

OIL SPILL PUBLIC INFO. CENTER



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EVOS
GC
1552
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S42
1990
v.11

[Shoreline evaluations, 1990].

GA-01 – HR-09

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SHORELINE EVALUATION

SEGMENT ST/ GA-01 SUBDIVISION A (1 OF 1) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and
contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Holmes DATE: 5/5/20

OILING CATEGORIZATION:

Wide_0_m: Medium_0_m: Narrow_621_m: V.Light_156_m: No Oil_1314_m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: 5/4/00

ADEC Asst WELM Asst WELM

EXXON ANDY TGA REED

NOAA Gary Petrus New Peter

USCG G.A. REITER G.A. K.

FOSC: W L DATE: 5-18-90

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 (8/7 to 8/31)
1J	Purse seine area (7/20 to 9/30)
1K	Purse seine hook-off (7/20 to 9/30)
1L	Set net sites (5/11 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.
✓ 6T	All Bald Eagle nests (3/1 to 6/1) Active Bald Eagle nests (3/1 to 9/1) Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
6U	Recreation: Tent sites (8/1 to 9/15)
6V	Anchorage (8/1 to 9/15)
6W	Forest Service cabins (8/1 to 9/15)
6X	Lodge (8/1 to 9/15)
6Y	Special use destination
7Z	Subsistence area: Salmon harvesting (5/1 to 9/30)
7-HH	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.

SEGMENT ST GA01 SUBDIVISION: A DATE April-21-1990

USCG

NAME SHAWN MAAS SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

GAGE ISLAND CONSISTS OF HIGH VERTICAL
ROCK FACE. OILING AT UPPER HIGHEST TIDE
RANGE. RECOMMEND NO TREATMENT. LOTS OF
LIFE IN AND AROUND THE 1/3 METER OILED BAND.

ADEC

NAME Dave Sale SIGNATURE [Signature]

OILED BAND SEEMS NON-MOBILE AND WOULD BE DIFFICULT TO REMOVE

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

OILED BAND ON VERTICAL ROCK FACE IS PREDOMINATELY
A STAIN COINCIDING WITH THE UPPER BARNACLE ZONE. THERE
IS APPROX. 80% MORTALITY IN THIS ZONE (WITHOUT QUADRAT ANALYSIS)
COMPARED TO 20% IN BARNACLE ZONE BELOW 1/3 METER OILING BAND.
UPPER LEVEL OF BARNACLES IS ALMOST A "SPLASH ZONE", AND THESE
MAY BE AT HIGH STRESS LEVELS TO BEGIN WITH. HOWEVER, THIS SITE
ON THE SOUTH SIDE OF GAGE, MAY BE A GOOD STUDY SITE FOR BARNACLE
MORTALITY

LAND MANAGER

NAME Don Pomperoff, Jr. SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

00 Mar

SEGMENT ST/ GA-DIA

SUBDIVISION A

DATE 04/20 90

SKETCH MAP

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HREF/LVR
- ☐ SSIL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
Pt - No Subsurface Oil

2 Δ
Pt - Subsurface Oil

CT/C
Continuous Distribution

CT/D

Broken Distribution

CT/P

Patchy Distribution

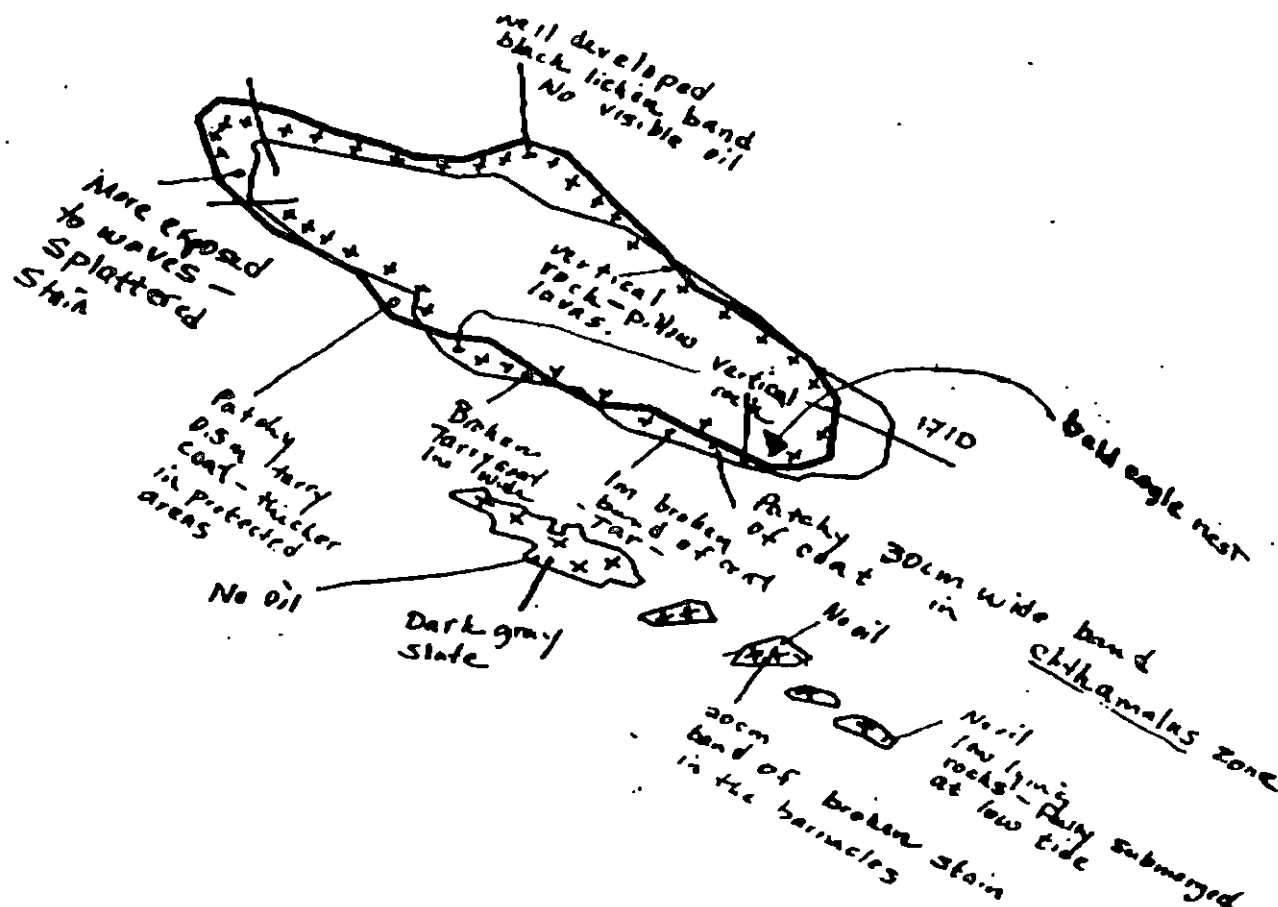
CT/S

Splattered Distribution

lll
Oiled Vegetation

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

$\square$ Bedrock: Dark gray slate.



0 100 200 300
METERS

Oil Character Length (m): AP 0 PO 0 CV 0 CT 659 ST 80w MS 0 PT 0 TB 0 FL 0 NO 138 m

REVISED 08/88

22822
30722

SHORELINE ECOLOGICAL SUMMARY

REVISION 000000

Segment ST / GA 1 Subdivision A Date (mo / day / yr) 4 / 20 / 90
 Time (24 hr) 1620-1730 Biologist Lemon

- (A) Substrate type and % of segments:
 (1) Bedrock 90 (2) Boulder 10 (3) Cobble (4) Pebble (5) Sand (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 95% Moderate Low
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:
 Roll No. ST/10/13

Frames 22

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments:

- 3 eagles 1 sea otter
 2 seals > 30 geese at great distance
 2 oyster catchers 1 school tiny fish in plankton rich water
 4 crows 2 cormorants

Ecological Considerations:

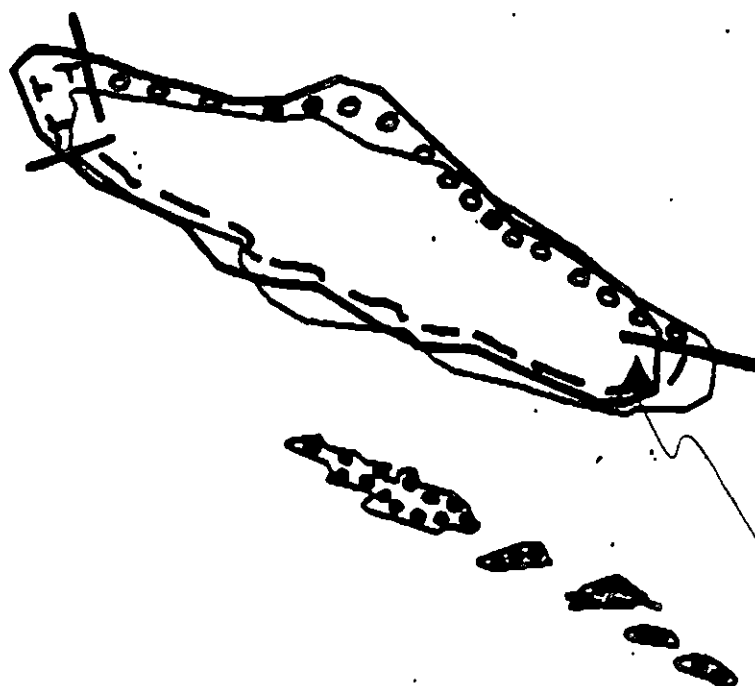
Eagle nests reported from S.E. shore, not confirmed on 20 Apr 90, but the eagles noted above did originate from the island.

Complete Island and off-shore rocks surveyed from shift so much detailing was not done. However all areas are biologically rich and diverse; nearly all available substrate is occupied by at least one layer of organisms.

50/22

ECCOLOGICAL MAP

GA

EAGLE
NEST

No.	g ⁴	1200 m	1891 m
VL	0.35"	38 m	42 m
L	4.2"	630 m	699 m
		1869 m	2072 m

4 of 22

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

GA-1

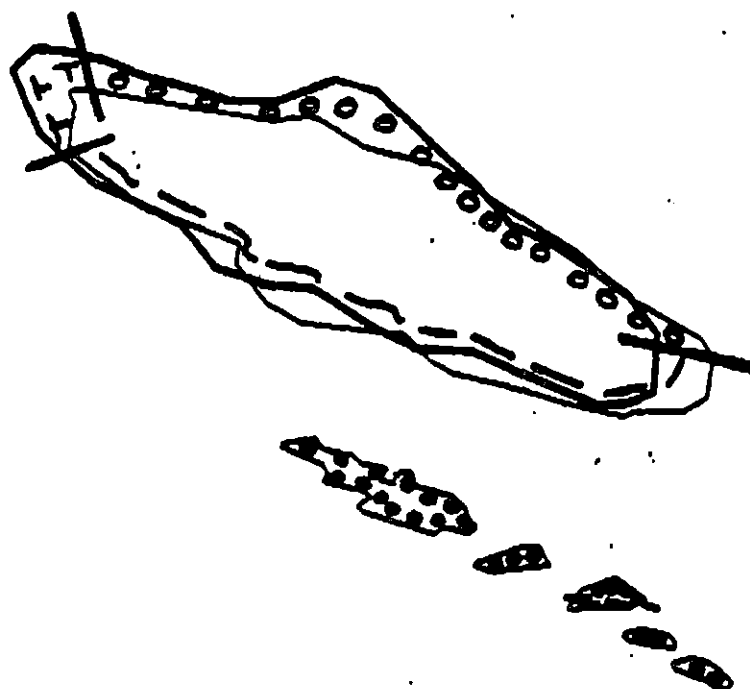
ADEC Segment Length: 1221m



Map Key: PWS-243

Name: R. MartyDate: 20 April 1990

Data Entered:



GA

No	8"	1200m	1831m
VL	0.25"	38m	42m
L	4.2"	630m	699m
		<u>1869m</u>	<u>2072m</u>

4 of 22

XXX Wide

/// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

GA-1

ADEC Segment Length: 1221m

Map Key: PWS-243

Name: R. MartyDate: 20 April 1990

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ GP-1001 SUBDIVISION A (1 OF 1) DATE 4/27/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

4GG Alaska State Parks

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Adams DATE: 5/5/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 130 m: V.Light 0 m: No Oil 737 m
Subsurface Oil Observed: Yes X No Maximum Depth 20 cm

RECOMMENDATIONS:

 X No Treatment Recommended
 Treatment Recommended
 Manual Pickup
 Bioremediation
 Tarmat Removal

_____ Snare/Absorbent Booms
_____ Oil Snares (pom poms)
_____ Absorbents (pads, rolls, etc)
_____ Spot Washing: _____ Wands
_____ Beach Cleaner
_____ Other (see comments)

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: 5/4/90

ADEC Art Weller District

EXXON Aug 2012 Real

NOAA Gen. Petros And Petros

USCG G.A. REITER G.A. Reiter

FOSC: ML DATE: 5-9-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Seaview 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 (5/7 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 (5/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Roth 267-2208
- 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (5/1 to 9/15)
6V Anchorages (5/1 to 9/15)
6W Forest Service cabins (5/1 to 9/15)
6X Lodge (5/1 to 9/15)
6Y Special use destination
- 7Z Subistence area: Salmon harvesting (5/1 to 9/30)
H-I Finfish harvesting
7I Deer harvesting (5/15 to 2/28)
J Invertebrate harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / GP-1001 SUBDIVISION: A DATE 4-27-90

USCG

NAME

Stephen Swan

SIGNATURE

Stephen Swan☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

This segment, located north of Gore Point, is a low angle very fine-grained sand beach w/ sediment derived from glacial outwash along Nuka Passages. A storm berm composed of extremely long and large spruce tree trunks overlying a boulder/cobble berm defines the backshore of this beach. The storm berm varies in height from 6 to 13 feet above mean high water.

Oil was found on the lower part of the storm berm (approx. 6 feet above MHW) beneath the stacked tree limbs/trunks. Oiling extended 100m in length, with approx. 15-30 cm depth of penetration into the sand/pebble/cv. substrate. This oiling is not an environ. problem nor a visual eyesore. NO. TREATMENT IS NECESSARY.

ADEC

NAME

Wesley Ghormley

SIGNATURE

Wesley Ghormley☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

- This segment consists of a very high energy beach with a massive storm berm rising to 10' in some areas. A large accumulation of spruce logs & fishin' gear is present on the beach. Oil was observed on the western portion of beach that extended for 100m. Subsurface oil was present in the supra. Being that this is a high energy beach & oil is mostly covered by logs & debris I recommend no clean-up but possibly further review later in the summer to make sure the oil doesn't warm up & become mobile. IF it does then action may be necessary.
- Very light oil splashes extended west towards Gore point in the next segment.

LAND MANAGER

NAME

J. David McMahon (ADNR)

SIGNATURE

J. David McMahon☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

Segment GP-1001 is within Kachemak State Wilderness Park. It consists of a long, exposed sand & cobble beach with extensive drift accumulated on the seaward side of the storm berm. A narrow strip of drowned forest gives rise in the upland to a forest dominated by large Sitka spruce. Little oil was noted at the W. end of the beach. It was composed of small quantity of oiled debris at the seaward foot.

SHORELINE OILING SUMMARY

OG K. DEALXSS (KPRE) NEAR STEPHEN STORM SEGMENT ST/ GP-1001
 BIO D. REED LAND REP Wesley Ghormley SUBDIVISION H (1 OF 1)
 EXXON T. 0182 ADEC Wesley Ghormley TIME 7:40 to 9:30
 TEAM NO. 9 TIDE LEVEL +1 -3 DATE 4/27/90
 EST. SUBDIVISION LENGTH: 867 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 1 % B 1 % C 7 % P 1 % G 0 % S 90 % M 0 % V 0
 SLOPE: Long 100 % Hang 0 % Vert 0 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 100 m VL 0 m NO 767 m

SURFACE OIL

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

PAVEMENT H F S 0 sq. m by 0 c

PATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

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

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐

TYPE PT

#BAGS 1

Photographs:

Roll No. ST-9-3 ST-9-4

Frames 30 1

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	1	2	3	4	SU	U	M	U				
1	30					X	.							X					N	25	S-S
2	40					X	.							X					N	-	PdL-PdC
3	50		X				10-20	X		X				X					N	-	C-C/PdSdC
							.														
							.														
							.														

COMMENTS

- SEGMENT IS A VERY HIGH ENERGY BEACH. SAND IS DOMINANT FROM LOW-TO HIGH-TIDE ZONE. COBBLES & PEBBLES FORM THE HIGH VE H/ STORM BERM (LYN). LOGS AND DEBRIS ARE ACCUMULATED IN THE SU.
- OILING CONSISTS OF A BROKEN STAIN AT THE WEST- END OF THE SEGMENT (± 100 M). SUBSURFACE OIL EXTENDS FROM 10-20 CM IN THE SU. OIL IS VERY WEATHERED.
- SOME OF THE LOGS, VEGETATION AND DEBRIS IN SU HAVE STAIN/S
- 1 PATTY WAS PICKED UP.

REVIEWED 7W DATE 4/27/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 00

Segment ST / GP-1004 Subdivision A Date (mo / day / yr) 07/27/90

Time (24 hr) 0740-0930 Biologist D. Reed

(A) Substrate type and % of segments:
(1) Bedrock 1 (2) Boulder 1 (3) Cobble 7 (4) Pebble 1 (5) Sand 90 (6) Silt

(B) Overall % cover of biota (% of segment): Dense 0 Moderate 1 Low 99

(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: ST-9-3 / ST-
Roll No.

Frames 30 / 1

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

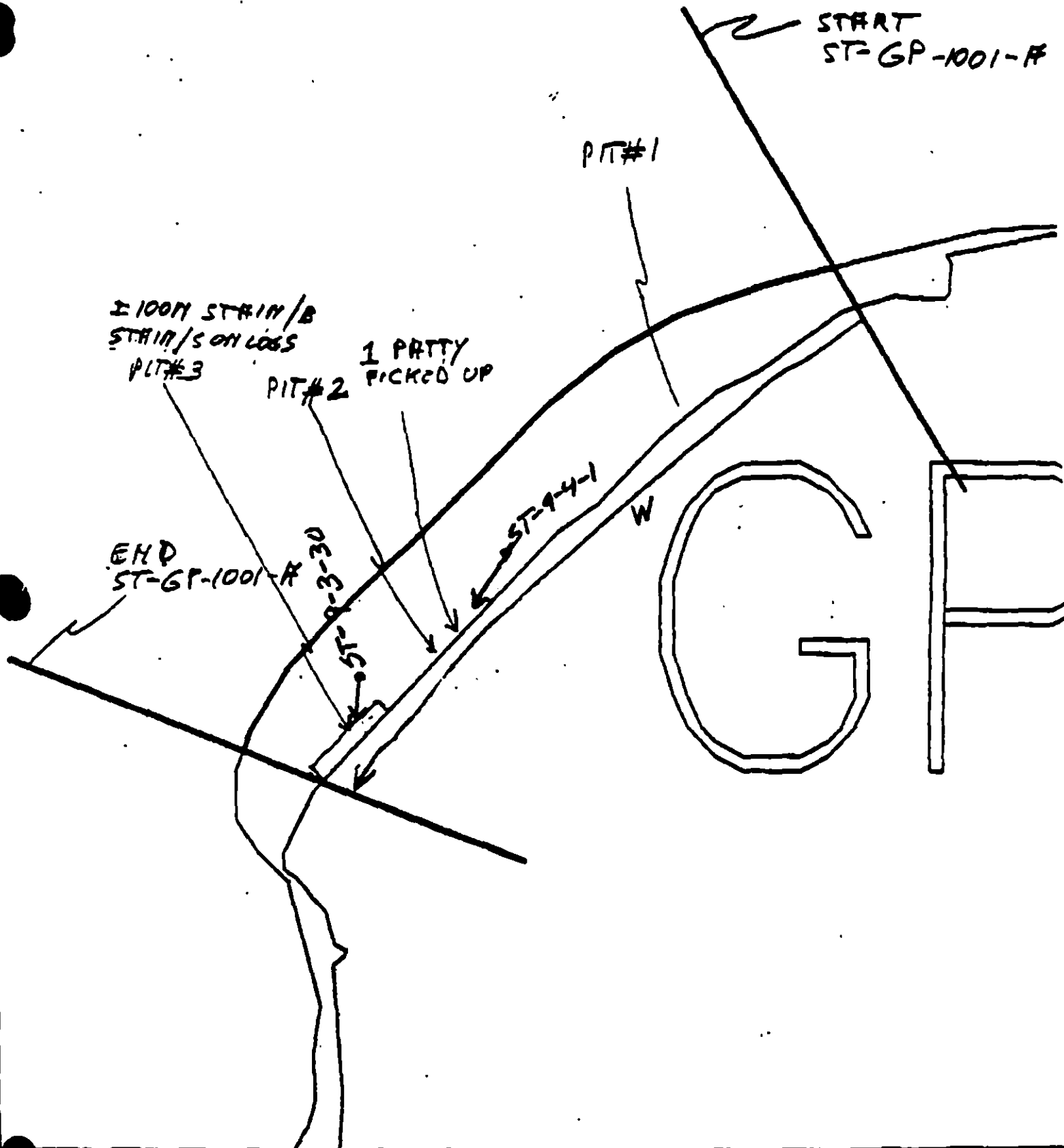
Wildlife Observations/ General Comments:

1 EAGLE, 2 BULLS. Highly exposed sandy beach. Sparse biota on boulders and bedrock at N end of beach. Biota absent on sand and cobble storm berm.

Ecological Considerations: None.

Should cleaning be recommended there would be few adverse effects on the ecology of this segment due to the near absence of intertidal biota and other wildlife.

4/12



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

ST-GP-1001-R

ABEC Segment Length: 867m



Map Key: KEN-40

Name: K. DEBUSSCHER

Date: 4-27-90

OIL MAP

START
ST-GP-1001-AEND
ST-GP-1001-A

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

ST-GP-1001-A

ADEC Segment Length: 867m

Map Key: KEN-60

Name: K. DEBUSCHEREDate: 4/27/90

SHORELINE EVALUATION

SEGMENT ST/ GP-1003 SUBDIVISION A (1 OF 1) DATE 4/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

4GG Alaska State Parks

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Hines DATE: 5/5/90

OILING CATEGORIZATION:

Wide_0_m: Medium_0_m: Narrow_0_m: V.Light_0_m: No Oil_878_m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

☒ No Treatment Recommended
☐ Treatment Recommended
☐ Manual Pickup
☐ Bioremediation
☐ Tarmat Removal

_____ Snare/Absorbent Booms
 _____ Oil Snares (pom poms)
 _____ Absorbents (pads, rolls, etc)
 _____ Spot Washing: _____ Wands
 _____ Beach Cleaner
 _____ Other (see comments)

COMMENTS :

TAG COMMENTS:

TAG APPROVAL DATE: May 5 1990

ADEC Act 1001 Det. C. C. C.

EXXON Mark N. Wilbert Mark N. Silber

NOAA ~~Gary Petras Amy Paterson~~
USCG ~~G.A. REITER G.A.~~

FOSC:

DATE: 5-7-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (5/7 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 (5/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q Harbor seal and sea lion molting (5/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Roth 267-2208
- 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (5/1 to 9/15)
6V Anchorages (5/1 to 9/15)
6W Forest Service cabins (5/1 to 9/15)
6X Lodge (5/1 to 9/15)
6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (5/15 to 2/25)
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 267-2350

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ GP-1003 SUBDIVISION: A DATE 4-29-90

NOAA
BESS
NAME

STEPHEN STURM

SIGNATURE

[Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

Segment is a NORTHWEST FACING, EXPOSED BEACH, LOCATED IN A CRAGGATE BAY NORTH OF GORE POINT FACING PORT DICK. A TOTAL OF 6 PITS WERE EXCAVATED IN THE INTERTIDAL ZONE ALONG THE BEACH FACE. NO SUBSURFACE ^{OIL} WAS ENCOUNTERED IN THESE PITS, AND NO SURFACE OILING WAS OBSERVED ALONG THE STORM BEACH.

ADEC

NAME

Wesley Gormley

SIGNATURE

[Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

This segment primarily consists of a sand beach, with cobbles, pebbles & a few boulders. Six deep pits were dug in search of subsurface oil (None was observed) If subsurface oil is present it is extremely deep. A large amount of logs & non clean-up debris have accumulated on beach.
- No oil observed surface or subsurface.

LAND MANAGER

NAME

J. David McMahon (ADNR)

SIGNATURE

[Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

Segment GP-1003, within Kachemak State Wilderness Park is comprised of a sand/gravel/cobble beach located to the north of Gore Point. Despite several deep subsurface tests, no banded surface oil was noted. Periodic monitoring may be warranted.

SHORELINE OILING SUMMARY

REVISION NO. 24.12.90

OG K. DEBUSSCHE USCG STEPHEN STURN SEGMENT ST/ SP-1003
 BIO D. REED LAND REP J. David McMahon SUBDIVISION # (1 OF 1)
 EXXON T. PIZZ ADEC Western Ghaculsey TIME 9:30 10:20
 TEAM NO. 9 TIDE LEVEL T1 T2 -1 DATE 4/21/90
 EST. SUBDIVISION LENGTH: 810 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 0 % B 5 % C 15 % P 15 % G 0 % S 65 % M 0 % V 0 %
 SLOPE: Long 100 % Hang 0 % Vert 0 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 0 m NO 810 m

SURFACE OIL

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

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒TYPE 0#BAGS 0

Photographs:

Roll No. NONEFrames NONE

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	T	SURFACE - SUBSURFACE SEDIMENTS
		CP	CR	CL	CP	NO		US	UC	1	2	3	4	SU	U	M	U				
1	70					X	.									X			N	-	S-S&C/S
2	60					X	.								X				N	-	GS-S&P/B
3	70					X	.								X				N	-	P-S&G/S&P
4	60					X	.								X				N	-	S-P&S
5	55					X	.								X				N	-	S-S&P
6	65					X	.								X				N	-	P-P&B/R&G

COMMENTS

- SEGMENT IS A RELATIVELY HIGH ENERGY BEACH. SOUTHERN END IS PREDOMINANTLY SAND. NORTHERN END HAS P/C STORM BERM. LOGS AND DEBRIS ARE ACCUMULATED IN UE-SU.
 - NO OIL OBSERVED.

REVIEWED YWDATE 4/30/90

2/9

SHORELINE ECOLOGICAL SUMMARY

REVISION 09/28/91

Segment ST / GP-1003 Subdivision A Date (mo / day / yr) 04/29/90
Time (24 hr) 0930-1020 Biologist D. REED

- (A) Substrate type and % of segments:
(1) Bedrock 0 (2) Boulder 5 (3) Cobble 15 (4) Pebble 15 (5) Sand 65 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense — Moderate — Low 100
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:
Roll No. —

Frames NONE

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

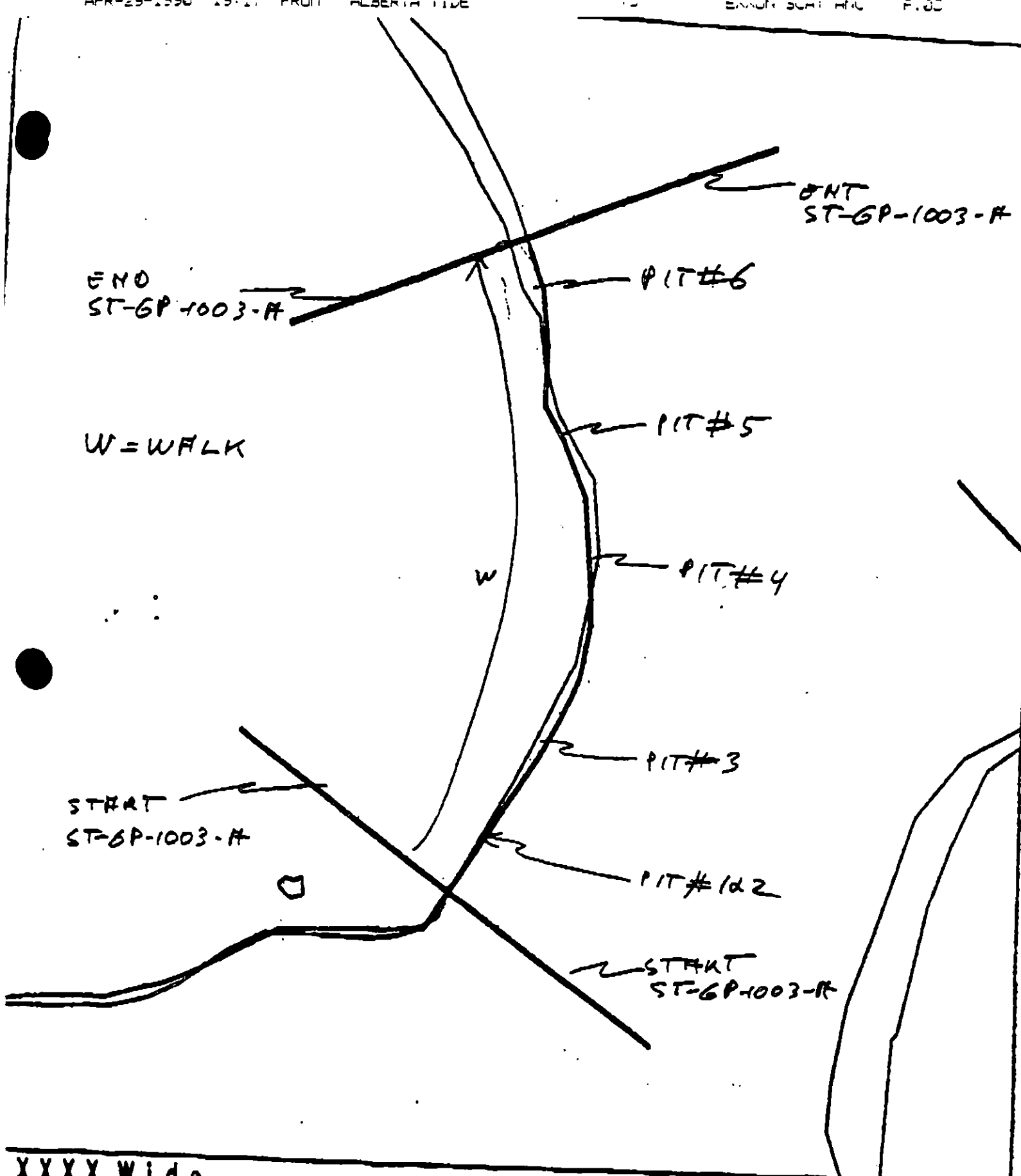
NOT PRESENT

Wildlife Observations/ General Comments:

1 common merganser, 4 Glaucous-winged gulls, 1 Pelagic cormorant.

THIS SEGMENT IS A HIGH ENERGY WAVE SWEEP BEACH. THE ONLY INTERTIDAL BIOTA OBSERVED WAS IN A SMALL boulder field located in the mid and low zones at the southerly border of the segment. THE boulders were covered with a thin slimy layer of green algae (ENTEROMORPHA) in the mid zone. OTHER SEA WEEDS (ERRIDADA, ULVA, AND ALGRIA) were common low.

→ NONE. NO OIL OBSERVED, BIOTA RARE AND VERY patchy.
* NO ECOLOGY MAP WAS DONE AND NO RECRUITMENT, GROWTH OR MORTALITY WA.



XXXX Wide

// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-GP-1003-A

ADEC Segment Length: 810

3/9 100 200 300
METERS.

Map Key: KEN-42

Name: K. DEBUSSCHE

Date: 4/29/90

Date Entered:

OIL MAP

END
ST-GP-1003-A

START
ST-GP-1003-A

XXXX Wide

/// Medium

-- Narrow

TTTT Very Light

0000 No Oil

ST-GP-1003-A

ADEC Segment Length: 878m

6/9 100 200 300
METERS

Map Key: KEN-42

Name: K. DEBAUSSCHERE

Date: 4/29/90

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ GR-1A SUBDIVISION A DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Possible Herring spawning area (2M)- 4/1 to 6/15; Restrict
disturbance of oiled fucus in lower and middle inter-
tidal zones.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Same as above.

SHPO SIGNATURE: Charles E. Hume DATE: April 5, 1990

OILING CATEGORIZATION:

111m Wide, 538m Medium, 0 m Narrow, 299m V. Light, 0 m No Oil
Subsurface Oil Observed Yes X No Maximum Depth

RECOMMENDATIONS:

 No Treatment Recommended
 X Treatment Recommended
 X Manual Pickup Snare Booms/Sorbents Tarmat Breakup/Removal
 X Bioremediation SPOT WASHING Other
 Wands
 Beach Cleaner

Comments: Manual pickup of oiled debris (mousse tarballs and
oiled vegetation) and bioremediation, suggested. Debris isolated
to pockets 1 and 2. (see sketch map). Work after 6/15/90 based
on spawning constraints. Monitor for recurring sheen

TAG COMMENTS: Treatment recommendations as indicated above.

TAG APPROVAL DATE:
DEC JOHN BAUER
EXXON ANDY TELL
NOAA Bucl & Wescott
USCG G.A. REITER

FOSC:

DATE: 4-19-90

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG B. Berglund USCG J. Gamble SEGMENT ST/ GR-1A
 BIO S. Schacter LAND REP C. Hubert SUBDIVISION A
 EXXON C. Levine ADEC B. Fritzsmons TIME 7:40 10 10:00
 TEAM NO.: 1 TIDE LEVEL: +0.1 10 -2 DATE 3 / 30 / 90
 EST. SUBDIVISION LENGTH: 864 m ☐ Sun ☐ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 20 % B 40 % C 20 % P 10 % G 10 % S 0 % M 0 % V 0 %
 SLOPE: Lang 9.5 % Hang 5 % Vert 0 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 124 m M 490 m N - m VL 250 m NO - m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	IC	IB	IP	IS	SEL BR	DEL RW	GY SL	DR TL	LR	SU	U	M	U			
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT	X	V					X			X	V	V				
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM			X				X			X	X					
NO OIL																

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

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

DEBRIS COLLECTED
☐ YES ☒ NOTYPE -#BAGS -

Photographs:

Roll No. ST-1-1Frames 14-19

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CA)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	SEL BR	DEL RW	GY SL	DR TL	LR	SU	U	M	U					
1	30					✓	-		✓							✓					✓		B/P/G
2	30					✓	-		✓								✓				✓		B/P/G
3	15					✓	-		✓									✓			✓		B/P/G
4	30					✓	-		✓							✓					✓		B/P/G
5	20					✓	-		✓								✓				✓		B/P/G
6	20					✓	-		✓							✓					✓		B/P/G

7 15
COMMENTS

Majority of oiled zone consists of coated boulders with saturated pebbles/granules filling interstices between & below boulders. Pebbles, granules, sand ect. stopping downward oil migration. Concentration increases from MI → VI.

Comments from CIR-7-4 indicate oil in fine sediments restricted to 2-5 cm penetration.

