Oil

GR-101

ADEC Segment Length: 4473m

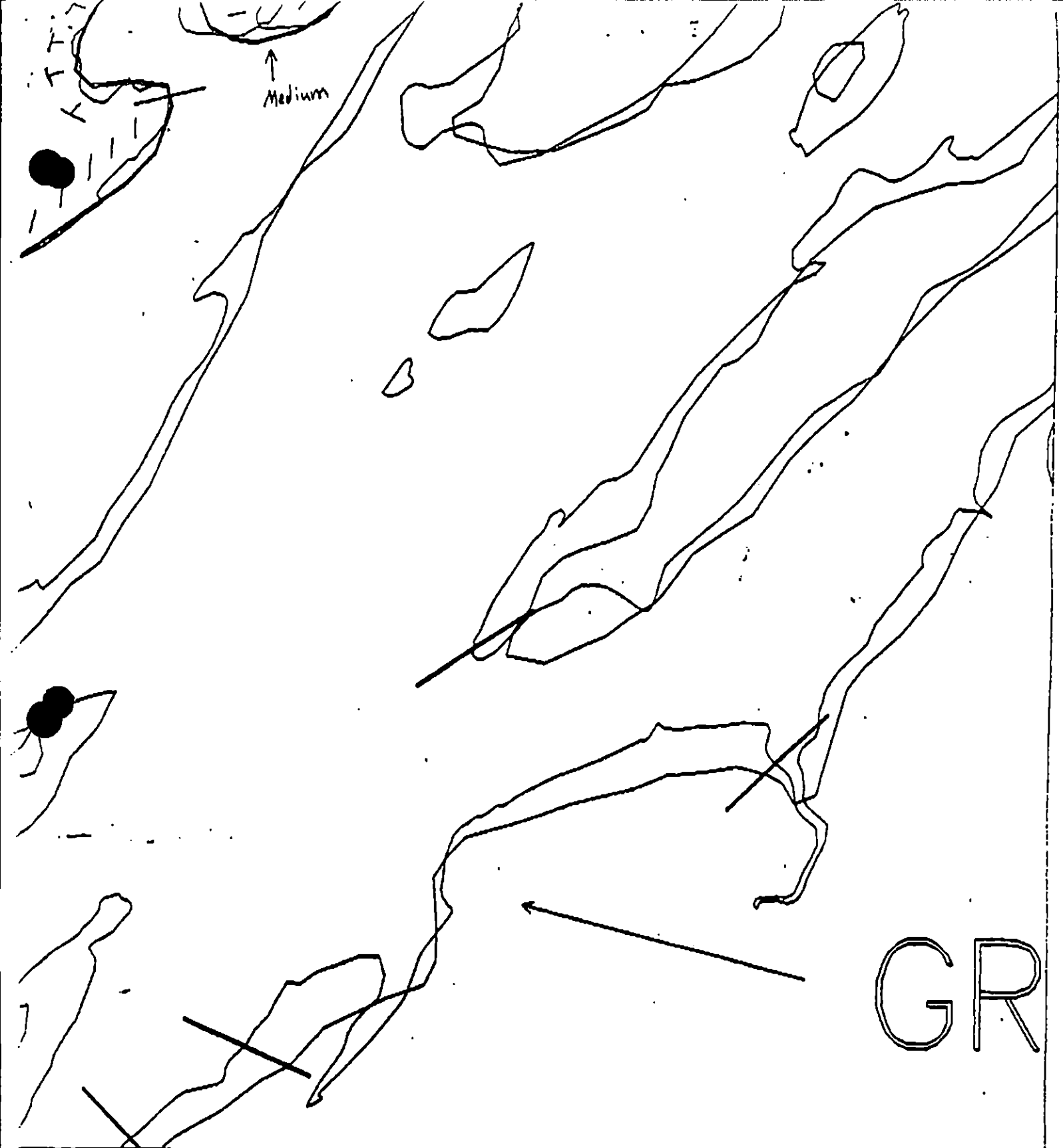


Map Key: PWS-2470

Name: B. Berglund

Date: 4/7/90

Data Entered:



GR

XXXX Wide

//// Medium

--- Narrow

TTT Very Light

0000 No Oil

GR-101

ADEC Segment Length: 4473m



Map Key: PWS-247b

Name: B. Bengland

Date: 4/7/90

Date Entered:

GR-302

GR-104

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

GR-101

ADEC Segment Length: 4473m



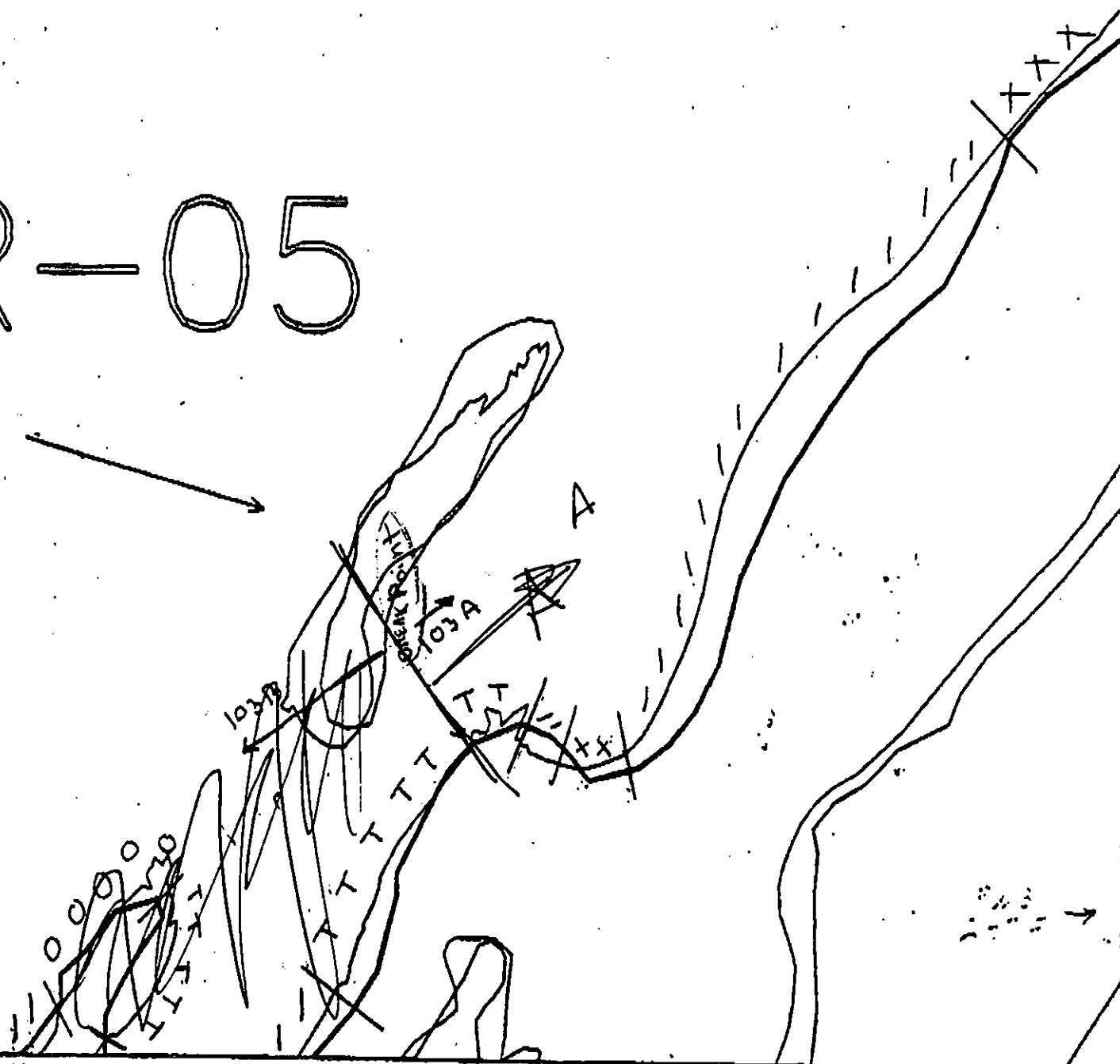
Map Key: PWS-2471

Name: B. Benglund

Date: 4/7/90

Data Entered:

GR-05



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

GR-101A

ADEC Segment Length: 4473m



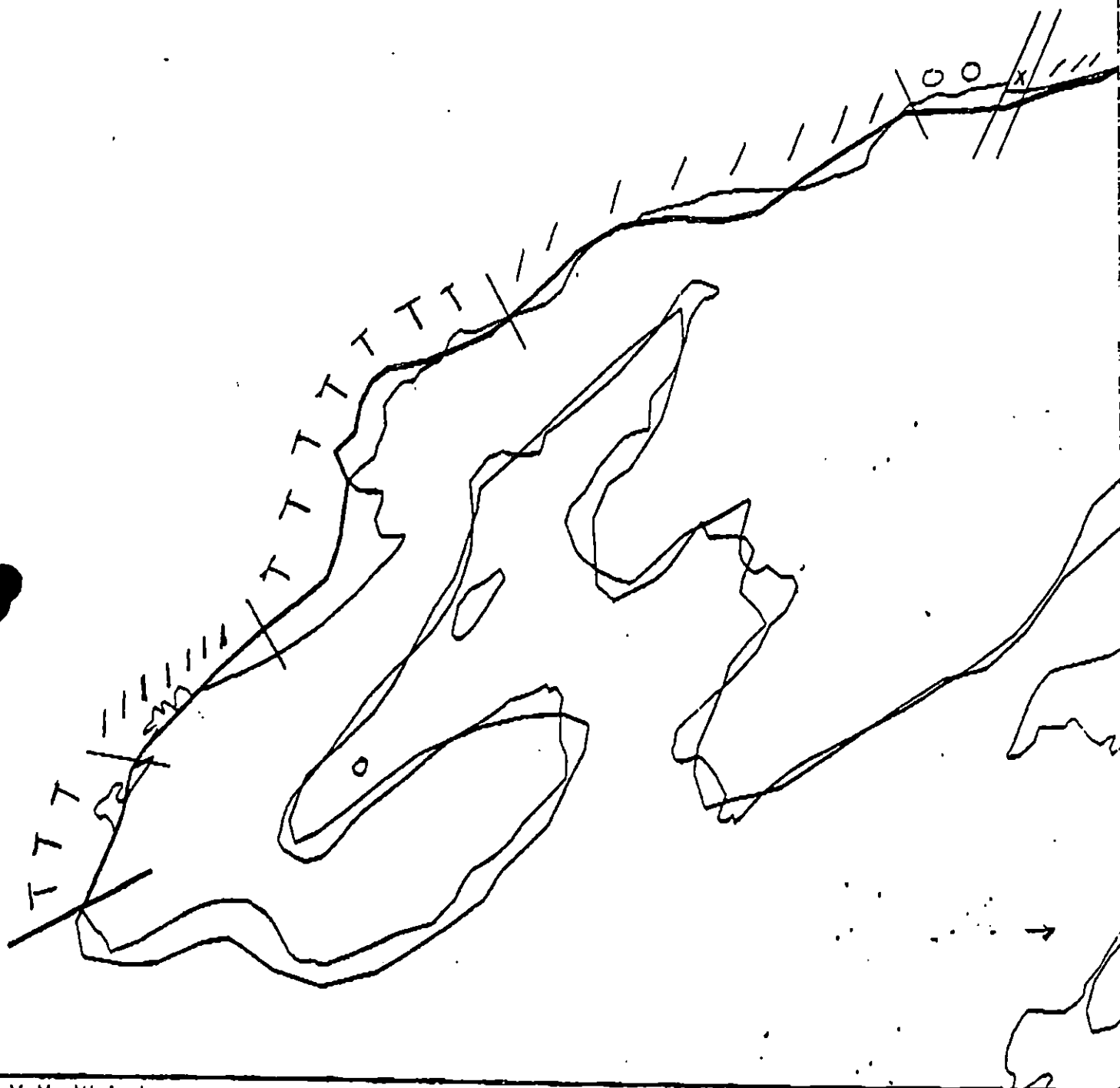
Map Key: PWS-2470

Name: B. Benglund

Date: 4/2/90

Data Entered:

GR-101



XXX Wide

/// Medium

--- Narrow

T Very Light

000 No Oil

GR-101

ADEC Segment Length: 4473m



Map Key: PWS-2470

Name: B. Berglund

Date: 4/7/98

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-101 SUBDIVISION A (1 of 2)

WORK WINDOW	
Manual Pickup	CLOSED
Bioremediation Spot Washing Other Approved Treatment	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M	Herring Spawning	Closed to bioremediation, spot washing and other approved treatment before 6/15. No constraint to manual pickup.
3N,P 3O,Q	Harbor Seal & Sea Lion Pupping and Molting	Closed to bioremediation, spot washing and other approved treatment before 7/2 and after 7/31. Closed to manual pickup before 7/2 and after 8/14.
5T	Bald Eagle Nest	USFWS 6/1/90 map indicates an active nest in adjacent Segment GR-3A. Closed to manual pickup, bioremediation, spot washing, and other approved treatment within 400m of active nest. No constraint to manual pickup, bioremediation, spot washing, and other approved treatment more than 400m from nest.
5R	Seabird Colony	Active seabird colony within 800m of all work areas in subdivision. Closed to manual pickup, bioremediation, spot washing, and other approved treatment until 9/1.
5S	Shorebird/Waterfowl Concentration	No constraint after 5/15.
7II	Subsistence: Deer Harvesting	Closed to bioremediation, spot washing and other approved treatment after 8/15. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

If seabird colony constraint is removed, other ecological considerations will apply.

FOSC

Date

6-12-90

Prepared by

Date

6-10-90
Ann
6/12/90

Active Seabird Colony
800m buffer
zone

GR-06
GR-05
GR-03
GR-302
GR-104
GR-105
GR-14
GR-08
GR-07
GR-11
GR-02
GR-17

WORK
AREAS

GR-101

GR-14

GR-08

GR-07

GR-11

GR-02

GR-17



Exxon Company, USA
Map Key: PWS-GR-101
June 04, 1990



ECOLOGY MAP

SEGMENT GR-101

SUBDIVISION A (1 of 2)

METERS



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

WIND AT 1000 HRS

SHORELINE EVALUATION

SEGMENT ST/ GR-101 SUBDIVISION A (1 OF 2) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
 3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
 3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
 5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
 5R Seabird colony (5/1 to 9/1) - within 1/2 a mile
 5S Shorebird/Waterfowl concentration (4/1 to 5/15)
 6Y Recreation: Special use destination
 7II Subsistence area: Deer harvesting (8/15 to 2/28)
 See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest on border between Subdivision A/B, near border within GR-302.

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Hume DATE: 4/23/90

OILING CATEGORIZATION:

Wide 383 m: Medium 780 m: Narrow 0 m: V.Light 524 m: No Oil 0 m
 Subsurface Oil Observed: Yes X No Maximum Depth 6 cm

RECOMMENDATIONS:

<u> </u> No Treatment Recommended	<u> </u> Snare/Absorbent Booms
<u>X</u> Treatment Recommended	<u>X</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> </u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes 1) removal of oiled debris and vegetation, 2) spot wash areas on map with wands and using snares/pom poms to control sheening, 3) bioremediation of areas shown on map. Work should be conducted between 7/2 and 8/14 due to above herring and pinned constraints and after approval of ADF&G and USFWS regarding seabird colony and eagle nest. SEE APPROPRIUM date 6/12/90 JPP

TAG COMMENTS: ASSESSMENT of MONITORING SUITZ BY MONITORS AT TIME OF TREATMENT

IF POSSIBLE BREAK UP HARD PAN IN BETWEEN BOULDERS PRIOR TO SPOT WASHING AND BID

TAG APPROVAL DATE: 4/21/90

ADEC Art Weiner Art Weiner
 EXXON Andy Tate Andy Tate
 NOAA Bill Wescott Bill Wescott
 USCG Kenneth Keane Kenneth Keane

FOSC: DATE: 4-27-90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-101 SUBDIVISION B (2 of 2)

WORK WINDOW	
Manual Pickup	WORK 7/1 to 8/15
Bioremediation Spot Washing Other Approved Treatment Manual Raking	WORK 7/1 to 7/31

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M	Herring Spawning	Closed to bioremediation, spot washing, other approved treatment, and manual raking before to 6/15. No constraint to manual pickup.
3N,O 3P,Q	Harbor Seal & Sea Lion Pupping and Molting	Closed to bioremediation, spot washing, other approved treatment, and manual raking before 7/1 and after 7/31. Closed to manual pickup before 7/1 and after 8/15.
5T	Bald Eagle Nest	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision B work site.
5S	Shorebird/Waterfowl Concentration	No constraint after 5/15.
5R	Seabird Colony	NO CONSTRAINT. Work areas are more than 800m from colony.
7II	Subsistence: Deer Harvesting	Closed to bioremediation, spot washing, other approved treatment, and manual raking after 8/15. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

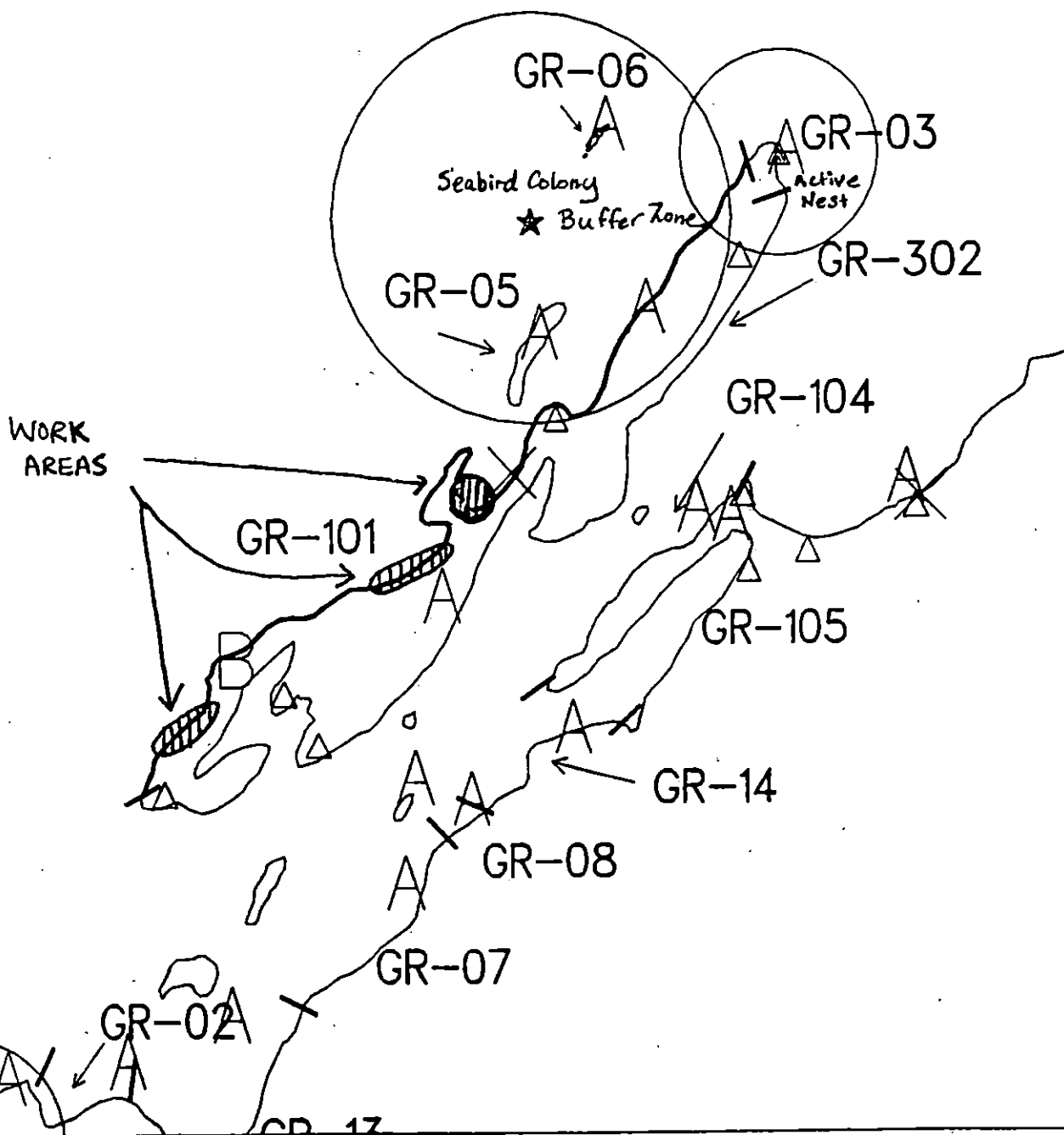
Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass. Restrict air traffic and beach disturbance to essential minimum after 8/15. Do not apply bioremediation to specific areas where seals are observed to haulout. Do not chase 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.

FOSC

[Signature]
T. D. M.

Date

6/13/00



Exxon Company, USA
Map Key: PWS-GR-101

ECOLOGY MAP
SEGMENT GR-101
SUBDIVISION B (2 of 2)
METERS

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

SHORELINE EVALUATION

SEGMENT ST/ GR-101 SUBDIVISION B (2 OF 2) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
30,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
5R Seabird colony (5/1 to 9/1) - within 1/2 a mile
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest on border between Subdivision A/B, near border with GR-03.

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 J. Hume DATE: 4/23/90

OILING CATEGORIZATION:

Wide 28 m: Medium 1521 m: Narrow 0 m: V.Light 985 m: No Oil 252 m
Subsurface Oil Observed: Yes X No Maximum Depth 20+ cm

RECOMMENDATIONS:

<u> </u> No Treatment Recommended	<u> </u> Snare/Absorbent Booms
<u>X</u> Treatment Recommended	<u>X</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> </u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes 1) spot washing with wands and using snares/pom poms to control sheen, 2) bioremediation after washing and on areas indicated on attached sketch map, 3) manual pick up of oil-ed debris, and vegetation. Work should be conducted between 7/2 and 8/14 due to above herring and pinned constraints and after approval of ADF&G and USFWS regarding seabird colony and eagle nest.

SEE ADDENDUM dated 6/12/90/PP
TAG COMMENTS: MANUALLY RAKE + BIO AREA OF PIT 10. AS SHOWN ON CONSTRAINTS SKETCH

TAG APPROVAL DATE: 4/21/90.

ADEC Art Weiler Art Weiler
EXXON Ann TEA Beale
NOAA Burt Wescott Burt Wescott
USCG Kenneth Keane Kenneth Keane

FOSC: hgl DATE: 4-27-90

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/GR-101

SUBDIVISIONS: B (2 OF 2)

SHORELINE EVALUATION

SEGMENT ST/ GR-101 SUBDIVISION B (2 OF 2) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
30,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
5R Seabird colony (5/1 to 9/1) - within 1/2 a mile
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest on border between Subdivision A/B, near border with GR-03.

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 28 m: Medium 1521 m: Narrow 0 m: V.Light 985 m: No Oil 252 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 20+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) spot washing with wands and using snares/pom poms to control sheen, 2) bioremediation after washing and on areas indicated on attached sketch map, 3) manual pick up of oil-ed debris, and vegetation. Work should be conducted between 7/2 and 8/14 due to above herring and pinned constraints and after approval of ADF&G and USFWS regarding seabird colony and eagle nest.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ GR101

SUBDIVISION: B

DATE 7 APR 90

SCG

NAME James C. Gomball

SIGNATURE James C. Gomball

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

There is some moderately oiled beaches. Natural cleansing seem to be removing much of the Gross Contamination from boulder. Some shelter area of concern is headland and sheltered areas. See Ethos OG sketch map.

ADEC

NAME Brian K. FitzSimons

SIGNATURE Brian K. FitzSimons

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

I concur with the OG's report maps and comments. Most of this segment, by definition, is moderately oiled. Natural cleansing seems to be removing much of the gross contamination from Boulder, Cobble and bedrock surfaces of beaches when compared to condition of beaches last year. Areas of concern are where oil has collected in sheltered areas (Coves, Pocket Beaches and sides of headlands). There are at least two ~~other~~ locations requiring treatment.

Location #1. ~~BCF~~ Cove at Northeast end of segment.

BC → Ct (patchy) → 30m wide

PCG → OR → 2cm → intermittent

} There is a 6 meter band of

Broken Coat within the 30 meter band.

LAND MANAGER

NAME Carol S Huber

SIGNATURE Carol S Huber

See Attached.

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Agree with ADEC, natural cleansing not effective in sheltered areas. Two major oiled areas require treatment, approximately 2/3 of segment. Resource sensitivities as mentioned in GR101A

ADEC Comments and Recommendations Continued
GR101B

The heaviest oiling occurs along the southeast side of the beach.

Suggested Treatment

1. HTHP wash with header flood
2. Might be excellent area for discing/trenching due to low gradient and manageable aggregate size.
3. Bioremediate

Location #2. Southwestern $\frac{1}{3}$ of 1st beach to the southwest of the peninsula on the NE end of segment 101B. The beach ends with headlands on its SW end. Adjacent to these headlands is the heaviest concentration of oil. (See OG sketch Map GR101B Test Pit #9 Location)

Heaviest oiling occurs on B/fractured Bedrock } Dark Bk
Bedrock } Shiny

Suggested Treatment

1. HPHT wash with header flood

Notes: Entire segment should be monitored throughout summer for evidence of sheening and mobile oil.

Storm berms should be reevaluated after breakup - Most were frozen and snow covered.

Brian K. P. [Signature]

SHORELINE OILING SUMMARY

REVISION NO. 03/22/00

OG B. Berglund USCG J. Gamble SEGMENT ST/ GR-101
 BIO S. Schroeder LAND REP. C. Huber (NAS) SUBDIVISION B 2042
 EXXON C. Levine ADEC B. Fritzsimons TIME 15:01:20:00
 TEAM NO.: 2 TIDE LEVEL: +6 to 1.4 DATE 4/7/90
 EST. SUBDIVISION LENGTH: 3701 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 SURVEYED FROM: ☐ Grass ☒ Forest ☐ Rock
 SURFACE SEDIMENTS: R 30 % B 60 % C 5 % P 3 % G 2 % S 0 % M 0 % V 0 %
 SLOPE: Long 50 % Hang 20 % Vert 30 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 20 m M 1240 m N 0 m VL 1531 m NO 410 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	C	R	P	B	SW	BR	BL	GR	SU	U	M	L
ASPHALT PAVEMENT												
POOLED												
COVER												
COAT												
STAIN												
MOUSSE												
PATTIES												
TARBALLS												
FILM												
OIL												

PAVEMENT: H F S None sq. m by 0 cmPATTIES / TARBALLS None BAGSNEAR SHORE SHEEN? ☒ NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE 0#BAGS 0

Photographs:

Roll No. SI-1-3Frames 15-26

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		VO	UC	SW	BR	BL	GR	SU	U	M	L			
1	20	X					0-20	X		X				X						G/S (Beneath Boulder)
2	20	X					0-10	X		X				X						G (Lower Beach)
3	15	X					0-3	X		X				X						G/S (Beneath Boulder)
4	20					X		X							X					G/S
5	20					X		X						X						G/S
6	10	X					0-1	X		X				X						G/S (Beneath Boulders)

COMMENTS:

* oil depth 9 ± 5 m in G/S does not
 constitute subsurface oil

SEGMENT ST/ GR-10 SUBDIVISION B

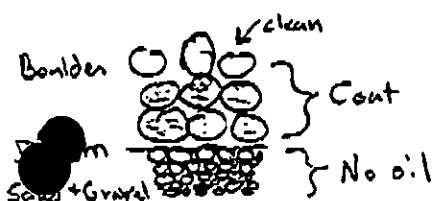
SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OF	OR	OL	OF	NO		UO	UO	SP	BR	DR	OR	SL	DR	TL	LR	SU	U	M	L		
7	30		X				0-5		X	X								X				N	G/S (Beneath Boulder)
8	35		X			X	0-10		X	X								X				1	G/S (Lower Berm)
9	40		X				10-18		X	X								X					C/G (Lower Berm)
10	20	X					0-20	X		X								X					P/G
11	30					X	.		X									X					C/P/G (Lower Berm)
12	30		X				0-10		X	X								X					C/G/S (Beneath Boulder)
13	30					X	.		X									X					C/G/S
14	40					X	.		X									X					C/G/S (Lower Berm)
15	40					X	.		X									X					C/G/S
							.																
							.																
							.																
							.																
							.																

COMMENTS * ≤ 5 cm in G/S does not constitute subsurface oil!

The segment has a generally patchy coat of oil located in the upper intertidal zone. There are localized areas of heavier coats (broken to continuous). Usually these are located in the back ends of protected coves or pocket beaches. Beaches generally consist of boulder. Frequently surface boulders are clean or only partially coated, while the underlying boulders are uniformly coated. Storm Berms are relatively free of subsurface oil.

The degree of oiling tends to decrease to the SW along this segment. The SW sector being lightly oiled.



REVIEWED _____ DATE _____

OG England

SEGMENT ST/ GR-101

SUBDIVISION B

DATE 4/7/90

CHECKLIST

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

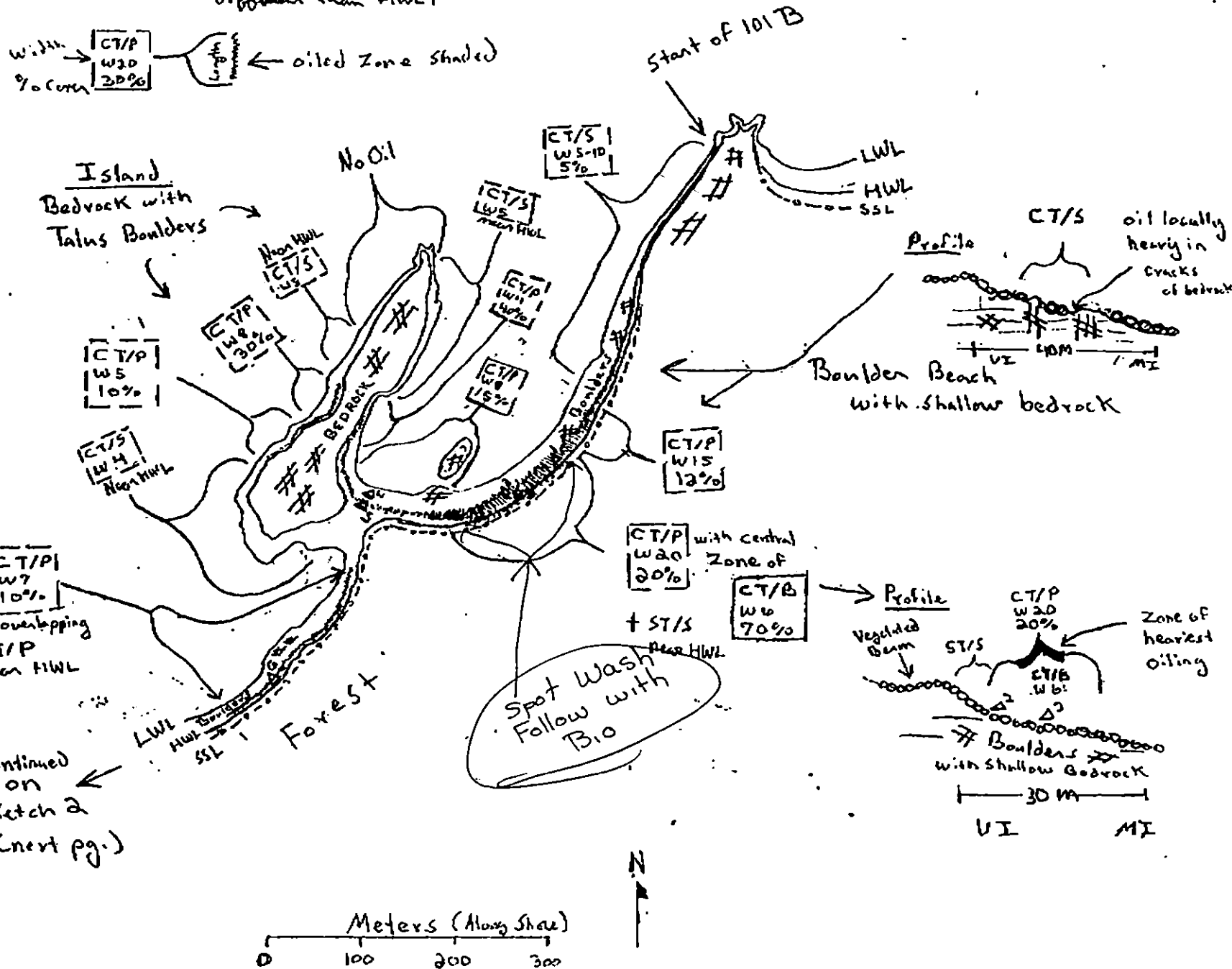
LEGEND

- 1 Δ
P/L - No Subsurface Oil
- 2 Δ
P/L - Subsurface Oil
- $\boxed{CT/C}$
Continuous Distribution
- $\boxed{CT/B}$
Broken Distribution
- $\boxed{CT/P}$
Patched Distribution
- $\boxed{CT/S}$
Splashed Distribution
- ---
Oiled Vegetation
- 1 $\bullet$
Photo location, direction, and number

* Exposed Bedrock

--- SSL (where significantly different than HWL)

SKETCH MAP (1 of 2)



Oil Character Length (m): AP PO CV CT 324 ST 180 MS PT TB FL 180 NO 410

REVISION 20/2/90

OG B. Berglund

SEGMENT ST/GR-101

SUBDIVISION B

DATE 4/7/90

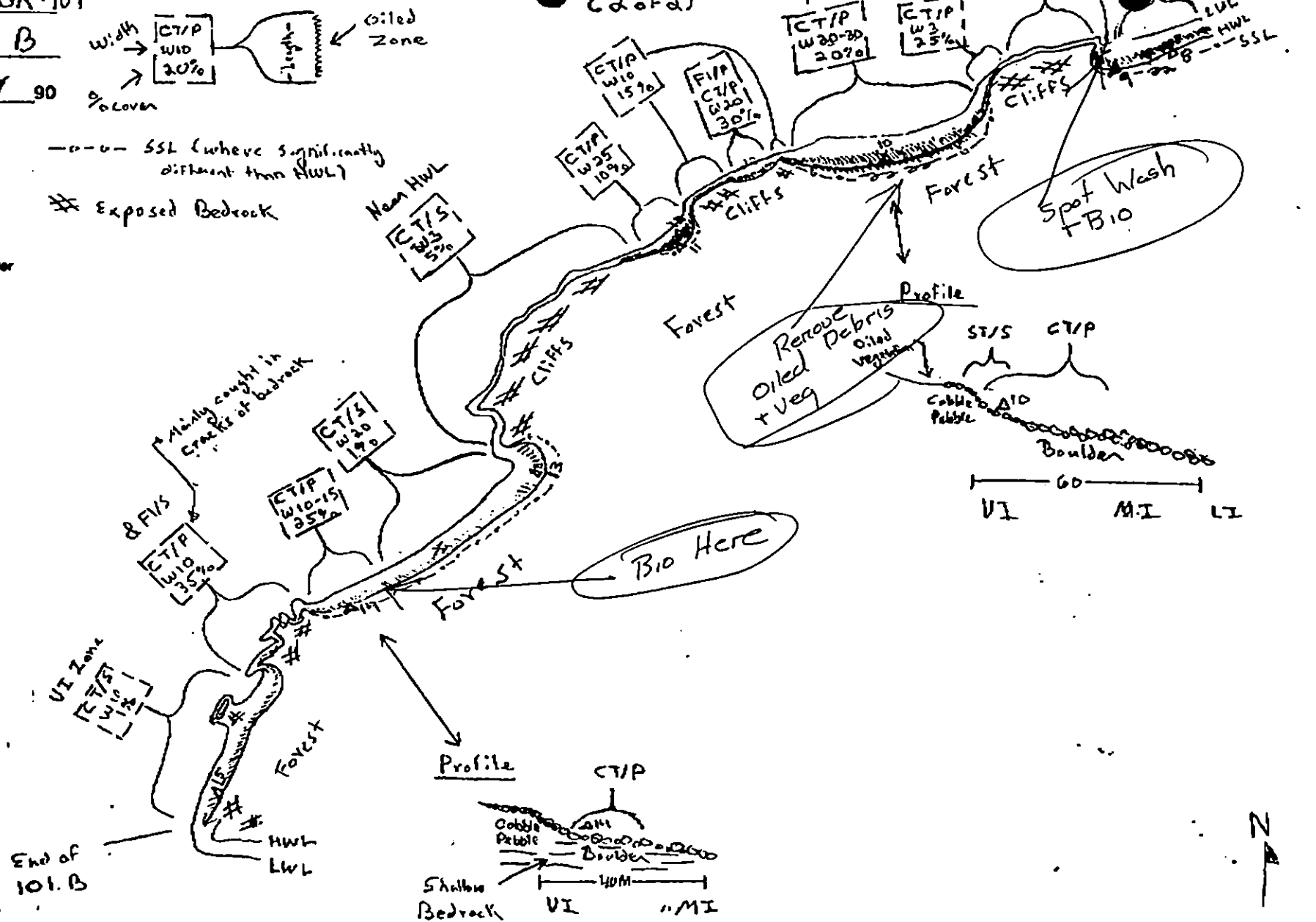
CHECKLIST

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

LEGEND

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

SKETCH MAP (2 of 2)



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

$\rightarrow$ See sketch 1 for totals.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST GR101 Subdivision B Date (mo / day / yr) 4/7/90
 Time (24 hr) 1545 2000 Biologist S. Schroeter Tidal Range +1.4

- (A) Substrate type and % of segments:
 (1) Bedrock 24 (2) Boulder 24 (3) Cobble 34 (4) Pebble 17 (5) Sand 1 (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 29 Moderate 31 Low 40
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)

Photographs:
 Roll No. ST-1-3

Frames 5, 17, 18-21

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

ASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

No principal data on animal

Tidal Range: +1.43

Sensitivity	6Y	7H	3N-P	3N-Q	2m
Priority	3	4	1	1	3

Ecological Considerations: Subdivisions contained numerous upper + mid intertidal pools with high concentrations of crustacean + fleshy coralline algae. Gastropods were abundant + in decreasing order of abundance were Scutum, Tonacella lineata, Mopalia lignosa + Katharina tunicata. Gastropods were abundant in all habitats but most abundant in boulder + cobble habitats in the mid + low-upper intertidal. Boring Leptasterias hexactes were abundant among boulders in the low + mid intertidal. Pocket beaches with high cover of cobbles + pebbles often had high densities of Leptasterias in the low + mid intertidal.

Segment: GR101 Subdivision: B
 BIO: S. Schroeter OG: B. Berglund

Date: April 7, 1990
 Tidal Range: >+1.6

This subdivision consists of 4 subhabitats: 1) shale bedrock platforms in the upper and mid-intertidal with boulder and cobble beaches in the low, 2) boulders and cobbles throughout the intertidal zone, 3) Cobble and gravel in the upper and mid-intertidal with sand and gravel in the low, and 4) boulder and cobble in the upper and mid intertidal and shale bedrock in the low intertidal.

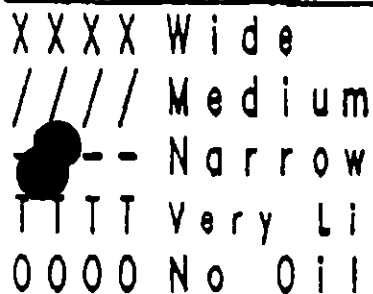
Subhabitat (1) contained many tidepools in the upper and mid intertidal with high cover of crustose coralline algae and Hildenbrandia. Anemones were common in these pools, and in decreasing order of abundance were: Epiactis proliferata, Anthopleura artemesia, A. elegantissima, and Tealia crassaicornia. Grazers were also common and in decreasing order of abundance were: N. scutum, Tonicella lineata, Mopalia lignosa, and juvenile Katherina tunicata lineata. One large bedrock pool in the upper intertidal contained moderate densities of small (<3 cm) Strongylocentrotus drobachinesis and a single individual of S. franciscanus (21 mm). The urchins occurred under 7 of 10 large boulders examined. This is a remarkably high density of juvenile S. drobachinesis based on observations to date, and the first observation of S. franciscanus.

Gastropods were abundant in all of the subhabitats, but particularly so in boulder and cobble habitats in the mid and low-upper intertidal.

Brooding Leptasterias were abundant in the low and mid intertidal of habitats (1) and (2). All were found beneath boulders.

There were moderate to dense concentrations of mussels and barnacles in the upper and mid intertidal in subhabitats 3 and 4. The mussels were most abundant around the bases of the boulders and cobbles, and occasionally in dense patches where they created a gravel/cobble/mussel matrix. The barnacles in these areas were almost all B. glandula, and tended to occur on the upper surfaces of the boulders and cobbles.

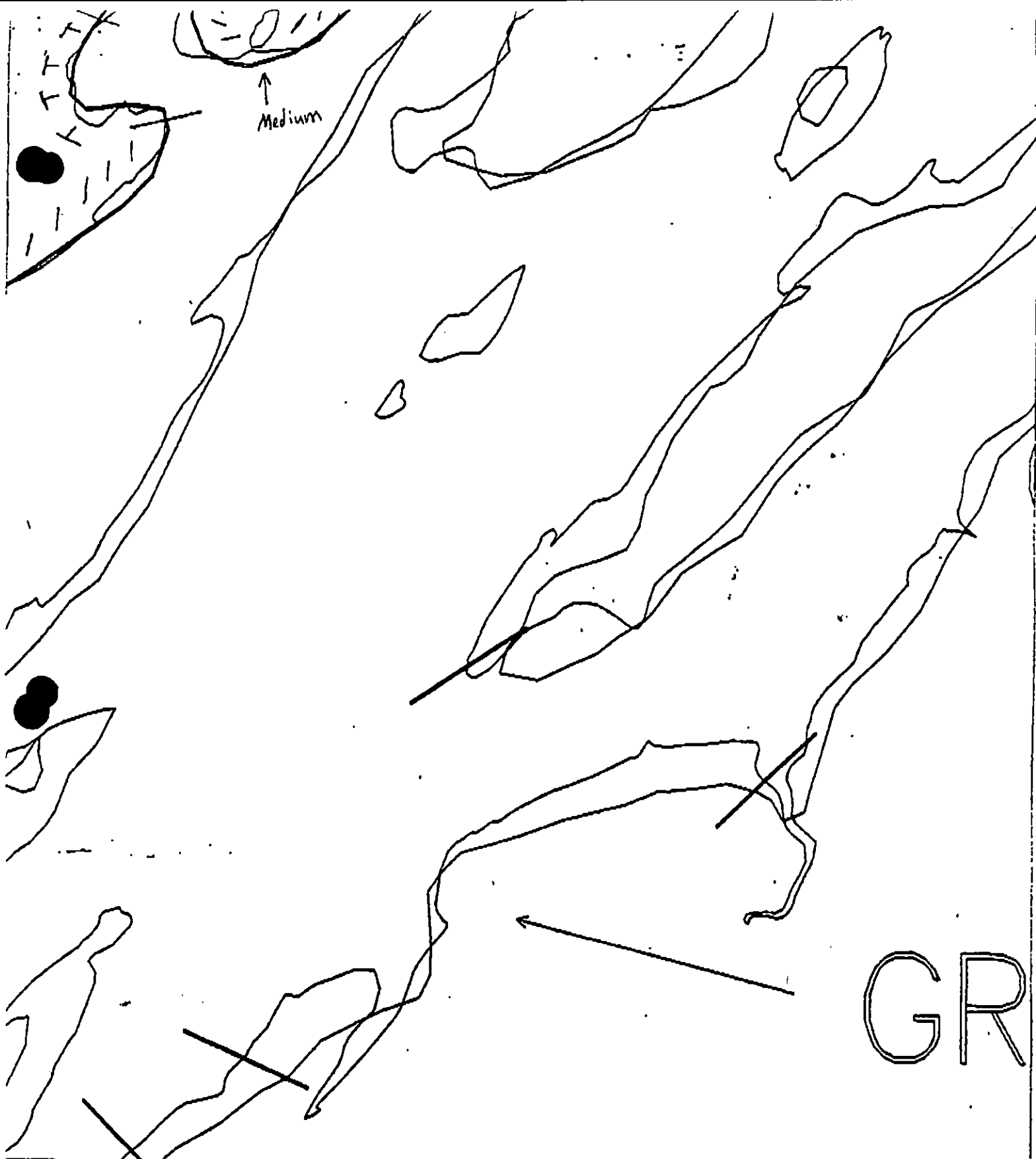
R-05



ADEC Segment Length: 4473m



Date Entered:



XXXX Wide

GR-101

//// Medium

--- Narrow

ADEC Segment Length: 4473m

TTTT Very Light

0000 No Oil



Map Key: PWS-247b

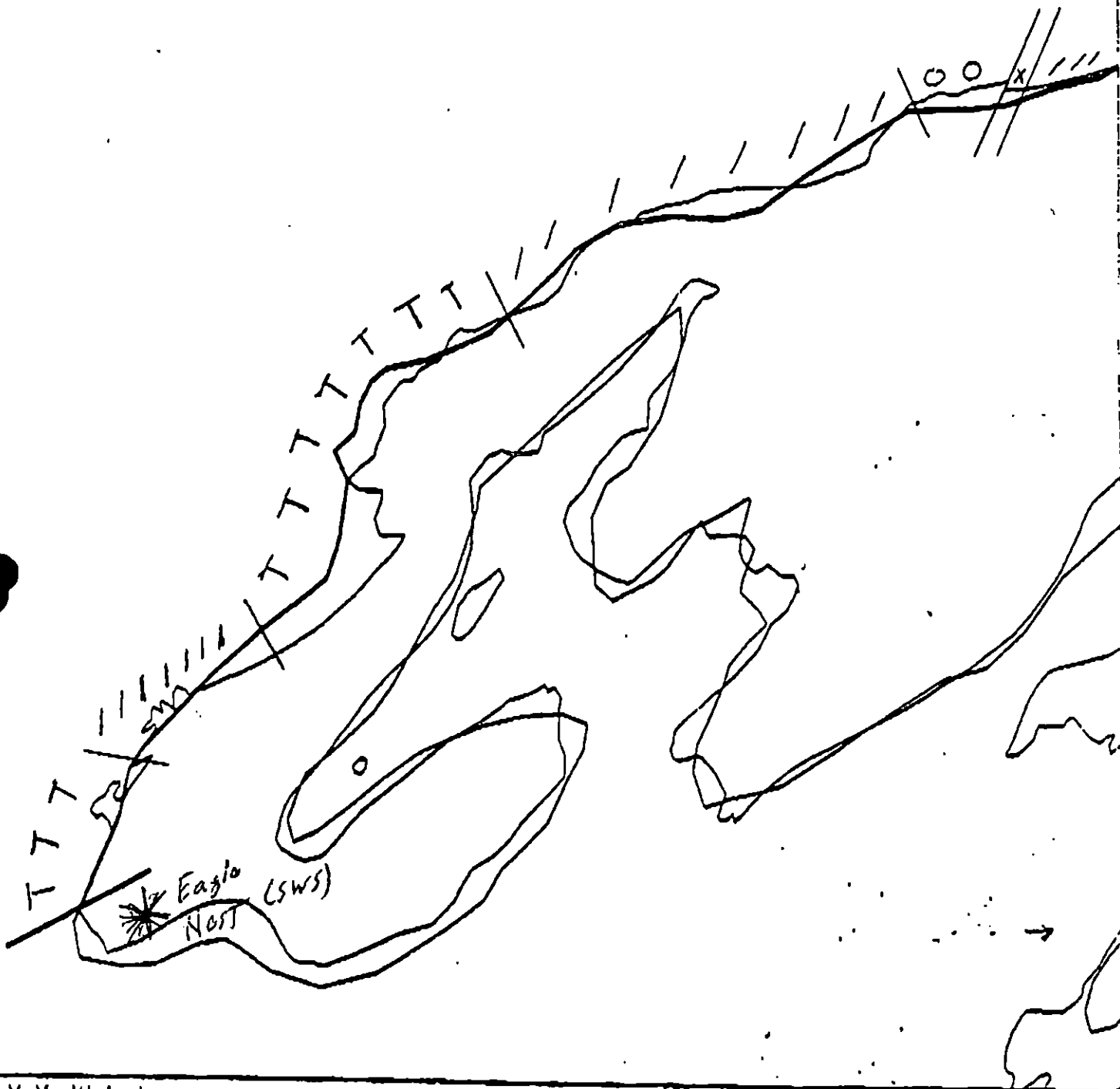
Name: B. Berglund

Date: 4/7/90

Data Entered:

ECOLOGY
MAP

GR-101



<XXX Wide

//// Medium

- - - Narrow

TTT Very Light

OOOO No Oil

GR-101

ADEC Segment Length: 4473m



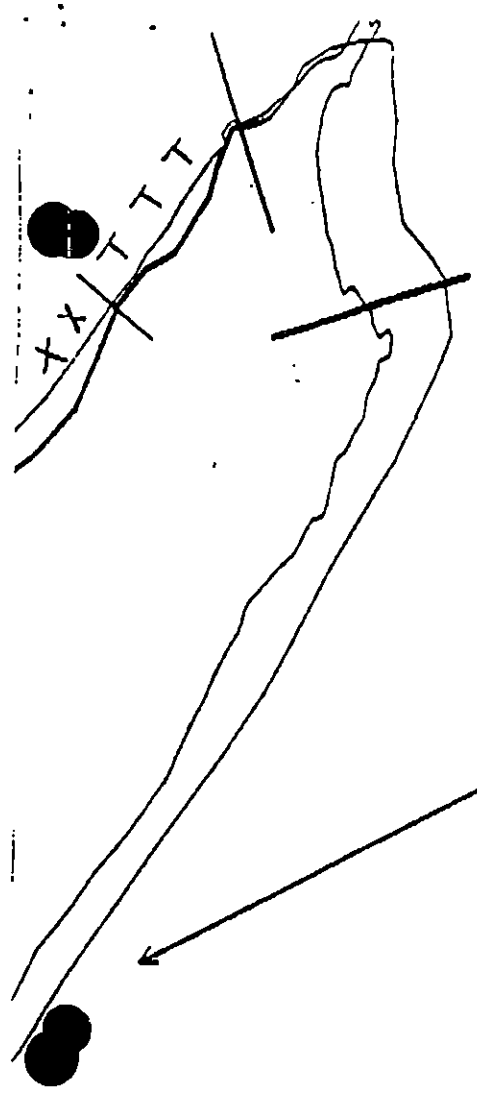
Map Key: PWS-2470

Name: B. Berglund

Date: 4/7/98

Data Entered:

see 7 of 11



GR-302

GR-104

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

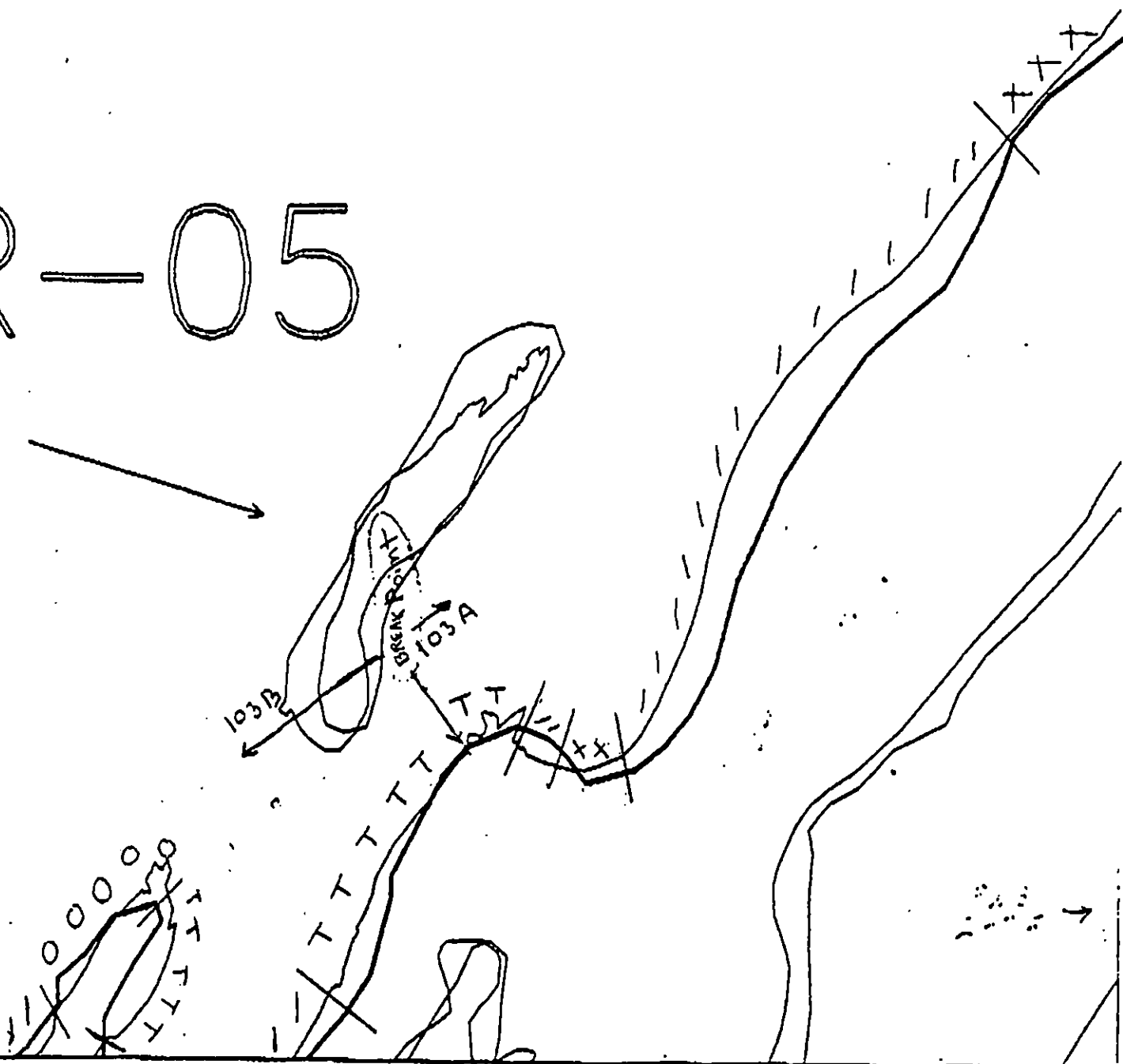
GR-101

ADEC Segment Length: 4473m



Map Key: PWS-2471
Name: B. Benglund
Date: 4/7/90
Data Entered:

R-05



XXXX Wide

/// Medium

-- Narrow

TTTT Very Light

0000 No Oil

GR-101

ADEC Segment Length: 4473m

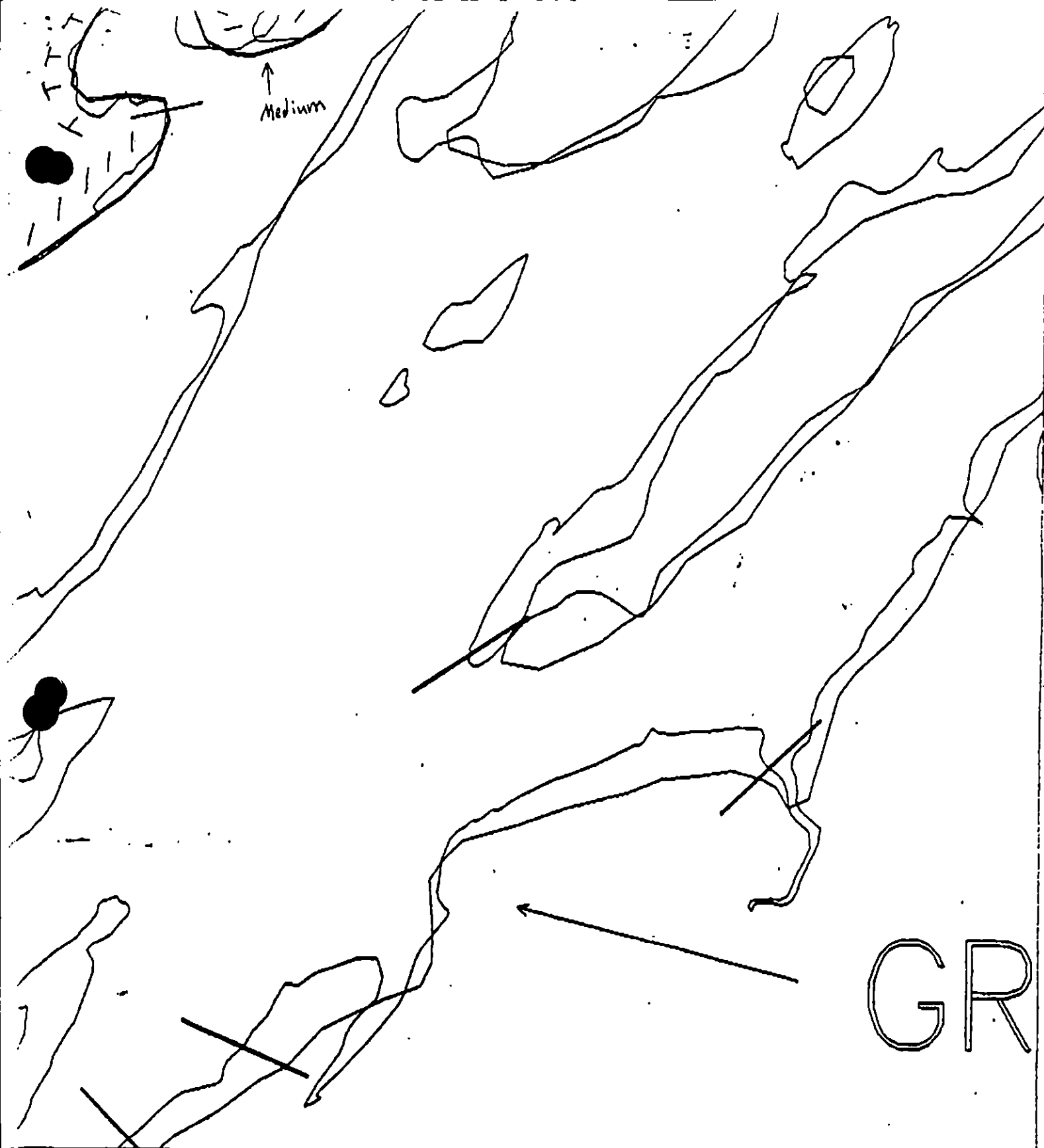


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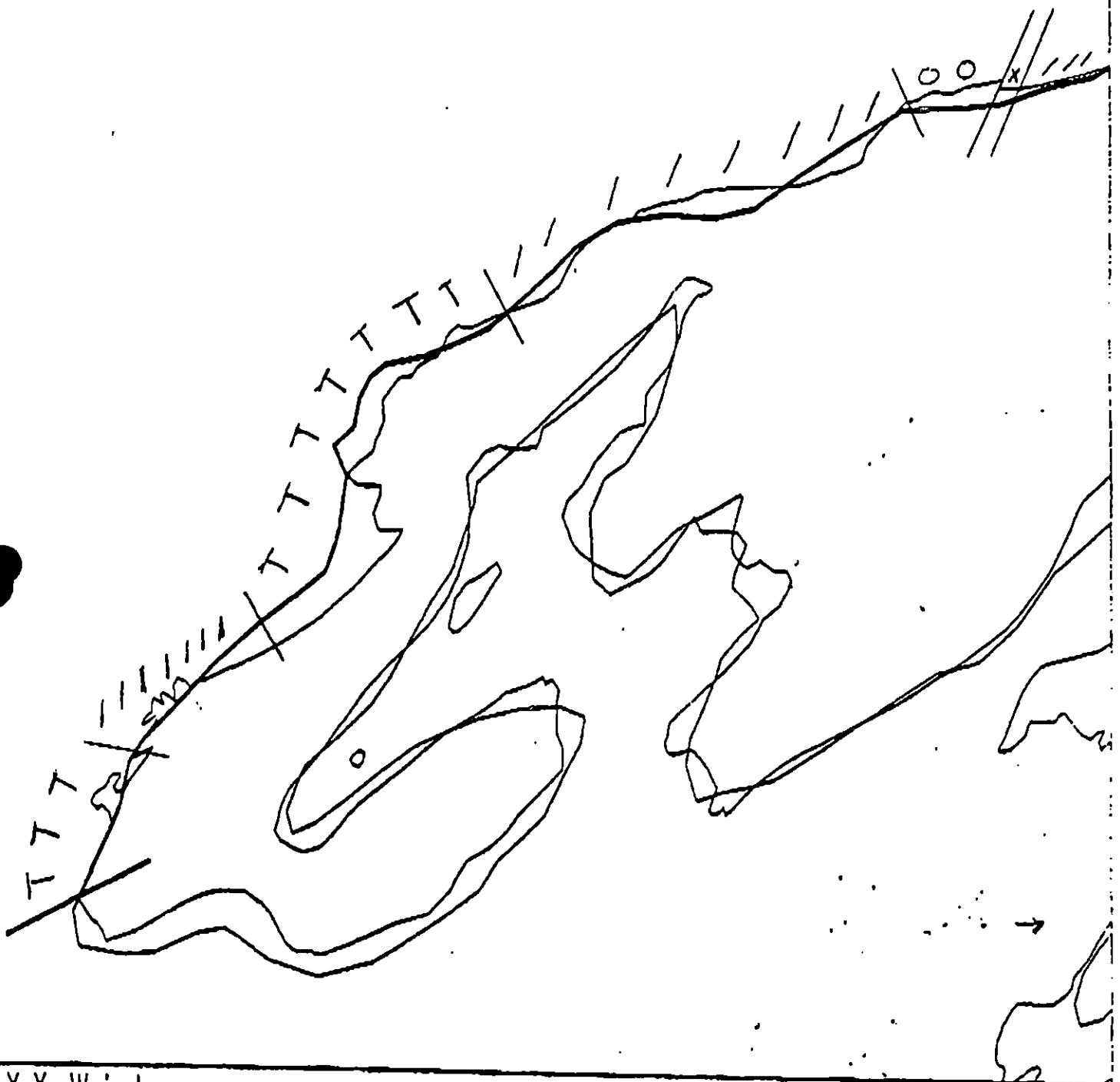
Name: B. Benglund

Date: 4/7/90

Date Entered:



GR-101



XXX Wide
/// Medium
--- Narrow
TTT Very Light
000 No Oil

GR-101

ADEC Segment Length: 4473m



Map Key: PWS-2470

Name: B. Berglund

Date: 4/7/90

Data Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/GR-102

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ GR-102 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6V Recreation: Anchorages (6/1 to 9/15)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
9CC Research natural area, closed
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 7 m: Narrow 0 m: V.Light 905 m: No Oil 620 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: Area has been set aside for research and, as such, no
treatment is to be conducted on this segment.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

GR-102 p 8.9

SEGMENT ST / GR 102 SUBDIVISION: _____ DATE 4/7/90NAME Robert G. Jensen SIGNATURE Robert G. Jensen☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Just a few splashes,

ADEC

NAME Rowann T. Hudnall SIGNATURE Rowann T. Hudnall☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Patchy distribution of splashes.