SEGMENT STATION 1A

SUBDIVISION

DATE 3 / 29 / 90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Bndy
- ☐ Oil Dist
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/LWL
- ☐ SST
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit 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

Oiled Vegetation

1 ●

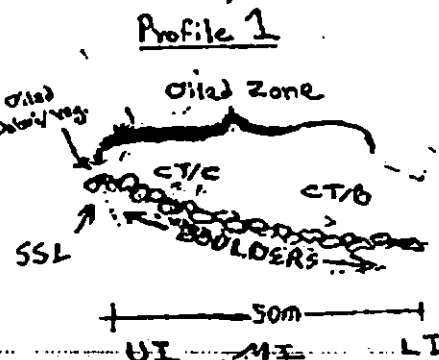
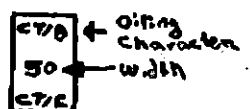
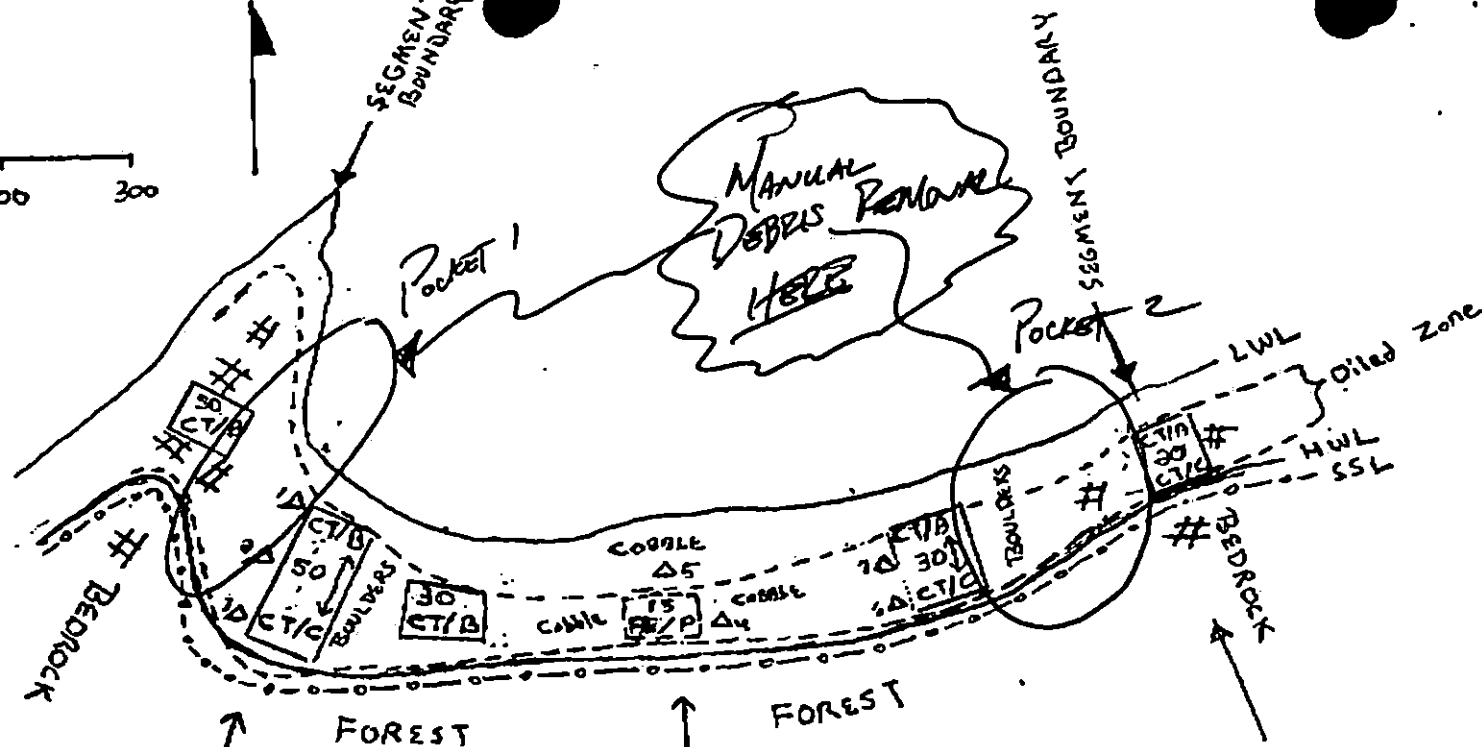
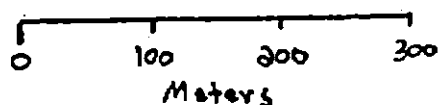
Photo location, direction, and number

Exposed Bedrock

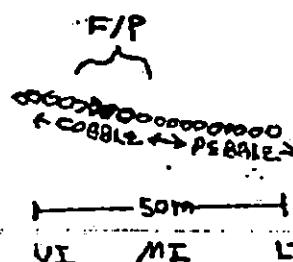
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REVISION 03/24/90

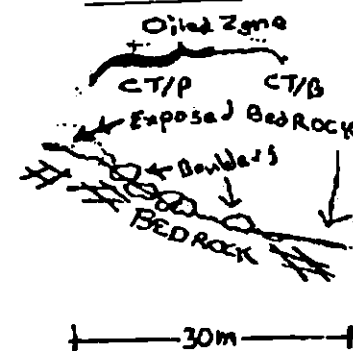
SKETCH MAP



Profile 2



Profile 3



MAR-31-1990 08:42 FROM DON BOLLINGER 2152

TO

0019075643771H

P.05

3/30/90

1A Summary

Team 1

1/3

g. 0740 : +2.0
 and 1000 : -2.0

Upper & mid intertidal mainly boulders over
 shale at ends of segment & over gravel in
 central 100m

100m fairly degenerate

low: dense fucus & recruits at ends rare
 in central portion (100m)

Phyllo on ends; L. Syech & other recruits &
 on ends; many left, bay of monkey - few eels
 lower intertidal; many rocks; many fucus
 recruits; many N. S. G. & L. Sitkama
 Oil odor in lower intertidal

SHORELINE ECOLOGICAL SUMMARY

1/3
REVISION: 03/22/80

Segment ST/1GR-1A Subdivision 1/A Date (mo/day/yr) 3/30/90

Time (24 hr) 0940-1000 Biologist S. Schroeter

- (A) Substrate type and % of segments:
(1) Bedrock 20 (2) Boulder 40 (3) Cobble 20 (4) Pebble 16 (5) Sand 4 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 25 Moderate 15 Low 60
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles/adults (X), new settlement (O)

Photographs:
Roll No. ST-1-1

Frames 20, 21, 22,

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	NOT PRESENT
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

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

GASTROPODS

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

FUCUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	NOT PRESENT
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: UNOILED sea otter carcass on east end of segment; 3 live sea otters & 9 spotted seals offshore;

Ecological Considerations:

Moderate abundance of adult & newly recruited Fucus in low & mid intertidal; ~65% of low intertidal with dense coverage of reds (Tridacna, Adiantum & Rhodanthe). Moderate abundance of juvenile Pycnopodia & brooding Leptasterias in low intertidal.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 GR-1A

SUBDIVISION: NO SUBDIVISION

DATE 30 March 90

USCG

NAME James Gambill

SIGNATURE James P. Gambill

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

move Patties in upper TIDAL zone, Due To The size of The boulder IT Look
be very DANGEROUS To Put a Lot of Personnel on The Beach.

ADEC

NAME Brian K. FitzSimons

SIGNATURE Brian K. FitzSimons

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS 1) Much oil remains in sediments below Boulder/Cobble Surface cover. S.S.
boulders may exceed 75cm

2) Oil definitely leaching into H₂O

3) Needs treatment if boulders can be removed or moved to gain a
To saturated sediments i.e.: front end loader, backhoe, small dozer,

4) If boulders moved, treat possibly with HPHIT wash w header
flood

LAND MANAGER

NAME Carol S. Huber (USFS)

SIGNATURE Carol S. Huber

☐ NO TREATMENT RECOMMENDED

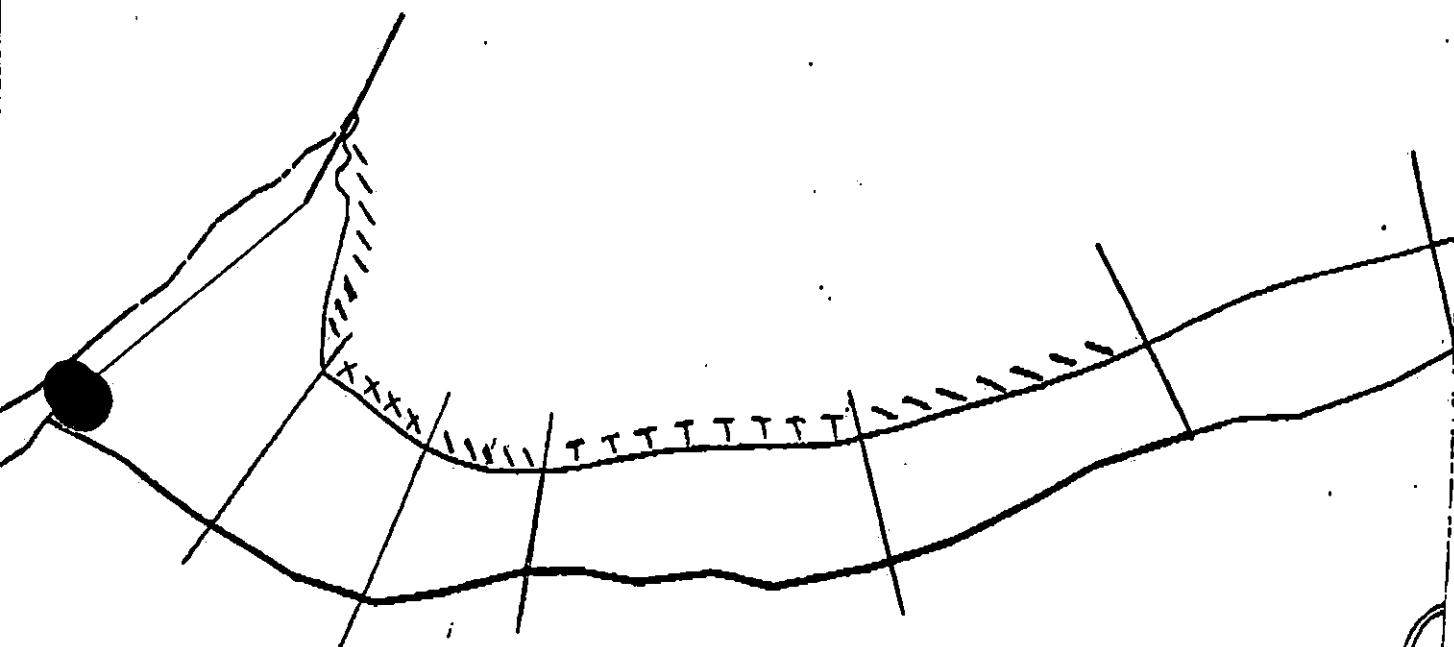
☒ TREATMENT SUGGESTED

COMMENTS

Dangerous beach for large crews, extremely slick
boulders and cobbles. Considerable oil left after
natural cleansing (oil soaked gravels in upper inter-
zone)
Recommended Low Impact methods



GR-10



GR-1A

X Wide
/ Medium
- Narrow
T V

GR-1A

ADEC Segment Length: 875m

Map Key: PWS-256

Name: R R 1 2

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-1\SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup *	OPEN
Bioremediation	WORK 6/15 to 8/15

* EXON 'A' STUDY SITE # 8 - DO NOT REMOVE STAKES FROM TOP OF INTERTIDAL ZONE

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M	Herring Spawning	Closed to bioremediation before 6/15. No constraint to manual pickup.
5R	Seabird Colony	No constraint. Work area is more than 800m from colony.
5S	Shorebird/Waterfowl Concentration	No constraint to bioremediation and manual pickup after 5/15.
7II	Subsistence: Deer Harvesting	No constraint to manual pickup. Closed to bioremediation after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid damage to unrolled intertidal and subtidal substrates, algae and seagrasses. Restrict disturbance of unrolled *Fucus* (rockweed) in lower and middle intertidal zones. Restrict boat and air traffic and beach disturbance to essential minimum after 8/15.

FOSC

Date

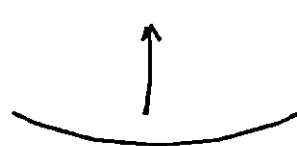
6-10-90

Prepared by

Date

6-10-90
C/10/90

SEABIRD
COLONY



GR-11

GR-10

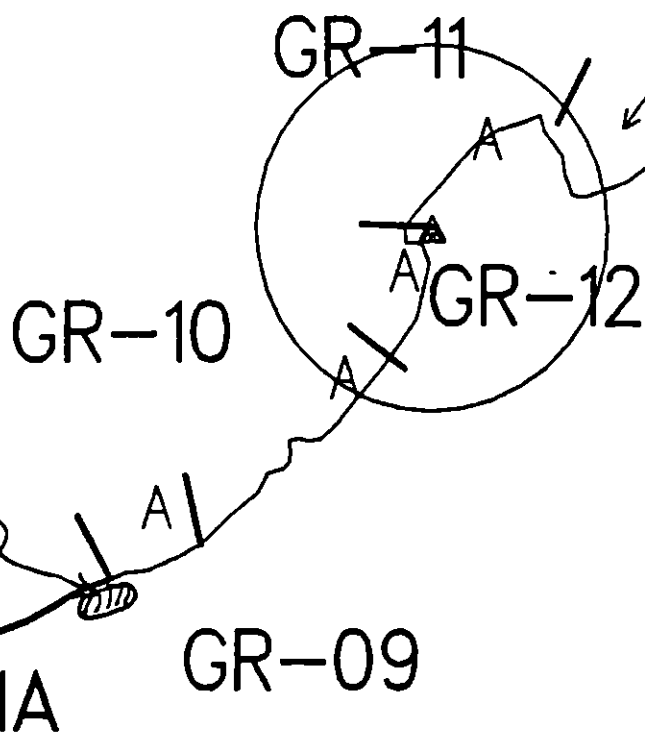
GR-12

GR-09

GR-1A

GR-1B

WORK
AREAS



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

ECOLOGY MAP SEGMENT GR-1A

SUBDIVISION A (1 of 1)

METERS



Exxon Company, USA
Map Key: PMS-GR-1A



ASAP

WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT 68-1 SUBDIVISION A DATE 7/31/90

MODIFICATION CLASS I (Customblend) CLASS II (inipol) application of inipol was unclear to where it was applied.

1. REASON FOR MODIFICATION

Reapplication of Customblend followed by inipol to site #1

2. SUGGESTED ADJUSTMENT TO WORK PLAN

Reapplication of Customblend followed by inipol to site #1.

3. TIMING ISSUES

7/11 - Subsistence: Deer Harvesting:
Closed to bioremediation after 8/15.

ADEC Wesley Sherman 

EXXON Ray Sott

NOAA-USGS Art Weimer

LAND MANAGER John Ebel (if field rep is on scene)

WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT GR-1 SUBDIVISION A DATE 7/31/90

MODIFICATION CLASS I

1. REASON FOR MODIFICATION

Mousse ϕ OP that was previously unlocated was located during ASAP. Area is located at Uitz-Mitz between FAP stakes #8 & 9.

- Area 10x3m x 5-10 cm under clean Cobble.
- Monitors should dig more pits in line with the band to locate any more mousse if present.
- ASAP could not conduct more excavation pits due to time frames.

2. SUGGESTED ADJUSTMENT TO WORK PLAN

- Manual excavation of Mousse ϕ OP that is located under Cobble armour.
- Cobbles will have to be removed to expose oil, manual removal of Mousse ϕ OP using available hand tools. Cobbles returned to area.
- Pumps or sorbent pads will need to be used to remove oil residue.

3. TIMING ISSUES

- No constraints to manual removal.

(SEE 7/31/90 GR-1 A MAP for location)

ADEC Wesley Shumley

EXXON Ray Smith

NOAA Steve Dittman

LAND MANAGER John Abel (if field rep is on scene)

WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT GR-1A(Site #2) SUBDIVISION A DATE 7/31/90

MODIFICATION CLASS I

1. REASON FOR MODIFICATION

Reapplication of Custom blend to site #2.
Refer to ASAP Survey data sheet.

2. SUGGESTED ADJUSTMENT TO WORK PLAN

Reapplication of Custom blend to site #2.

3. TIMING ISSUES

7/11 Subsistence: Deer Harvesting:
Closed to bioremediation after 8/13.

ADEC Wesley Sherman

EXXON Ken Selt

NOAA-USCG Art Ween

LAND MANAGER John Elrod (if field rep is on scene)

FIELD SHORELINE COMMENT SHEET

SEGMENT AS / GR 1 SUBDIVISION: A SITE: 1 DATE 7-31-90

USCG NOAA PSI Leo Bersalona, USCG Leo Bersalona
NAME ART WEINER SIGNATURE Art Weiner

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

TO ASSESS EFFICACY OF BIOREMEDIATION ON OIL LOCATED BENEATH SURFACE ARMOR. OIL ON UNDERSURFACE OF THIS COBBLE ARMOR WILL PROBABLY BE PROTECTED FROM WINTER WEATHERING EFFECTS AND MAY NEED TO BE BIOREMEDIATED DURING THE SUMMER OF 1991.

ADEC

NAME Wesley Ghamley SIGNATURE Wesley Ghamley

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Reassessment will be necessary to determine the effects of bioremediation & winter activity. Boulders may need to be rolled to expose underside where oil may be still present in 91.

LAND MANAGER

NAME John Ebel SIGNATURE John Ebel

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

To evaluate the result of bio treatment on existing oil conditions; and to assess if treatment is useful w/ existing technology.

EXXON

NAME Ray Suter SIGNATURE Ray Suter

☐ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Considering the ailing condition on this site, recommend reassessment of bioremediation application in 91.

FIELD SHORELINE COMMENT SHEET

SEGMENT AS/ GR-1 SUBDIVISION: A SITE: 2 DATE 7/31/90

USCG NOAA PSI Leo Berszton USCg Leo Berszton

NAME ART WEINER SIGNATURE Art Weiner

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

TO DETERMINE EFFICACY OF CUSTOMBLEND ON SUBSURFACE OIL
TO DETERMINE WEATHERING IMPACT UPON SURFACE COATS + COVERS.

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

To determine the effects of both bioremediation & the winter storms on both surface & subsurface oil.

LAND MANAGER

NAME John Ebel SIGNATURE John Ebel

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

To evaluate the result of bio treatments on existing oil condition; and to assess if further treatment is useful w/ existing technology.

EXXON

NAME REV SUTEL SIGNATURE Rev Sutel

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Reassessment should be done to follow up on re-application of customblend.

LEADING ASAP 2 EPOCH SOTELO RAY SEGMENT AS GR 1
 OG CHANEY GREG USGS BERSALDA LEO SUBDIVISION A
 ADEC GHAMLEY WES LAND REP EBEL JOHN TOTAL NO. SITES 2
 DATE July 131 190 TIME 09:2010 11:08 AM TIDE LEVEL 6 ft to 6.5 ft.
 TOTAL EST LENGTH OF SHORELINE SURVEYED: 170 m
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WEATHER: ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 OIL CATEGORY LENGTH: W m M m N 170 m VL m NO m US 178 m

SURFACE OIL *From sketch 7 AM '90* **SITE 1** *NOT VISIBLE* *sketch* **SITE 2** *NOT VISIBLE* **SITE 3**

SUBSURFACE OIL

Photographs: *ASAP2*

Roll No. 7

Frames 1 to 7

REVIEWED
8/6/90 TCU

COMMENTS Oiling noted on original segment report seems to still be primarily valid. Custom blen is present on beach. Small amount of AP/S/I & SOR/S was observed in areas where manual removal took place. See notes.

REVISION NO. 1

CHANEY
 SEGMENT STATION 1
 SUBDIVISION A
 DATE July 31 90

CHECKLIST
 0 100 200 300
 METERS

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

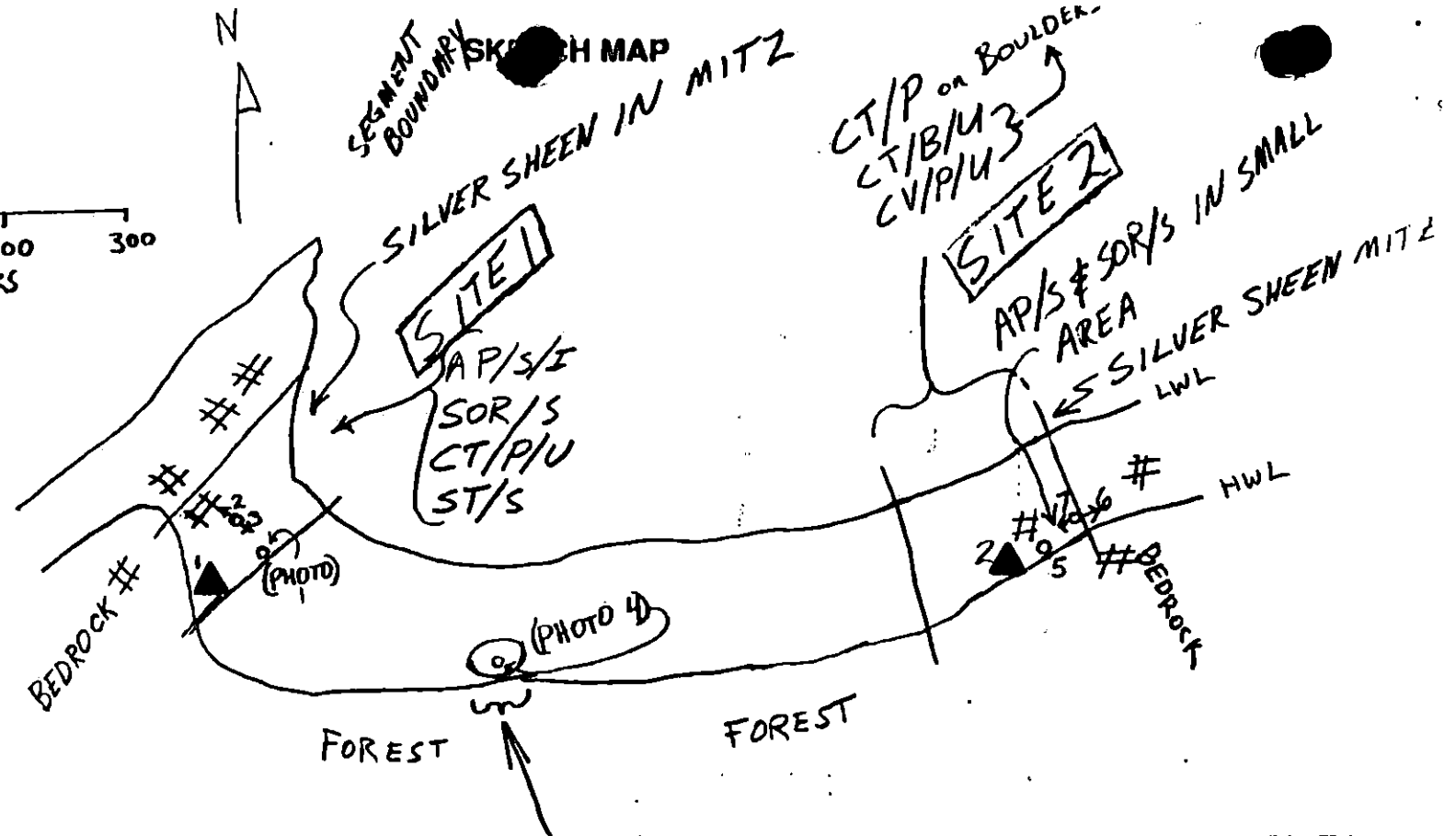
- LEGEND
- 1 PII - No Subsurface Oil
 - 2 PII - Subsurface Oil

- Continuous Distribution
- Broken Distribution
- Patchy Distribution
- Splashed Distribution
- Oiled Vegetation

Photo location, direction, and number

THIS MAP WAS TRACED FROM B. Bergland's MAP. IT IS NOT INTENDED TO STAND ALONE. MAJORITY OF CONDITIONS ARE VERY SIMILAR

CUSTOM BLEN WAS LOCATED ON BOTH BEACH SITES



THIS LOCATION NOT IN DESIGNATED SITES BUT SUBSURFACE OILING WAS DISCOVERED. AREA LOCATED BETWEEN F.A.P. STAKES #8 & #9. IN THE UUTZ A CONDITION EXISTS WHERE A FINER GRAINED SUBSTRATE IS COVERED BY LARGE COBBLES. AT THE COBBLE/FINE INTERFACE MOUSSE OR. IS PRESENT. LAYER IS 5 TO 10 cm THICK.



GR-1

SITE 1 (YES)

SITE 2 (YES)

A

A

GR-1A

Subdivision Field Map

Map No. 78302-1A

J. CHANEY

31 1990

GR-1

ST/S
CT/P/U
SOR/S
AP/S/E

TRACE SILVER
SHEEN IN MITZ

A

CT/P
CT/B/U
CV/P/U

TRACE
SILVER
SHEEN
IN MITZ

A

AP/S & SOR/S

GR-1A

GR-1A A

ADEC Subsegment Length: 848m

Subdivision Field Map

Map Key: PMSOR-1AA

Name: CHANEY

Date: JULY 31 1990

AR State Plane

1:3216

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-18 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup Less Than 400m From Active Nest	CLOSED
Manual Pickup More Than 400m From Active Nest	OPEN
Bioremediation Less Than 400m From Active Nest	CLOSED
Bioremediation More Than 400m From Active Nest	WORK 6/15 TO 8/15

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. No constraint to manual pickup..
5T	Bald Eagle Nest	USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup and bioremediation within 400m of active nest. No constraint to manual pickup and bioremediation more than 400m from active nest.
5S	Shorebird/Waterfowl Concentration	No constraint to manual pickup and bioremediation after 5/15.
7II	Subsistence: Deer Harvesting	Closed to bioremediation after 8/15. No constraint to manual pickup.
5R	Seabird Colony	NO CONSTRAINT. Work area is more than 800m from colony.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid damage to unrolled intertidal and subtidal substrates, algae and seagrasses. Restrict boat and 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.

FOSC Date 6-10-90

Prepared by P Phillips ⁶⁻¹⁰⁻⁹⁰ Date 6/10/90

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.

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

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

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

~~6S~~ Seabird 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~~ ~~Seabird colony~~ (5/1 to 9/15)

~~6V~~ ~~Anchorage~~ (5/1 to 9/15)

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

6X Lodge (5/1 to 9/15)

~~6Y~~ ~~Special use destination~~

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

7HH Finfish harvesting

~~7I~~ ~~Sea harvesting~~ (8/15 to 2/20)

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-1B

SUBDIVISION: No Sub Division

DATE 3/18/90

CCG

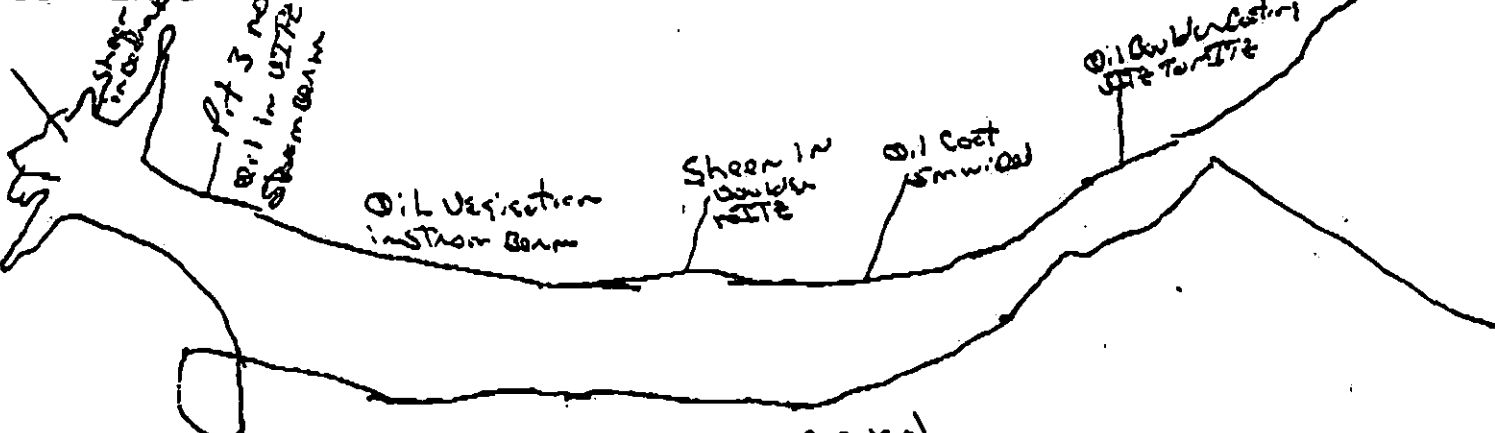
NAME Donna E. Gombert

SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS



ADEC

NAME Brian K. Fitz Simons

SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS No oil observed in any of pits throughout segment - Oiling restricted to UITZ storm berm (vegetation/plant) and crevasses/cracks of exposed BR and ORO bases of boulders on BR. BR areas are sheening into surface H₂O.

Treatment suggested - 1. Move oiled storm berm to active tidal area & disperse (or remove) 2. Since oiling occurs only on BR in cracks & under boulders on BR - Bioremediate due to lack of penetration of oil
3. Reevaluate UITZ storm berms due to snow cover over much of high UITZ.

LAND MANAGER

NAME Carol S Huber

SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Considerable oil remaining, in storm berm and trapped in shaley bedrock outcrop. Patchy tar mats bound, mostly in bedrock outcrop area of beach. Oil is leaching out into surface water. Resource sensitivities include: Special Use, that site, herring spawning, shorebird concentrations and deer harvesting.

Treatment suggests please map on front of all oil found let of it in the eastern basin. most
The oil goes from upper Inter Tidal zone to middle Inter Tidal zone. 50 ft. in the upper Inter T.D.
To middle Inter Tidal zone heavy oil 150 cu. ft. per acre. No oil from 30-75 cm deep. see sketch on
back of sheet

SHORELINE OILING SUMMARY

REVISION NO. 03/2/88

OG B. Berglund USCG J. Gamble SEGMENT ST/ GR-1B
 BIO S. Schroeder LAND REP C. Hubbs (NPS) SUBDIVISION A (1 of 1)
 EXXON C. Levine ADEC B. Fritzsiman TIME 13:00 to 15:30
 TEAM NO.: 1 TIDE LEVEL: +6 to +1.8 DATE 4/4/90
 T. SUBDIVISION LENGTH: 1530 m ☐ Sun ☐ Clouds ☐ Fog ☒ Rain ☐ Snow
 LANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 20 % B 30 % C 20 % P 15 % G 10 % S 5 % M % V %
 SLOPE: Lang 100 % Hang % Vert % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 180 m M 580 m N m VL 410 m NO 360 m.

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	R	B	C	P	1	2	3	4	5	SU	U	M	V
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT		1	2	3		1-3				3	1	2	
STAIN													
MOUSSE			X				X				X		
PATTIES													
TARBALLS													
FILM				X		X					X	X	
NO OIL													X

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

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

DEBRIS COLLECTED
☐ YES ☒ NOTYPE #BAGS

Photographs:

Roll No. ST-1-2Frames 24-31

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	US	1	2	3	4	5	SU	U	M	V		
1	40					X	-		X							X				G/P
2	30					X	-		X							X				G
3	65					X	-		X						X					C
4	40					X	-		X							X				C/P/G/S
5	70					X	-		X								X			G/P/C
6	40					X	-		X						X					G/P

COMMENTS

The western sector consists of a gravel, pebble & cobble beach. It is relatively oil free (probably due to storms reworking the relatively easily transported sediments). The eastern sector consists of scattered boulders resting on a bedrock ramp (less easily reworked sediments (next pg.)).

SEGMENT ST/ GR-1b 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	UG	W	B	Y	GR	BL	BR	BU	BU	U	M	LI		
7	60					X	.		X							X						G/P
8	20					X	.		X								X					B/G/S
9	40					X	.		X						X							G
10	20	X					0-1		X			X			X							B/G
11	60				X		50-60	X				X			X							C
							.															
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COMMENTS

Oil coats the tops and sides of the boulders (Black, Brown & Tan). A patchy brown mousse has accumulated in the cracks and crevices of the bedrock. A splashy sheen was observed in most of the UI and MI zone of the eastern sector.

Black CT on Boulder
Oiled gravels
Bedrock (low grade slate)
MS in crack (may turn to AP with time)

REVIEWED _____ DATE _____

DATE 4 / 4 90

CHECKLIST

N Arrow
 Approx. Scale
 Seg/Side Entry
 CW Dist.
 Width
 Length
 % Cover
 Substrate Character
 Est. HYP/LAYL
 SSL
 Profile Location(s)
 Profile(s)
 PH Location(s)
 Photo Location(s)

LEGEND

1 Δ
FR - No Substantive CH

2 ▲
Plt - Submarine On

CT/C

CT/B
Broken Distribution

CT/P
Patchy Distribution

[CT/S]
Classified Distribution

Old Testament

**Photo location, direction,
and number**

~~red~~ oiled Zone Shale

* Exposed Bedrock

-0-0- 55L

with → CT/p
W 30
20%

Profile 1

Profile 1

Storm Berm

Pillar Case

VI

VII

25m

Boulder

SWITCH MAP 60% 20%
PT 23 CT/DB CT/A

A hand-drawn geological sketch of a road section. The road is represented by a line with small circles along it. Labels include: "Oiled veg." at the top left; "SAND" with an arrow pointing to a specific spot on the road; "Boulders" with an arrow pointing to a cluster of circles; "Mud" with an arrow pointing to a spot on the road; "Small patches of Monser in cracks of Bedrock" with an arrow pointing to a crack; "Bedrock on Bedrock" with an arrow pointing to a spot on the road; and "17" at the bottom right.

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BFC

End of Segment

ME FEIZT
VI (CTA)
BEHUT

Handwritten notes on the left margin:

370
ET/P
1000
15%

Handwritten notes on the right margin:

370
ET/P
1000
15%

35%

5% 1

Handwritten signature and initials, possibly 'H. H. H.' or similar, in dark ink.