LAND MANAGER

NAME U.S. Forest Service SIGNATURE Leo Kuler☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Only minor splashes found and those
only near pct with segment 103.Continue Natural Treatment

SHORELINE OILING SUMMARY

REVISION NO. 02/22/90

OG John Marie Semple USCG Bob Jensen SEGMENT ST/ AR-102
 BIO John Dixon LAND REP Leo Keelin SUBDIVISION A-10
 EXXON Jim Quinn ADEC Rowann Hudnell TIME 06:55 to 08:35
 TEAM NO 2 TIDE LEVEL: +1.5 to +3.5 DATE April 7 190
 EST. SUBDIVISION LENGTH: 1804 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 35 % B 24 % C 29 % P 10 % G 0 % S 2 % M 0 % V 0 %
 SLOPE: Long 90 % Hang 10 % Vert 0 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 6 m N 0 m VL 1050 m NO 748 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	/C	/B	/P	/S	SB/BR	DBL/RW	GL/SL	DBR/TL	LBR	SU	UI	ME	U
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT			X		X					X			
STAIN			X		X					X			
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL										X		X	X

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE 0#BAGS 0

Photographs:

Roll No. ST-2-9Frames 7-25

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	SB/BR	DBL/RW	GL/SL	DBR/TL	LBR	SU	UI	ME	U		
1	30					X	-									X			No	Pb/Sd
2	30					X	-									X			"	Sd/Pb
3	30					X	-											X	"	Sd/Pb
4	30					X	-									X			"	Pb/Sd
5	30					X	-									X			"	Pb/Sd
6	30					X	-									X			"	Pb/Sd

COMMENTS

OG from Seapals
SEGMENT ST/ GA-102

SUBDIVISION NONE

DATE April 7 / 90

CHECKLIST

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

LEGEND

1 Δ
Pit - No Subsurface Oil

2 Δ
Pit - Subsurface Oil

$\boxed{CT/C}$
Continuous Distribution

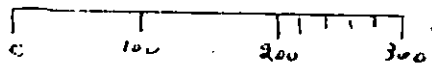
$\boxed{CT/B}$
Broken Distribution

$\boxed{CT/P}$
Patchy Distribution

$\boxed{CT/S}$
Splashed Distribution

Oiled Vegetation

1 $\rightarrow$
Photo location, direction, and number



Oil Character Length (m): AP PO CV CT 206 ST MS PT TB FL NO 748

206 850

Approx. note
HWL. LWL
SKETCH MAP
DIAGRAM 1

Legend

$\boxed{\text{diagonal lines}}$ Bedrock Ramp

$\boxed{\text{circles}}$ Boulder / cobble / pebble beach

$\boxed{\text{wavy lines}}$ Pebble / Sand beach

width $\rightarrow$ 5, 150
length $\rightarrow$ 5, 150
character $\rightarrow$ CT/S
Distribution
1 mm 10%
Thickness Coverage

5, 6
CT/B
1cm 60%
(max 3cm)

5, 150
CT/S
1mm 10%

5, 550
ST/S
< 10%

Stream

DIAGRAM 2

GA-102, p 2 of 9

Jan: Marie Sempels

Jan. 10 1990

Segment QR-102

Subdivision None

Date: April 7/1990

Diagram 1

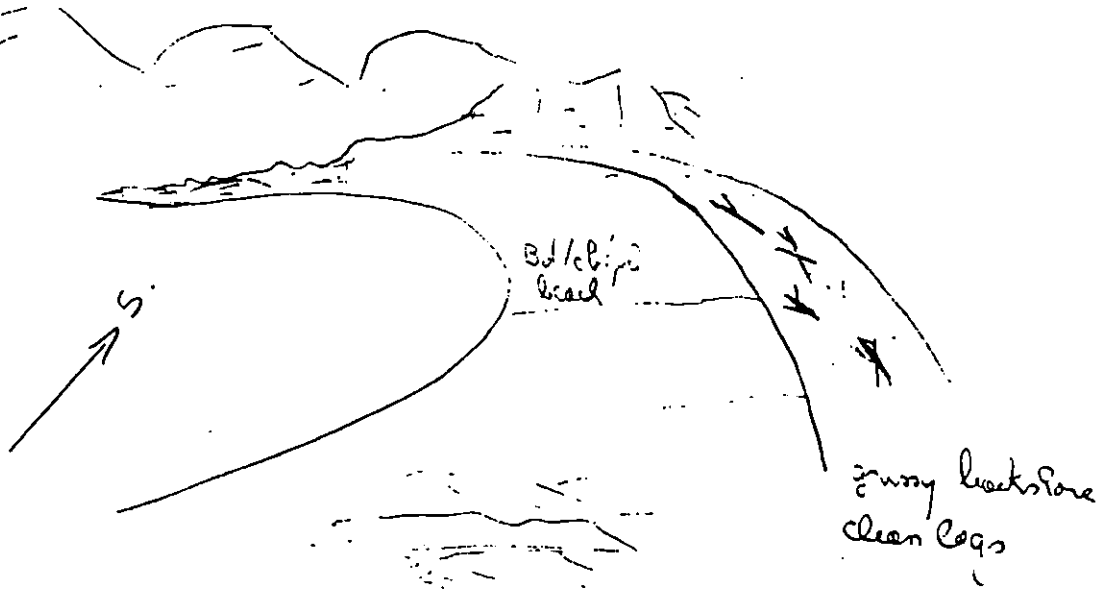
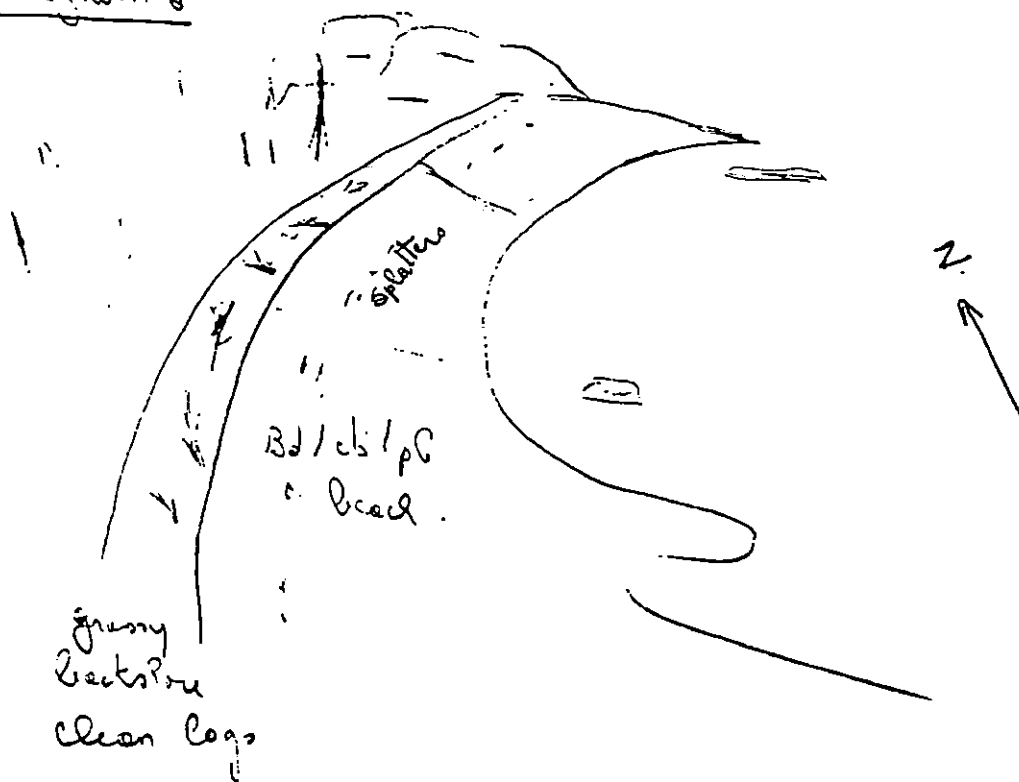


Diagram 2



GR - 102 157

Green Island, GR-102, April 7, 1990

Segment GR-102 is located on the northeastern coast of Green Island. This 1.8 km segment is exposed to a moderate fetch to the west and a much longer one to the northeast, and its exposure window is relatively large (180 degrees).

From north to south, this segment consists of

- 1: a bedrock ramp headland with coatings of splatters less than 2 mm thick and 5% coverage in the upper intertidal zone;
- 2: a section of bedrock ramp with a cover of boulder/cobble/pebble and a band 5 m wide by 300 m long of stains of splatter covering much less than 1% of the area;
- 3: a pebble/sand beach and bedrock ramp/boulder area forming an inflection point in the direction of the coast. South of this change in direction, a long band 5 m wide by 150 m long of coatings of splatters covers about 10% of the area and one patch 5 x 6 m of broken coatings with 60% coverage and 1 cm average thickness occurs in the upper intertidal zone; and
- 4: a long cove of boulder/cobble/pebble beach with a narrow band of stains covering less than 1% of the area.

A well defined storm berm of pebble is present throughout the area except where the backshore consists of cliffs. Where this storm berm is present, it is backed by a flat and grassy backshore area that often includes clean logs and other debris. Test pits dug at several location along this segment showed no subsurface oil.

SHORELINE ECOLOGICAL SUMMARY

GR 102 p. 7 of 8
REVISION: 03/22/90

Segment ST / GR-102 Subdivision N/A Date (mo / day / yr) 04/07/90

Time (24 hr) 0655-0835 Biologist John Dixon

(A) Substrate type and % of segments:
(1) Bedrock 35 (2) Boulder 24 (3) Cobble 29 (4) Pebble 10 (5) Sand 2 (6) Silt

(B) Overall % cover of biota (% of segment): Dense 18 Moderate 24 Low 58

(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-2-9

Frames 7-10, 13-15, 20, 25

BARNACLES

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

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	2	X	X	2
3	3	3	3	3	3	3	3	3	X	X	3
4	4	4	4	4	4	4	4	4	X	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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments: Low Water ~ +1' - +3' during observations

Ecological Considerations: Sensitivities: 7II, 6V, 5T-4, 9CC, 2M, 5S
Rocky headlands bounding cobble beaches. Lower beaches sandy with sparse cover of *Phyllosopora*, scattered mussel egg cases & dead clam shells. *Pycnopodia* common. *Fucus*, *Ulva*, *Rhodomela* & *Iridaea* on boulders. M.I. rocks sparsely covered with *Fucus* & barnacles with higher densities on stable substrates. Sparse snails - mostly limpets. Snail density increases on high shore & most are Littorinids. Also more barnacle & sparse cover of mussels. *Lupastaria*, blennies & *N. scutum* under boulders.

Saturday 7/1/90

GR-102

0655-0835

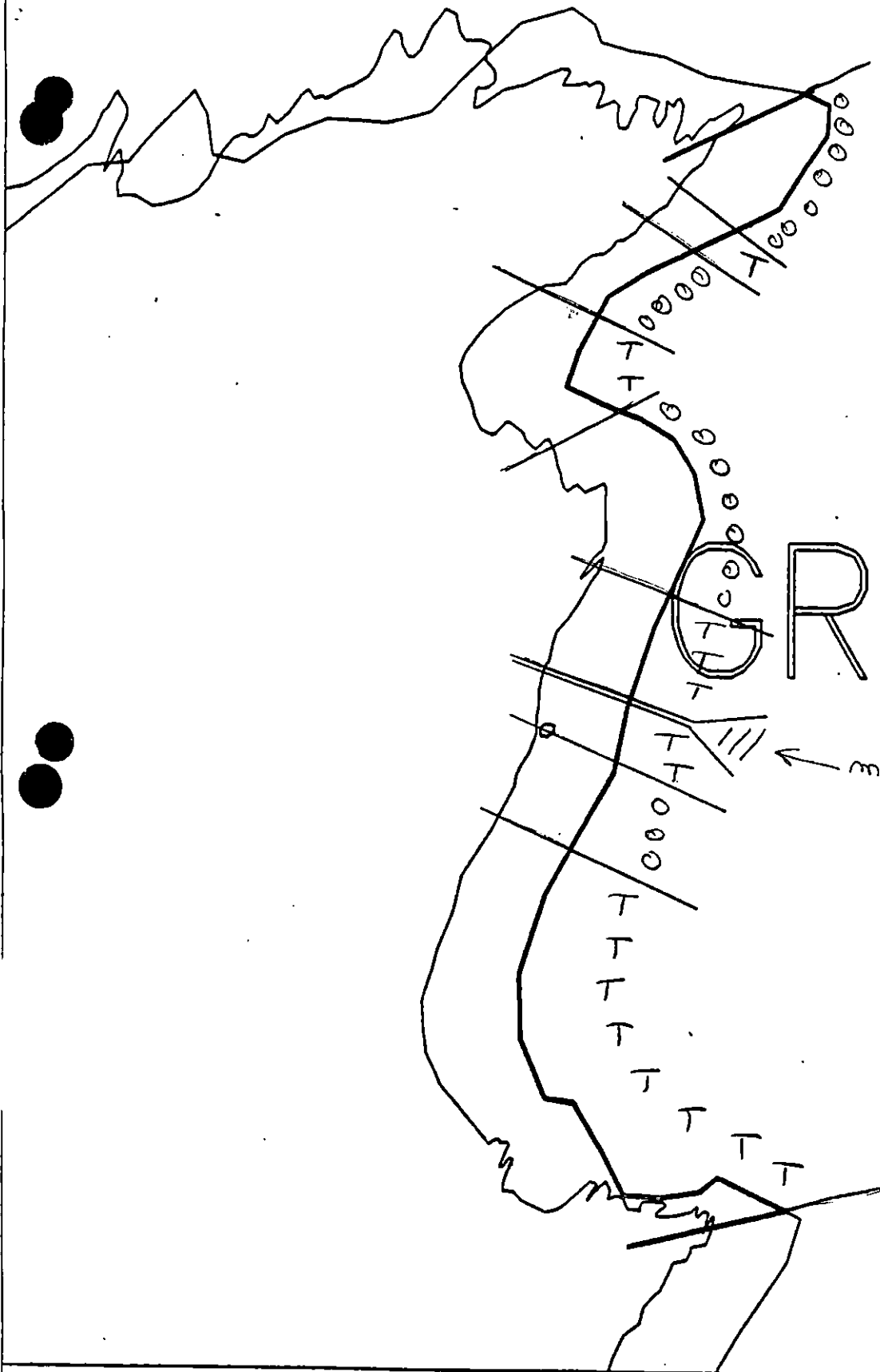
(+1' - +3')

5

This segment is made up of 3 rocky headlands bounding two cobble beaches. The northern most beach is a boulder/cobble beach with a good deal of sand in the lower intertidal. The southern beach is a long stretch that is large talus nearest the central beachhead and which grades to smaller boulders and finally mostly cobble as one proceeds down the shore. Toward the southern end of the segment there are 3 finger like projections of beachhead outcrops normal to the shore line.

In the sandy lower parts of the cobble beaches there is a sparse cover of Phylloporus, scattered moon snail egg cases, dead shells of clams, and occasional Pygospio (~15-20 cm d.). The scattered boulders and cobbles bear a moderate to dense cover of Fucus, Ulva, Gracilaria + Rhodomena. On the middle shore the rocks are sparsely covered with Fucus and barnacles, with greater densities on larger rocks. Rare to sparse gastropods, mostly Lingula, N. scutellum. On the high shore the density of gastropods increases and the majority are littorine. The density of barnacles is also higher and sparse populations of murels occur around the bases of rocks & in crevices. There are dense aggregations of hermit crabs under large boulders in the middle & upper intertidal. Teptostoeus, Blennius & N. scutellum also common.

GR-102 / 409



GR-102

medium

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

GR-102

ADEC Segment Length: 1532m



Map Key: PWS-248

Name: Jan Marie Sengul

Date: April 7/1990

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ GR-102 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6V Recreation: Anchorages (6/1 to 9/15)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
9CC Research natural area, closed
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles J. Hume DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 7 m: Narrow 0 m: V.Light 905 m: No Oil 620 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: <u> </u> Wands
☐ Tarmat: ☐ Breakup	☐ Beach Cleaner
☐ Removal	☐ Other (see comments)

COMMENTS: Area has been set aside for research and, as such, no treatment is to be conducted on this segment.

TAG COMMENTS:

TAG APPROVAL DATE: 4/20/90
ADEC ART WEINER
EXXON AMY TAT
NOAA Bart Wescott
USCG KENNETH KEANE

FOSC: WJL DATE: 4-26-90

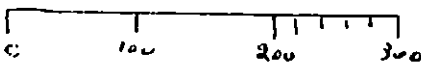
OG from Seapels
 SEGMENT ST/ QA-102
 SUBDIVISION NONE
 DATE Apr 17 / 90

CHECKLIST

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

LEGEND

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



Oil Character Length (m): AP PO CV CT 206 ST MS PT TB FL NO 748

206 850

Approx. mole
 HWL. LWL
 SKETCH MAP

DIAGRAM 1

Legend

$\boxed{\text{diagonal lines}}$ Bedrock Ramp

$\boxed{\text{circles}}$ Boulder / cobble / pebble beach

$\boxed{\text{wavy lines}}$ Pebble / Sand beach

width $\rightarrow$ 5, 15
 length $\rightarrow$ 10
 character $\rightarrow$ CT/S
 Distribution $\rightarrow$ 1 mm 10%
 Stickmen $\rightarrow$
 Coverage $\rightarrow$

5, 6
 CT/B
 1 cm 60%
 (max 3 cm)

5, 150
 CT/S
 1 mm 10%

5, 550
 ST/S
 < 10%

DIAGRAM 2

QA-102, p. 3 of 9

Gen. Marie Sempels
Segment QR-102
Subdivision None
Date: April 7/1990

Q12-001, 9

Diagram 1

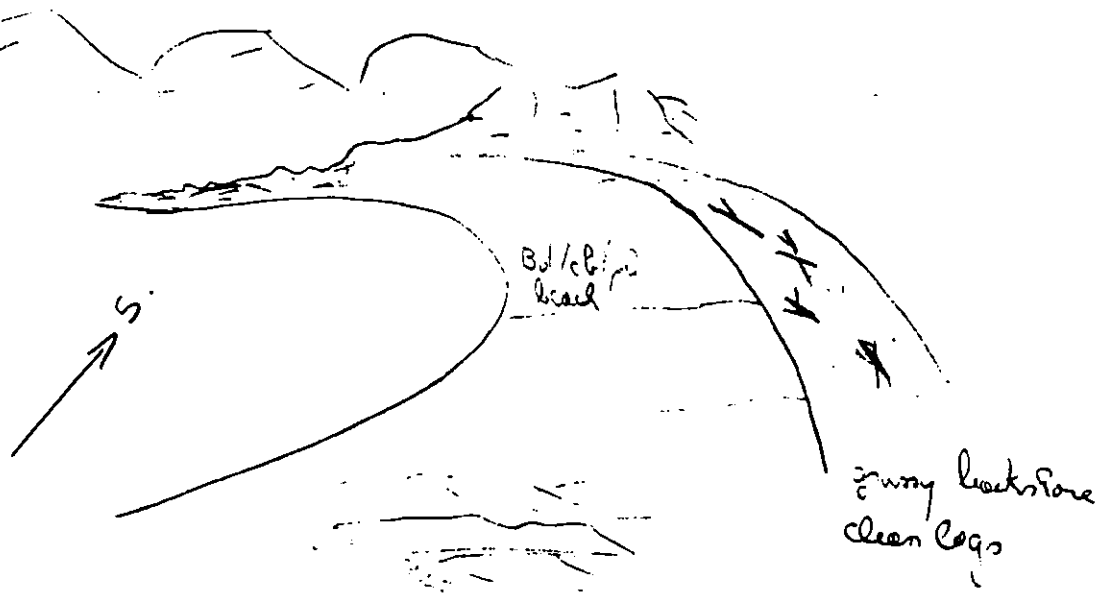
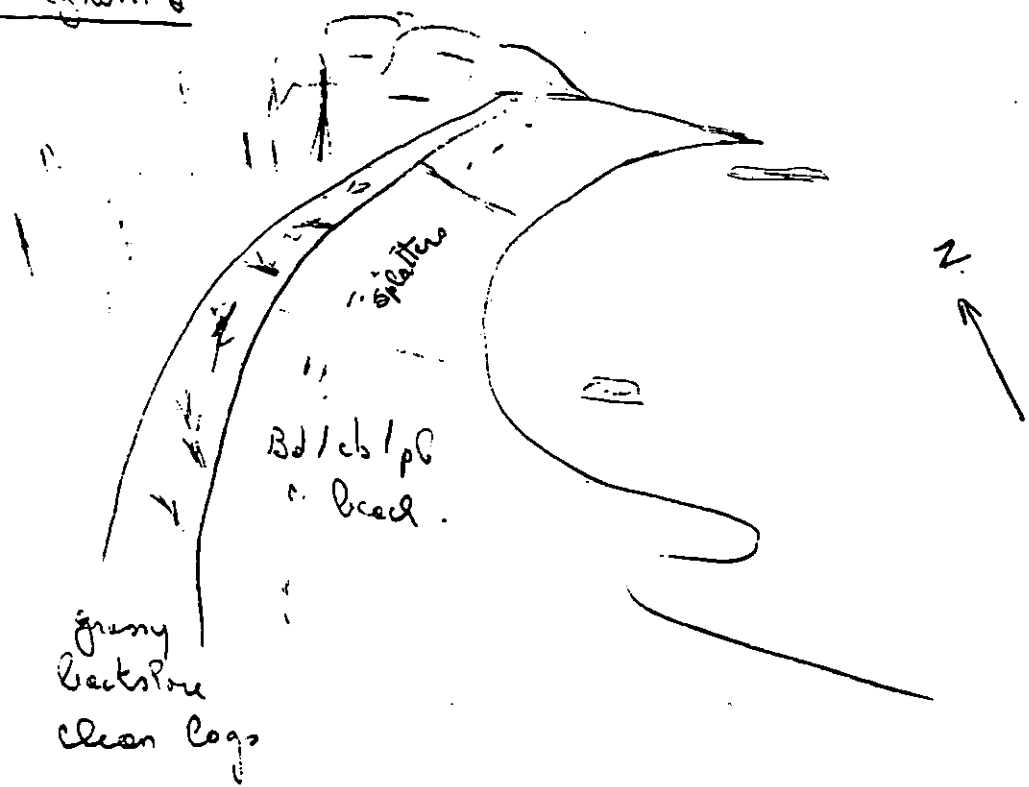
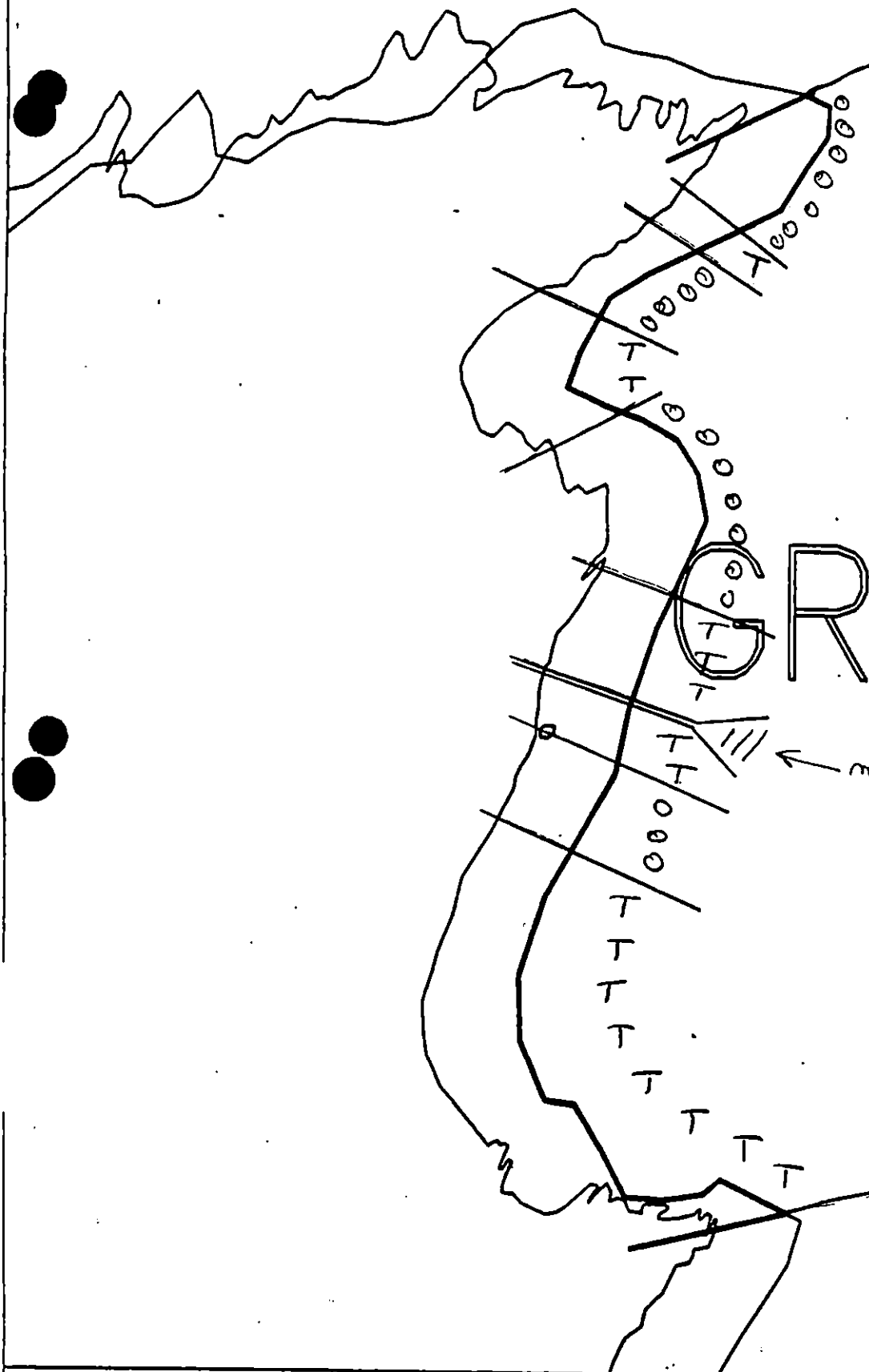


Diagram 2



GR-102 / 4079



GR-102

← medium

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

GR-102

ADEC Segment Length: 1532m



Map Key: PWS-248
Name: Don Marie Sump
Date: April 7/1990
Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-103 SUBDIVISION B (2 of 3)

WORK WINDOW	
Manual Pickup	OPEN
Manual Tilling Bioremediation Spot Washing	WORK 6/15 to 7/1

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 (227-20-17880) is outside Subdivision B work areas. No constraint to manual pickup, spot washing, bioremediation, and manual tilling.
2M	Herring Spawning	Closed to bioremediation, manual tilling, and spot washing before 6/15. No constraint to manual pickup.
5S	Shorebird/Waterfowl Concentration	No constraint after 5/15.
5T	Bald Eagle Nest	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision B work site.
7II	Subsistence: Deer Harvesting	Closed to bioremediation, manual tilling, and spot washing before 8/15. No constraint to manual pickup after 8/15.
7Z	Subsistence: Salmon Harvesting	Closed to bioremediation, manual tilling and spot washing after 7/1 per Gail Evanoff/Chenega Corp. to Tom Kelley/Exxon, on 6/8/90. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat traffic to essential minimum before 6/15. Avoid damage to uncolled intertidal and subtidal algae and seagrass. Restrict air traffic and beach disturbance to essential minimum after 7/1.

FOSC

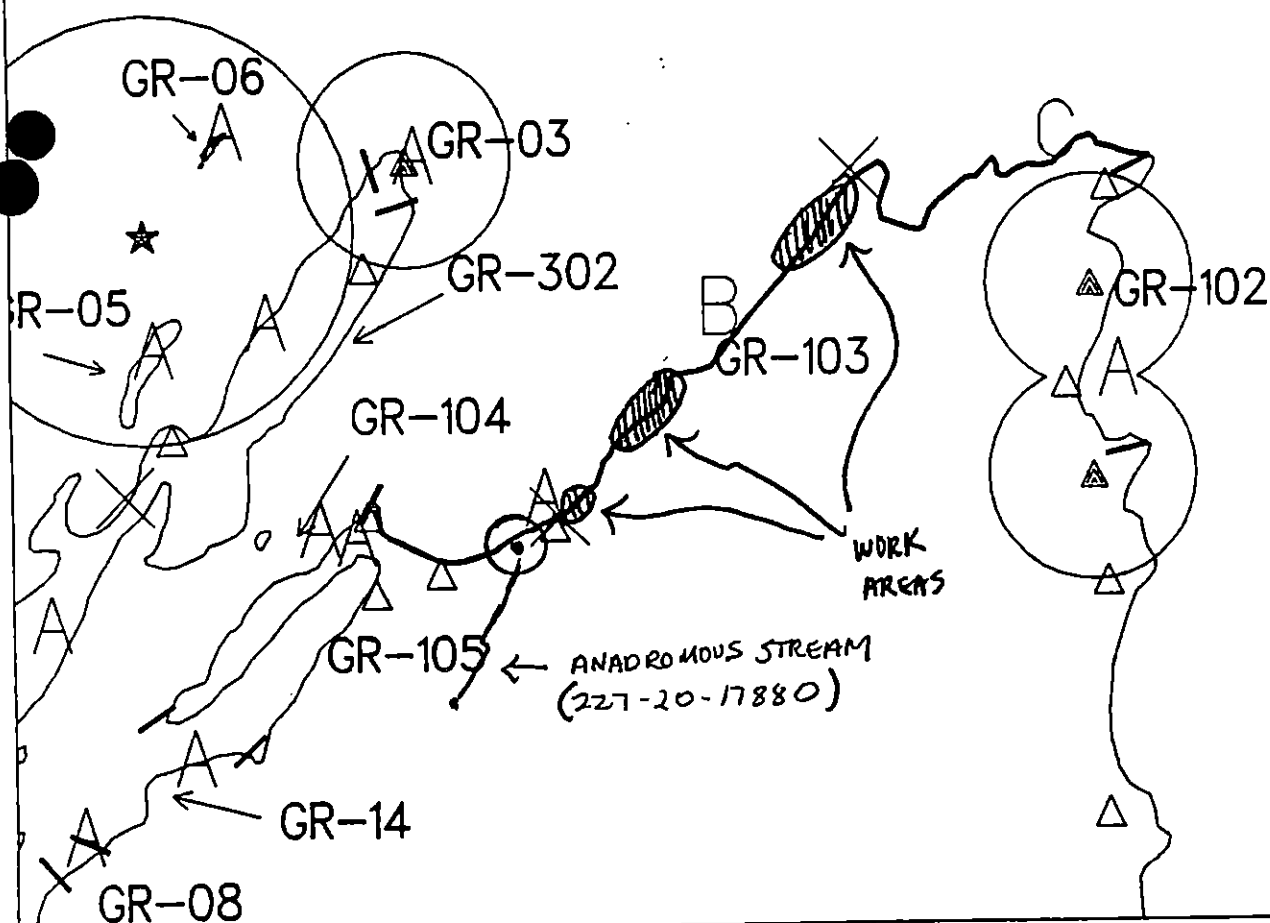
Date

6-10-90

[Handwritten signature]
CDDL.M.

6/10/90

6/1/1



Exxon Company, USA
Map Key: PWS-GR-103
June 04, 1990

ECOLOGY MAP SEGMENT GR-103 SUBDIVISION B (2 of 3) METERS

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

Handwritten note: ~~XXXXXX~~ = ~~XXXX~~ ~~XXXX~~

SHORELINE EVALUATION

SEGMENT ST/ GR-103 SUBDIVISION B (2 OF 3) DATE 4/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 227-20-17880.

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
- 1B Salmon stream mouth - spawning (7/10 to 8/31)
- 5T-3 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
- 2M Herring spawning (4/1 to 6/15)
- 5S Shorebird/Waterfowl concentration (4/1 to 5/15)
- 6Y Recreation: Special use destination
- 7II Subsistence area: Deer harvesting (8/15 to 2/28)
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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. Hanna

DATE: 4/20/90

OILING CATEGORIZATION:

Wide 509m: Medium 1236m: Narrow 0 m: V.Light 0 m: No Oil 0 m
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>X</u> Manual Pickup	<u> </u> Absorbents (pads, rolls, etc)
<u>X</u> Bioremediation	<u>X</u> Spot Washing: <u>X</u> Wands
<u> </u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommend (a) manual pick up of tar patties and oiled debris (see sketch map), (b) spot washing, and (c) bioremediation of oil coat and subsurface oil areas (see sketch map). Work between 6/16 and 7/9 with USFWS permission due to eagle nest constraint and ADF&G permission due to salmon harvesting constraint. SEE ADDENDUM dated 6/10/90

TAG COMMENTS: MONITORS TO ASSESS UPPER STORM BERM DURING TREATMENT. SNOW COVERED DURING SSAT.

TAG APPROVAL DATE: 4/19/90

ADEC JOHN BAKER
EXXON ANDY TELL
NOAA Burt Wescott
USCG KENNETH KEANE

FOSC: WJL

DATE: 5-12-90

Consider telling before bioremediation.

SEGMENT: GR 103 SUB: C REGION: PWS SURVEY DATE: 6/13/91ENVIRONMENTAL SENSITIVITIES:Work Window(s) RESTRICTED 3/1 - 9/15Ecological/Constraints (see page two for details) Eagle nest,
Herring spawning, Subsistence - Deer harvesting, Subsistence -
Salmon harvestingARCHAEOLOGICAL CONSTRAINTS:If treatment is planned, a cultural resource evaluation is
required prior to shoreline treatment.SHPO Signature: Timothy AhniahDate: 6/2/91RECOMMENDATIONS:

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: Original survey (5/1/91) interrupted because of eagle
activity. Survey addendum (6/13/91) completed survey. No
further work identified.

TAG:

FOSC:

TAG APPROVAL DATE: JUNE 19 1991FOSC APPROVAL DATE: 6/2/91

ADEC

EXXON

USCG

NOAA

FOSC

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

**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.

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

Subsistence - Salmon Harvesting: 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.

EXXON COMPANY, U.S.A.
ALASKA OPERATIONS

M E M O R A N D U M

To: File
From: Julie Arin
Date: June 17, 1991
Subject: MAYSAP Subdivisions EL-106C, GR-103B, GR-103C, & KN-15A

Additional surveying was performed on the subdivisions listed above. These subdivisions were not completed during the initial survey due to eagles in the area. These survey reports are addenda to the survey information previously submitted (EL-106C was not previously surveyed).

CENTRAL FILE
OFFICIAL COPY

MAYSAP FIELD SHORELINE COMMENT SHEET
ADDENDUM

TEAM NO. 00 SEGMENT GR103 SUBDIVISION C DATE 13 June 91

DEC

NAME Marianne Profita SIGNATURE Marianne Profita

- ☒ NTR Surveyed small area not completed during Maysap due to Eagles Nest.
No oil observed in this area.

EXXON

NAME Rex Coulter SIGNATURE Rex R. Coulter

- ☒ NTR We only surveyed the small area in the LITZ as noted on the OG form. No oil observed in this section of the subdivision.

LANDMANAGER

NAME _____ OF _____ SIGNATURE _____

☐ NTR

LANDMANAGER NOT PRESENT

USCG/~~NOAA~~

NAME CWO R.P. SPURR SIGNATURE R.P. Spurr

- ☒ NTR No oil observed in area of segment surveyed

PAGE 1 OF 1

ADDENDUM

SEGMENT GR103

SUBDIVISION C

DATE June / 13 / 91

ENERGY LEVEL: ☒ H ☐ M ☐ L

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

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

* ABOVE VALUES DO NOT INCLUDE 1-MAY-91 SURVEY

DISTRIBUTION: C = 91-100%; B = 51-80%; P = 11-50%; S = 1-10%; T = <1%

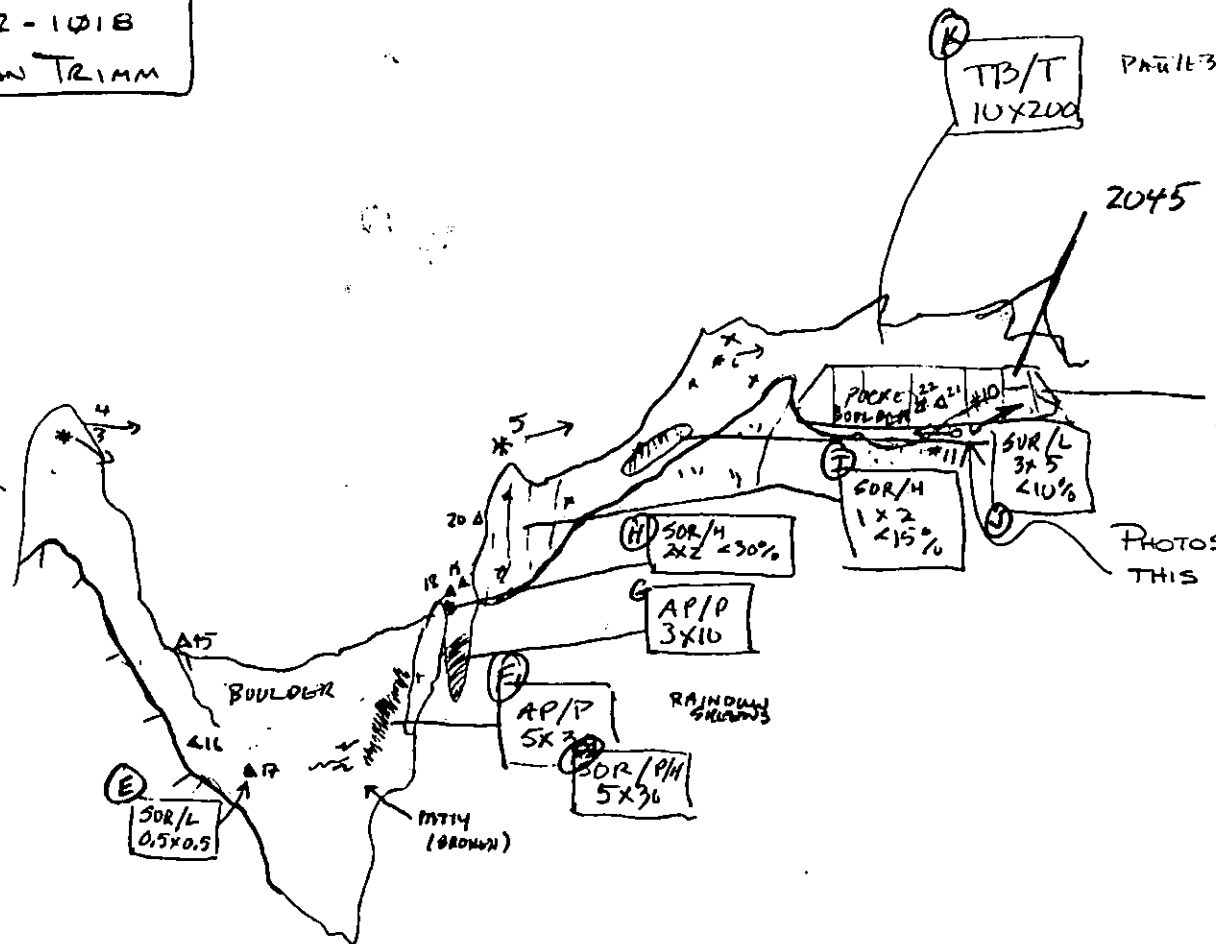
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 00 - 03 FRAMES [#] 10-11

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

NO OIL OBSERVED IN UITS.

REVISIT CD 10 JUN

GL-1-C
 ADDENDUM
 CG SKETCH MAP
 13-JUN-91
 0942-1018
 BRYAN TRIMM



UITE - SURVEYED, NO OIL
 OBSERVED 6/13/91
 UITE NOT SURVEYED
 DUE TO UACLES
 WEST

PHOTOS #10 & #11 TAKEN AT
 THIS POINT IN OPPOSITE DIRECTIONS (EAST & WEST, RESR)

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 00 DATE 6/13/91
 ELEMENT # GR 103 TIDAL HEIGHT(Range) -3.5~ -3.0'
 SUBDIVISION C BIOLOGIST D. McCoemick
 SEA STATE 0.0' WIND SPEED/DIRECTION Calm
 PHOTOGRAPHS: ROLL # — FRAME # —

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

Only a very short section of the LITZ was surveyed in this subdivision. No oil was observed and only very sparse macrobiota was observed, including: black lichens, littorines, limpets, mussels and barnacles (mostly adult stages). Tidal pools in this zone of the beach supported minor concentrations of the above-mentioned fauna plus filamentous green algae and the brown alga Sargassum.

An oystercatcher nest is present on the bedrock outcrop at the extreme eastern end of the subdivision.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

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

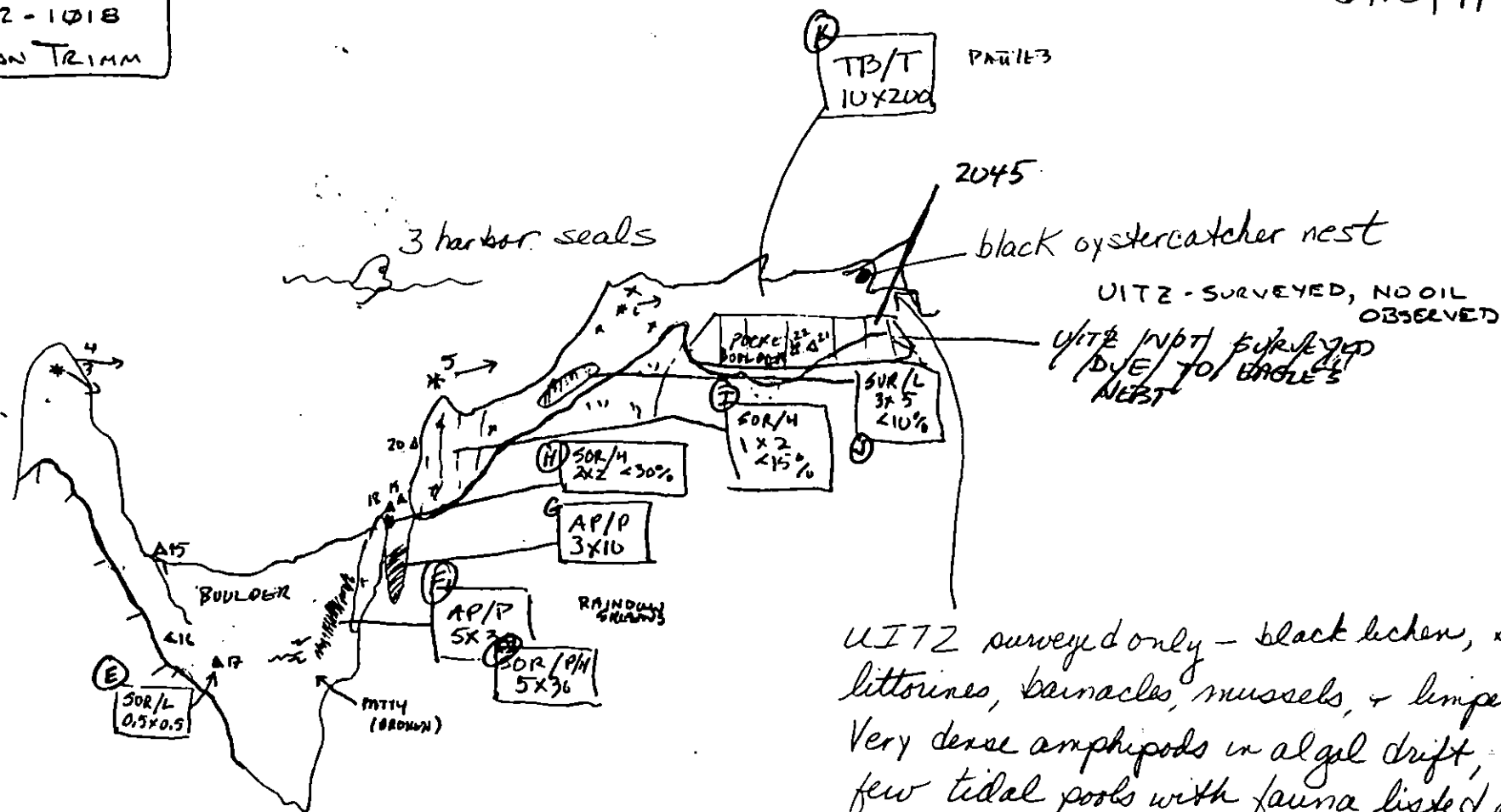
MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
PI <u>l</u> peds(specify)			
<u>whor</u> seals	3		
<u>es</u> (specify)			

Shoreline subdivision map showing important biological features attached.

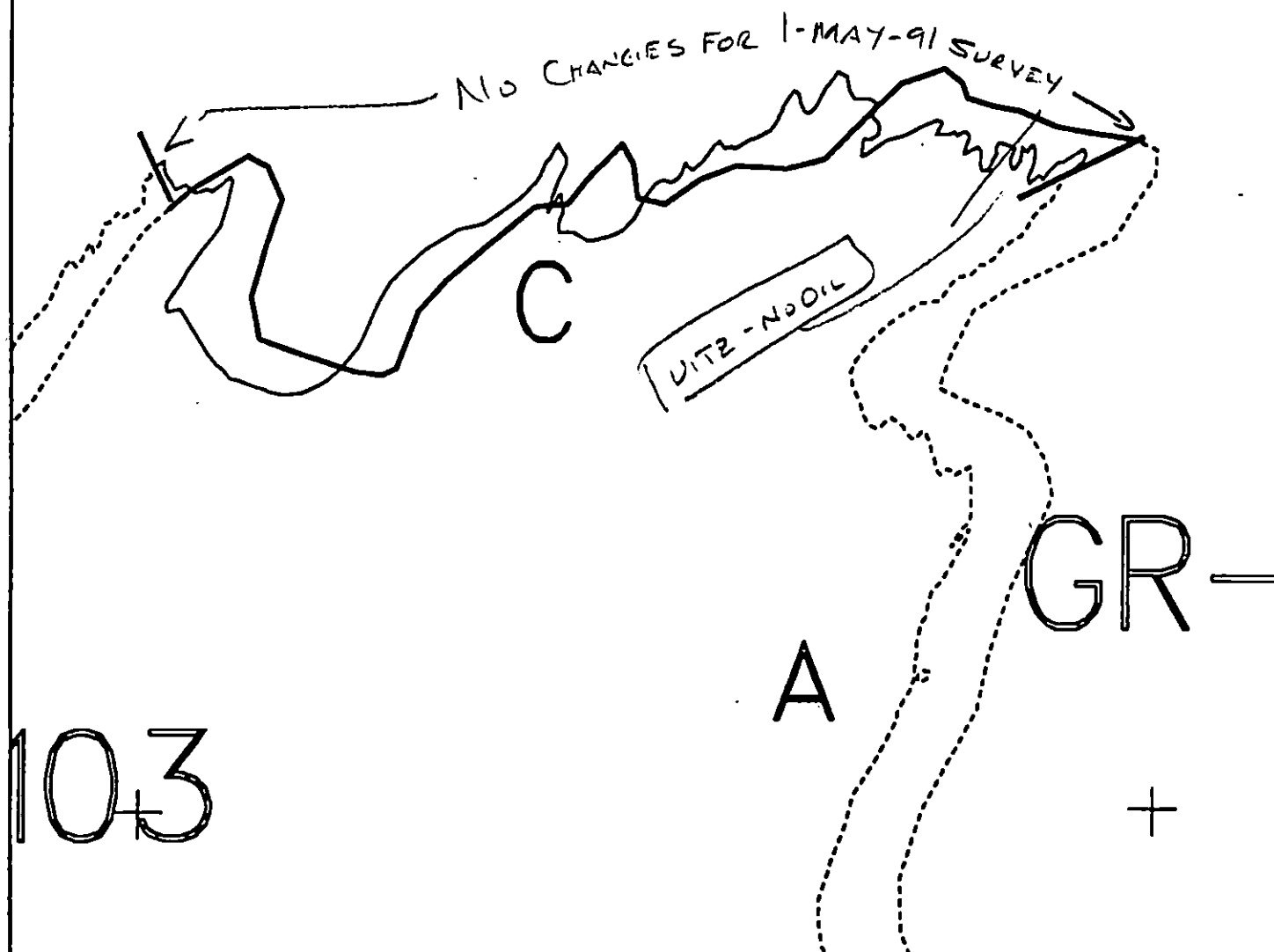
Reviewed MB 6/17/91

GI 15-C
ADDENDUM
SKETCH MAP
13-JUN-91
0942-1018
BRYAN TRIMM

Bio Sketch
D. McCormick
6/13/91



UITZ surveyed only - black lichen, sparse littorines, barnacles, mussels, & limpets here. Very dense amphipods in algal drift, a few tidal pools with fauna listed above plus filamentous green algae & Seytosiphon.



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

GR103 C
 ADEC Subsegment Length: 1610m
 METERS
 0 200 400
 AK State Plane Zone 4
 pgr103c

Subdivision Field Map
 Map Key: PWSGR103C
 Name: TRIMM
 ADDENDUM TO 1-MAY-91
 Date: 13-JUN-91
 Date Entered:

SURFACE OIL CATEGORY MAP

REVIEWED 18 JUN 90

1991 MAYSAP EVALUATION

SURVEY ADDENDUM

SEGMENT: GR 103 SUB: B REGION: PWS SURVEY DATE: 6/13/91**ENVIRONMENTAL SENSITIVITIES:**Work Window(s) RESTRICTED 3/1 - 9/15Ecological/Constraints (see page two for details) Eagle nest,
Herring spawning, Anadromous stream, Subsistence - Deer harvest-
ing, Subsistence - Salmon harvesting**ARCHAEOLOGICAL CONSTRAINTS:**If treatment is planned, a cultural resource evaluation is
required prior to shoreline treatment.SHPO Signature: Timothy O'ConnellDate: 6/10/91**RECOMMENDATIONS:**

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

NNR

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:INITIAL: Original survey (5/1/91) interrupted because of eagle
activity. Survey addendum (6/13/91) completed survey.

TAG: _____

FOSC: _____

TAG APPROVAL DATE: JUNE 19 1991FOSC APPROVAL DATE: 6/21/91ADEC John BakerFOSC EE PAGEEXXON BealEE PAGE, CDR, USCG
CHIEF OF STAFF, FOSCUSCG Ed MallNOAA Long

**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.

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

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

Subsistence - Salmon Harvesting: 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.

EXXON COMPANY, U.S.A.
ALASKA OPERATIONS

M E M O R A N D U M

To: File
From: Julie Arin
Date: June 17, 1991
Subject: MAYSAP Subdivisions EL-106C, GR-103B, GR-103C, & KN-15A

Additional surveying was performed on the subdivisions listed above. These subdivisions were not completed during the initial survey due to eagles in the area. These survey reports are addenda to the survey information previously submitted (EL-106C was not previously surveyed).

CENTRAL FILE
OFFICIAL COPY

MAYSAP FIELD SHORELINE COMMENT SHEET
ADDENDUM

TEAM NO. 44 SEGMENT GR103 SUBDIVISION B DATE 13 JUN/91

JEC

ME Marianne Profita

SIGNATURE Marianne Profita

- ☒ NTR L/SOR Band down Length of subdivision, ~~under mp~~
Bedrock spaces oiled. Oiling exists under B/C/P. WITE.
Sheening present in tidal pools. Due to Length of
subdivision + light oiling, treatment does not seem
feasible.

Pick up of AP/SOR as designated by Anad. survey
just north of stream.

EXXON

NAME Rev. Coulter

SIGNATURE Rev. J. Coulter

- ☒ NTR NATURAL CLEANSING IS IN PROGRESS AT THIS SECTION OF THE SUBDIVISION
AS NOTED BY THE SHEETS ON SOME TIDAL POOLS. HEALTHY
BIOTA CONTINUES TO THRIVE AS DESCRIBED BY THE BIOLOGIST WITH NO
EVIDENCE OF NEGATIVE IMPACT DUE TO THE NATURAL DISSIPATION
OF THE REMAINING SOR.

WE PICK UP/REMOVED THE AP/SOR AREA IN THIS SUBDIVISION WHICH
WAS DOCUMENTED IN THE GR-103A ANAD SURVEY. THIS SMALL AREA
WAS LOCATED ADJACENT TO THE STREAM IN GR-103B.

LANDMANAGER

NAME _____ OF _____ SIGNATURE _____

☐ NTR

LANDMANAGER NOT PRESENT

USCG/NOAA

NAME CWO R.P. SPURR

SIGNATURE R.P. Spurr

- ☒ NTR Recoverable AP/SOR removed during survey of this portion of
the segment.

PAGE 1 OF 1

DATE June / 13 / 91

* ABOVE VALUES DO NOT INCLUDE 1-MAY-91 SURVEY

DISTRIBUTION: C = 91-100%; B = 51-80%; P = 11-50%; S = 1-10%; T = <1%

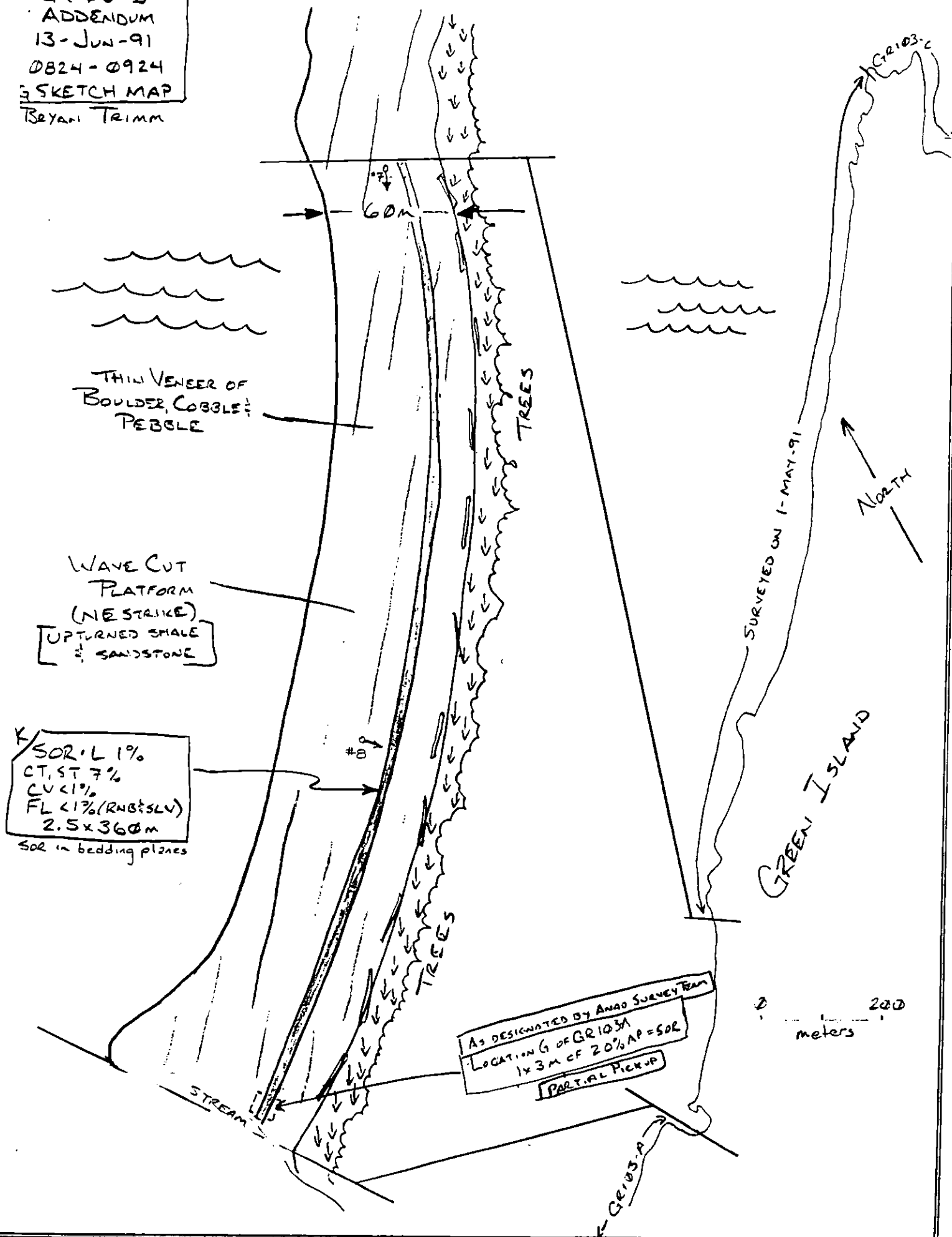
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 00 - 03 FRAMES # 7-8

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

- BROAD WAVE CUT PLATFORM WITH THIN BOULDER, LOBBLE, $\frac{1}{2}$ PEBBLE.
- BAND OF DISCONTINUOUS OILING IN UITE. SOR - LIGHT IS TYPICALLY FOUND IN BEDDING PLANES OF SHALE/SLATE.

REVIEWED BY 18 JUN

GR103-B
ADDENDUM
13-JUN-91
0824-0924
3 SKETCH MAP
BRYAN TRIMM



MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # DD
 ELEMENT # GR 103
 SUBDIVISION B
 SEA STATE 0.0'
 PHOTOGRAPHS: ROLL # —

DATE 10/13/91
 TIDAL HEIGHT (Range) -2.5 ~ -3.5'
 BIOLOGIST D. McCORMICK
 WIND SPEED/DIRECTION Calm
 FRAME # —

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

This low-angle wave-cut platform supports an impressive diversity of algal species and invertebrate fauna. The upper ITZ oil band (CK) is mostly weathered to the degree that it is not impacting the generally sparse concentrations of littorine snails, limpets (*Columella* + *Patelloida*) and barnacles that inhabit this zone. Some sheering was observed on tidal pools, but only littorines were seen in there. No obvious adverse impact to the snails was observed.

Lower on the shore, abundant littorines, mussels, limpets and barnacles occurred, both adults and spat/juveniles. Tidal pools occur throughout the subdivision, providing habitats for *Pagurids* (Hermit crabs), snails (herbivorous and carnivorous), sculpins, coralline algae (*Calliarthron*) and several species of branched red + brown algae. Clam shells (*Prototheca* + *Saxidomus*) litter the mid-to-lower zone. The sea stars *Pycnopodia* + *Pisaster* were common in the M-L ITZ.

The Lower ITZ has a 100% algal cover, including surfgrass, *Ulva*, *Fucus*, *Halosaccion*, *Palmaria*, *Cladonia*, *Laminaria*, and other branched red algal spp (unidentified).

Overall, this beach is showing good recruitment of the major indicator species as well as a healthy, established community of adult invertebrates and algae. ADF+G has a fish-counting weir set up about 200m upstream from the beach. No Salmon fry or adults were seen in the stream.

eagle (1) oystercatchers (16)
 Cormorants (2)

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

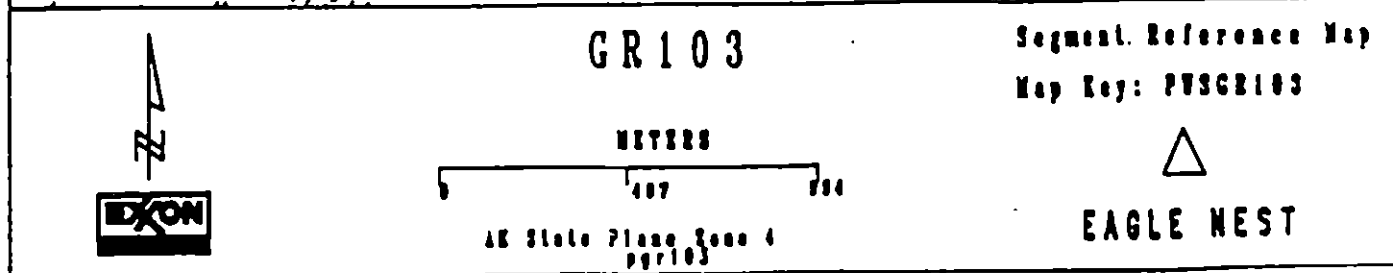
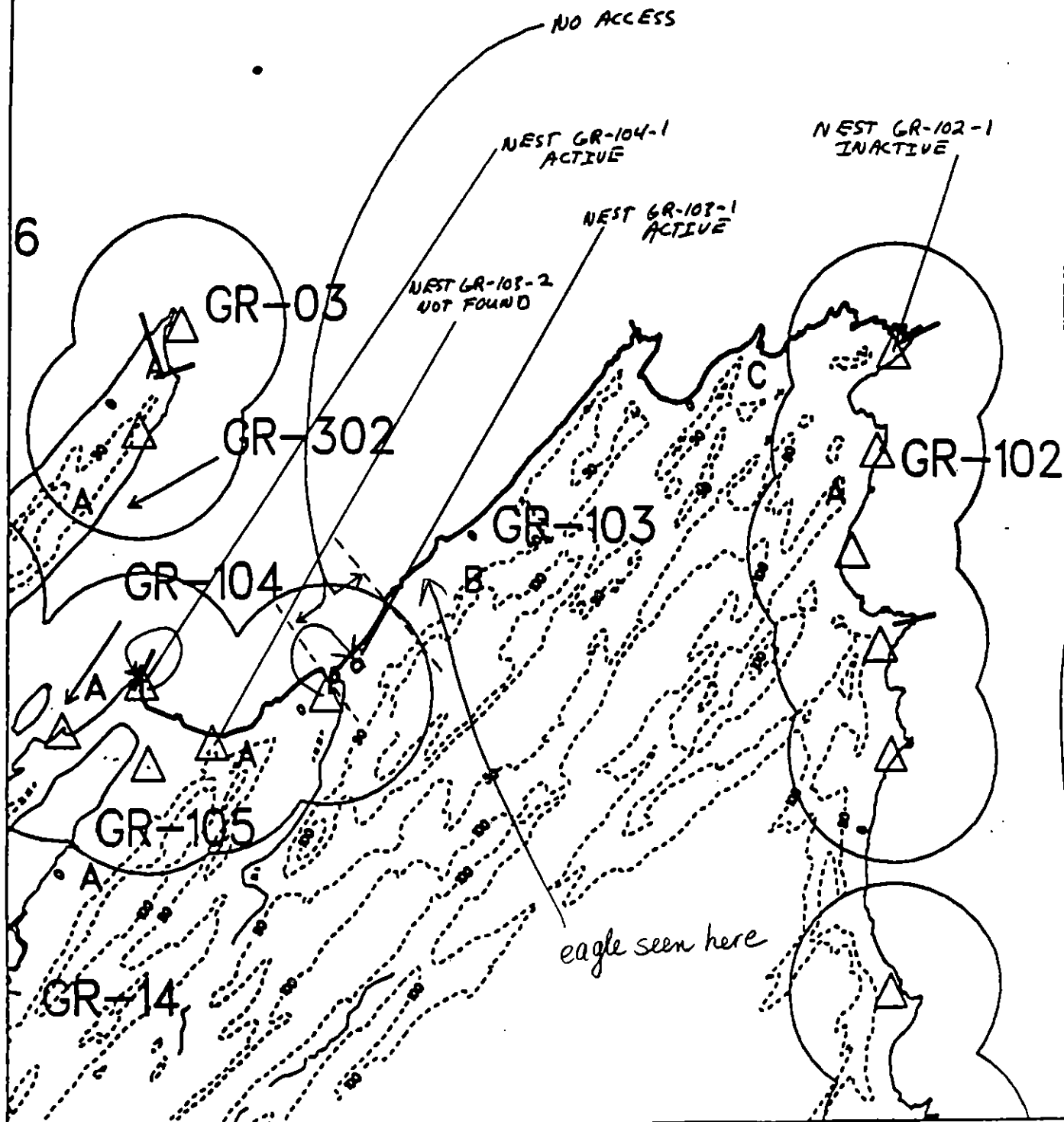
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	
Seabirds			
Waterfowl	1	2	
Gulls/Kittiwakes			
Shorebirds	1	16	
Corvids			
Other Birds			

LAND MAMMALS

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

Shoreline subdivision map showing important biological features attached.

Reviewed MB 6/17/91



Survey 6/13/91
USFWS monitor present

Reviewed MB 6/17/91

•

0

/

2

meters

4

03
+

-302

SURVEYED ON 1-MAY-91

GR-103

B

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

GR103 B

ADEC Subsegment Length: 1764m

METERS

0 200 400

AK State Plane Zone 4
pg103b



Subdivision Field Map

Map Key: PWSGR103B

Name: TRIMM

ADDENDUM TO 1-MAY-91

Date: 13-JUN-91

Date Entered:

SURFACE OIL CATEGORY MAP

REVIEWED CD 18 JUN 1991

1991 MAYSAP EVALUATION

SEGMENT: GR 103 SUB: B REGION: PWS SURVEY DATE: 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) Eagle nest, Herring spawning, Anadromous stream, Subsistence - Deer harvesting, Subsistence - Salmon harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

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

COMMENTS:

INITIAL: Apply Customblen and Inipol at locations A, B, C, D, E, I, and J.

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.

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

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

Subsistence - Salmon Harvesting: 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.

TEAM NO. Three SEGMENT GR103 SUBDIVISION B DATE 5/1/91

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ NTR ☒ TREATMENT RECOMMENDED (FINISH SURVEY last 400 meters to the S.W. not surveyed due to active eagles. Yeco crew removed an area 5x2m OP, but could not get the rest due to the amount of oil (the 2 workers would be here for days))

- Mousse band extends entire beach, it starts at 3m wide and widens to 10m. The consistency is OP oil and is easily cleanable for the oil lies on bedrock. Manually remove using hand trowels, rolling boulders will be absolutely necessary so not to miss any. string saws for 1 tidal fluctuation to contain sheens created at incoming tide, keep workers off of biota at the Litz, they can easily follow the Mousse band down the beach to work. Signs of INPOL streaking on beach so the condition of the oil shows that bio did not break this oil down.

EXXON

NAME Jon P. Czarnacki SIGNATURE Jon Czarnacki

☐ NTR Of the eight pits that were dug seven had oil in them. The oil that was present on the surface is SOP. The sub surface oil is SOP/H. The appearance of the beach is clean until you get to the sub surface. I do not think any oil would get on any that would use the beach. However there is SOP/H under the rocks and between the cracks.

LANDMANAGER

NAME _____ OF _____ SIGNATURE _____

☐ NTR No Land Manager here - problem with a sore foot. was on the boat at this time of Czarnacki Exxon.

Timmy Booz usca

USCG/NOAA

NAME MOONKEY / BARATS SIGNATURE Timmy Booz / Andy Barats

☐ NTR The most southwestern portion of segment was not surveyed. Signs of oil staining, coating and oil sheens are present throughout the segment. Pits 1-8 documents a dense band of subsurface oil (MOR-OP) in the MZ zone. Some of the material was removed but needs further attention. Most of the surface (SOP) and subsurface oil is in the lows and cracks of the bedrock.

26 Revised
HG renewed May 15

DATE 5/1/91

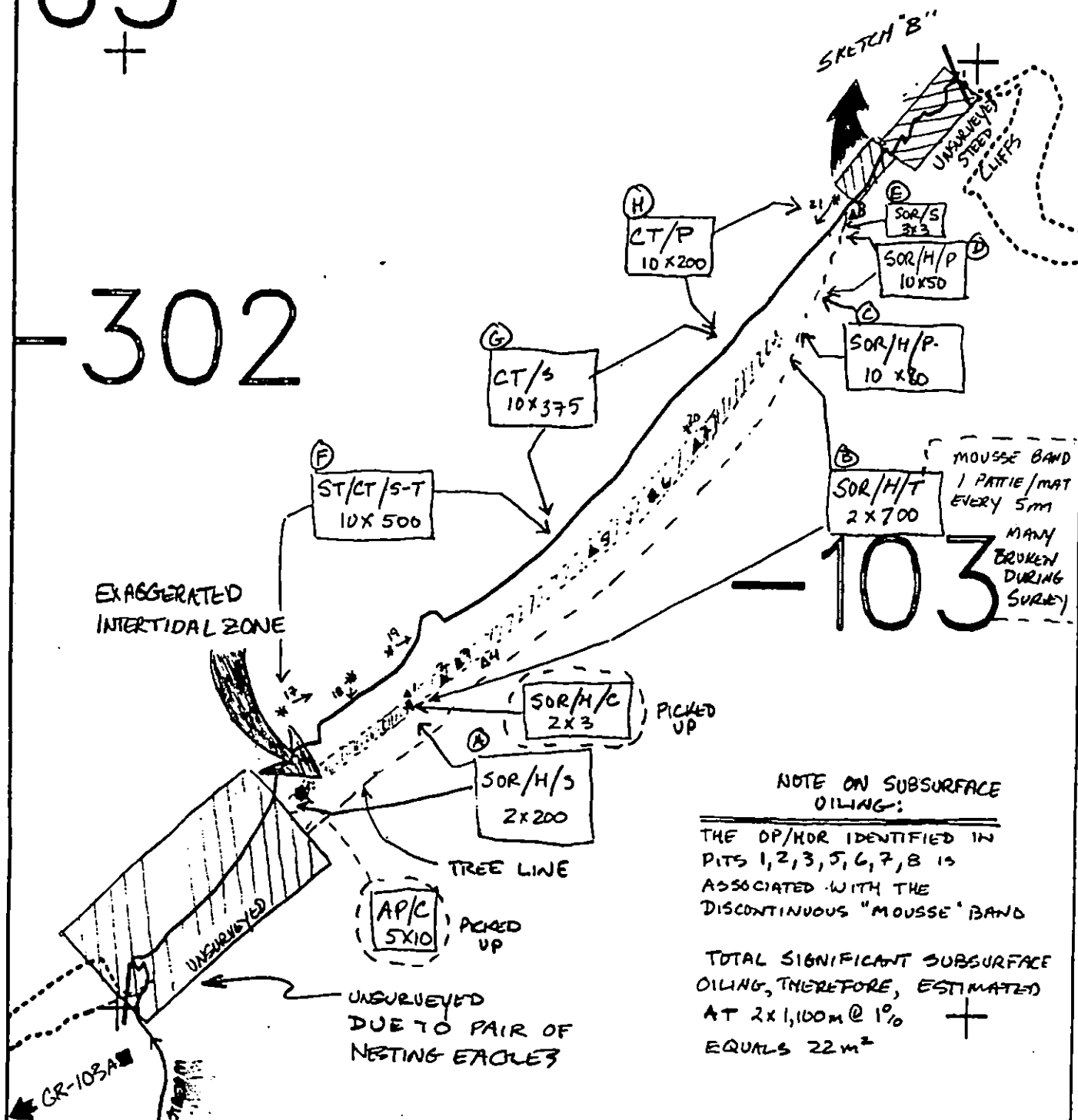
SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

A number of pits documented subsurface oiling of concern (Pits 1, 2, 3, 5, 6, 7, 8), either OP or HOR conditions. These pits are all associated with the "mousse band" and therefore represents a discontinuous subsurface oiling condition estimated at approximately 22m^2 ; these subsurface oil pockets tend to be concentrated within small depressions over the bedrock surface.

OB 2 of 6
ET Revised May 4
AC reviewed 6/1/04

03
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-302



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

GR103 B
 ADEC Subsegment Length: 1784m
 METERS
 0 200 400
 AK State Plane Zone 4
 481036



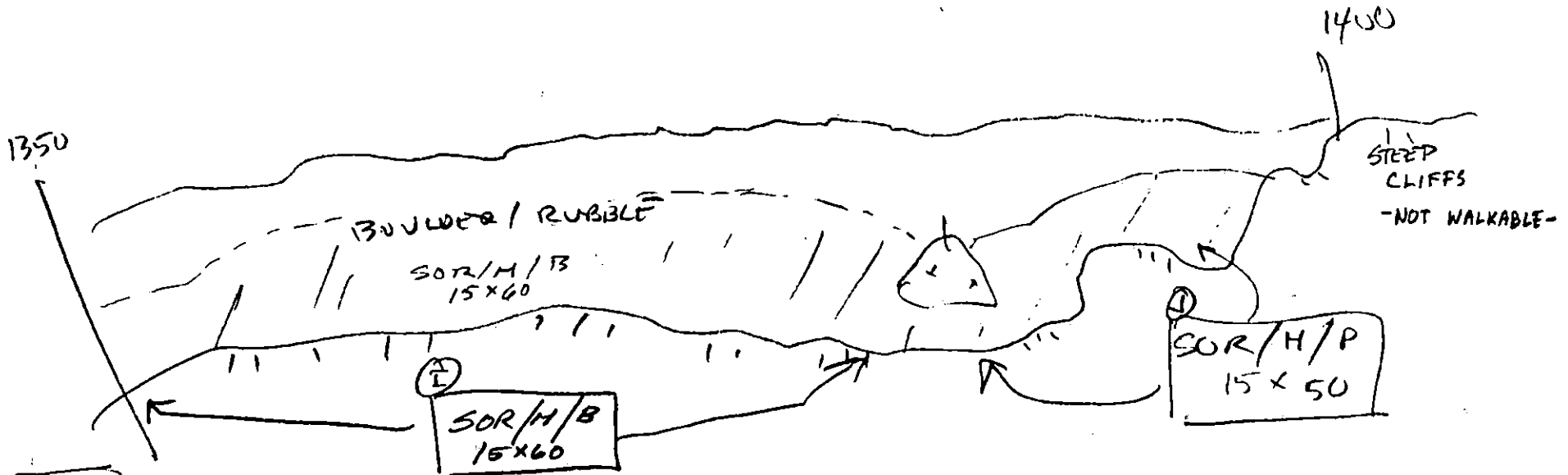
Subdivision Field Map
 Map Key: PWSGR103B
 Name: HARPER
 Date: 1 MAY 91
 Date Entered:

REVISED FIELD MAP

OG 3 of 6

ET Renewed, May 4
 KG Renewed, May 4

GR 103 B



We reviewed May 5

US removed May 5

SKETCH "B"

GR-103 B
1 MAY 91
HARPER

GR-103 B
1 MAY 91
1350-1400
HARPER
SKETCH B

GR-103B
1240-
1 May 96
HARDER

mouse band is very narrow
and

V NARROW
ITR

N

▲7 MITZ
BC/G
0-20 HOR/OP

* 20

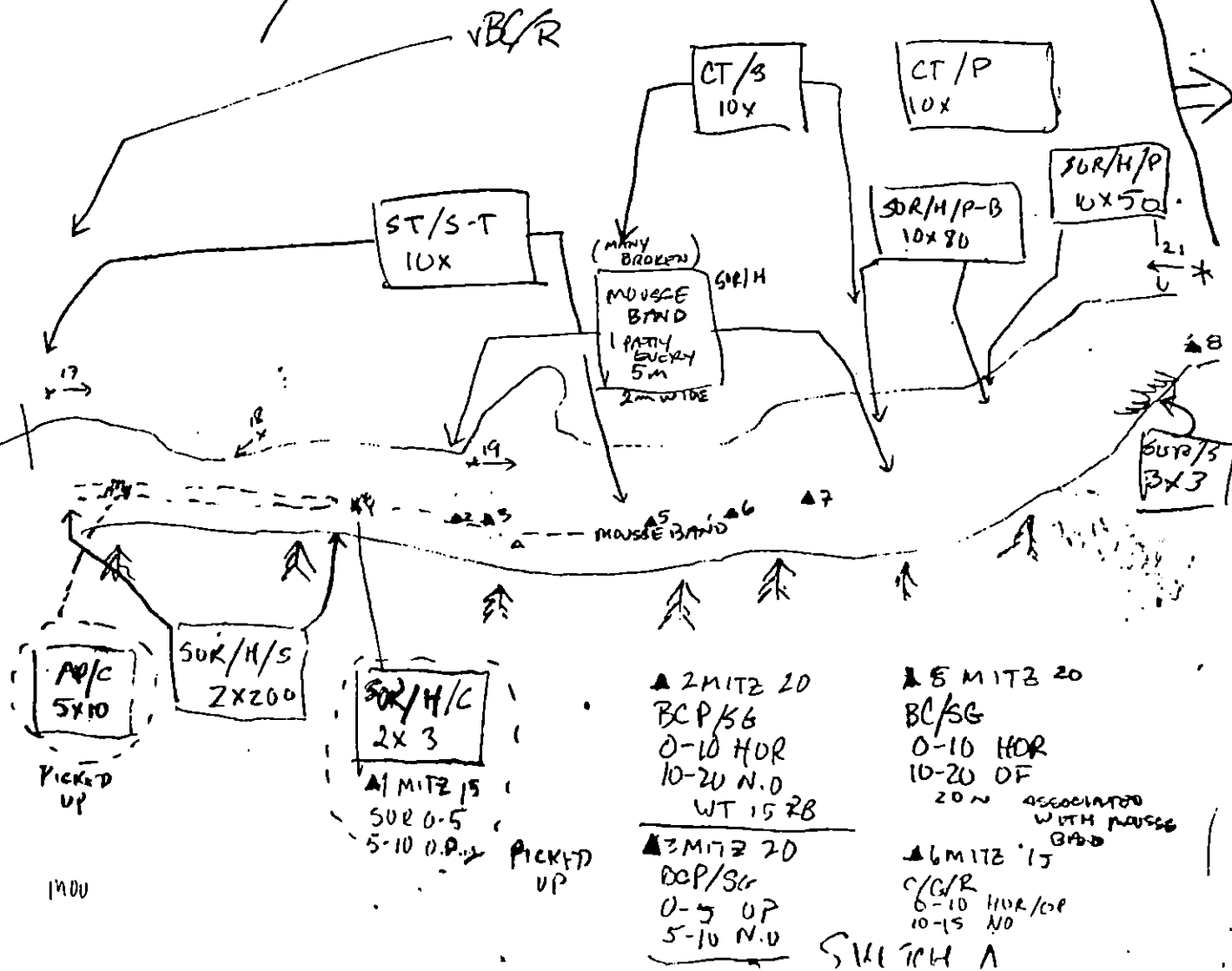
▲8 MITZ
BC/GS/R
0-15 HOR
15-20 OF
NO

the road was 5

GR-103B
ORIGINAL
FIELD MAP
HARDER
06-446

UNSURVEYED

100M



MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 3

DATE 5/1/91

SEGMENT # GR 103

TIDAL HEIGHT(Range) 3-7'

SUBDIVISION B

BIOLOGIST STAHOR

SEA STATE 0-1'

WIND SPEED/DIRECTION E 5-10

PHOTOGRAPHS: ROLL #

FRAME #

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

Moderate to high energy beach of rubble/boulder/bedrock.

Biota generally sparse in upper intertidal. Mid intertidal characterized by patchy new-growth Fucus, various red algae, patches of surf grass, patchily dense Mytilus (both attached and interbedded), barnacles and spat, limpets, amphipods, and Littorina (often dense clusters with eggs). Also common are Scallops, Nucella, Isopods (Idotea), and eel blennies. An anadromous Green heron borders the subdivision on the SW. Lower intertidal not observed.

Biota within and adjacent to observed surface/subsurface oil or the discontinuous "mousse band" described in oil summary (PSC 1-7) consists of patchy new-growth Fucus ranging from sparse to dense, filamentous green algae, patchy and generally sparse barnacles and spat, patchy and generally sparse Mytilus, moderate and sometimes dense Littorina and egg masses, limpets (moderate-dense), and sometimes amphipods, Nucella, eel blennies, scallops (in tide pools) and Aligeochaetes. Biota down slope similar in composition/diversity, usually somewhat greater abundance.

Biota within/adjacent to "mousse band" in northern part of subdivision similar to above, with increased abundance of Littorina, limpets, amphipods.

Biota in general appears relatively abundant, diverse, and on its way to recovery. Further treatment operations should take care to minimize damage and disturbance to this established community.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	3 + nest	eel blennies
Seabirds			scallops
Waterfowl	1	4	
Gulls/Kittiwakes	2	10-20	
Shorebirds	Oystercatchers	10	
Corvids	1	2	
Other Birds			

LAND MAMMALS

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

Shoreline subdivision map showing important biological features attached.

03
+

Bio Map

-302

-103

Fucus, barnacles, limpets,
Littorina, etc.

Fucus, barnacles, limpets,
Littorina, Mytilus, etc.

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

GR103 B

ADEC Subsegment Length: 1784m

METERS

0 200 400

AK State Plane Zone 4
ppr103b



Subdivision Field Map

Map Key: PWSGR103B

Name: _____

Date: _____

Date Entered: _____

03
+

-302

GR-103

B

NOT
SURVEYED
STEEP CLIFFS

UNSURVEYED

WIDE 0.5 x 80 = 40
MED 2.9 x 80 = 232
NARROW 3.0 x 80 = 240
V.L. 10.9 x 80 = 716
N.O. 0
Σ 1384
U.S. 4.5 x 80 = 516 +

1744 1764

XXXX
////

TTTT
0000

Wide
Medium
Narrow
Very Light
No Oil

GR103 B

ADEC Subsegment Length: 1784m

METERS

0 200 400

AK State Plane Zone 4
pg 103b



Subdivision Field Map

Map Key: PWSGR103B

Name: HARPER

Date: 1 MAY 91

Date Entered:

SURFACE OILING MAP

OG 67C
ET Revised, May 4

1991 MAYSAP EVALUATION

SEGMENT: GR 103 **SUB:** A **REGION:** PWS **SURVEY DATE:** 4/26/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 5/1 - 9/15

Ecological/Constraints (see page two for details)Herring spawning,
Eagle nest, Anadromous stream, Pinniped haulout, Subsistence -
Deer harvesting, Subsistence - Salmon harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ **Date:** _____

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

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

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

ADEC _____ **FOSC** _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

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

Pinniped Haulout: Access restricted from 5/15 to 6/30 and 8/15 to 9/15 unless approved by NMFS. Maintain 1000' vertical and 1/2 mile (3 mile for sea lions at all times) horizontal buffer.

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

Subsistence, Salmon Harvesting: 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 GR-103 SUBDIVISION A DATE 04/26/91

ADEC ACTING FOR AND W.F.F.S.

NAME TOM CRANE (ADF/G)

SIGNATURE [Signature]

☐ NTR

☒ TREATMENT RECOMMENDED FOR SUBDIVISION (A)

OIL OCCURS ALONG BEDROCK/SHALE BEACH. AP AND HSOR SEDIMENTS ARE CEMENTED AMONG COBBLE IN LOW LYING AREAS BETWEEN BEDROCK OUTCROPS. THESE SEDIMENTS CAN BE MANUALLY TILED BY A SMALL CREW OF 4 OR 5 PEOPLE COMBING THIS SEDIMENT WITH PICKS AND RAKES. BOULDERS CAN BE FLIPPED TO EXPOSE AP SEDIMENTS UNDERNEATH. THIS TYPE OF TREATMENT CAN TAKE A VERY SHORT AMOUNT OF TIME.

EXXON

NAME Scott A. Nauman

SIGNATURE [Signature]

☒ NTR

WILDLIFE AND INTERTIDAL GROWTH WAS ABUNDANT THROUGHOUT THIS SUBDIVISION. ONLY A COUPLE OF AREAS OF VERY SCATTERED ASPHALT (PICKED UP). WOULD STRONGLY OPPOSE ANY TREATMENT ON THIS SUBDIVISION DUE TO NEGLIGIBLE OILING AND VERY HEALTHY INTERTIDAL GROWTH.

LANDMANAGER ADF/G

NAME Aimee Weseman OF ADF/G

SIGNATURE [Signature]

☐ NTR

☒ treatment recommended

THE HIGH PRODUCTIVITY OF THE ANADROMOUS FISHSTREAM RESULTS IN HEAVY PUBLIC USE OF THE AREA FOR COMMERCIAL FISHERIES, COMMERCIAL TOURISM & RECREATION. DUE TO THIS PRIORITY DESIGNATION, THE REMAINING AP SEDIMENTS SHOULD BE MANUALLY REMOVED & BROKEN UP BY A SMALL CREW WITH SHOVELS, TROWELS & POM-POMS.

USCG/NOAA

NAME CWO R. Sarr / REBECCA HOFF

SIGNATURE [Signature]

☒ NTR

Rich growth in intertidal rocky outcrops - good recovery of algae + mussels. Area C+E w/ pockets of asphalt + residue did not shear + are surrounded by intertidal growth. Course of stream bed is stable + little oil was observed on banks, except some small patches that should be investigated biologically.

Small AP in area of boulders at end of segment - unrecoverable due to depth between boulders. Six (6) bags of oil debris removed during survey from cobble area as indicated on sketch map. No further treatment required.

W m M 10 m N 15 m VL 430 m NO 435 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-

FRAMES

cont'd

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

Very little oil was observed. (A) and (B) comprised {coat} {cover} on boulders and large rocks with very small patches of AP. (C) was on slate w/c platform consisting of granules and some AP in slate cleavage & crevices. Area (D) was the most concentrated sub-location (picked up location (E) which was very sporadic AP and SOR (H) within gullies on w/c rock platform. Three small patches of AP/SOR were located near the Anadromous stream.

TEAM NO. 6

SEGMENT GR-103

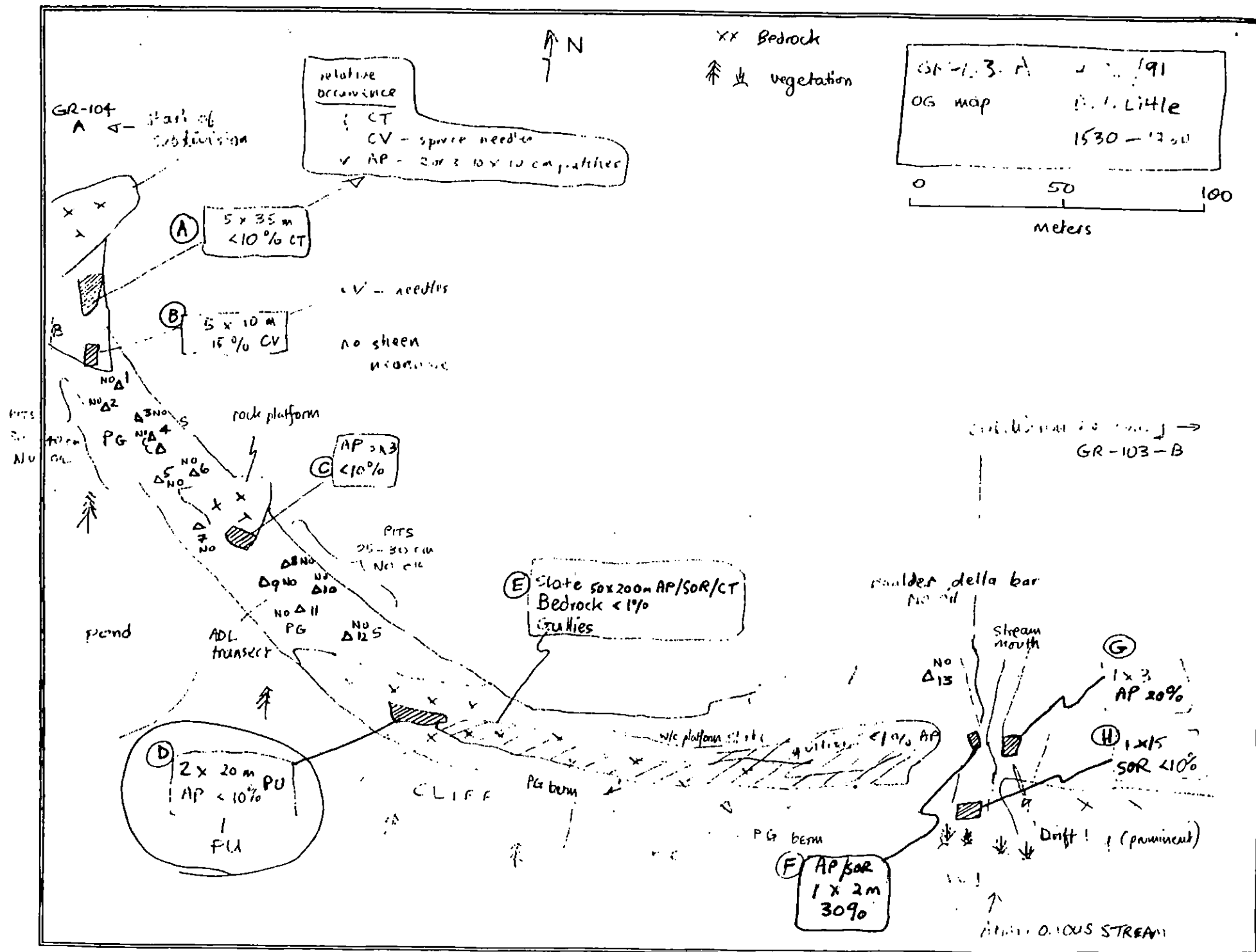
SUBDIVISION A

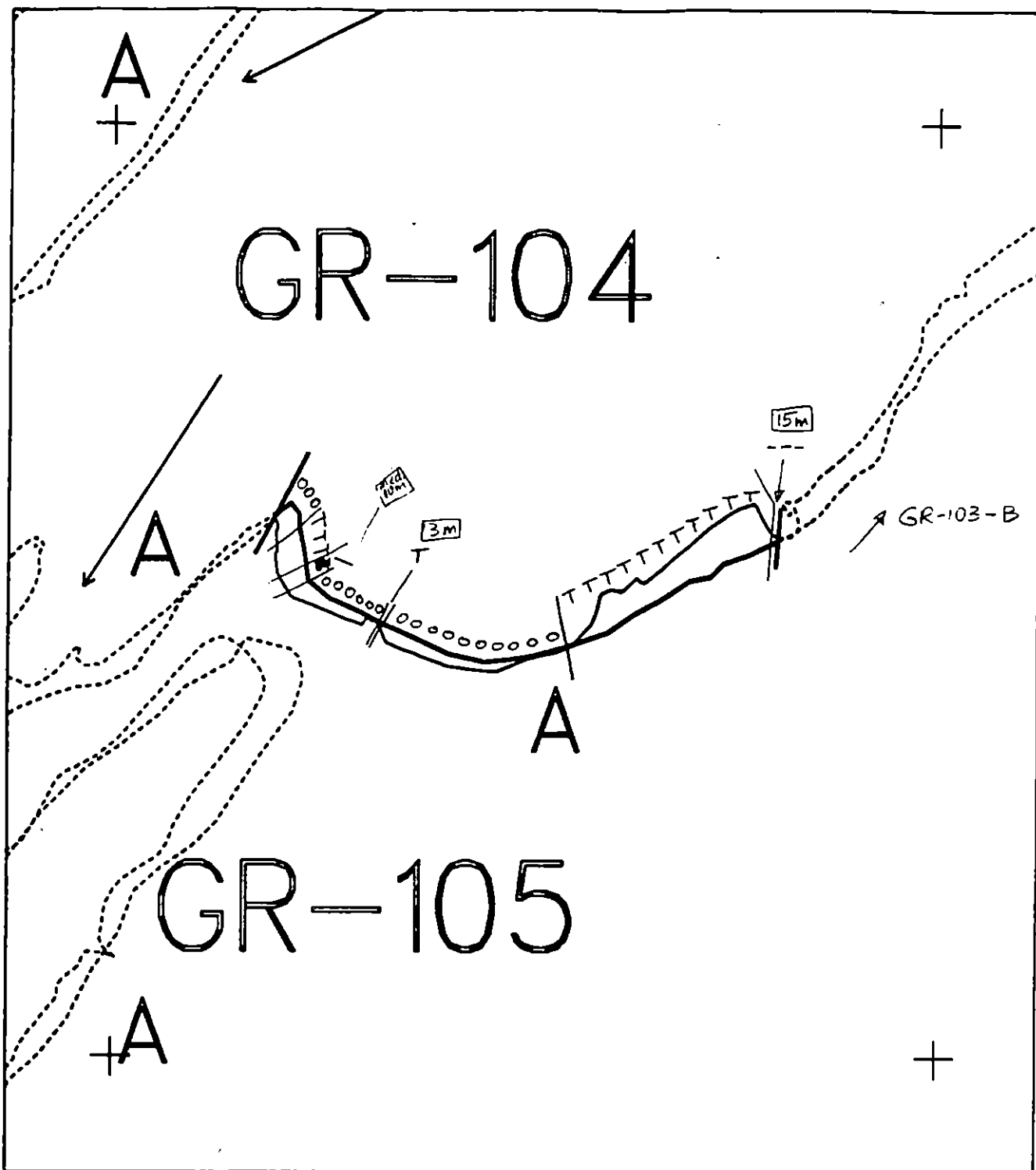
DATE 04 / 26 / 91

[illegible]

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

OG COMMENTS:





MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6

DATE 4/26/91

SEGMENT # GA 10.3

TIDAL HEIGHT(Range) +6 to +2

SUBDIVISION A

BIOLOGIST TK Schroeder

SEA STATE

WIND SPEED/DIRECTION 10 NE to calm

PHOTOGRAPHS: ROLL #

FRAME # exp 3:20 to 5:55

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

(A & B) = High energy area, yet juvenile biogenic growth good. Bivalves and spot abundant. Algal and coating not presenting any biological problems. Recreational boating alone a biological community progressing adequately.

(C) = Rock outcroppings and tide pools very abundant w/ snails, green algae. No treatment or pickup needed. Any pickup too intensive.

(D) = Oil was manually picked up.

(F-H) = Sparse sharding a stream of oil gravel berm probably shifted frequently. Little growth except at lower intertidal. If bird cover is manually picked up when resurveying request (subdivision) B, fine. Not necessary to make separate trip.

Although this area is a high energy area, the rock and reef outcroppings provide good shelter for biological communities. There do not appear to be effects by close proximity to oil. Unable to relocate any eagle nests.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	none
Seabirds			
Waterfowl	3	8	
Gulls/kittiwakes	1	6	
Shorebirds	1	35 (y.s. Co.)	
Corvids			
Other Birds	1	1 (small Hawk)	

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters	none		
Pinnipeds(specify)			
Whales(specify)			

Shoreline subdivision map showing important biological features attached.

GR-103-A

4/26/91

T.R. Schroeder

15:30-17:45



0 50 100
meter

Abundant large boulders; filamentous algae on rocks w/ small fucus growth on east end; barnacle spat abundant.

A 5135m
CU
AP

B 5x10m
19% CU

High energy beach,
washed clean

Rock outcropping abundant w/ life;
barnacles; juv. fucus; littoride snails
& coralline algae (red & yellow).

Reef area from D-F has extensive
fucus kelp growth; small juv. fucus in
rock crevasses; barnacles and spat and
littoride snails abundant; sea lettuce
and brown & red alga in numerous tide
pools. area extremely abundant w/
life;

C AP 343
CU

brown & red
algae

E 50x200
AP/SOR/CT
CU

Fucus beds

Area near stream
scoured; appears
to be shifting
gravel bar.

F AP/SOR
1x2m
CU

G 1x3m
AP 200

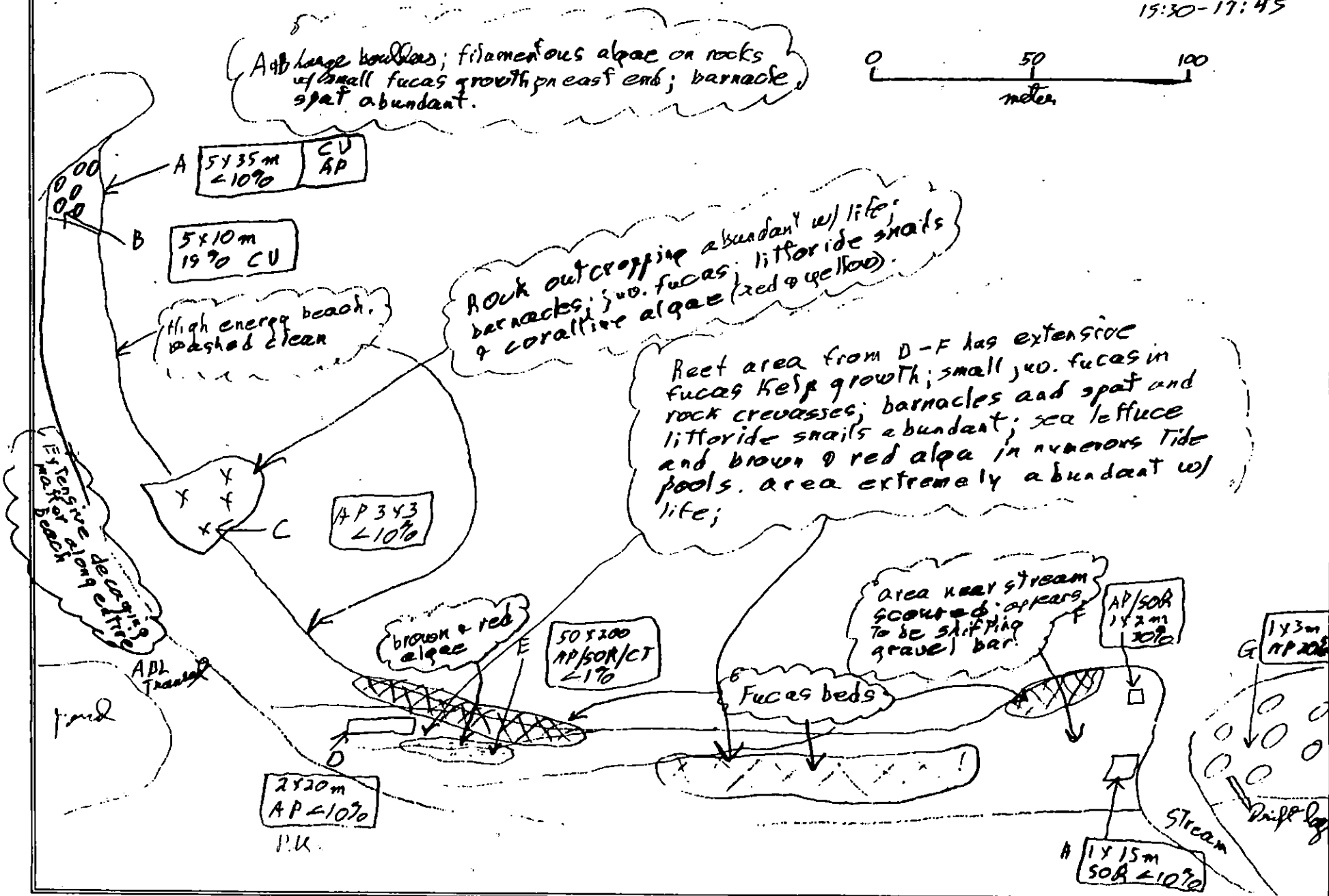
D 2x20m
AP CU

P.K.

H 1x15m
SOR CU

Stream

Drift log



1991 MAYSAP EVALUATION

SURVEY ADDENDUM

SEGMENT: GR 103 SUB: C REGION: PWS SURVEY DATE: 6/13/91ENVIRONMENTAL SENSITIVITIES:Work Window(s) RESTRICTED 3/1 - 9/15Ecological/Constraints (see page two for details) Eagle nest,
Herring spawning, Subsistence - Deer harvesting, Subsistence -
Salmon harvestingARCHAEOLOGICAL 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: Original survey (5/1/91) interrupted because of eagle
activity. Survey addendum (6/13/91) completed survey. No
further work identified.

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.

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

Subsistence - Salmon Harvesting: 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.

EXXON COMPANY, U.S.A.
ALASKA OPERATIONS

M E M O R A N D U M

To: File
From: Julie Arin
Date: June 17, 1991
Subject: MAYSAP Subdivisions EL-106C, GR-103B, GR-103C, & KN-15A

Additional surveying was performed on the subdivisions listed above. These subdivisions were not completed during the initial survey due to eagles in the area. These survey reports are addenda to the survey information previously submitted (EL-106C was not previously surveyed).

CENTRAL FILE
OFFICIAL COPY

MAYSAP FIELD SHORELINE COMMENT SHEET
ADDENDUM

TEAM NO. 00 SEGMENT GR103 SUBDIVISION C DATE 13 June 1991

ADEC

NAME Marianne Profita SIGNATURE Marianne Profita



NTR

Surveyed small area not completed during MAYSAP
due to Eagles Nest.

No oil observed in this area.

EXXON

NAME Rev Coulter SIGNATURE Rev R. Coulter



NTR

We only surveyed the small area in the LITZ AS
NOTED ON THE OG FORM. No oil observed in
this section of the subdivision.

LANDMANAGER

NAME _____ OF _____ SIGNATURE _____



NTR

LANDMANAGER NOT PRESENT

USCG/NOAA

NAME CWO R.P. SPURR SIGNATURE R.P. Spurr



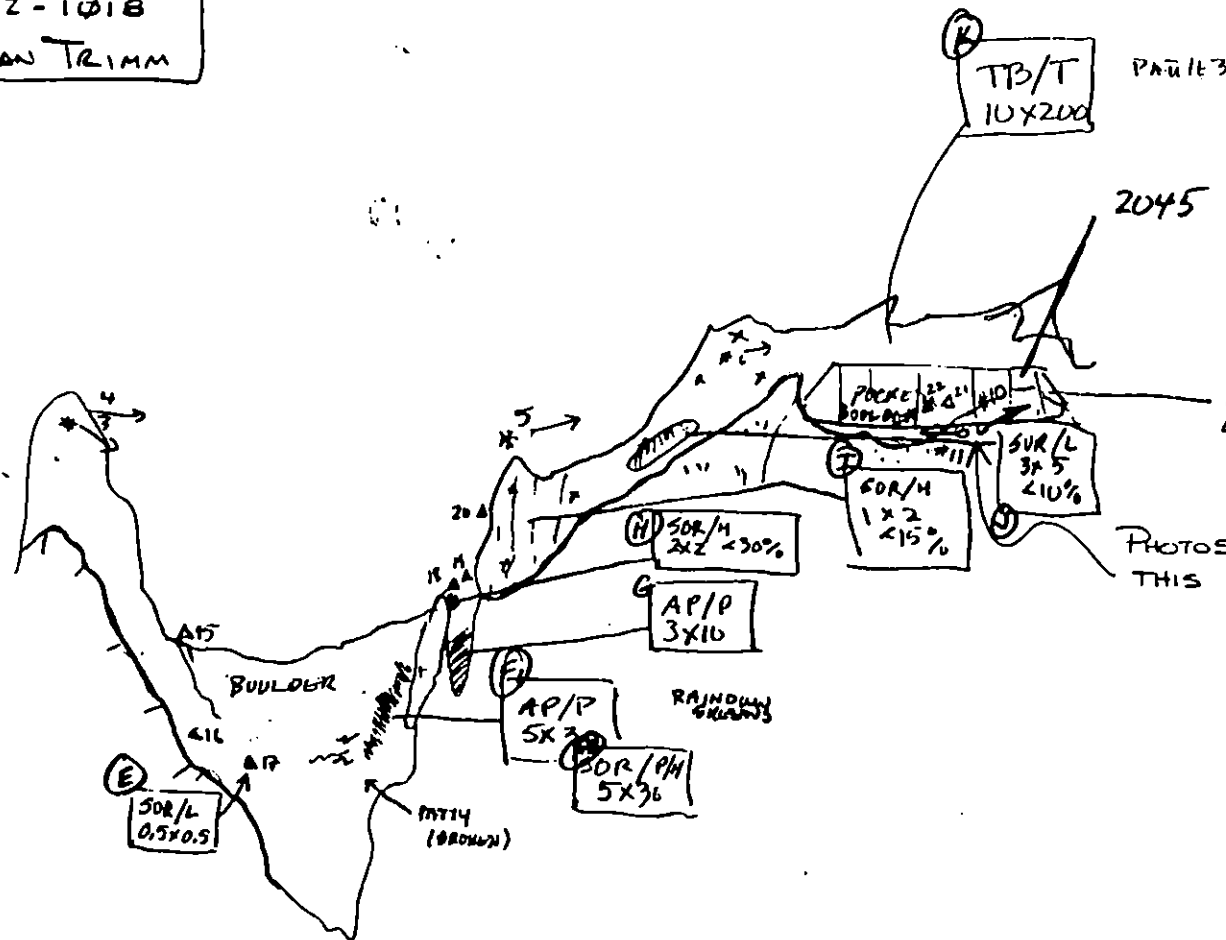
NTR

No oil observed in area of segment surveyed

PAGE 1 OF 1

REVISED 68 18 JUN

GR-C
ADDENDUM
SKETCH MAP
13-JUN-91
0942-1018
BRYAN TRIMM



VITE SURVEYED, NO OIL
OBSERVED 6/13/91
VITE/NPT SURVEYED
DUE TO UNABLES
NEST

PHOTOS #10 & #11 TAKEN AT
THIS POINT IN OPPOSITE DIRECTIONS (EAST/WEST, RESR)

REVIEWED 10 JUN

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 00 DATE 6/13/91
 SEGMENT # GR 103 TIDAL HEIGHT (Range) -3.5m - 3.0'
 SUBDIVISION C BIOLOGIST D. McCoemick
 SEA STATE 0.0' WIND SPEED/DIRECTION Calm
 PHOTOGRAPHS: ROLL # _____ FRAME # _____

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

Only a very short section of the UITZ was surveyed in this subdivision. No oil was observed and only very sparse macrobiota was observed, including: black lichens, littorines, limpets, mussels and barnacles (mostly adult stages). Tidal pools in this zone of the beach supported minor concentrations of the above-mentioned fauna plus filamentous green algae and the brown algae *Sargassum*.

An oystercatcher nest is present on the bedrock outcrop at the extreme eastern end of the subdivision.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

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

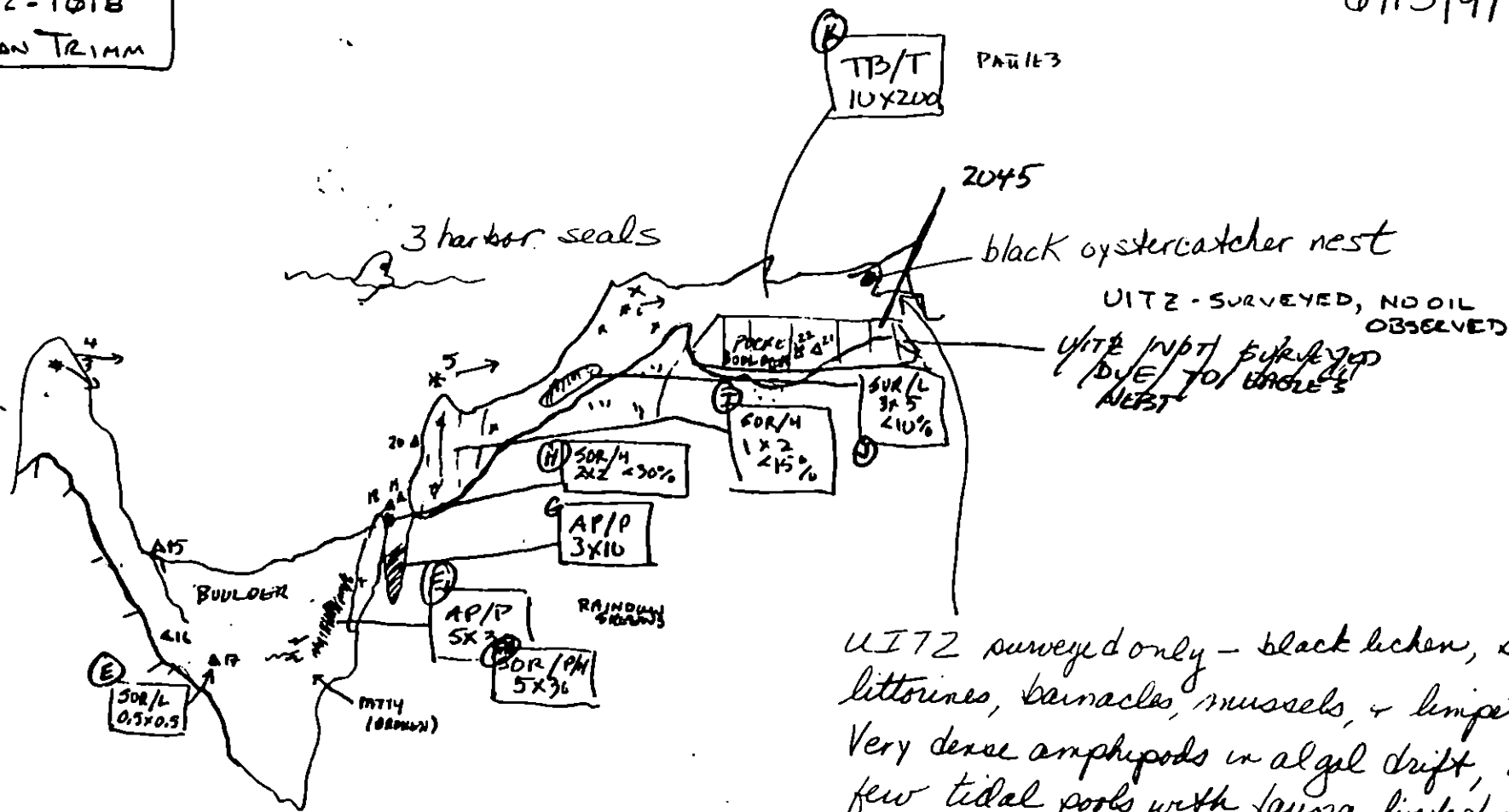
MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Seal Otters			
Pinnipeds (specify)			
Whale seals	3		
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

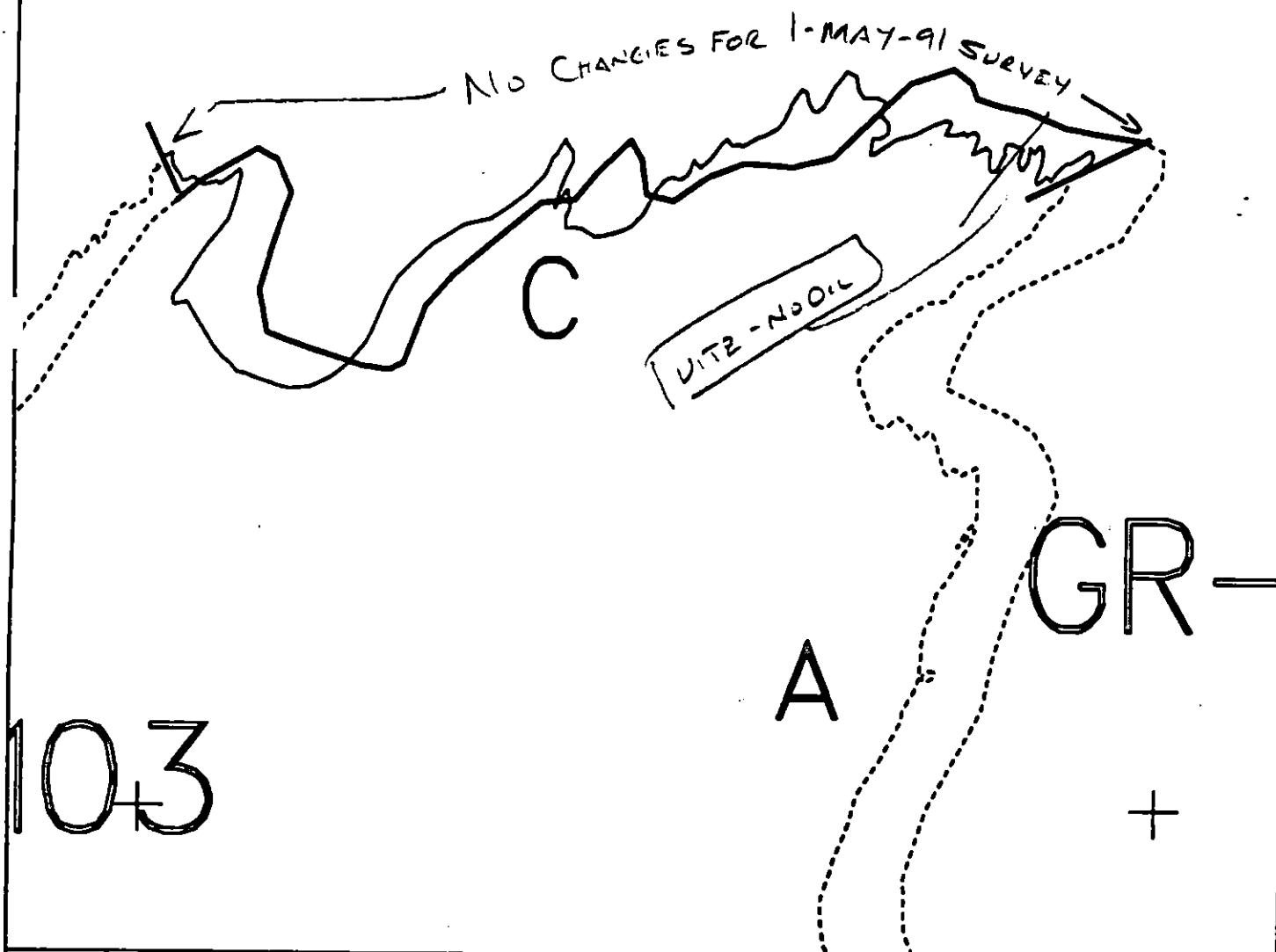
Reviewed MBS 6/17/91

GE 23-C
 ADDENDUM
 SKETCH MAP
 13-JUN-91
 0942-1018
 BRYAN TRIMM

Bio Sketch
 D. McCormick
 6/13/91



UITE surveyed only - black lichen, sparse littorines, barnacles, mussels, & limpets here. Very dense amphipods in algal drift, a few tidal pools with fauna listed above, plus filamentous green algae & Sargassum.



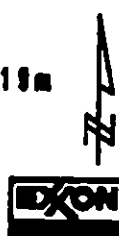
XXXX	Wide
////	Medium
----	Narrow
TTTT	Very Light
0000	No Oil

GR103 C

ADEC Subsegment Length: 1618m

METERS

AK State Plane Zone 4
pg103c



Subdivision Field Map

Map Key: PW5GR103C

Name: TRIMM

ADDENDUM TO 1-MAY-91

Date: 13-JUN-91

Date Entered:

SURFACE OIL CATEGORY MAP

REVIEWED 18 JUN 91

1991 MAYSAP EVALUATION

SEGMENT: GR 103 SUB: C REGION: PWS SURVEY DATE: 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) Eagle nest,
Herring spawning, Subsistence - Deer harvesting, Subsistence -
salmon harvesting

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find, and contact Exxon's Cultural Resource Program immediately: 564-3276; 564-3657; (Anchorage) or 229-1514 (24 hrs.). *RA*

RECOMMENDATIONS:

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

COMMENTS:

easily
INITIAL: Remove accessible asphalt and high SOR at locations F1
and G. Apply Customblen and Inipol at locations F1, F2, and G.

TAG:

- ADD MANUAL PICKUP OF EASILY ACCESSIBLE HSOR
AT AREA D. FOLLOWED BY CUSTOMBLEN.
- ADD AREA H TO MANUAL PICKUP EASILY ACCESS. HSOR

FOSC:

TAG APPROVAL DATE: MAY 21 1991

FOSC APPROVAL DATE: 5/25/91

ADEC

FOSC

EXXON

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

USCG

NOAA

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

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

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

Subsistence - Salmon Harvesting: 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. 3 SEGMENT GB-103 SUBDIVISION C DATE 5/1/91

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ NTR ☒ TREATMENT RECOMMENDED - 5X30M AREA OF A/P THAT HAD BEEN PREVIOUSLY SPRAYED BY INIPOL IS STILL PRESENT (A LARGE AMOUNT OF GREEN ALGAE IS PRESENT IN AREA OF APPLICATION) IT ALSO SEEMED STRANGE TO ME THAT THE A/P HAD NOT BEEN PICKED UP, AS THE DECISION TREE INSTRUCTS TO DO!, BUT HAD BEEN BIOD. IT IS STILL PRESENT, FIRM & HARD, THE MICROBES DID NOT EAT IT. MANUAL REMOVAL OF ALL A/P 5X30 X 3 X 10 IS RECOMMENDED, ROLL Boulders TO REMOVE A/P UNDER THESE EASILY ROLLABLE Boulders, MANUALLY TILL ONLY WHEN A/P IS REMOVED STRING SNARE FOR A WHOLE TIDAL FLUCTUATIONS TO CONTAIN/COLLECT SHEEN. REMOVE MANUALLY SOR/H SEDIMENTS. Survey U12 & SUTZ AT EASTERN END OF SEGMENT, NOT SURVEYED DUE TO ACTIVE EAGLES. Canadian geese were present on this contaminated site when we approached.
- 1 of the 2 Heaviest oiled segments on Green island -

EXXON

NAME Jon Czarnicki SIGNATURE Jon Czarnicki

☐ NTR Some oil in pub mar to her with patchy spots of A/P. Some broken up and removed. today Bed rock and shale which hold the A/P. There were ~~two~~ Eagles on the point that ~~was~~ were in flight with a probable nest in the area. A/P was under the rocks and Boulders on the Man section of the beach.

LANDMANAGER

NAME _____ OF _____ SIGNATURE _____

☐ NTR CAROL HUBER (USFS) NOT PRESENT WHEN SURVEY. HAD SORE ANKLE.
Ting-ming USCG Jon Czarnicki Exxon

USCG/NOAA

NAME MOONEY / Burt SIGNATURE Ting-ming / Amy Burt

☐ NTR SEGMENT CONSISTS PRIMARILY OF Boulder, COBBLE, PEBBLE AMOR ON BEDROCK. CONCENTRATIONS OF SOR AND A/P ARE LOCATED IN THE MIDDLE OF THE SEGMENT, ALONG THE SOUTHWEST CORNER OF SKETCH B. THIS COVE HAS A COBBLE ARMOR OVER SAND, SILT SEDIMENT WITH AN ABUNDANT CLAM POPULATION. SOME FILLING OF A/P WAS CONDUCTED. TWO MEN/3 HRS COULD FINISH SITE.

MAYSAP SHORELINE OILING SUMMARY

PAGE 1 OF 2

TEAM NO. 5OG HARPERBIO STOKERSEGMENT GR-103ADEC GORMLEYLANDMANAGER HUBER for FSSUBDIVISION CEXXON CEARNECKIUSCG/NOAA MOONEY/BARATSDATE 5/1/91TIME 14:15 to 20:45TIDE LEVEL 4.32 ft. to 3.37 ft.ENERGY LEVEL: ☐ H ☒ M ☐ LSURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELOWEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☒ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 1619 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONEEST. OIL CATEGORY LENGTH: W 0 m M 66 m N 13 m VL 241 m NO 1299 m US * m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A						S					BC	M	5	30		X			
B						P					BC	M	1.5	10		X			
C				T							BC	M	10	50		X			SOR/L
D				S							BC/R	M	5	10		X			SOR/H
E				B							BC/R	M	0.5	0.5		X			SOR/L
F1	P										BCP	M	5	30		X			
F2				P							BCP	M	5	30		X			SOR/H
G	P										BC/R	M	3	10		X			
H				P							BC/R	M	2	2		X			SOR/H
I				P							CPB/R	M	1	2		X			SOR/H
J				S							CPB	M	3	5		X			SOR/L
K			T								R	M	10	200			X		PAITIES

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

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

PHOTO ROLL # MAYSAP-

3 - 07

23, 24

3 - 08

FRAMES 1-6

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	30							X	-	Y	-	-		X			P/P	
2	30							X	-	Y	-	-		X			P/P	
3	20							X	-	Y	-	-			X		P/P	
4	20							X	-	Y	-	-		X			P/P	
5	25							X	-	Y	-	-			X		P/P	
6	15							X	-	Y	-	-		X			BC/SG	
7	15							X	-	Y	-	-			X		BC/SG	
8	25							X	-	Y	-	-				X	BC/SG	
9	20							X	-	Y	-	-			X		B/SG	

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

OG COMMENTS: This segment is open to the north and east and as such, has moderate to high wave exposure. The shoreline is highly crenulated due to shallow bedrock striking to NE.

The primary significant surface oiling is SOR/H and AP in the central portion of the segment. This SOR/H and AP condition sits in small pockets on the bedrock surface.

REVIEWED CO 11 MAY

* UTE NEAR EASTERN END OF SEGMENT UNSURVEYED.

EG Revised, May 7

OG 1 of 7

PAGE 2 OF 2

SEGMENT GR-103

SUBDIVISION C

DATE 5/1 /91

S. HARPER

SKETCH
"B"
K-SKETCH "A"

[illegible]

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

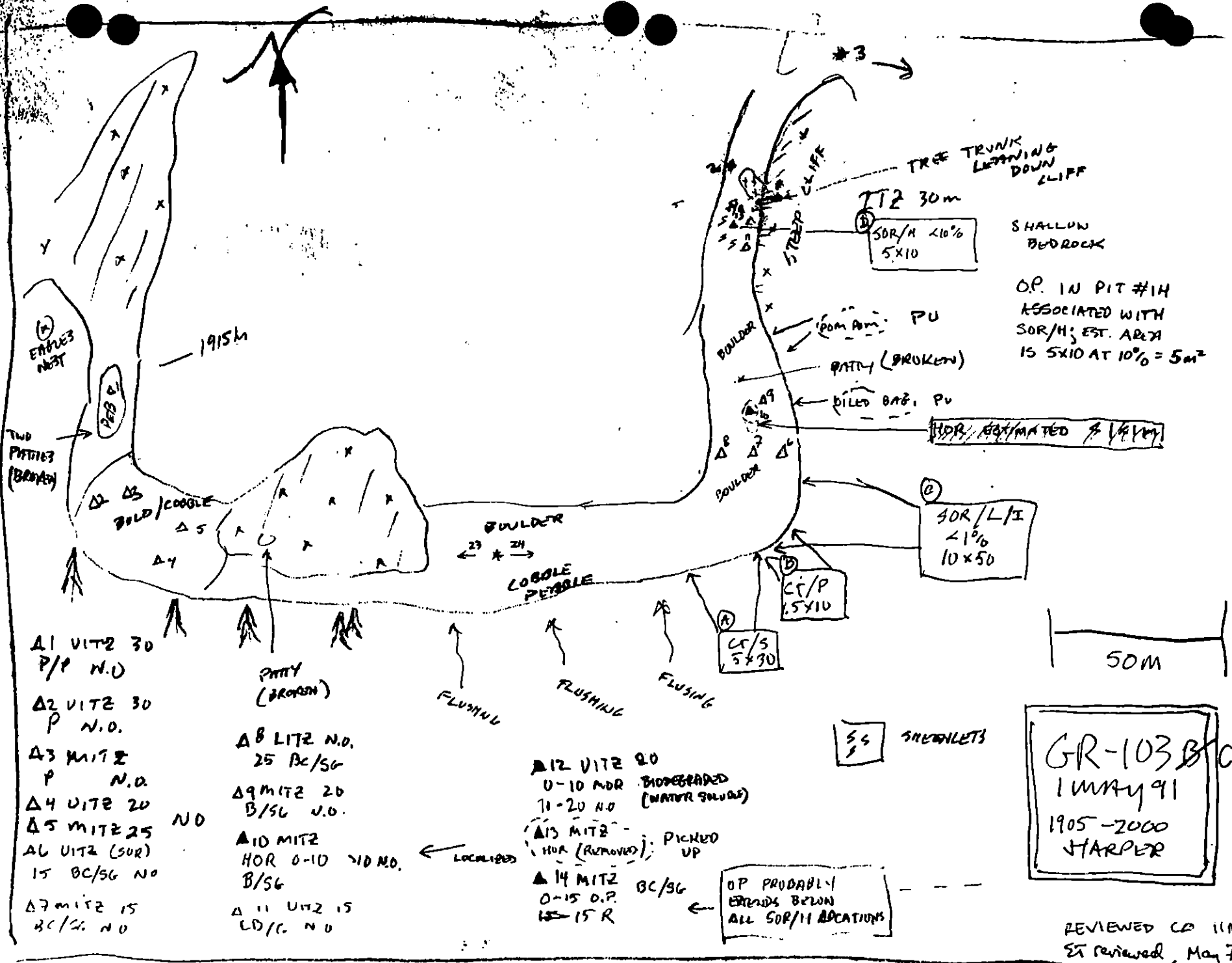
OG COMMENTS:

Subsurface oiling is highly localized and related to the patchy distribution of surface oiling, specifically SOR/H and AP conditions (e.g. locations D, H).