10/10/10

HW

LWL
L

1

CT/P ← on boulder Tops

MS/P { 1 cm thick } ← In cracks
| { 15% cover } of bedrock

Bedrock Ramp
with Scattered Boulders

$\overline{VI} \quad \overline{MI}$

Oil Character Length (m): AP _____ PO _____ CV _____ CT 280 ST _____ MS 240 PT _____ TB _____ FL 900 NO 360

PREVIOUS EDITIONS

SHORELINE ECOLOGICAL SUMMARY

REVISED: 08/22/88

Segment ST / GR-01 Subdivision B Date (mo / day / yr) 4/4/90

Time (24 hr) 1300 Biologist S. Seaver

(A) Substrate type and % of segments:
(1) Bedrock 38 (2) Boulder 34 (3) Cobble 11 (4) Pebble 17 (5) Sand 0 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 21 Moderate 19 Low 60

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)
Photographs: N/A
Roll No. N/A
Frames None

BARNACLES

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M		1U	1M		1U	1M		1U	1M		
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		

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		
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		

ASTROPODS

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		
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		

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		
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		

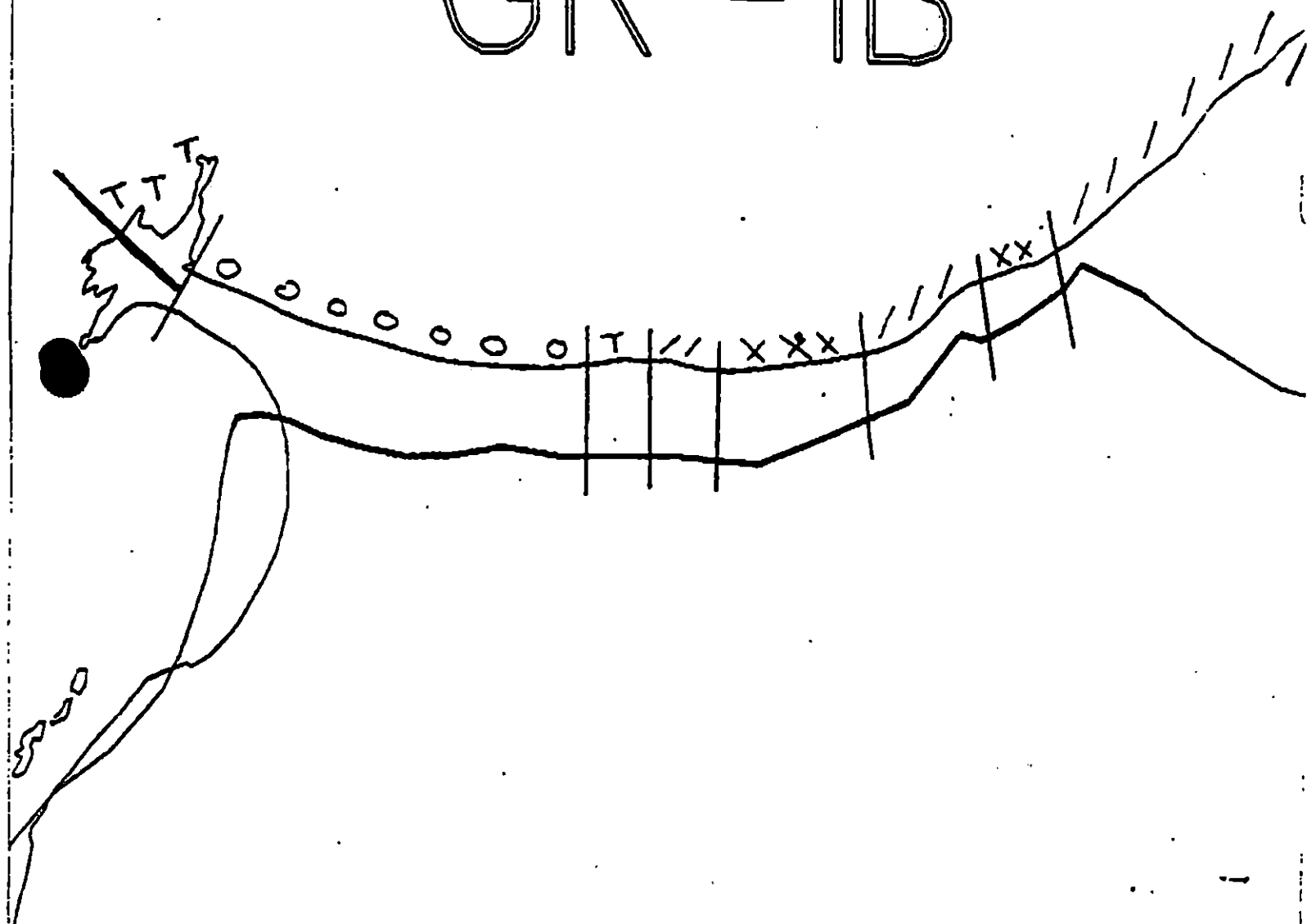
Wildlife Observations/ General Comments: 3 very small streams flowing off of limestone bedrock; low intertidal not observed; 2 sea urchins observed offshore. No sensitivities or priorities.

Ecological Considerations: With exception of gastropods, amphipods, isopods, biota were concentrated on the limestone bedrock. Large sponges & small bryozoans overlying bedrock had dense concentrations of Littorina siliqua, N. sinensis & L. peruviana & moderate to dense concentrations of brooding Littorina littorina. Large S. cariosus abundant at end of bedrock at west end of segment. Siphonaria common on Fuc

Segment: GR-1B Date: 4/4/90 Bio: S. Schroeter OG: B. Berglund

This segment consists of cobble and gravel pocket beaches bounded by bedrock headlands. With the exception of amphipods and gastropods (mainly *Littorina sitkana* and *Notoscaea scutum*), most of the biota were concentrated on the bedrock headlands. There were 3 very small streams draining through bedrock channels in the cobble/gravel pocket beaches. Here, in the Mid intertidal were moderate to dense patches of mussels and barnacles and moderate numbers of adult and juvenile *Fucus*. Boulders and large cobbles overlaying the bedrock had high densities of *L. sitkana*, *N. scutum*, *N. parsona*, and moderate to dense concentrations of brooding *Leptasterias hexactis*. The predatory snails *N. lapidosa* and *Scaphesia dira* were also common under these boulders and cobbles. *Katherina tunicata* were common among large *S. cariosus* in the mid intertidal (+5.0). *Siphonaria* were common on *Fucus* in the same habitat.

GR-1B



XXXX Wide

/// Medium

-- Narrow

TTTT Very Light

OOOO No Oil

GR-1B

ADEC Segment Length: 952m



Map Key: PWS-257a

Name: T.B. Berglund

Date: 4/4/90

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ GR-1B 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)
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.

SHPO SIGNATURE: Charles E. Holmes DATE: 4/20/90

OILING CATEGORIZATION:

Wide 240m: Medium 240 m: Narrow 0 m: V.Light 58 m: No Oil 341 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 60+ 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 pick up of mousse patties and oiled vegetation and bioremediation of areas shown on sketch map. Treatment should be conducted between 6/15 and 8/15.

MONITORS TO ASSESS SUITZ DURING/PRIOR TO TREATMENT

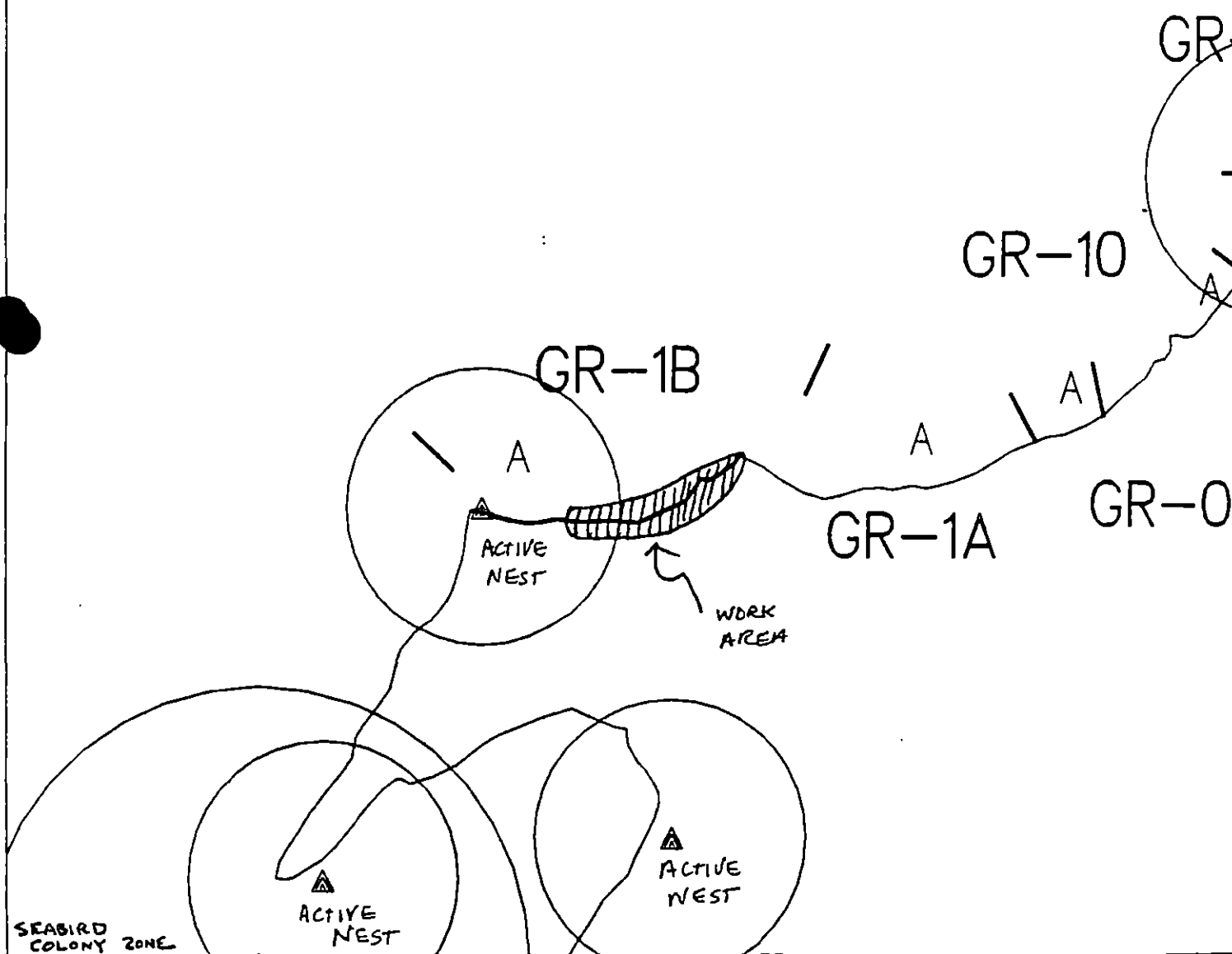
TAG COMMENTS: _____

TAG APPROVAL DATE: 4/19/88

ADEC	ART WELNER	Art Welner
EXXON	ANDY TEE	Andy Tee
NOAA	BOB WESLEY	Bob Wesley
USCG	KENNETH KEANE	Kenneth Keane

FOSC: W L DATE: 4-26-90

SEABIRD COLONY
BUFFER ZONE



Exxon Company, USA
Map Key: PMS-GR-1B
June 05, 1990

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

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

XXXXX = ABANDONED

ASAP

WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT GR-1 SUBDIVISION B DATE 7/31/90

MODIFICATION CLASS I CLASS II (unsure where innipol was applied previously)

1. REASON FOR MODIFICATION

Small patches of asphalt/Pavement are present in interstices of Cobble/boulders and small patches of asphalt/pavement are also present on slated bedrock.

Area 280m in length marked with orange flagging on western side of subdivision.
- Reapplication of Custom blend of innipol.

2. SUGGESTED ADJUSTMENT TO WORK PLAN

Continuation of work plan.

Remove stakes, survey ribbon, painted rocks etc. Multiple sites located with orange ribbon tied on Rocky census tape.

3. TIMING ISSUES

- Constraint sheet UNAVAILABLE to us, so we are unsure of constraints.

ADEC Wesley Ghormley 

EXXON Ray Satt

NOAA USCG Art Weimer

LAND MANAGER John Ebel (if field rep is on scene)

TAG: Re bio + pick up trash
wdr

FIELD SHORELINE COMMENT SHEET

SEGMENT AS/ GR 1 SUBDIVISION: B SITE: 1 DATE 7-31-90

USEG NOAA PSI Leo Bersalona USCG Leo Bersalona

NAME ART WEINER SIGNATURE Art Weiner

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

REMAINING OIL DOES NOT POSE A THREAT TO NATURAL RESOURCES.
OIL LEFT AFTER BIOREMEDIATION ACTIVITY CEASES WILL PROBABLY BE
REMOVED BY WINTER WEATHERING PROCESSES.

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Due to the fact there is subsurface oil with small
patches of A/P thru-out site #1 Reassessment will be
Necessary in 1991.

LAND MANAGER

NAME John Ebel SIGNATURE John Ebel

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

High energy wave exposure, limited effectiveness of available technology for
removing or recovering oil

EXXON

NAME REY SOTELO SIGNATURE Rey Sotelo

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Oil remaining is weathering nicely and will be removed in most
areas due to the high energy created on this shoreline. Recommend no
further treatment or reassessment.

TEAMING ACAPZ

OG CHANEY, GREG

ADEC GHORMLEY, WES

DATE JULY 31 1990

TOTAL EST LENGTH OF SHORELINE SURVEYED: 455 m DEC LENGTH

SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WEATHER: ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow

OIL CATEGORY LENGTH: W m M 170m N 285m VL m NO m US 416m

EAXCN COTELO, RAUSGS BERSALONA LED

LAND REP EBEL, JOHN

TIME 11:20 to 13:00

LINE SURVEYED: 455 m DEC LENGTH

$$S = G' = \{1, 2, 3\} \quad G' = U$$

SUBDIVISION

TOTAL NO. SITES

TIDE LEVEL 6.0 ft to 5.5 ft

LENGTH

SITE 1

NOT VISIBLE

SITE 2

SITE 3

[illegible][illegible]

Roll No. ASAP 2

Frames Roll #/

OR/H

REVIEWED
8/6/90 YW

COMMENTS Trends documented in original SSAT survey still valid, however oil is more weathered now. Most of the MS/I is now AP/I. Scattered silver sheens present in MITZ. Regions where manual removal took place now harbor shallow SOR/W/P & AP/s

GENERAL DATA

SEG ID: GR 1 SBDV: B SITE: 1 TEAM: 1 DATE: 7/31/90
SITE LGTH 455 OIL CATEGORIES: W M 170 N 285 VL NO U 416
1991 REASSESSMENT: USCG: N ADEC: X LDMGR: N EXXON: N
NORD.

SURFACE DATA

CHAR #: 1 OIL CHAR: AP OIL DIST: CONT — BRKN — PTCH — SPLH ✓
TIDAL ZONE: SU — UI ✓ MI — LI —

CHAR #: 2 OIL CHAR: SOR OIL DIST: CONT — BRKN — PTCH — SPLH ✓
TIDAL ZONE: SU — UI ✓ MI — LI —

CHAR #: 3 OIL CHAR: CT OIL DIST: CONT — BRKN ✓ PTCH ✓ SPLH ✓
TIDAL ZONE: SU ✓ UI ✓ MI ✓ LI —

CHAR #: 1 OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

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TIDAL ZONE: SU — UI — MI — LI —

ASAP DATA ENTRY FORM

SUBSURFACE DATA

PAGE 1 OF 1SEGMENT ID: GR-01 SUBDIV: B SITE: 1PIT # 1 PIT DEPTH 15 OIL CHARACTER OF OIL INTVAL: FROM 10 TO 15
CLEAN BELOW: N PIT ZONE: SU UI MI LISUBSURF SEDIMENT: BRK X BLD COB PEB GRN SAN MUD VEGPIT # 2 PIT DEPTH 20 OIL CHARACTER OR OIL INTVAL: FROM 0 TO 20
CLEAN BELOW: N PIT ZONE: SU UI MI LISUBSURF SEDIMENT: BRK X BLD COB PEB GRN SAN MUD VEGPIT # 3 PIT DEPTH 20 OIL CHARACTER OR OIL INTVAL: FROM 0 TO 15
CLEAN BELOW: X PIT ZONE: SU UI MI LISUBSURF SEDIMENT: BRK X BLD COB PEB GRN SAN MUD VEG

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

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

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SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG

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

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

Year	Number of people (millions)
1950	10
1960	15
1970	20
1980	25
1990	30
2000	35

NOT INTENDED TO STAND ALONE
BASIC OBSERVATIONS FROM SSAT STILL VALID

REGIONS WHICH WERE
MANUALLY TREATED APPEAR
TO HAVE SHALLOW SOR/H/S
AND AP/S SEDIMENTS

10 x 30 cm
POCKET OF
POOLED OIL ON
BEDROCK OUTCROP

CERCLA
979

PHOTO 8

(PIT #2)

PHOTO

PIT ★/

MENTS
SCATTERED SILVER SHEEN IN MITZ

(PIT #3)

(PIT #2)

WEST
END
SITE :

(PIT # 3)

PHOTO

SCATTERED
FRAGMENTS
API IN BEDDING
PLANES OF SLATE
VITZ.

280 METERS

ORANGE FLAGGING ON DRIFT LOG

AREA RECOMMENDED FOR

AP/S & SOR/H/S PICKUP:

BY AGENCY REPS.

ORANGE FLAGS AT EACH END

RE-APPLICATION OF CUSTOMBLEN & INIPOL

LARGE DRIFT LOG
ROOTS WITH ORANGE
FLAGGING



IN CHARGE OF REPORT AP _____ PG _____ OF _____ DT 710 DT _____ MR 3rd DT _____ TS _____ PL 900 MD 360

GR-1B

YES
SITE 1

A

G

GR-1B A

AKG Subsegment Length: 871m

Subdivision Field Map

Map Key: PUSOR-18A

No: CHANEY

Date: July 31 90

All State Plans 100-93180

GR-1B

SITE II

PO
S₁

S₂

S₃

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SEGMENT GR-1B

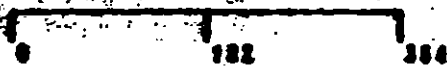
Segment Location Map

Map Key: PUSOE-1B

METERS

July 28, 1990

1:7100



SHORELINE EVALUATION

SEGMENT ST/ GR-02 SUBDIVISION A (1 OF 1) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Shorebird/Waterfowl concentration (5S) - 4/25 to 5/15; Herring spawning (2M) - 4/1 to 6/15; Salmon harvesting (7Z) - 5/1 to 9/30 (consult ADF&G and Chenega Bay for dates); Tent site area (6U) - 6/1 to 9/15; Deer harvesting (7II) - 8/15 to 3/1; Deer habitat - no dates.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict disturbance of rich biota on headlands at east and west end of segment, and the LITZ of central beach area.

SHPO SIGNATURE: Rachel Jean Dale DATE: 4/10/90

OILING CATEGORIZATION:

Wide 101m: Medium 158m: Narrow 0 m: V.Light 167m: No Oil 98 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 areas where cover found.
All work after 6/15 based on herring spawning restraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/10/90

ADEC JOHN BAUER John Bauer

EXXON ANDY GIL Andy Gil

NOAA Burl W. Scott Burl W. Scott

USCG G.A. REITER G.A. Reiter

FOSC: DATE: 4-19-90

Do not back
DATA - Do not back

FIELD SHORELINE COMMENT SHEET

GR-02 p. 2 of 6

SEGMENT ST / GR-02 SUBDIVISION: None DATE March 30

SCG

NAME Robert Jensen SIGNATURE Robert Jensen☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

Not practical to use crews around
large boulders & large cobble

ADEC

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

COMMENTS

Significant surface oil in sediments in upper
intertidal. The oil is underneath & between boulder &
cobble; will be difficult to treat. Suggest moving (stirring)
boulders w/ picks and shovels before bioremediation.
The oil may represent a threat to rich life in the
lower intertidal. Treacherous walking.

LAND MANAGER

NAME U.S. Forest Service SIGNATURE Lee Teeler☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

allow Natural forces to continue
(oil present is guarded by boulders)

SHORELINE OILING SUMMARY

REVISION NO. 02/22/90

UG JEAN-MARIE SEMPELS USCG 306 JENSEN SEGMENT ST/ QR-02
 BIO T. M. Dixon LAND REP Lea Keelen SUBDIVISION North
 EXXON T. M. Dixon ADEC Rowana Hummel TIME 09:56 to 10:50
 TEAM NO.: 2 TIDE LEVEL: -2' to -1' DATE MARCH 30 1990
 EST. SUBDIVISION LENGTH: 530 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock 55m covered dune HTL
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: WEST to EAST
 SURFACE SEDIMENTS: R 0 % B 60 % C 20 % P 10 % G 10 % S - % M - % V - %
 SLOPE: Long 100 % Hang 0 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 40 m M 150 m N - m VL 60 m NO 180 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	N	P	S	BR	RW	SL	TL	LA	SU	U	M	U			
ASPHALT PAVEMENT																
POOLED																
COVER		X	0													
COAT																
STAIN				X		X							X			
BOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL										X		X	X			

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NO

TYPE

#BAGS

Photographs:

Roll No. CameraFrames Malfunction

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-ON)	BELOW	OIL / FILM COLOR								PIT ZONE	A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO			BR	RW	SL	TL	LA	SU	U	M	U		
1	20					X	-											no	Excavation of
2	20					X	-											"	boulders to 1st
3	15					X	-											"	at
4	20					X	-											1	surface oil
5	20					X	-											1	
							-												

MENTS

2-4-2 P. 2 0/2 -

GR-2, Green Island, March 30, 1990

Segment GR-2 forms a small northeasterly facing embayment on the north central coast of Green Island. The shore is exposed to a long northerly fetch direction, but has a relatively narrow exposure.

The shoreline consists of a moderately sloping beach of angular to subrounded boulders increasing in size towards the upper intertidal zone. A small triangular area of sand was present at the time of the field work in the central low intertidal area of the beach, elsewhere, the boulders and cobbles rest on smaller sediments. The central part of the beach has a considerable area of surface runoff. A well defined band of red algae extends continuously along the low tide zone except over the sandy central area. The backshore and hinterland areas were covered with snow during this field work, and observations of oiling that could be present in the backshore could not be made.

No oil was found between the western extremity of this segment and the central runoff area. Immediately to the east, a patch of dull brown oil broken (60%) cover, 14 m wide and 20 m long, occurs between and around the base of boulders on finer underlying sediments. The average thickness of the surficial oil/sediments layer is 2 cm, and its maximum observed thickness is 5 cm.

To the east, sediments become less well sorted and oil occurs as 1) weathered splashes over boulders and bedrock in the middle and upper intertidal zone, and 2) a 3 m wide band of local accumulations of oil/sediments at the base of boulders. In this last case, the maximum size of individual patches is 30 cm diameter, the average thickness less than 1 cm, and the maximum thickness 3 cm. The oiled band has a 20% cover and it occurs in the upper intertidal zone.

Q6-2 p. 13

Further to the east, the beach includes smaller well rounded boulders and cobbles, giving the impression that this section is subject to more wave energy. The oil cover decreases rapidly over this section to the point of forming stains of splashes, over a 10 m. sq. area. A few partially oiled logs occur in the upper part of the beach at this location.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 06/20/90

Segment ST/ GR-02 Subdivision N/A Date (mo / day / yr) 03/30/90
 Time (24 hr) 0945 Biologist John D. KOD

- (A) Substrate type and % of segments:
 (1) Bedrock 2 (2) Boulder 55 (3) Cobble 30 (4) Pebble 10 (5) Sand 3 (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 5 Moderate 20 Low 75
- (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	X	X	2	O	O	X	2	2	X
3	3	3	3	3	3	O	O	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	O	O	2	O	O	2	2	2	2
3	3	3	3	3	3	O	O	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	X	X	2	O	O	X	2	2	2
3	3	3	3	3	3	O	O	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	X	O	O	O	X	O	O
3	3	3	3	3	3	O	O	O	O	O	O
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:

headlands.- *Pisaster ochraceus*, Many small stars among boulders at headlands. Also many chitons in these areas.

Ecological Considerations:

The southwest boundary of this segment is a headland with extensive rock outcrop, much relief & heterogeneous habitat. It has an extremely rich biota. Numerous species of algae, gastropods, & sponges are apparent. The headland to the northeast is an abbreviated version. Between the headlands is a high energy beach of scoured boulders & cobbles. The lower intertidal has a conspicuous band of filamentous red algae with numerous hermit crabs, isopods & small limpets under the rocks. Higher on the shore there is much open space.

JDD GR-02 4/5

Start 4 1053 NO

0-2m heavy (Iridia?)

1 F. lona 70-6 Red alga

(0-12') 15% B. 80 rubble

5 rubble

2-9m Brown-bud

12-14 30% Fucus 20% Red

45% brown Sarg

Solid-bud. sparse Fucus

recently. Barnacles & sponges

present. Sparse Sarg

Under rocks

9m - 3dm Spongy buds / rubble

sparse barnacles 1.5m

Fragment under surface

mid 6

JDD GR-02

5/5

Headland at end of 6

30 End 30 Bubbles 30 10 Feb

Abundant larvae of other

headland

6m band of rubble

w. 12 sparse Fucus &

Ulva 80% to 100% cover

Pyrosoma, Dermacoria

Flaccidaceae, whole under

rocks (head)

More homogeneous

6-12m sparse-bud Fucus

shredded Halosaccus

very sparse than

High Outcrops in 11

sparse myt mod Barnacles

1.1.1.1

1.1.1.1

Area between headland

fairly homogeneous

Overall

Band 2 70% rubble 30% sand 3

Band 1 55% rubble 10

JDD GR-02 2/5

Occasional *Homocidus* &
M.I. fossils

25 m from of T estuary
area of Shale outcrop
& horizontal bench

Fossils 20% many *Leptodonta*

Reds 20% *Leptodonta*

Brown 15-20%

Pisaster ochraceus under
marble outcrop on M.I.

R. Section also common from

2nd layer abundant under edge

Turritella genus

small *Haliotis*

& *Syringophora*?

Extremely *Leptodonta* to

broken, only dense area

in Rock's line of point

near *Mytilus* on top

of Shale outcrop

JDD GR-02 3/5

Start Boulder beach 10.22

2, NO

0-5 m Red Band of
F.1 algae on Boulder/flat

B 20 C 30 F 30

Spore *B. oceanus* under Tark
under other horizontal

Kopala *Edictia*? small *Leptodonta*
& *Leptodonta* genus

5-18 m H. 1 = N.I.

50-72 several boulders

Spore *Leptodonta*

NO Fossils

Spore *Leptodonta* by rock

Spore *Leptodonta* among them

3. Red Algal Band

Then 20 m near *Mytilus*

& Fossils 20% *Leptodonta*

Brown 15%

Most small & light of litter

A hand-drawn map of a study area, likely a coastal or wetland environment. The map includes a scale bar at the top left with markings for 0, 100, 200, and 300. A north arrow is located above the scale bar. The map shows a body of water labeled 'Lulheol' at the top, with a 'Location and View of Diagram Below' indicated. A 'Runoff' line is shown flowing from the water towards the center. Two circular areas are marked with dashed lines and labeled '14,20 cv/A' and '3,200 cv/P'. A 'Snow Line Hurl' is indicated on the right side. A 'Red Algae' area is shown at the bottom, with a 'Runoff' line flowing from it. A 'Bio HERE' label is placed near the center. The map also shows 'Snow covered ground' and 'Red rock' areas. A 'Sand' area is marked near the bottom right. A 'Runoff' line is also shown flowing from the bottom right towards the center. The map is oriented with a north arrow pointing upwards.

GA-02 p. 4 of 6



XXXX Wide

//// Medium

---- Narrow

TTTT Very light

GR-2

ADEC Segment Length: 523m

Map Key: PWS-258

Name: Jean-Marie Sempel

Date: April 30/90

ADDENDUM: SUBDIVISION CONSTRAINTS

* SEGMENT GR-2 SUBDIVISION A (1 of 1)

WORK WINDOW

Bioremediation Less Than 400m From Active Nest

CLOSED

Bioremediation More Than 400m From Active Nest

WORK 6/15 to 7/1

* EXXON 'A' STUDY SITE # AP-7 - DO NOT REMOVE STAKES FROM BACK OF INTERTIDAL ZONE

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

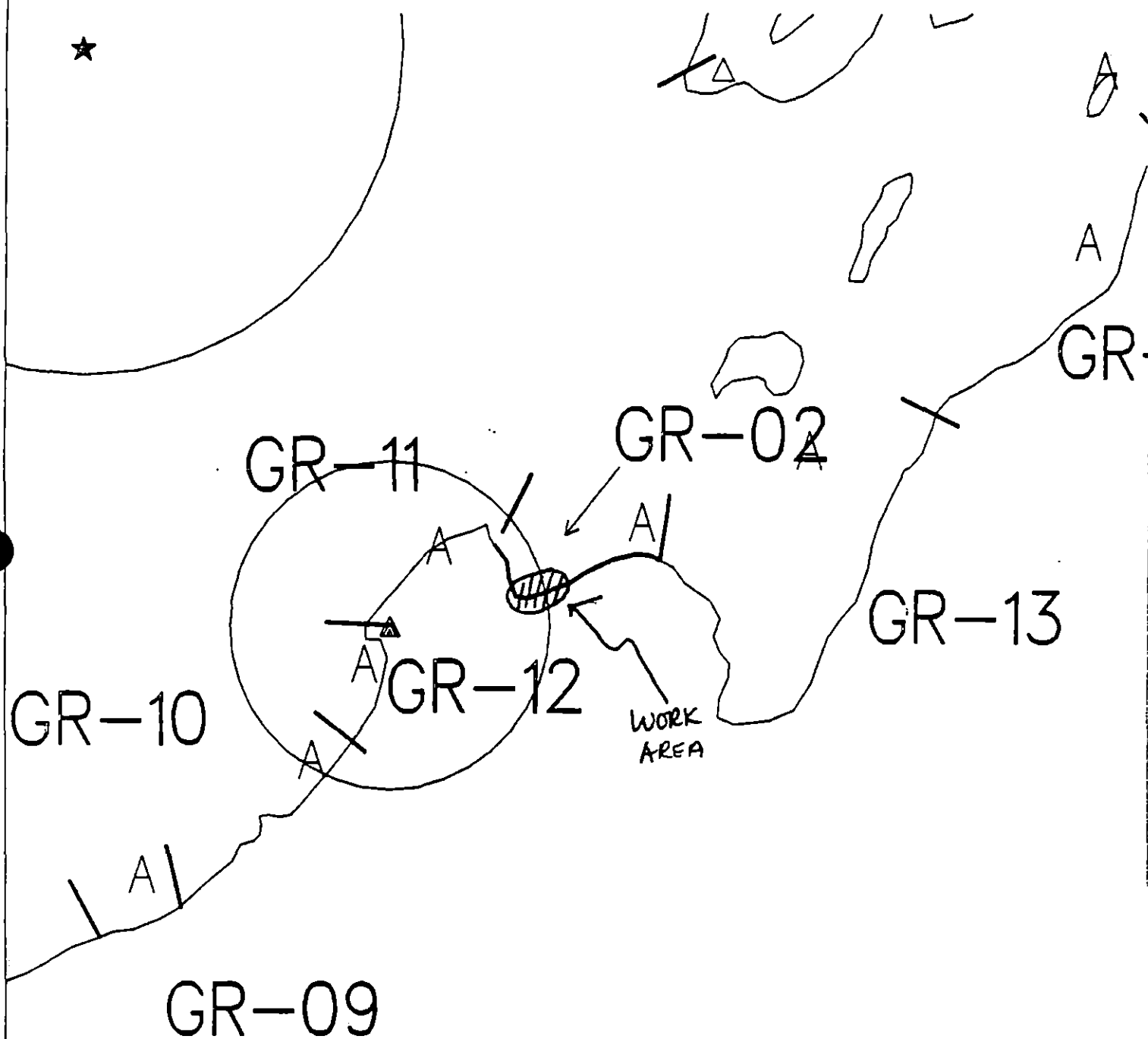
2M	Herring Spawning	Closed to bioremediation before 6/15.
5S	Shorebird/Waterfowl Concentration	No constraint after 5/15.
5T	Bald Eagle Nest	USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to bioremediation within 400m of active nest. No constraint to bioremediation more than 400m from active nest.
7II	Subsistence: Deer Harvesting	Closed to bioremediation after 8/15.
7Z	Subsistence: Salmon Harvesting	Closed to bioremediation after 7/1 per Gail Evenoff/Chenega Corp. to Tom Kelley/Exxon on 6/8/90.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to unloiled 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 and beach disturbance to essential minimum after 7/1.

FOSC [Signature] Date 6-12-90

Prepared by [Signature] Date 6/11/90



Exxon Company, USA
Map Key: PWS-GR-2
June 04, 1990

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

METERS



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

1 inch = ~~124~~ feet

WORK PLAN ADDENDUM

Segment GR-02

Subdivision A

Dated 7/5/90

MODIFICATION

1. REASON FOR MODIFICATION

Add manual pick up to additional work area.

2. ADJUSTMENT TO WORK PLAN

Manual pick up of oiled boom and bag of oiled trash from area indicated on attached map

SHPO APPROVAL NEEDED YES X
NO

SHPO SIGNATURE Rachel Jean Doh 7/5/90

TAG APPROVAL DATE 7/5/90

ADEC Ray M... R. Martin

EXXON ANDY GEAR

NOAA Joseph Talbot

USCG G.A. REITER

FOSC W L DATE 7-10-90

ASAP

WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT GB-2 SUBDIVISION A (site #2) DATE 7/31/90

MODIFICATION CLASS I

1. REASON FOR MODIFICATION

Small patches of asphalt/pavement sporadic thru-out site #2.

2. SUGGESTED ADJUSTMENT TO WORK PLAN

Manual removal of small sporadic A/P patches using available hand tools.

3. TIMING ISSUES

72 - Salmon Harvesting 8/1 - 9/30 (Consult ADF&G and Cheney Bay for dates)
60 - Tent site area 6/1 - 9/15.
7II - Deer harvesting 8/15 - 3/1
Deer habitat - no dates.

ADBC

EXXON

NOAA USGS

LAND MANAGER

(if field rep is on scene)

TAG: NTR

FIELD SHORELINE COMMENT SHEET

SEGMENT AS/ GR 2 SUBDIVISION: A SITE: 1 DATE 7-31-90

USCG NOAA PS1 Leo Bersalona, USCG Leo Bersalona

NAME Art Weiner SIGNATURE Art Weiner

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

TO ASSESS EFFECTS OF BIOREMEDIATION AND WINTER WEATHERING

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Reassessment will be necessary to determine the effects of bioremediation.

LAND MANAGER

NAME John Abel SIGNATURE John Abel

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

TO Evaluate bioremediation effects

EXXON

NAME Ray Sotelo SIGNATURE Ray Sotelo

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

No further assessment should be necessary.

TRG: NTR

FIELD SHORELINE COMMENT SHEET

SEGMENT AS/ GR 2 SUBDIVISION: A SITE: 2 DATE 7-31-90

USCG NOAA PSI Led Bersalona, USCG Led Bersalona

NAME Art Weiner SIGNATURE Art Weiner

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Proposed MANUAL REMOVAL will ELIMINATE ACCESSIBLE OIL.

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

(to be determined upon completion of work modification)

☐ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Reassessment should be determined upon completion of work requested on modification. If proper removal is applied reassessment will not be necessary at this time.

LAND MANAGER

NAME _____ SIGNATURE _____

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Reassessment after work modification completed by demob. crew.

EXXON

NAME REY SOTELO SIGNATURE Rey Sotelo

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

No reassessment should be necessary if work is completed in '90 as specified on work modification plan.

FIELD SHORELINE COMMENT SHEET

SEGMENT AS/ GR 2 SUBDIVISION: A SITE: 3 DATE 7-31-90

USEG NOAA PSI Leo Bersillon + USCG Lt. Barcelona

NAME Art WEINER SIGNATURE Art Weiner

☒ YES

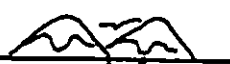
☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

TO ASSESS EFFECTS OF INIPOL + WINTER WEATHERING.

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley 

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Inipol was applied on 7/31/90, so Reassessment will be necessary to determine the effects of bioremediation.

LAND MANAGER

NAME Tolm Ebel SIGNATURE Tolm Ebel

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

To evaluate the result of bio treatment on existing oil condition; and to assess if further treatment is useful with existing technology

EXXON

NAME Ray Sotelo SIGNATURE Ray Sotelo

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

This site was bioremediated following ASAP ~~survey~~ survey. No further reassessment is necessary.

SITE 3

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SUM	M	L	
ASPHALT								
S.O.R.								
POOLED								
COVER								
COAT		X				X		
STAIN								
MOUSSE								
PATTIES/T.B.								
FILM								
NO OIL					X	X	X	
EST. SITE LENGTH					4x4m			

[illegible][illegible]

SUBSURFACE OIL

[illegible]

Photographs:

Roll No. ASAP2, R. 11*

Frames 11, 12, 13

COMMENTS Site #1 is a small area but its broken coat was located in this area. Random splashed coats were observed between the sites. Site #2 has a splashed coat. Site #3 has an area in center roughly 10x10m CT/B. The rest of site 3 is CT/P. Oil seems to have a "bubbled" rough appearance possibly from 1st Imipol application. 2nd application is a little smoother.