REVIEWED CD 11 MAY
ET revised, May 7

OG 2 of 7

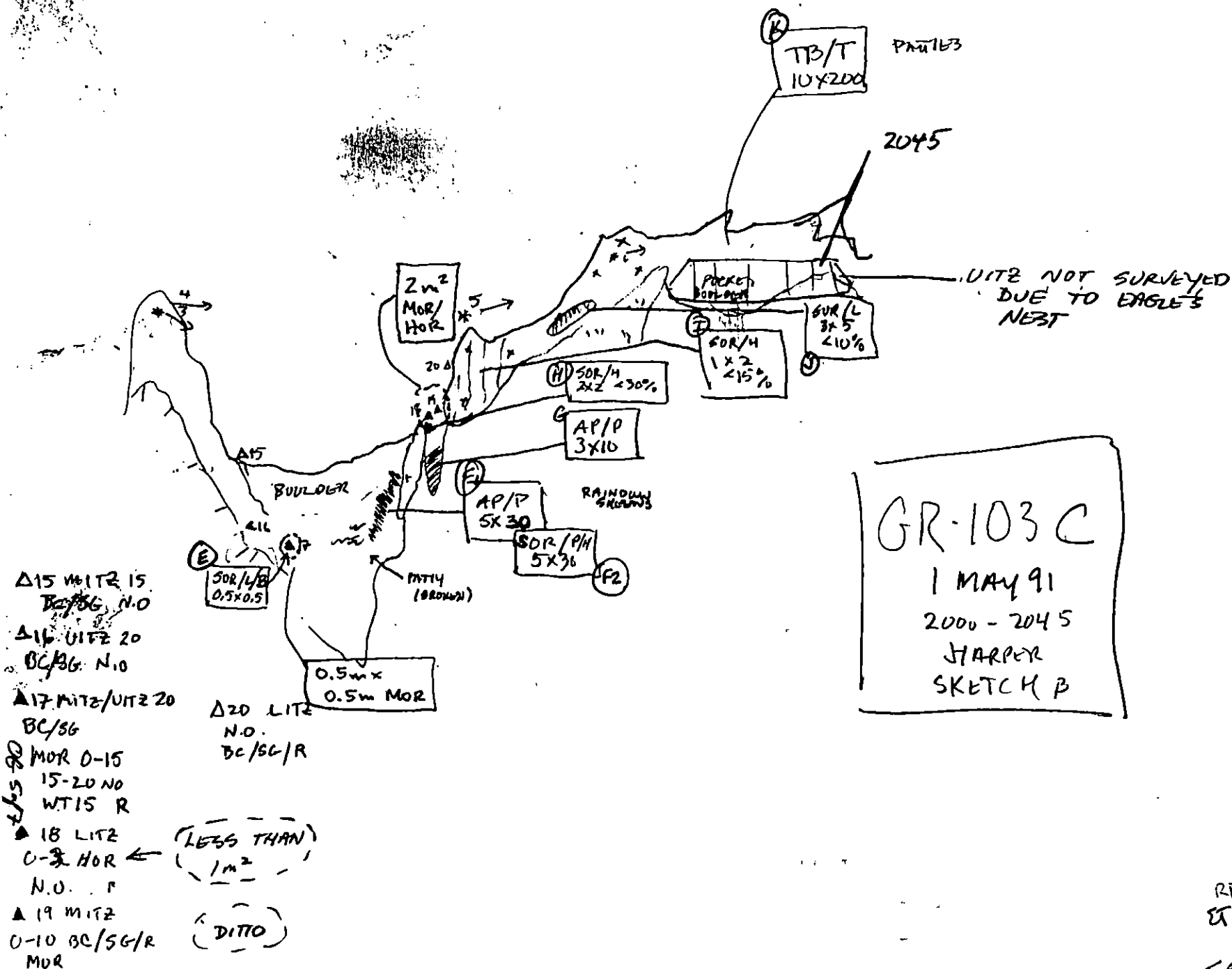
OG 4/17



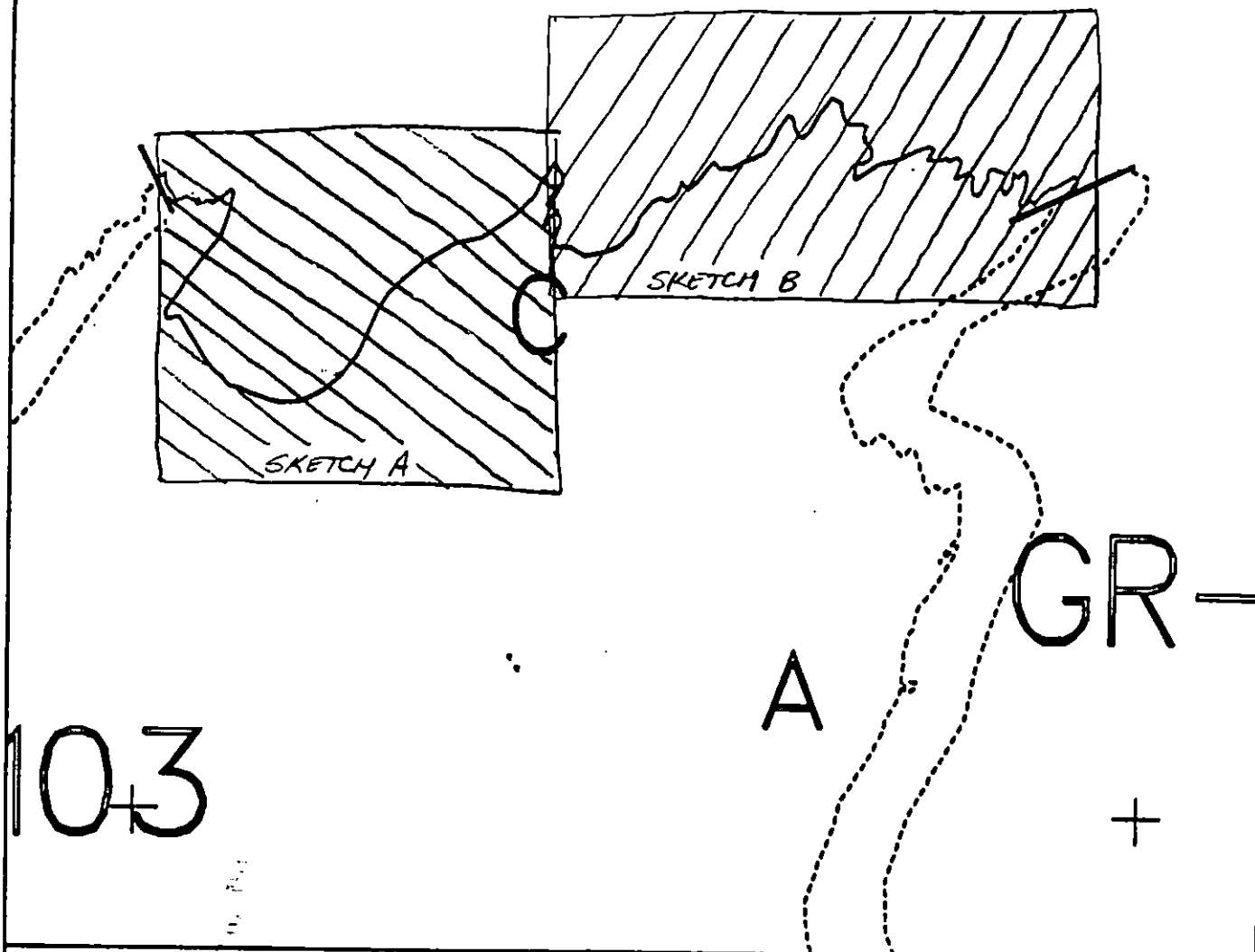
GR-103B C
1 MAY 91
1905-2000
HARPER

REVIEWED CO 11 MAY
91 reviewed, May 7

SKETCH "A"



REVIEWED CB 11 MAY
 ET revised, May 7
 SKETCH "B"



XXXX	Wide	GR103 C	Subdivision Field Map
////	Medium	ADEC Subsegment Length: 1619m	Map Key: PWSGR103C
---	Narrow	METERS	Name: <u>HARPER</u>
TTTT	Very Light	0 200 400	Date: <u>1 May 91</u>
0000	No Oil	AK State Plane Zone 4 per 103a	Date Entered:

ET reviewed May 7
REVIEWED CD 11 MAY
OG 3rd 7

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 3

DATE 5/1/91

SEGMENT # CR 103

TIDAL HEIGHT(Range) 4-6'

SUBDIVISION C

BIOLOGIST Stoker

SEA STATE 0-1'

WIND SPEED/DIRECTION E 0-5

PHOTOGRAPHS: ROLL #

FRAME #

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

High energy beach of cobble/boulder/bedrock.Biota generally sparse in upper intertidal. Mid intertidal characterized by patches of Fucus, filamentous green algae, Mytilus patches (both attached and interbedded), Littorina (often dense, with egg masses), limpets, amphipods, barnacles and spat and Pagurus. Composition and density vary throughout according to substrate and exposure. Lower intertidal was not observed. A small stream transects the subdivision.Biota within/adjacent to surface and subsurface oil in areas A-C sparse or absent, as is the case throughout upper mid intertidal and above in this locale.Biota proximal to area D and PTS 10-13 variable, consisting when present of some new-growth Fucus, filamentous green algae, sparse barnacles and spat, moderately dense Littorina, limpets, amphipods, and small Mytilus patches. Biota downslope of this and areas A-C similar in composition, with increased abundance and addition of Pagurus, Nemertean.Biota within/adjacent to oiled areas E-J variable in density, consisting primarily of new-growth Fucus, barnacles and spat, limpets and Littorina. Biota downslope similar in composition, with generally increased overall abundance and addition of surfgrass (Phyllospadix). Composition, distribution and abundance of biota varies considerably in this area according to substrate and exposure.Further treatment should proceed with minimal disruption of established biota, which seems to be recovering rapidly.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	5 + nest	Ool blonnel
Seabirds			
Waterfowl	Ducks, Geese, Swan ⁴	40-50	
Gulls/Kittiwakes	Kittiwake ⁸ , Glaucous ² wings	40-50	
Shorebirds	Surfbirds, DY Noddycatchers ²	10-12	
Corvids	Ravens	4	
Other Birds			

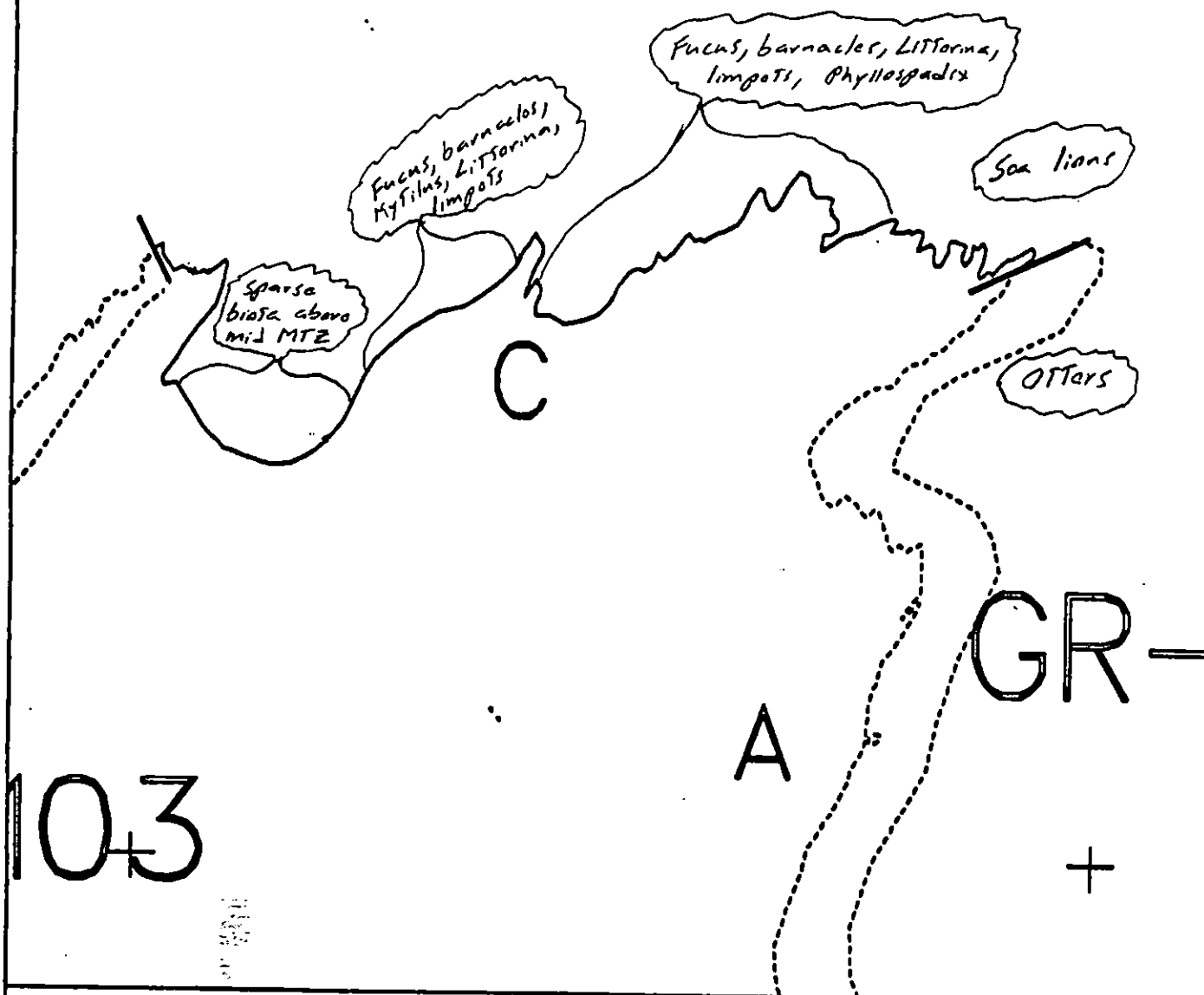
LAND MAMMALS

MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters	3 + 1 skeleton		
Amipeds(specify)	Sea lions - 2		
Whales(specify)			

Shoreline subdivision map showing important biological features attached.

REVIEWED CD 11 MAY
DLW/MB 5/10/91

BIO Map



XXXX
////

TTTT
0000

Wide
Medium
Narrow
Very Light
No Oil

GR103 C

ADEC Subsegment Length: 1610m

METERS

0 200 400

AK State Plane Zone 4
pr1030



Subdivision Field Map

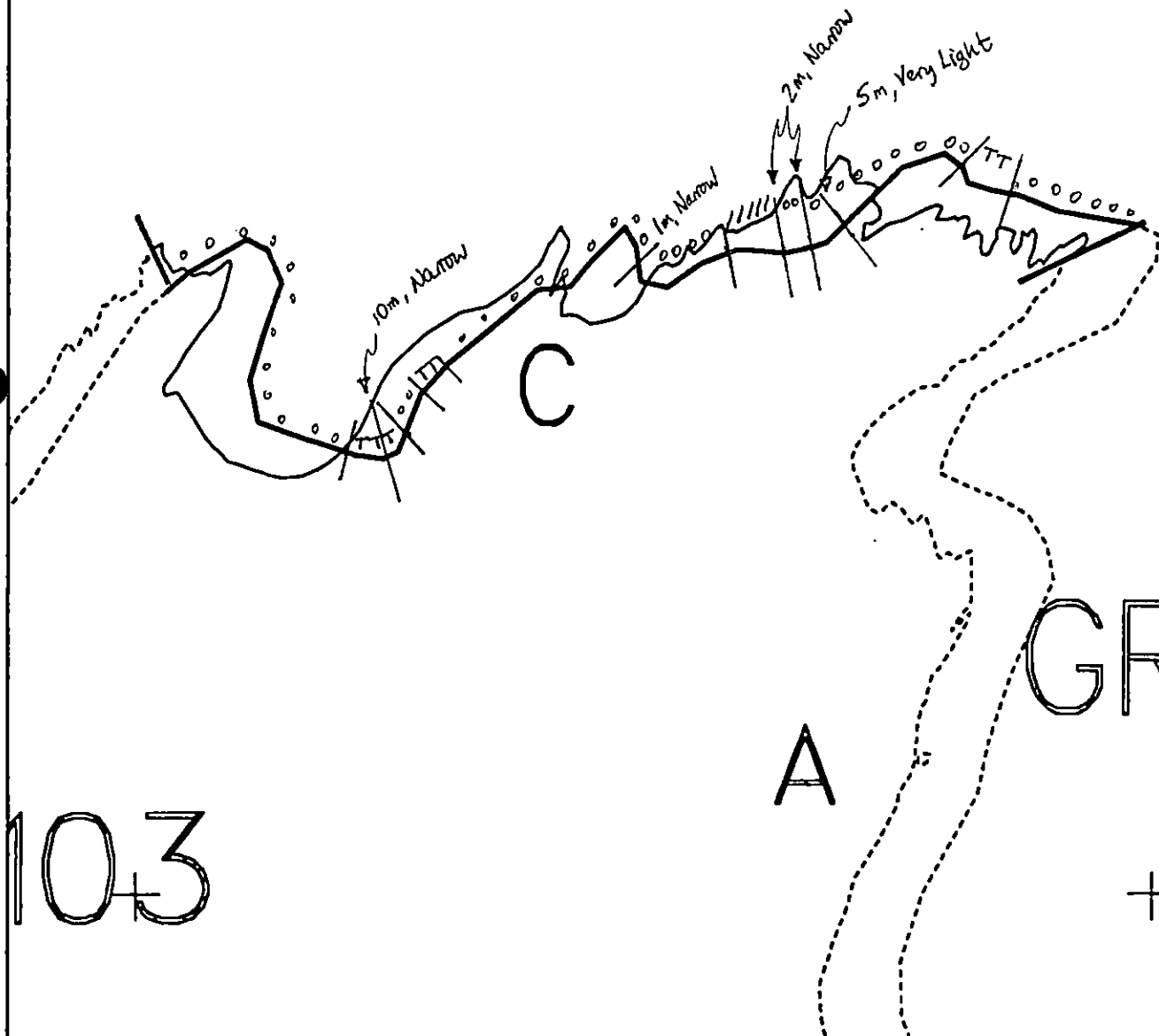
Map Key: PWSGR103C

Name: _____

Date: _____

Data Entered: _____

ADEC SHORELINE
OILING



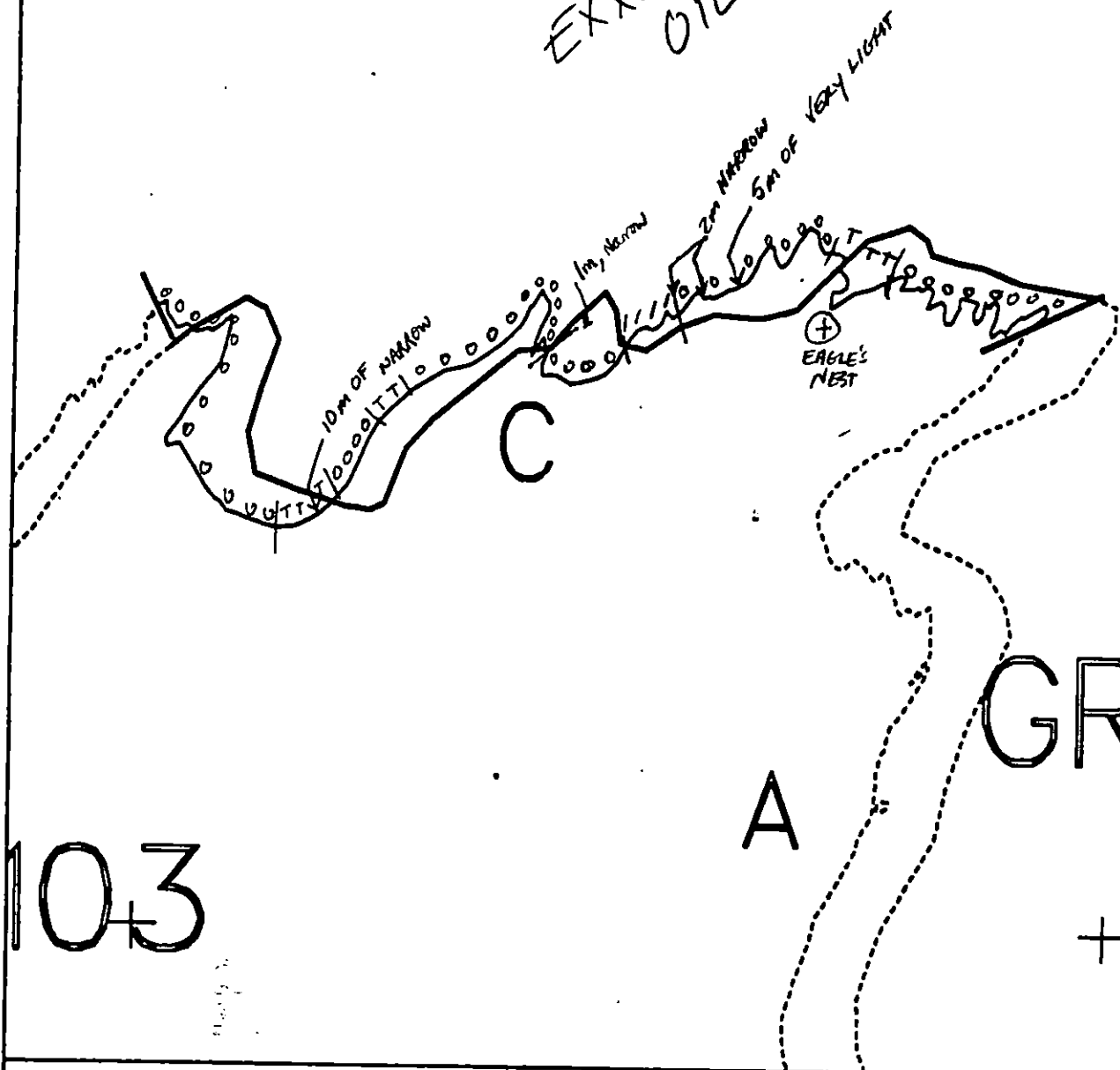
XXXX Wide
 //// Medium
 ---- Narrow
 TTTT Very Light
 0000 No Oil

GR103 C
 ADEC Subsegment Length: 1619m
 METERS
 5 1200 200
 AK State Plane Zone 4
 pgr103c



Subdivision Field Map
 Map Key: PWSCR103C
 Name: J HARPER
 Date: 1 MAY 91
 Data Entered:

EXXON SHORELINE OILING



XXXX	Wide	GR103 C	Subdivision Field Map
////	Medium	ADEC Subsegment Length: 1818m	Map Key: PWSGR103C
----	Narrow	METERS	Name: <u>HARPER</u>
TTTT	Very Light	0 200 400	Date: <u>1 MAY 91</u>
0000	No Oil	AK State Plane Zone 4 ppr103a	Date Entered:

SURFACE OILING SUMMARY
EXXON SHORELINE

REVIEWED CD 11 MAY
OG 6 of 7
ET Revised, May 7

1991 MAYSAP EVALUATION

SEGMENT: GR 103 SUB: B REGION: PWS SURVEY DATE: 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) Eagle nest, Herring spawning, Anadromous stream, Subsistence - Deer harvesting, Subsistence - Salmon harvesting

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>Y</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>X</u>	<u> </u>	<u> </u>
Other	<u> </u>	<u> </u>	<u> </u>
Other	<u> </u>	<u> </u>	<u> </u>

COMMENTS:

INITIAL: Apply Customblen and Inipol at locations A, B, C, D, E, I, and J.

TAG: NO TREATMENT RECOMMENDED

FOSC:

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

ADEC John Bauer FOSC E. E. Page

EXXON E. E. PAGE, CDR, USCG

USCG CHIEF OF STAFF, FOSC

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.

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

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

Subsistence - Salmon Harvesting: 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. Three SEGMENT GR103 SUBDIVISION B DATE 5/1/91

DEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ NTR ☒ TREATMENT RECOMMENDED (FINISH SURVEY last 400 METERS to the S.W, NOT SURVEYED due to active EAGLES. VECO crew removed an area 5x2M OP, but could NOT get the rest due to the amount of oil (the 2 workers would be here for days)
- Mousse band extends entire beach, it starts at 3m wide and widens to 10 M. The consistency is OP oil and is easily cleanable for the oil lies on bedrock. Manually remove using hand trowels, rolling boulders will be absolutely necessary so not to miss any. string snare for 1 tidal fluctuation to contain sheens created at in coming tide, keep workers off of biota at the LITZ, they can easily follow the Mousse band down the beach to work. Signs of INIPOL streaking on beach so the condition of the oil sheens that bio did NOT break this oil down.

EXXON

NAME Jon P Czarnacki SIGNATURE Jon Czarnacki

☐ NTR of the eight pits that were dug seven had oil in them. The oil that was present on the surface is SOP. The sub surface oil is SOP/H. The appearance of the beach is clean until you get to the sub surface. I do not think any oil would get on ~~the~~ any that would use the beach. However the is SOP/H under the rocks and between the cracks

LANDMANAGER

NAME _____ OF _____ SIGNATURE _____

☐ NTR No Land Manager here - problem with a sore foot. WAS ON THE BOAT AT THIS TIME J. Czarnacki Exxon
Timothy uscg

USCG/NOAA

NAME MOONEY / BARATS SIGNATURE Timothy / Andy Barats

☐ NTR The most southwestern portion of Segment was not surveyed. Signs of oil staining, coating and oil sheens are present throughout the segment. Pits 1-8 documents a dense band of subsurface oil (MOR-OP) in the MZ zone. Some of the material was removed but needs further attention. Most of the surface (SOP) and subsurface oil is in the lows and cracks of the bedrock.

PAGE 1 OF 2

Ex Revised OG 1 of 6
May 4

PAGE 2 OF 2

DATE 5/1 / 91

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

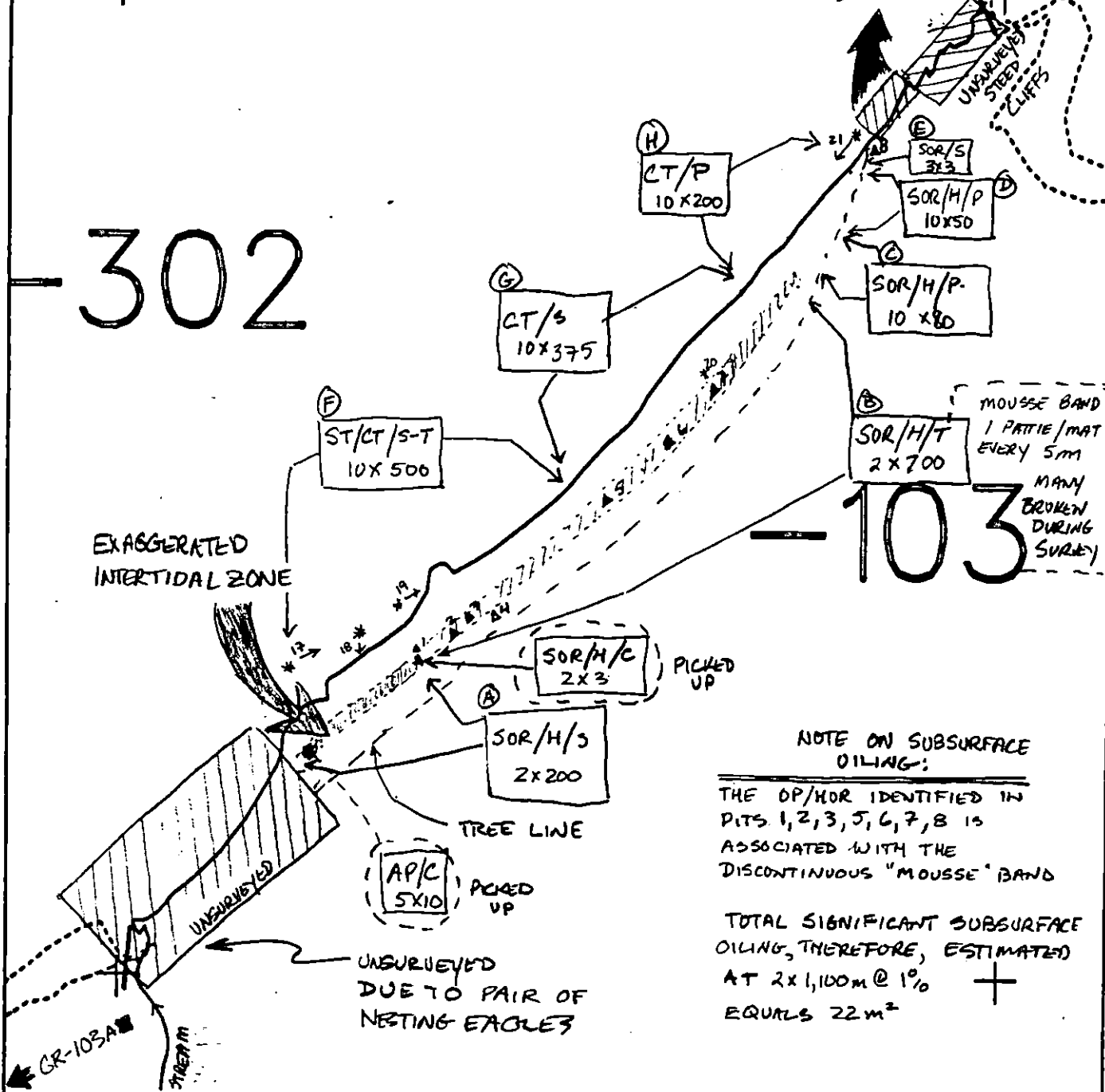
A number of pits documented subsurface oiling of concern (Pits 1, 2, 3, 5, 6, 7, 8), either OP or HOR conditions. These pits are all associated with the "mousse band" and therefore represents a discontinuous subsurface oiling condition estimated at approximately 22m^2 ; These subsurface oil pockets tend to be concentrated within small depressions over the bedrock surface.

OB 2 of 6

03
+

-302

SKETCH "B"



NOTE ON SUBSURFACE OILING:

THE OP/HOR IDENTIFIED IN PITS 1, 2, 3, 5, 6, 7, 8 IS ASSOCIATED WITH THE DISCONTINUOUS "MOUSSE" BAND

TOTAL SIGNIFICANT SUBSURFACE OILING, THEREFORE, ESTIMATED AT 2x1,100m @ 1% + EQUALS 22m²

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

GR103 B
ADEC Subsegment Length: 1764m
METERS
0 200 400
AK State Plane Zone 4
apr1993

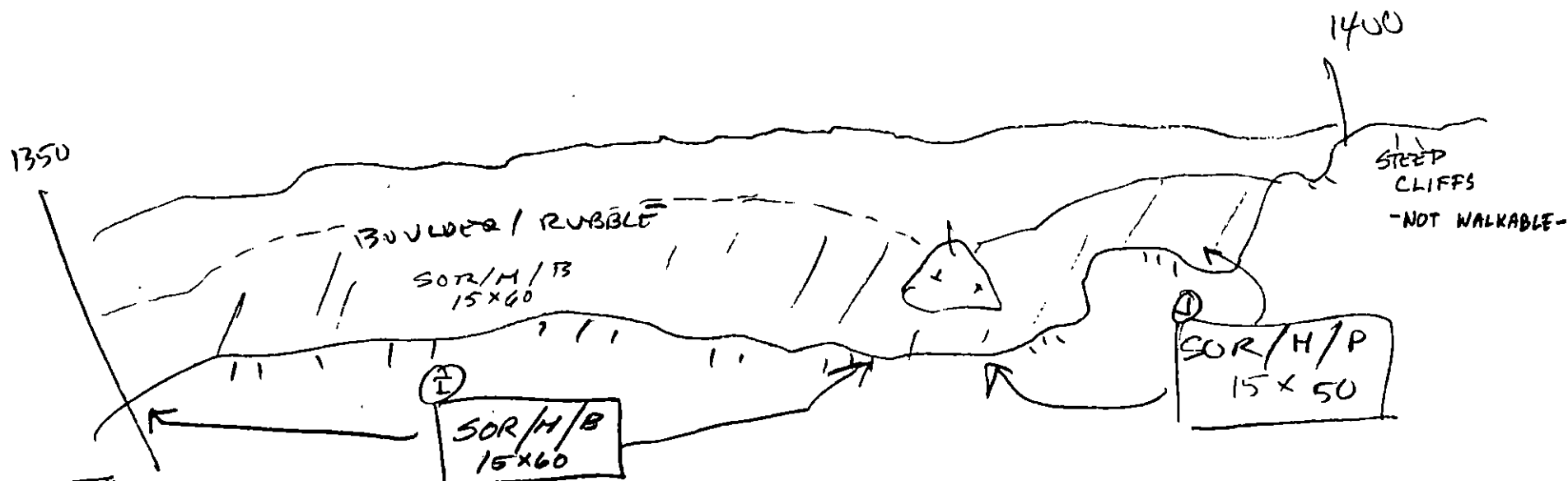
Subdivision Field Map
Map Key: PWSGR103B
Name: HARPER
Date: 1 MAY 91
Data Entered:

REVISED FIELD MAP

OG 3 of 6

ST 0...

GR 103 B



GR-103 B
1 MAY 91
1350-1400
HARPER
SKETCH B

V. APPROX. SCALE
50m

GR-103 B
1 MAY 91
HARPER

SKETCH "B"

U.S. National Map 5

U.S. National Map 5

HARDER

* 20

1520 OF

20

V. NARROW
ITZ

ST/S-T
10X

CT/3
10V

CT / F
10x

50R/H/P-B.
10x80

36R/H/P
Wx5a.

(MANY BROKEN)
MOUSE
BAND
1 PATTY
EVERY
5m
2m width

70214

VN SURVBY LTD

MAISSE 3/10

AP/c
5x10

SOR/H/S
2X200

502/H/C
2x3

Pickup
up

ገጽ ፱

A1 MITZ 15
SUR 0-5
5-10 0.0

PICK UP

▲ 2 MITZ 20
BCP/56
0-10 HOR
10-20 N.O
WT 1526

MIT 20
BCP/SG
0-5 UP
5-10 N.O

5 M I T 2 20
BC/SG
0-10 HOR
10-20 OF
20 W 45600

6 MITZ '15
C/G/R
6-10 HUR/OP
10-15 NO

ASSOCIATED
WITH MURDER
BAND

Sketch A

100m

06-4415

GR-1038
ORIGINAL
FIELD IN AD
VANCE

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 3

DATE 5/1/91

SEGMENT # GR 103

TIDAL HEIGHT(Range) 3-7'

SUBDIVISION B

BIOLOGIST Stokor

SEA STATE 0-1'

WIND SPEED/DIRECTION E 5-10

PHOTOGRAPHS: ROLL #

FRAME #

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

Moderate to high energy beach of cobble/boulder/bedrock.Biota generally sparse in upper intertidal. Mid intertidal characterized by patchy new-growth Fucus, various red algae; patches of surf grass, patchily dense Mytilus (both attached and interbedded), barnacles and spat, limpets, amphipods, and Littorina (often dense clusters with eggs). Also common are Scartesia, Nucella, Isopods (Idotea), and eel blennies. An anadromous stream borders the subdivision on the SW. Lower intertidal not observed.Biota within and adjacent to observed surface/subsurface oil or the discontinuous "mousse band" described in oil summary (Pits 1-7) consists of patchy new-growth Fucus ranging from sparse to dense, filamentous green algae, patchy and generally sparse barnacles and spat, patchy and generally sparse Mytilus, moderate and sometimes dense Littorina and egg masses, limpets (moderate-dense), and sometimes amphipods, Nucella, eel blennies, sculpins (in tide pools) and oligochaetes. Biota downlope similar in composition/diversity, usually somewhat greater abundance.Biota within/adjacent to "mousse band" in northern part of subdivision similar to above, with increased abundance of Littorina, limpets, amphipodsBiota in general appears relatively abundant, diverse, and on its way to recovery. Further treatment operations should take care to minimize damage and disturbance to this established community.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	3 + nest	eel blennies
Seabirds			sculpins
Waterfowl	1	4	
Gulls/Kittiwakes	2	10-20	
Shorebirds	Oystercatchers	10	
Corvids	1	2	
Other Birds			

LAND MAMMALS

MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Otters	1		
Cephalopods(specify)			
Marine Mammals(specify)			

Shoreline subdivision map showing important biological features attached.

03
+

Bio Map

-302

-103

Fucus, barnacles, Mytilus, limpets,
Littorina, etc.

Fucus, barnacles, limpets,
Littorina, Mytilus, etc.



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

GR103 B

ADEC Subsegment Length: 1764m

METERS



AK State Plane Zone 4
 pr103b



Subdivision Field Map

Map Key: PWSGR103B

Name: _____

Date: _____

Date Entered: _____

03
+

-302

GR-103

B

NOT
SURVEYED
STEEP CLIFFS

UNSURVEYED

WIDE	0.5	x 80	= 40
MED	2.9	x 80	= 232
NARROW	3.0	x 80	240
V.L.	10.9	x 80	(716)
N.O.	0		
Σ			1384
U.S.	4.5	x 80	(516) +
			1744 1764

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

GR103 B

ADEC Subsegment Length: 1764m

METERS

0 200 400

AK State Plane Zone 4
 pgr103b



Subdivision Field Map

Map Key: PWSCR103B

Name: HARPER

Date: 1 MAY 91

Date Entered:

SURFACE OILING MAP

AR 1.1C

SEGMENT: GR 103 SUB: B REGION: PWS SURVEY DATE: 6/13/91ENVIRONMENTAL SENSITIVITIES:Work Window(s) RESTRICTED 3/1 - 9/15Ecological/Constraints (see page two for details) Eagle nest,
Herring spawning, Anadromous stream, Subsistence - Deer harvest-
ing, Subsistence - Salmon harvestingARCHAEOLOGICAL 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: Original survey (5/1/91) interrupted because of eagle
activity. Survey addendum (6/13/91) completed survey.

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.

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

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

Subsistence - Salmon Harvesting: 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.

EXXON COMPANY, U.S.A.
ALASKA OPERATIONS

M E M O R A N D U M

To: File
From: Julie Arin
Date: June 17, 1991
Subject: MAYSAP Subdivisions EL-106C, GR-103B, GR-103C, & KN-15A

Additional surveying was performed on the subdivisions listed above. These subdivisions were not completed during the initial survey due to eagles in the area. These survey reports are addenda to the survey information previously submitted (EL-106C was not previously surveyed).

CENTRAL FILE
OFFICIAL COPY

MATCOAT FIELD SHORELINE SURVEY SHEET
ADDENDUM

TEAM NO. 44 SEGMENT GR103 SUBDIVISION B DATE 13 JUN/91

ADEC

NAME Marianne Profita SIGNATURE Marianne Profita

- ☒ NTR L/SOR Band down Length of subdivision, ~~under~~ bedrock spaces oiled, oiling nests under B/C/P. WITE. Sheering present in tidal pools. Due to Length of subdivision + light oiling, treatment does not seem feasible.

Pick up of AP/SOR as designated by Anad. survey just north of stream.

EXXON

NAME Re. Coulter SIGNATURE Re. Coulter

- ☒ NTR NATURAL CLEANING IS IN PROGRESS AT THIS SECTION OF THE SUBDIVISION AS NOTED BY THE SHEETS ON SOME TIDAL POOLS. HEALTHY BIOTA CONTINUED TO THRIVE AS DESCRIBED BY THE BIOLOGIST WITH NO EVIDENCE OF NEGATIVE IMPACT DUE TO THE NATURAL DISSIPATION OF THE REMAINING SOR.

WE BRKE UP/REMOVED THE AP/SOR AREA IN THIS SUBDIVISION WHICH WAS DOCUMENTED IN THE GR-103A ANAD SURVEY. THIS SMALL AREA WAS LOCATED ADJACENT TO THE STREAM IN GR-103B.

LANDMANAGER

NAME _____ OF _____ SIGNATURE _____

☐ NTR

LANDMANAGER NOT PRESENT

USCG/~~NOAA~~

NAME CWO R.P. SPURR SIGNATURE R.P. Spurr

- ☒ NTR Recoverable AP/SOR Removed during survey of this portion of the segment.

GR103-B

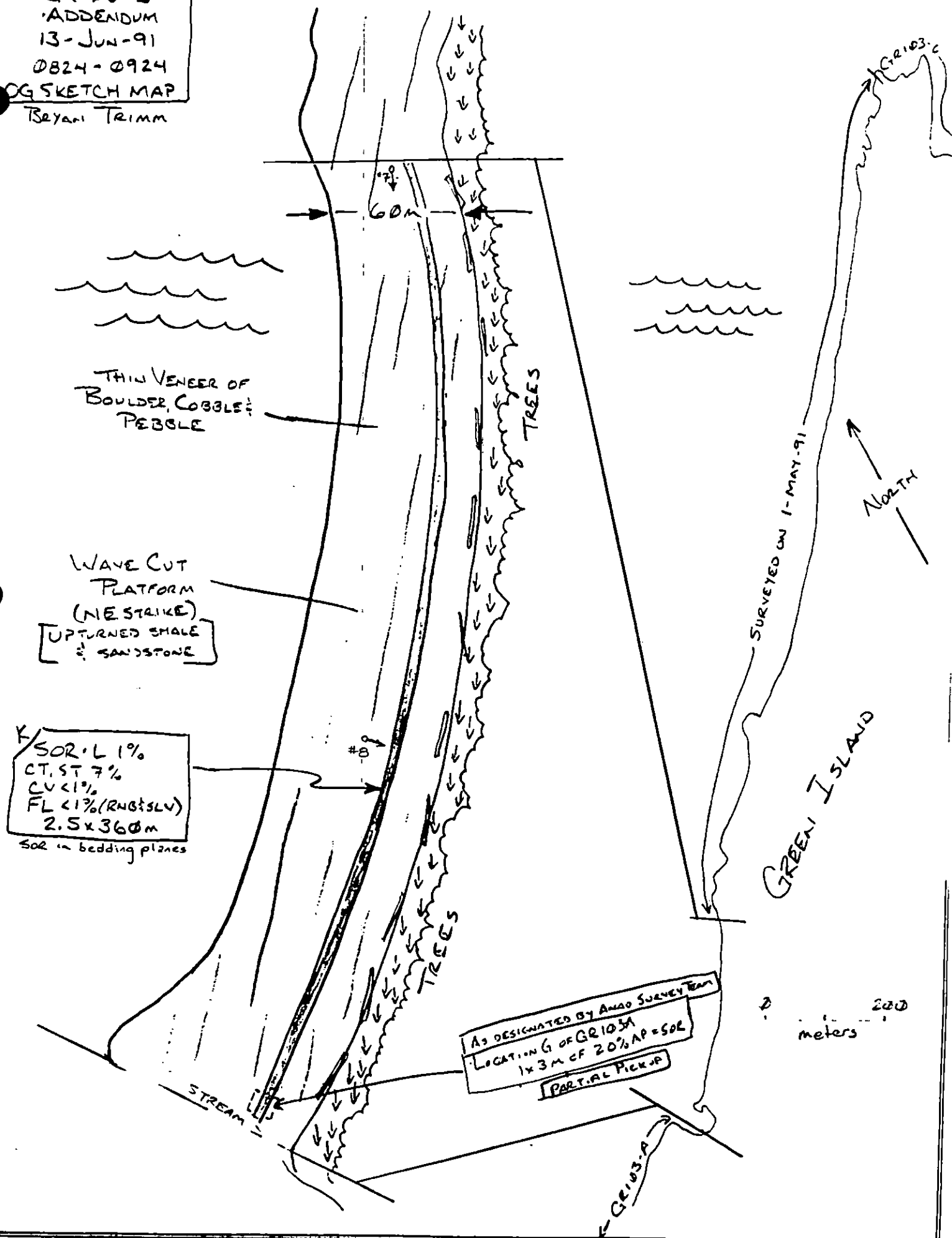
ADDENDUM

13-JUN-91

0824-0924

OG SKETCH MAP

Beyani Trimm



REVIEWED CB 18 JUN

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # DD
 SEGMENT # GR 103
 DIVISION B
 SEA STATE 0.0'
 PHOTOGRAPHS: ROLL # —

DATE 10/13/91
 TIDAL HEIGHT (Range) -2.5 ~ -3.5'
 BIOLOGIST D. McCormick
 WIND SPEED/DIRECTION Calm
 FRAME # —

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

This low-angle wave-cut platform supports an impressive diversity of algal species and invertebrate fauna. The upper ITZ oil band (K) is mostly weathered to the degree that it is not impacting the generally sparse concentrations of littorine snails, limpets (*Climacella* + *Notoskenea*) and barnacles that inhabit this zone. Some sheering was observed on tidal pools, but only littorines were seen in these. No obvious adverse impact to the snails was observed.

Lower on the shore, abundant littorines, mussels, limpets and barnacles occurred, both adults and spat/juveniles. Tidal pools occur throughout the subdivision, providing habitats for *Pagurids* (Hermit crabs), snails (herbivorous and carnivorous), sculpins, coralline algae (*Callianthron*) and several species of branched red + brown algae. Clam shells (*Prototheca* + *Saxidomus*) litter the mid-to-lower zone. The sea stars *Pycnopodia* + *Pisaster* were common in the M-L ITZ. The lower ITZ has a 100% algal cover, including surfgrass, *Ulva*, *Fucus*, *Halosaccus*, *Palmaria*, *Alaria*, *Laminaria*, and other branched red algal spp (unidentified).

Overall, this beach is showing good recruitment of the major indicator species as well as a healthy, established community of adult invertebrates and algae. ADF+G has a fish-counting weir set up about 200m upstream from the beach. No salmon fry or adults were seen in the stream.

eagle (1) oystercatchers (16)
 Cormorants (2)

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

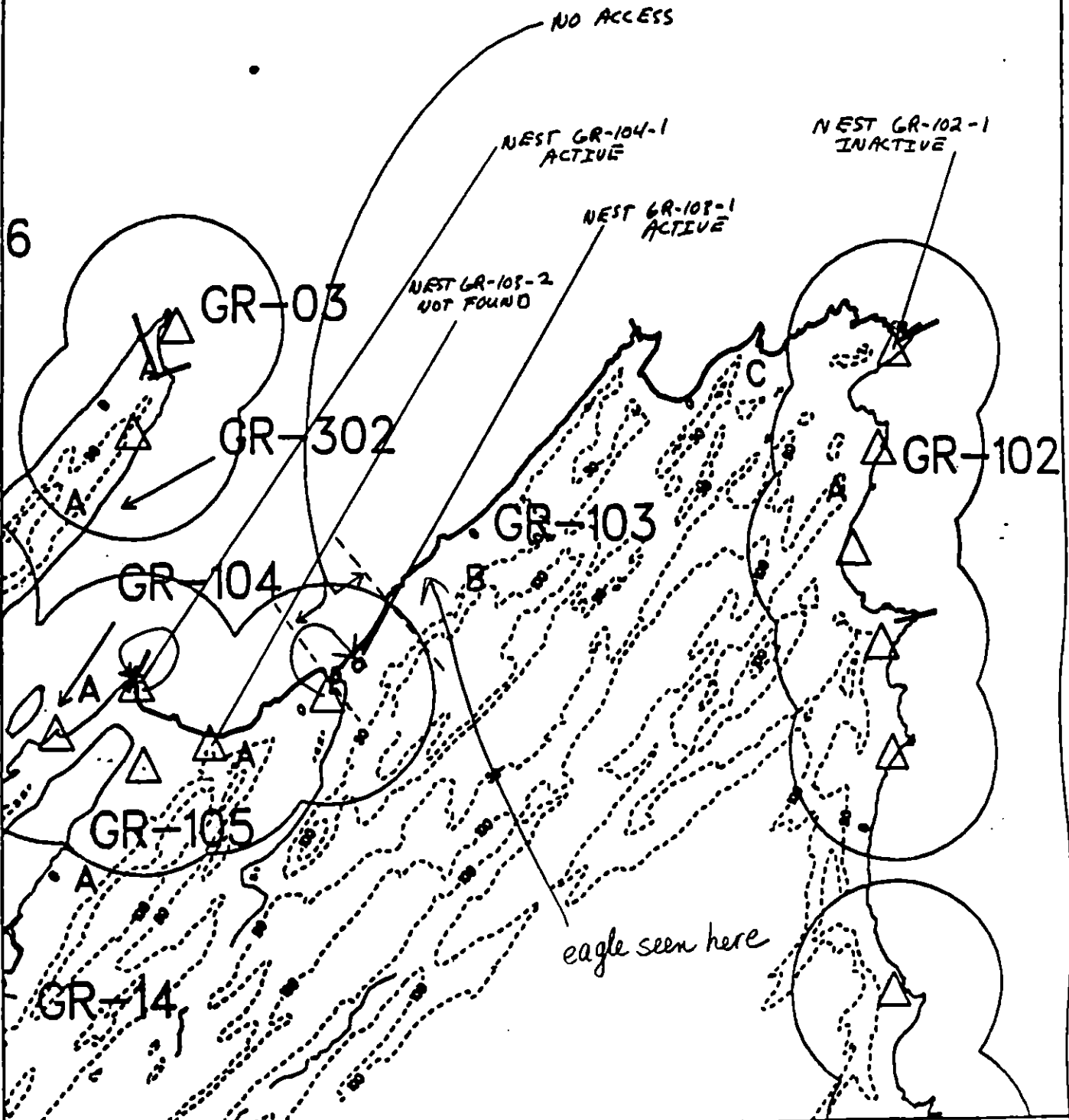
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl	1	2	
Gulls/kittiwakes			
Shorebirds	1	16	
Corvids			
Other Birds			

LAND MAMMALS

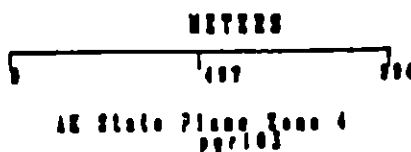
MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Harbor Seal	1		
Es (specify)			

Shoreline subdivision map showing important biological features attached.

REVIEWED MB 6/17/91



GR103



Segment. Reference Map
Map Key: PVSGR103

△
EAGLE NEST

Survey 6/13/91
USFWS monitor present

Reviewed MB 6/17/91

Extremely dense algal cover $\rightarrow$ 60m
throughout the lower ITZ:
Fucus, Ulva, Holozoa, Palmaria,
Alaria, Filamentous greens (at least
2 species), encrusting perles, Corallina,
Branched red and brown alga, Laminarians
THIN VENEER OF
BOULDER, COBBLE;
PEBBLE

[UPTURNED SHALE
- SANDSTONE]

generally sparse littorines, limpets, and barnacles in the UITZ within and adjacent to oiled areas.

- Some sheering on tidal pools with littorines in them but no dead ones observed. Remaining oil not affecting macrofauna located downslope of oil band.

ADFG
Fish weir

Revision N/B 6/17/91

03
+

-302

SURVEYED ON 1-MAY-91

GR-103

B

+

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

GR103 B

ADEC Subsegment Length: 1784m

METERS

0 200 400
AK State Plane Zone 4
pg103b



Subdivision Field Map

Map Key: PWSCR103B

Name: TRIMM

ADDENDUM TO 1-MAY-91

Date: 13-JUN-91

Date Entered:

SURFACE OIL CATEGORY MAP

REVIEWED CD 18 JUN 1991

1991 MAYSAP EVALUATION

SEGMENT: GR 103 SUB: A REGION: PWS SURVEY DATE: 4/26/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 5/1 - 9/15

Ecological/Constraints (see page two for details) Herring spawning, Eagle nest, Anadromous stream, Pinniped haulout, Subsistence - Deer harvesting, Subsistence - Salmon harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Charles J. Hume Date: 5/2/91

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>	<u> </u>
Other <u> </u>	<u> </u>	<u> </u>	<u> </u>

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 9 1991

ADEC [Signature]

EXXON [Signature]

USCG [Signature]

NOAA [Signature]

FOSC APPROVAL DATE: 5/13/91

FOSC [Signature]

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

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

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

Pinniped Haulout: Access restricted from 5/15 to 6/30 and 8/15 to 9/15 unless approved by NMFS. Maintain 1000' vertical and 1/2 mile (3 mile for sea lions at all times) horizontal buffer.

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

Subsistence, Salmon Harvesting: 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 GR-103 SUBDIVISION A DATE 04/26/91

DEC ACTING FOC AND M.F.S.

NAME TOM CRONE (ADFTG)

SIGNATURE [Signature]

☐ NTR ☒ TREATMENT RECOMMENDED FOR SUBDIVISION (A)

OIL OCCURS ALONG BEDROCK/SHALE BEACH. AP AND HSOR SEDIMENTS ARE CEMENTED AMONG COBBLE IN LOW LYING AREAS BETWEEN BEDROCK OUTCROPS. THESE SEDIMENTS CAN BE MANUALLY TILED BY A SMALL CREW OF 4 OR 5 PEOPLE COMBING THIS SEGMENT WITH PICKS AND RAKES. BOULDERS CAN BE FLIPPED TO EXPOSE AP SEDIMENTS UNDERNEATH. THIS TYPE OF TREATMENT CAN TAKE A VERY SHORT AMOUNT OF TIME.

EXXON

NAME Scott A. Nauman

SIGNATURE [Signature]

☒ NTR

WILDLIFE AND INTERTIDAL GROWTH WAS ABUNDANT THROUGHOUT THIS SUBDIVISION. ONLY A COUPLE OF AREAS OF VERY SCATTERED ASPHALT (PICKED UP). WOULD STRONGLY OPPOSE ANY TREATMENT ON THIS SUBDIVISION DUE TO NEGLIGIBLE OILING AND VERY HEALTHY INTERTIDAL GROWTH.

LANDMANAGER ADF TG

NAME Aimee Weseman OF ADF TG

SIGNATURE [Signature]

☐ NTR ☒ treatment recommended

THE HIGH PRODUCTIVITY OF THE ANADROMOUS FISHSTREAM RESULTS IN HEAVY PUBLIC USE OF THE AREA FOR COMMERCIAL FISHERIES, COMMERCIAL TOURISM & RECREATION. DUE TO THIS PRIORITY DESIGNATION, THE REMAINING AP SEDIMENTS SHOULD BE MANUALLY REMOVED OR BROKEN UP BY A SMALL CREW WITH SHOVELS, TROWELS & POM-POMS.

USCG/NOAA

NAME CWO R. Sarr / REBECCA HOFF

SIGNATURE [Signature]

☒ NTR

RICH GROWTH IN INTERTIDAL ROCKY OUTCROPS - GOOD RECOVERY OF ALGAE + MUSSELS. AREAS C+E w/ pockets of asphalt + residue did not shear + are surrounded by intertidal growth. COURSE OF STREAM BED IS STABLE + LITTLE OIL WAS OBSERVED ON BANKS, EXCEPT SOME SMALL PATCHES THAT SHOULD BE LEFT TO BIOLOGICAL ORGANISMS. SMALL AP IN AREA OF BOULDERS AT END OF SEGMENT UNRECOVERABLE DUE TO DEPTH BETWEEN BOULDERS. SIX (6) BAGS OF OILY DEBRIS REMOVED DURING SURVEY FROM COBBLE AREA AS INDICATED ON SKETCH MAP. NO FURTHER TREATMENT REQUIRED.

PAGE 1 OF 2

DATE 04 / 26 / 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 10 m N 15 m VL 430 m NO 435 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- 6 - 1 FRAMES 1-9

cont'd

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

COMMENTS:

Very little oil was observed. (A) and (B) comprised ^{coat}~~cover~~ on boulders and large rocks with very small patches of AP. (C) was on slate w/c platform consisting of granules and some AP in slate cleavage & crevices. Area (D) was the most concentrated sub-location (picked up - location (E) which was very sporadic AP and SOR(H) within gullies on w/c rock platform. Three small patches of AP/SOR were located near the Anadromous stream.

PAGE 2 OF 2

DATE 04 / 26 / 91

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

OG COMMENTS:



xx Bedrock

↑ ↓ vegetation

GR-103. A 4/20/91
OG map D. I. Little
1530-1700

0 50 100
meters

GR-104
A ← start of
subdivision

relative
occurrence

CT
CV - spruce needles
AP - 2 or 3 10 x 10 cm patches

(A) 5 x 35 m
<10% CT

CV - needles

(B) 5 x 10 m
15% CV

no sheer
horizontal

rock platform

(C) AP 3x3
<10%

PITS
25-30 cm
No. 10

(E) slate 50x200m AP/SOR/CT
Bedrock <1%
Grullies

boulder delta bar
No. 10

stream
mouth

No. 15

(G) 1x3
AP 20%

(H) 1x15
SOR <10%

Drift! (prominent)

ANOMALOUS STREAM

PITS
No. 1
No. 2
No. 3
No. 4
No. 5
No. 6
No. 7
No. 8
No. 9
No. 10
No. 11
No. 12
No. 13
No. 14
No. 15

pond

ADL
transect

(D) 2 x 20 m
AP <10% PU
FU

CLIFF

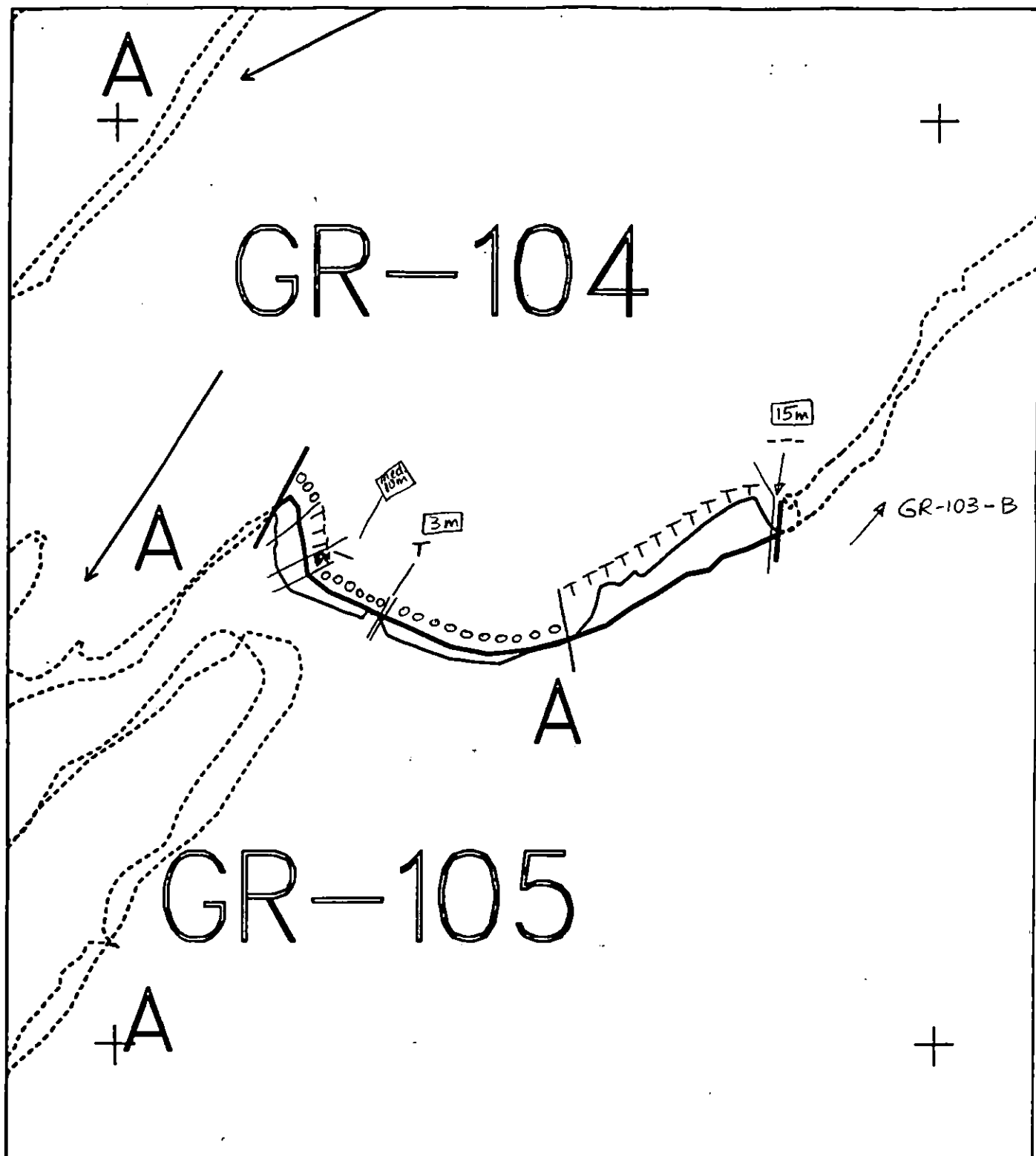
PG berm

w/c platform slate

Grullies <1% AP

PG berm

(F) AP/SOR
1 x 2 m
30%



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

GR103 A
 ADEC Subsegment Length: 895m
 METERS
 0 200 400
 AK State Plane Zone 4
 pgr103a



Subdivision Field Map
 Map Key: PWSGR103A
 Name: D.I. LITTLE
 Date: 04/26/91
 Date Entered:

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6

DATE 4/26/91

SEGMENT # GR 103

TIDAL HEIGHT(Range) +6 to +2

SUBDIVISION A

BIOLOGIST TK Schroeder

SEA STATE

WIND SPEED/DIRECTION 10 NE To calm

PHOTOGRAPHS: ROLL #

FRAME # err 3:20 det 5:55

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

(A & B) = High energy area w/ juvenile fishes & rock gook. Barnacles and spat abundant. Algal and coating not presenting any biological problems. Recreational boating alone a biological community progressing adequately.

(C) = Rock outcroppings and tide pools very abundant w/ snails, fucus, kelp. No treatment or pickup needed. Any pickup less intensive.

(D) = Oil was manually picked up.

(F-H) = Euphorbia stardina & stream within gravel berm probably shifts frequently. Little growth except at lower intertidal. If boat crew can manually pick up when surveying request (subdivision) B, fine. Not necessary to make separate trip.

Although this area is a high energy area, the rock and reef outcroppings provide good shelter for biological communities. There do not appear to be affected by close proximity to oil. Unable to relocate any eagle nests.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	none
Seabirds			
Waterfowl	3	8	
Gulls/Kittiwakes	1	6	
Shorebirds	1	35 (cys. Cat.)	
Corvids			
Other Birds	1	1 (small Hawk)	

LAND MAMMALS

MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters	none		
Amphipeds(specify)			
Marine Mammals(specify)			

Shoreline subdivision map showing important biological features attached.

GR-10
4/26/91
T.R. Schroeder
15:30-17:45

0 50 100
meters

A+B large boulders; filamentous algae on rocks
w/ small fucus growth on east end; barnacle
spat abundant.

A 5x35m
CU
AP

B 5x10m
19% CU

High energy beach,
washed clean

Rock outcropping abundant w/ life;
barnacles; juv. fucus; littoride snails
& coralline algae (red & yellow).

Reef area from D-F has extensive
fucus Kelp growth; small juv. fucus in
rock crevasses; barnacles and spat and
littoride snails abundant; sea lettuce
and brown & red alga in numerous tide
pools. area extremely abundant w/
life;

C AP 343
CU

brown & red
algae

E 50x200
AP/SOR/CT
CU

Fucus beds

Area near stream
scoured & appears
to be shifting
gravel bar.

F AP/SOR
1x2m
CU

G 1x3m
AP/SOR

D 2x20m
AP CU

P.K.

H 1x15m
SOR CU

Stream

Drift log

Extensive along beach
fucus beds

APL
Transect

land

1991 MAYSAP EVALUATION

SEGMENT: GR 103 **SUB:** C **REGION:** PWS **SURVEY DATE:** 5/1/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) Eagle nest, Herring spawning, Subsistence - Deer harvesting, Subsistence - salmon harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

Y

Manual Pickup (Check as Req.)

X

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

X

Other _____

Other _____

COMMENTS:

INITIAL: Remove accessible asphalt and high SOR at locations F1 and G. Apply Customblen and Inipol at locations F1, F2, and G.

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.

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

Subsistence - Salmon Harvesting: 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. 3 SEGMENT GR-103 SUBDIVISION C DATE 5/1/91

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley 

☐ NTR ☒ TREATMENT RECOMMENDED - 5X30M AREA OF A/P THAT HAD BEEN PREVIOUSLY SPRAYED BY INIPOL IS STILL PRESENT (A LARGE AMOUNT OF GREEN ALGAE IS PRESENT IN AREA OF APPLICATION) IT ALSO SEEMED STRANGE TO ME THAT THE A/P HAD NOT BEEN PICKED UP, AS THE DECISION TREE INSTRUCTS TO DO!, BUT HAD BEEN BIOD. IT IS STILL PRESENT, FIRM & HARD, THE MICROBES DID NOT EAT IT. MANUAL REMOVAL OF ALL A/P 5X30 X 3 X 10 IS RECOMMENDED, ROLL Boulders TO REMOVE A/P UNDER THESE EASILY ROLLABLE Boulders, MANUALLY TILL ONLY WHEN A/P IS REMOVED STRING SNARE FOR A COUPLE TIDAL FLUCTUATIONS TO CONTAIN/COLLECT SHEEN. REMOVE MANUALLY SOR/H SEDIMENTS. SURVEY U12 & SUT2 AT EASTERN END OF SEGMENT, NOT SURVEYED DUE TO ACTIVE EAGLES. CANADIAN GEESE WERE PRESENT ON THIS CONTAMINATED SITE WHEN WE APPROACHED.

- 1 OF THE 2 HEAVIEST OILED SEGMENTS ON GREEN ISLAND -

EXXON

NAME Jon Czarniecki SIGNATURE Jon Czarniecki 

☐ NTR Some oil in pet. Mtr to Her with patchy spots of A/P? Some broken up and removed. Lots of Bed rock and shale which hold the A/P. There were ~~lots~~ eagles on the point that ~~were~~ were in flight with a probable nest in the area. A/P was under the rocks and Boulders on the Man section of the beach.

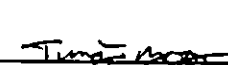
LANDMANAGER

NAME _____ OF _____ SIGNATURE _____

☐ NTR CAROL HUBER (USFS) NOT PRESENT WHEN SURVEY. HAD SORE ANKLE.

Tony Moog USCG Jon Czarniecki Exxon

USCG/NOAA

NAME MOONAG / Barts SIGNATURE Tony Moog / Amy Barts  

☐ NTR SEGMENT CONSISTS PRIMARILY OF Boulder, COBBLE, PEBBLE ARMOUR ON BEDROCK. CONCENTRATIONS OF SOR AND AP ARE LOCATED IN THE MIDDLE OF THE SEGMENT, ALONG THE SOUTHWEST CORNER OF SKETCH B. THIS COVE HAS A COBBLE ARMOUR ZONE SAND, SILT SEDIMENT WITH AN ABUNDANT CLAM POPULATION. SOME FILLING OF AP WAS CONDUCTED. TWO MEN/2 HRS COULD FINISH SITE.

MAYSAP SHORELINE OILING SUMMARY

PAGE 1 OF 2

OG HARPERBIO STOKERSEGMENT GR-103ADEC GROUNDEYLANDMANAGER HUBERT for FSSUBDIVISION CDOXON CEARNECKIUSCG/NOAA MOONEY/BARATSDATE 5/1 /91TIME 19:15 to 20:45TIDE LEVEL 4.32 ft. to 3.37 ft.ENERGY LEVEL: ☐ H ☒ M ☐ LSURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELOWEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☒ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 1619 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONEEST. OIL CATEGORY LENGTH: W 0 m M 66 m N 13 m VL 241 m NO 1299 m US * m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT	SHORE SLOPE	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			TYPE	V H M L	WIDTH	LENGTH	S	UI	
											m	m							
A						S					BC	M	5	30		X			
B						P					BC	M	1.5	10		X			
C				T							BC	M	10	50		X			SOR/L
D				S							BC/R	M	5	10		X			SOR/H
E				B							BC/R	M	0.5	0.5		X			SOR/L
F1	P										BCP	M	5	30		X			
F2				P							BCP	M	5	30		X			SOR/H
G	P										BCP/R	M	3	10		X			
H				P							BCP/R	M	2	2		X			SOR/H
I				P							CPB/R	M	1	2		X			SOR/H
J				S							CPB;	M	3	5		X			SOR/L
K			T								R	M	10	200			X		PARTIES
														</					

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

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

PHOTO ROLL # MAYSAP-

3 - 07

23, 24

3 - 08 FRAMES 1-6

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					S	UI	MI	LI		
1	30							X	-	Y	-	-	-		X			P/P	
2	30							X	-	Y	-	-	-		X			P/P	
3	20							X	-	Y	-	-	-			X		P/P	
4	20							X	-	Y	-	-	-		X			P/P	
5	25							X	-	Y	-	-	-			X		P/P	
6	15							X	-	Y	-	-	-		X			BC/SG	
7	15							X	-	Y	-	-	-			X		BC/SG	
8	25							X	-	Y	-	-	-				X	BC/SG	
9	20							X	-	Y	-	-	-			X		B/SG	

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

OG COMMENTS: This segment is open to the north and east and as such, has moderate to high wave exposure. The shoreline is highly crenulated due to shallow bedrock striking to NE.

The primary significant surface oiling is SOR/H and AP in the central portion of the segment. This SOR/H and AP condition sits in small pockets on the bedrock surface.

REVIEWED CG 11 MAY

* UTR NEAR EASTERN END OF SEGMENT UNSURVEYED.

25 revised May 7

OG 1 of 7

DATE 5/1 191

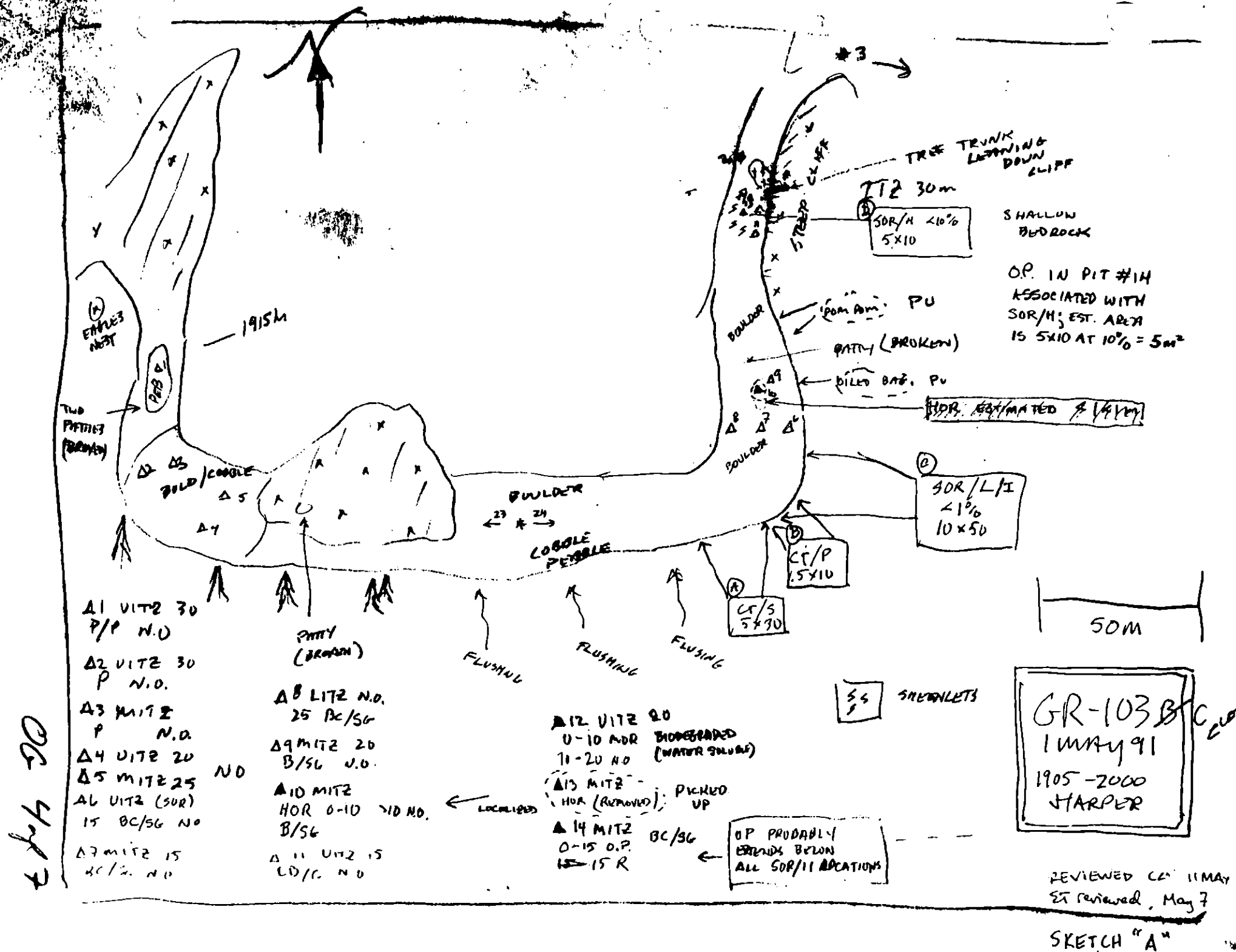
SKETCH "B"
← SKETCH

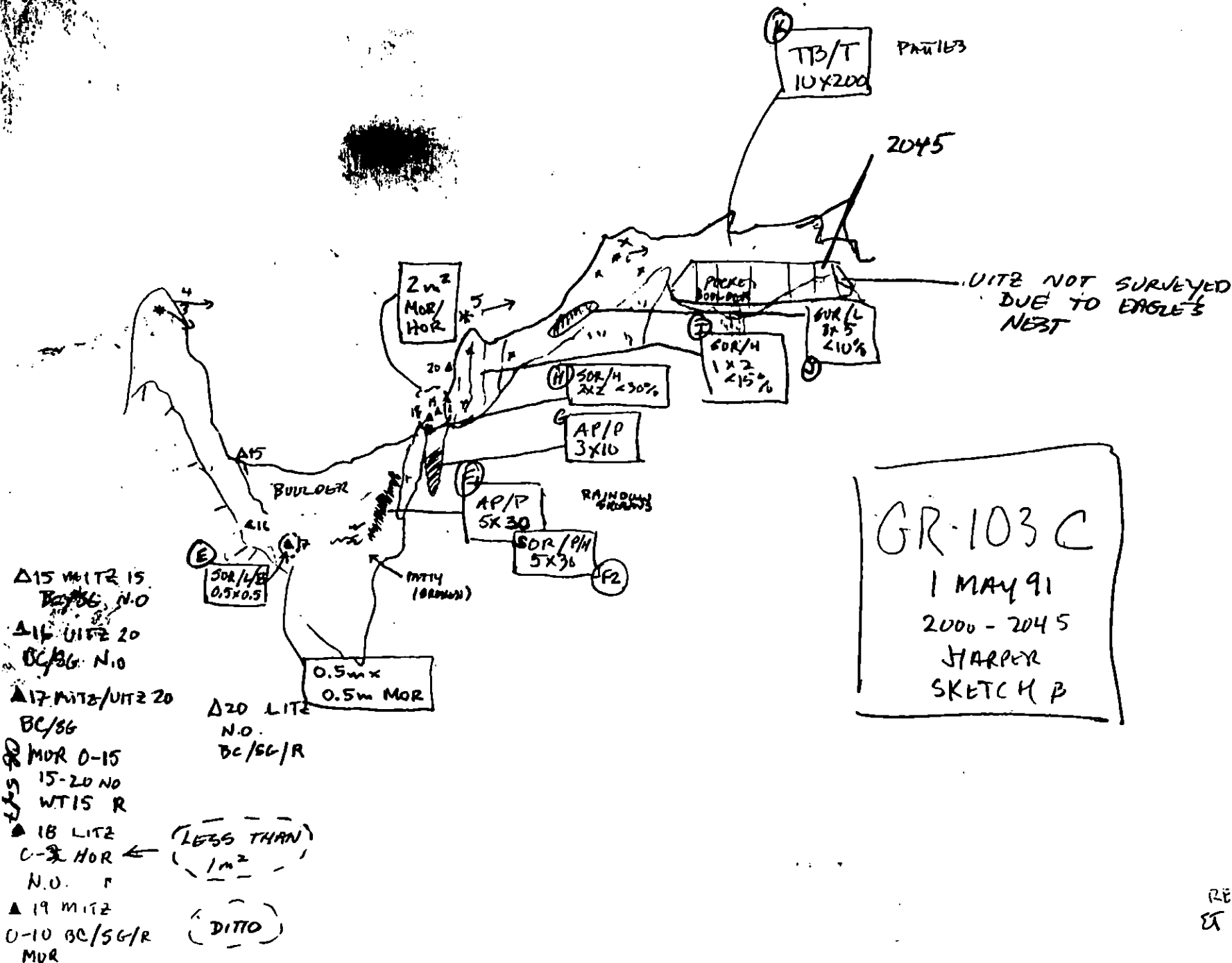
SHEEN COLOR: B = BROWN: R = RAINBOW: S = SILVER: N = NONE

Subsurface oiling is highly localized and related to the patchy distribution of surface oiling, specifically SOR/H and AP conditions (e.g. locations D, H).

ET revised May 7

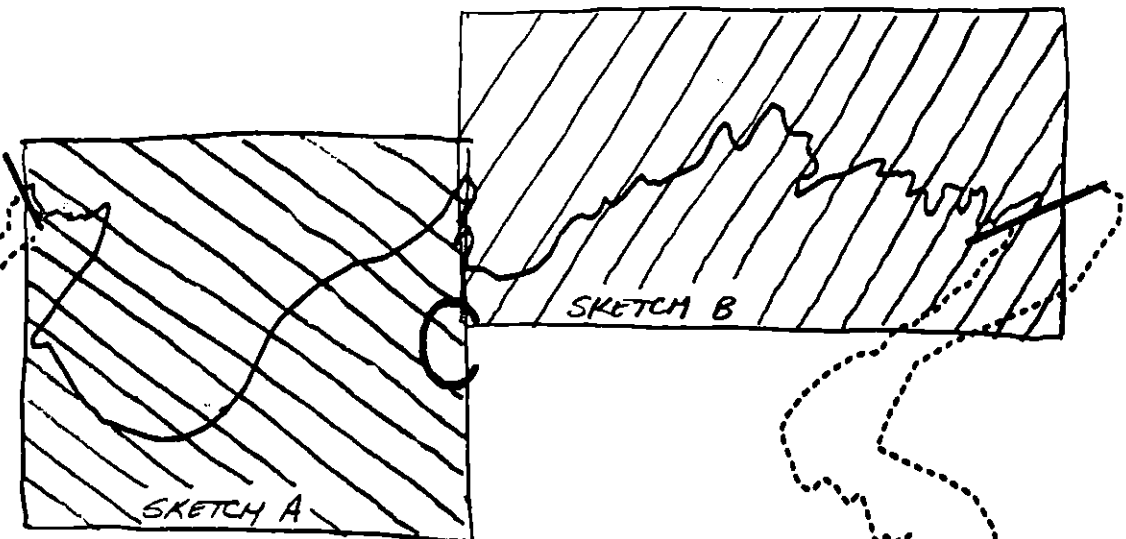
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+

+



103

A

GR-

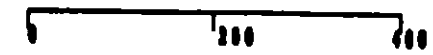
+

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

GR103 C

ADEC Subsegment Length: 1610m

METERS



AK State Plane Zone 4
 pr103a



Subdivision Field Map
 Map Key: PWSGR103C
 Name: HARPER
 Date: 1 May 91
 Date Entered:

Es reviewed May 7
 REVIEWED CD 11 MAY
 OG 3rd 7

NAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 3 DATE 5/1/91
 SEGMENT # CR 103 TIDAL HEIGHT(Range) 4-6'
 SUBDIVISION C BIOLOGIST STOKOR
 SEA STATE 0-1' WIND SPEED/DIRECTION E 0-5
 PHOTOGRAPHS: ROLL # FRAME #

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

High energy beach of cobble/boulder/bedrock.
 Biota generally sparse in upper intertidal. Mid intertidal characterized by patches of *Fucus*, filamentous green algae, *Mytilus* patches (both attached and interbedded), *Littorina* (often dense, with egg masses), limpets, amphipods, barnacles and spat and *Pagurus*. Composition and density vary throughout according to substrate and exposure. Lower intertidal was not observed. A small stream transects the subdivision.
 Biota within/adjacent to surface and subsurface oil in areas A-C sparse or absent, as is the case throughout upper mid intertidal and above in this locale.
 Biota proximal to areas D and pits 10-13 variable, consisting when present of some new-growth *Fucus*, filamentous green algae, sparse barnacles and spat, moderately dense *Littorina*, limpets, amphipods, and small *Mytilus* patches. Biota downslope of this and areas A-C similar in composition, with increased abundance and addition of *Pagurus*, Nematodes.
 Biota within/adjacent to oiled areas E-I variable in density, consisting primarily of new-growth *Fucus*, barnacles and spat, limpets and *Littorina*. Biota downslope similar in composition, with generally increased overall abundance and addition of surfgrass (*Phyllospadix*). Composition, distribution and abundance of biota varies considerably in this area according to substrate and exposure.
 Further treatment should proceed with minimal disruption of established biota, which seems to be recovering rapidly.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

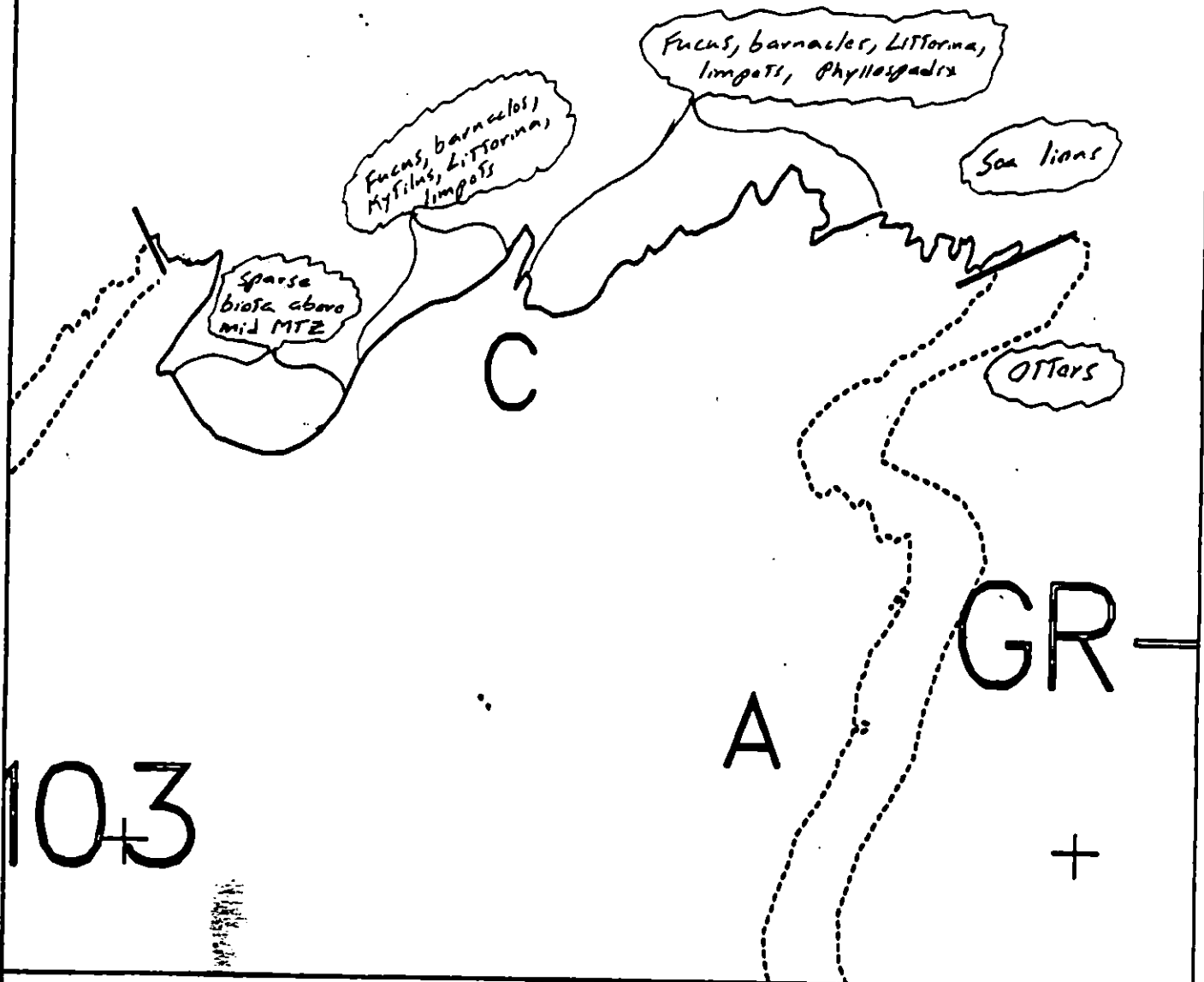
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	5 + most	Ool blonies
Seabirds			
Waterfowl	Ducks, Geese, Swan ⁴	40-50	
Gulls/Kittiwakes	Kittiwakes, Gulls, Swans	40-50	
Shorebirds	Shorebirds, 20+ Starlings?	10-12	
Corvids	Ravens	4	
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters	3 + 1 skeleton		
hipeds(specify)	Sea lions - 2		
les(specify)			

Shoreline subdivision map showing important biological features attached.

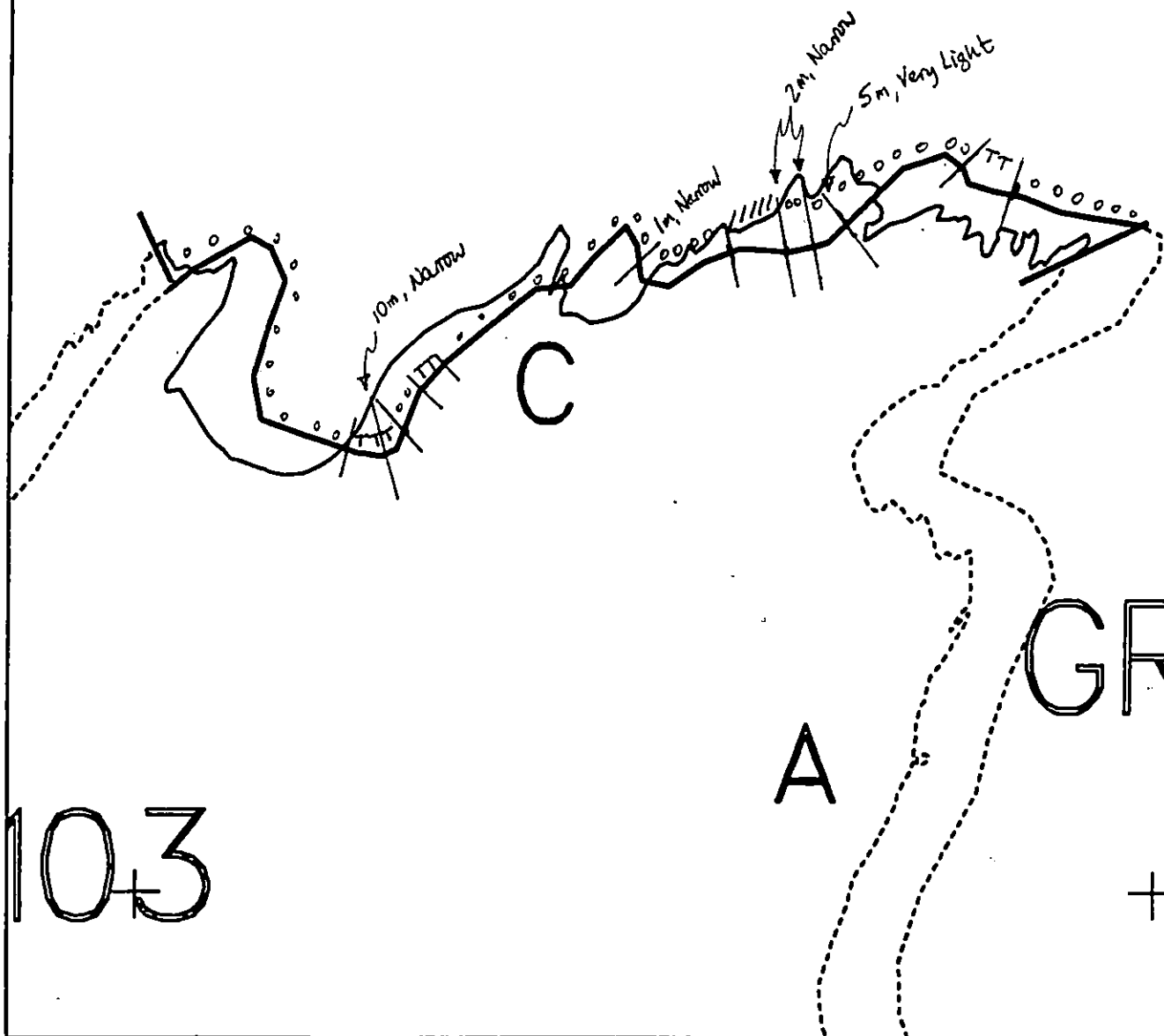
REVIEWED CE 11 MAY
 REVIEWED MB 5/10/91

BIO Map



XXXX	Wide	GR103 C	Subdivision Field Map
////	Medium	ADEC Subsegment Length: 1818m	Map Key: PWSGR103C
----	Narrow	METERS	Name: _____
TTTT	Very Light	5 100 400	Date: _____
0000	No Oil	AK State Plane Zone 4	Date Entered: _____
		pg 103a	

ADEC SHORELINE
OILING



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

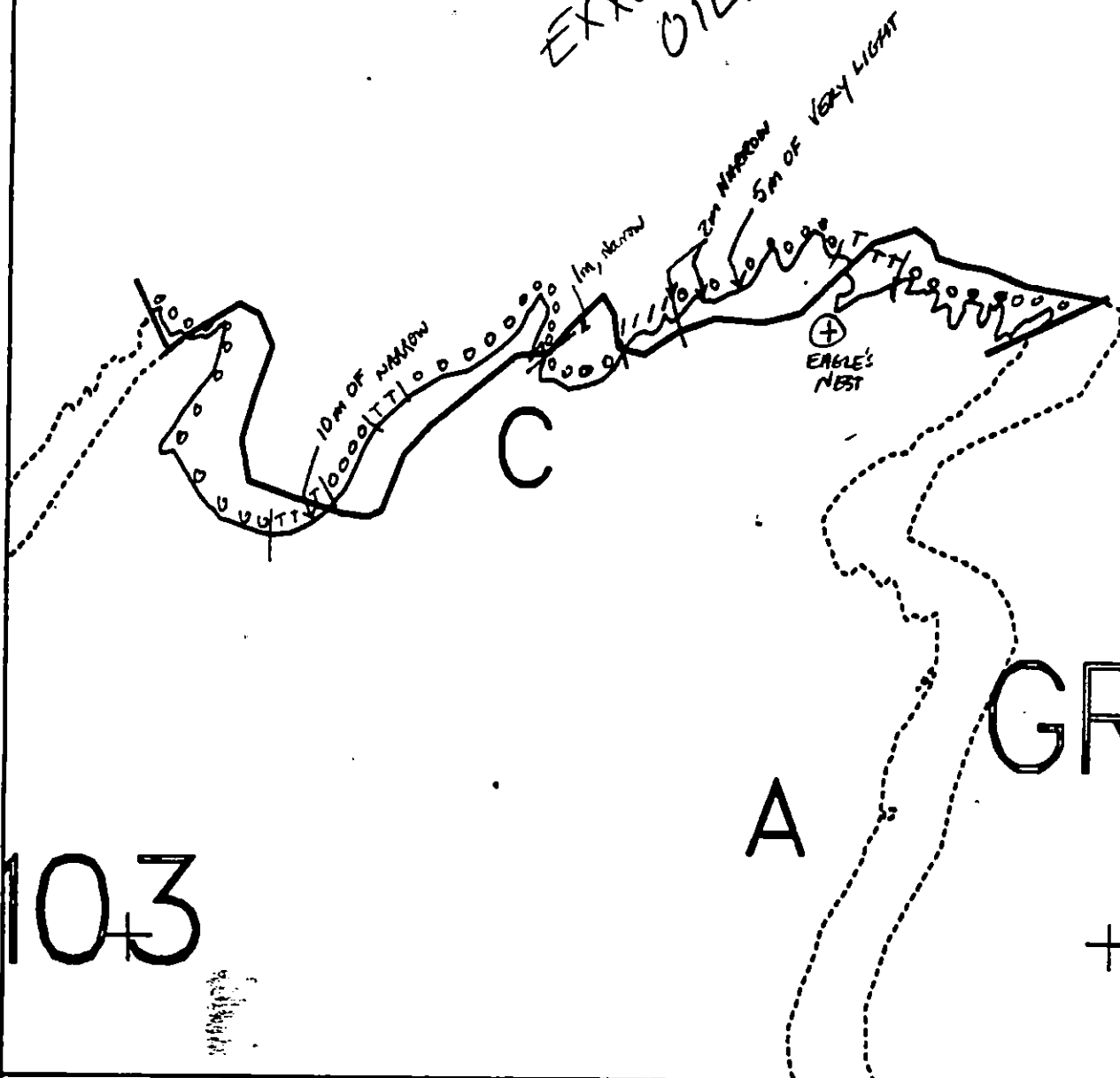
GR103 C
ADEC Subsegment Length: 1619m
METERS
0 200 400
AK State Plane Zone 4
per 1030



Subdivision Field Map
Map Key: PWSGR103C
Name: J HARPER
Date: 1 MAY 91
Data Entered:

ET Revised May 7
REVIEWED

EXXON SHORELINE OILING



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

GR103 C
 ADEC Subsegment Length: 1610m
 METERS
 0 200 400
 AK State Plane Zone 4
 pr103a

Subdivision Field Map
 Map Key: PUSGR103C
 Name: HARPER
 Date: 1 MAY 91
 Date Entered:

SURFACE OILING SUMMARY
 EXXON SHORELINE

REVIEWED CD 11 MAY
 OG 6 of 7
 ET Revised, May 7

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-103 SUBDIVISION C (3 of 3)

WORK WINDOW	
Manual Pickup	OPEN
Bioremediation	WORK 6/15 - 7/1

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B	Salmon Stream	ADF&G catalogued anadromous stream (227-20-17880) is more than 100m from work site. No constraint to manual pickup and bioremediation.
2M	Herring Spawning	Closed to bioremediation before 6/15. No constraint to manual pickup.
5S	Shorebird/Waterfowl Concentration	No constraint to manual pickup and bioremediation after 5/15.
5T	Bald Eagle Nest	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision C work site.
7II	Subsistence: Deer Harvesting	Closed to bioremediation after 8/15. No constraint to manual pickup.
7Z	Subsistence: Salmon Harvesting	Closed to bioremediation after 7/1 per Gail Evanoff/Chenega Corp. to Tom Kelley/Exxon on 6/8/90. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass. Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Restrict boat traffic and beach disturbance to essential minimum after 7/1.

FOSC

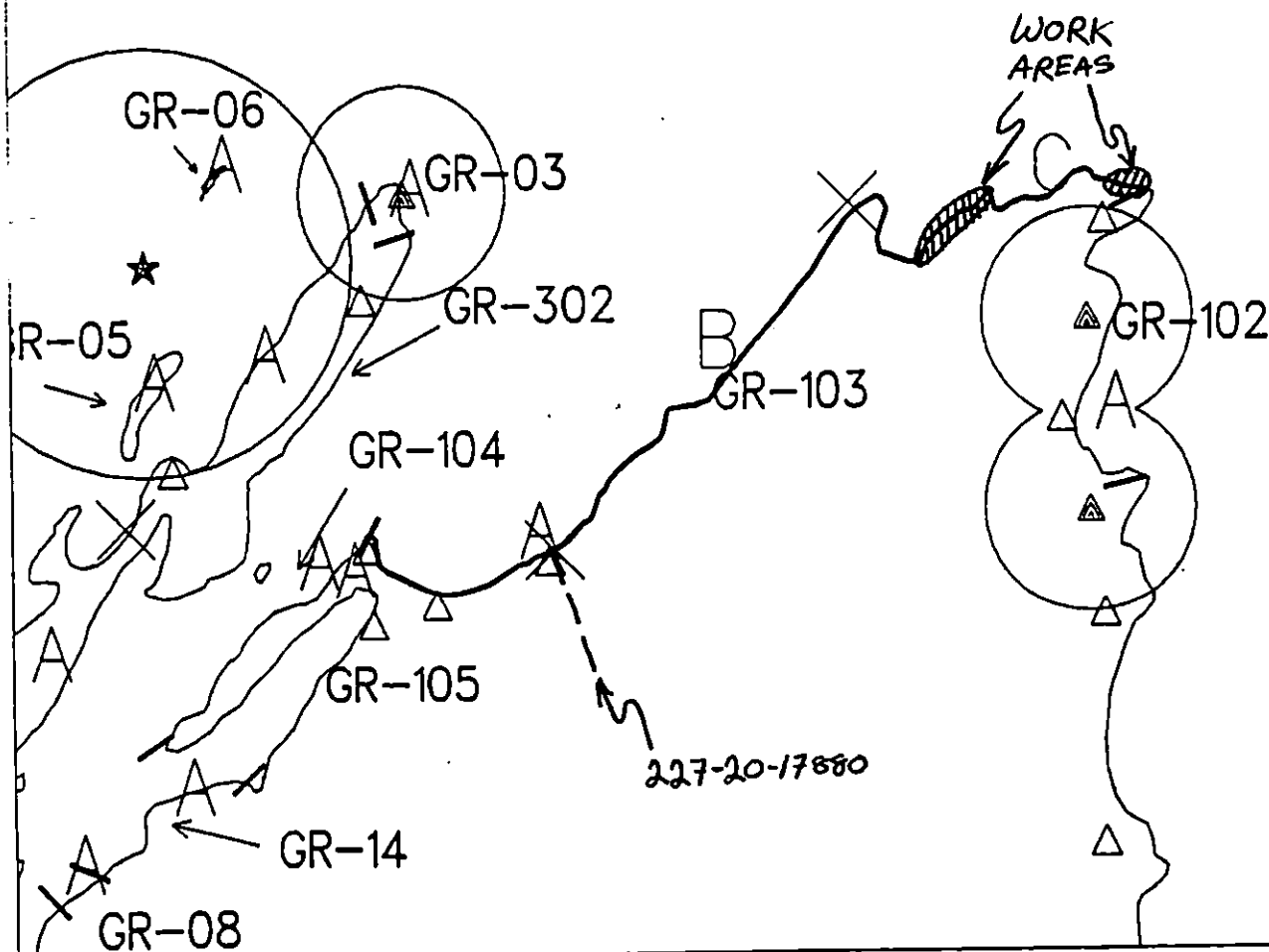
Date

6-10-90

Prepared by

Date

6-10-90
6/10/90

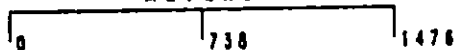


Exxon Company, USA
Map Key: PWS-GR-103
June 04, 1990



ECOLOGY MAP SEGMENT GR-103 SUBDIVISION C (3 of 3)

METERS



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

1 inch = 2421 feet

SHORELINE EVALUATION

SEGMENT ST/ GR-103 SUBDIVISION C (3 OF 3) DATE 4/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 227-20-17880.

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
- 1B Salmon stream mouth - spawning (7/10 to 8/31)
- 5T-3 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
- 2M Herring spawning (4/1 to 6/15)
- 5S Shorebird/Waterfowl concentration (4/1 to 5/15)
- 6Y Recreation: Special use destination
- 7II Subsistence area: Deer harvesting (8/15 to 2/28)
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

THPO SIGNATURE: Charles H. Hume DATE: 4/20/90

OILING CATEGORIZATION:

Wide 275m: Medium 685 m: Narrow 0 m: V.Light 660 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: <u> </u> Wands |
| ☐ Tarmat: <u> </u> Breakup | ☐ Beach Cleaner |
| ☐ Removal | ☐ Other (see comments) |

COMMENTS: Recommend manual pick up of mousse at east end of segment (see sketch map). Bioremediate broken cover area as indicated on sketch map. Work should be conducted between 6/16 and 7/9 with USFWS permission due to eagle nest constraint and ADF&G permission due to salmon harvesting constraint. SEE CONSTRAINTS ADDENDUM dated 6/14/90 JPP

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90
ADEC JOHN BAUER
EXXON AMY TAYLOR
NOAA Burt Wescott
USCG KENNETH KIRK

FOSC: W L DATE: 5-12-90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-103 SUBDIVISION A (1 of 3)

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
Bioremediation and Manual Tilling (if anaerobic) More Than 100m From Stream	WORK 6/15 - 7/1
Bioremediation and Manual Tilling (if anaerobic) Less Than 100m From Stream	WORK 6/15 - 7/1 (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 (227-20-17880) 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 manual pickup and tarmat removal.
2M	Herring Spawning	Closed to bioremediation and manual tilling prior to 6/15. No constraint to manual pickup and tarmat removal.
5T	Bald Eagle Nest	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.
5S	Shorebird/Waterfowl Concentration	No constraint to manual pickup, tarmat removal, bioremediation and manual tilling.
7II	Subsistence: Deer Harvesting	Closed to bioremediation and manual tilling after 8/15. No constraint to manual pickup and tarmat removal.
7Z	Subsistence: Salmon Harvesting	Closed to bioremediation and manual tilling after 7/1. No constraint to manual pickup and tarmat removal.

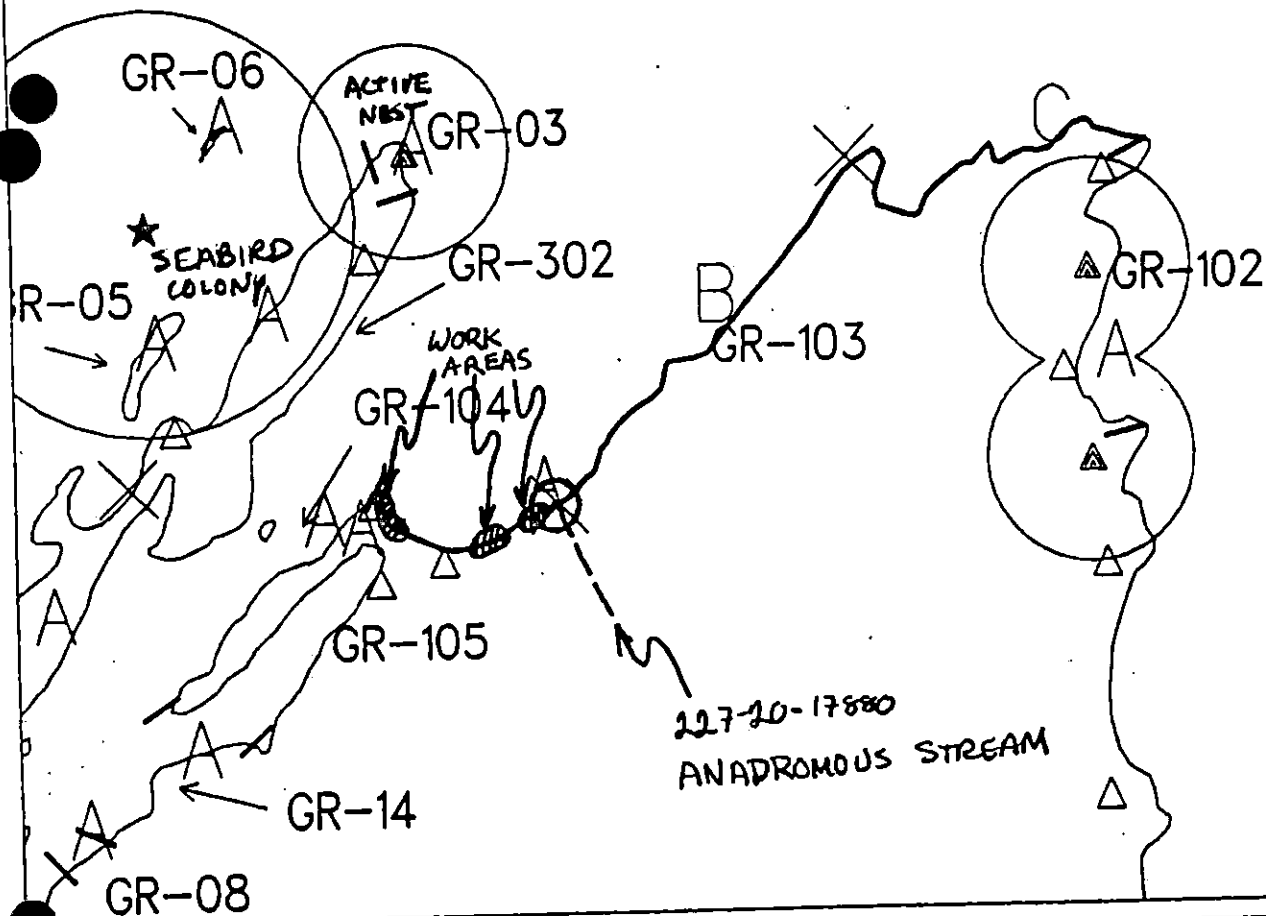
OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments 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 unrolled substrate and biota especially intertidal and subtidal algae and seagrass. Restrict boat and air traffic and beach disturbance to essential minimum after 7/1.

FOSC

Date

6/13/90



Exxon Company, USA
Map Key: PWS-GR-103
June 04, 1990

ECOLOGY MAP SEGMENT GR-103 SUBDIVISION A (1 of 3)

METERS

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

~~227-20-17880~~

SHORELINE EVALUATION

SEGMENT ST/ GR-103 SUBDIVISION A (1 OF 3) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 227-20-17880.

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
- 1B Salmon stream mouth - spawning (7/10 to 8/31)
- 5T-3 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
- 2M Herring spawning (4/1 to 6/15)
- 5S Shorebird/Waterfowl concentration (4/1 to 5/15)
- 6Y Recreation: Special use destination
- 7II Subsistence area: Deer harvesting (8/15 to 2/28)
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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 R. Hume DATE: 4/20/90

OILING CATEGORIZATION:

Wide 182m: Medium 427 m: Narrow 87 m: V.Light 0 m: No Oil 217 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: <u> </u> Wands |
| ☒ Tarmat: <u> </u> Breakup | ☐ Beach Cleaner |
| ☒ Removal | ☐ Other (see comments) |

COMMENTS: Recommend (a) tarmat removal; (b) manual pick up of mousse and oiled debris and vegetation and oiled logs if >10% coverage and splash impact; and (c) bioremediation of coat and subsurface oil areas. Work should be conducted between 6/16 and 7/9 and with permission of USFWS due to eagle nest constraint. Note that this is also a subsistence salmon harvesting area from 5/1 to 9/30.

SEE CONSTRAINTS ADDENDUM
dated 6/12/90 JPP

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90

ADEC JOHN BAUER
EXXON ANDY TEAL
NOAA BILL WESLEY
USCG KENNETH KOTKE

FOSC: DATE: 4-26-90

If area is not aerobic, till prior to
bioremediation - if it is aerobic, till

SHORELINE EVALUATION

SEGMENT ST/ GR-103 SUBDIVISION A (1 OF 3) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 227-20-17880.

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
- 1B Salmon stream mouth - spawning (7/10 to 8/31)
- 5T-3 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
- 2M Herring spawning (4/1 to 6/15)
- 5S Shorebird/Waterfowl concentration (4/1 to 5/15)
- 6Y Recreation: Special use destination
- 7II Subsistence area: Deer harvesting (8/15 to 2/28)
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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 J. Adams DATE: 4/20/90

OILING CATEGORIZATION:

Wide 182m: Medium 427 m: Narrow 87 m: V.Light 0 m: No Oil 217 m
Subsurface Oil Observed: Yes X No Maximum Depth 30+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommend (a) tarmat removal; (b) manual pick up of mousse and oiled debris and vegetation and oiled logs if >10% coverage and splash impact; and (c) bioremediation of coat and subsurface oil areas. Work should be conducted between 6/16 and 7/9 and with permission of USFWS due to eagle nest constraint. Note that this is also a subsistence salmon harvesting area from 5/1 to 9/30.

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90

ADEC JOHN BAUER
EXXON ANDY TEAL
NOAA Burt Wescott
USCG KENNETH KIRK

FOSC: DATE: 4-26-90

If area is not aerobic, till prior to bioremediation - if it is aerobic, tilling is not necessary.

Page 3/8

OG B Berglund

SEGMENT ST/ 103

SUBDIVISION A

DATE 4/4/90

CHECKLIST

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

LEGEND

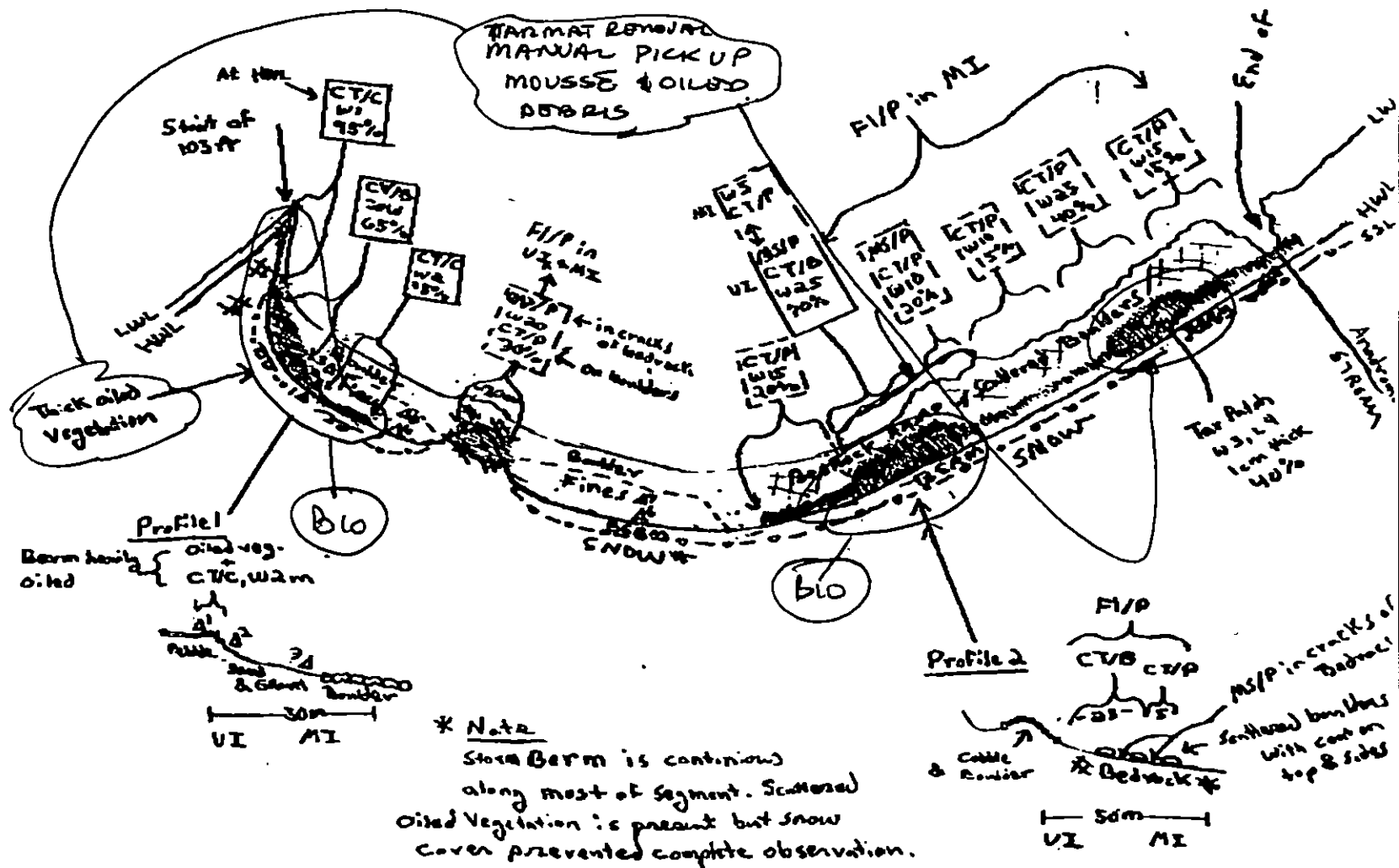
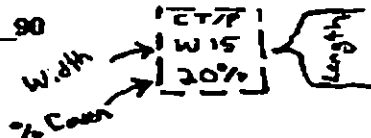
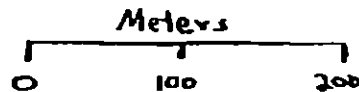
- 1 Δ No Subsurface Oil
- 2 Δ Subsurface Oil
- CT/C Continuous Distribution
- CT/B Broken Distribution
- CT/P Patchy Distribution
- CT/S Splashed Distribution
- Oil Vegetation
- 1 → Photo location, direction, and number

Fines = pebbles, sand & gravel
* Exposed Bedrock

-o-o- SSL

oiled Zone Shaded

SKETCH MAP

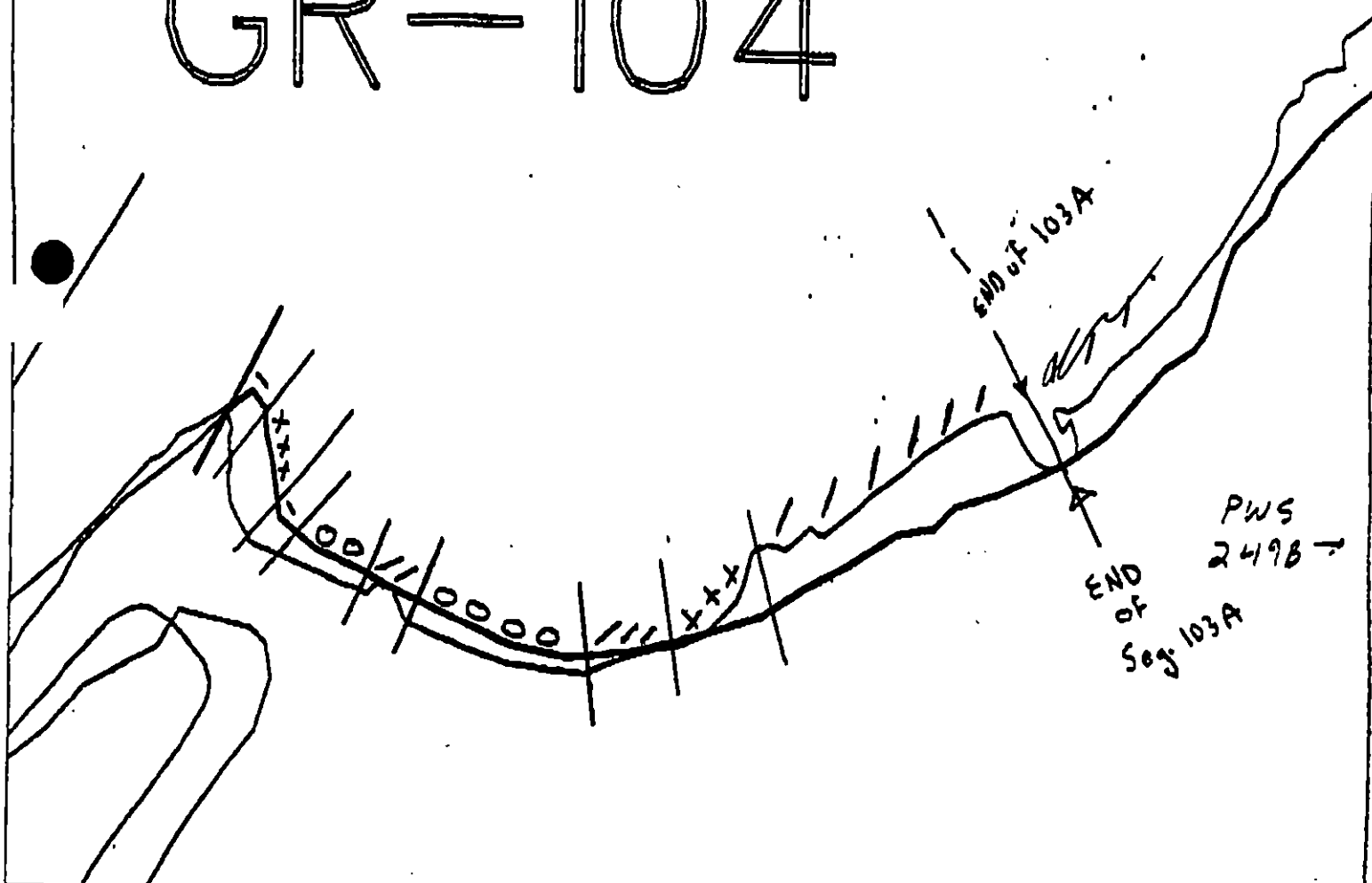


* Note

Storm Berm is continuous along most of Segment. Scattered oiled Vegetation is present but snow cover prevented complete observation.

GR-302

GR-104



XXXX Wide

/// Medium

--- Narrow

TTT Very Light

0000 No Oil

GR-103

ADEC Segment Length: 4278m



Map Key: PWS-249a

Name: B. Benglund

Date: 4/4/90

Date Entered:

Res 4/8

WORK PLAN ADDENDUM

Segment GR-103

Subdivision B

Dated 7/5/90

MODIFICATION

1. REASON FOR MODIFICATION

Supra Resurvey Team indicated larger work area

2. ADJUSTMENT TO WORK PLAN

Manual removal of pooled oil, and oiled debris.
Bioremediate oil coat and subsurface oil as
indicated on attached map.

SHPO APPROVAL NEEDED YES X
NO

SHPO SIGNATURE Rachel Ann Doe 7/5/90
INSPECTION CONSTRAINT APPLIES

TAG APPROVAL DATE 7/5/90.

ADEC Ray Morris, R Morris

EXXON Amy TGAZ Deal

NOAA Joseph Talbot

USCG G.A. Reiter G.A. REITER

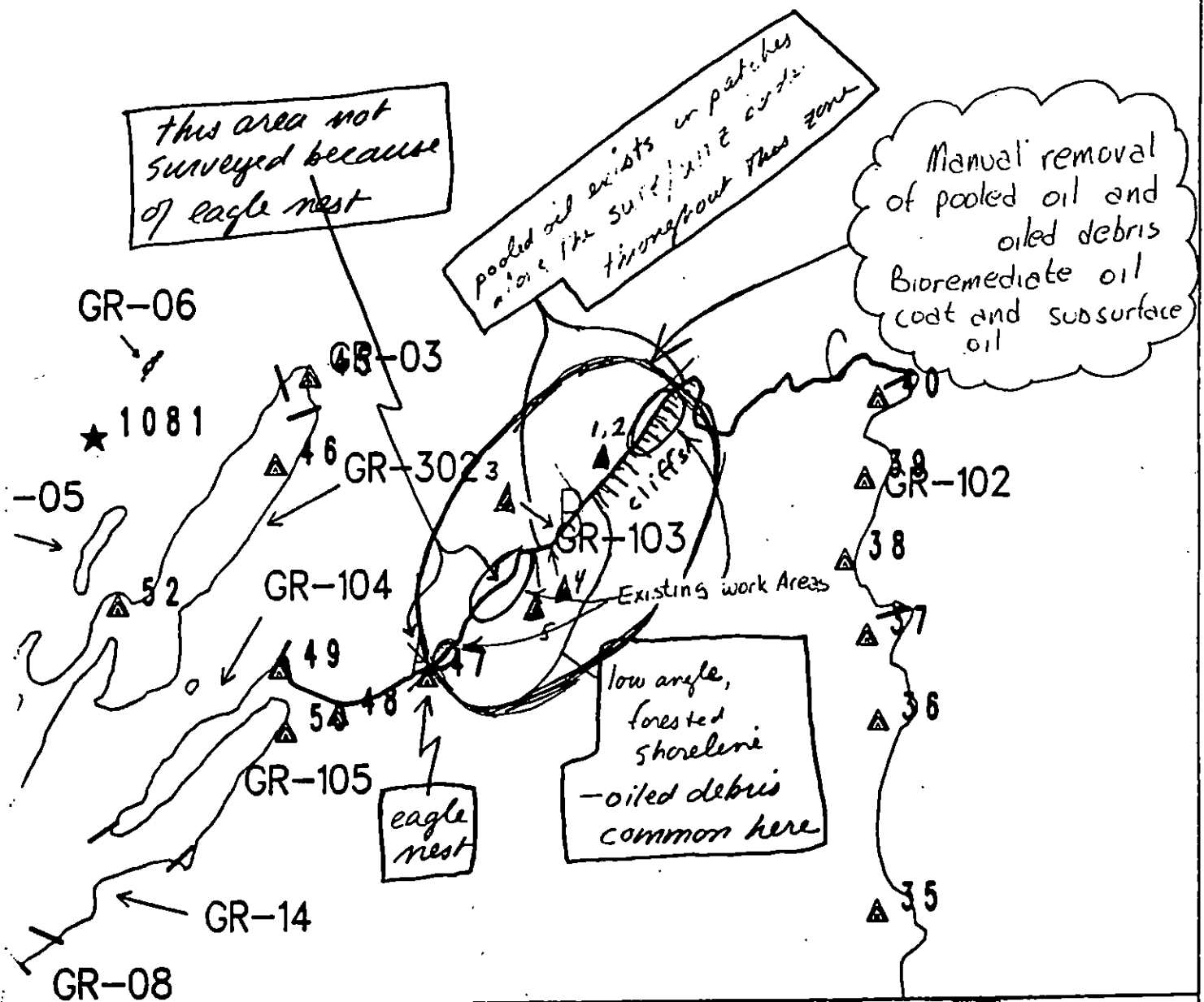
FOSC W L DATE 7-10-90

6/4/90

Supratidal Resurvey

Mann

(pit locations)



Exxon Company, USA

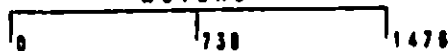
Map Key: PMS-GR-103

May 11, 1990

ECOLOGY MAP SEGMENT GR-103

SUBDIVISION (--- of ---)

METERS



- ★ Seabird Colony
- △ Eagle Nest

1 inch = 2421 feet

SHORELINE EVALUATION

SEGMENT ST/ GR-103 SUBDIVISION B (2 OF 3) DATE 4/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 227-20-17880.

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
- 1B Salmon stream mouth - spawning (7/10 to 8/31)
- 5T-3 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
- 2M Herring spawning (4/1 to 6/15)
- 5S Shorebird/Waterfowl concentration (4/1 to 5/15)
- 6Y Recreation: Special use destination
- 7II Subsistence area: Deer harvesting (8/15 to 2/28)
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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. Hanna DATE: 4/20/90

OILING CATEGORIZATION:

Wide 509m: Medium 1236m: Narrow 0 m: V.Light 0 m: No Oil 0 m
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>X</u> Manual Pickup	<u> </u> Absorbents (pads, rolls, etc)
<u>X</u> Bioremediation	<u>X</u> Spot Washing: <u>X</u> Wands
<u> </u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommend (a) manual pick up of tar patties and oiled debris (see sketch map), (b) spot washing, and (c) bioremediation of oil coat and subsurface oil areas (see sketch map). Work between 6/16 and 7/9 with USFWS permission due to eagle nest constraint and ADF&G permission due to salmon harvesting constraint.

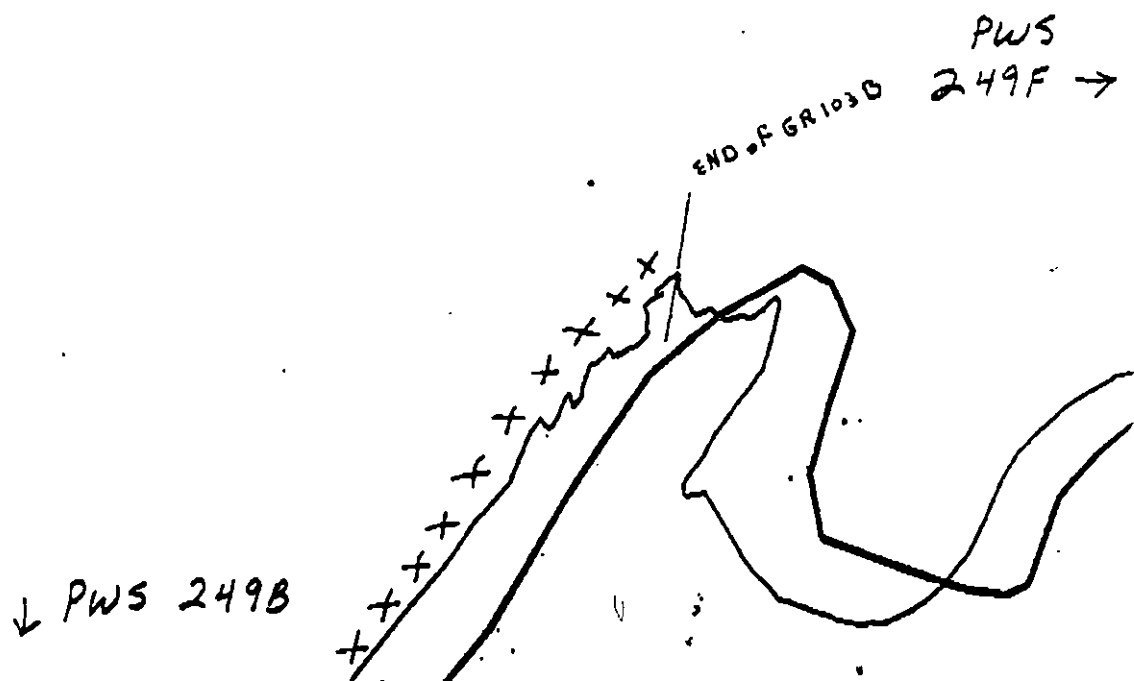
TAG COMMENTS: MONITORS TO ASSESS UPPER STREAM BERM DURING TREATMENT. SNOW COVERED DURING SSAT.

TAG APPROVAL DATE: 4/19/90
ADEC JOHN BAKER
EXXON ANDY TEAL
NOAA Burt Wescott
USCG KENNETH KEANE

FOSC: W L

DATE: 5-12-90

Consider telling before bioremediation.



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

GR-103

ADEC Segment Length: 4278m

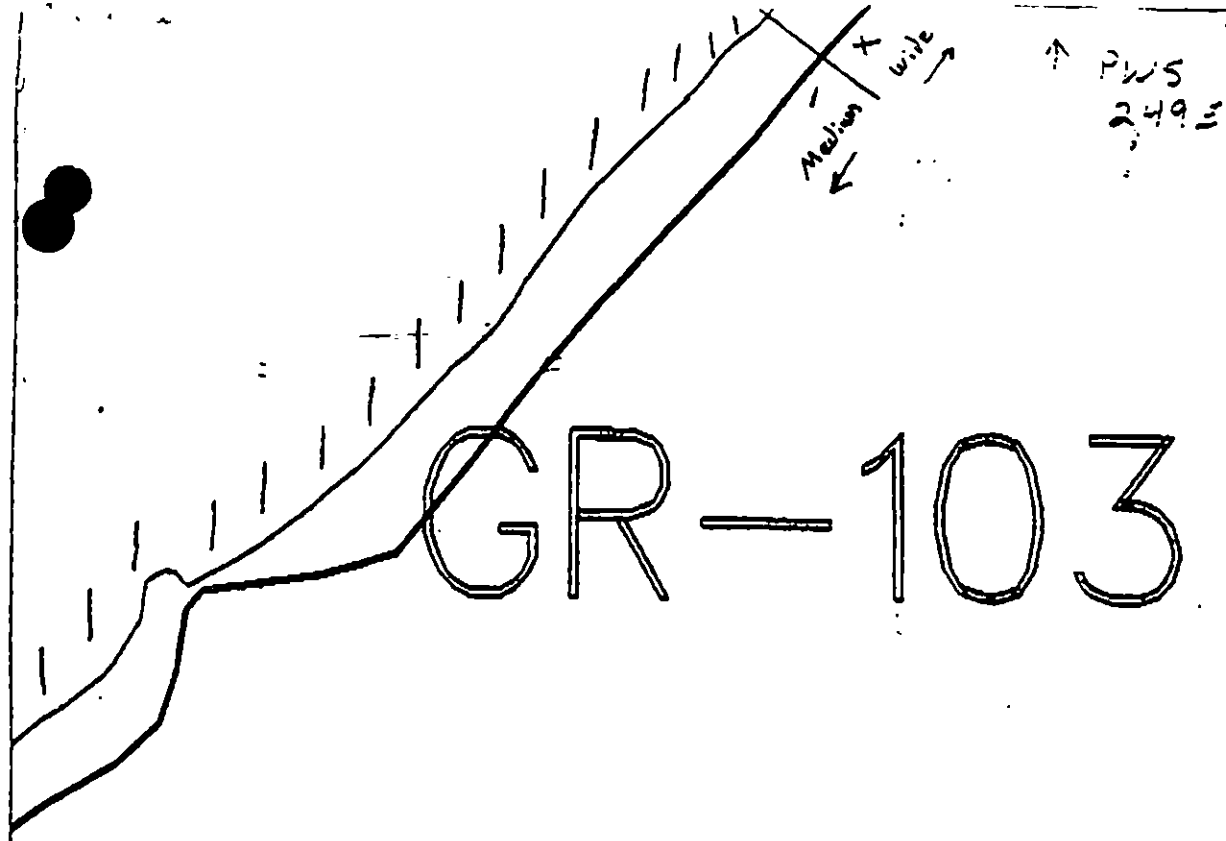


Map Key: PWS-2490

Name: B. Berglund

Date: 4/5/90

Data Entered:



GR-103

← PWS 249F

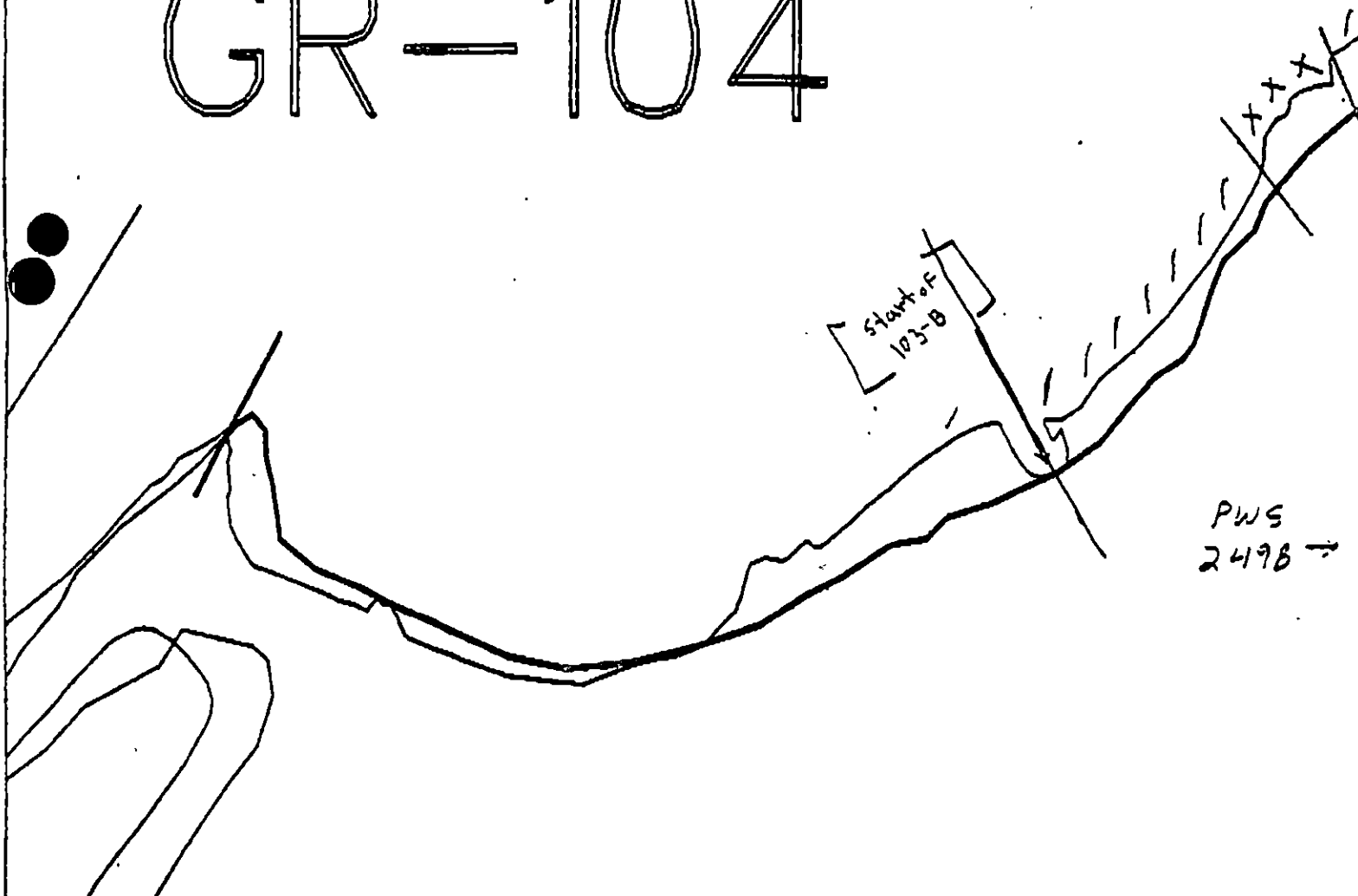
XXXX Wide	GR-103	ADEC Segment Length: 4278m		Map Key: PWS-249b
//// Medium				Name: <u>B. Berglund</u>
---- Narrow				Date: <u>4/5/90</u>
TTTT Very Light				Date Entered:
0000 No Oil				



METERS

GR-302

GR-104



XXXX Wide	GR-103	Map Key: PWS-249a
/// Medium	ADEC Segment Length: 4278m	Name: <u>B. Berglund</u>
--- Narrow		Date: <u>4/5/90</u>
TTTT Very Light		Data Entered:
0000 No Oil		

0 100 200 300 METERS

SHORELINE EVALUATION

SEGMENT ST/ GR-103 SUBDIVISION C (3 OF 3) DATE 4/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 227-20-17880.