GR-02

Page 4 of 6

GR-02-A

ANNOTATED ASAP
JULY 31 1990 CHANE,

SITE1 CT/B (4x4m)

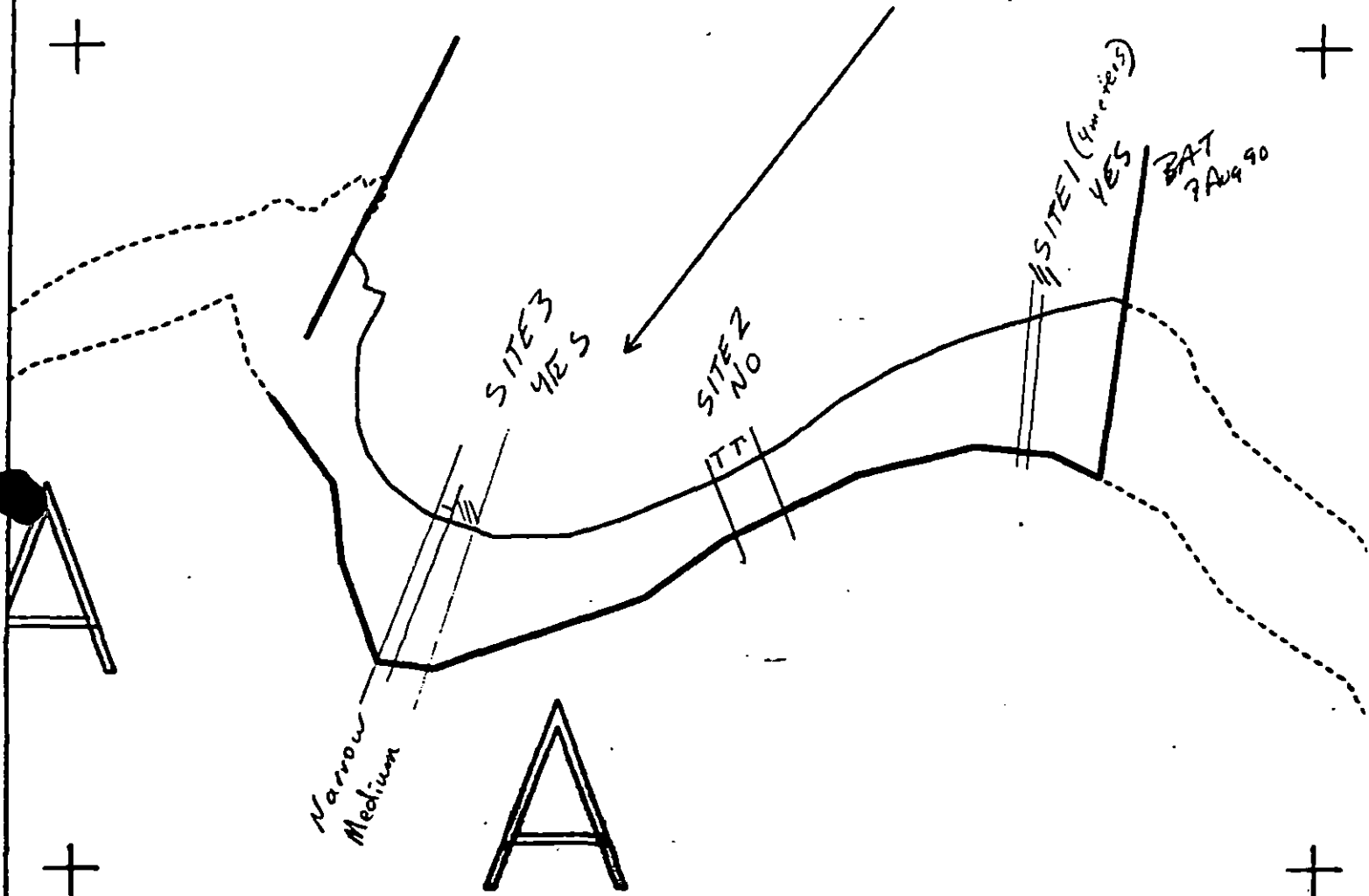
SITE 2 CT/S (20x3)

SITE 3 CT/B (20x1)
ST/S

On Standard Length: 40 PO or 42 or 44 or 46 or 48 or 50 or 52 or 54 or 56 or 58 or 60

THE UNIVERSITY OF CHICAGO

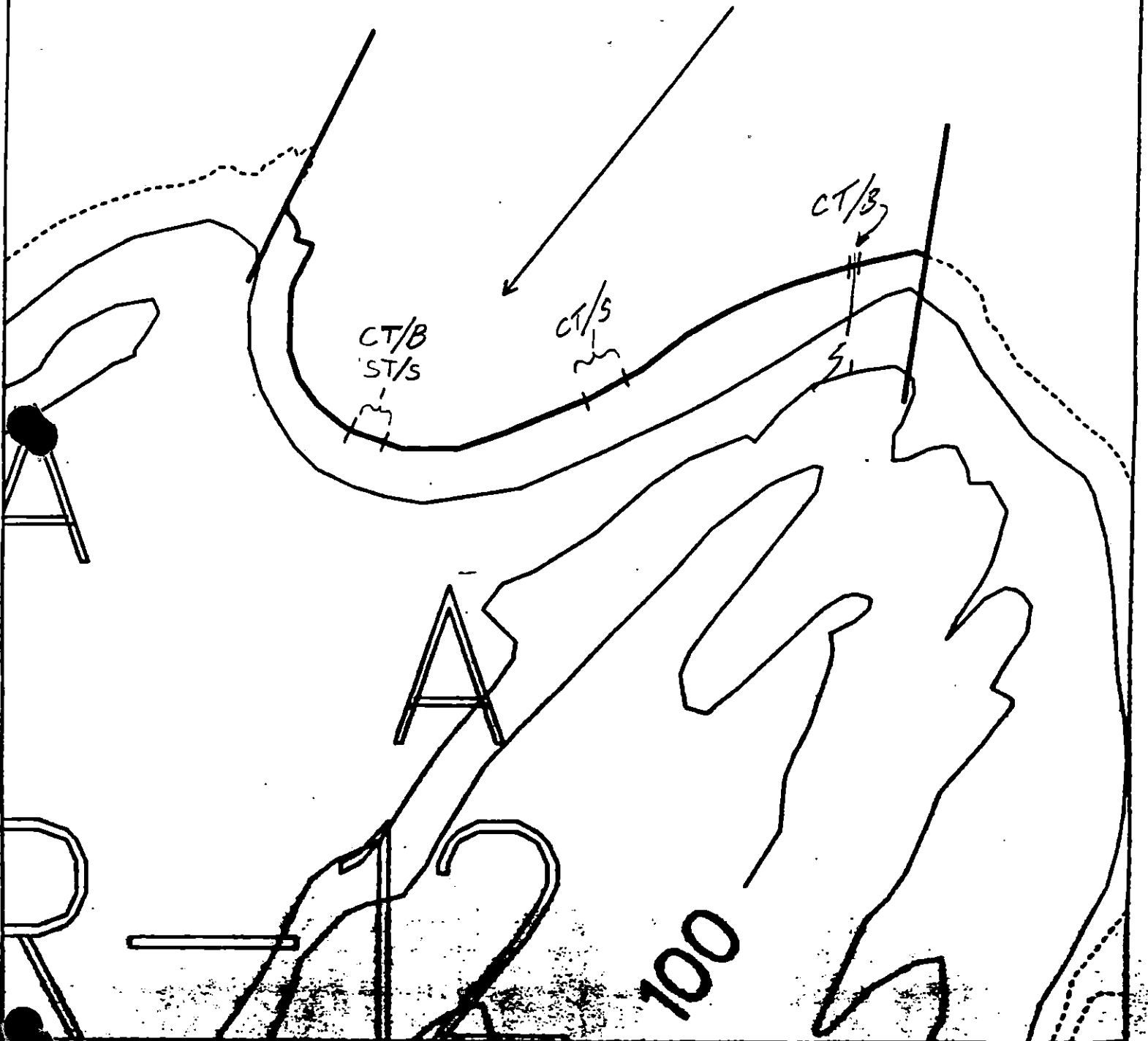
GR-



R-12

Subdivision Field Map
Map No: 98102-2A
Wendy CHANEY

GR-



SEGMENT GR-2

Segment Location Map

Map No: 7W562-2

1988

1988

SHORELINE EVALUATION

SEGMENT ST/ GR-03 SUBDIVISION A (1 OF 1) DATE 4/5/90

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 eagle nest (3/1 to 6/1)-Active eagle nest (3/1 to 9/1)
6U Recreation: Tent sites (6/1 to 9/15)
7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7II Deer harvesting (8/15 to 2/28)
9FF Deer habitat

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles J. H. Jones DATE: 4/18/90

OILING CATEGORIZATION:

Wide 0 m: Medium 98 m: Narrow 0 m: V. Light 246 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
☐ <u> </u> Removal	☐ Other (see comments)

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90
ADEC ART WEINER
EXXON ANDY TEAL
NOAA Burt Werrett
USCG G.A. REITER
FOSC: DATE: 4-22-90

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 (8/7 to 8/31)
- 1J Purse seine area (7/20 to 9/30)
- 1K Purse seine hook-off (7/20 to 9/30)
- 1L Set net sites (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 uncultivated 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.

9FF

Dear Habitat

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / GR 03A SUBDIVISION: NO Sub Division DATE 25 APR 96

USCG

NAME James C. Gambill SIGNATURE James C. Gambill

☒ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

Patchie Oil Spot: Natural Cleanly will probably Take care of it

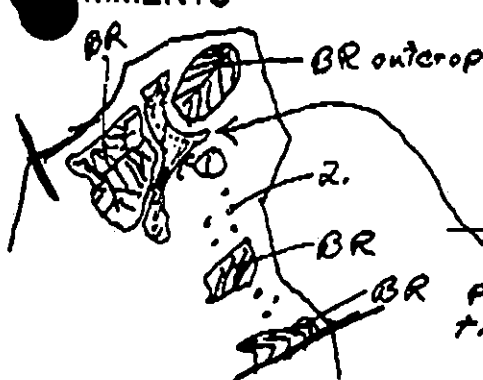
ADEC

NAME Brian K. Fitz Simons SIGNATURE Brian K. Fitz Simons

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS



① Broken Coat $B \rightarrow CT$
 $0-100m \rightarrow PGS \rightarrow OP$
 $BR \rightarrow CT$ } Located in saddle of peninsula and extending in @ 10m band to south for 500m.

2. Discontinuous Mousse splashes

possibly treat saddle on peninsula to Bio (if possible use HIGHT W/under flood 12') - Exposure is such that natural wave action may be sufficient

LAND MANAGER

NAME Carol S Huber SIGNATURE Carol S Huber

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

Recommend continued natural cleansing. Oiling mostly splashy. Numerous resource sensitivities include; pinniped pupping and molting, subsistence deer harvesting, seabird colony, shorebird concentration, bald eagle nests, special use destination and herring spawning. Bear scat observed above beach.

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG B. Berglund USCG J. Gamble SEGMENT ST/ GR-3
 BIO S. Schroeder LAND REP C. Hubes (NFS) SUBDIVISION A (1041)
 EXXON C. Levine ADEC B. Fritzsims TIME 18:15 to 19:00
 TEAM NO.: 1 TIDE LEVEL: 1.7 to 2.2 DATE 4 / 5 / 90
 EST. SUBDIVISION LENGTH: 438 m ☐ Sun ☐ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☐ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 30 % B 40 % C 10 % P 10 % G 10 % S 0 % M 0 % V 0 %
 SLOPE: Long 80 % Hang 20 % Vert 0 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 256 m N 0 m VL 182 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	1C	1B	1P	1S	2A	2B	2C	2D	2E	2F	2G	2H	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT			X	V		X								X		
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM				X		X								X		
NO OIL													X		X	X

PAVEMENT: H F S None sq. m by 0 cmPATTIES / TARBALLS None BAGSNEAR SHORE SHEEN? ☒ 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-1-3Frames 9

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW	OIL / FILM COLOR								PIT ZONE	A N A	SUBSURFACE SEDIMENTS
		OF	OR	OL	OF	NO			2A	2B	2C	2D	2E	2F	2G	2H			
1	30					X	.	X									X		P/G
2	30					X	.	X									X		P/G
							.												
							.												
							.												
							.												

COMMENTS

The segment is relatively oil free except for the very tip of the bedrock point. In this locality there is a patchy coat, confined to locally low areas (cracks, depressions) which have collected gravels. Gravel sediments are saturated up to 1cm thick. Boulder and bedrock surfaces are oil free. This oiling zone is located only near the HWL (upper, upper intertidal). Subsurface oiling does not appear present on the rocky beach.

REVIEWED JK DATE 4-9-90

OG B. Benglund
 SEGMENT R-3
 SUBDIVISION A
 DATE 4/5/90

Metars
 0 100

SKETCH MAP

CHECKLIST

☐ N Arrow
☐ Approx. Scale
☐ Sep. Site Entry
☐ Oil Dist.
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. HML/LWL
☐ SSL
☐ Profile Location(s)
☐ Profile(s)
☐ PH Location(s)
☐ Photo Location(s)

LEGEND

1 Δ
 PH - No Subsurface Oil

2 Δ
 PH - Subsurface Oil

CT/C
 Continuous Distribution

CT/D
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

CT/V
 Oiled Vegetation

CT/W
 Photo location, direction, and number

CT/L
 Oiled Vegetation

CT/H
 Photo location, direction, and number

CT/B
 Photo location, direction, and number

CT/T
 Photo location, direction, and number

CT/S
 Photo location, direction, and number

CT/L
 Photo location, direction, and number

CT/H
 Photo location, direction, and number

CT/B
 Photo location, direction, and number

CT/T
 Photo location, direction, and number

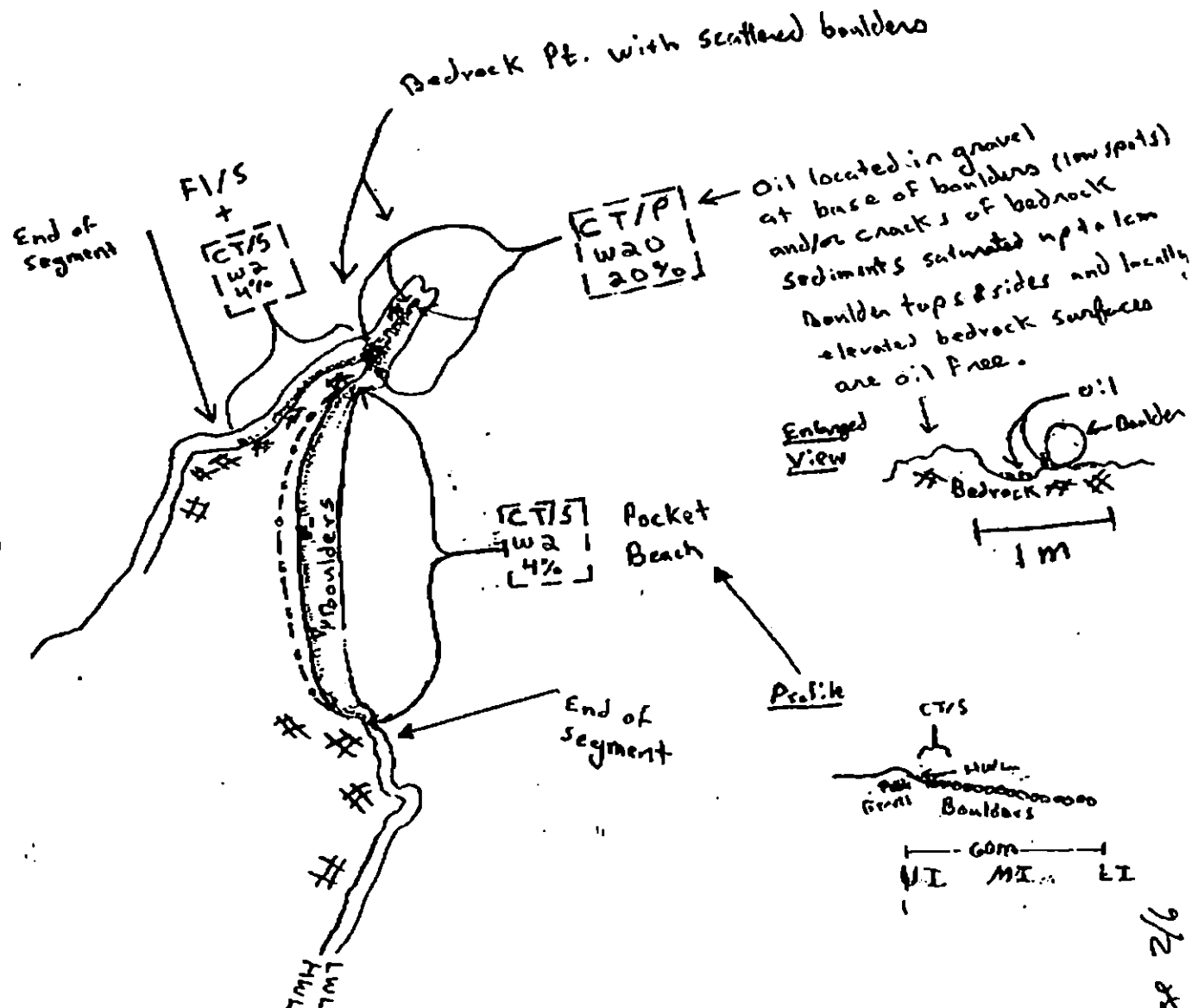
CT/S
 Photo location, direction, and number

CT/L
 Photo location, direction, and number

* Exposed bedrock
 - - - - - SSL (where significantly different than HML)

CT/P
 10%
 20%
 30%
 40%
 50%
 60%
 70%
 80%
 90%
 100%

Oiling Zone Shaded



Oil Character Length (m): AP 430 PO 430 CV 430 CT 430 ST 430 MS 430 PT 430 TB 430 FL 430 NO 430

REVISION 000000

Page 2/6

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/22/90

Segment ST / GR03 Subdivision A Date (mo / day / yr) 4/5/90
 Time (24 hr) 1822 1824 Biologist S. Schroeter

- (A) Substrate type and % of segments:
 (1) Bedrock 35 (2) Boulder 45 (3) Cobble 10 (4) Pebble 10 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 40 Moderate 30 Low 30
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs: N/A
 Roll No. N/A
 Frames None

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:
 Tidal Range: 511.8

Sensitivity / priority / 3 None listed

Ecological Considerations: Rocky bedrock hard land along 7/3 of segment is boulder/cobble pocket beach along SE 1/3. Dense algae in low, mid, & high intertidal; dense patches of barnacles & mussels on hard to mid intertidal; *Epinephelus*, *Tenisonia* common in mid & upper intertidal. Shore pools are notable for relatively low (~20%) cover of coralline crusts. *Alaria* abundant in low & lower middle intertidal. *K. tunica* present but rare in *S. caeruleus* beds in the mid intertidal.

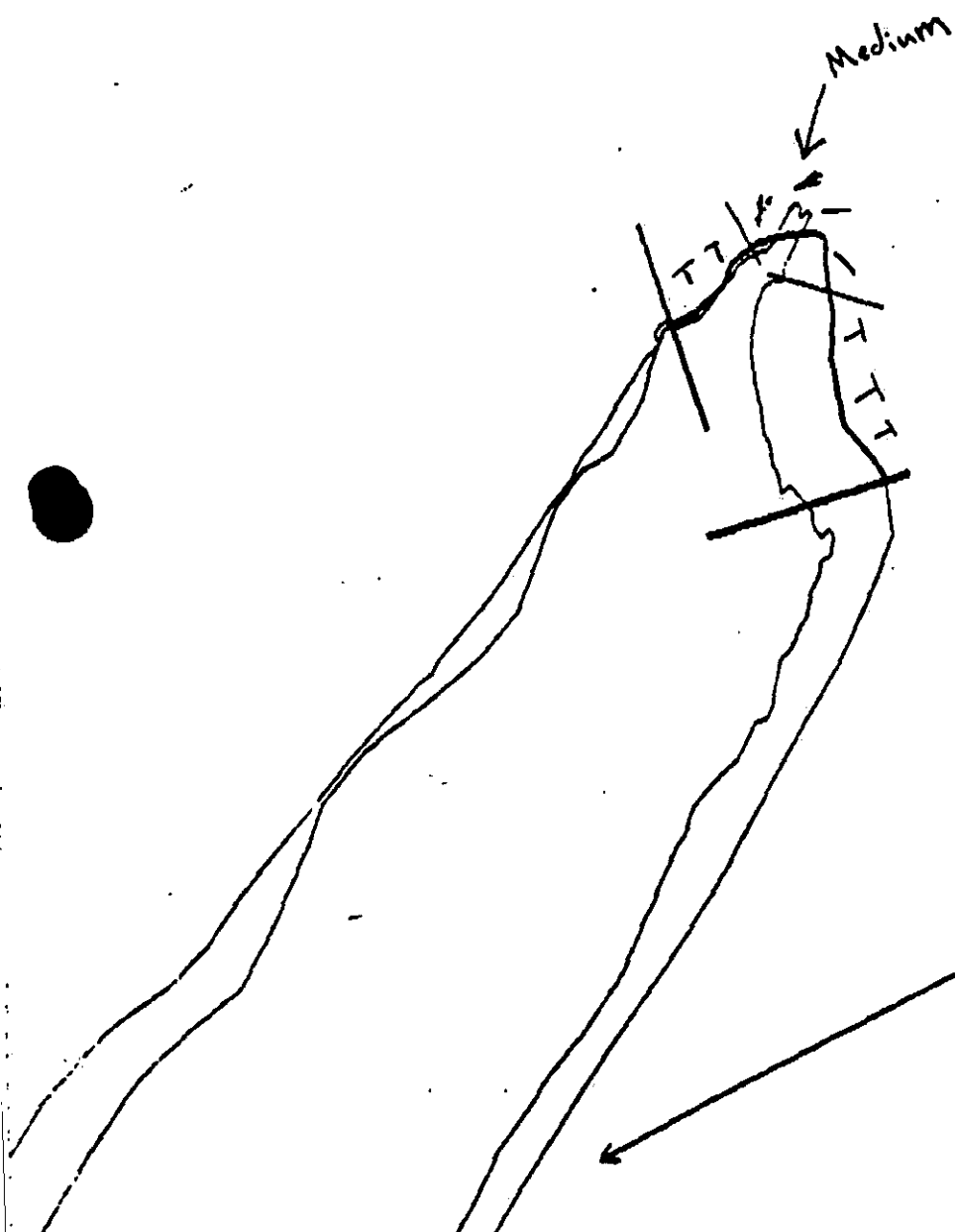
Segment: GR-03 Subdivision: A

Date: April 5, 1990

BIO: S. Schroeter CG: B. Berglund

Tidal Range: > +1.8

GR03 is mainly a bedrock headland on the NE end of GR101. 2/3 of the segment is shale bedrock; the remainder is large boulder pocket beach. Algae are dense in the low, mid, and low-upper intertidal. The red alga, Rhodymela larix occurs in moderate to dense patches on shale bedrock platforms in the mid intertidal. There are dense patches of barnacles and mussels in the mid intertidal along the headland. Anthopleura elegantissima, Epiactis prolifera, and Isalia are common to abundant in mid and low-upper intertidal pools. These pools are notable for relatively low (~20%) cover of crustose coralline algae. There are dense patches of S. cariosus on bedrock in the mid intertidal. K.tunicata occur rarely in the spaces among the barnacles.



GR-0

GR-1

GR-3A

XXXX Wide

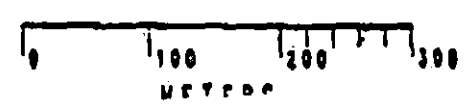
// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ADEC Segment Length: 438m



Map Key: PWS-307

Name: _____

Date: _____

Data Entered: _____

SHORELINE EVALUATION

SEGMENT ST/ GR-04 SUBDIVISION A (1 OF 1) DATE 4/8/90

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)
5R Seabird colony (5/1 to 9/1)
5T All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
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.

SHPO SIGNATURE: [Signature]

DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 17 m: No Oil 245 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	☐ <u> </u> Beach Cleaner
☐ <u> </u> Removal	☐ Other (see comments)

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/20/90

ADEC ART WEINER
EXXON ANDY TAYLOR
NOAA Bruce Wescott
USCG KENNETH KEANE

FOSC: [Signature]

DATE: 4-26-90

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.
- 6T 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 / G R 04 SUBDIVISION: _____ DATE 4/8

CG
NAME Robert Jensen SIGNATURE Robert Jensen

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC
NAME Rowann T. Hudnall SIGNATURE Rowann T. Hudnall

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

Few splashes only.

LAND MANAGER

NAME U.S. Forest Service SIGNATURE Leo Kelly

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

Found one small area of scattered splatter
in middle of island on west side
Continue Natural Cleanery

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG John Jones Smith USCG Boatman SEGMENT ST/ QR-041
 BIO John Dixon LAND REP Lab Kester SUBDIVISION A
 EXXON Jim Ellison ADEC Roseanna Hudnell TIME 09:52 to 10:45
 TEAM NO. 2 TIDE LEVEL: +5' to +7' DATE April 8 190
 EST. SUBDIVISION LENGTH: 2741 m ☐ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☐ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: All around
 SURFACE SEDIMENTS: R 35 % B 6 % C 3 % P 37 % G 0 % S 19 % M 0 % V 0 %
 SLOPE: Lang _____ % Hang _____ % Vert _____ % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 40 m NO 2701 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	/C	/B	/P	/S	SR BR	DBL RW	GY	SL DBR	TL LR	SU	UH	MM	U	
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT														
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 <u>(NO)</u>	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE 0#BAGS 0

Photographs:

Roll No. ST-2-11Frames 15-19

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	30					"	-									X			N ₀	PS / SS			
2	30					"	-										X		"	"			
3	30					"	-									X			"	"			
							-																
							-																
							-																

COMMENTS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / GR-04 Subdivision N/A Date (mo / day / yr) 04/08/90
 Time (24 hr) 0952 - 1045 Biologist John Dixon

Substrate type and % of segments:

(1) Bedrock 35 (2) Boulder 6 (3) Cobble 8 (4) Pebble 32 (5) Sand 19 (6) Silt

(B) Overall % cover of biota (% of segment): Dense 9 Moderate 16 Low 75

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

Photographs:

Roll No. ST-2-11Frames 15 - 19

BARNACLES

Dense
1U
2 2
3 3
4 4
5 5
6 6

Moderate
1U
2 2
3 3
4 4
5 5
6 6

Sparse
1U
2 2
3 3
4 4
5 5
6 6

Rare
1U
2 2
3 3
4 4
5 5
6 6

NOT PRESENT

MYTILUS

Dense
1U
2 2
3 3
4 4
5 5
6 6

Moderate
1U
2 2
3 3
4 4
5 5
6 6

Sparse
1U
2 2
3 3
4 4
5 5
6 6

Rare
1U
2 2
3 3
4 4
5 5
6 6

NOT PRESENT

STROPODS

Dense
1U
2 2
3 3
4 4
5 5
6 6

Moderate
1U
2 2
3 3
4 4
5 5
6 6

Sparse
1U
2 2
3 3
4 4
5 5
6 6

Rare
1U
2 2
3 3
4 4
5 5
6 6

NOT PRESENT

FUCUS

Dense
1U
2 2
3 3
4 4
5 5
6 6

Moderate
1U
2 2
3 3
4 4
5 5
6 6

Sparse
1U
2 2
3 3
4 4
5 5
6 6

Rare
1U
2 2
3 3
4 4
5 5
6 6

NOT PRESENT

Wildlife Observations/ General Comments:

Water line +3.5' - +6.0' during observations.
 Bald eagle in standing dead tree. Magpies on island.
 Catches in intertidal. Much sea otter scat in supra tidal grass.

Ecological Considerations:

Listed sensitivities: 3N,P; 3O,G; 6U; 2M.

This small island is made up of an elevated area to the S.W. with several rock protrusions & a long spit with little relief to the NE. Redrock outcrops form intertidal benches at the SW end & along 2/3 of the side. The rest of the intertidal is pebble beach with no epibiota. The benches & vertical outcrops have a sparse cover of Fucus & Balanus cariosus in the M.I. with Mytilus locally abundant on horizontal surfaces. Snails are mostly limpets & sparse. Much Rhodospirillum on the high shore. There are more snails - mostly Littorinae.

Channel Island, GR-04, April 8, 1990

Segment GR-04 includes the shorelines of Channel Island, a small island located a few kilometers south of Green Island. It is exposed to a long fetch on the northeastern and southwestern ends, and to a moderate fetch on the north and south sides.

The island is composed of bedrock ramps at the southwestern and northeastern extremities. The southwestern half of the island includes a number of stalks among the northeasterly trending, steeply dipping metamorphic rocks. Both shores of the northeastern half of this island consist of pebble, sand and some cobbles. Throughout this section, the backshore consists of a small flat grassy area that appears to be eroding and forming low (30 cm) unconsolidated bluffs.

Stains of splatters were found on the north central shore of this island, over a cobble/bedrock ramp. These are very scattered and do not cover more than 5% of the area throughout which they occur. No oil was found along the rest of the island or in several test pits dug at different locations along the shore.

GR-04

0952-1045

(+3.5' - +6')

This small island has a small (50m x 100m) rock pinnacle at the S.W. end. The pinnacle has sheer sides but sufficient soil on top to support a stand of pines. Surrounding this feature on the south & east is an area of small pines. There are two unvegetated rock pinnacles at the extreme S.W. end. This rest of the island is low relief. The central portion of N.E. $\frac{2}{3}$ of the island is a grassy turf that is bordered on both sides by pebble beach. There is a small area of bed rock outcrops at the N.W. end of the island & extensive bed rock beach from the S.W. end $\frac{2}{3}$ of the way up the north side of the island & about $\frac{1}{3}$ the way up the south side.

Only the middle & upper intertidal was observed. The pebble beaches have no epiphytes but the bed rock areas exhibit the pattern typical for this area. There is a sparse cover of Fucus & B. canaliculatus in the M.I. with Mytilus locally abundant on horizontal surfaces. Gastropod sparse & mostly limpets. Hydrobia covers of red algae, esp. Rhodomena. Higher on the shore gastropod density increases & a greater proportion of the snail are Littorines. 1 Stenotrema in M.I.

SEGMENT ST/QR-04

SUBDIVISION none

DATE Apr. 18/19 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)
☐ PH Location(s)
☐ Photo Location(s)

LEGEND

1 Δ

Pl1 - 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

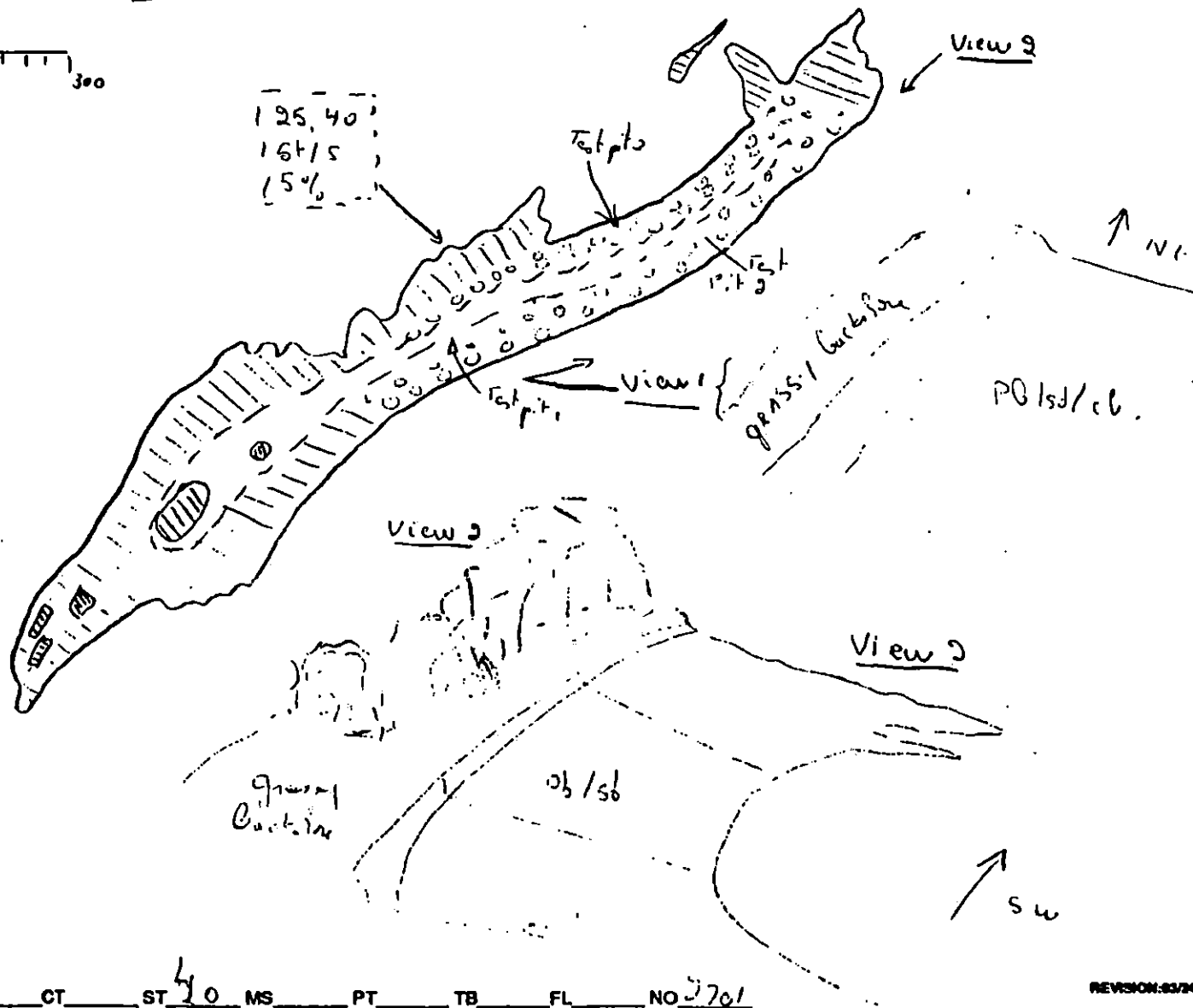
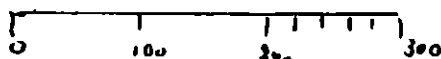
1. **Introduction****Photo location, direction,
and number**

ATCH MAP

Legend  stack

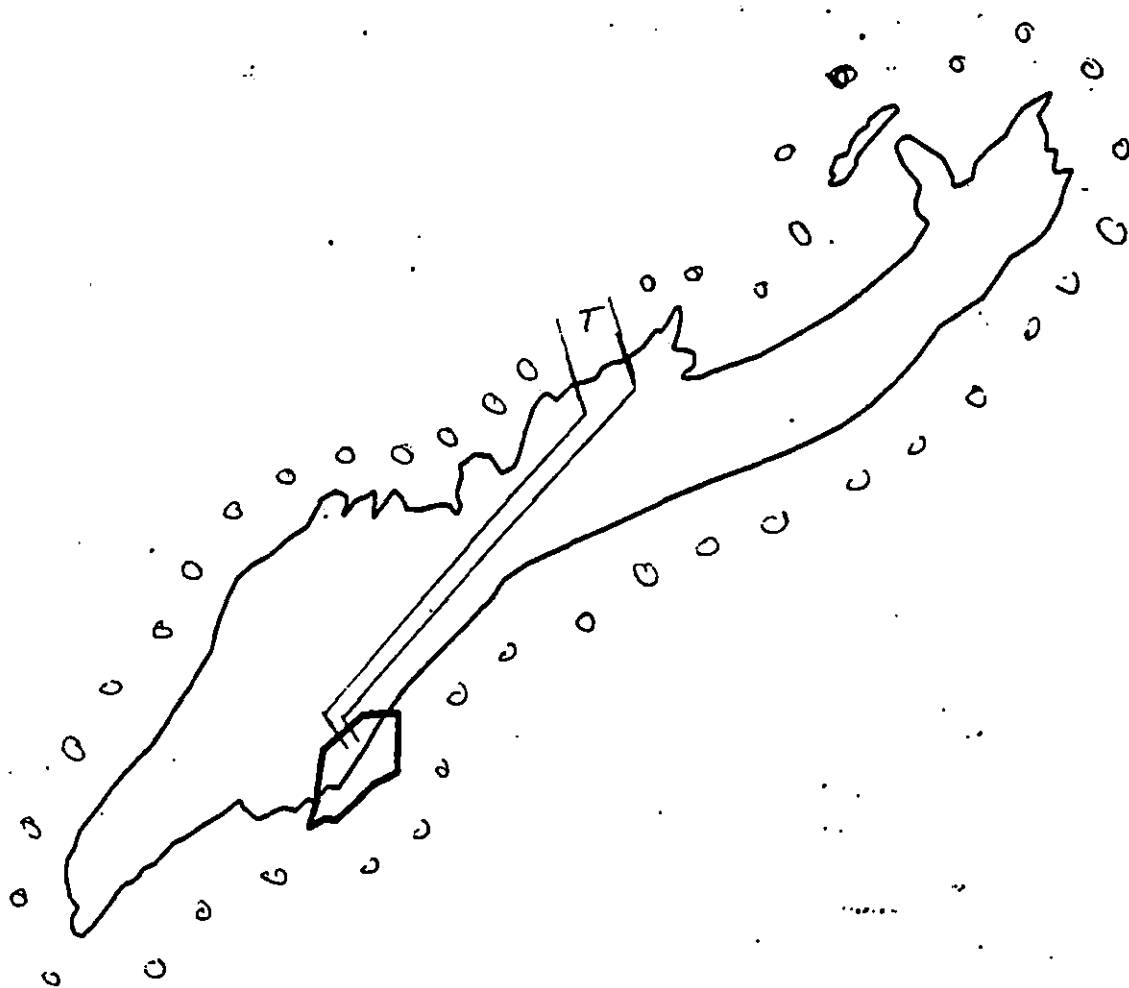
 Bedrock ramp / talus / cliffs

10/5/1 126/10666.