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
- 1B Salmon stream mouth - spawning (7/10 to 8/31)
- 5T-3 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
- 2M Herring spawning (4/1 to 6/15)
- 5S Shorebird/Waterfowl concentration (4/1 to 5/15)
- 6Y Recreation: Special use destination
- 7II Subsistence area: Deer harvesting (8/15 to 2/28)
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles H. Hume DATE: 4/20/90

OILING CATEGORIZATION:

Wide 275m: Medium 685 m: Narrow 0 m: V.Light 660 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>X</u> Bioremediation	<u> </u> Spot Washing: <u> </u> Wands
<u> </u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommend manual pick up of mousse at east end of segment (see sketch map). Bioremediate broken cover area as indicated on sketch map. Work should be conducted between 6/16 and 7/9 with USFWS permission due to eagle nest constraint and ADF&G permission due to salmon harvesting constraint.

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90
ADEC JOHN BAUER
EXXON ANDY TATE
NOAA Burt Wescott
USCG KENNETH KUNIG

FOSC: W L DATE: 5-12-90

Oil from Three comps

SEGMENT ST/ GA-103

SUBDIVISION C

DATE Jul 14 25/90

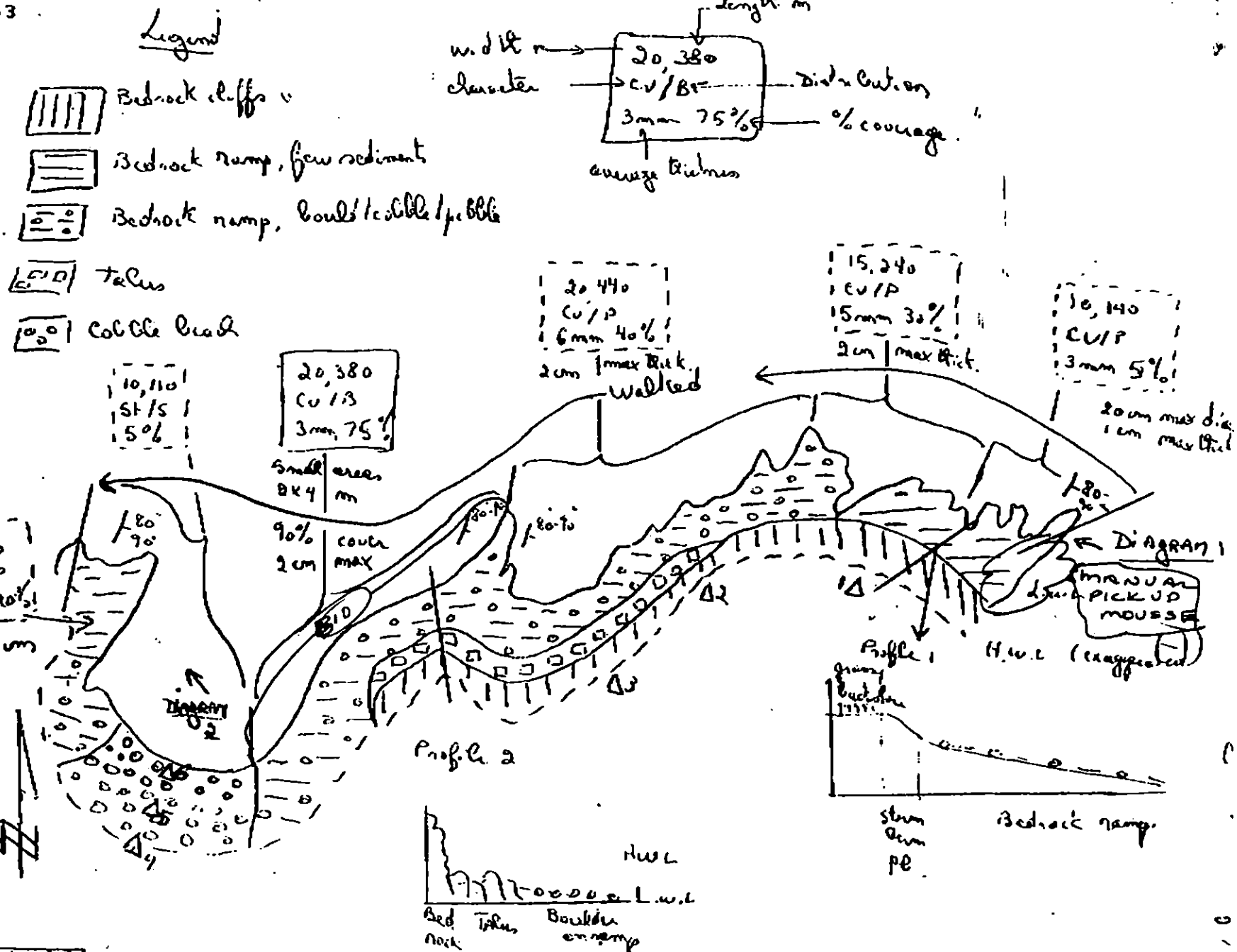
CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Bndry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. 1984 LVL
- ☐ SSI
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pli Location(s)
- ☐ Photo Location(s)

LEGEND

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

SKETCH MAP



Oil Character Length (m): AP 260 PO 110 CV 260 CT --- ST 110 MS --- PT --- TB --- FL --- NO ---

REVISION 330498

Geom. Maps - Samples

Segment GA-103

Subdivision C

April 4 and 5, 1990

Diagram 1

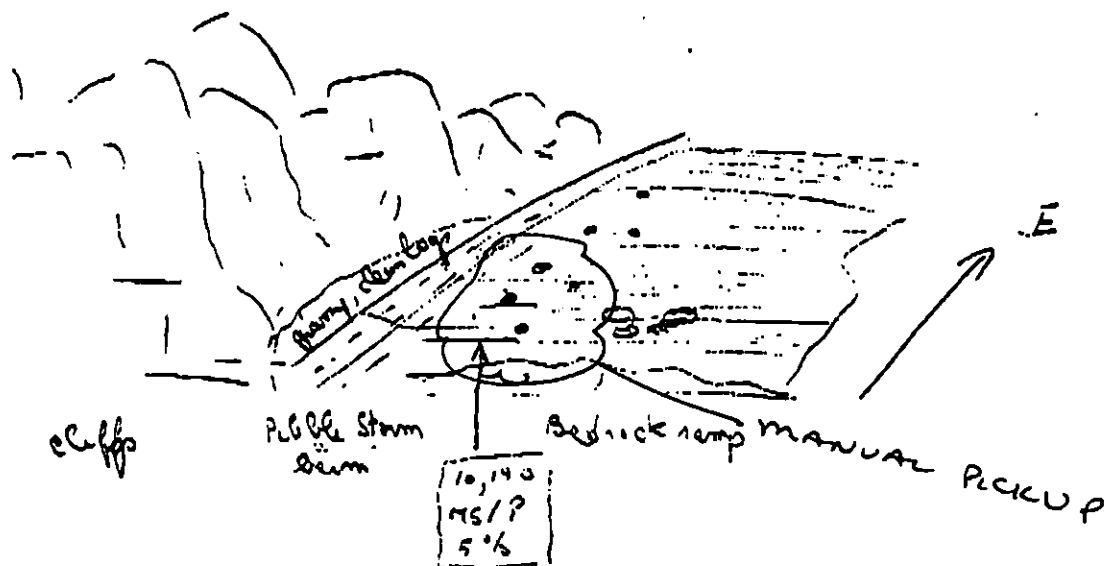
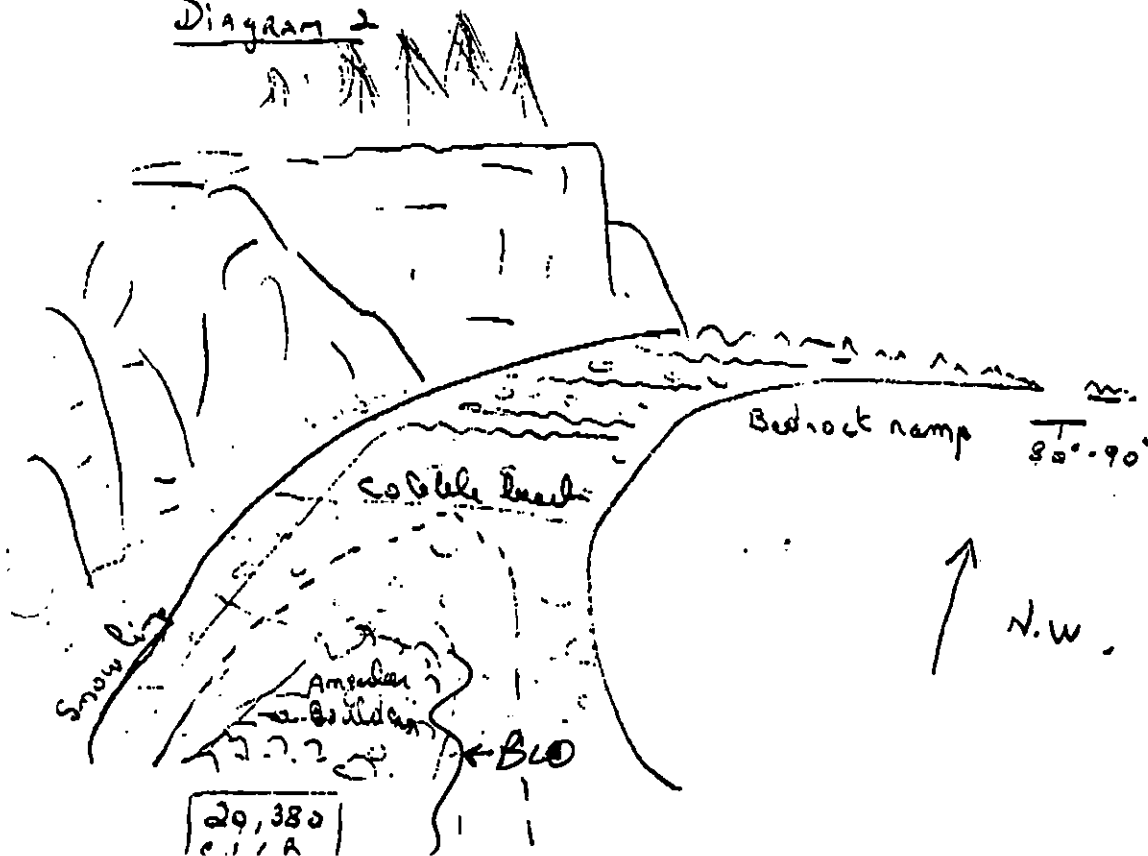


Diagram 2

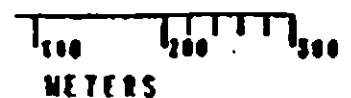


198

GR-103 438

GR-103

ent Length: 4278m



Map Key: PWS-2490

Name: Leon Travis Sengul

Date: April 4/5 / 1990

Date Entered:

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

GR-103

ADEC Segment Length: 4278m



0
0
0
0

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/GR-103

SUBDIVISIONS: B (2 OF 3)

SHORELINE EVALUATION

SEGMENT ST/ GR-103 SUBDIVISION B (2 OF 3) DATE 4/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 227-20-17880.

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
- 1B Salmon stream mouth - spawning (7/10 to 8/31)
- 5T-3 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
- 2M Herring spawning (4/1 to 6/15)
- 5S Shorebird/Waterfowl concentration (4/1 to 5/15)
- 6Y Recreation: Special use destination
- 7II Subsistence area: Deer harvesting (8/15 to 2/28)
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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 509m: Medium 1236m: Narrow 0 m: V.Light 0 m: No Oil 0 m
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: Recommend (a) manual pick up of tar patties and oiled debris (see sketch map), (b) spot washing, and (c) bioremediation of oil coat and subsurface oil areas (see sketch map). Work between 6/16 and 7/9 with USFWS permission due to eagle nest constraint and ADF&G permission due to salmon harvesting constraint.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / GR 103 B SUBDIVISION: B DATE 25 APR 90

SCG
NAME James C. Gambrell SIGNATURE James C. Gambrell

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

2' x 8' Ten PATTIE approx 30' E of stream in the upper inter tidal zone. AND OIL BAN
of 15m to 25m from mid upper inter tidal zone to mid middle inter tidal zone. Oil in sta
Berm 2-10cm deep. Oil vegetation in the stream berm under snow.

ADEC

NAME Brian K. Fitz Simons SIGNATURE Brian K. Fitz Simons

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

1. Hand remove mousse patys along salmon stream on east end of segment
break up and scatter to HITZ
2. Most of segment has wide band of patchy to broken coat is: B → coat
PG → OP → OBO
BR → Coat
Width of band varies from 10m to 25m. P/G layer is only in cracks
of bedrock and around and under boulders. B → BR coated with dull black (sticky,
furry weathered oil. P/G may respond to HTHP wash and C/BR to Steam Wands & air
backed up with header flood - But: Though area is severely impacted visually,
actual volume of oil may be minimal → little or no penetration due to
bedrock - May be better to Bioremediate & monitor.

3. HITZ Berm: CSO → coat
GS → OR → 0cm to 10cm } Much of berm was
see attached } frozen and/or unde.

LAND MANAGER

NAME Carol S Huber SIGNATURE Carol S Huber

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Oil in storm berm. Some of storm berm under
snow cover, oil amount unknown there. Major
band of oiling about 15m wide in upper inter
tidal zone. Mobil oil just below surface,
indicated in pits dug and leaching (rainbow sheen)
observed. Leave buffer zone at anadromous
stream (W boundary of subdivision) For resource
sensitivities see seg. GR 103 A.

AD EC Comments and Recommendations Contd

GR103B

nowpack.

Oiled berm could be moved to active tidal area and dispersed.

Re-evaluate HITZ and SUITZ after break-up.

Note: Entire oiled zone including HITZ Berm from small non-anadromous stream eastward to end of segment contained strong petroleum smell.

UNDESIRABLE OIL

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG B. Berglund USCG J. Gamble SEGMENT ST/GR-103
 BIO S. Schaefer LAND REP C. Hubes (NES) SUBDIVISION B (213)
 XON C. Levine ADEC B. Fritzsche TIME 14:00 to 16:40
 TEAM NO.: 1 TIDE LEVEL: +6 to 1.5 DATE 4/5/90
 EST. SUBDIVISION LENGTH: 1740 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 35 % B 45 % C 15 % P 5 % G — % S — % M — % V — %
 SLOPE: Long 92 % Hang — % Vert 8 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 540 m M 1200 m N — m VL — m NO — m

SURFACE OIL

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

PAVEMENT: H F S — sq. m by — cmPATTIES / TARBALLS 2 BAGSNEAR SHORE SHEENT NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation		X	
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NOTYPE —#BAGS —

Photographs:

Roll No. ST-1-3Frames 1-7

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	OP	OR	OL	OF	NO	SU	U	M	L		
1	15	X					0-2	X	X	X					X					C (Adjacent to Boulder)
2	15	X				X	0-2	X	X	X					X					G
3	20					X		X	X	X					X					P
4	40					X		X	X	X					X					C/P
5	50				X		2-4	X		X					X					C/P/G
6	40		X				0-10	X		X					X					C/P/G

COMMENTS

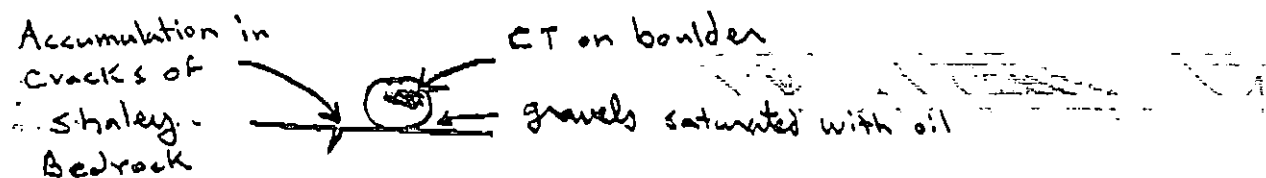
* ≤ 5 m below NW constituent Subsurface oil.
 An oiled is visible the entire length of this segment, located near a couple meters below the HWH. It varies from a patchy to continuous coat. The beach segment consists largely consists of a bedrock ramp with scattered boulders. The sides of the boulders are coated. At the base of boulders the sand and gravels are frequently saturated with oil. Accumulations of oil (MS) are present in the cracks of the bedrock. (next page)

4/5/90

OG Comments (Continued) GR-103 B

Due to the shallow bedrock (frequently exposed) subsurface oiling does not appear to be a problem. The storm berm (boulder & cobble) did not appear to have significant subsurface oiling based on test pits. However, snow cover prevented a thorough investigation (possibly re-evaluate in May).

Typical Oiling (Close up view)



REVISION: 02/24/2011

SHORELINE ECOLOGICAL SUMMARY

REVISION: 05/28/80

Segment ST / GR103 Subdivision B Date (mo / day / yr) 4/5/90

Time (24 hr) 1400 1640 Biologist S. Schroeter

- (A) Substrate type and % of segments:
 (1) Bedrock 39 (2) Boulder 12 (3) Cobble 28 (4) Pebble 19 (5) Sand 1 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 33 Moderate 24 Low 42
- (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-1-3

Frames 3,4

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:

Sensitivity	ST-3	6Y	7H	7Z	1B	2M	5S
Priority	2	3	4	4	1	3	1

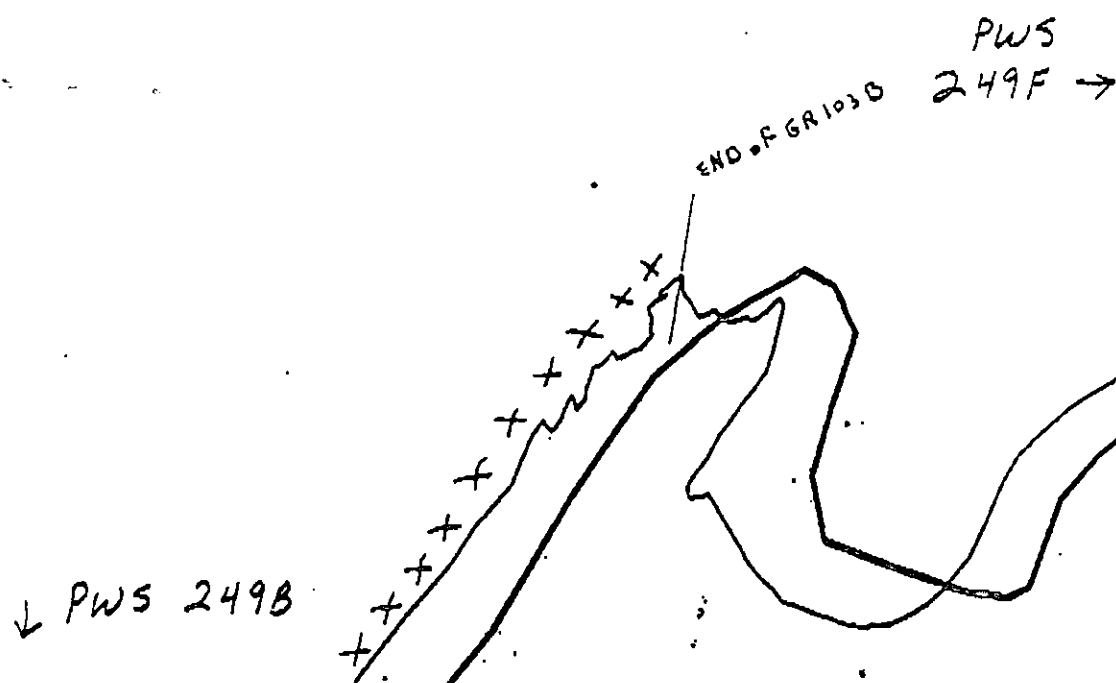
Ecological Considerations:

Intertidal on bedrock headlands contains many pools in mid upper intertidal that have high cover of crustacean coralline algae & eelgrass. Anemones & chitons are common in these pools, as are sea stars, primarily *Pisaster ochraceus*. *Rhodomya laxa* contribute about 50% of cover in areas of dense beds on mud intertidal platforms. Large portions of the shore bedrock form stream beds that drain the snow melt. In these areas, mussels *Brachiodontes*, *P. thomasi*, & *N. Scutum* occur in moderate to high densities in the

Segment: GR-103 Subdivision: B Date: April 5, 1990
BIO: S. Schroeter OG: B. Berglund Tidal Range: > +1.5

This subdivision runs NE from a large anadromous stream that is the NE boundary of GR103A. For the first 400 meters the intertidal consists of gently sloping shale bedrock through which trickles numerous small freshwater streamlets. There are moderate to high densities of adult and juvenile mussels and barnacles in these streamlets, and high densities of L. sitkana and L. scutulata and Notoacmea scutum. The red alga, Rhodysela larix accounts for about half of the dense biota along this stretch of the subdivision.

The NW end of the subdivision is bordered by a bedrock headland. Halosaccion and Inidea occur in a dense, more or less continuous band in the mid and low-upper intertidal. The headland contains many pools in the mid and lower intertidal. These pools have high cover (>60%) of coralline crusts, and most have >25% cover of P. scouleri. The anemones, Anthopleura elegantissima and Epiactis proliferata are common in these pools. A number of the pools have high densities of Pisaster ochraceus. One pool measuring 34x40 cm contained 14 P. ochraceus with ray lengths about 6-8 cm. Ecnopodia and Derasterias were also found in the pools. Alaria adults and juveniles are common in the low and lower-mid intertidal along the NW headland of this subdivision. Katherina tunicata also occur rarely among P. cariosus in the mid intertidal.



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

GR-103

ADEC Segment Length: 4278m

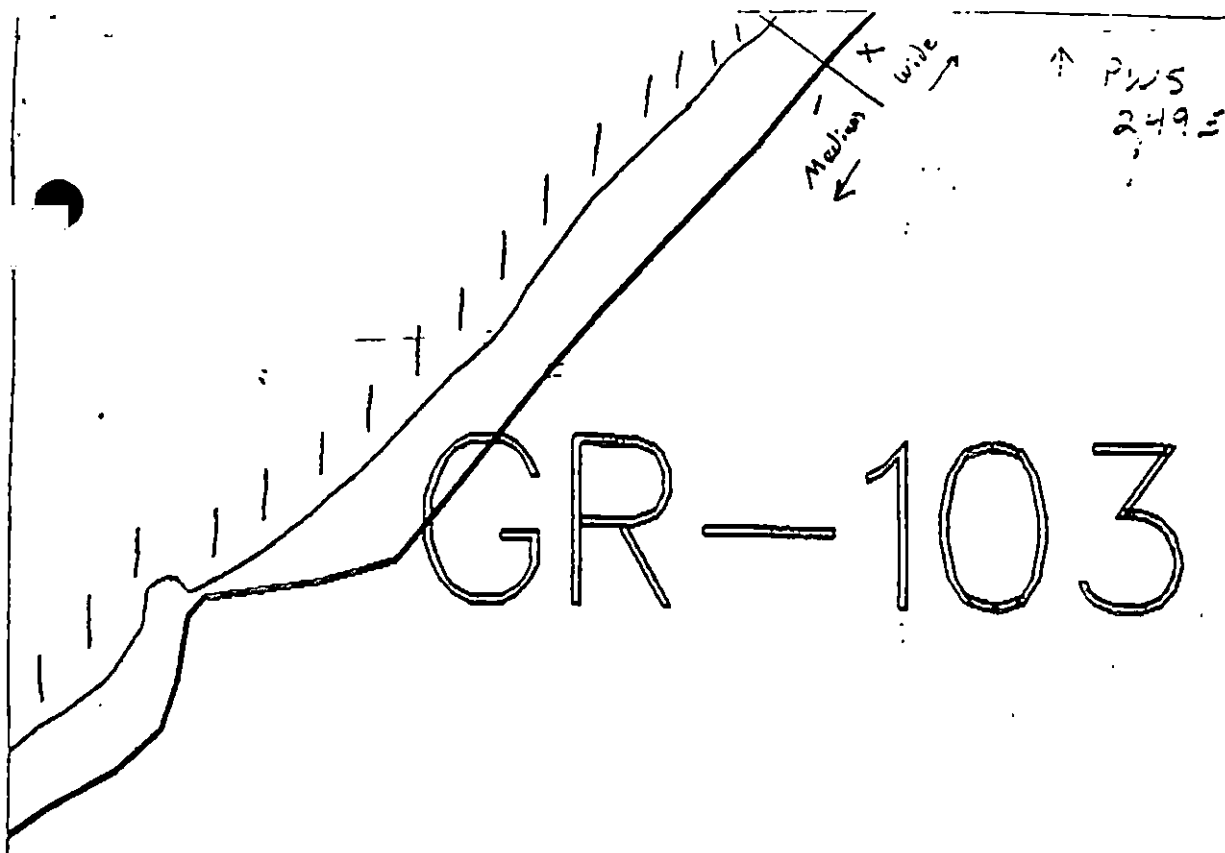


Map Key: PWS-2490

Name: B. Benglund

Date: 4/5/90

Data Entered:



← PWS
249A

\ \ \ \ Wide
 / / / / Medium
 - - - - Narrow
 T T T T Very Light
 0 0 0 0 No Oil

GR-103

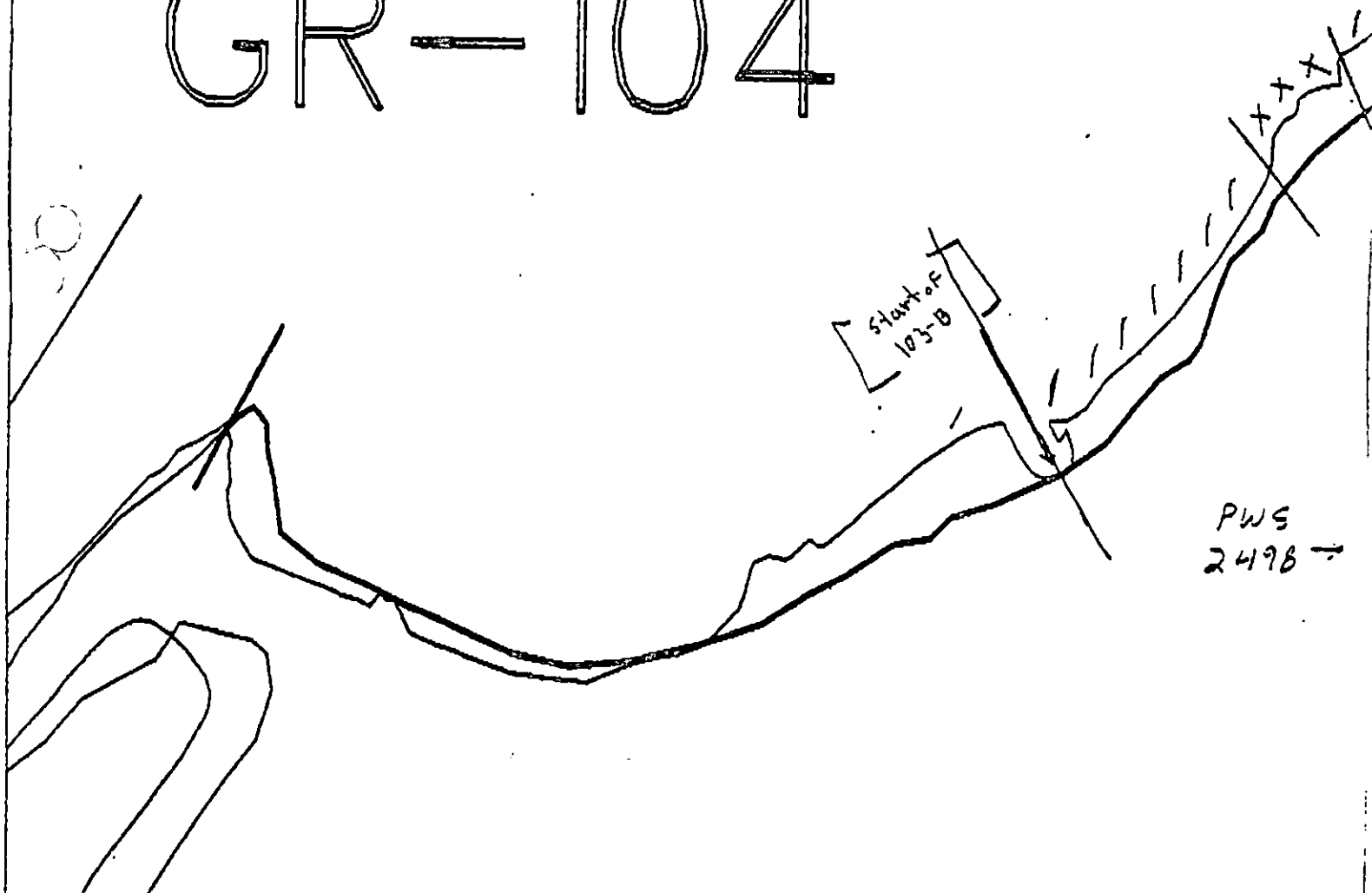
ADEC Segment Length: 4.278m



Map Key: PWS-249b
 Name: B. Berglund
 Date: 4/5/90
 Data Entered:

GR-302

GR-104



XXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

GR-103

ADEC Segment Length: 4278m



Map Key: PWS-249a

Name: B. Berglund

Date: 4/5/90

Data Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/GR-103

SUBDIVISIONS: C (3 OF 3)

SHORELINE EVALUATION

SEGMENT ST/ GR-103 SUBDIVISION C (3 OF 3) DATE 4/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 227-20-17880.

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
- 1B Salmon stream mouth - spawning (7/10 to 8/31)
- 5T-3 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
- 2M Herring spawning (4/1 to 6/15)
- 5S Shorebird/Waterfowl concentration (4/1 to 5/15)
- 6Y Recreation: Special use destination
- 7II Subsistence area: Deer harvesting (8/15 to 2/28)
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 275m: Medium 685 m: Narrow 0 m: V.Light 660 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: Recommend manual pick up of mousse at east end of segment (see sketch map). Bioremediate broken cover area as indicated on sketch map. Work should be conducted between 6/16 and 7/9 with USFWS permission due to eagle nest constraint and ADF&G permission due to salmon harvesting constraint.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____
ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A
1B

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

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

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

1C

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

1D

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

1E

Main Bay Hatchery release (4/20 to 5/10)

1F

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

1G

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

1H

Remote release site

1I

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

1J

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

1K

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

1L

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

For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

2M

Herring spawning (4/1 to 6/15)

Restrict boat traffic to essential minimum. Avoid damage to unholed intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

3N, 3P
3O, 3Q

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

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

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

5R

Seabird colony (5/1 to 9/1)

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

5S

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

Restrict all activity to essential minimum, especially air traffic.

5T

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

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

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

6U

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

6V

Anchorage (6/1 to 9/15)

6W

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

6X

Lodge (6/1 to 9/15)

6Y

Special use destination

7Z

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

7HH

Finfish harvesting

7II

Deer harvesting (8/15 to 2/28)

7JJ

Invertebrate harvesting

For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

GR-103-C 90,9

ST-2

SEGMENT ST / GR 103 SUBDIVISION: Sub. C DATE 4/5/90

USCG

NAME Robert Jensen SIGNATURE Robert Jensen☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Oil cover on this beach running
~~from the water to the~~ patchy. Also some
 staining. Also oiled debris at
 storm berm and the beginning of this
 sub-segment.

ADEC

NAME Rowann F. Hudnall SIGNATURE Rowann F. Hudnall☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Coating on rocks^(boulder, cobble) in mid intertidal. Shiny oil
 and small (3cm square) asphalt patches in crevices
 of bedrock. Oiled debris in storm berm. Oil
 is patchy in distribution but forms a wide band

LAND MANAGER

NAME U.S. Forest Service SIGNATURE Der Treder☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Ground wide band - up to 20 meters of oil in
 area. Primarily a splatter coating remaining in
 protected areas.

SHORELINE OILING SUMMARY

REVISION NO. 03/22/88

OG San Francisco USCG B. G. Jensen SEGMENT ST/ QR-103
 BIO John Dixon LAND REP Don Keelen SUBDIVISION C 191
 EXXON Jim Ellison ADEC Rosanna Hudmell TIME 10
 TEAM NO.: 2 TIDE LEVEL: +3.5 to +5.5 DATE 4/1/90
 EST. SUBDIVISION LENGTH: 1370 m +2.5 ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 39 % B 26 % C 25 % P 10 % G - % S - % M - % V - %
 SLOPE: Long 75 % Hang 55 % Vert - % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 246 m M 554 m N 0 m VL 570 m NO 2 m

SURFACE OIL

Note: Segment QR-103 units April 4 1990 1851 to 2003 Q +3.5' to +5.5'
 April 5 1990 1345 to 1300 Q +6.5' to +4'

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	AC	AB	AP	AS	SP	SR	ST	SL	SV	SW	SY	SZ	SU	UI	ME	LI
ASPHALT PAVEMENT																
POOLED																
COVER			X			X							X		X	
COAT																
STAIN				X				X					X			
MOUSSE			X					X					X			
PATTIES																
TARBALLS																
FILM																
NO OIL													X			X

PAVEMENT: R F S NO sq. m by - cmPATTIES / TARBALLS NO BAGSNEAR SHORE SHEENT NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NOTYPE -#BAGS -

Photographs:

Roll No. ST-2-7 ST-2-2Frames F13-34 F1-6SUBSURFACE OIL mostly on bedrock ramp.

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	SP	SR	ST	SL	SV	SW	SY	SZ	SU	UI	ME	LI		
1	30					X	-											X				NO	pb/cb
2	35					X	-											X				"	pb/cb
3	30					X	-											X				"	pb/cb
4	40					X	-											X				"	"
5	35					X	-											X				"	"
6	40					X	-													X		"	"

COMMENTS

Oil from Terminals

SEGMENT ST/ CR-103

SUBDIVISION C

DATE 1/4/90

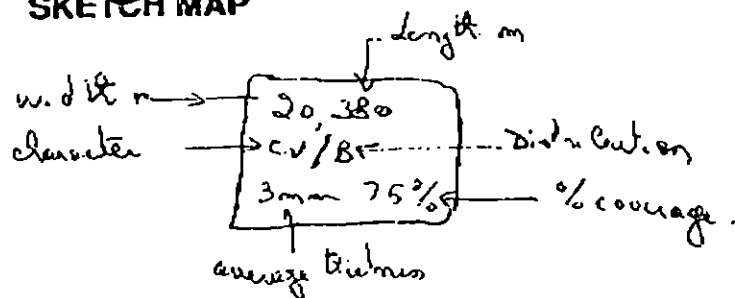
CHECKLIST

- N Arrow
- Approx. Scale
- Seg/Sub Bndry
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. 1000 L/WL
- SSL
- Profile Location(s)
- Photo(s)
- Pk Location(s)
- Photo Location(s)

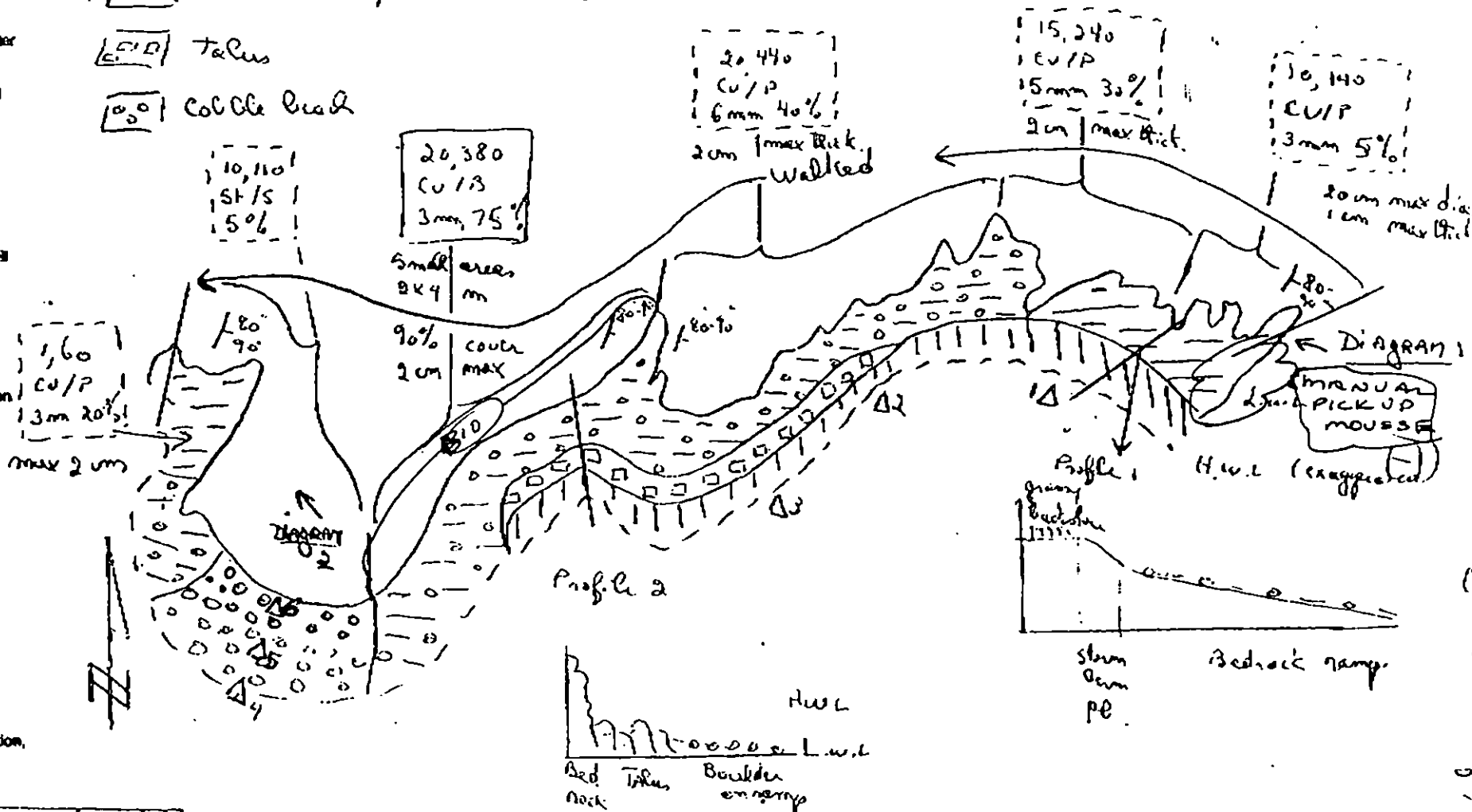
LEGEND

- 1 Δ Pk - No Subsurface Oil
- 2 Δ Pk - 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



- Bedrock cliffs
- Bedrock ramp, few sediments
- Bedrock ramp, boulders/cobble/pbbles
- Talus
- Cobble beach



Oil Character Length (m): AP PO CV 120 CT ST 110 MS PT TB FL NO

Jean-Marie Sempels

Segment GA-103

Subdivision C

April 4 and 5, 1990

Diagram 1

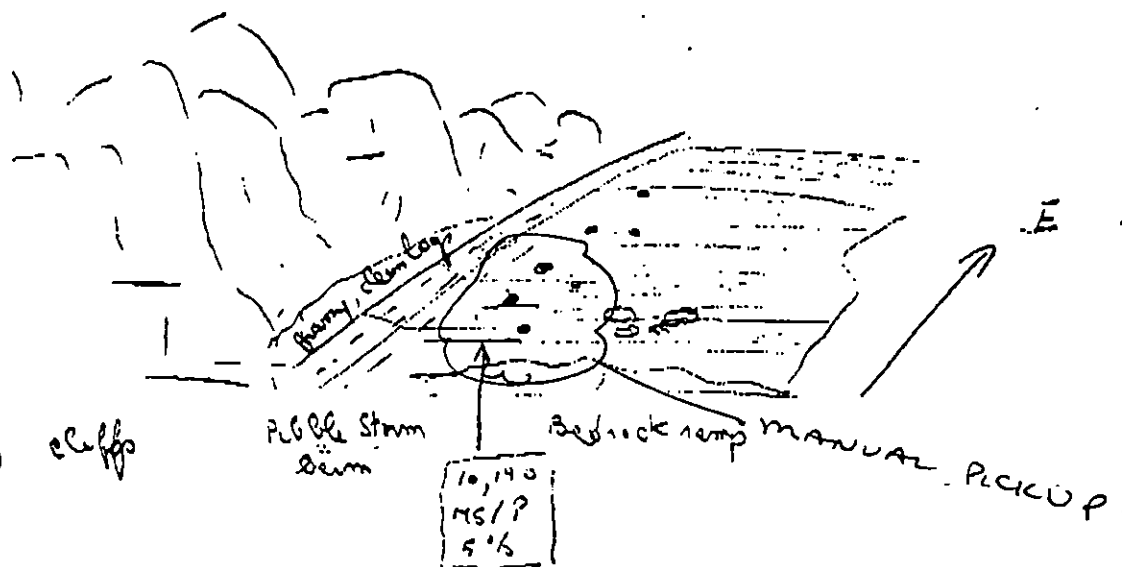
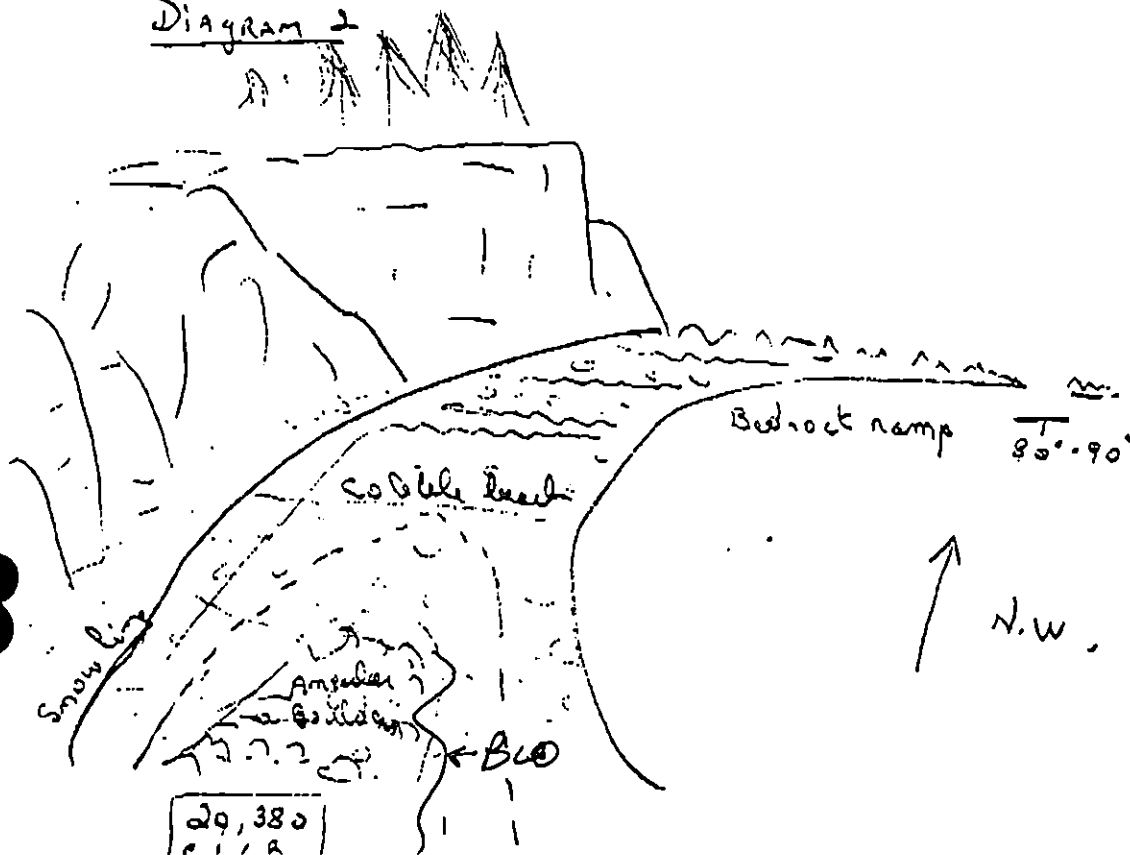


Diagram 2



Green Island, GR-103-C, April 4 and 5, 1990

Segment GR-103, subdivision C, is a 1370 m long section of shoreline located at the northwestern extremity of Green Island. It is exposed to a relatively long fetch to the north east and to a narrow fetch window (30 degrees).

The shoreline of this subdivision consists mainly of gently sloping bedrock ramp with a thin cover of boulders/cobbles and pebbles, alternating with bedrock headlands and sections of talus of angular boulders. From west to east, the subdivision begins with a segment of bedrock ramp intertidal zone with few pockets of pebble/cobbles. Two well defined storm berms of pebbles are present at the upper limit of the intertidal zone, and on the intertidal ramp, the vertical bedding of the metamorphic rocks gives the area a very jagged surface. Patches resulting from the degradation of mousse patties occur over the intertidal ramp within a 10 m wide, 140 m long band. At this location, their combined coverage does not exceed 5%.

Further to the west, the segment forms two small coves with cobble/boulder beaches. The steeply sloping bedrock sides of the coves show patches of coatings that sometime have accumulated in fractures and depressions. Patches of tarry coatings are also found in the cobble/boulder/bedrock ramp intertidal zone where similar accumulations can be found between coarser sediments. Test pits in the storm berm area showed no oil to depths of 40 cm.

A prominent headland separates this area from a cove with boulder cobble beach to the east. Patches of tarry black coating can be found in a 20 m wide band across the upper intertidal zone of both the bedrock headland and adjacent cove. In this area, coverage reaches 75% with several patches approximately 2 x 4 m attaining 90% and a maximum thickness of 2 cm. Test pits across the intertidal zone show that the oil cover is restricted to

surface sediments only. Some clean logs and other debris are present on top of the storm berm of this cove.

Between the head of this cove and the headland adjacent to the west, the oil cover decreases considerably to form stains of splatters only on the boulder/bedrock ramp intertidal zone. One exception to this general condition is indicated on the map where a 1 m wide by 60 m long band occurs with a surface coverage attaining 20%. Splatter and stains are also found on the east side of the headland composed of vertically tilted, northeasterly trending metamorphic rocks.

SHORELINE ECOLOGICAL SUMMARY

GR-103-C 6 of 9

REVISION: 02/22/90

Segment ST / GR-103 Subdivision "C" Date (mo / day / yr) 04/04/90
1462-1995

Time (24 hr) 1310-1450 Biologist John Dixon

- (A) Substrate type and % of segments:
(1) Bedrock 39 (2) Boulder 26 (3) Cobble 25 (4) Pebble 10 (5) Sand (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 25 Moderate 30 Low 45
- (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 2-7

Frames 13, 14, 16, 20-25

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments: 3 sea otters carrying young. Many oyst. catchers in area. Rainbow oil sheen in most middle & upper intertidal pools. High intertidal green algal film not growing on oil coated. Bear tracks & scat at tree line. Lower intertidal not observed.

Ecological Considerations:

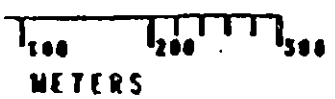
This subdivision is a rocky headland made up of bedrock outcrops & a few boulder/cobble pocket beaches. Moderate to dense cover of algae & barnacles on bedrock with mussels locally dense on the more horizontal surfaces. Small littorines & limpets among barnacles & on cobbles in pools, but most numerous on partially seaward rock in pocket beaches. Littorines dense along edge of pocket beach at W end of subdivision. Phyllospadix & erect coralline in pools. Much Laminaria drift on gently sloping beaches.

198

GR-103 4/15/90

R-103

cat Length: 4278m



Map Key: PWS-2490
Name: Leon Tonic Sengul
Date: April 4/5 / 1990
Data Entered:

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

GR-103

ADEC Segment Length: 4278m



N
N
O
O

ASAP TAG REVIEW SHEET

Segment: Gr 103 Subd: C Site: 2 Date 22 Aug 90
 PRE-Review

Priority For Addressing In 1990

☒ HIGH ☐ MEDIUM ☐ LOW ☐ NTR

Treatment
 Recommended:

m/p of Asphalt, BIC

Continuation Asphalt
NOT on Site Map
Only on Og Sheet
More Than 50% is it

Priority Site For Reassessment In 1991

YES/ NO YES/ NO YES/ NO YES/ NO
/ CG / ADEC / EXXON / LAND MGR

TAG 23AUG90
 Manual pickups TAGMATS
 (MED)

ASAP TAG REVIEW SHEET

Segment: G+103 Subd: C Site: 1

Date
PRE-Review 22 Aug 90

Priority For Addressing In 1990

 HIGH

X MEDIUM

 LOW

 NTR

Treatment
Recommended:

Rip Asphalt, BID

PATCHY ASPHALT

Priority Site For Reassessment In 1991

YES NO
/ CG

YES NO
/ ADEC

YES NO
/ EXXON

YES NO
/ LAND MGR

TAG 23 AUG 91

Resupply BID

ASAP FOLLOWUP RECOMMENDATIONS

GR-
Segment: AS/103 Subd.: C Site: 1 Date: AUG 15 1990

Conditions Observed: This area has shallow bedrock but the surface is predominantly composed of large boulders. Oiling conditions on boulders include CT/H Broken to Continuous. AP/SOR/I/S at the base of boulders. AP is surprisingly cohesive. Relatively little oil is present in the matrix but the pebbles are tightly bound. A band of AP/P/U was found in the top of the UITZ. This band of AP was found under boulders. It would be easy to miss if boulders were not rolled out of the way.

Followup Recommendations: APPLY INTROL TO Boulders WITH HEAVY COATS. REAPPLY CUSTOMEREN TO AREAS OF AP+SOR.

Completed by Pickup Crew: ☐ YES ☒ NO

Priority for Addressing in 1990: ☐ High ☒ Mod. ☐ Low

ADSC

Wesley Ghormley
(name)

Wesley Ghormley
(signature)

Comments: I agree with above recommendations. However AP/SOR needs to be manually removed, boulders need to be rolled (use safety as a factor on what size) so bio can have a chance to complete work.

Exxon

Randall K. Boyer
(name)

Randall K. Boyer
(signature)

Comments: Used ASAP crew broke up gross amounts of AP & SOR AND Applied CUSTOMEREN. Reapply INTROL & CUSTOMEREN IN ~ 2 weeks.

USCG

PSI Mr. Bazzaloni
(name)

Leo Bazzaloni
(signature)

NOAA

ART WEINER

Art Weiner

Comments:

AGREE WITH RECOMMENDATION

Land Rep.

John P. [unclear]
(name)

John P. [unclear]
(signature)

Comments: Silt has oil fouled appearance due to excessive distribution of heavy coats. Recommend removal (manual) of surface with heavy surface oil removal. Manual tilling and rolling silt down to bedrock to expose covers. Customeren applied after tilling. Injunctive application to break coats.

ASAP FOLLOWUP RECOMMENDATIONS

Segment: AS/GR 103 Subd.: C Site: 2 Date: Aug 15 1990

Conditions Observed: SEE ATTACHED

Followup Recommendations: SOUTHWEST PORTION OF SITE (BOULDER FIELD)
REQUIRES MECHANICAL TILLING FOLLOWED BY APPLICATION OF
CUSTOMBLEN. ADEQUATE CONFINEMENT WILL BE NECESSARY TO
PREVENT SHEENS FROM ENTERING NEARSHORE WATERS.
NORTHEAST PORTION REQUIRES MANUAL REMOVAL OF SOR + MOUSSE.
MANUAL TILLING + APPLICATION OF CUSTOMBLEN SHOULD FOLLOW.

Completed by Pickup Crew: ☐ YES ☒ NO

Priority for Addressing in 1990: ☒ High ☐ Mod. ☐ Low

ADEC Wesley Ghormley
 (name)

Wesley Ghormley
 (signature)

Comments: I agree with above recommendation, however I highly recomm
removal of alp in area prior to mechanical tilling, or flooding of area with
Hot H2O after tilling to remove heavy oils. Area is high priority for 90.

Exxon RANDALL E. BOYER
 (name)

Randall E. Boyer
 (signature)

Comments: AN AGGRESSIVE MANUAL SQUAD NEEDS TO DO THIS SITE UP THIS YEAR.

ALP MATS REMOVALITE HAVE REFUSED. THE BEDROCK TEND CONTAINING Mousse AND OF
SEDIMENTS NEED EXPOSURE & SPOT WASHING. THE GEOGRAPHICAL PATCH LAYOUT WOULD BE
DIFFICULT TO LAND THE JUMP DOCK 450 TO TIE THE RP IN THE PUNCH FIELD. REBO DRIPOT & CO

USCG PS1 Lea Berglund
 (name)

Lea Berglund
 (signature)

NOAA ART WEINER
 (name)

Art Weiner
 (signature)

Comments: AREA APPEARS TO HAVE BEEN EITHER OVERLOOKED OR UNDERWORKED.
AGREE WITH RECOMMENDATION

Land Rep. John Ebel
 (name)

John Ebel
 (signature)

Comments: Very unsightly appearance. Sheen in tide water & tide pools. High Priority.
Complete assessment prior to damob. Recommend: Manual removal, spot
wash using containment & recovery. Manually tilling reformed asphalt,
applying customble throughout asphalt sites, and starting coats of
Roc 15 w spot working
⊗ HPHW to flood & remove subsurface oil.

FIELD SHORELINE COMMENT SHEET

SEGMENT AS1 GR103 SUBDIVISION: C SITE: 1 DATE 8/15/90

USCG/NOAA PSI Leo Bersalona Leo Bersalona

NAME ART WEINER SIGNATURE Art Weiner

☒ YES

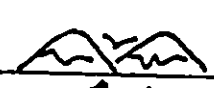
☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

EFFECT OF PROPOSED BIOREMEDIATION SHOULD BE ASSESSED.

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley 

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

A work order modification for additional work was submitted for this Area. INIPOL was one of the requested treatment along with removal of A/P.

- Reassessment will be necessary to determine the effectiveness of bio.

LAND MANAGER

NAME John F. Thiel SIGNATURE John F. Thiel

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

To evaluate effects of winter conditions on remaining oil.

EXXON

NAME RANDALL K. BEYER SIGNATURE Randall K. Beyer

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

ASAP VECO CREW REAPPLIED CUSTOM BLEND TO A FAIRLY LARGE AREA ON THIS SITE. THERE WAS EVIDENCE OF RECENT BIOREMEDIATION APPLICATIONS. A VISIT IN 1991 TO VIEW THE EFFECTS OF KERO TREATMENT WOULD BE WARRANTED.

FIELD SHORELINE COMMENT SHEET

SEGMENT AS1 GR-103 SUBDIVISION: C SITE: 2 DATE 8/15/90

USCG / NOAA PSI Le. Baitona Art Weiner
NAME ART WEINER SIGNATURE Art Weiner

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

A SIGNIFICANT AMOUNT OF OIL REMAINS ON THIS SITE.
RESULTS OF PROPOSED WORK NEEDS TO BE ASSESSED.

ADEC
NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

A significant amount of oil remains on this site in all forms. Immediate attention is recommended. A work order mod. has been submitted with various methods requested. With the amount of oil present, I foresee additional work being conducted to clean in '91.

- High priority for 1990.

LAND MANAGER
NAME John Ebel SIGNATURE John Ebel

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

This site needs immediate treatment. Sheen in tide pools. 11/11 in tide water. Significant amount of surface oil.
To estimate effects of winter conditions on remaining oil

EXXON
NAME RANDALL E. BOYER SIGNATURE Randall E. Boyer

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

THERE WAS EVIDENCE OF BIOREMEDIATION ON THIS SITE.
ADDITIONAL 1990 TREATMENT HAS BEEN RECOMMENDED FOR
THIS SITE. ASSESS IN 1991 FOR TREATMENT EFFECTIVENESS.

FIELD SHORELINE COMMENT SHEET

SEGMENT AS1 GR-103 SUBDIVISION: C SITE: 3 DATE 8/15/90USCG / NOAA PSI Les Bessons Les BessonsNAME ART WEINER SIGNATURE Art Weiner

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

NO SIGNIFICANT OIL REMAINS ON SITE.

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

- A small area of mousse was removed from area. -
This area had very little oil and is also very well
exposed. I would recommend reassessment in 91 but at a
low priority. (additional custom bln may be necessary to areas
that we removed mousse and applied custom bln)

LAND MANAGER

NAME John L. Bel SIGNATURE John L. Bel

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

MS located during ASAP and removed.
Site capable to receive multiple future exposures.
Site is composed of with very high percentage of bedrock.

EXXON

NAME RANDALL K. BOYER SIGNATURE Randall K. Boyer

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

MINIMAL OILING HERE ON THIS SITE. SMALL SURFACE OILED
SEDIMENT WAS REMOVED BY THE ASAP TEAM. NO FURTHER
ASSESSMENT IS REQUIRED.

REVISION NO. 7/27/9

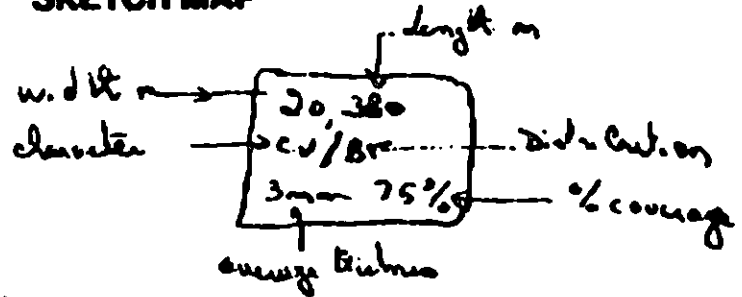
06 Jan 1970 Scarpals

SEGMENT ST/ GR-103

SUBDIVISION C

SKETCH MAP

Legend



ASA P #2

AUG 15 1970

MAP FROM
SSAT MAP
CHANEY

SEE ATTACHED NOTES

k. cliffs
k ramp, few sediments
k ramp, boulders/cobbles/pbbles

beach

20,380
Cu/Br
3mm 75%

Small area
8x4 m

90% cover
2 cm

20,440
Cu/P
6mm 40%
2mm Inner Dist.
Wellhead

15,340
Cu/P
15mm 30%
2mm Inner Dist.

10,440
Cu/P
3mm 5%
2mm max
1mm max

PS - Substrate Oil

- CT/C
Continuous Distribution
- CT/B
Broken Distribution
- CT/P
Patchy Distribution
- CT/S
Splotched Distribution
- Clad Vegetation
- Photo location, direction, and number

1,60
Cu/P
13mm 20%
max 2 cm

Thickly
2"

SITE 1

SITE 2

SITE 3

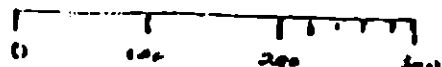
Diagram
MANUAL
PICK UP
MOUSE

H.W.L. (assumed)

Shore
line
PB

Bedrock ramp

Red Tides
Boulder
ramp



Oil Character Length (m): AP PO CV 260 CT -- ST 110 MB PT TB FL NO

ENCLOSURE

GR-103-C
SITE 1

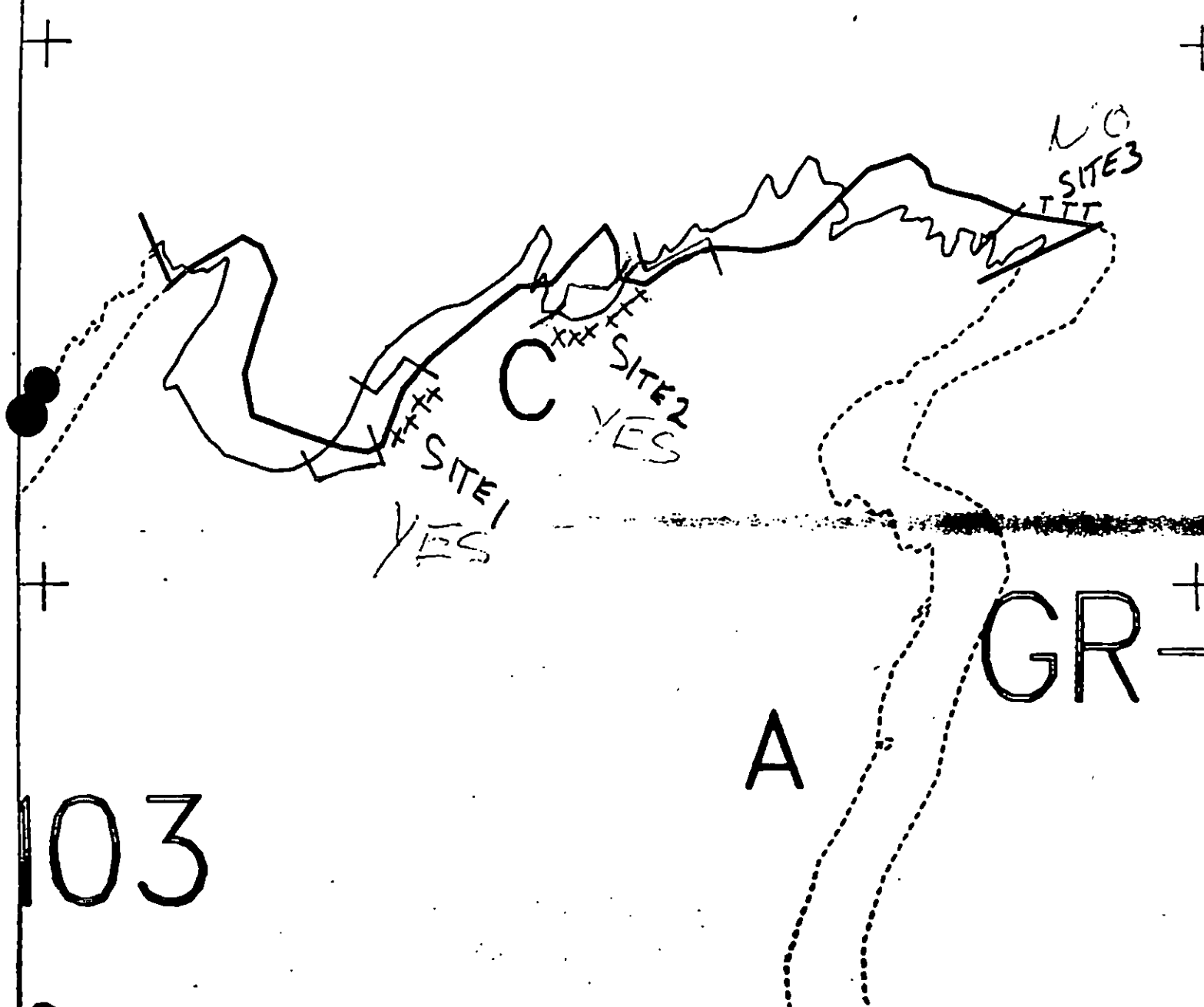
This area has shallow bedrock but the surface is predominantly composed of large boulders. Oiling conditions on boulders include CT/H Broken to Continuous. AP&SOR/I/S at the base of boulders. AP is surprisingly cohesive. Relatively little oil is present in the matrix but the pebbles are tightly bound. A band of AP/P/U was found in the top of the UITZ. This band of AP was found under boulders. It would be easy to miss if boulders were not rolled out of the way.

SITE 2

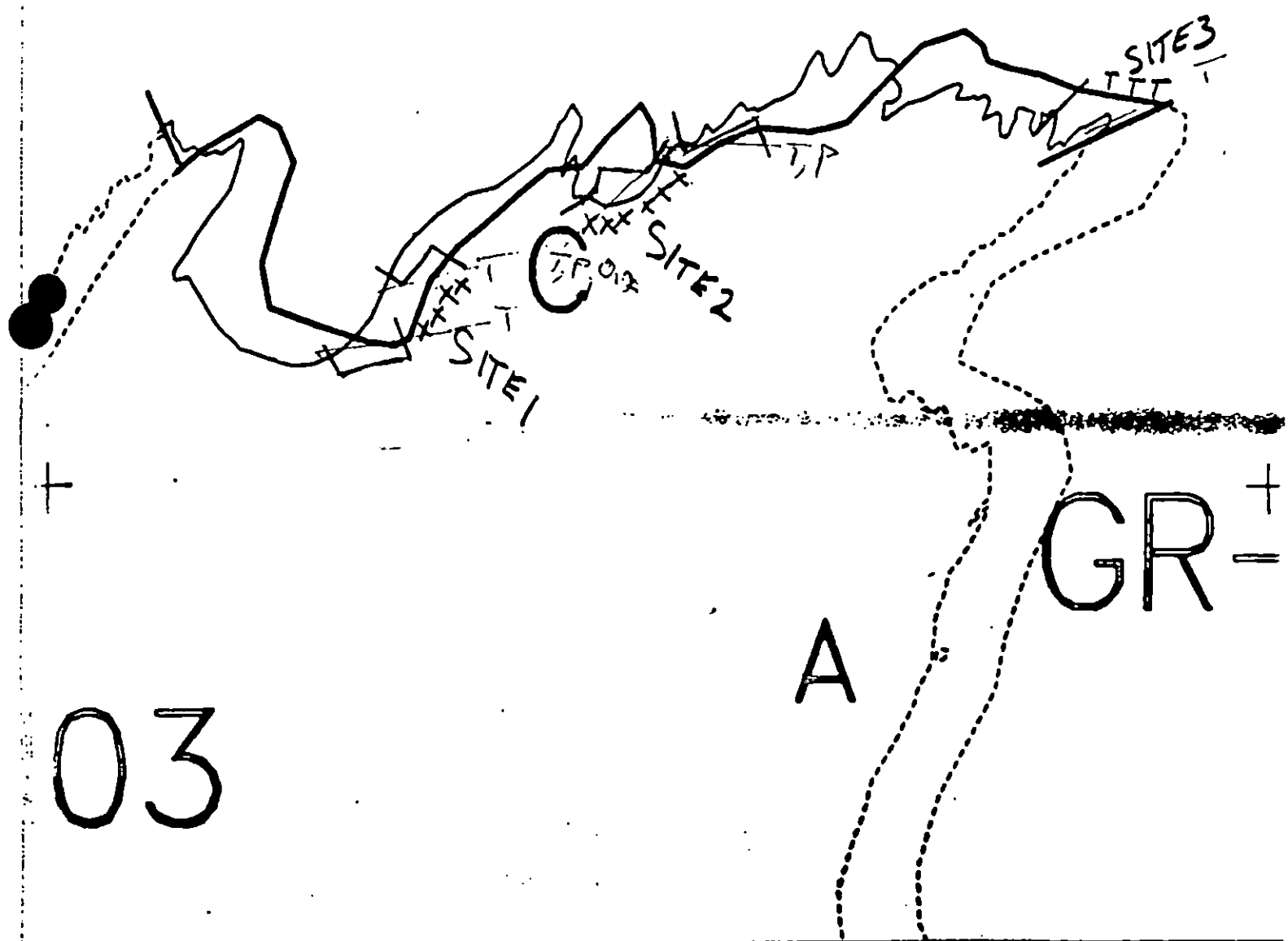
The southwest portion of this site is composed of a beach with rounded boulders setting on a fine grained substrate. The northeastern portion of the site is composed primarily of vertically planed bedrock. The orientation of the cove provided an ideal trap ~~from~~^{for} the spill and seems to have retained a relatively large amount of oil. Although this site has obviously been treated manually, this is one of the greatest concentrations of oil I have observed on Green Island. In several locations boulders have been pulled off to one side and sediment removed. Unfortunately AP has reformed in these hollow areas. The beach portion of the site is composed of rounded boulders which are an average of 40 centimeters in diameter. The boulders have CT/B and CV/P/U. Underneath the boulders is a layer of AP-OP/H/C. This code means that the layer upon which the boulders rest grades between very cohesive AP to oil saturated sediments. This layer was measured up to 10 cm thick extends over an area at least 15x30 meters (probably more.) Time did not permit a complete assessment of this beach. In the northeast portion of the site, a rough hollow in the bedrock approximately 5x15 meters retained several localized pockets of mousse pooled to 3 centimeters. Several of these pockets contain pebbles and granules and might be better described as SOR/H/S. Below the bedrock outcrop, is an area of SOR/H at the 6 foot water line. This area was being covered by water as we were making our observations. A pit at the water revealed OP 0-10 cm. and OR 10-15+ cm. It was difficult to dig deeper due to rising tide and boulders in substrate. This site was too complex to adequately describe in the time available. The rising tide provided a further constraint.

SITE 3

This area was primarily composed of a wavecut bedrock terrace. Between the bedding planes of the rock were CV, CT, ST/S. Local pockets of SOR/H and AP/I/S. Near the western edge of the designated site were patches of AP which appeared to be April mousse patties that had been sun baked into August asphalt cookies.



XXXX	Wide	GR-103 C	Subdivision Field Map
////	Medium	ADCS Subsegment Length: 1010m	Map Key: PUSOR-103C
----	Narrow	METERS	Name: <u>CHANEY</u>
TTTT	Very Light	5 100 200	Date: <u>AUG 15 1990</u>
AAAA	No. 011	All State Plane Zone 4 1:7268	



XXX	Wide	GR-103 C	Subdivision Field Map
///	Medium	AOEC Subsegment Length: 1010m	Map Key: PWSR-103C
---	Narrow	MEYERS	Name: CHANEY
TTT	Very Light	5 100 100	Date: AUG 15 1990
000	No Oil	AS State Plane Zone 4 1:7248	Data Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/GR-103

SUBDIVISIONS: A (1 OF 3)

SHORELINE EVALUATION

SEGMENT ST/ GR-103 SUBDIVISION A (1 OF 3) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 227-20-17880.

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
- 1B Salmon stream mouth - spawning (7/10 to 8/31)
- 5T-3 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
- 2M Herring spawning (4/1 to 6/15)
- 5S Shorebird/Waterfowl concentration (4/1 to 5/15)
- 6Y Recreation: Special use destination
- 7II Subsistence area: Deer harvesting (8/15 to 2/28)
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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 182m: Medium 427 m: Narrow 87 m: V.Light 0 m: No Oil 217 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 30+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommend (a) tarmat removal; (b) manual pick up of mousse and oiled debris and vegetation and oiled logs if >10% coverage and splash impact; and (c) bioremediation of coat and subsurface oil areas. Work should be conducted between 6/16 and 7/9 and with permission of USFWS due to eagle nest constraint. Note that this is also a subsistence salmon harvesting area from 5/1 to 9/30.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A
1B

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

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

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

1C

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

1D

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

1E

Main Bay Hatchery release (4/20 to 5/10)

1F

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

1G

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

1H

Remote release site

1I

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

1J

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

1K

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

1L

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

For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

2M

Herring spawning (4/1 to 6/15)

Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

3N, 3P
3O, 3Q

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

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

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

5R

Seabird colony (5/1 to 9/1)

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

5S

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

Restrict all activity to essential minimum, especially air traffic.

5T

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

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

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

6U

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

6V

Anchorage (6/1 to 9/15)

6W

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

6X

Lodge (6/1 to 9/15)

6Y

Special use destination

7Z

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

7HH

Finfish harvesting

7II

Deer harvesting (8/15 to 2/28)

7JJ

Invertebrate harvesting

For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 16 R103

SUBDIVISION: A

DATE 4 APR 90

SCG

NAME James S. Cambill

SIGNATURE James S. Cambill☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Oil vegetation in upper Inter Tidal zone. 1m oil band on headland west end of St. 103.
 Oil smell in middle Inter Tidal zone. Pit #2 oil 30cm deep. See Ektar sketch map note saw a lot
 of Swan signs on this segment.

ADEC

NAME Brian K. Fitz Simons

SIGNATURE Brian K. Fitz Simons☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Storm berm on first 100m of ^{Western} end of segment. Saturated oiled V (1m
 deep x 3m wide x @ 100m long. Pit at base of oiled berm ^{West} end PG → NO → 5cm
 the only pit dug in whole segment which revealed oiled sediments. PG → OP → 30cm
 Storm berm along rest of segment consists of patchy oiled V, drift, & pebbles. CPG → NO
 extending shoreward under snow pack. Over low lying exposed BR made most of eastern 1/2
 of segment. BR contained patchy mousse in cracks & under boulders and boulders
 had patchy tarry coat. Boulder/Broken BR over BR on western end of segment against
 vertical headland contained dark brown coat underneath and around bases of boulders.
 Some saturated fines in cracks of BR throughout segment. Surface H₂O seeping
 throughout eastern 1/2 of segment to stream. One Tar patty (3m x 4m → 1cm thick)
 at eastern MITZ of this area.

LAND MANAGER

NAME Carol S Huber

SIGNATURE Carol S Huber☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Protect anadromous stream (East end of this
 sub divisor) with a buffer zone. Resource sensitivities
 include: Bald eagle nests, special use destination,
 subsistence deer harvesting, salmon harvesting, salmon
 spawning, herring spawning, and shorebird/waterfowl
 concentration.

REVISION NO. 03/21/90

Segment GR103A

Suggested Treatment:

1. Move oiled storm berms to active tidal area and disperse or remove
2. Bioremediate O/BR areas due to lack of penetration (possibly HT/HP wash with header flood prior to Bio treatment)
3. Consideration given to protecting area around anadromous stream.

Brian H. Fitzhums

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG B. Berglund USCG J. Gamble SEGMENT ST/ GR-103
 BIO S. Schreder LAND REP C. Huber (NES) SUBDIVISION A
 EXXON C. Levine ADEC B. Fritzsman TIME 15:00 to 20:00
 TEAM NO.: 1 TIDE LEVEL: +1.8 to +6 DATE 4 / 4 / 90
 EST. SUBDIVISION LENGTH: 850 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☐ Forest ☐ Rock
 SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 10 % B 40 % C 30 % P 20 % G 10 % S - % M - % V - %
 SLOPE: Long 95 % Hang 5 % Vert - % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 82 m M 468 m N 60 m VL - m NO 240 m

SURFACE OIL

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

PAVEMENT: H F & - sq. m by - cmPATTIES / TARBALLS 5 BAGSNEAR SHORE SHEEN? ☒ NO BR RW SL TL

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

DEBRIS COLLECTED
☐ YES ☒ NOTYPE -#BAGS -

Photographs:

Roll No. ST-1-2Frames 33-36

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	1	2	3	4	5	6	7	8	SU	U	M	V		
1	15					X	.		X									X					P
2	30		X				0-30	X		X									X				G/P
3	70					X	.		X											X			G
4	30					X	.		X										X				P
5	40					X	.		X											X			G/S
6	40					X	.		X										X				C

COMMENTS

Next page.

SEGMENT ST/ 103 SUBDIVISION A

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UO							SU	U	M	U		
7	30					X	.			X								X			P/G
8	15				X		0.15						X		X						C (Veg. mixed with cobble, Veg-oiled)
							.														
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COMMENTS

The western end has a heavily oiled section near the HWL. The storm berm contains a large amount of oiled vegetation. This protected pocket probably has had less wave action. Slightly to the east, there is greater wave exposure and the beach consists of fine sediments. This area is relatively oil free, probably due to reworking of the fine sediments (The beach appears heavily scoured).

In the eastern half, the beach consists largely of a shale/slate bedrock ramp with scattered boulders. The boulder tops are coated (patchy or broken). A brown mousse is found in the cracks and crevices of the bedrock (patchy, UI + upper MI zone). The storm berm is continuous and contains considerable vegetation. Some oiled vegetation was observed but snow cover prevented complete observation.

Summary
Oil distribution reflects substrate.

REVIEWED _____ DATE _____

SHORELINE ECOLOGICAL SUMMARY

REVISED 03/22/88

Segment ST / GR-103 Subdivision A Date (mo / day / yr) 4/4/90Time (24 hr) 1717 Biologist S. Schroeter

- (A) Substrate type and % of segments:
 (1) Bedrock 24 (2) Boulder 23 (3) Cobble 6 (4) Pebble 13 (5) Sand 1 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 30 Moderate 25 Low 44
- (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: N/A
 Roll No. N/A
 Frames N/A

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments: Tidal Height observed $> +1.9$; Anadromous stream at east end of subdivision. Sensitivity ST3 6/7/11/72/118/131/55
 2 bald eagles offshore, Herring Gulls offshore. Priority 2 3 4 4 1 3 1

Ecological Considerations: Segment composed roughly 57% head land + 43% Boulder/Cobble/Gravel pocket beaches. Fucus + barnacles moderate to dense in mid-intertidal on boulders over bedrock + bedrock. Mid-intertidal on headlands was dominated by red algae (Rhodomyces + Iridaea) + Fucus. S. carolinensis were moderately to sparse on headlands & there were few K. tunnicliffi. Pinus have been due to high concentrations of P. ochraceus & P. pungens.

Segment: GR-103 Subdivision: A Date: 4/4/90
Bio: S. Schroeter OG: B. Berglund Tidal Heights: >+1.8

This segment/subdivision consisted of about 57% bedrock and 43% boulder/cobble/gravel pocket beaches. The bedrock headland on the western end of the subdivision (bordering GR-104) had very high densities of sea stars (P. ochraceus and Pycnopodia with occasional Dermasterias). Star densities around this headland averaged over 2 per m².

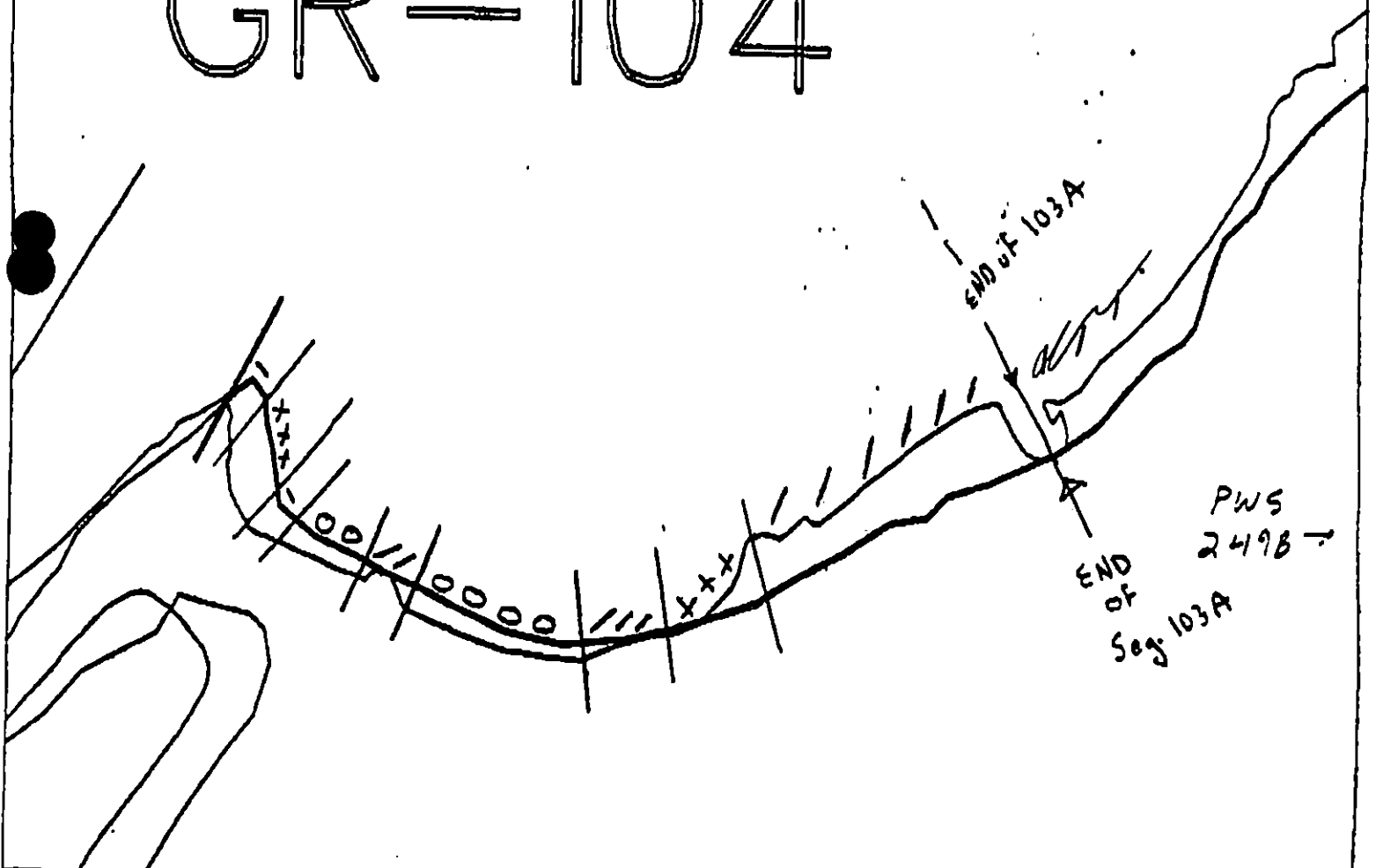
There were moderate to dense patches of large S. cariacus in the mid-intertidal on the headlands, but very few Katharina in the cleared patches among the barnacles. This differs from the pattern I've observed on more exposed bedrock headlands with fewer stars, and may be the consequence of more sea star predation at this site.

There were moderate to high densities of gastropods beneath large cobbles and small boulders overlying the bedrock. In the pocket beaches, densities of gastropods under similar sized cobbles and boulders were much lower. At the eastern end of the subdivision was a large tidepool in the high intertidal (approx. 100m x 25m) that had high densities of Eucus and barnacles and moderate to high densities of Mytilus. The Mytilus were most abundant along the edges of cobbles or boulders at the boundary of the gravel in which they were embedded. This tidepool receives a trickle of fresh water during the low tides.

There were a number of very small freshwater streams on the bedrock in this segment in which there were dense patches of small mussels, barnacles, littorines, and limpets (mainly N. acutum and C. parvopa). In many cases, all 4 kinds of organisms could be found immersed in the running fresh water.

GR-302

GR-104



XXXX Wide

/// Medium

- - - Narrow

TTTT Very Light

0000 No Oil

GR-103

ADEC Segment Length: 4278m



Map Key: PWS-249a

Name: B. Bengland

Date: 4/4/90

Date Entered:

van 4/20

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ GR-103 STREAM NO: 227-20-17880 DATE 4/23/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
- 1B Salmon stream mouth - spawning (7/10 to 8/31)
- 2M Herring spawning (4/1 to 6/15)
- 5S Shorebird/Waterfowl concentration (4/1 to 5/15)
- 5T-3 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
- One eagle nest in adjacent segment within 400 M.
- 6Y Recreation: Special use destination
- 7II Subsistence area: Deer harvesting (8/15 to 2/28)
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)

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 between subdivisions A and B (1 and 2 of 4, respectively).

ARCHAEOLOGICAL CONSTRAINT: Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time.

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

SHPO SIGNATURE: [Signature] DATE: 5/10/90

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>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 Removal | <u> </u> Beach Cleaner |
| | <u> </u> Other (see comments) |

COMMENTS: Recommended treatment includes 1) manual pickup of oiled grass and tar balls in areas indicated on sketch map, and 2) manual removal of tar patties and tarmats in areas indicated on sketch map. Work should be conducted between 6/15 and 7/10 with approval of USFWS regarding eagle nest constraints.

TAG COMMENTS: BIOREMEDIATE AS SHOWN ON SKETCH

MANUALLY RAKE REMAINING SEDIMENT AWAY FROM
STREAM IN AREA OF TP3 PRIOR TO BIO.

TAG APPROVAL DATE: 5/10/90.

ADEC ART WEINER Art Weiner

EXXON ANDY TET Andy Tet

NOAA Burl Westcott Burl Westcott

USCG D.D. Rome D.D. Rome

FOSC: [Signature] DATE: 5-15-90

1462

OG CAL ARSON

SEGMENT ST/GR103

STRAH 227-20-17800

DATE 4 123 90

CHECKLIST

- H Area
- Approx. Scale
- Seg/Site Entry
- Oil Dist
- Width
- Length
- % Cover
- Substrate Character
- Est. HW/LWL
- SCL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

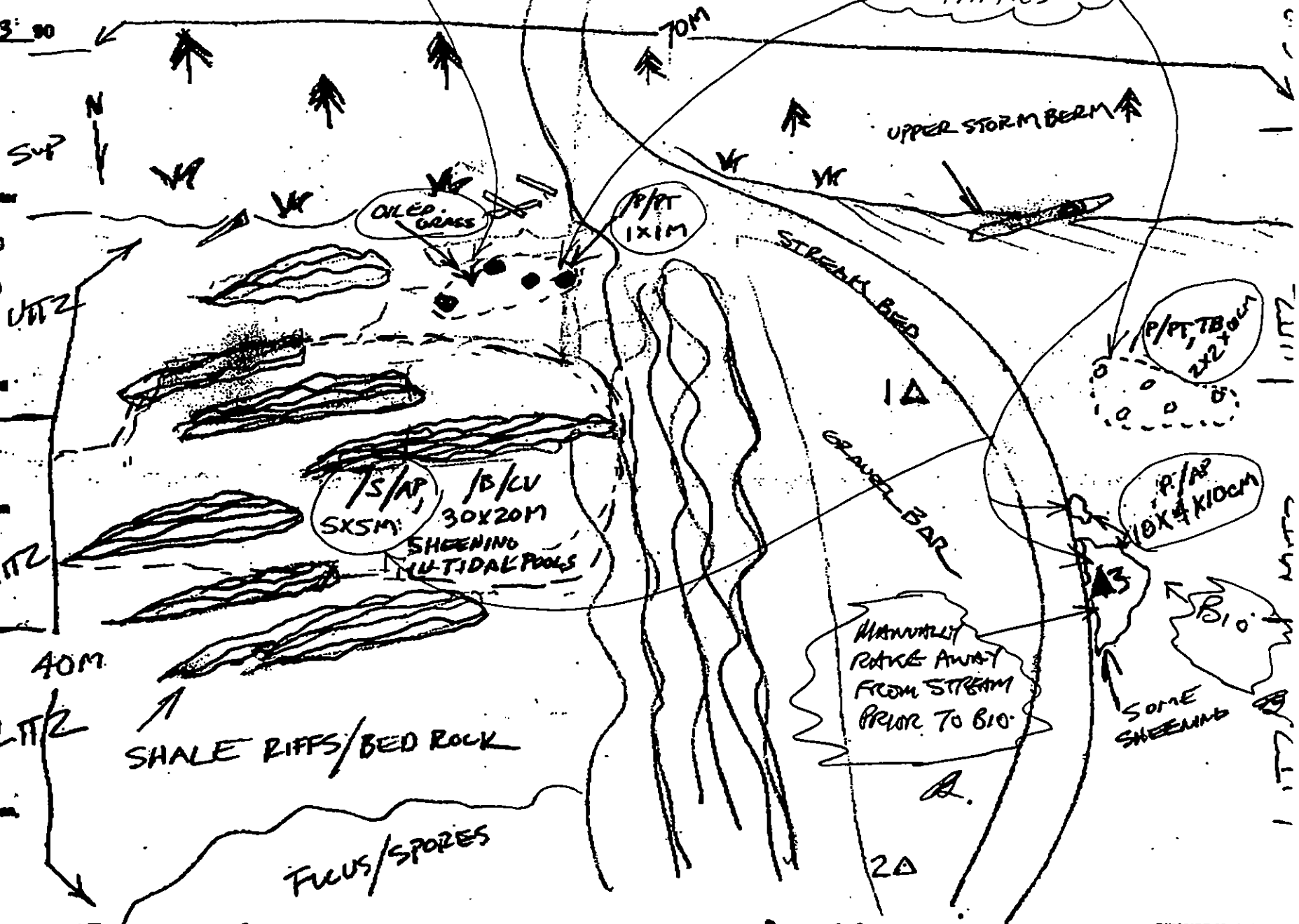
LEGEND

- 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
- eee
- Oiled Vegetation
- 1 ●
- Photo location, direction, and number

MANUALLY REMOVE
OILED GRASS

CH MAP

MANUALLY REMOVE
TAR MATS &
PATTIES



Oil Character Length (m): AP 15 PO CV 30 CT ST MS PT 2 TB 1 FL NO 22

REVISION 000000

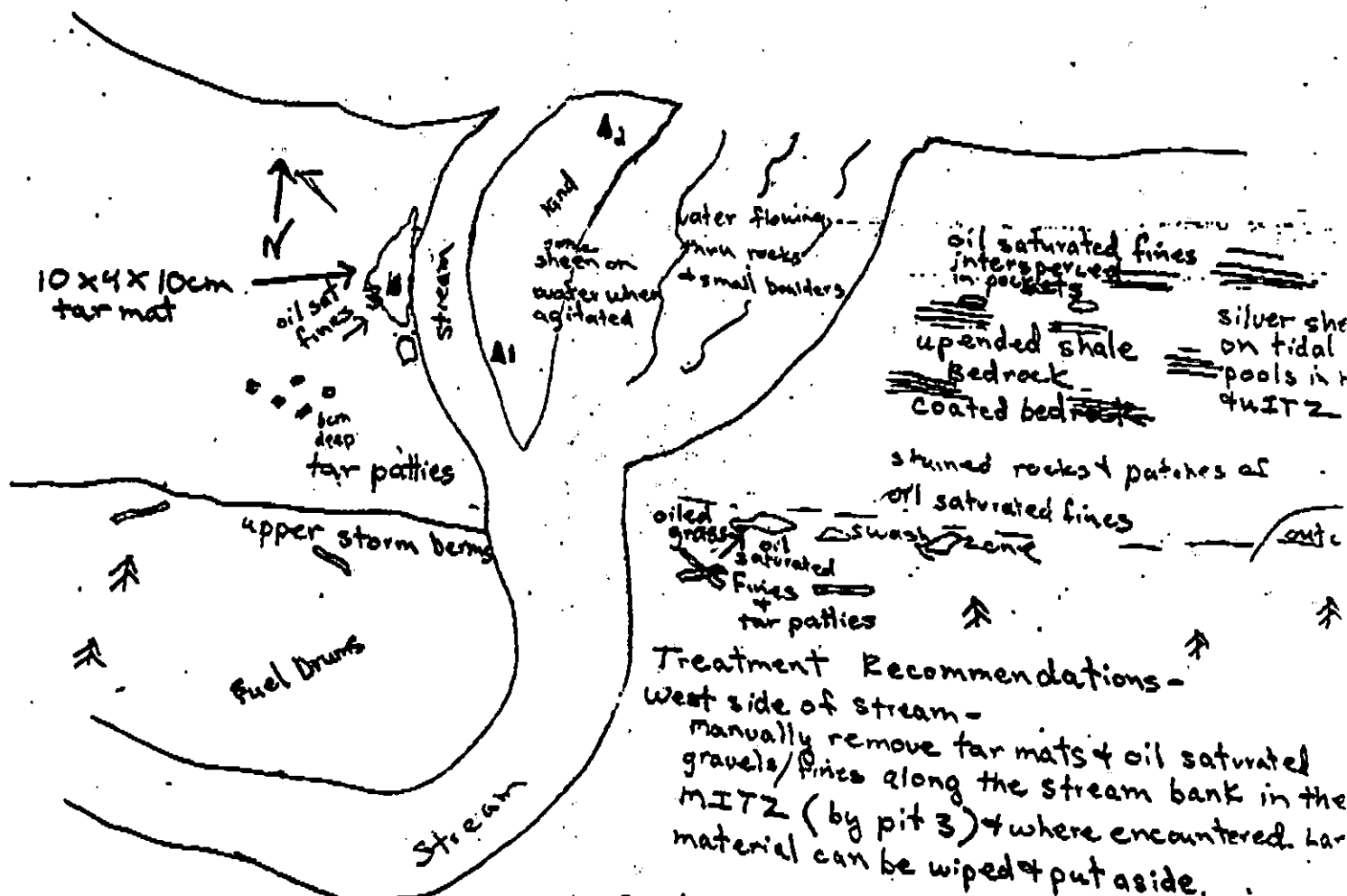
18/41

48 PHOTOLOG

E(5)

LOCATION	DESCRIPTION
pit 1 20-110cm	oil sheen
pit 2 20cm deep	no visible oil
pit 3 20cm - 10cm deep	oil sheen

48 OIL DISTRIBUTION DIAGRAM



Treatment Recommendations -
 West side of stream -
 manually remove tar mats & oil saturated gravel/fines along the stream bank in the MITZ (by pit 3) & where encountered tar material can be wiped & put aside.

East side of stream -
 manually remove oil saturated gravel/fine interspersed in shale bedrock interstices in MITZ where encountered.
 Apply Bolsing treatment (Calcium Hydroxide) to oil coated shale bedrock

Stream bed.

and by pit #1 with rake & shovel and let self flush.

Place pom-pom strings in sheening areas & maintain while sheening continues

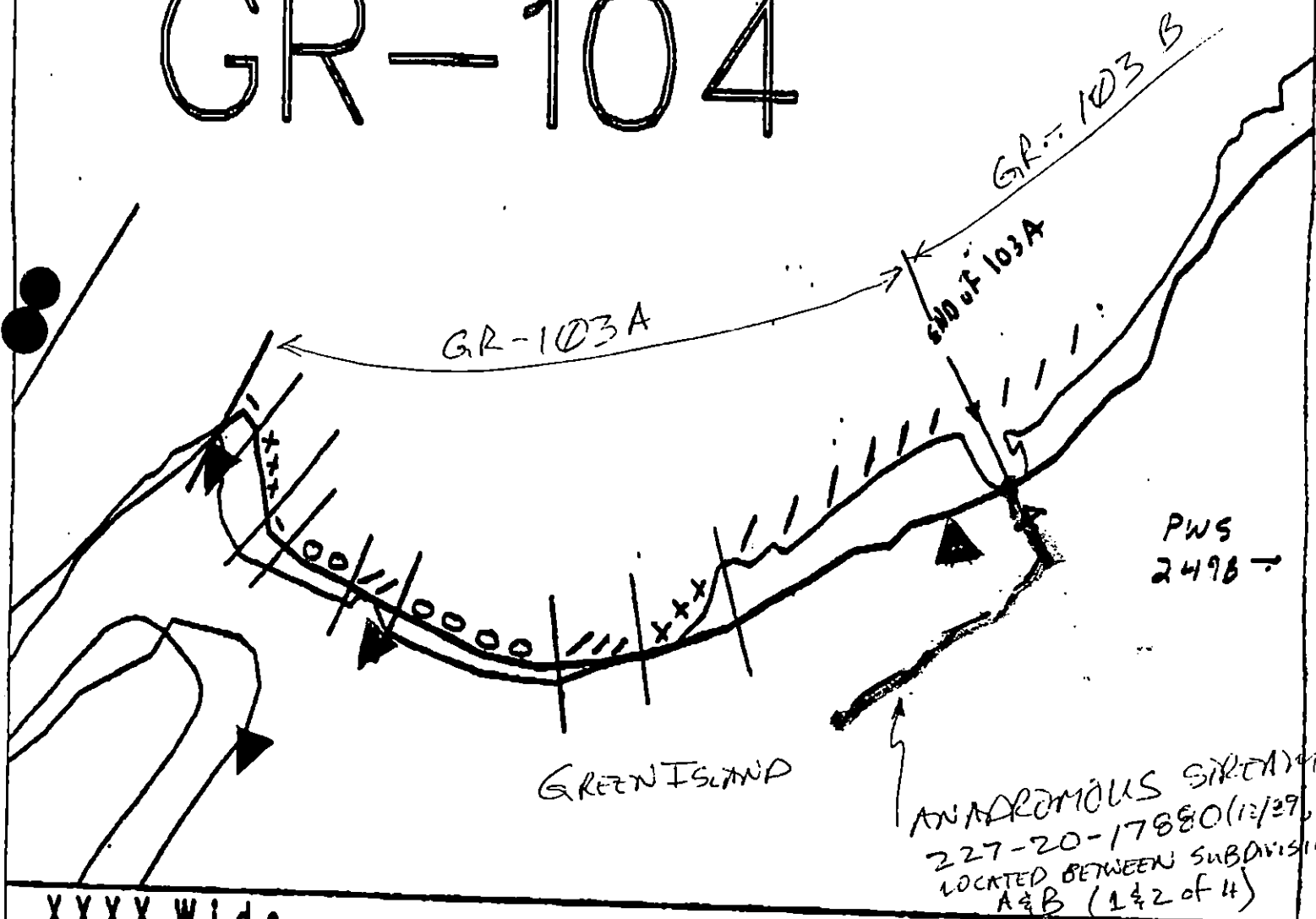
GR-302

ECOLOGICAL MAP

(SHEET 1 of 3)

1A, 1B
ST(3) AND 2 ADJACENT NEST
≤ 400 M
2 M 5S 6Y 7MI, 7Z

GR-104



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

GR-103

ABEC Segment Length: 4278m



Map Key: PWS-2498

Name: B. Bengland

Date: 4/4/90

Date Entered:

Res 4/8

(PWS 2496)

Medium X wide
↓ ↑
(PWS 2496)

PWS
2496

ECOLOGICAL MAP
(SHEET 2 of 3)

GR-103

← PWS
2496

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

GR-103

ADEC Segment Length: 4278m



Map Key: PWS-2496

Name: B. Berglund

Date: 4/5/90

Date Entered:

Area 5/10

ECOLOGICAL MAP (Sheet 30(3))

498

0-100% 4/5

GR-103

total Length: 4278m



Map Key: PWS-2490
Name: San Luis Serape
Date: April 4/5 / 1990
Data Entered:

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

GR-103

ADEC Segment Length: 4278m



ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 227-20-17880

SEGMENT GR-103 SUBDIVISION A/B*

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
Bioremediation and Manual Raking Less Than 100m From Stream	WORK PRIOR TO 7/1 (ADF&G MONITOR REQ.)

*Stream is boundary between Subdivisions A and B

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 (227-20-17880) is in Subdivision A/B. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup and tarmat removal.
2M	Herring Spawning	Closed to bioremediation and manual raking prior to 6/15. No constraint to manual pickup and tarmat removal.
5S	Shorebird/Waterfowl Concentration	No constraint to manual pickup, tarmat removal, manual raking and bioremediation.
5T	Bald Eagle Nest	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A/B work site.
7II	Subsistence: Deer Harvesting	Closed to bioremediation and manual raking after 8/15. No constraint to manual pickup and tarmat removal.
7Z	Subsistence: Salmon Harvesting	Closed to bioremediation and manual raking after 7/1. No constraint to manual pickup and tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow inpool 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. Restrict boat and air traffic and beach disturbance to essential minimum after 7/1. Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass.

SEE SUBDIVISION CONSTRAINT ADDENDUM GR-103 A & B
FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC

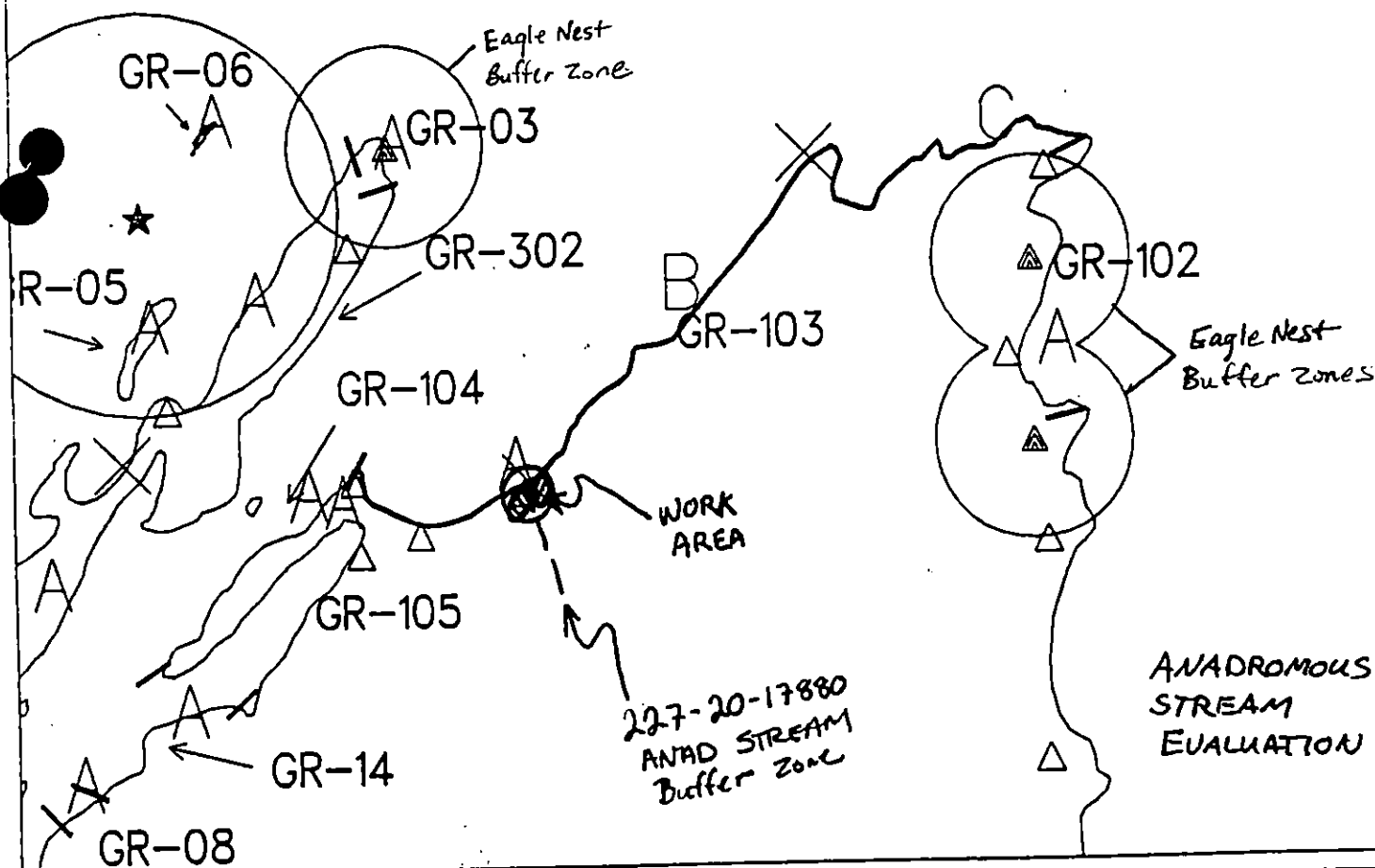
Prepared by

Date

Date

5/15/90

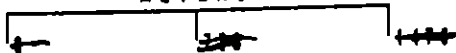
6/14/90



Exxon Company, USA
Map Key: PWS-GR-103
June 04, 1990

ECOLOGY MAP
SEGMENT GR-103
SUBDIVISION A/B (1/2 of 3)
METERS

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



ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ GR-103 STREAM NO: 227-20-17880 DATE 4/23/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
5T-3 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
One eagle nest in adjacent segment within 400 M.
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)
7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
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 between subdivisions A and B (1 and 2 of 4, respectively).

ARCHAEOLOGICAL CONSTRAINT: Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time.

k
f
-

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

SHPO SIGNATURE: [Signature] DATE: 5/10/90

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

COMMENTS: Recommended treatment includes 1) manual pickup of oiled grass and tar balls in areas indicated on sketch map, and 2) manual removal of tar patties and tarmats in areas indicated on sketch map. Work should be conducted between 6/15 and 7/10 with approval of USFWS regarding eagle nest constraints. see constraints addendum dated 6/14/90 JPP

TAG COMMENTS: BIOREMEDIATE AS SHOWN ON SKETCH

MANUALLY RAKE REMAINING SEDIMENT AWAY FROM
STREAM IN AREA OF TP3 PRIOR TO BLO.

TAG APPROVAL DATE: 5/10/90.

ADEC ART WEINER Art Weiner

EXXON ANDY TET Andy Tet

NOAA Burl Weisheit Burl Weisheit

USCG D.D. Rome D.D. Rome

FOSC: [Signature] DATE: 5-15-90

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: GR-103

STREAM NO: 227-20-17880

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ GR-103 STREAM NO: 227-20-17880 DATE 4/23/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
5T-3 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
One eagle nest in adjacent segment within 400 M.
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)
7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
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 between subdivisions A and B (1 and 2 of 4, respectively).

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:

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

COMMENTS: Recommended treatment includes 1) manual pickup of oiled grass and tar balls in areas indicated on sketch map, and 2) manual removal of tar patties and tarmats in areas indicated on sketch map. Work should be conducted between 6/15 and 7/10 with approval of USFWS regarding eagle nest 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 6/15)

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

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

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

1H Remote release site

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

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

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

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

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

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

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

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

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

Herring spawning (4/1 to 6/15)

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

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

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

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

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

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

ADF&G Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Roth 267-2208

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

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

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

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

Special use destination

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

Finfish harvesting

Deer harvesting (8/15 to 2/28)

Invertebrate harvesting

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of 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

19/41

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CR-103 SUBDIVISION: Anad 227 20-1788 DATE 4-23-90

USCG

NAME Kerwin L. BrecherSIGNATURE K. L. Brecher☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

I ^{agree} comply in most part with the below suggestions but, hold my approval of Bolzing (calcium hydroxide) treatment until I get further scientific study reports or instruction from FOSC.

AIOF+G

ADEC

NAME Aimee WesemanSIGNATURE Aimee Weseman☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

treat during window period.

West side of stream - manually remove tar mats & oil saturated gravels/fines along the stream bank in the MITZ - larger material can be wiped & put aside.

East side of stream - manually remove oil saturated gravel/fines interspersed in shale bedrock intercesses in MITZ where encountered

X Apply Bolzing treatment (Calcium Hydroxide) to oil coated shale bedrock

Stream bed - manually agitate areas of sheening in stream bed near the mouth and by pit #1 with rake & shovel

LAND MANAGER

NAME

SIGNATURE

☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

al et self flush.

Place pom-pom strings in areas of sheening and maintain while sheening continues

SHORELINE OILING SUMMARY (ANAO)

REVISION NO. 04/13/90

OG CAL LARSON USCG DREHER, CWE SEGMENT ST/ 62103 22/41
 BIO KEN CRITCHLOW LAND REP STREAM 227-20-1700A OF 1
 EXXON DARRELL YOE ADEG RAK GUSTIN-AIMEE WESEMAN TIME 13:15 TO 16:25
 TEAM NO. 18 TIDE LEVEL +4.5 FT DATE 4/23/90
 EST. SUBDIVISION LENGTH: 70 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☐ Forest ☐ Rock
 SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 60 % B 10 % C 20 % P 10 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 100 % Hang 0 % Vert 0 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 48 m N 0 m VL 0 m NO 2.7 m

SURFACE OIL

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

PAVEMENT H F (S) 65 sq. m by 10 cmPATTIES / TARBALLS 3 BAGSNEAR 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. 5Frames 23-37

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SHEEN (Y/N)	▼	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	30	35	40	45	50	55	60	BU	U	M				
1	20					✓	.										✓		✓	Y	Y	CB, PB, / CB, PB	
2	22					✓	.											✓		N	Y	CB, PB, / CB, PB	
3	22	✓					5-10	✓	✓								✓	.		N			CB, PB, / CB, PB
							.																
							.																
							.																

COMMENTS ABUNDANT BLACK LICKEN IN MID TO UPPER TIDAL ZONE.
HEALTHY FOLDS/SPORK IN LITZ. ASPHALT CAUGHT IN SHALE RIFFS.

REVIEWED AWDATE 4-26-90

14/6

03 CARLSON

SEGMENT STI 62103

STREAM 227-20-17800

DATE 4 123 80

CHECKLIST

- ☐ M Area
- ☐ Approx. Scale
- ☐ Geographic Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/LWL
- ☐ SCL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

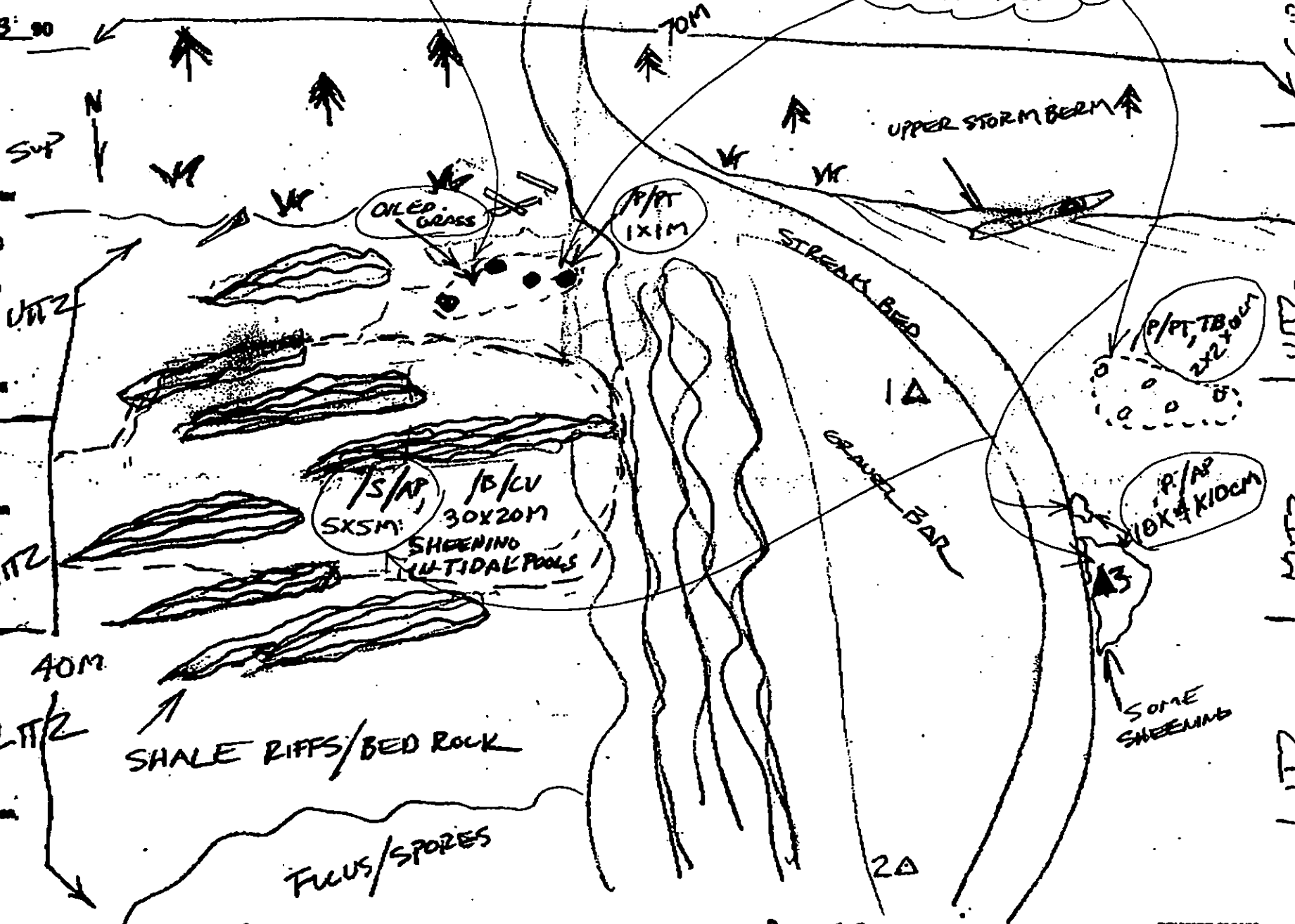
LEGEND

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

MANUALLY REMOVE
OILED GRASS

SKETCH MAP

MANUALLY REMOVE
TAR MATS &
PATTIES



Oil Character Length (m): AP 15 PO 30 CV 30 CT ST MS PT 2 TB 1 FL NO 22

REVISION 000000

1/1/91

ADFG MULTI-ASSESSMENT DATA FORM

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

METHOD: Aerial Ground Boat

3 DATE: 4-23-90 15 HIGH TIDE TIMES: 1 21 TEAM RECORDER: Aimee Weseman

4 START TIME: 1520 16 HIGH TIDE HTS: 1 22 OBSERVERS: Rick Gustin

5 STOP TIME: 1630 17 LOW TIDE TIMES: 1 23 AGENCY: ADFG

6 SEGMENT #: GR 103 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: 96ATW01-SS

9 STAT AREA: _____ 20 USCG QUAD: S B 2 Started: 4:30 Ends: _____

10 LAT: _____ 11 LONG: _____ at type _____

12 SOURCE: Hsp Loran 26 SAMPLES TAKEN: Y N Number _____

13 LOCATION: NE side Green Island Oil _____

14 DESCRIPTION: _____ Sediment _____

Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	Y	H ²	S	L	Y	H ²	S
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION	10cm							

30 OVERALL OIL IMPACT: N VL N H

31 OIL TYPE: Peeled Housse Tar Asphalt Safety Stain

32 OILED DEBRIS: Y N

33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cove

Lagoon Marsh

34 WAVE EXPOSURE: High Moderate Low

35 SUBSTRATE TYPE: Bedrock 40 Boulder 10 Cobble 40

Gravel 3 Sand 5 Mud/silt _____

36 CATALOGED ANAD. FISH STREAM? Y N

37 CATALOG #: 227-20-17880

38 STREAM NAME: _____

39 OIL IN STREAM BED? Y N

40 OIL ON STREAM BANK? 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: tar mat present on west side stream bank 10m x 4m x 10cm
tar pattern interspersed in shale bedrock on east bank of stream
oil coat & stain on shale bedrock in MT UTTZ
oiled grass & scattered tar balls in UTT & Swash zone

18/41

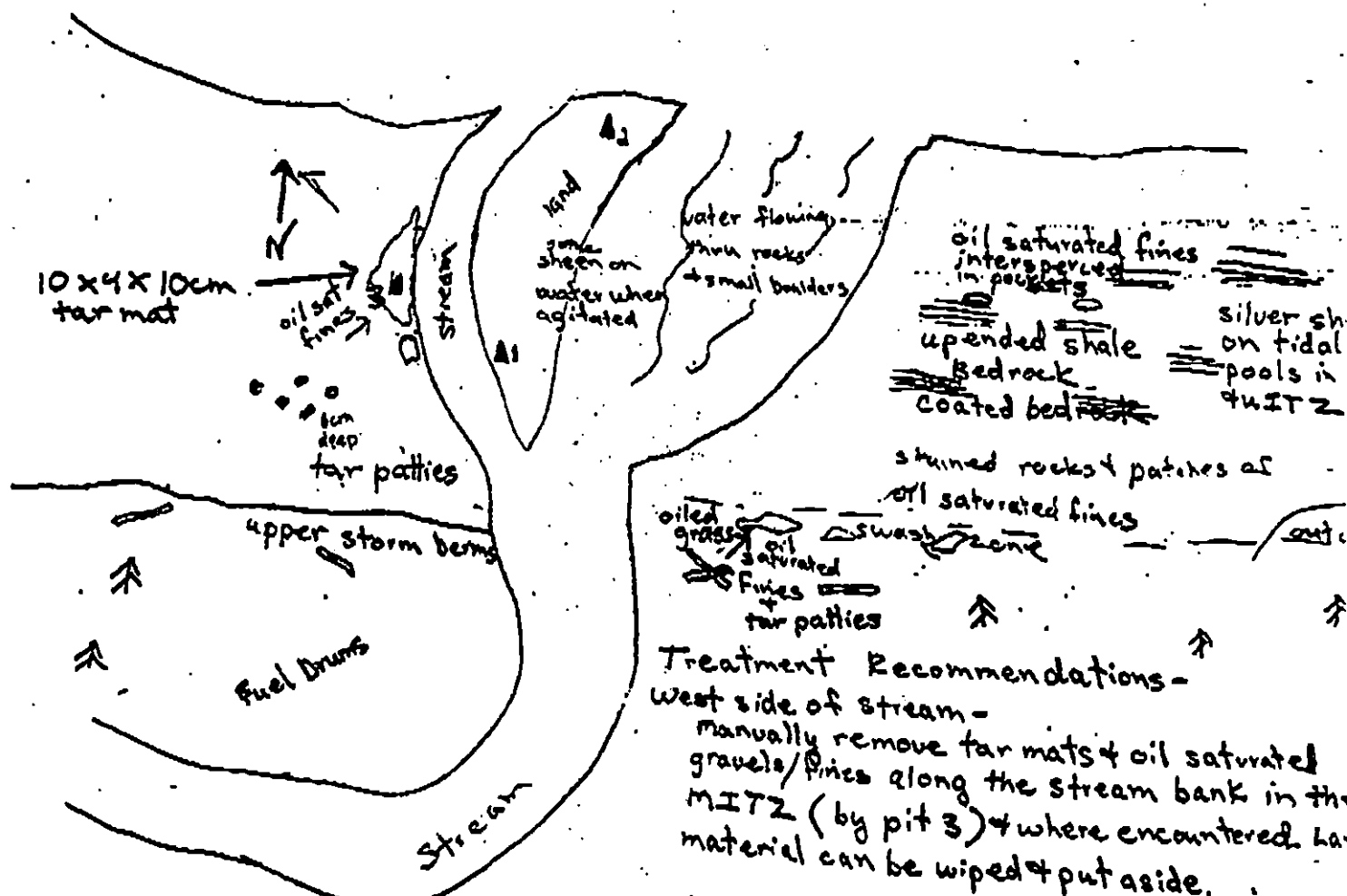
48 PHOTOLOG

NAME(S)

DESCRIPTION

pit 1 20-lite can
 pit 2 20cm deep no visible oil
 pit 3 20cm - 10cm deep oil sheen

48 OIL DISTRIBUTION DIAGRAM



and by pit #1 with rake & shovel
 and let self flush.

Place pom-pom strings in sheening
 areas & maintain while sheening
 continues.

Jumbo & taken

Stream bed.

p 1 of 2 15/41

Seg ID: GR-103 Subdiv: 227-20-17880

Survey Date: 4/23/90

Comments of: Ken Critchlow

This is the third time that I have surveyed this stream (twice summer '89); oiling has gradually diminished, but significant amounts of coat, cover and solidifying previously pooled oil remain in the LITZ and MITZ. The predominantly bedrock shore with scattered broken cobble and boulder could be pressure washed with hot water. This would probably mobilize and allow removal of some of the oil that has penetrated vertically fractured bedrock. However, I don't recommend use of this approach. The LITZ and much of the MITZ is characterized by a luxuriant, rich intertidal biota that is doing well; littorinids, mussels and Fucus are recruiting throughout most of this area, adjacent to and on oiled rock. These organisms would largely be lost due to a major cleanup effort. The LITZ in particular would suffer from landing equipment and due to foot traffic. The intertidal streambed doesn't provide spawning habitat, serving only as a migratory pathway to very high quality habitat upstream (extensive drainage system, lake, considerable amounts of spawning and rearing habitat).

P 20 + L 16/41
GR-103
227-20-17880
4/23/90

I suggest that areas in the UITZ and MITZ be cleaned by a modest size crew to minimize the amount of traffic on the beach. Pockets of weathered, pooled oil can be removed using shovels and trowels. Heavily coated / covered rock can be scraped and oil collected for disposal. This shore will probably contain more mobile oil as temperature increases. When this occurs, the site can be wiped using absorbent pads. Pom poms can be strategically placed in an alongshore direction and weighted down to collect mobile oil / sheen during low tide. This is a good site for application of Inipol (after manual cleanup) in the UITZ and MITZ. The site should be monitored weekly to replace / remove pom poms and mop-up mobile oil.

KR Cutchlow

GR-302

ECOLOGICAL MAP

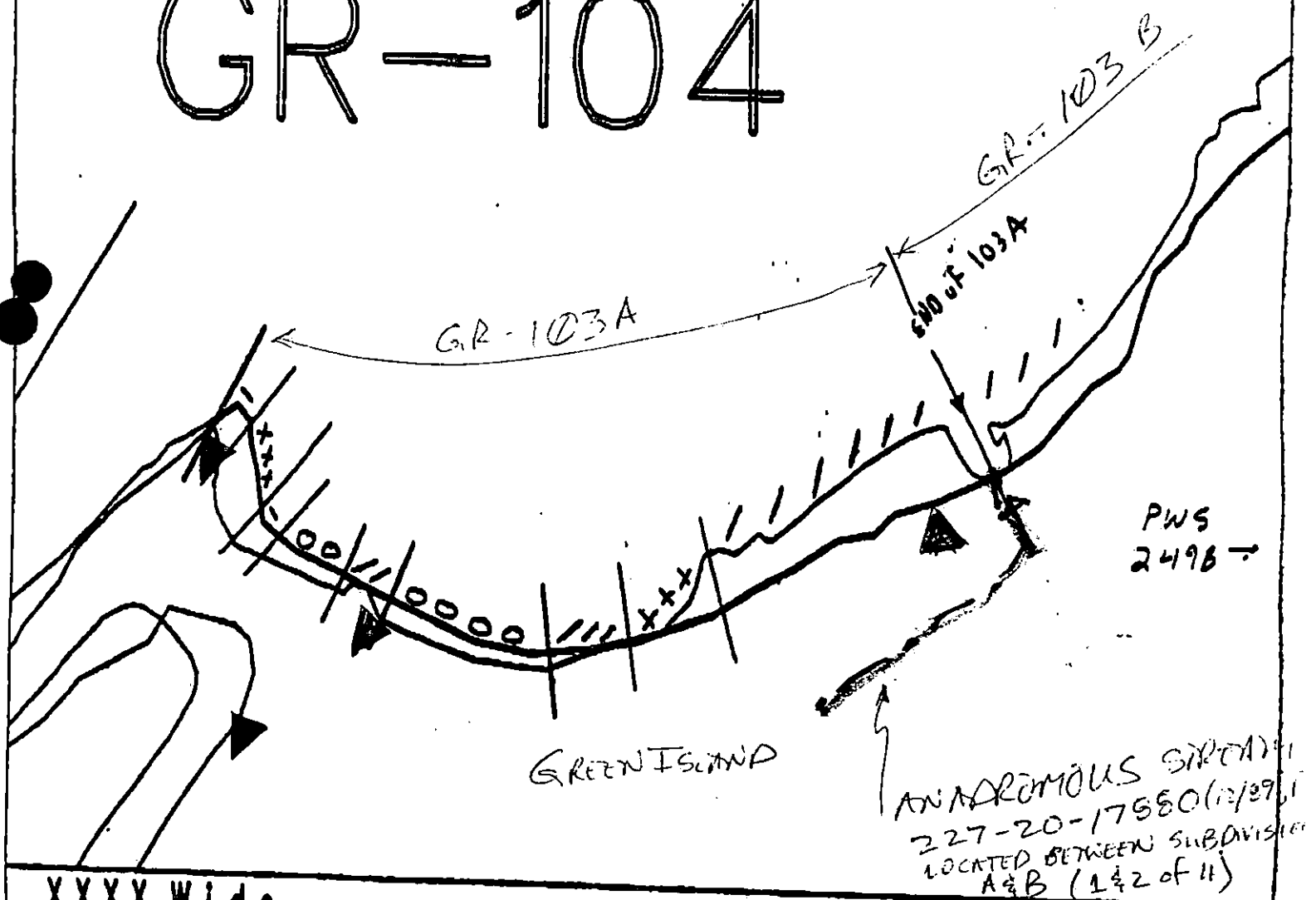
(SHEET 1 of 3)

1A, 1B

ST(3) AND 2 ADJACENT NESTS
≤ 400 M

2M 5S 6Y 1/11, 1/2

GR-104



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

GR-103

ADEC Segment Length: 4278m



Map Key: PWS-2498

Name: B. Benglund

Date: 4/4/90

Date Entered:

res 4/8

GR-103

PWS
249E

ECOLOGICAL MAP
(Sheet 2 of 3)

Median
+ wide
(police line)

← PWS
249F

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

GR-103

ADEC Segment Length: 4278m



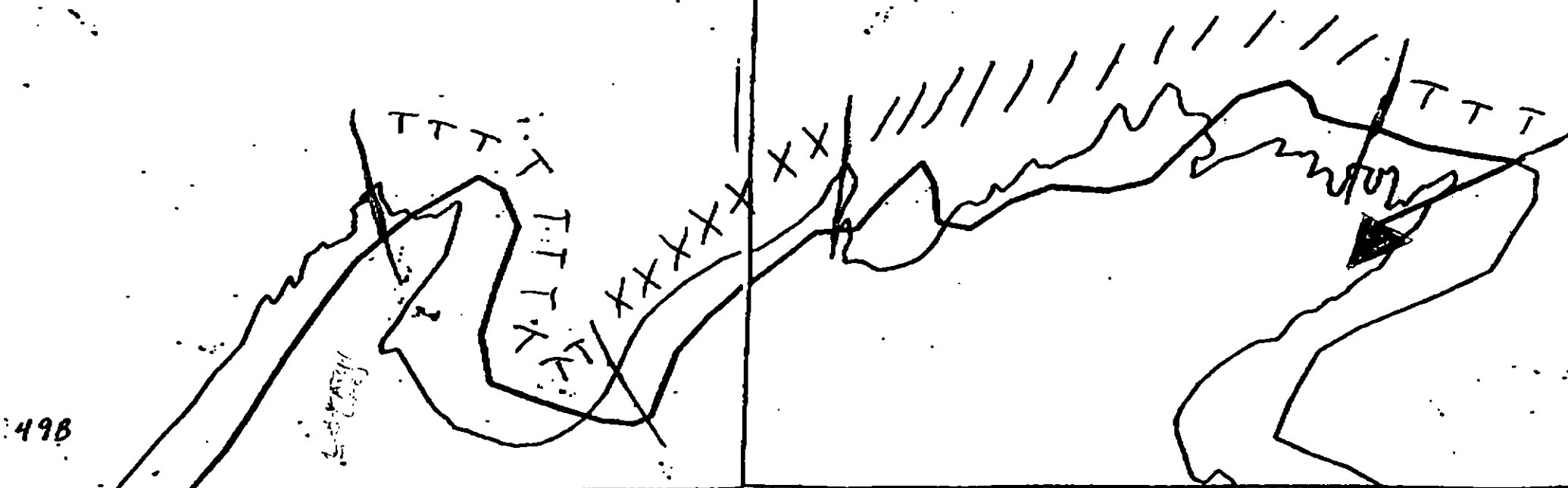
Map Key: PWS-249b

Name: B. Berglund

Date: 4/5/90

Date Entered:

ECOLOGICAL MAP
(Sketch Map)



GR-103

segment Length: 4278m



Map Key: PWS-2490

Name: Jean Louis Serapell

Date: April 4/5 / 1990

Date Entered:

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

000 No Oil

GR-103

ABEC Segment Length: 4278m



REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/GR-104

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ GR-104 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6U Recreation: Tent sites (6/1 to 9/15)
6V Recreation: Anchorages (6/1 to 9/15)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
7Z Salmon harvesting (5/1 to 9/30)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 711 m: Narrow 289 m: V.Light 0 m: No Oil 123 m
Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of oil covered and coated areas
(see sketch map). Work should be conducted between 6/16 and 8/14.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / GR 104 SUBDIVISION: _____ DATE 5 APR 90SCG
NAME Robert Jensen SIGNATURE Robert Jensen☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Surface oil present ranging splashes to streaks. The coat can be evaluated as running from continuous in some spots to broken in others.

ADEC

NAME Rowann T. Hudnall SIGNATURE Rowann T. Hudnall☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

6 meter band of oil in mid to upper intertidal ranges from splattered stains to tar coated rocks. Cobbles & boulders overlying pebble and gravel. No subsurface oiling

LAND MANAGER

NAME U. S. Forest Service SIGNATURE Zee Taylor☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Found splashes of oil throughout area,
@ Bands of asphalt found near high tide area.

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG Team Three Samples USCG 2010 SEGMENT ST/ GR-104
 BIO John Dixon LAND REP Les Kules SUBDIVISION A
 EXXON Jim Ellison ADEC Ravena Hudnell TIME 16:30 to 18:30
 TEAM NO.: 2 TIDE LEVEL: +1 to +3 DATE April 4 1990
 EST. SUBDIVISION LENGTH: 1366 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo WORKING DIRECTION: NE to SW
 SURFACE SEDIMENTS: R 5 % B 27 % C 54 % P 4 % G 0 % S 5 % M 0 % V 0 %
 SLOPE: Long 80 % Hang 20 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 766 m N 300 m VL 0 m NO 300 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	/C	/B	/P	/S	SBL BR	DBL RW	GY SL	DBR TL	LBR	SU	UI	M	U	
ASPHALT PAVEMENT														
POOLED														
COVER		B	X			B/Y					X		B	
COAT			X			X					X			
STAIN														
MOUSSE														
PATTIES														
TARBALLS														
FILM														
NO OIL										X			X	

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NOTYPE 0#BAGS 0

Photographs:

Roll No. ST-2-7Frames 1 - 13

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SBL BR	DBL RW	GY SL	DBR TL	LBR	SU	UI	ME	LI			
1	40					X	-								X			No	Pb 1sd/cb		
2	30					x	-									X		"	Pb 1sd/cb		
3	30					✓	-										X	"	Pb 1sd		
4	35					✓	-								X			"	Pb 1cb/so		
5	40					✓	-									X		"	Pb 1sd/cb		
6	30					X	-										X	i	Pb 1sd/cb		

COMMENTS

Note: Pit 7 in Boulder Beach area shows the following:

7 40m

No

(oil only restricted to top 3 cm).