Oil Character Length (m): AP _____ PO _____ CV _____ CT _____ ST 70 MS _____ PT _____ TB _____ FL _____ NO 3701

REVISION: 03/24/2011



XXXX Wide

/// Medium

-- Narrow

TTTT Very Light

0000 No Oil

GR-4

ADEC Segment Length: 262m



Map Key: PWS-263

Name: Sam. R. S. Sampa

Date: April 2/1992

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ GR-05 SUBDIVISION A (1 OF 1) DATE 4/5/90

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)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
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.

SHPO SIGNATURE: [Signature] DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 44 m: Narrow 0 m: V.Light 121 m: No Oil 826 m
Subsurface Oil Observed: Yes X No Maximum Depth 1 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual break up and re-
moval of tarmat shown on attached sketch map. Work should be conducted
between 7/1 and 8/15 based on pinneped constraints.

TAG COMMENTS: _____

TAG APPROVAL DATE: 7/20/90.

ADEC	ART WELMER	Art Welmer
EXXON	ANDY TEAL	Andy Teal
NOAA	BILL WILCOFF	Bill Wilcott
USCG	KENNETH KETNER	Kenneth Ketner

FOSC: DATE: 4-26-90

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

SEGMENT ST / G 2-65 SUBDIVISION: no subdivision DATE 05 APR 86

SCG
NAME James C. Gombell SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Patchy oil spot, naturally cleaning will TAKE care of it.

ADEC
NAME Brian K. FitzSimons SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS Low density oil splashes observed scattered around the

and B → CT
PS → OR (OP) } 0-5cm ↓ } All at HITZ
BR → CT

It would be possible to manually remove most oiled area to LITZ due to small size of island - but due to exposure continued natural cleansing may be just as effective

LAND MANAGER
NAME Carol S. Huber SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS Small, high energy bedrock and talus island. Minor amounts of oil observed. Recommend continued natural cleansing. Pinniped haulout's primary resource. (Not so listed in data table)

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG B. Berglund USCG J. Gamble SEGMENT ST/ GR-5
 BIO S. Schroeder LAND REP C. Huber (NFS) SUBDIVISION A (1088)
 EXXON C. Levine ADEC B. Fritzsche TIME 17:02:10 :00
 TEAM NO.: 2 TIDE LEVEL: 1.2 to 1.5 DATE 4/5/90
 ST. SUBDIVISION LENGTH: 1081 m ☐ Sun ☐ Clouds ☐ Fog ☒ Rain ☐ Snow
 LANDS DESCRIPTION: ☐ Grass ☐ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 40 % B 30 % C 10 % P 10 % G 10 % S 0 % M 0 % V 0 %
 SLOPE: Long 70 % Hang 20 % Vert 10 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 25 m N 0 m VL 120 m NO 936 m

SURFACE OIL

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

PAVEMENT: (H) P S 25 / sq. m by 2 cmPATTIES / TARBALLS 2 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation	X		
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NO

TYPE

#BAGS

Photographs:

Roll No. 54-1-3Frames 8

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM/IN)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	SU	U	M	V		
1	10	1					0-1	X		✓					X					B, G (At base of bon)
2	30					X	.	X							X					B, P, G (At base of)
							.													
							.													
							.													
							.													

COMMENTS

Oiling is very light. In isolated spots, near the HWL there is a splashy coat. Gravels next to the base of boulders in localities are saturated with oil (in some areas approximating pavement). A splash film on sheen is also present. As the Island is largely bedrock, subsurface oiling does not appear to be a problem.

Page 1 of 6

REVIEWED

DATE 4-7-90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 05/22/88

Segment ST/ GR05 Subdivision A Date (mo / day / yr) 4/5/90
 Time (24 hr) 1702 Biologist S. Schroeter

- (A) Substrate type and % of segments:
 (1) Bedrock 34 (2) Boulder 53 (3) Cobble 9 (4) Pebble 4 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 35 Moderate 30 Low 35
- (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			
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 N/A

Priority N/A

Tidal Range: >+

Ecological Considerations:

GR05A is a small island several hundred m offshore from GR101 + GR03. The upper intertidal is predominantly bedrock (~70%) whereas the mid + lower intertidal are predominantly boulder with some rubble + pebble. There are dense mixed beds of *Saccharina* + *Agardh* in the low intertidal + shallow subtidal on the side of the island facing GR101. There are remarkably high densities of stars in the low intertidal (5 of 8 boulders overtopped on the seaward side had stars (primarily *Pycnopoda*). On the lee side of the island there was at least 1 *Pycnopoda* + 1 *Urechis* every 2 meters.

Segment: GR05 Subdivision: A
BIO: S.Schroeter OG: B.Berglund

Date: April 3, 1990
Tidal Range: > +1.2

This segment is a small offshore island several hundred meters offshore from GR03 and GR101. The upper intertidal is about 70% shale bedrock. The mid and lower intertidal are predominantly boulders (~85%) and cobble (5-10%). Gastropods (littorines and N. scutum) occur in dense patches in the mid and low-upper intertidal. Adult and newly recruited Fucus are very dense in the mid intertidal. The low intertidal is dominated by various red algae and has remarkably high densities of sea stars. About 80% of the stars encountered are small (<15cm) to medium (15-30cm) Pycnopodia. In order of decreasing abundance, Leptasterias, Dermasterias, and Pisaster ochraceus make up the remainder. On the exposed side of the island most stars are found beneath boulders, whereas on the leeward side they are both on top and under boulders. There is about 1 sea star per 2 meters of shoreline on the tops of boulders in the low intertidal on the leeward side of the island. On the lee side of the island, there is also a dense mixed bed of large L. saccharina and Agarum in the low intertidal and shallow subtidal.

CHECKLIST

☐ N Arrow
☐ Approx. Scale
☐ Seg/Sub Entry
☐ Oil Dist.
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. HW/LA/SWL
☐ SSW
☐ Profile Location(s)
☐ Photo(s)
☐ Pk Location(s)
☐ Photo Location(s)

LEGEND

1 Δ
PR - No Subsurface Oil

2 Δ
PR - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

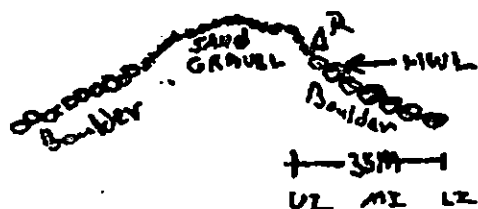
CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oil Vegetation

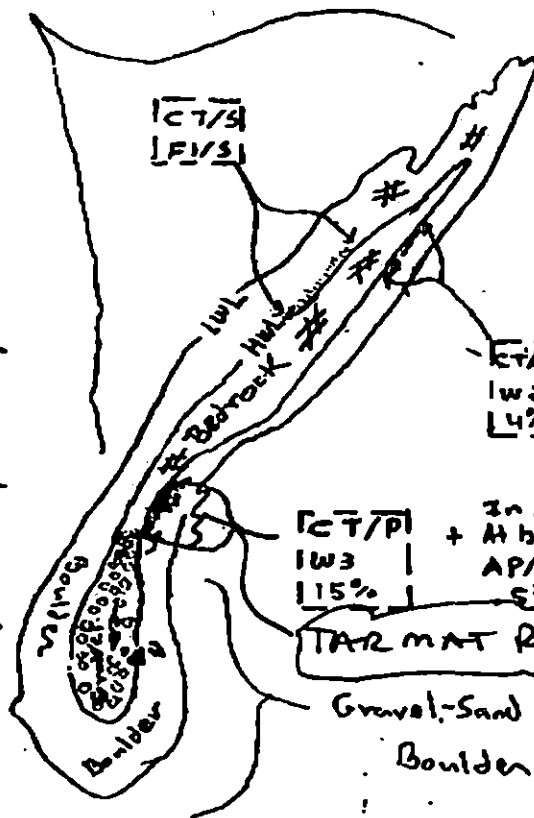
Width → [CT/P]
 Photo location, direction, and number → [W10]
 % Cover → [20%]
 Length → [10m]

Profile (Across Southern End)



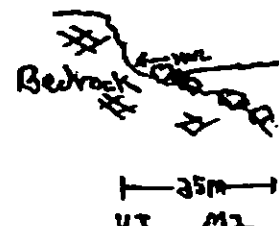
* Exposed Bedrock

Bedrock with Scattered Boulders



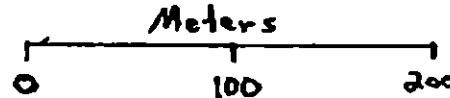
3/4 Island consists of bedrock with scattered boulders. The Southern tip consists of a gravel spit in the Supratidal.

Profile 1

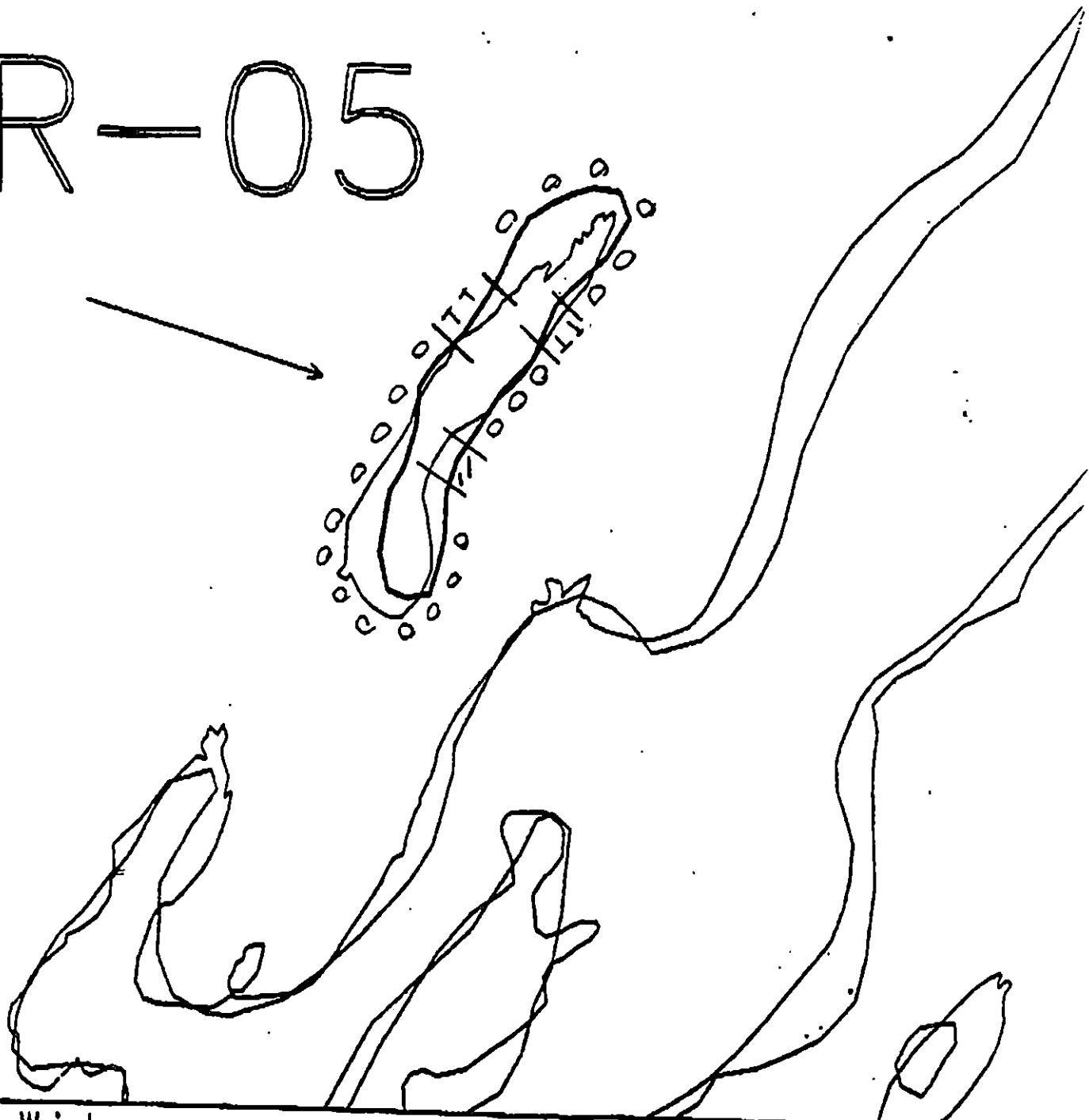
F1/S
CT/S

gravel at base of boulders occasionally saturated with oil
tar mat 2cm thick 1x.5

Gravel-Sand Spit (Supra)
Boulder (Intertidal)



GR-05



XXXX Wide

/// Medium

--- Narrow

TTT Very Light

0000 No Oil

GR-5

ADEC Segment Length: 991m



Map Key: PWS-264

Name: B. Bangladesh

Date: 4/5/90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-5 SUBDIVISION A (1 of 1)

WORK WINDOW	
Tarmat Removal	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M	Herring Spawning	No constraint to tarmat removal.
3N,O,P,Q	Harbor Seal & Sea Lion Pupping and Moting	Closed to tarmat removal before 7/2 and after 8/14.
5S	Shorebird/Waterfowl Concentration	No constraint after 5/15.
5R	Seabird Colony	Closed to tarmat removal before 9/1.
5T	Bald Eagle Nest	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.
7II	Subsistence: Deer Harvesting	No constraint to tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat traffic to essential minimum. Avoid any unnecessary disturbance or damage to unloiled substrate and biota especially intertidal and subtidal algae and seagrass. Restrict air traffic and beach disturbance to essential minimum after 8/15. 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

Date

6-12-90

Prepared by

S. P. Phillips

6-10-90

Date

6/12/90

REVISION 1
7/13/90
PP

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-5 SUBDIVISION A (1 of 1)

WORK WINDOW	
Tarmat Removal	WORK PRIOR TO 8/15 CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M	Herring Spawning	No constraint to tarmat removal.
3N,O,P,Q	Harbor Seal & Sea Lion Pupping and Molting	Closed to tarmat removal before 7/2 and after 8/14.
5S	Shorebird/Waterfowl Concentration	No constraint after 5/15.
5R	Seabird Colony	No constraint to tarmat removal as per letter to USFWS Closed to tarmat removal before 8/1.
5T	Bald Eagle Nest	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.
7II	Subsistence: Deer Harvesting	No constraint to tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat traffic to essential minimum. 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 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 W L Date 6-12-90

Prepared by

R. P. Phillips

6-10-90
AM

Date

6/12/90

SHORELINE EVALUATION

SEGMENT ST/ GR-06 SUBDIVISION A (1 OF 1) DATE 4/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
6Y Recreation area: 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/damage to unoiled substrate or biota.

SHPO SIGNATURE: Charles E. Hoffman DATE: 4/18/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 0 m: No Oil 398 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90
ADEC JOHN BAUER John Bauer
EXXON ANDY TON Andy Ton FOSC: My L DATE: 4-22-90
NOAA Bruce Wessely Bruce Wessely
USCG G.H. DEITER G.H. Deiter

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 (8/11 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
- 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 / GR 06 A SUBDIVISION: no subdivision DATE 10/25/98

SCG
NAME James C. Conbill SIGNATURE James C. Conbill

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

No oil founded: ~~observed~~ observed from skiff due to being unable to get closer

ADEC
NAME Brian K. FitzSimons SIGNATURE Brian K. FitzSimons

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Surveyed by skiff - small bedrock island with no visible oil contamination

LAND MANAGER
NAME Carol S. Huber SIGNATURE Carol S. Huber

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Small, high energy, bedrock island; surveyed from zodiac-type craft. No oil observed.

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG B. Berglund USCG J. Gamble SEGMENT ST/ GR-6
 BIO S. Schuster LAND REP C. Huber (NAS) SUBDIVISION A (1 of 1)
 EXXON C. Levine ADEC B. Fritzsche TIME 16:47 to 17:00
 TEAM NO.: 1 TIDE LEVEL: 1.5 to 1.2 DATE 4 / 5 / 90
 ST. SUBDIVISION LENGTH: 398 m ☐ Sun ☐ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☐ Forest ☒ Rock
 SURVEYED FROM: ☐ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 80 % B 20 % C — % P — % G — % S — % M — % V — %
 SLOPE: Long 40 % Hang 90 % Vert 20 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W — m M — m N — m VL — m NO 398 m

SURFACE OIL

CHARACTER	DISTRIBUTION					OIL / FILM COLOR					IMPACTED ZONES				
	N	E	S	W	SE	SW	NE	NW	SE	SW	BU	U	M	U	
ASPHALT															
PAVEMENT															
POOLED															
COVER															
COAT															
STAIN															
MOUSSE															
PATTIES															
TARBALLS															
FILM															
NO OIL											X	X	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			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE —#BAGS —

Photographs:

Roll No. NoneFrames None

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR					PIT ZONE					A N A	SUBSURFACE SEDIMENTS
		OF	OR	OL	OF	NO		UG	UC	SW	BR	NE	SE	SW	BU	U	M	U			

COMMENTS

GR-6 is an offshore Island consisting of almost 100% bedrock and a few large boulders. It barely breaks the water at high tide, most of the segment being intertidal. Due to the seas and the relatively steep, slippery bedrock it was surveyed by boat rather than foot. No oil was visible. Its high wave exposure. Probably removed any previous accumulations. Reviewed — DATE —
 Within a short time

SKETCH MAP

SEGMENT PR-6

SUBDIVISION A

DATE 4 / 5 90

CHECKLIST

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

LEGEND

1 Δ

Fl - No Subsurface Oil

2 ▲

Fl - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

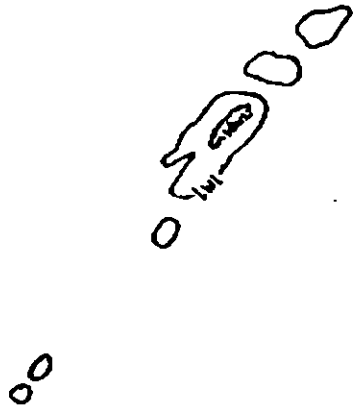
Splashed Distribution

25

Oil Vegetation

1 ●→

Photo location, direction, and number



Boat Surveyed

Bedrock Island

Approximately all
intertidal

No visible oil

Meters
0 100



Oil Character Length (m): AP _____ PO _____ CV _____ CT _____ ST _____ MS _____ PT _____ TB _____ FL _____ NO 398

SHORELINE ECOLOGICAL SUMMARY

REVISION: 06/20/90

Segment ST / GR06 Subdivision A Date (mo / day / yr) 4/5/90
 Time (24 hr) 1647 Biologist S. Schroeter Tidal Range +1.2

- (A) Substrate type and % of segments:
 (1) Bedrock 95 (2) Boulder 5 (3) Cobble 0 (4) Pebble 0 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 50 Moderate 30 Low 20
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs: N/A
 Roll No. N/A

Frames: None

BARNACLES

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

NOT PRESENT

GASTROPODS (NOT OBSERVED)

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

NOT PRESENT

Wildlife Observations/ General Comments:

SCATTERED slowly by boat
 so no observations of
 newly settled organisms

Sens. fig. fy 7/11/64/55/2M
 priority 4 3 1 3

These probably
 apply to GR05
 which is 5 times
 than GR06

Ecological Considerations:

This is a small bed rock peninsula offshore of
 GR03/GR10. Biota were dense in the low + mid intertidal +
 adult Aloni were dense in the low intertidal. All substrates
 but bedrock negligible. Gastropods not observed.

Segment: GR06 Subdivision: A
BIO: S. Schroeter OG: B. Berglund

Date: April 5, 1990
Tidal Range: > +1.2

This segment is a small rocky bedrock pinnacle with negligible amounts of substrate other than bedrock. The segment was "SCATTED" by a very close, very slow boat ride. As a result, observations weren't made on newly recruited organisms or gastropods of any size. Biota were dense in the low and mid intertidal. The low intertidal was dominated by various red alga (e.g. *Iridea*) and adult and juvenile *Alaria*.

The priorities + sensitivities listed for GR#6 are probably meant for GR#5, which is small, but 5-10 times the area of GR#6

GR-06



No Oil
Entire Segment
(Boat Surveyed)

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

GR-6

ADEC Segment Length: 398m



Map Key: PWS-313

Name: B. Berglund

Date: 4/5/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ GR-07 SUBDIVISION A (1 OF 1) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Shorebird/Waterfowl concentration (5S) - 4/25 to 5/15; Herring spawning (2M) - 4/1 to 6/15; Deer harvesting (7II) - 8/15 to 3/1; Special use destination (6Y) - 6/1 to 9/15; Salmon harvesting (7Z) - 5/1 to 9/3 (Consult with Chenega Bay and ADF&G for exact dates).

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict disturbance of unopened moderate fucus and gastropods in U and MITZ.

SHPO SIGNATURE: Rachel Don Dan

DATE: 4/10/90

OILING CATEGORIZATION:

Wide 0 m: Medium 144 m: Narrow 569 m: V. Light 298 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 bioremediation of areas where coat and cover found. Note: bioremediate no closer than 100 m from stream.
Work after 6/15 based on herring constraints, but consult ADF&G and Chenega Bay. PICKUP DEBRIS IS REQUIRED

TAG COMMENTS:

TAG APPROVAL DATE: 4/10/90

ADEC JOHN BAUER

EXXON ALFRED

NOAA Burt Westcott

USCG G.A. BEITER

FOSC: ny L

DATE: 5-12-90

FIELD SHORELINE COMMENT SHEET

25-07-96

SEGMENT ST/ GR-07 SUBDIVISION: None DATE March 30, 1996

USCG NAME Robert Jensen SIGNATURE Robert Jensen

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Recreation use area for public.

ADEC NAME Rowann T. Hudnall SIGNATURE Rowann T. Hudnall

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Surface sheens in upper intertidal sediments
Recommend stirring up w/ shovels & picks before
bioremediation. No subsurface oil.

LAND MANAGER NAME U.S. Forest Service SIGNATURE Leo Kuler

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Public Recreation Cabin nearby cause high
public use.

Resting area for shorebird migration.

High oiling in upper tidal zone to be treated.

small stream in segment is small
spawning area for salmon.

SHORELINE OILING SUMMARY

QR-07 p. 1 of 6

REVISION NO. 00/20/90

OG John Mair Semple USCG Bob Jensen SEGMENT ST/ QR 07
 BIO John Dixon LAND REP Ken Keeler SUBDIVISION None
 EXXON Jim Edgeman ADEC Raymond Hudnall TIME 07:43 to 09:30
 TEAM NO.: 2 TIDE LEVEL: 0.6' to -1.25' DATE March 1, 1990
 EST. SUBDIVISION LENGTH: 1000 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock Snow covered above HTL
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N.E. to S.W.
 SURFACE SEDIMENTS: R 5 % B 10 % C 35 % P 40 % G - % S 10 % M - % V - %
 SLOPE: Lang 100 % Hang 0 % Vert - % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 150 m N 550 m VL 300 m NO 0 m

SURFACE OIL

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

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

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

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE _____

#BAGS _____

Photographs:

Roll No. DefectiveFrames Camera

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	UG	W	Y	OR	GR	TR	SU	U	M	L		
1	30					✓	-												No	cb / pb / sd
2	35					✓	-												"	pb / cb / sd
3	35					✓	-												"	sd / pb / cb
4	30					✓	-												"	Pb / sd / cb
5	30					✓	-												"	Pb / sd / cb
6	30					✓	-												"	sd / pb / cb

COMMENTS

7 30

8 30

9 30

10 30

11 30

12 30

Page 1 of 1

sd / Pb / cb

pb / sd / cb

cb / Pb

Pb / cb

Pb / cb / sd

sd / md / pb

REVIEWED DASHDATE 4/2/90

GR-7, Green Island, March 30, 1990

Segment GR-7 is located on the north central coast of Green Island. It faces northwest and is exposed to a fetch of about 20 km. It is, however, sheltered by many nearshore islands and shoals, and as a result, it shows characteristics of low energy environment beaches.

At its northeastern end, the beach consists of a 50 m wide, gently sloping intertidal zone made up of angular cobbles, pebbles, boulders and sand. The backshore slopes gently inland and is heavily vegetated by a band of alders giving way to evergreens.

At that location oil is present within a 4 m wide, 125 m long band as a film around the surface or nearsurface (max depth 5 cm) sediments. The coverage of this film was estimated as 25%, and where it is present, it produces a silvery sheen on the surface of ground water in test pits. It seems to be more abundant around the base of boulders.

Between this location and the stream channel occurring to the south west, the beach is relatively uniform and gently sloping, angular boulder/cobble, in the upper intertidal zone; angular cobble/pebble/sand in the middle intertidal zone; and a well defined band of sand/mud/cobbles in the lower intertidal zone. Oil occurs in two small areas only, each about 1 m², as stains with 10% cover and film with 30% cover, both in the upper intertidal zone.

South of the small stream, a 2 m wide band of 20% coverage surface oil, average thickness 0.5 cm, maximum 2 cm, extends 200 m southwesterly in the upper intertidal zone. The sediments consist mainly of subrounded cobbles and pebbles over sand.

Towards the southwestern extremity of this segment, a 4 m wide by 20 m long patch of 80% oil coverage occurs at the base of boulders and coarse

GR - F. G. G.

sediments. The maximum thickness of oil/sediments was 2 cm, the average 0.5 cm. This patch is associated with a 1 m sq. area of tarry splashes with 10% oil coverage.

Near the end of segment GR-7, a 1 m sq. patch of 10% cover surface film is present in the surface sediments of the upper intertidal zone.

Along the entire segment, the backshore and hinterland areas were covered with snow and observations of oiling that could be present in the backshore could not be made.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/29/90

Segment ST / GR-07 Subdivision N/A Date (mo / day / yr) 03/30/90
 Time (24 hr) 0745-0935 Biologist John Dixon

- (A) Substrate type and % of segments:
 (1) Bedrock 5 (2) Boulder 10 (3) Cobble 40 (4) Pebble 40 (5) Sand 10 (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 15 Moderate 25 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. N/A Camera Broken
 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	NOT PRESENT
3	3	3	3	3	3	X	X	X	3	3	3	
4	4	4	4	4	4	X	X	X	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

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	2	2	X	NOT PRESENT
3	3	3	3	3	3	X	X	X	3	3	X	
4	4	4	4	4	4	X	X	X	4	4	X	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

GASTROPODS

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	2	2	2	NOT PRESENT
3	3	3	X	X	3	3	3	3	3	3	3	
4	4	4	X	X	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

FUCUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	X	2	X	X	X	2	2	2	NOT PRESENT
3	3	3	3	X	3	3	3	3	3	3	3	
4	4	4	4	X	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:

6 cormorants, 4 sea otters, small flock of gulls & flock of canadian geese offshore. Occasional other abundant. Bird waterfowl offshore during survey.

Ecological Considerations:

Lowest shore is sand bottom with abundant *Phyllospadix* & *Filomenaria* red algae. Many algal holes of clams (~100-400/m²) & many clam shells. Lower half of middle zone on the tidally sloping beach is relatively bare with abundant shell hash mixed with pebbles. Gastropods (*Littorina*, limpets) & egg cases common under cobbles & pebbles. *Fucus* upper zone.

JDD GR-07 3/30/90
 25-50 Mytilus + Filicida
 most soft, few small of Dead
 1/2 in. and 1/2 in. gable
 layer in sand

55-80 Red 2 small Fung
 sparse Basal

80-90 Fung 25-60%

10-100 base H.T. in light

4 25m Green - 1/10
 small

13 50-100 10% 100m
 5% 100m in H.T.

End 0936 - 2.2
 0-14 2.5 Phylloporidae, Ophiuroids

15-32 30 cobb 20 22 50m

32-65 F1 20m 14 B

30 C
 30 P
 30 S

00 100m 30 S

JDD GR-02 3/30/90 1/4

0945 Shrubbery
 occasional water but
 some Phylloporidae in subtidal

1. Rocky Headland ~ 100m
 PT to HE. AT PT.
 in outcrops spanning in T.O.

Very diverse algal cover
 with Laminaria, Filicinaria, Red
 + brown, Coralline Tuff
 ~ 100% cover - 2.0

To ~ 4 12-4

40-100% cover 2/m

Fucus (230%)

+ 5-18 60% Barnacles

com. w/ small 10m

C. digitata, C. strigata?

C. strigata (4m) 5%

B. carolinensis 25%

Fucus common in H.T.

Surfaces 70% Red and
 10% Cabb

Sparse Barnacles &
 Fucus remains

JDD GR-07

2/6

Clams seen abundant
from shells & holes

2 - 14 m. 1-2 + 3 - 55

Bare corals (20) pebbles (20)

Fucus 25-75 % cover

Mytilus & other shells

Sparse red algae in
small littorines in pebbles

14-22 m. (15 - 17)

Fucus 25-75 % cover

Bigla eluda ~ 20 %

Bare on med corals

Boulders 10, C. 31, pebbles
60

Many small limpets

under corals ~ 10-20 @

S. carinata pebbles

Littorines abundant (med)

on big corals

Mytilus - small corals

JDD GR-07

3/6

22 - 28 or 33

10 B - 30 corals - 60 pebbles

Scallop Barnacles &

Fucus, limpets, shells

under corals, smooth

little algae on surface

Sparse limpets, shells

75 m along shore (25 - 30 m)

reduced Fucus bare in

MT, more barnacles on

corals & pebbles, med

algae, limpets, shells

in med. 4-10 m, ...

2-3 similar above

150 m Barnacles:

0.817 water depth 0 tide

40 m sand, small phyllo-

spines, Siphon holes

20 / 1/4 m x 1/4 m sand

Siphon in Trench. Rocks

8 m Filamentous corals

8 m Round corals

1 m Med Barnacles

ADD GROT 4/6

Abundant beach

30 m. 100 pebbles

small PyT. in sand

25-37 m. 60% sand Fucus

Many small amphipods

under table rock & lower

obvious Fucus zone

37-46 m. low rock

Spines of anemones & Balanus

(Cnidaria, sponges, etc. present)

7.0

watered 08.30 - 2

100 m. 100% sand 100% pebbles

Fill Red S. in. Phy. H. sp. in

scattered Fucus, etc.

16-33 2 to 8

30 to 6

100% pebbles

Many small anemones

ADD GROT 5/6

0-20 m. Sand

20-43 Clean beach

Fill Red S.

40 m. 60 pebbles

43-50 Red 6-7% Sand

50-72 Fucus

72-95 Sand

Section 5

Beyond station

Sand - Fucus zone 90 pebbles

Sand under surface 70 m

large pebbles

little exposed

0-16 m. 2.0 m. Balanus Pyrosoma

4.2 m. under water with 5 adults

Pyrosoma eating the sponges

0-16 m. Sand

16-33 Filomena

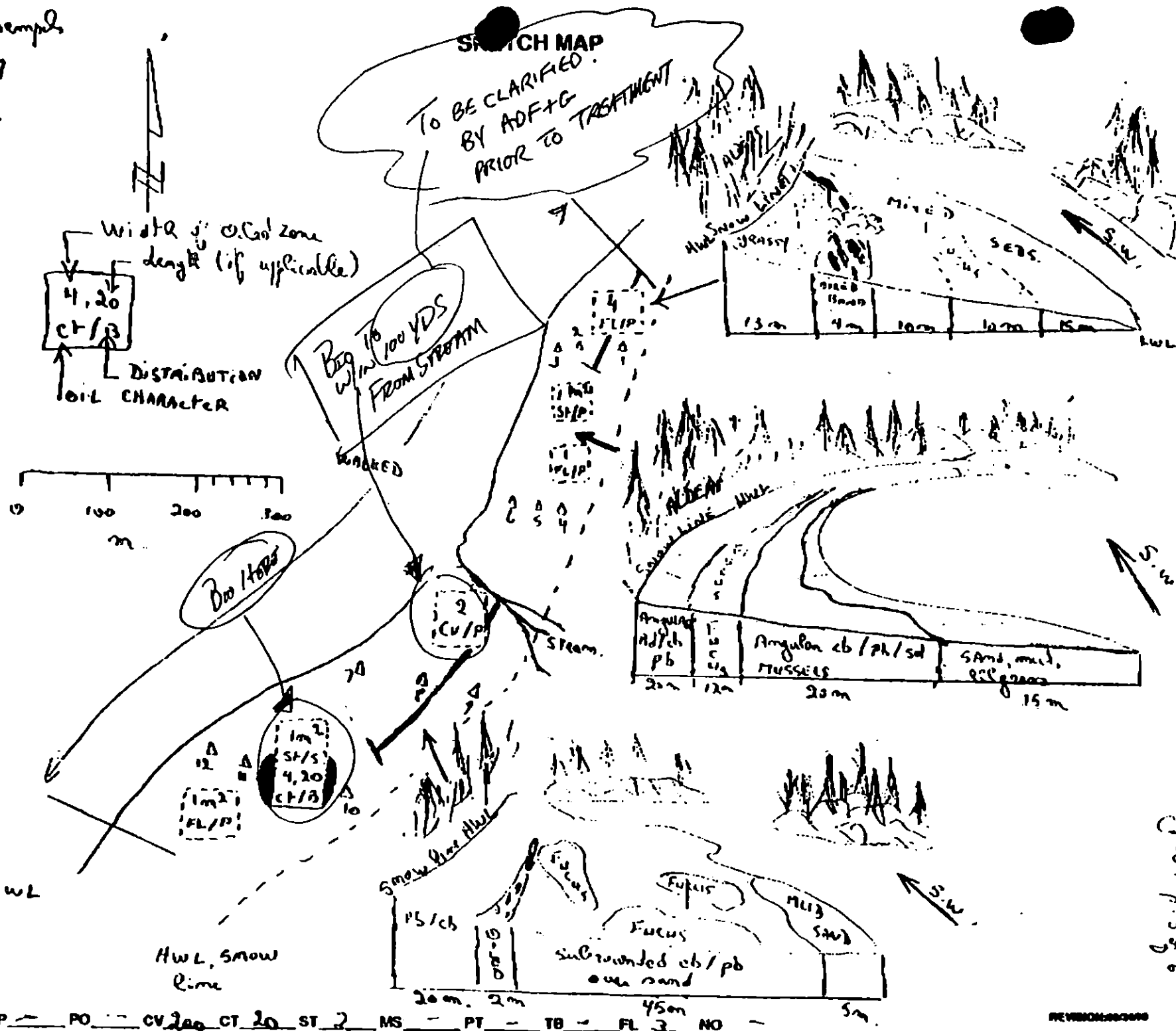
DATE March / 30 / 90

CHECKLIST

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

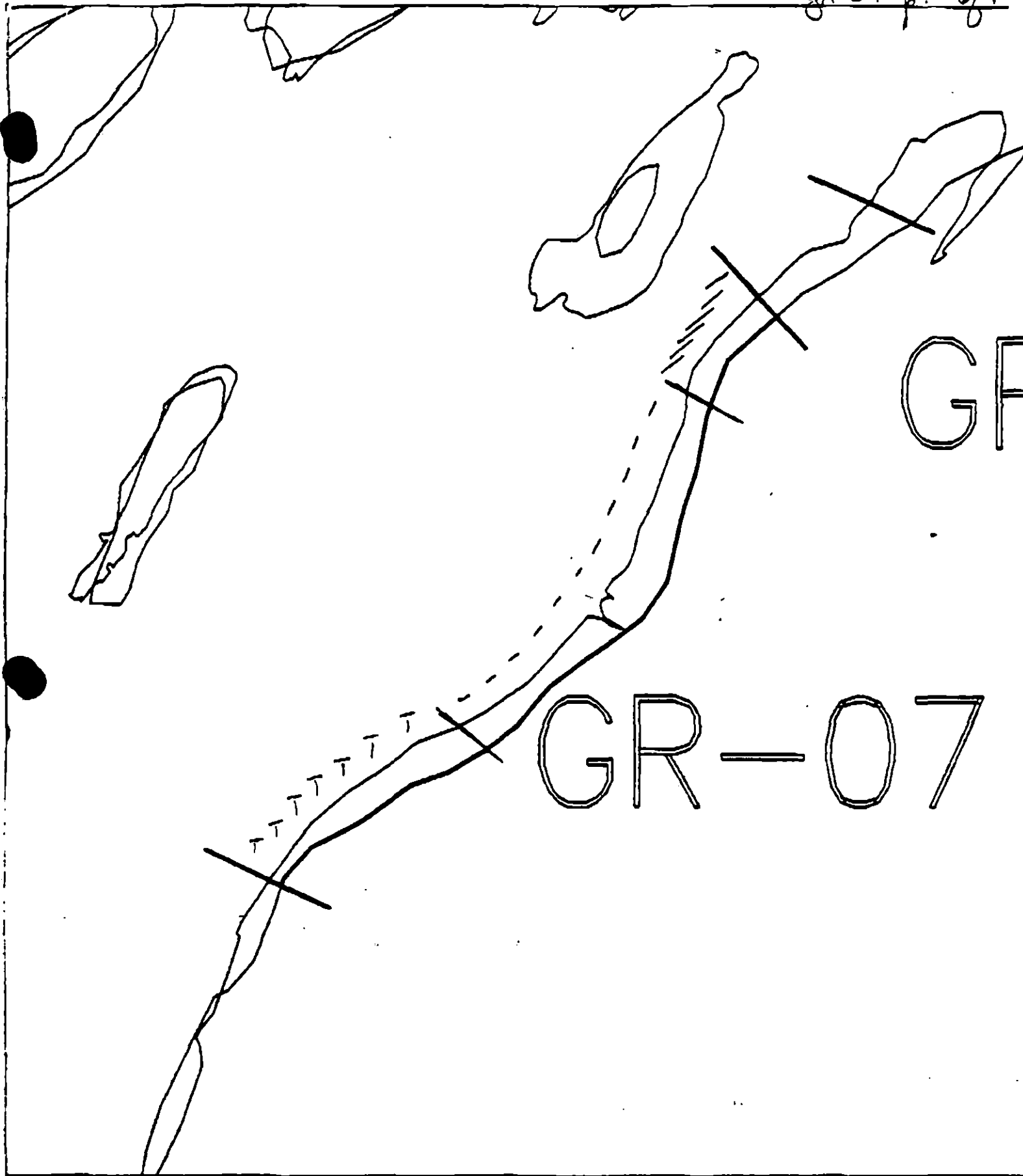
LEGEND

- 1 ▲
P1 - No Subsurface Oil
- 2 ▲
P1 - Subsurface Oil
- CT/C
Continuous Distribution
- CT/B
Broken Distribution
- CT/P
Patchy Distribution
- CT/S
Splashed Distribution
- Old Vegetation
- 1 ➡
Photo location, direction and number



Oil Character Length (m): AP 1 PO 1 CV 200 CT 20 ST 2 MS 1 PT 1 TB 1 FL 3 NO 1

PRE-TESTING-2009-2010



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

GR-7

ADEC Segment Length: 933m



Map Key: PWS-265

Name: San Juan Sound

Date: March 20/1990

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-7 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup

OPEN

Bioremediation

WORK 6/15 TO 7/1

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

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

2M Herring Spawning

Closed to bioremediation before 6/15. No constraint to manual pickup.

5S Shorebird/Waterfowl Concentration

No constraint after 5/15.

7II Subsistence: Deer Harvesting

Closed to bioremediation after 8/15. No constraint to manual pickup.

7Z Subsistence: Salmon Harvesting

No constraint to manual pickup. Closed to bioremediation after 7/1 per Gail Evanoff/Chenega Corp. to Tom Kelley/Exxon on 6/8/90.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum prior to 6/15 and after 7/1. No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow Inipi 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.

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM UNCATALOGUED ANADROMOUS STREAM
FOR ADDITIONAL CONSTRAINT INFORMATION

FOSC

Date

6-12-90

Prepared by

J. P. Phillips

Date

6/11/90

GR-101

GR

GR-1

GR-08

GR-07

GR-02

GR-13

R-12

WORK
AREA

Uncatalogued
Stream



Exxon Company, USA

Map Key: PWS-GR-7

June 04, 1990

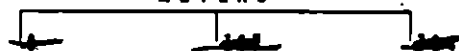


ECOLOGY MAP

SEGMENT GR-7

SUBDIVISION A (1 of 1)

METERS



Seabird Colony



Active Eagle Nest



Inactive Eagle Nest

~~1 inch = 1200 feet~~

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. UNCATALOGUED

SEGMENT GR-7 SUBDIVISION A

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

- | | | |
|-------|-----------------------------------|---|
| 1A,1B | Salmon Stream | An ADF&G uncatalogued anadromous stream is in Subdivision A. No constraint to manual pickup and tarmat removal. |
| 2M | Herring Spawning | No constraint to manual pickup and tarmat removal. |
| 5S | Shorebird/Waterfowl Concentration | No constraint to manual pickup and tarmat removal. |
| 7II | Subsistence: Deer Harvesting | No constraint to manual pickup and tarmat removal. |
| 7Z | Subsistence: Salmon Harvesting | No constraint to manual pickup and tarmat removal. |

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. 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.

SEE SUBDIVISION CONSTRAINT ADDENDUM GR-7A
FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC

[Signature]

Date

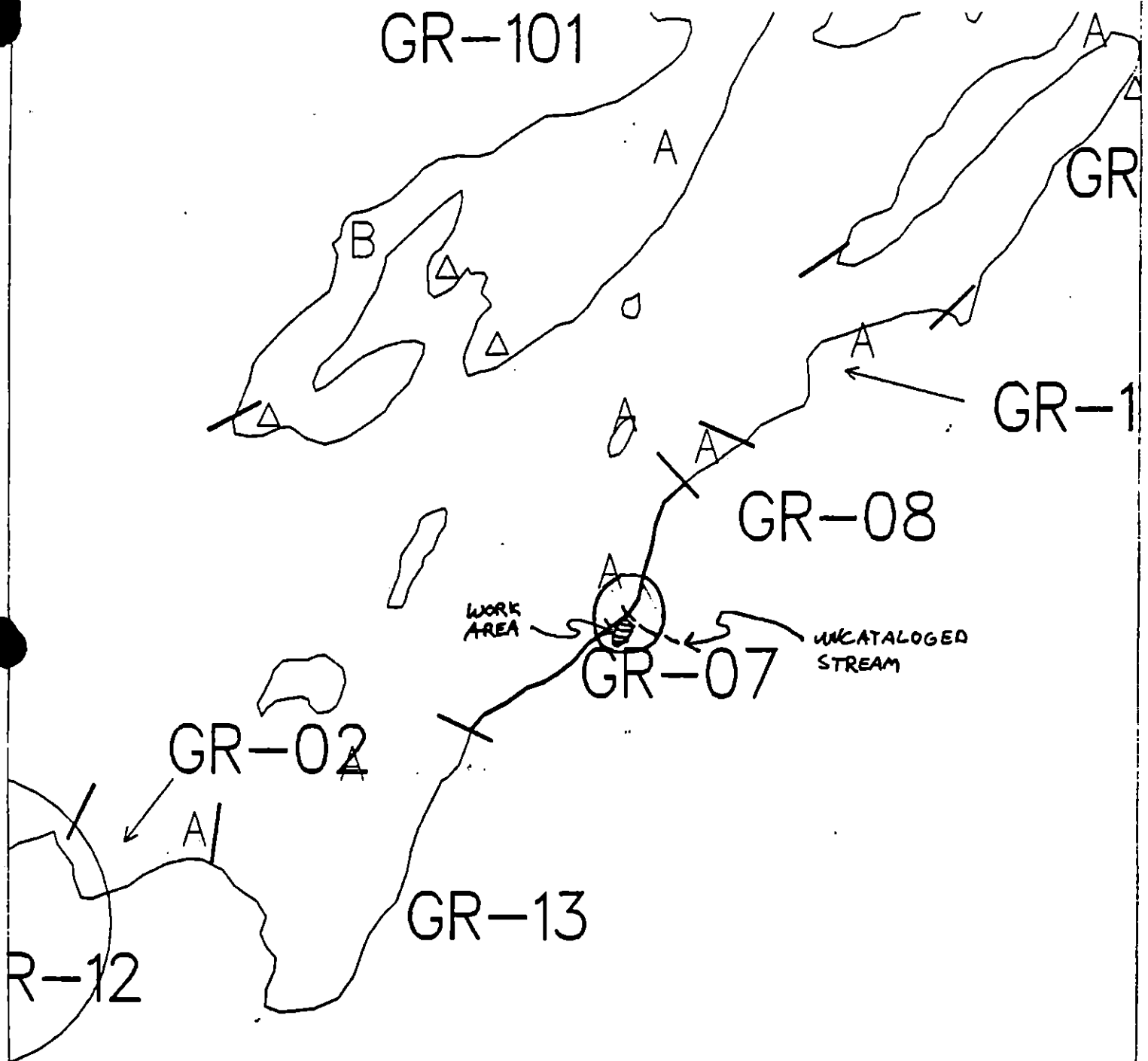
6/13/90

Prepared by

[Signature]

Date

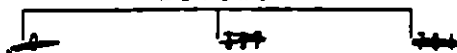
6/12/90



Exxon Company, USA
Map Key: PWS-GR-7
June 04, 1990



ECOLOGY MAP
SEGMENT GR-7
SUBDIVISION A (1 of 1)
METERS



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

1 inch = 1000 feet

FIELD SHORELINE COMMENT SHEET

ASAP

SEGMENT AS/GR 7 SUBDIVISION: A SITE: 1 DATE 7-31-90

USCG NOAA PSI Leo Bersalona USCG Leo Bersalona

NAME ART WEINER SIGNATURE Art Weiner☐ YES☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

PROPOSED WORK IN CONJUNCTION WITH WINTER WEATHERING WILL REMOVE REMAINING OIL.

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley☐ YES☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

DUE TO THE SMALL AMOUNT OF OIL PRESENT I BELIEVE A PROPER EFFORT OF MANUAL TILLING AND APPLICATION OF CUSTOM BLEND SHOULD TAKE CARE OF THE REMAINING OIL. NO TREATMENT WOULD BE RECOMMENDED AT THIS TIME IF ADDITIONAL WORK MODIFICATION WORK IS COMPLETED.

LAND MANAGER

NAME John Ebel SIGNATURE John Ebel☐ YES☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Small area, lite oiling, complete treatment in '90 w/ manual tilling.

EXXON

NAME Ray Sotelo SIGNATURE Ray Sotelo☐ YES☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

No reassessment is necessary in '91 if work is completed as stated on work modification plan for '90.

FIELD SHORELINE COMMENT SHEET

SEGMENT AS/ GR-7 SUBDIVISION: A ANAD. STREAM SITE: 2 DATE 7/31/90
 USCG/NOAA PSI Leo Bersalona USCG Leo Bersalona
 NAME ART WEINER SIGNATURE Art Weiner

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
 REASON:

1990 FOLLOW-UP TREATMENT SHOULD REMOVE ALL REMAINING OIL

ADEC
 NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
 REASON:

No Reassessment in 1991 will be necessary if additional work modification work is completed. Monitors should assess area upon completion of work.

LAND MANAGER
 NAME John Lof SIGNATURE John Lof

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
 REASON:

Complete work modification as requested. Monitors should evaluate all sites before denubolization.

EXXON
 NAME Ray Suter SIGNATURE Ray Suter

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
 REASON:

Manually till and apply custumilend in area shown on sketch map. No follow-up should be necessary if work is completed in '90.

TEAM NO. ADP-2 EACON SDTELO, RAY SEGMENT AS GR 7
 OG CHANEY GREG USGS BERSALONAL ED SUBDIVISION A
 ADEC GHORMLEY, WES LAND REP EBEL, JOHN TOTAL NO. SITES 2
 DATE July 13/ 190 TIME 16:30 to 16:45 TIDE LEVEL 6.5 to 6.5
 TOTAL EST LENGTH OF SHORELINE SURVEYED: 10 m
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WEATHER: ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 OIL CATEGORY LENGTH: W m M m N m VL 10 m NO m US m

SITE 1 NOT VISIBLE

SITE 3

[illegible][illegible]

Frames_____

REVIEWED
8/7/90 *Yli*

COMMENTS Surface oiling is a blend of sand and oil which creates a semi cohesive material but it is still SOR. Area seems to have been manually worked.

TEAM NO. ACHAP 2 EXACON SOTELO, RAY SEGMENT AS GR 7
 COG CHANEI, GREG USGS BERSALONA, LEO SUBDIVISION ANAD STREAM
 REC GHRILEY, WES LAND REP EBEL, JOHN TOTAL NO. SITES 1
 DATE JULY 31/190 TIME 16:05 to 16:30 TIDE LEVEL 6 to 6.5
 TOTAL EST LENGTH OF SHORELINE SURVEYED: 5 m
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WEATHER: ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 OIL CATEGORY LENGTH: W m M m N 5 m VL m NO m US m

SITE 2

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SU	UI	MI	LI
ASPHALT								✓
S.O.R.				X		X		
POOLED								
COVER			X			X		
COAT			X			X		
STAIN								
MOUSSE								
PATTIES/T.B.								
FILM								
NO OR					X		X	
SITE LENGTH					5m			

SITE 2

[illegible]

SITE 3

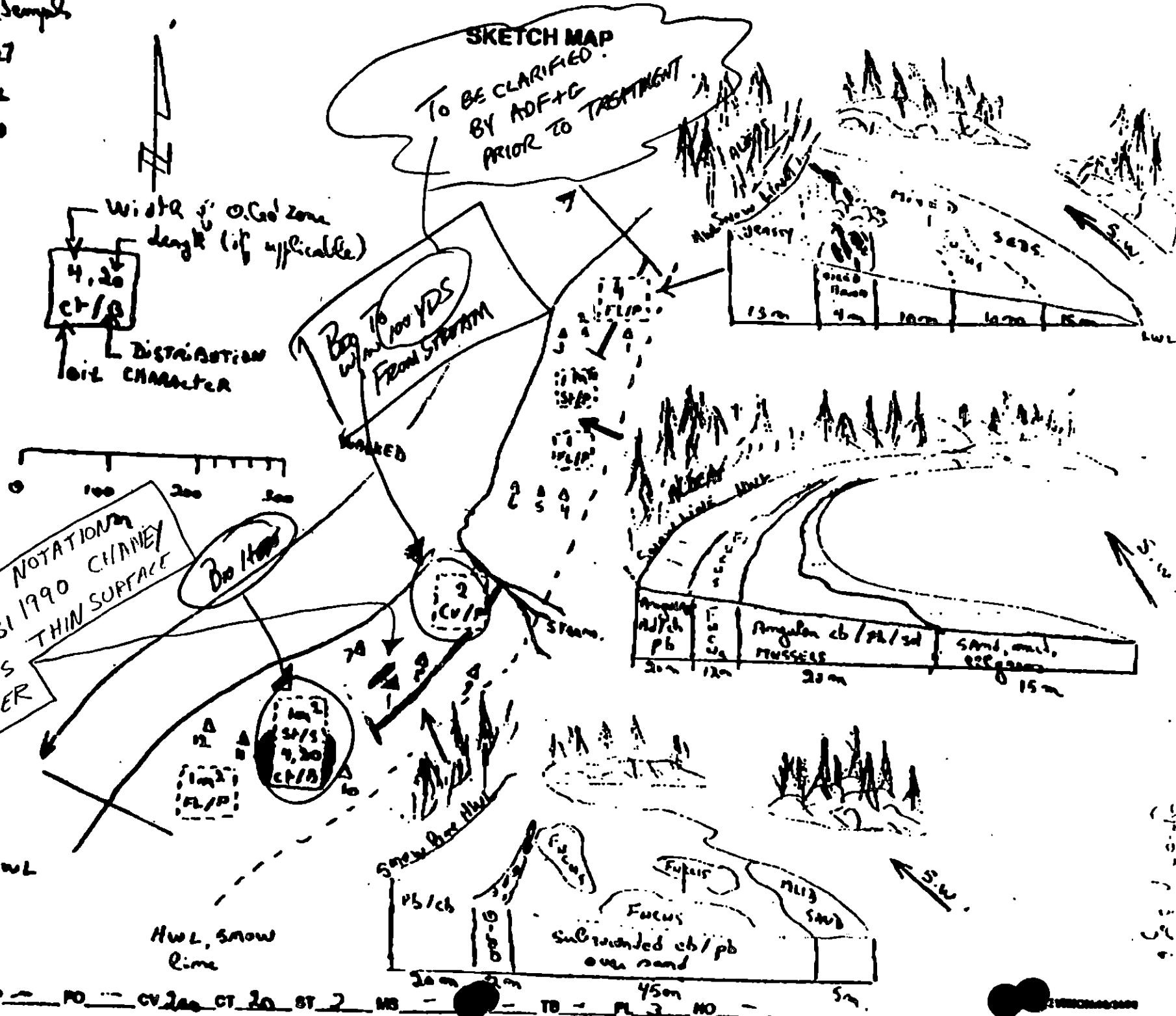
[illegible][illegible]

Roll No. NONE

Frames

REVIEWED
8/7/90 YU

COMMENTS Oiled sediments still produce a sheen when put into water. Small amount of shallow subsurface oil is present.



GENERAL DATA

SEG ID: GR7 SBOV: A SITE: 1 TEAM: 2 DATE: 7/31/90
SITE LGTH 104 OIL CATEGORIES: W M N VL 10 NO U
1991 REASSESSMENT: USCG: N ADEC: N LDMGR: N EXXON: N
NOAA

SURFACE DATA

CHAR #: 1 OIL CHAR: SOR OIL DIST: CONT BRKN PTCH SPLH ✓
TIDAL ZONE: SU UI MI LI

CHAR #: 2 OIL CHAR: NO OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU X UI MI X LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

ASAP DATA ENTRY FORM

SUBSURFACE DATA

PAGE 2 OF 2SEGMENT ID: GR-7 SUBDIV: A SITE: 1PIT # 1 PIT DEPTH 15 OIL CHARACTER NO OIL INTVAL: FROM 0 TO 15
CLEAN BELOW: Y PIT ZONE: SU UI MI LISUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEGPIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG

GENERAL DATA

A
ANADSTACAW No Number

SEG ID: GR-7 SBDV: V SITE: 2 TEAM: 2 DATE: 7/31/90
SITE LGTH 5 OIL CATEGORIES: W M N 5 VL NO U
1991 REASSESSMENT: USEG: N ADEC: N LDMGR: N EXXON: N
NOAA

SURFACE DATA

CHAR #: 1 OIL CHAR: SOR OIL DIST: CONT BRKN PTCH SPLH ✓
TIDAL ZONE: SU UI ✓ MI LI

CHAR #: 2 OIL CHAR: CV OIL DIST: CONT BRKN PTCH ✓ SPLH
TIDAL ZONE: SU UI ✓ MI LI

CHAR #: 3 OIL CHAR: CT OIL DIST: CONT BRKN PTCH ✓ SPLH
TIDAL ZONE: SU UI ✓ MI LI

CHAR #: 4 OIL CHAR: NO OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU X UI X MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

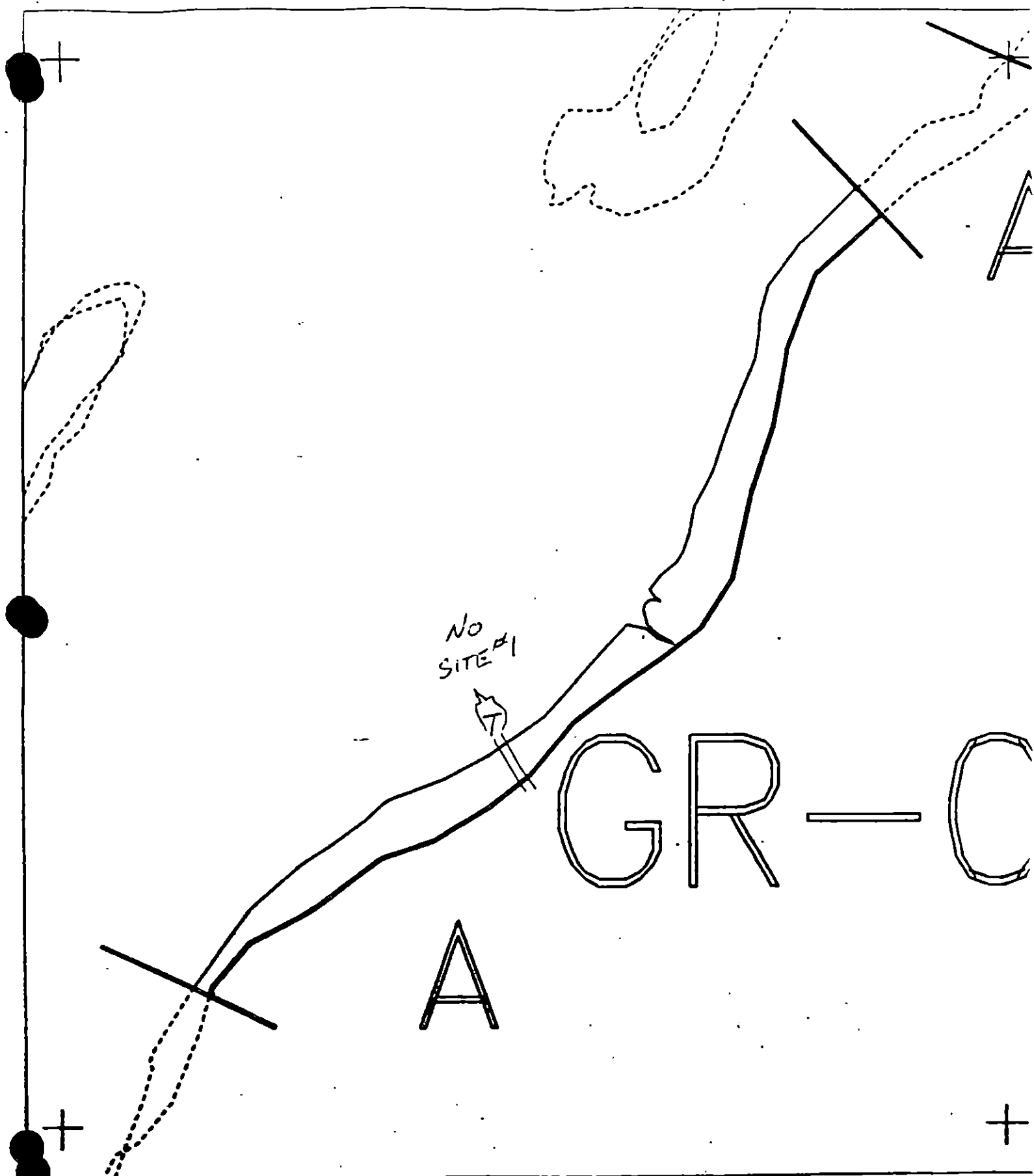
CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

ASAP DATA ENTRY FORM

SUBSURFACE DATA

PAGE 2 OF 2SEGMENT ID: GR 7 SUBDIV: ANAD SITE: 2PIT # 1 PIT DEPTH 25 OIL CHARACTER OR OIL INTVAL: FROM 0 TO 10
CLEAN BELOW: Y PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDI NT: B BLD COB PEB GR SA MUD VEG



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

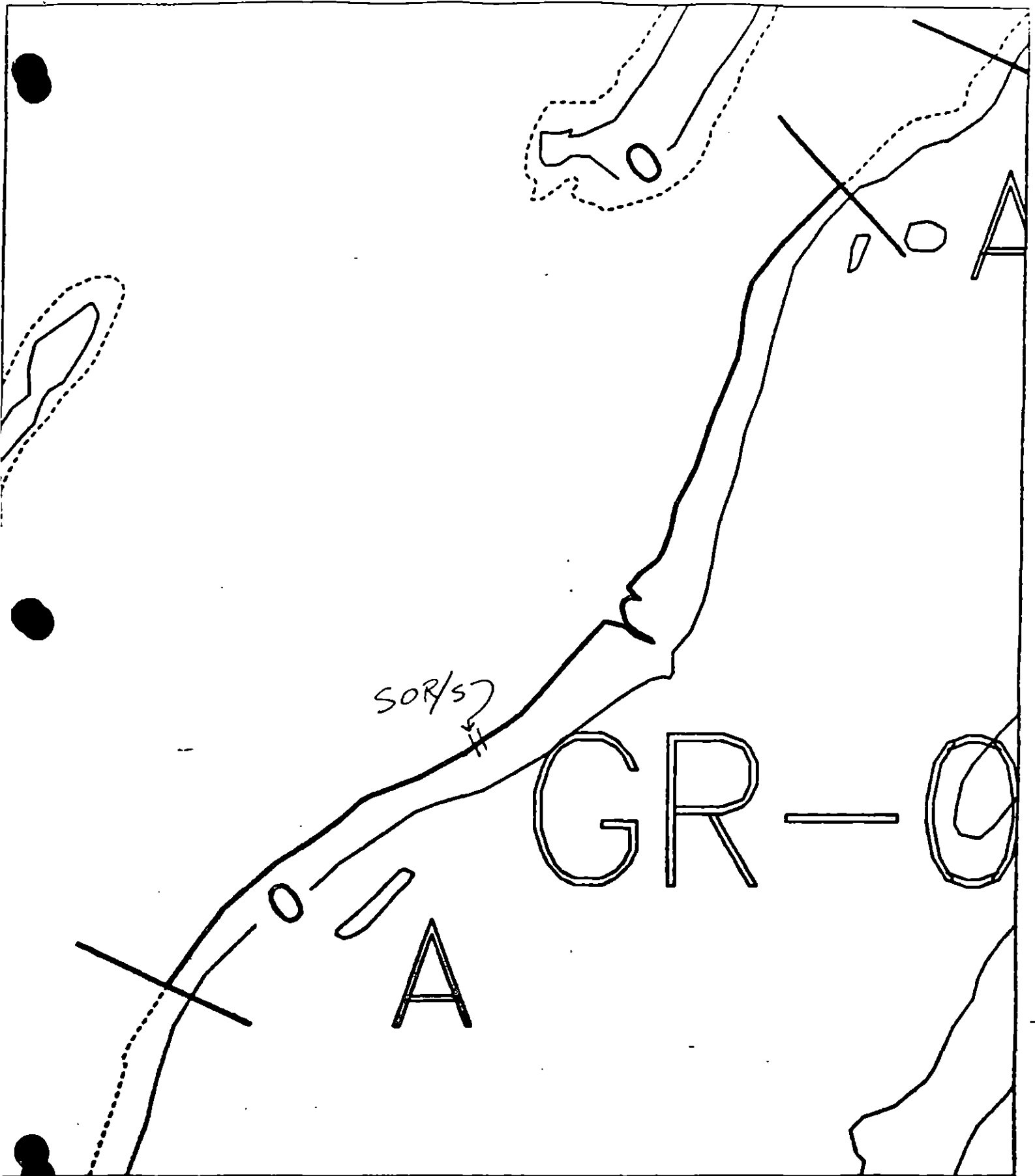
GR-7 A
 ADEC Subsegment Length: 933m
 METERS

0 410 820



Subdivision Field Map
 Map Key: PUSGR-7A
 Memo: _____

Date: _____



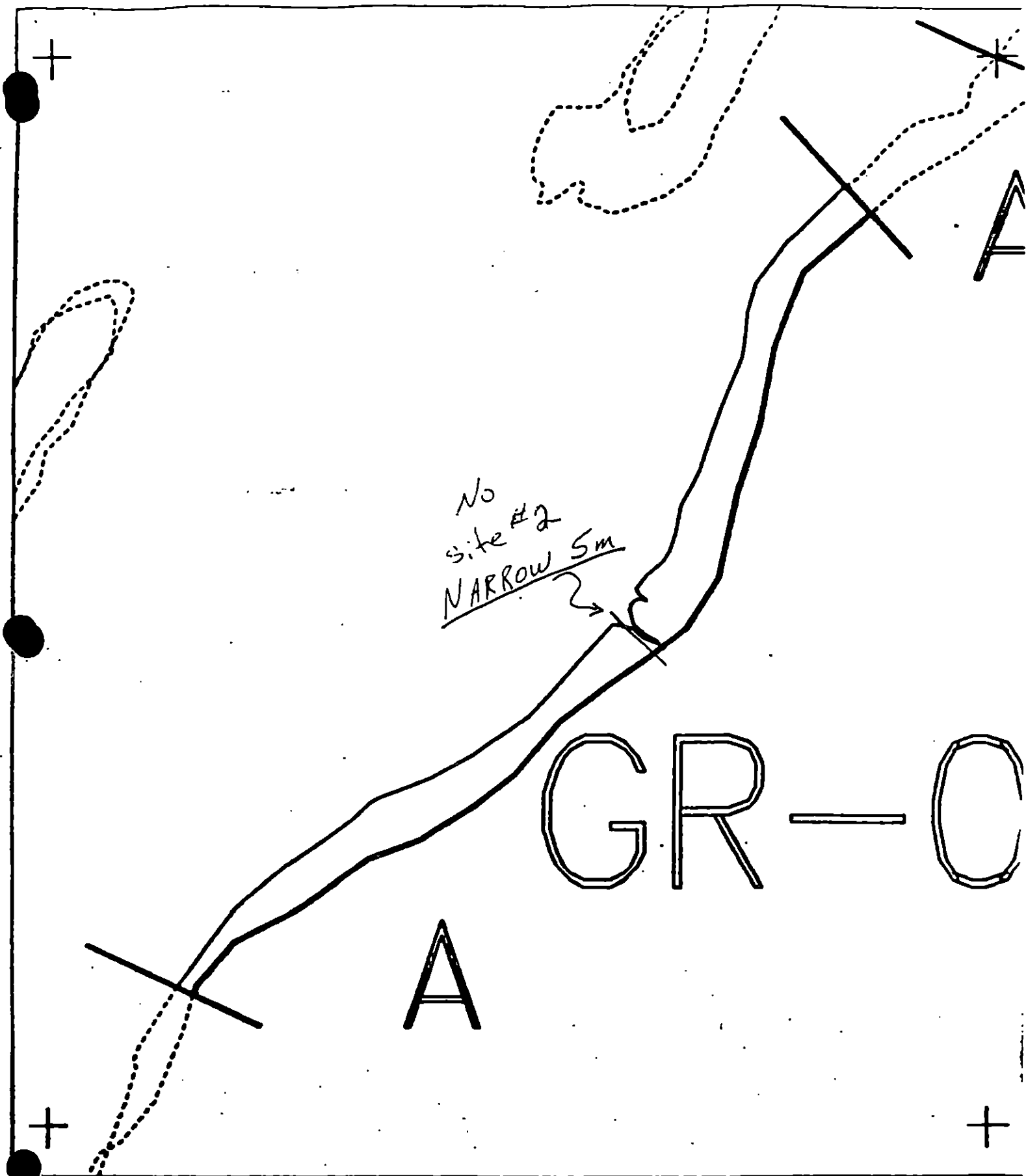
SEGMENT GR-7

Segment Location Map

Map Key: PWSGR-7

July 19, 1990

METERS



XXXX

Wide

////

Medium

Narrow

TTTT

Very Light

.....

No. 1

GR-7 A
ADEC Subsegment Length: 933m
METERS

0 110 220



Subdivision Field Map

Map Key: PUSGR-7A

Name: CHANEY

Date: JULY 31 1990

SHORELINE EVALUATION

SEGMENT ST/ GR-08 SUBDIVISION A (1 OF 1) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Shorebird/Waterfowl concentration (5S) - 4/25 to 5/15; Herring spawning (2M) - 4/1 to 6/15; Medium recreation use (6/1 to 9/15); High subsistence value area - consult ADF&G and Chenega Bay for dates.

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

SHPO SIGNATURE: Charles J. Homan DATE: April 11, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 122 m: Narrow 0 m: V.Light 75 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 bioremediation of area where patchy surface cover found. (See sketch map). Work after 6/15 based on herring constraints - consult ADF&G and Chenega Bay.