UI No Bb/pb/so upper 100
 Peat underneath to 40 cm.

Jean-Marie Sempich
 Segment GR-104
 Subdivision: None
 April 4/1990.

Diagram 1



Green Island, GR-104, April 4, 1990

Segment GR-104 is a 1.4 km long segment located on the north central coast of Green Island. It forms the outside of an elongated northeasterly trending promontory, probably once an island, that is now connected to the main body of Green Island by a narrow and short accumulation of sediments at its northern extremity. Most of this segment is exposed to a very short fetch to the northwest. Its northern extremity, however, can receive large amounts of wave energy from the northeast, as it is exposed to a long fetch in this direction.

At its northeastern extremity, segment GR-104 consists of a narrow and steep talus of large angular boulders lying at the base of a headland of bedrock cliffs. Oil occurs within a 2 m wide band of the upper intertidal zone as coatings about 1mm thick and 20% surface coverage on bedrock and boulder surfaces. No occurrence of thick accumulations was found in this area. This section of talus gives way to the southwest to a relatively short segment of mainly subrounded boulder/cobble, gently sloping beach. Over this area, oil occurs within a 6 m wide band of surface cover on boulders and cobbles and as accumulations between large sediments. The average thickness is 5 mm and the overall surface coverage is 50%. A test pit in the upper intertidal zone shows oil in the top 2 cm, 5 cm of clean pebble/sand, and 33 cm of peat.

The rest of this segment is composed mainly of gently sloping beach of angular pebble/sand/cobble, with occasional low outcrops of bedrock, particularly at its southwestern extremity. Oil occurs on the northern and southern parts of this area and forms a band of surface cover that decreases both in width, average thickness and percent coverage towards the south. Pits dug across shore showed no subsurface oil.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST/ GR-104 Subdivision N/A Date (mo / day / yr) 04/04/90

Time (24 hr) 1622-1840 Biologist John Dixon

(A) Substrate type and % of segments:
(1) Bedrock 5 (2) Boulder 27 (3) Cobble 54 (4) Pebble 9 (5) Sand 5 (6) Silt

(B) Overall % cover of biota (% of segment): Dense 5 Moderate 35 Low 60

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

Photographs: Roll No. ST2-7

Frames 3, 4, 12

BARNACLES

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

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

Wildlife Observations/ General Comments: Oyster catchers working the intertidal!
Many Canadian geese overhead.

Ecological Considerations: The N.E. 1/3 of this segment is made up of bedrock outcrop and large talus, grading to smaller boulders to the S.W. On these stable substrates there is extensive algal community (Fucus, Ulva, Halosaccion, Rhodospira, Gelidium, Membranoptera, Scytosiphonia, Endocladia & Ulvospira all well represented). Much Fucus recruitment in M.I. The rest of the segment is predominantly cobble & pebbles with much sand in L.I. Clam shells & mussel hash abundant. Phylloporus & Tellinids egg cases, in L.I. small mussels & abundant

Wednesday 4/4/70

7-110

Segment GR-104 1622 - 1840
(+1.5 - +3.8)

The N.E. end of this segment is a rocky beach made up of bedrock outcrops and large talus. As one proceeds to the S.W. the large talus gives way to smaller boulders and proportion of cobble ridge rocks increases. Mid way along the segment there is a abrupt change in sediments corresponding to a more gently sloping beach, substantial fresh water runoff, and 100% long stretch of 90% sand in the mid intertidal. The lower half of the segment is predominantly small cobble and pebble.

In the bedrock areas, habitats and biota are diverse. In the L.I. cover is ~ 75% with mostly filamentous red algae and scattered Fucus. Mussels & barnacles are rare. Chitons and small sea stars under boulders with ~~limpets~~ limpets and some Littorina. In the M.I. algae appears more diverse with Tridacna, Fucus, Halonissus, Odonthalia, Ulva, coralline, Rhodomele and a veined leaf-like alga (Membranoptera) all well represented. Pisaster ochraceus in pools. In the H.I. the major algae are Fucus, Ulva, Endocladia, & Sargassum. Diphyria on high horizontal surfaces.

In the areas of small cobbles & pebbles the communities are much simpler. The lower intertidal is ~20% sand and covered with dead clam shells. Phyllodoce is common and there are many Tallinice egg cases, although no moon snails were seen. The middle intertidal has a sparse cover of barnacles (B. glandulata & Chthamalus) Fucus & Mytilus (within the pebble cobble matrix) Gastropods, especially L. nitens are moderately abundant. On the high shore barnacles & mussels are the main sessile organisms; Tuyet & Littorina the major mobile species.

OG Form 70-Samples

SEGMENT ST/QR-104

SUBDIVISION NDAVC

DATE Jul 11/1990

CHECKLIST

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

LEGEND

1 ▲ Character - distribution
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

Legend

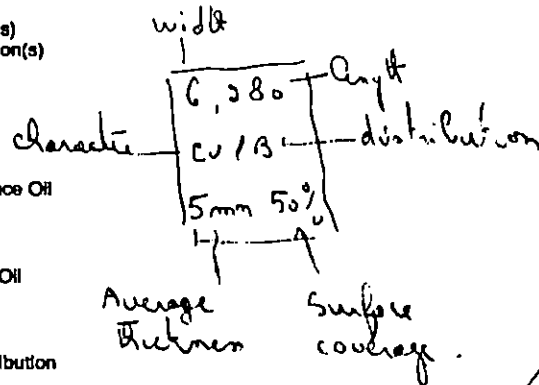
Cliffs with talus of angular boulders

Boulder beach

Angular pebble / Sand / Cobble beach

Low bedrock ramp

SKETCH MAP



WALKED

DIAGRAM

2,60
CT/P
30% 1mm

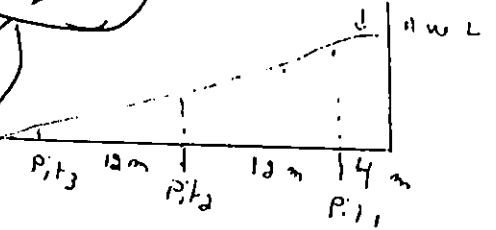
6,280
CV/B
5mm 50%

20,260
CV/P
15mm 30%

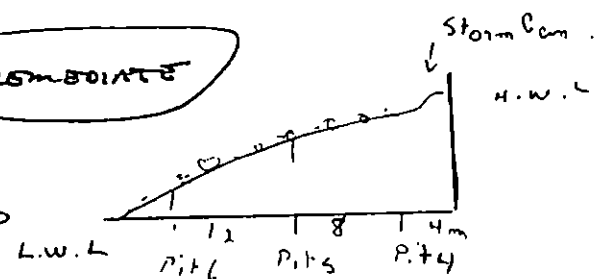
10,200
CV/P
15mm 30%

1,300
CV/P
2mm 10%

BIOSORBOATE
St. lum

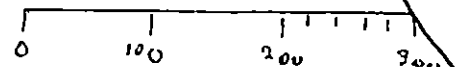


BIOSORBOATE



Approximate H.W.L.

Approximate L.W.L.



Oil Character Length (m): AP PO CV 1040 CT 60 ST MS PT TB FL NO 266

REVISION: 03/24/90

QR-104 P2062

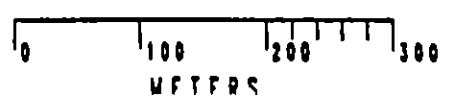


GR-

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

GR-104

ADEC Segment Length: 1124m



Map Key: PWS-250
Name: San Mateo Bay
Date: Apr 2 / 90
Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-104 SUBDIVISION A (1 of 1)

WORK WINDOW	
Bioremediation	WORK 6/15 to 7/1

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M	Herring Spawning	Closed to bioremediation prior to 6/15.
5S	Shorebird/Waterfowl Concentration	No constraint to bioremediation.
7II	Subsistence: Deer Harvesting	Closed to bioremediation after 8/15.
7Z	Subsistence: Salmon Harvesting	Closed to bioremediation after 7/1.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum after 7/1. Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass.

FOSC

[Signature]

Date

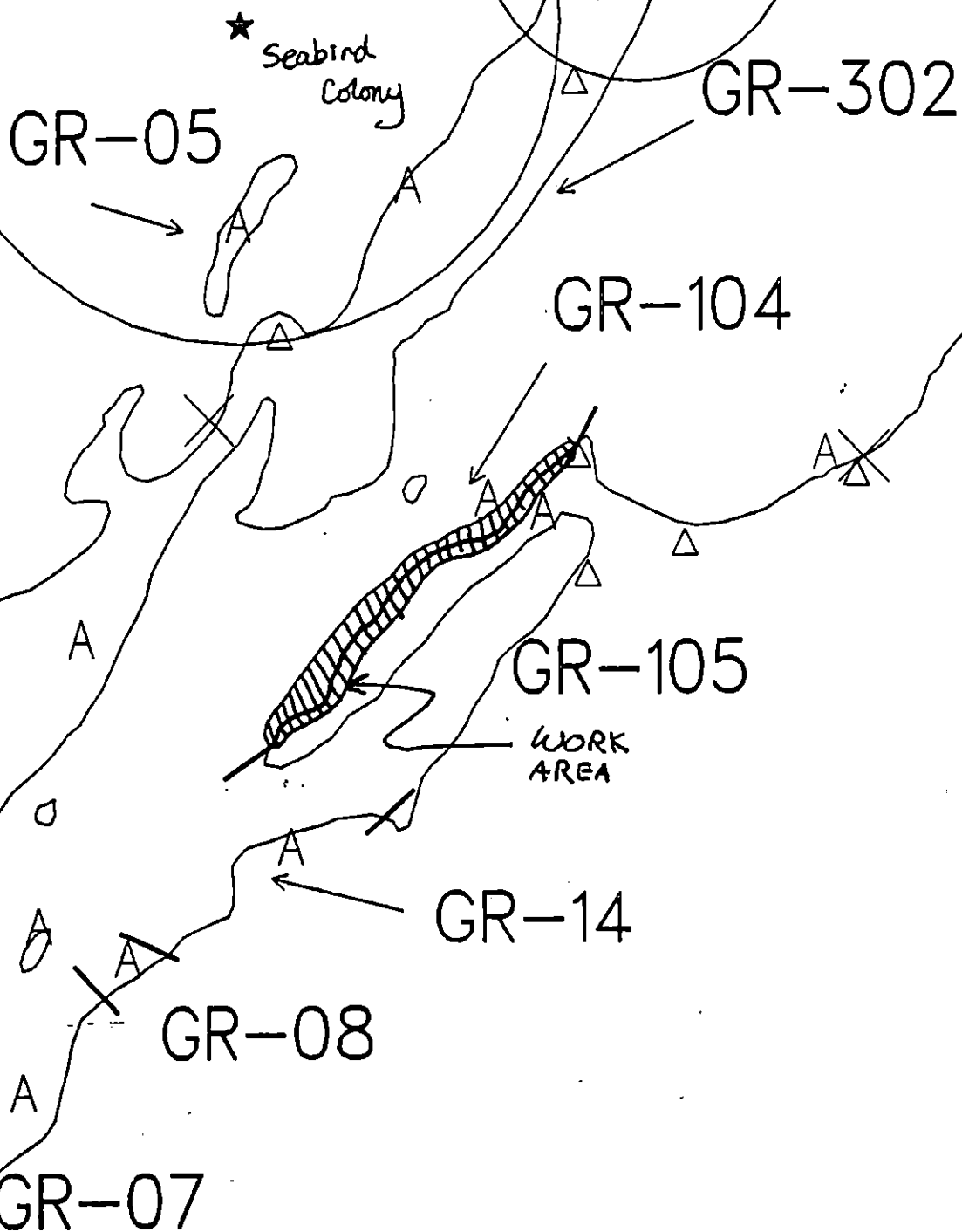
6/15/90

Prepared by

[Signature]

Date

6/14/90



Exxon Company, USA
Map Key: PWS-GR-104
June 04, 1990



ECOLOGY MAP
SEGMENT GR-104
SUBDIVISION A (1 of 1)
METERS
0 400 800

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

1:10000 = 1:100000

SHORELINE EVALUATION

SEGMENT ST/ GR-104 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6U Recreation: Tent sites (6/1 to 9/15)
6V Recreation: Anchorages (6/1 to 9/15)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
7Z Salmon harvesting (5/1 to 9/30)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. [Signature] DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 711 m: Narrow 289 m: V. Light 0 m: No Oil 123 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: Recommend bioremediation of oil covered and coated areas
(see sketch map). Work should be conducted between 6/16 and 8/14

CONSTRAINTS

SEE ADDENDUM dated 6/14/90 PP

TAG COMMENTS:

TAG APPROVAL DATE: 4/21/90
ADEC ART WEINER
EXXON ANDY TEAL
NOAA Burt Westcott
USCG KENNETH KEANE

FOSC: DATE: 4-21-90

REVISION 1
6/22/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-104 SUBDIVISION A (1 of 1)

WORK WINDOW

Bioremediation

WORK 6/15 to 7/1

(USFWS MONITOR REQ.)

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

ST	BALD EAGLE NEST	ACTIVE BALD EAGLE NEST LOCATED ON 6/15/90 BY MIKE LUKE. WORK PERMITTED INSIDE 400 M AREA WITH USFWS MONITOR PRESENT & ACCESS FOLLOWED.
2M	Herring Spawning	Closed to bioremediation prior to 6/15.
5S	Shorebird/Waterfowl Concentration	No constraint to bioremediation.
7II	Subsistence: Deer Harvesting	Closed to bioremediation after 8/15.
7Z	Subsistence: Salmon Harvesting	Closed to bioremediation after 7/1.

AREAS OUTSIDE 400M BUFFER AREA NOT RESTRICTED

YAP 6/22/90

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum after 7/1. Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass.

FOSC

[Signature]

Date

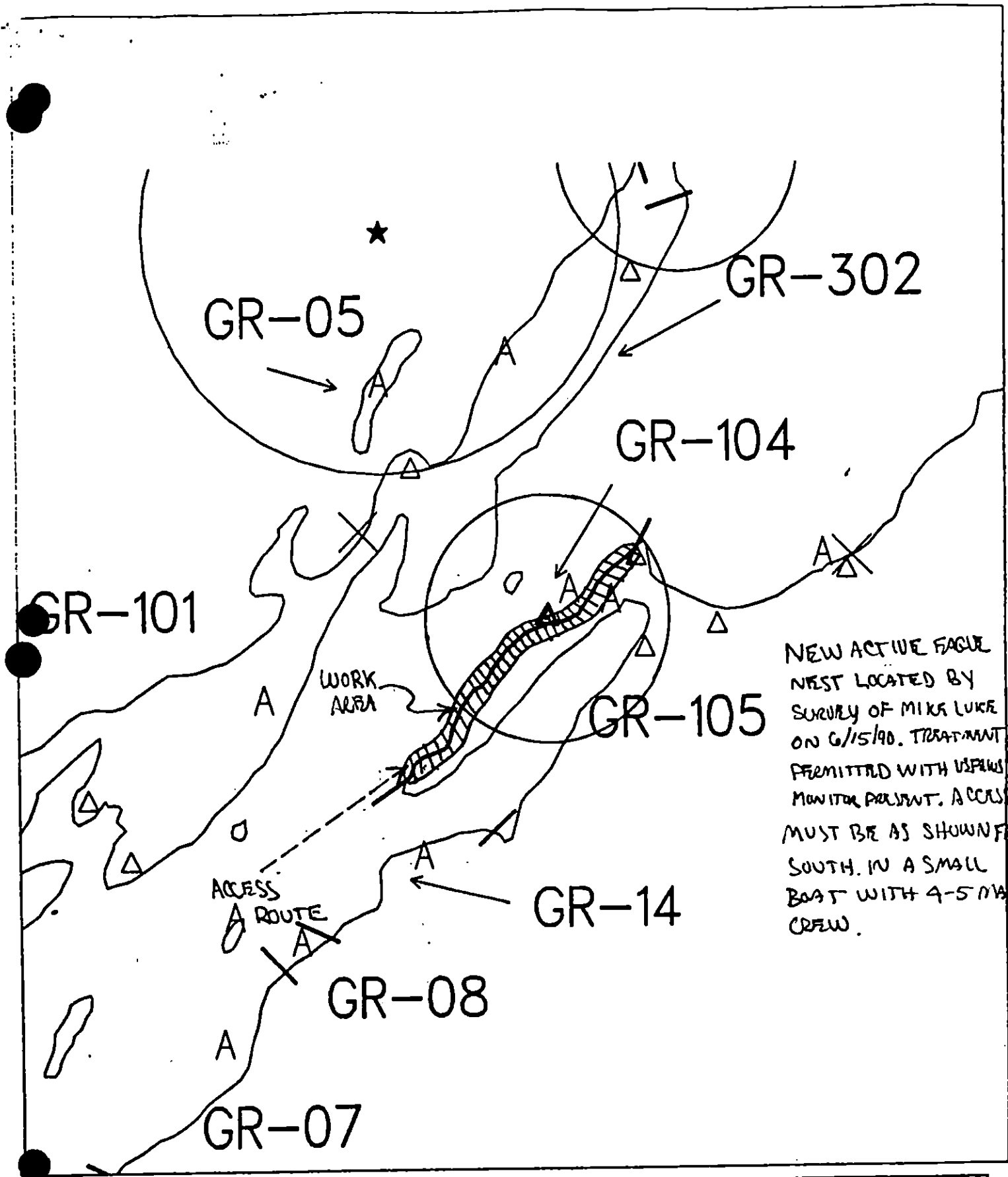
6/15/90

Prepared by

[Signature]

Date

6/14/90



NEW ACTIVE EAGLE NEST LOCATED BY SURVEY OF MIKE LUKE ON 6/15/90. TREATMENT PERMITTED WITH USFWS MONITOR PRESENT. ACCESS MUST BE AS SHOWN FROM SOUTH. IN A SMALL BOAT WITH 4-5 MAN CREW.



Exxon Company, USA
Map Key: PMS-GR-104
June 09, 1990



ECOLOGY MAP
SEGMENT GR-104
SUBDIVISION A (L-01-L)
METERS
0 428 856

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

1 inch = 1405 feet

SHORELINE EVALUATION

SEGMENT ST/ GR-104 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6U Recreation: Tent sites (6/1 to 9/15)
6V Recreation: Anchorages (6/1 to 9/15)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
7Z Salmon harvesting (5/1 to 9/30)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Brown DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 711 m: Narrow 289 m: V. Light 0 m: No Oil 123 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: Recommend bioremediation of oil covered and coated areas
(see sketch map). Work should be conducted between 6/16 and 8/14/90

CONSTRAINTS

SITE ADDENDUM dated 6/14/90 PP

SEE REVISION 1, CONSTRAINTS ADDENDUM DATED 6/22/90

TAG COMMENTS:

TAG APPROVAL DATE: 4/21/90

ADEC ART WEINER Art Weiner

EXXON ANDY TGA Andy TGA

NOAA Bruce Wiercott Bruce Wiercott

USCG KENNETH KEANE Kenneth Keane

FOSC: DATE: 4-21-90

SHORELINE EVALUATION

SEGMENT ST/ GR-104 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6U Recreation: Tent sites (6/1 to 9/15)
6V Recreation: Anchorages (6/1 to 9/15)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
7Z Salmon harvesting (5/1 to 9/30)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Brown DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 711 m: Narrow 289 m: V.Light 0 m: No Oil 123 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: Recommend bioremediation of oil covered and coated areas
(see sketch map). Work should be conducted between 6/16 and 8/14.

TAG COMMENTS:

TAG APPROVAL DATE: 4/21/90

ADEC ART WEINER Art Weiner

EXXON ANDY TEAL Andy Teal

NOAA Burt Wescott Burt Wescott

USCG KENNETH KEANE Kenneth Keane

FOSC: DATE: 4-27-90

SR 104 1.5312

Jean. Tull Sample
Segment GR-104
Subdivision Nme
April 4/1990.

DIAGRAM 1



SEGMENT ST/ QR-1041

SUBDIVISION NONE

DATE April 17 / 1990

SKETCH MAP

Legend

 cliffs with faces of angular boulders

 Boulder Beach

 Angular pebble / Sand / Cobble Gravel

 do u bedrock ramp

CHECKLIST

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

LEGEND

$$^1 \Delta \quad \text{character} \quad C_2 / B_1 \quad \text{distribution}$$

Pit - No Subsurface Oil

2 ▲
Plt - Subsurface Oil

CT/C
Continuous Distribution

CT/B

Broken Distribution

CT/P

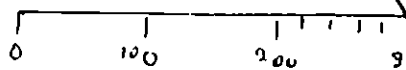
Patchy Distribution

CT/S

Splashed Distribution

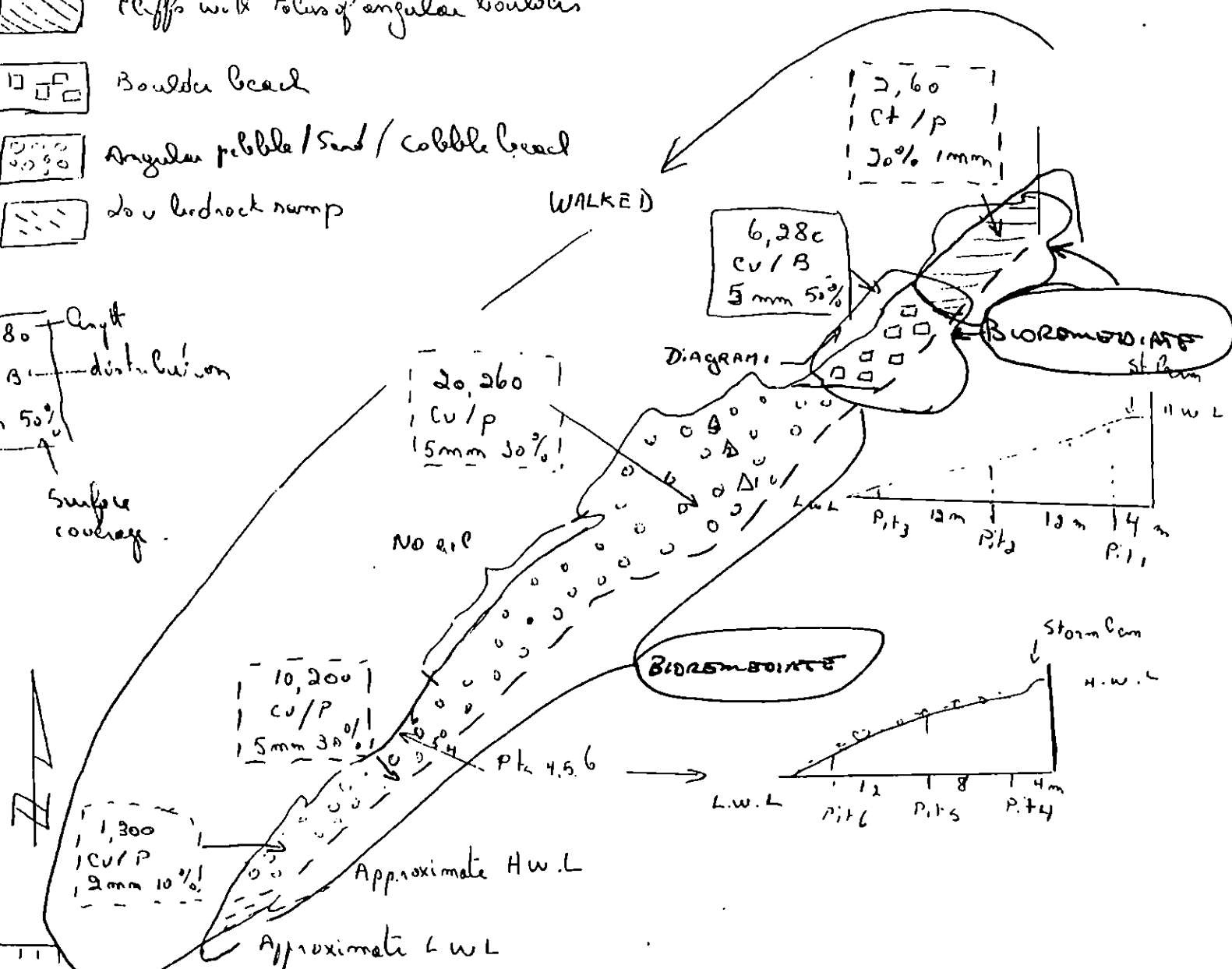
Oiled Vegetation

Photo location, direction,
and number



Oil Character Length (m): AP _____ PO _____ CV 1040 CT 60 ST _____ MS _____ PT _____ TB _____ FL _____ NO 266

REVISION:01/24/00





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

GR-104

ADEC Segment Length: 1124m



Map Key: PWS-250

Name: San Jose Island

Date: Dec 2/05

Data Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/GR-105

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ GR-105 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unopened 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 0 m: V.Light 0 m: No Oil 2119 m
Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
 1D Esther Hatchery release (4/15 to 6/1)
 1E Main Bay Hatchery release (4/20 to 5/10)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 1I Gill net area (6/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (6/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

- 2M Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to unholed intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

- 5R Seabird colony (5/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic.

- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

- 6U Recreation: Tent sites (6/1 to 9/15)
 6V Anchorages (6/1 to 9/15)
 6W Forest Service cabins (6/1 to 9/15)
 6X Lodge (6/1 to 9/15)
 6Y Special use destination

- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 7HH Finfish harvesting
 7II Deer harvesting (8/15 to 2/28)

- 7JJ Invertebrate harvesting
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

4/4/90

SEGMENT ST/ GR 105 SUBDIVISION: _____ DATE 4/4/90

CG
NAME Robert Jensen SIGNATURE Robert Jensen

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS
No oil

ADEC
NAME Rowann T. Hudnall SIGNATURE Rowann T. Hudnall

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS
No oil

LAND MANAGER
NAME U.S. Forest Service SIGNATURE Lee Teuber

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS
No oil found.

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG John Marie Smyth USCG Bob Jensen SEGMENT ST/ QA-105
 BIO John Dixon LAND REP Les Keeler SUBDIVISION C-A
 EXXON Jim Ellison ADEC Rosamund Hudnell TIME 15:45 to 16:30
 TEAM NO: 2 TIDE LEVEL: +1.5 to +7 DATE Apr 14 / 90
 EST. SUBDIVISION LENGTH: 2490 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo WORKING DIRECTION: SW to NE
 SURFACE SEDIMENTS: R 1 % B 7 % C 44 % P 39 % G 0 % S 7 % M 0 % V 0 %
 SLOPE: Long 80 % Hang 20 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 0 m NO 2490 m

SURFACE OIL

No

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	IC	IB	IP	IS	SBL BR	OBL RW	GY SL	OBR TL	LBR	SU	UI	M	U			
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL														X	X	X

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NOTYPE 0#BAGS 0

Photographs:

Roll No. No photo taken

Frames _____

SUBSURFACE OIL

No

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SBL BR	OBL RW	GY SL	OBR TL	LBR	SU	UI	ME	LI					
1	30					X	-								X				No	Pb/Sb/Cb			
2	30					X	-									X			"	"			
3	30					X	-											X	"	Sb/Pb/Cb			
4	30					X	-								X				"	Pb/Sb/Cb			
5	30					X	-									X			"	"			
6	30					X	-											X	"	Sb/Pb/Cb			

COMMENTS

OG from 12 Sengels
 SEGMENT ST/ CR-105

SUBDIVISION none

DATE April 14/90

CHECKLIST

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

LEGEND

1 ▲
 Pit - No Subsurface Oil

2 ▲
 Pit - Subsurface Oil

CT/C
 Continuous Distribution

CT/B
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

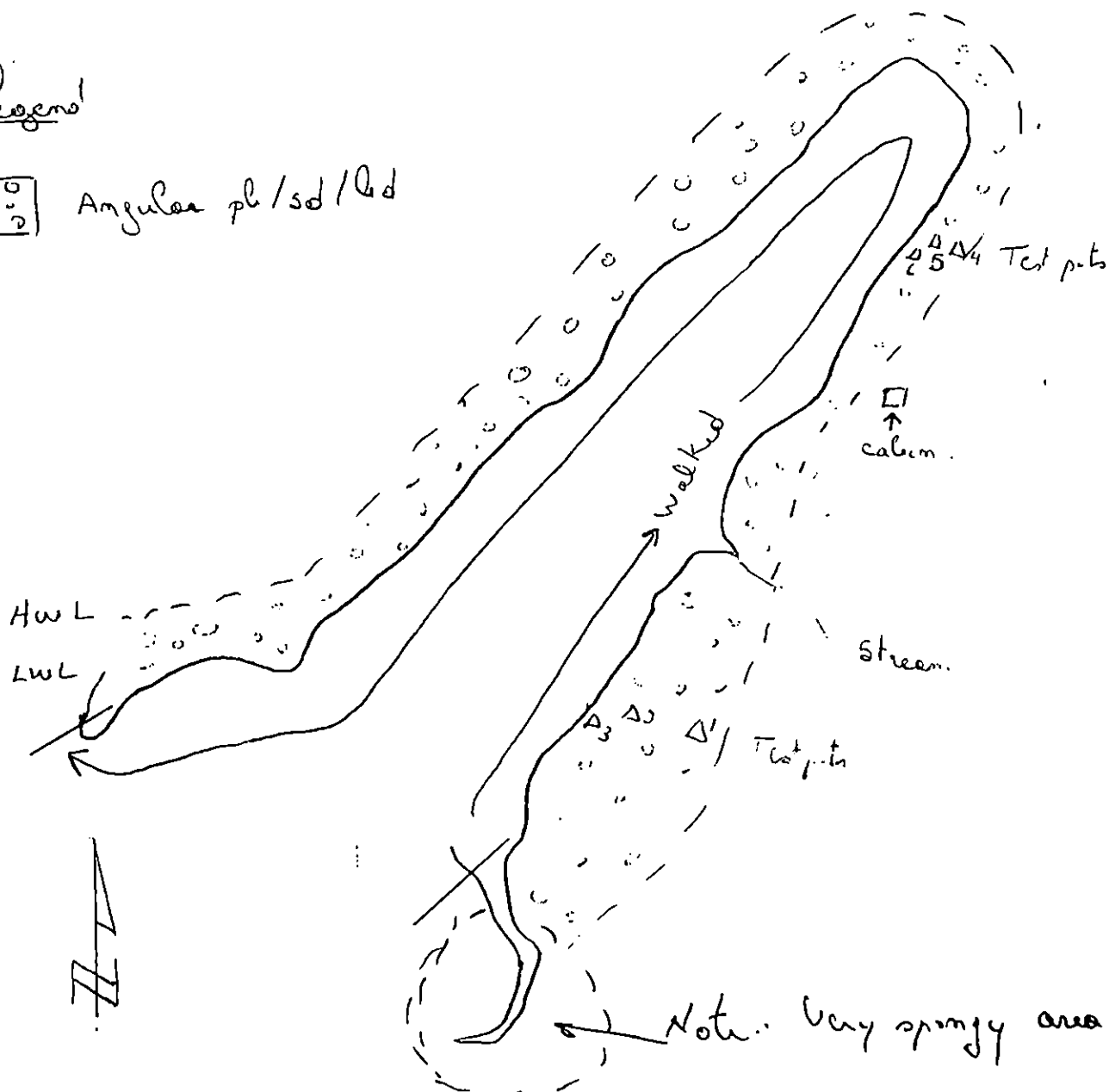
Oiled Vegetation

1 ➔
 Photo location, direction,
 and number

S H MAP

Legend

Angular pl/sd/ld



Oil Character Length (m): AP 0 PO 0 CV 0 CT 0 ST 0 MS 0 PT 0 TB 0 FL 0 NO 2490

REVISION: 03/24/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / GR-105 Subdivision N/A Date (mo / day / yr) 04/04/90

Time (24 hr) 1446-1615 Biologist John Dixon

(A) Substrate type and % of segments:
(1) Bedrock 1 (2) Boulder 7 (3) Cobble 44 (4) Pebble 39 (5) Sand 9 (6) Silt

(B) Overall % cover of biota (% of segment): Dense 5 Moderate 40 Low 55

(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. None

Frames

BARNACLES

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments:

Bear scat at Tree line with shell debris. 7 oyster catchers in intertidal. Sea otter skull & door mandible in intertidal. Much shell debris in lower arcs (mussels & clams). Several hundred Canadian geese in area.

Ecological Considerations:

Sensitivity: FII: 2M: 6Y: 4H: 5S. This section is predominantly cobble & pebble beach within a sheltered inlet. The proportion of sand & gravel increases toward the back of the inlet & the epibiota decreases. *B. glandula* & *Chthamalus* on rocks, with density higher on larger cobbles. Littorines, limpets & littorine egg masses common. *Nucella lima* & egg cases. Small mussels within pebble matrix with large proportion of dead shells. Scattered *Fucus* spp in mid zone. Filamentous red appear to predominate in

Green Island, GR-105, April 4, 1990

Segment GR-105 is a 2.5 km long section of shoreline located in a deep and narrow embayment on the north central coast of Green Island. Its fetch window is very narrow and oriented to the south west to an open water distance of about 30 km. This fetch, however, is restricted further by the presence of small islands and headlands on the main island. Wave energy can reach this segment by travelling up the channel in a northeasterly direction and refracting around the small islands present there.

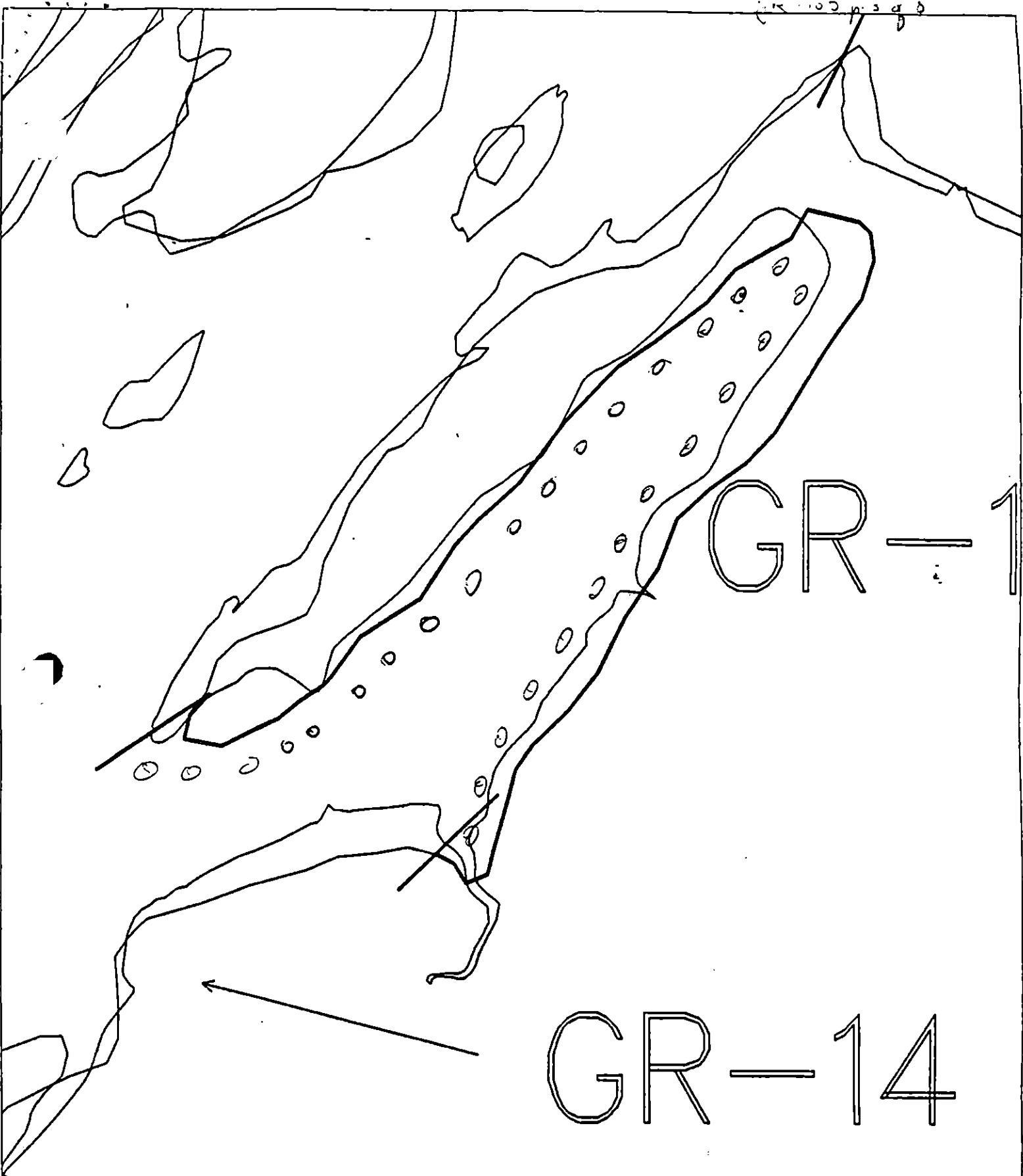
The shoreline of GR-105 consists, along its western part, of a wide gently sloping intertidal zone of angular cobble/pebble/sand interrupted by two streams. Further to the northeast, and particularly near the cabin indicated on the sketch map, the intertidal zone is considerably narrower and steeper and low outcrops of bedrock are present in the backshore area. No surface and subsurface oil were found along this segment.

Wednesday

Segment 105 1446 - 1615 (+2.5' - N 1.5')

The shoreline along this segment borders a narrow inlet & is primarily composed of pebbles and small cobbles in the more protected sections. Small areas of bedrock at the head of the spit defining the W. shore and at the mouth of the stream midway along the E. shore. Increased proportion of sand and gravel at the head of the inlet. Much mussel & clam shell debris in the lower areas. Bear scat in the tree line full of shell fragments and small excavations along the water line that may be a result of foraging activities by bears. Sea otter skull & deer mandible in intertidal. 2 oyster catchers present.

Balanus glandula, Chthamalus, Mytilus & Fucus dominant sessile organisms in middle & upper intertidal. Filamentous red algae & phylloporoid dominant in lower sandy areas. Based on siphon holes & shell debris, clams are... great common. Gittorina setacea & G. scutellata moderately abundant; eggs where there is less sand & gravel. Muscle line abundant along E. shore. Egg masses & cases common.



\\XX Wide
/// Medium
---- Narrow
TTTT Very Light
0000 No Oil

GR-105

ADEC Segment Length: 2119m



Map Key: PWS-251
Name: John Marie Sempels
Date: April 4/90
Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ GR-105 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: *Charles H. Shuman*

DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 2119 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

☒ No Treatment Recommended	☐ Snare/Absorbent Booms
☐ Treatment Recommended	☐ Oil Snare (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:

TAG COMMENTS:

TAG APPROVAL DATE: 4/20/90.

ADEC Art Weiner

EXXON Andy Teal

NOAA Bruce Wescott

USCG Kenneth Keane

FOSC: *[Signature]*

DATE: 4.26.90

OG

SEGMENT ST/ QA-105

SUBDIVISION None

DATE Apr 14/ 90

CHECKLIST

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

LEGEND

1 ▲

Pit - No Subsurface Oil

2 ▲

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Oiled Vegetation

1 →

Photo location, direction, and number

SKETCH MAP

Legend

100
1200

Angular ph/sd/Qd

HWL

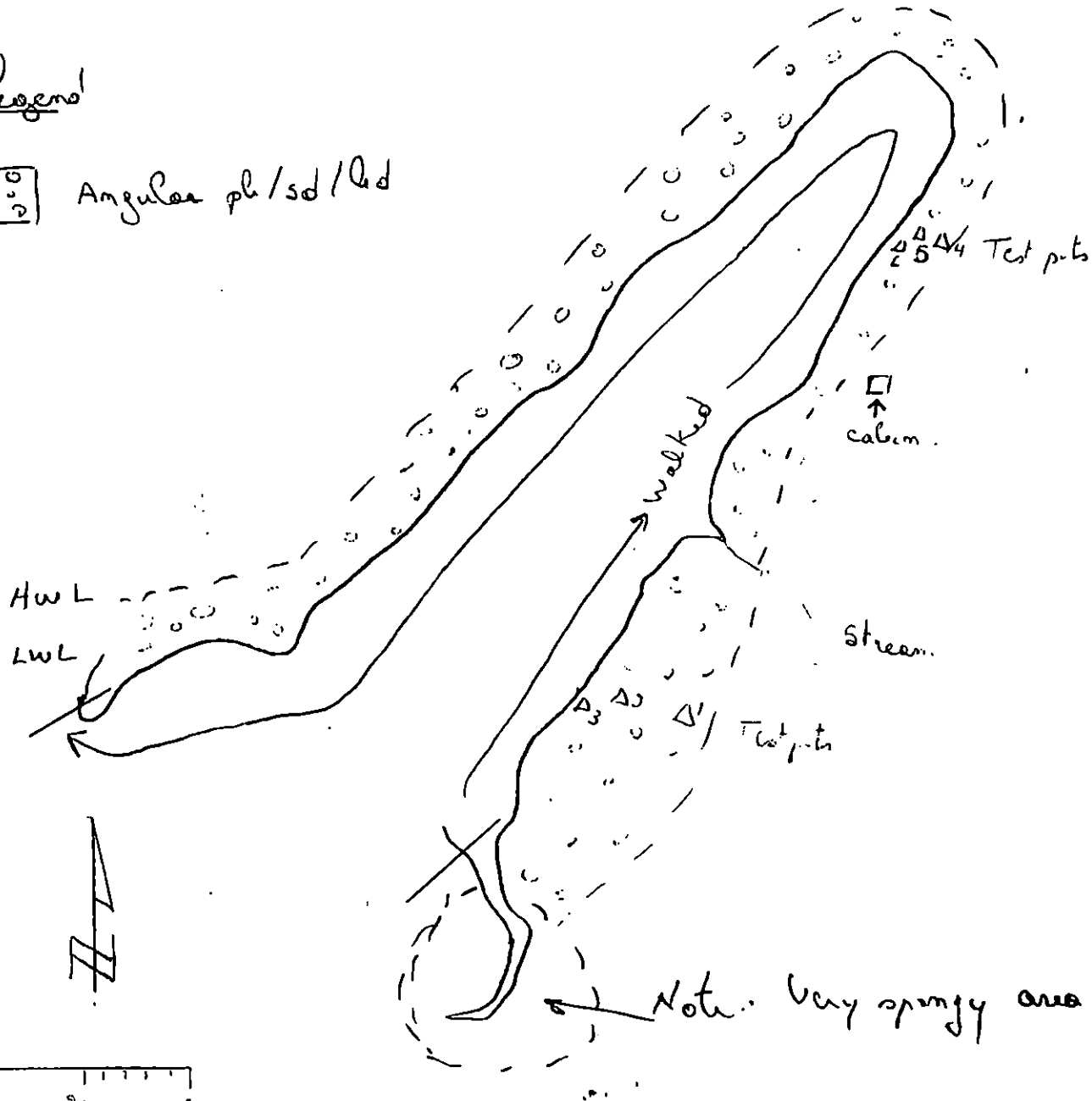
LWL



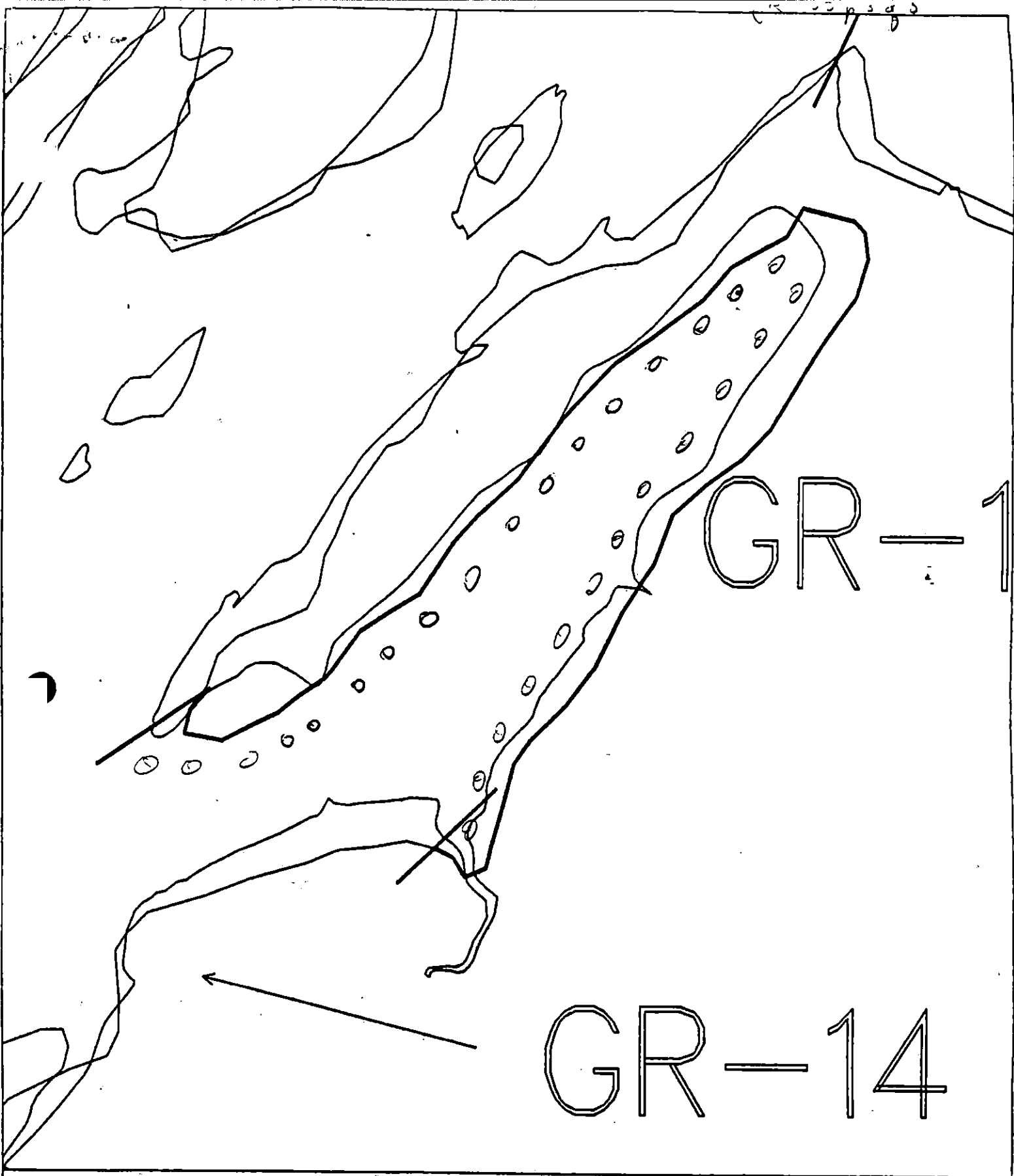
0 100 200 300

Oil Character Length (m): AP 0 PO 0 CV 0 CT 0 ST 0 MS 0 PT 0 TB 0 FL 0 NO 2490

REVISION:03/24/90



600000 200



XXXX Wide

/// Medium

---- Narrow

TTTT Very Light

0000 No Oil

GR-105

ADEC Segment Length: 2119m



Map Key: PWS-251

Name: Jean Marie Sempels

Date: April 4/90

Data Entered:

1991 MAYSAP EVALUATION

SEGMENT: GR 005 SUB: A REGION: PWS SURVEY DATE: 4/30/91

ENVIRONMENTAL SENSITIVITIES:

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

Ecological/Constraints (see page two for details) Seabird colony,
Pinniped haulout, Eagle nest, Herring spawning, Subsistence -
Deer harvesting

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: Rachel Dan Dan Date: 5/12/91

RECOMMENDATIONS:

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

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 17 1991 FOSC APPROVAL DATE: 25 MAY 1991

ADEC P. [Signature]

FOSC

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

EXXON Deal

USCG Z. [Signature]

NOAA [Signature]

**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.

Pinniped Haulout: Access restricted from 5/15 to 6/30 and 8/15 to 9/15 unless approved by NMFS. Maintain 1000' vertical and 1/2 mile (3 mile for sea lions at all times) horizontal buffer.

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

Herring Spawning: No treatment before June 1. Avoid disturbance to kelp and eelgrass.

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

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 3 SEGMENT GR-05 SUBDIVISION A DATE 4/30/91

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ NTR ☒ TREATMENT RECOMMENDED

- Additional work needs to be done in the area that consists of HOR/H. Boulders need to be rolled, use hand shovels/trowels to recover oil. Oil is very easy to recover if cobbles/boulders are rolled. Seals & birds in area. IF this one area was cleaned this island would be in good shape & would cause no further harm to wildlife.

EXXON

NAME Jon Zarnecki SIGNATURE Jon Zarnecki

☒ NTR There is some SCR under the cover the amount of oil there is very hard to estimate.

LANDMANAGER

NAME Carol S Huber OF USFS SIGNATURE Carol S Huber

☐ NTR Treatment recommended: Heavy SCR could be manually removed. This is a seabird & pinniped ^(haulout) use area. Oil is still fairly fresh, suggesting natural cleansing here would be a slow process and the creatures that use this area would be subject to the influence of the oil over a long period of time.

USCG/NOAA

NAME MOONEY / Barab SIGNATURE Mooney / Barab

☒ NTR AREA CONSISTS OF BOULDER, COBBLE, GRAVEL AMONG ON BEDROCK. MINOR AMOUNTS OF OIL RESIDUE IS LOCATED ALONG A 60 DEGREE SLOPE AT THE TOP OF THE SUTZ. DUE TO THIS SLOPE AND DISTANT DISTANCE TO WATER PINNIPED USE WOULD BE VERY MINIMAL. PINNIPEDS LIKE TO BE CLOSE TO WATER'S EDGE FOR ESCAPE TO INTRUDERS.

PAGE 1 OF 1

SEGMENT GR-05

SUBDIVISION A

DATE 7 / 30 / 91

ENERGY LEVEL: ☐ H ☒ M ☐ L

EST. OIL CATEGORY LENGTH: W 0 m M 40 m N 30 m VL 0 m NO 80 m US 840 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-

DEAD CAMERA ~

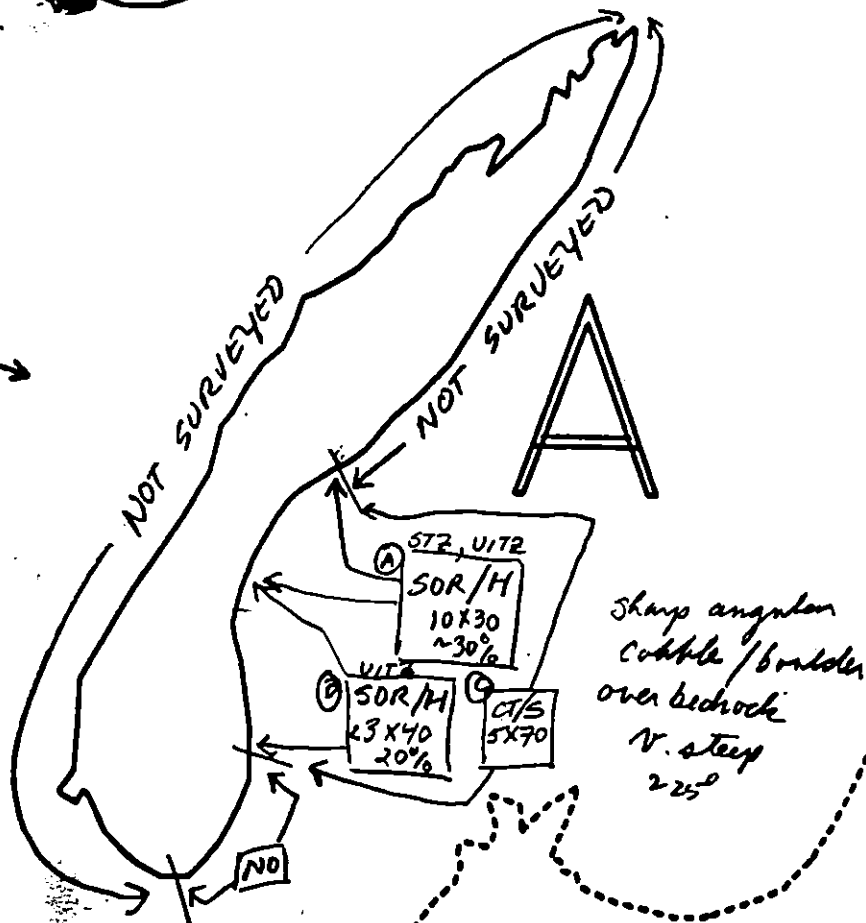
FRAMES

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

No pits were dug due to bedrock in the subsurface.

OG 1 of 4
REVIEWED: F.W. 5/3/91

-05

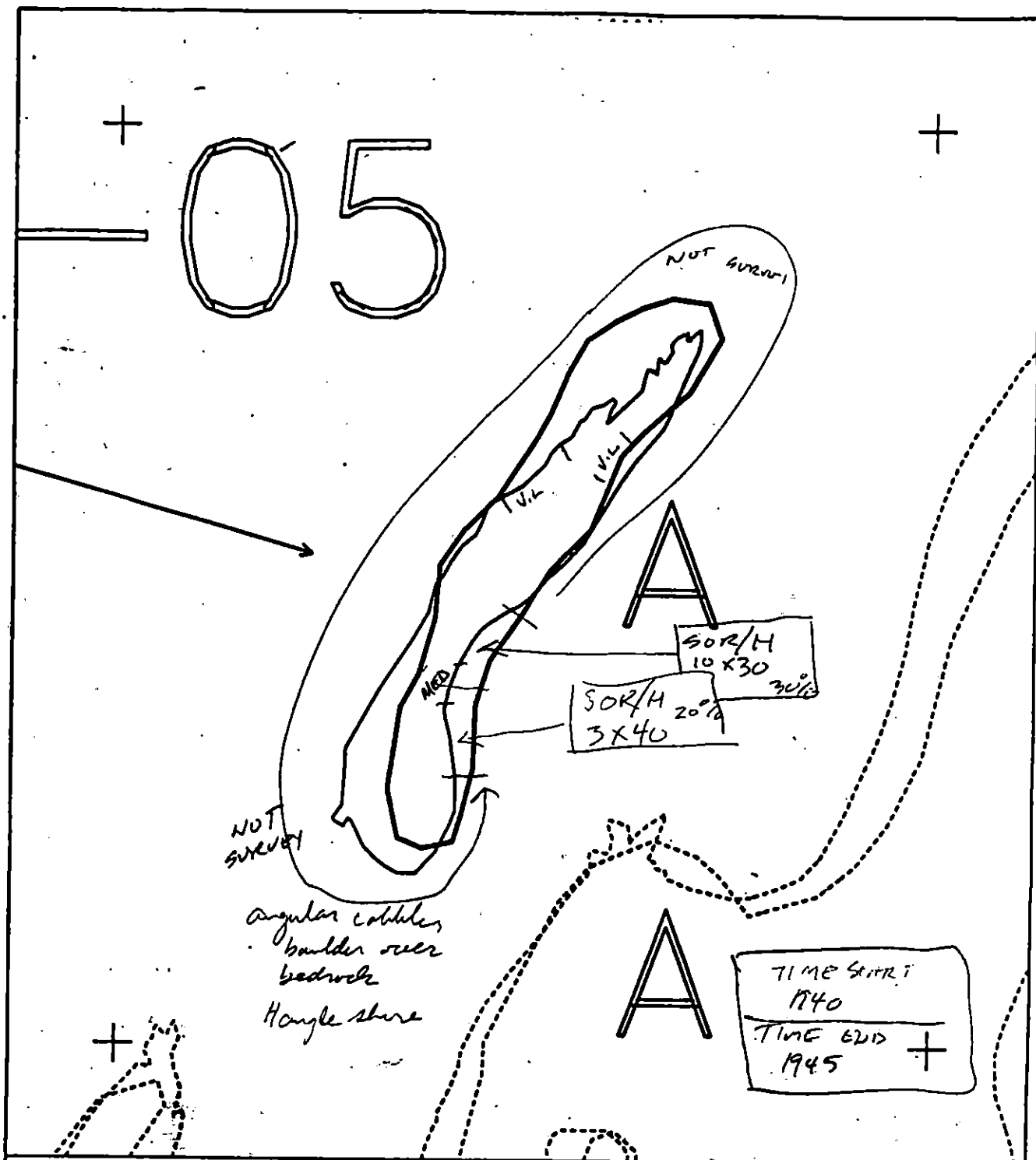


GR005 A

Subdivision Field Map

Map Key: PVSCR005A

REVIEWED: F.W. 5/3/91



XXXX	Wide	GR005 A ADEC Subsegment Length: 990m METERS Alaska State Plane Zone 4 pr005a	Subdivision Field Map Map Key: PW5GR005A Name: <u>HARDER</u> Date: <u>4/30/91</u> Date Entered:
////	Medium		
----	Narrow		
TTTT	Very Light		
0000	No Oil		

FIELD NOTES

Page 1 of 1

OG 4 of 4

REVIEWED: F.W. 5/3/91

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #	3	DATE	4/30/91
SEGMENT #	GR05	TIDAL HEIGHT(Range)	3-4'
SUBDIVISION	A	BIOLOGIST	STOKER
SEA STATE	1-2'	WIND SPEED/DIRECTION	NE 15-20
PHOTOGRAPHS: ROLL #		FRAME #	

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

High energy beach of boulder & bedrock on NW shore, moderate energy angular boulder/cobble/bedrock on SE shore of island.

Biota on SE shore sparse to moderate in overall abundance and low diversity, consisting of patchily distributed barnacles and spat, sparse and patchy Fucus, Littorina, limpets and amphipods.

Biota on NW side appeared to be more abundant and diverse, but was not observed in detail.

Biota within & closely adjacent to the oiled area on the SE shore consists of sparse barnacles, Littorina and limpets.

Biota below oiled area increases somewhat in abundance as described above. Low intertidal unobserved due to tide height.

If treatment is undertaken, disturbance to established biota should be kept to a minimum.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/Kittiwakes	1	5-10	
Shorebirds			
Corvids			
Other Birds	Unident. shorebird	chicks on island.	

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

Shoreline subdivision map showing important biological features attached.

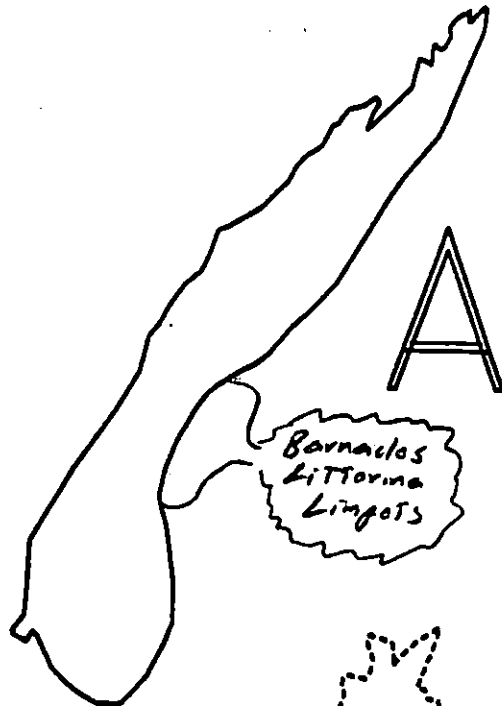
Reviewed M.B. 5/3/91

Bio Map

+

+

-05



A

Barnacles
Littorina
Limpets

A

+

+



GR005 A

NEYSR



AK State Planning Board
perched

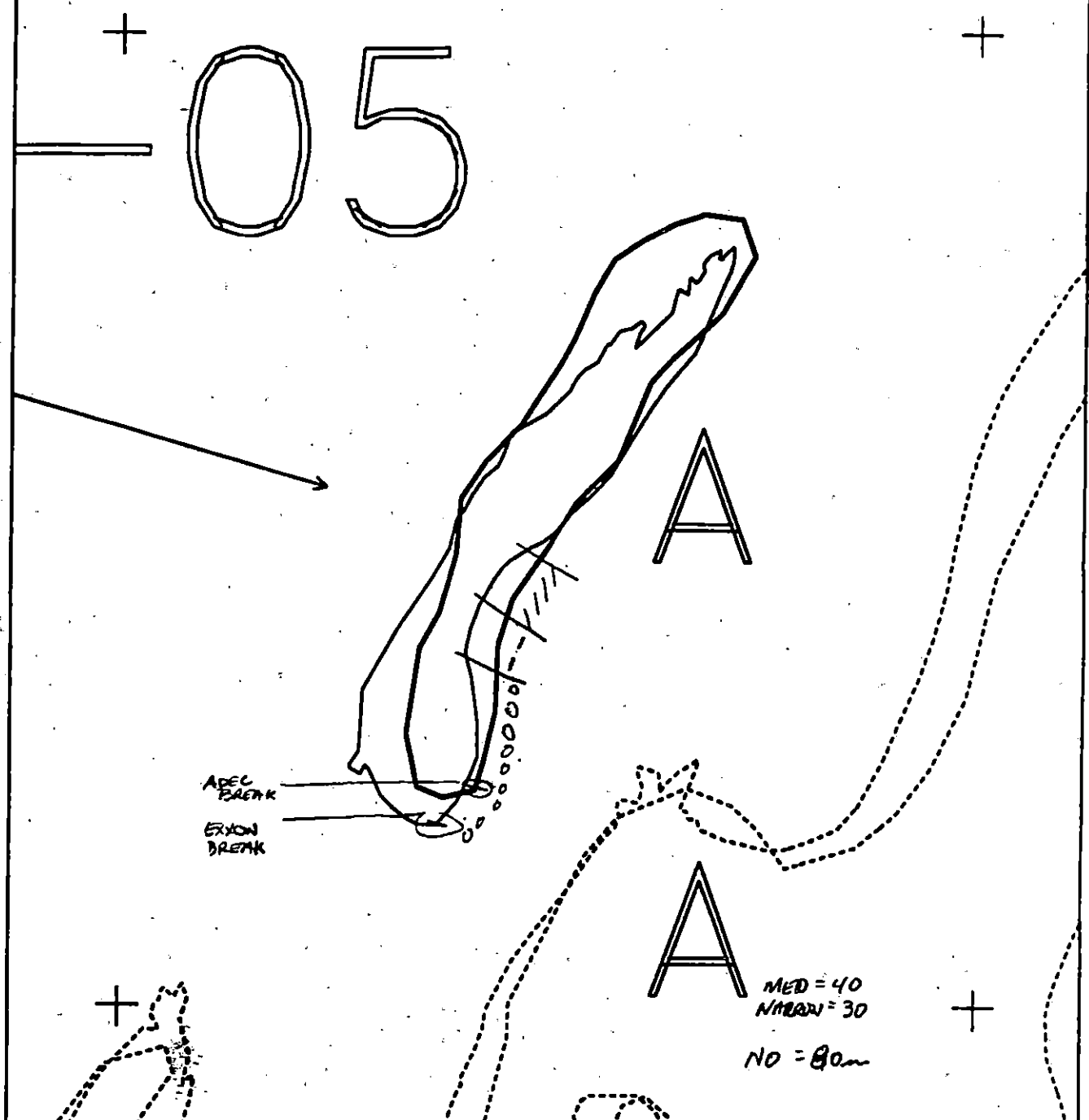
Subdivision Field Map

Map Key: PWSGR005A

Name: _____

Date: _____

Reviewed A.B. 5/3/91



XXXX	Wide	GR005 A ADEC Subsegment Length: 990m METERS 0 100 200 AK State Plane Zone 4 99005a	Subdivision Field Map Map Key: PUSGR005A Name: <u>WARRER</u> Date: <u>30 APR 91</u> Date Entered:
////	Medium		
----	Narrow		
TTTT	Very Light		
0000	No Oil		

SURFACE OILING MAP

OG 3af 4
 REVIEWED: F.W. 5/3/91

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