TAKE SMALLER SAMPLES PRIOR TO BIOREMEDIATION IF POSSIBLE

TAG COMMENTS:

TAG APPROVAL DATE:

ADEC John Bauer Tom San

EXXON ANDY TEAL 1/2 10

NOAA *Burl Weisatt* *Burl Weisatt*

USCG G. A. KEITEL G. A. Kei

FOSC:

DATE: 4-19-90

FIELD SHORELINE COMMENT SHEET

YK 8 P 733

SEGMENT ST 1 GR-08 SUBDIVISION: Nene DATE March 30, 1990CG
NAME Robert Jensen SIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTEDADEC
NAME Rowann T. Hudnall SIGNATURE Rowann T. Hudnall☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Surface sheens in upper intertidal sediments, sand & cobble area. recommend stirring up w/picks & shovels before bioremediation. No subsurface oil

LAND MANAGER

NAME Leo Keeler SIGNATURE _____☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Small Tar/Asphalt Band found - Bioremediation & raking to break up ~~it~~ was suggested.
Right sheen on upper tidal zone. To meet

Area receives high recreation use from nearby Public Cabin

Area used by migrating shorebirds (5-10 million)

REVISION NO. 08/21/90

⊗

SHORELINE OILING SUMMARY

Revision 1 REVISION NO. 02/22/90

OG San Juan Islands USCG San Juan SEGMENT ST/ QR-08
 BIO John Dixon LAND REP John Keefer SUBDIVISION None
 EXXON Jim Olson ADEC Rebecca Hudnell TIME 13:00 to 14:00 on 9/30/90
 TEAM NO.: 2 TIDE LEVEL: +5.5' to +2.5' DATE 9/30/90
 EST. SUBDIVISION LENGTH: 180 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock Small covered above HTL
 SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo WORKING DIRECTION: to
 SURFACE SEDIMENTS: R — % B 10 % C 40 % P 40 % G — % S 10 % M — % V — %
 SLOPE: Long 100 % Hang — % Vert — % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W — m M 20 m N 50 m VL — m NO — m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	IC	IB	IP	IR	1	2	3	4	5	6	7	8	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER			X					X						X		
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL													X		XX	

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE —#BAGS —

Photographs:

Roll No. CameraFrames defective

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	1	2	3	4	5	6	7	8	SU	U	M	U		
1	30					X	-														X	N	sd / pb / cl
2	30					X	-													X	"	"	sd / pb / cl
3	30					X	-													X	"	"	sd / pb / cl
4	30					X	-											X				"	sd / pb / cl
5	30					X	-													X	"	"	sd / pb / cl
6	30					X	-													X	"	"	sd / pb / cl

7 30
COMMENTS

Y

X

"

sd / pb / cl.

GR-8, Green Island, March 30, 1990

Segment GR-8 is located on the north-central coast of Green Island. This unit includes a wide and very gently sloping beach of mixed angular sediments, mainly cobble, pebble and sand. The segment is very sheltered by the presence of nearby islands, and the low wave energy environment is reflected by the poor sorting and angular nature of the sediments.

Oil occurs at several locations: 1) near the southwestern extremity, it forms a band 6 m wide by 60 m long with a 30% cover and average thickness of 0.5 cm. Immediately to the north, it forms a patch 20 m wide and 10 m long of 10% cover and 0.5 cm average thickness. To the north again, it occurs in a band 2 m wide by 15 m long with a 30% cover and 2 cm maximum thickness. In this last case, it has concentrated in small depressions 30 cm in diameter that contain some water and a white, bleached filamentous algae.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/76

Segment ST / GR-08 Subdivision N/A Date (mo / day / yr) 03/30/80Time (24 hr) 1300 - 1320 Biologist John Dixon(A) Substrate type and % of segments:
(1) Bedrock 0 (2) Boulder 10 (3) Cobble 40 (4) Pebble 40 (5) Sand 10 (6) Silt (B) Overall % cover of biota (% of segment): Dense 0 Moderate 15 Low 85

(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. NoneFrames

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	2
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

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

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

NOT PRESENT

Wildlife Observations/ General Comments: At start of survey water line was at +5.5 feet. No observations of low intertidal or lower portion of mid zone

Ecological Considerations: In central portion of the segment is raised terrain with inlet behind. Fucus forms a circular band around the perimeter of the raised area. Filamentous red algae forms patchy mats in depressions. Small limpets & Littorina common under larger cobble. White patches of filamentous algae on coral sand - probably bleached *Entomomorpha*.

DATE 6.29.90 / 31 / 90

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

1 Δ
Pl - No Subsurface Oil

2 A
Pg - Subsurface Oil

CT/C
Continuous Distribution

CT/8
Broken Distribution

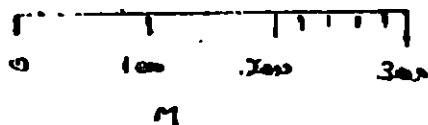
CT/P
Patchy Distribution

CT/S
Scientific Distribution

Cold Vegetation

Photo location, direction,
and number

Legend
w. diff
↓
1 2 15 1. Length
1 cv/p 1 Dist. Cult. on.
1
character



Oil Character Length (in): AP PO CV 97 CT ST MS PT TB FL NO 93

THE VISION-CULTURE

Transmission
4-5-90
B/H

Revision 1 4-5-70
BH

GR-8

GR

GR-07

●●●● Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No 0 ⊗

GR-8

ADEC Segment Length: 933m



Map Key: PWS-265

Name: San Francisco

Date: March 30/70

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-8 SUBDIVISION A (1 of 1)

WORK WINDOW

Bioremediation
Manual Raking

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 and manual raking before 6/15.
5S	Shorebird/Waterfowl Concentration	No constraint after 5/15.
7II	Subsistence: Deer Harvesting	Closed to bioremediation and manual raking after 8/15.
7Z	Subsistence: Salmon Harvesting	Closed to bioremediation and manual raking after 7/1 per Gail Evanoff/Chenega Corp. to Tom Kelley/Exxon on 6/8/90.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum prior to 6/15 and after 7/1. Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass.

FOSC

DATE 6-10-90

Prepared By:

J. P. Phillips

6-10-90

DATE

6/10/90

GR-101

GR-

GR-14

GR-08

GR-07

R-02

GR-13

WORK
AREA



Exxon Company, USA
Map Key: PWS-GR-8
June 04, 1990



ECOLOGY MAP
SEGMENT GR-8
SUBDIVISION A (1 of 1)

METERS



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

SHORELINE EVALUATION

SEGMENT ST/ GR-09 SUBDIVISION A* DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Shorebird/Waterfowl concentration (5S)-4/25 to 5/15; Herring spawning area (2M) 4/1 to 6/15; Special use destination (6Y)- 6/1 to 9/15; Deer harvesting (7 II)- 8/15 TO 2/28; Restrict disturbance of unoled fucus in lower and middle intertidal zones.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Same as above.

SHPO SIGNATURE: [Signature] DATE: April 5, 1990

OILING CATEGORIZATION:

0 m Wide, 0 m Medium, 219m Narrow, 0 m V. Light, 0 m No Oil
Subsurface Oil Observed Yes X No Maximum Depth

RECOMMENDATIONS:

No Treatment Recommended
X Treatment Recommended
X Manual Pickup Snare Booms/Sorbents Tarmat Breakup/Removal
X Bioremediation SPOT WASHING Other
Wands
Beach Cleaner

Comments: Recommend manual pickup of oiled vegetation and debris and any asphalt
barrels in Pocket 1. (see Sketch Map) Also recommended bio- paths:
remediation of area where surface coat found. All work after
6/15/90 based on constraints. A.

TAG COMMENTS: Due to inconsistencies contained within the report
that were clarified within TAG, modifications to the recommended
approach were warranted

TAG APPROVAL DATE:

ADEC JOHN BAUER [Signature]
EXXON ANDY TATE [Signature] FOSC: [Signature] DATE: 4-19-90
NOAA Bud Wescott [Signature]
SCG G.A. REITER [Signature]

*Subdivision covers entire segment.

SHORELINE OILING SUMMARY

REVISION NO 0372

OG B. Berglund USCG J. Gamble SEGMENT ST/ GR-9
 BIO S. Schroeter LAND REP G. Winkert SUBDIVISION —
 EXXON C. Levine ADEC B. Fitzsimons TIME 10:30 10:11 10:20
 TEAM NO.: 1 TIDE LEVEL: -1.8 10 +0.5 DATE 3/30/90
 EST. SUBDIVISION LENGTH: 228 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W 10 E
 SURFACE SEDIMENTS: R 30 % B 40 % C 15 % P 10 % G 5 % S — % M — % V —
 SLOPE: Lang 90 % Hang 10 % Vert — % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W — m M 228 m N — m VL — m NO —

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	C	B	P	R	BR	BL	GR	GL	TL	LR	SU	U	M	L
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT		X	V						X			X	V	
STAIN														
MOUSSE														
PATTIES														
TARBALLS														
FILM														
NO OIL											✓			✓

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

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

DEBRIS COLLECTED ☐ YES ☒ NOTYPE —#BAGS —

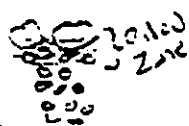
Photographs:

Roll No. ST-1-1Frames 23-24

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	SL BR	DL RW	GY SL	DR TL	LR	SU	U	M	L					
1	20					✓	.		✓								✓						B/P/G
2	15					✓	.		✓										✓				B/P/G/R
16	20					✓	.		✓								✓						B/P/G/R
							.																
							.																
							.																

COMMENTS



GR-10 is similar to GR-1A. Bedrock is close to surface or exposed in many areas. Oil coats boulders and fills interstices between boulders. Fine sediment beneath & between boulders are saturated with oil. But oil is not penetrating beyond 3-5 cm in fines.

SEGMENT ST/ GR-9

SUB ON

DATE 3 / 29 90

CHECKLIST

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

LEGEND

1 Δ

Pit - No Subsurface Oil

2 Δ

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Oiled Vegetation

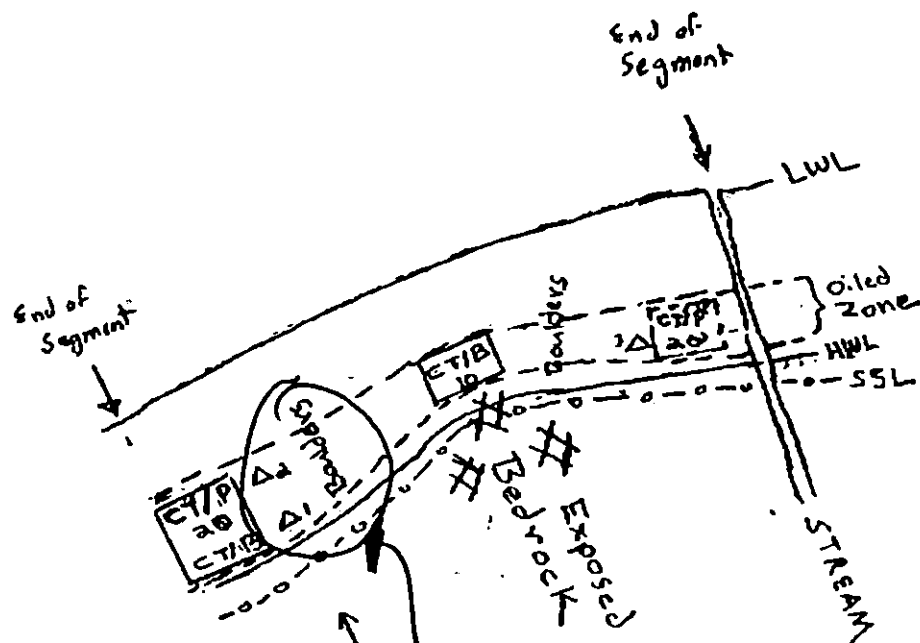
1 $\Rightarrow$

Photo location, direction, and number

$\times$ Exposed Bedrock

CT/B $\leftarrow$ Oil Character
20 $\leftarrow$ Width of Oiled Zone

0 50 100
Meters



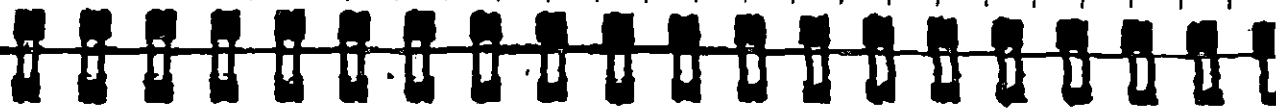
N

10m
UI MI LI

Oil Character Length (m): AP _____ PO _____ CV _____ CT 230 ST _____ MS _____ PT _____ TB _____ FL _____ NO _____

Begn: 11:00: -1.2
 End: 11:20: +1.0

upper & mid intertidal boulders or boulders on
 bedrock w/ patches of bedrock w/ sparse cover
 of organisms. Few stars in lower intertidal
 or sheer odor when rocks were turned
 in low intertidal. No eelgrass or hemizone
 patches in lower intertidal. Several
 dense patches of *Fucus* in mid intertidal



Seq 10 3/30/90 S. Schroeter Team 3/3

11:30 = +1.0
 12:30 = +4.0 } only 1 foot of lower intertidal

40 wt Boulders } mid/upper IT
 60 wt bedrock }

dense patches of *mussels* & *Fucus* on bedrock
 boulder decomposers also common *N. scabra*
 & *P. scabra* in bedrock ridges
 Stars & red algae not abundant, but very little
 low examined

SHORELINE ECOLOGICAL SUMMARY

Segment ST / GR-09 Subdivision N/A Date (mo / day / yr) 3/20/90Time (24 hr) 10:00-11:20 Biologist S. Schroeter

- (A) Substrate type and % of segments:
 (1) Bedrock 20 (2) Boulder 50 (3) Cobble 20 (4) Pebble 10 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 20 Low 70
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs: ST-1-1Frames N/A

BARNACLES

SHORELINE ECOLOGICAL SUMMARY

Segment ST / GR-A Subdivision N/A Date (mo / day / yr) 3/30/90Time (24 hr) 07:40-10:00 Biologist S. Schroeter

- (A) Substrate type and % of segments:
 (1) Bedrock 20 (2) Boulder 40 (3) Cobble 20 (4) Pebble 16 (5) Sand 4 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 25 Moderate 15 Low 60
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs: ST-1-1Frames 21, 21, 22

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	NOT PRESEN
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			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	NOT PRESEN
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	
GASTROPODS			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	NOT PRESEN
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			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	NOT PRESEN
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: UNOILED sea otter carcass on east end of segment; 3 blue sea otters & 9 spotted seals offshore;

Ecological Considerations:

moderate abundance of adult & newly recruited Fucus in low & mid intertidal; ~65% of low intertidal with dense coverage of reds (Tide, Adonthis & Rhodome). Moderate abundance of juvenile Pycnopodia & brooding Leptasterias in low intertidal. Phyllosopora bed below low tide mark on eastern half of segment; dense recruitment of Laminaria offshore; upper shore of segment has a 1 m wide band of Laminaria in lower intertidal.

FIELD SHORELINE COMMENT SHEET


 SEGMENT ST/ GR-09 SUBDIVISION: No Sub Division DATE 30 March 90

 NAME James C. Gambell SIGNATURE James C. Gambell
☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Coatings, And Patching spot of Asphaltting And mouse Pett. 2, upper T.OA/ zone
 Also because of Round Boulder And slick surface To Dangerous To Put
 Lot of personnel on beach.

DEC

 NAME Brian Fitz Simons SIGNATURE Brian K. Fitz Simons
☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

 COMMENTS 1) 1st 100-200m of beach (west to east) similar to GR 001A + same
 est. option & suggestions apply

2) Rest of segment is boulder over bedrock - Boulder's patchy coat-
 Some sediments present in oiled zone - Unteasable to treat other than Bio Remed

3) HIGHLETZ has oiled gravels which extend under snow cover at SUIT 2
 Depth = @ 22 cm to Boulder Barrier - TREAT

4) Small area on east end of segment (17m x 75m)

Surface BR → Coated 30-40% BR (8-17cm)
 Sub " PSC → Saturated (OP-OF) 17cm
 BR } Treat

AND MANAGER

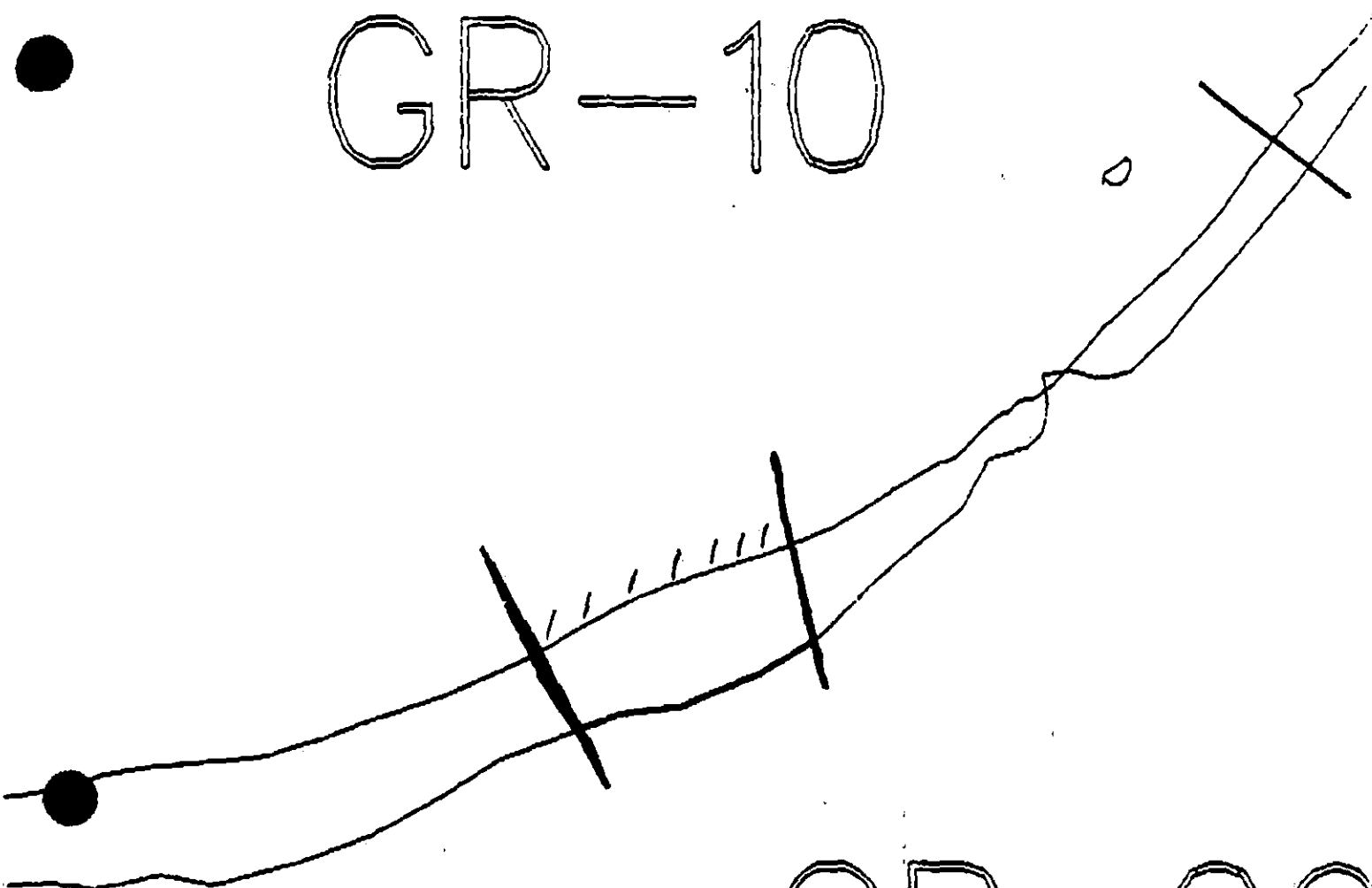
 NAME Carol S Huber SIGNATURE Carol S Huber
☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Dangerous beach for large crews, extremely slick
 boulders and cobbles. Oil soaked gravels in upper
~~intertidal~~ intertidal zone.

Recommend Low Impact methods

GR-10



R-1A

GR-09

XXXX Wide

/// Medium

- - - Narrow

TTTT Very Light

0000 No Oil

GR-9

ADEC Segment Length: 219m



Map Key: PWS-267

Name: B. Berglund

Date: 3/30/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ GR-10 SUBDIVISION A (1 OF 1) DATE 3/3090

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Shorebird/Waterfowl concentration (5S) - 4/25 to 5/15; Herring spawning (2M) - 4/1 to 6/15; Special use destination (6V) - 6/1 to 9/15; Deer harvesting (7II) - 8/15 to 2/28.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict disturbance of unoiled fucus in lower and middle intertidal zones.

SHPO SIGNATURE: [Signature]

4, 1990

OILING CATEGORIZATION:

Wide 75 m: Medium 178 m: Narrow 0 m: V.Light 306 m: No Oil 0 m
Subsurface Oil Observed: Yes X No X 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: <u>X</u> Wands
☐ Tarmat: ☐ Breakup	☐ Beach Cleaner
☐ Removal	☐ Other (see comments)

COMMENTS: Recommend bioremediation where coat indicated on sketch map. Also recommend removal of debris from supra-tide zone on pocket #1. Recommend all work after 6/15 based on herring spawning constraints. SPOTWASH AS REQUIRED AND INDICATED ON SKETCH

TAG COMMENTS:

TAG APPROVAL DATE: 4/10/90

ADEC JOHN BAUER
EXXON ANDY TEN
NOAA Burl Abbott
USCG GA. REITER

FOSC: [Signature]

DATE: 4-19-90

SHORELINE EVALUATION

SEGMENT ST/ GR-10 SUBDIVISION A (1 OF 1) DATE 3/3090

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Shorebird/Waterfowl concentration (5S) - 4/25 to 5/15; Herring spawning (2M) - 4/1 to 6/15; Special use destination (6Y) - 6/1 to 9/15; Deer harvesting (7II) - 8/15 to 2/28.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict disturbance of unoiled fucus in lower and middle intertidal zones.

SHPO SIGNATURE: Charles E. Hoffman DATE: April 11, 1990

OILING CATEGORIZATION:

Wide 75 m: Medium 178 m: Narrow 0 m: V.Light 306 m: No Oil 0 m
Subsurface Oil Observed: Yes X No X 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: <u>X</u> Wands
☐ Tarmat: ☐ Breakup	☐ Beach Cleaner
☐ Removal	☐ Other (see comments)

COMMENTS: Recommend bioremediation where coat indicated on sketch map. Also recommend removal of debris from supra-tide zone on pocket #1. Recommend all work after 6/15 based on herring spawning constraints. SPOTWASH AS REQUIRED AND INDICATED ON SKETCH

TAG COMMENTS:

TAG APPROVAL DATE: 4/10/90

ADEC JOHN BAUER EXXON ANDY TSH NOAA Burt Abbott USCG G.A. REITER FOSC: [Signature] DATE: 4-19-90

FIELD SHORELINE COMMENT SHEET



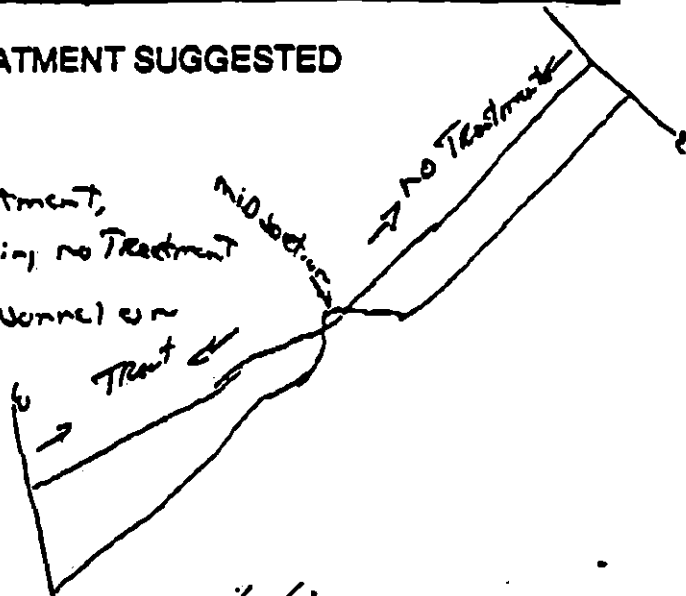
SEGMENT ST/ GR-10 SUBDIVISION: No Sub Division DATE 30 March 90

NAME James C. Lambill SIGNATURE James C. Lambill

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

SEE sketch below
THE AREA west of mid section needs treatment,
THE AREA east of mid section light staining, no treatment
needed, also very DANGEROUS to put a lot of personnel on
beach, because of Round Boulder.



ADEC NAME Brian K. FitzSimons SIGNATURE Brian K. FitzSimons

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS 1) Much oil remains in 1st 1/2 of segment (west to east) + is of
no Conditions to GR-001A is BC Sub Quantifier
PSGC OP OF

2) Needs Treatment if boulders can be removed to gain
access to saturated sediments i.e. front end loader, backhoe,
all dozer



3) If boulders moved, treat possibly with HPHT wash w header

4) East 1/2 is BR headlands with only patchy film, stain, coat present -

No Treatment recommended

AND MANAGER

NAME Carol S. Huber (USEF) SIGNATURE Carol S. Huber

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Dangerous beach for large crews, slick boulders
and cobbles. Drains underlying boulders and cobbles
are oil saturated in upper intertidal zone
Recommend Low Impact methods.

SHORELINE OILING SUMMARY



REVISION NO. 03/28/88

OG B. Bernalund USCG J. Gamble SEGMENT ST/ GR-10
 BIO: S. Schaefer LAND REP C. Hubert SUBDIVISION —
 EXXON C. Levine ADEC B. Fritzsinger TIME 11:20 to 12:30
 TEAM NO.: 1 TIDE LEVEL: +1.0 to +4.0 DATE 3/30/90
 ES SUBDIVISION LENGTH: 546 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 40 % B 30 % C 20 % P 10 % G — % S — % M — % V — %
 SLOPE: Long 60 % Hang 20 % Vert — % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 60 m M 180 m N — m VL 300 m NO — m

SURFACE OIL

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

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

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

DEBRIS COLLECTED

☐ YES ☒ NOTYPE —#BAGS —

Photographs:

Roll No. ST-1-1Frames 25-26

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		UO	UC	100% B	75% B	50% B	25% B	TL	LR	SU	U	M	U					
1	20	L					0-20	L				L						L						B/P/G/R
2	20				L		0-20	L					L						L					B/P/G/R
							.																	
							.																	
							.																	
							.																	

COMMENTS

Bedrock is close to surface throughout segment.
 Majority of oiling exists as coat on boulders
 or in underlying fine sediments between interstices. Little
 retention in fine sediments 3-4 cm.

SHORELINE OILING SUMMARY

REVISION NO. 3372

OG B. Berglund USCG J. Gamble SEGMENT ST/ GR-10
 BIO S. Schaefer LAND REP C. Hinkley SUBDIVISION -
 EXXON C. Levine ADEC B. Fitzsimons TIME 11:20:10
 TEAM NO.: 1 TIDE LEVEL: +1.5 10 +4.0 DATE 3/30/90
 EST. SUBDIVISION LENGTH: 5-16 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo WORKING DIRECTION: 10 10 E
 SURFACE SEDIMENTS: R 40 % B 30 % C 20 % P 10 % G - % S - % M - % V -
 SLOPE: Lang 30 % Hang 30 % Vert - % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 60 m M 180 m N - m VL 300 m NO - m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	C	B	P	S	BR OR	BL OR	GR OR	OR OR	TL OR	BU	U	M	U	
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT		2	3	3					1-3	1-3	1-2			
STAIN				X		X					X			
MOUSSE														
PATTIES														
TARBALLS														
FILM														
NO OIL														

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

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

DEBRIS COLLECTED
☐ YES ☒ NOTYPE -#BAGS 5

Photographs:

Roll No. ST-1-1Frames 25-26

Requested comment
 on anoxic condition
 DG checked
 YH

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	OS	NO		VO	UC	50% BR	20% BL	10% GR	5% SL	100% TL	100% LA	BU	U	M	U				
1	30						.	L								L			L		B/D/G/R		
2	20						.	L									L		L		B/D/G/R		
			-				.																
							.																
							.																
							.																

COMMENTS

Bedrock is close to surface throughout segment.
 Majority of oiling exists as coat on boulder
 or in underlying fine sediments between interstices. Little
 penetration in fine sediments 2-4 cm.

SHORELINE ECOLOGICAL SUMMARY

713
REVISION: 03/22/90

Segment ST 11 GR-10 Subdivision N/A Date (mo / day / yr) 3/30/90
Time (24 hr) 1130 to 1230 Biologist S. Schroeter

- (A) Substrate type and % of segments:
(1) Bedrock 32 (2) Boulder 37 (3) Cobble 23 (4) Pebble 8 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 20 Low 70
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs: Roll No. Si-1-1

Frames 28

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: Only seen other carcass. felt turned inside & still on shell;

Ecological Considerations: Dense patches of Fucus; Mussels, Barnacles on bed rock in mid + upper intertidal; Dense cover of Fucus + red algae in upper portion of low intertidal; Zostera, crustaceans, coralline, many limpets + chitons in bed rock tidepool in upper intertidal

OG _____

SEGMENT _____

SUBDIVISION _____

DATE ____ / ____ / 90

CHECKLIST

- ☐ M Area
- ☐ Approx. Scale
- ☐ Seg/Side Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HML/LWL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Photo(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
Spotted Distribution

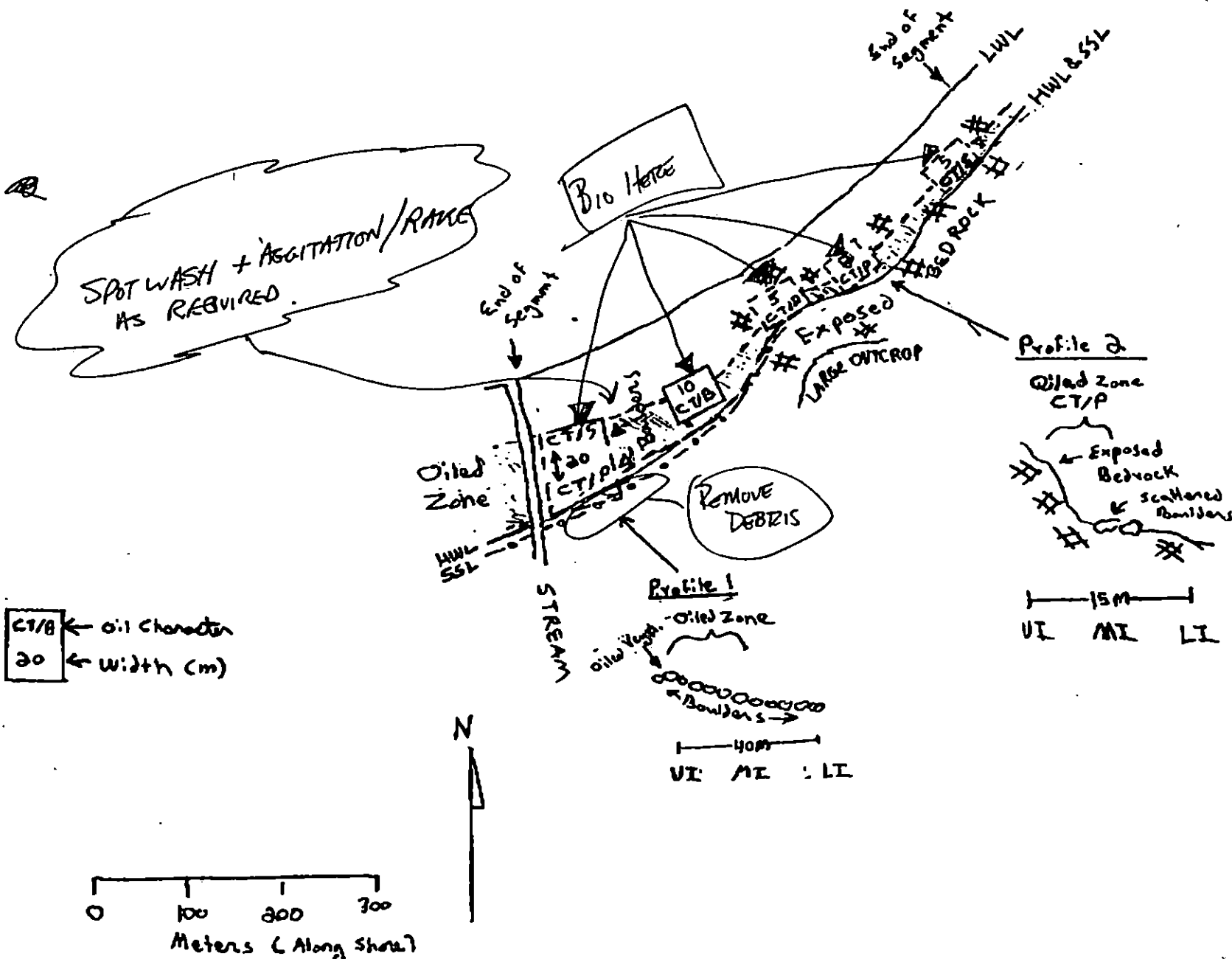
Oiled Vegetation

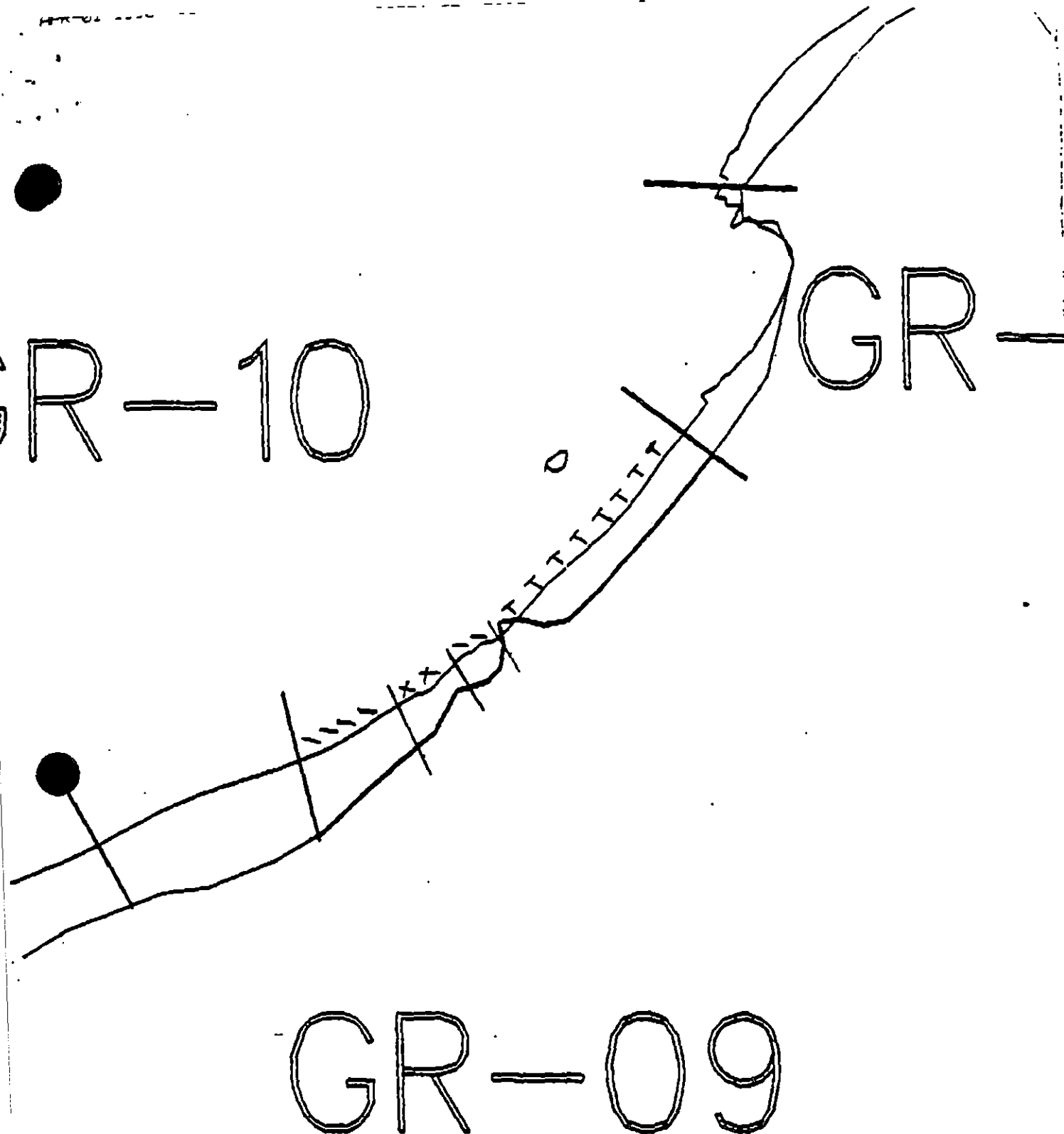
1 ●
Photo location, direction, and number

Exposed Bedrock

Oil Character Length (m): AP _____ PO _____ CV _____ CT 600 ST _____ MS _____ PT _____ TB _____ FL _____ NO _____

SKETCH MAP





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

GR-10

ADEC Segment Length: 639m



Map Key: PWS-246

Name: B. Benglund

Date: 3/30/80

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-10 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup	OPEN
Bioremediation Spot Washing	WORK 6/15 to 8/15

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M	Herring Spawning	Closed to bioremediation 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 A work site.
7II	Subsistence: Deer Harvesting	Closed to bioremediation and spot washing after 8/15. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat traffic to essential minimum. Avoid any unnecessary disturbance or damage to unoiled substrate and biota especially intertidal and subtidal algae and seagrass. Restrict disturbance of unoiled *Fucus* in LITZ and MITZ. Restrict air traffic and beach disturbance to essential minimum 8/15.

FOSC

Date

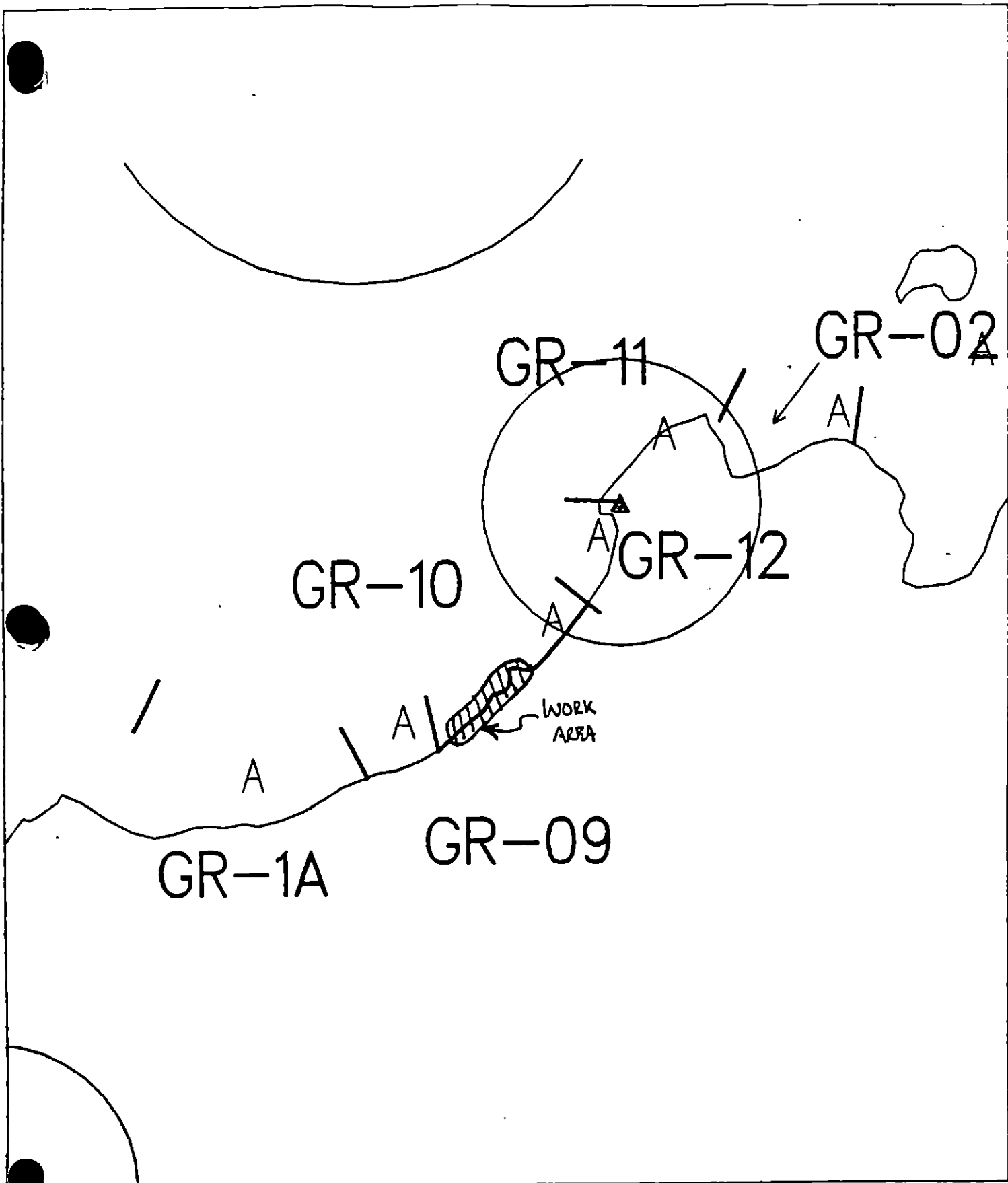
6-10-90

Prepared by

J. P. Phillips

Date

6-10-90
6/10/90



Exxon Company, USA
Map Key: PMS-GR-10



ECOLOGY MAP
SEGMENT GR-10
SUBDIVISION A (L.O.L.)
METERS

★	Seabird Colony
▲	Active Eagle Nest
△	Inactive Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/_GR-11 SUBDIVISION A (1 OF 1) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Herring spawning area (2M) - 4/1 to 6/15; active bald eagle nests (5T) - 3/1 to 6/1; Shorebird/Waterfowl concentrations (5S) - 4/25 to 5/15; Deer harvesting (7II) - 8/15 to 2/28; Deer habitat (9FF). Limit air and boat traffic to minimum necessary.

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

SHPO SIGNATURE: Mark S. Hoffman DATE: April 11, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 9 m: No Oil 445 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: No treatment recommended.

TAG COMMENTS:

TAG APPROVAL DATE: 4/11/90

ADEC

JOHN BAUER

EXXON

ANDY TEAL

FOSC: Hy L

DATE: 4-19-90

NOAA

Bud Wescott

USCG

G.A. REITER

G.A. REITER

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / GR - 11 SUBDIVISION: None DATE March 30, 1990U.S. G.S.
NAME Robert Jensen SIGNATURE Robert Jensen☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTSADEC
NAME Rowann T. Hudnall SIGNATURE Rowann T. Hudnall☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

Small splashes of oil only. Rocky outcrop
w/ healthy & abundant biota. Treacherous
walking.

LAND MANAGER
NAME U.S. Forest Service SIGNATURE Ken Kuler☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

5-6 splashes of very small size is all that
was found -

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG Team Maria Sempel USCG Bob Jensen SEGMENT ST/ SR-11
 BIO Jim Dixon LAND REP Lee Keeler SUBDIVISION Area A (1061)
 EXXON Jim E. Dixon ADEC Reverend Hudnell TIME 11:30 to 12:13
 TEAM NO.: 2 TIDE LEVEL: 0' to 1-2' DATE March 1, 1990
 EST. SUBDIVISION LENGTH: 550 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock Snow covered dunes 4TL
 SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo WORKING DIRECTION: East to West
 SURFACE SEDIMENTS: R 20 % B 60 % C 10 % 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 — m M — m N — m VL 1 m NO 549 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR							IMPACTED ZONES			
	AC	AB	AP	AS	SW	SP	SL	ST	SB	SC	SD	SU	SI	SM	LI
ASPHALT PAVEMENT															
POOLED															
COVER															
COAT															
STAIN				X								X		X	
MOUSSE															
PATTIES															
TARBALLS															
FILM															
NO OIL												X		X	X

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

OILED DEBRIS NO	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NOTYPE —#BAGS —

Photographs:

Roll No. CameraFrames DefectiveSUBSURFACE OIL NO

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM/GM)	BELOW		OIL / FILM COLOR							PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UG	UC	SW	SP	SL	ST	SB	SC	SD	SU	SI	SM	LI		

COMMENTS

GR-11, Green Island, March 30, 1990

Segment GR-11 is located on the north-central coast of Green Island. It is exposed to a fetch of about 20 km to the northwest and to a larger fetch to the north. Its exposure window is also large (180 degrees).

The shoreline consists of large boulders and some cobbles over a gently sloping bedrock ramp in the intertidal zone, backed by bedrock cliffs. At several locations along this segment, bedrock forms low-lying outcrops. At the time of field work, snow covered the backshore and hinterland areas. With the exception of a small area at the northeastern end of the segment where stains of splashes occur, no oil was found on this segment.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/23/90

Segment ST / GR-11 Subdivision N/A Date (mo / day / yr) 03/30/96

Time (24 hr) 1145-1215 Biologist John Dixon

(A) Substrate type and % of segments:
(1) Bedrock 30 (2) Boulder 60 (3) Cobble 10 (4) Pebble 10 (5) Sand (6) Silt

(B) Overall % cover of biota (% of segment): Dense 10 Moderate 30 Low 60

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

Photographs:
Roll No. 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	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: Tide at +2.0 foot at start of survey
NO DATA for low intertidal zone. Wren in intertidal.

Ecological Considerations:

This segment begins to the NE at a rocky headland. With heterogeneous habitats & a very diverse biota, this the exposed side of the headland & Fucus & Mytilus extend higher than on the other side. 80-100% cover of algae in low & lower mid zones on large boulders & bedrock. As one proceeds S.W. the size of the boulders decreases & the general appearance in the mid & high intertidal is of a very physically disturbed area. Most biota on large stable surfaces; barnacles & limpets are small.

300 GR-11 3/30/90

1. Same Head kind as at
GR-02. More exposed
side Fucus, mussels
much higher. Murels
over 11 sparse but
dense in crevices etc
gen small red s. cor.
Tide pools on hot surface
Tadpole massiveness, corals
around sparse to mud
Barnacles

Vertical Traces at 1:

1150 +2

0-2m +2-4m 80 B

20 C

80-100% to algal cover

30% Fucus, 30% Nalg

Sparse barnacles usually

very lg. Boulders Green

Fucus on smaller rocks

Dense amphipods in rubble

300 GR-11 P18

Big B. canaliculatus in patches
at 40% sand

Sparse A. scutum under rocks

2-15m +4-+6

Fucus zone most 30% cover

red-spined barn

sparse N. T. except in

patches. Port on Boulders

where density is I

sparse 1m high

15-20m +6-+10

Relatively bare rock & green

between fucous

Baldness similar to 150m

Fucus patch B. canaliculatus

Dense on Boulders in N. T.

Dense N. T. Masses among

Barnacles Nototrichum Fucus

Coralline

JDD GR-11 3/13

As one piece of substrate
The size of the substrate
decreases & the gap increases
is it a very physically
disturbed area - most
Fucus on bed rock or by boulder
Barnacles, sea urchins, small
Chthamalus Small
limpets, amphipods, under
rocks, N. I.

1311 +5 - +9'

0 - 10 m 20' slope
2% Bed 80 B 20 C

(area is intertidal; kuffy)
(Top striped under, and
out. p, whip eel)

Most Fucus on by surface
Sparse Barn, Gotta fight

Overall Substrate 80 Bed
60 Boulder
10 Cattle

JDD GR-12 3/16/90

① 1230 +4'

Dawn 1 m - 8 m 60 B 40 C
Most Fucus
Sparse - Most limpets & 1.0 m
under boulder
Heavily scattered very
sparse Barnacles

- water level - 5 m
Tumbled & scattered boulder
Sparse Fucus
No Mytilus
Very sparse Barn
Med 1.1 m & 1.1 m
under Rock small
190 gards

overall

Bed	2
Boulder	40
Cattle	40
Bubble	18

OG/Jan. 1990

SEGMENT BA-11

SUBDIVISION None

DATE Jan 30/90

CHECKLIST

- 1. N Arrow
- ✓ Approx. Scale
- ✓ Seg/Sub Bndry
- ✓ Oil Obs.
- Width
- Length
- % Cover
- ✓ Substrate Character
- ✓ Est. HW/LWL
- ✓ SSL
- ✓ Profile Location(s)
- ✓ Profile(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

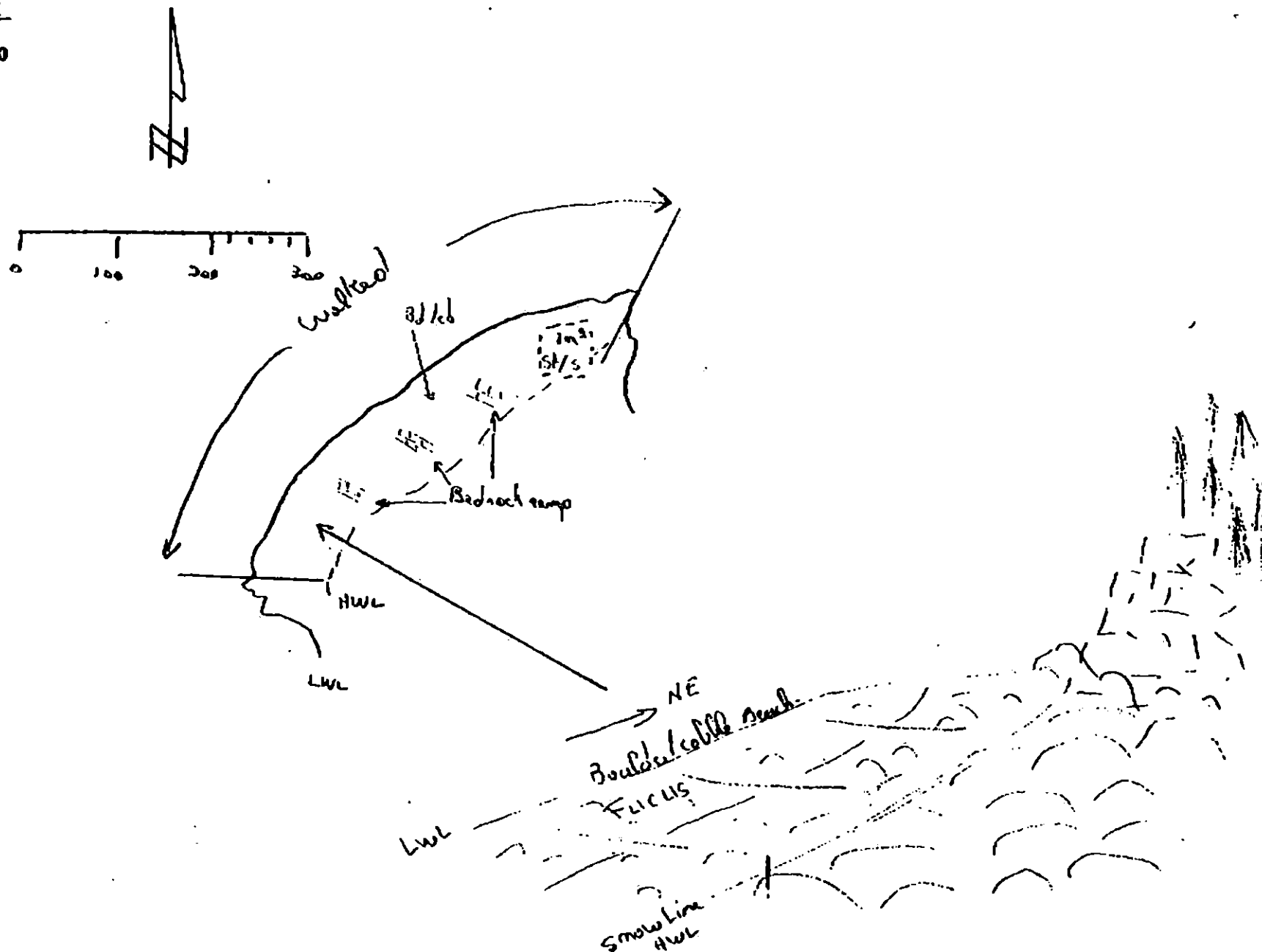
Splashed Distribution

Oiled Vegetation

1 ●→

Photo location, direction, and number

SKETCH MAP



Oil Character Length (m): AP PO CV CT ST 1 MS PT TB FL NO 549

REVISION 88/2/10

BA-11 p 3 of 5

GR-11

(very soft)

GR-12

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

GR-11

ADEC Segment Length: 350m



Map Key: PWS-253

Name: John M. M. S. S.

Date: March 31 / 90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ GR-12 SUBDIVISION A (1 OF 1) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Deer harvesting area (7II) - 8/15 to 2/28; Herring spawning area (2M) - 4/1 to 6/15; Shorebird/Waterfowl concentration (5S) - 4/25 to 5/15; Deer habitat area (9FF); Anchorages (6V) - 6/1 to 9/15.
Limit boat and air traffic to essential minimum.

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

SHPO SIGNATURE: Walter E. Adams DATE: April 11, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 9 m: No Oil 341 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/11/90
ADEC JOHN BAUER
EXXON ANDY ISAL
NOAA Burt Wessett
USCG G.A. REITER
FOSC: My L DATE: 479-90

FIELD SHORELINE COMMENT SHEET

Q.A.2 p.2 of 5

SEGMENT ST/ GR-12 SUBDIVISION: _____ DATE March 30, 1990

USCG
NAME Robert Jensen SIGNATURE _____

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

ADEC
NAME Rowann T. Hudnall SIGNATURE Rowann T. Hudnall

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

splashes of stain + stain on cobble, boulder beach. No subsurface oil

LAND MANAGER
NAME U.S. Forest Service SIGNATURE Leo Kuler

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

No oil found of any significance
1 small 10' wide x 30' long band of small
well weathered splashes - Let Natural forces continue
to work on.

SHORELINE OILING SUMMARY

REVISION NO. 03/22/80

OG John T. Simpson USCG Bob Jensen SEGMENT ST/ GR-12
 BIO 1280 Dixon LAND REP Leo K. Lee SUBDIVISION NOVA A (1 of 1)
 XON Y. M. Edison ADEC Reuben Hudnell TIME 15:15 to 15:50
 CAM NO. 2 TIDE LEVEL: +2' to +5.4' DATE March 1, 30 /90
 EST. SUBDIVISION LENGTH: 4.00 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock Some covered glove HTL
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: South to South west
 SURFACE SEDIMENTS: R 2 % B 40 % C 40 % P 18 % 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 0 m N 0 m VL 5 m NO 395 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	C	B	P	S	SP	BR	OR	OL	OF	NO	SU	U	M	V
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT														
STAIN				X							X	X		
MOUSSE														
PATTIES														
TARBALLS														
FILM														
NO OIL											X	X	X	X

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

PATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	<u>NO</u>		
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE 0

#BAGS 0

Photographs:

Roll No. Camera defunct

Frames 0

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		VO	UC	SP	BR	OR	OL	OF	NO	SU	U	M	V		

COMMENTS

GR-12 A. 575

GR-12, Green Island, March 30, 1990

Segment GR-12 occurs on the north-central coast of Green Island. It is exposed to a moderate fetch to the west, less than 20 km, although waves from Montague Strait could reach this beach by refraction.

The shoreline consists of a uniform rounded cobble/pebble beach with some boulders and low-lying bedrock. With the exception of a small area of stains of splashes at the northern extremity, no oil was found on this beach.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/90

Segment ST / GR-12 Subdivision N/A Date (mo / day / yr) 03/30/76Time (24 hr) 1230 - 1245 Biologist John Dixon(A) Substrate type and % of segments:
(1) Bedrock 2 (2) Boulder 40 (3) Cobble 40 (4) Pebble 18 (5) Sand (6) Silt (B) Overall % cover of biota (% of segment): Dense 5 Moderate 20 Low 75

(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. NoneFrames

BARNACLES

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	2 2 2	
3 3 3	3 3 3	X 3 3	3 3 3	
4 4 4	4 4 4	X 4 4	4 4 4	NOT PRESENT
5 5 5	5 5 5	5 5 5	5 5 5	
6 6 6	6 6 6	6 6 6	6 6 6	

MYTILUS

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

GASTROPODS

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

FUCUS

Dense	Moderate	Sparse	Rare	
1U 1M 1L	1U 1M 1L	1U 1M 1L	1U 1M 1L	
2 2 2	2 2 2	2 2 2	2 2 2	
3 3 3	3 3 3	3 3 3	3 3 3	
4 4 4	4 4 4	4 4 4	4 4 4	NOT PRESENT
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: Arrive 1230 when water line at +4 feet. Worked out 8m to examine to about +2 ft. No Data for Low intertidal!

Ecological Considerations: This is a high energy beach made up of rounded & scoured boulders & cobbles. Most biota is in the low shore although gastropods are common under rocks in the higher areas, as are isopods.

JDD GR-12 2/2

Bed Area at east
headland.

+5.6 to +10

Spine Fucus, Spine Barn
Spine Myt (H. murex)
Spine Gato

High everywhere
only rocks in UZ + ME

JDD GR-08 7/30/89

land 1300 Tide +5.5

NW Headland - Rock outcrop
in HZ 80C 20B 60W

+5.5 5m Band 20% Fucus
<10% Barn Most B. Thalas
4/1000 among cobbles Spine
but fairly uniform cover of
Mytilus settled among cobbles

10-30 along shore is
deposition of Spine
Filamentous red algae from
+5 - +6' 30% cobbles
80% pebbles
10% sand

2. Mid Segment

1312 +6' at water line
0-20m Filamentous Red Algae
most, scattered Fucus
12% Barn cover on cobbles
15% 75% pebbles, 10% sand
most Littorina mostly cobbles
same overall

OG James Harris Temple

SEGMENT 8-12

SUBDIVISION None

DATE Mar 31 / 90

CHECKLIST

- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Bndry
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HWA/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

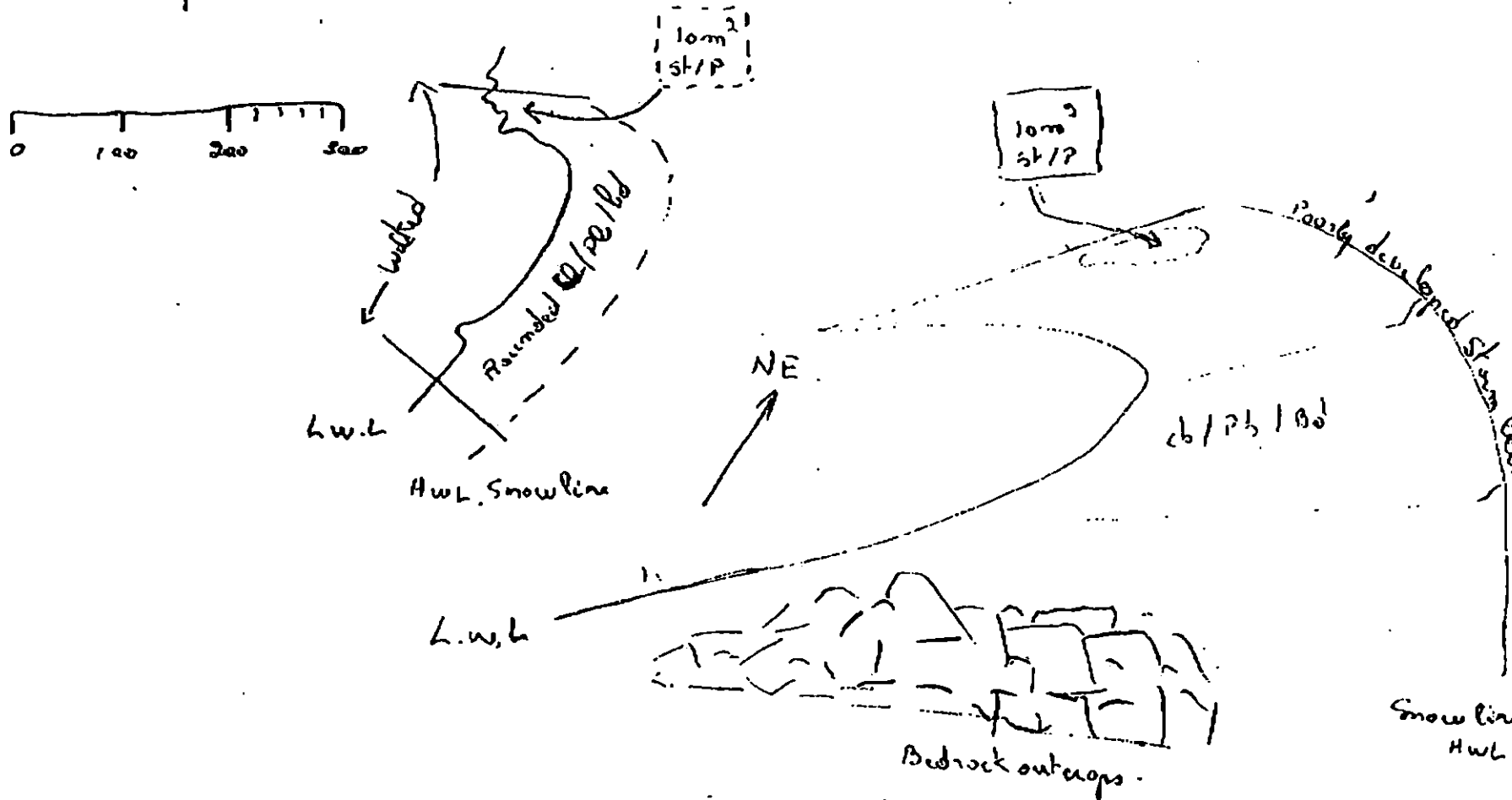
Splashed Distribution

Oil Vegetation

1 ●→

Photo location, direction, and number

SKETCH MAP



Oil Character Length (m): AP PO CV CT ST 5 MS PT TB FL NO 395

REVISION 03/24/90

GRIP-395

YK12 P 40/5

GR-11

GR

(very light)
5 m

GR-12

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

GR-12

ADEC Segment Length: 454m



Map Key: PWS-252

Name: Don TarringtonDate: March 30 / 90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ GR-13 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 227-20-17890

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

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 1504 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: ☐ Breakup	☐ Beach Cleaner
☐ Removal	☐ Other (see comments)

COMMENTS:

TAG COMMENTS: HIGH ENERGY + FIELD COMMENTS + BROKEN COVER
IS A NARROW BAND. THEREFORE NTR

TAG APPROVAL DATE: 4/20/90
ADEC ART WENGE
EXXON ANDY TEE
NOAA Burt Wiercoff
USCG KENNETH KEANE

FOSC: W L DATE: 4-26-90

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 unloiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (8/1 to 9/15)
- 6V Anchorages (8/1 to 9/15)
- 6W Forest Service cabins (6/1 to 9/15)
- 6X Lodge (8/1 to 9/15)
- 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
- 7HH Finfish harvesting
- 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

SR 3 p. 9, 9

SEGMENT ST / GR 13 SUBDIVISION: _____ DATE 4/4/90CG
NAME Robert Jensen SIGNATURE [Signature]☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

Patchy / sporadic Splashes - very few.

ADEC
NAME Rowann T. Hudnall SIGNATURE Rowann T. Hudnall☒ NO TREATMENT RECOMMENDED
COMMENTS☒ ~~TREATMENT SUGGESTED~~

Scattered tar spots in mid intertidal,
Continue natural cleaning

LAND MANAGER

NAME U.S. Forest Service SIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

Continue Natural Cleaners

Found very scattered splashes of oil

Very small and hard to locate.

heaviest in area near ^{junction} with GR 02

SHORELINE OILING SUMMARY

REVISION NO. 03/22/80

OGL Marine Samples USCG 306 Juma SEGMENT ST/ 08-13
 BIO John Dixon LAND REP Dea Keeler SUBDIVISION A
 EXXON Jim Ellison ADEC Reween Hudnell TIME 13:50 to 15:00
 TEAM NO. 2 TIDE LEVEL: +6 to +2.8 DATE April 14 / 190
 EST. SUBDIVISION LENGTH: 1775 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 1 % B 20 % C 49 % P 20 % G 0 % S 10 % M 0 % V 0 %
 SLOPE: Lang 60 % Hang 40 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 930 m NO 855 m
1775

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	IC	IB	IP	IS	SR BR	DBL RW	GY SL	DBR TL	LR	SU	U	M	U
ASPHALT PAVEMENT													
POOLED													
COVER		X						X			X		
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 2 (destroyed) BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS <u>(NO)</u>	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NOTYPE B#BAGS 0

Photographs:

Roll No. ST-2-6Frames 7-27

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SR BR	DBL RW	GY SL	DBR TL	LR	SU	U	M	U		
1	30					X	-								X				N ₀	pl/sd/lc
2	35					X	-									X			"	"
3	30					X	-										X		"	"
4	30					X	-								X				"	"
5	30					X	-									X			"	"
6	30					X	-										X		"	"

COMMENTS

DATE 4.9.14/1990

ATCH MAP

L. P. 4500!

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 Δ
- Pit - No Subsurface Oil

- 2 ▲
Pit - Subsurface Oil

CT/C
Continuous Distribution

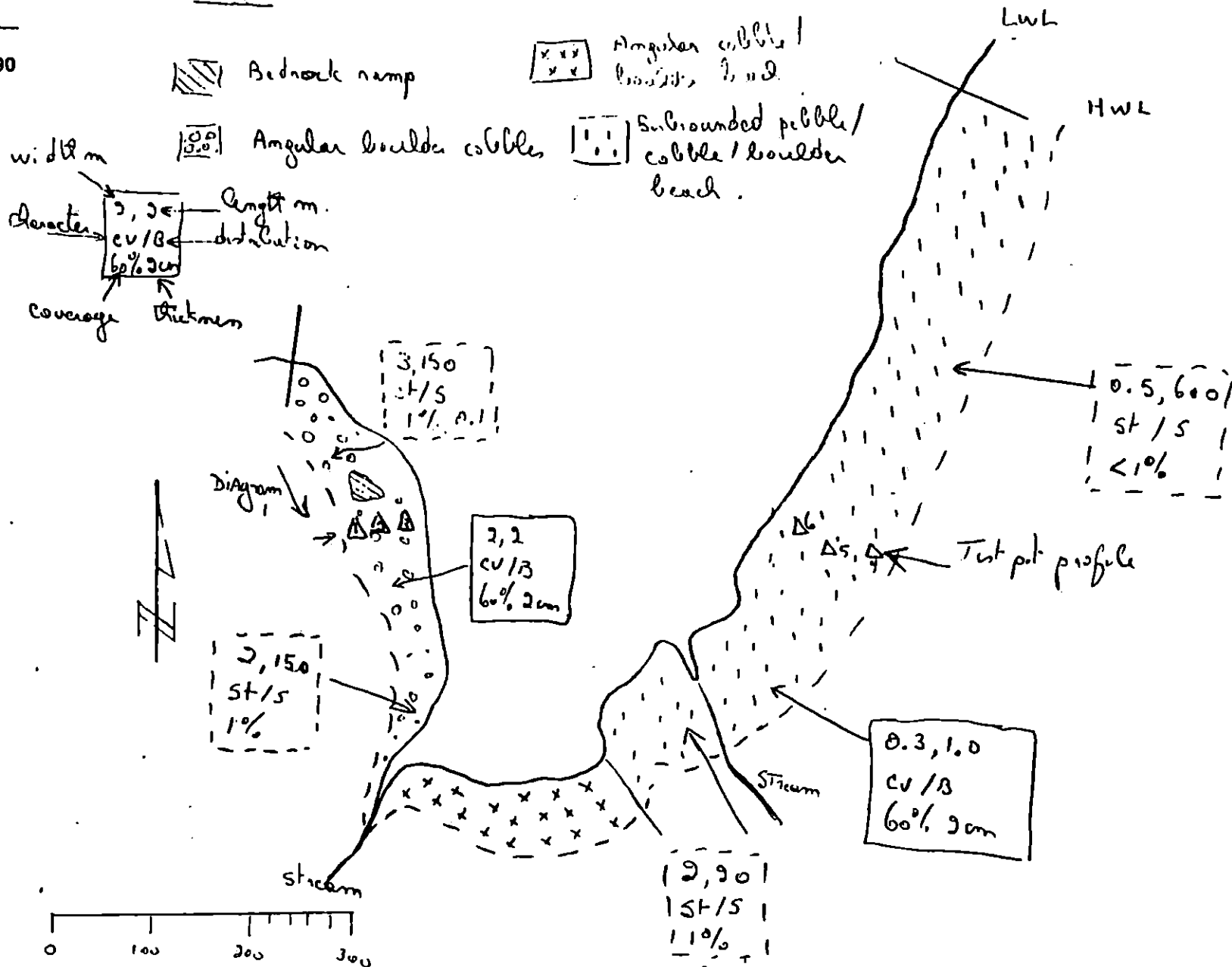
CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Old Vegetation

- 1 ➡
Photo location, direction,
and number



Oil Character Length (m): AP _____ PO _____ CV 3 CT 15 ST 77 MS _____ PT _____ TB _____ FL _____ NO _____

REVISION: 00/24/90

229-1388

DIAGRAM 2

Green Island, GR-13, April 4, 1990

Segment GR-13 is a 1.7 km long section of shoreline located on the central north coast of Green Island. It is exposed to a relatively long fetch to the northwest that is blocked by several small nearshore islands and shoals. The segment is indented and has a very limited fetch window. The sediments reflect this very well and only on the east side of the head of the central cove do they show any evidence of sorting and rounding.

Very little bedrock is present in this segment, the shoreline consists, from west to east, of angular boulder/cobble/pebbles, angular cobble/boulder/pebble, and subrounded pebble/cobble/boulder beaches. Two streams intersect this segment.

Oil is present throughout this segment mostly as 1: small stains on cobbles and pebbles on the western part, small coatings of splatters on the eastern part, and two very small patches totalling about 2.5 sq. m. that were broken up during the field work. All evidence of oil occurs in the lower part of the upper intertidal zone. The backshore and upper part of the upper intertidal zone were obscured at the time of the field work by a heavy and light snow cover respectively.

SHORELINE ECOLOGICAL SUMMARY

SA 13 p 60, 9

REVISION: 02/22/90

Segment ST / GR-13 Subdivision N/A Date (mo / day / yr) 04/04/90

Time (24 hr) 1250 - 1440 Biologist John Dixon

- (A) Substrate type and % of segments:
 (1) Bedrock 1 (2) Boulder 20 (3) Cobble 49 (4) Pebble 20 (5) Sand 10 (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 50 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 2-6

Frames 10, 22

BARNACLES

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2		2	2		X	X		2	2		
3	3		3	3		X	X		3	3		
4	4		4	4		X	X		X	X		
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	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2		2	2		X	X		X	X		
3	3		3	3		X	X		X	X		
4	4		4	4		4	4		X	X		
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	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2		X	X		X	X		2	2		
3	3		X	X		X	X		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	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
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: Tide varied from +6' to ~ +2.5' during the period of observations.

Ecological Considerations: 2 streams - prob. anadromous. This segment is predominantly small cobble beach in the mid + high zones with a moderate cover of barnacles (*B. glandula* + *Chthamalus*), *Fucus* + *Mytilus*. The mussels tend to be small & nestled among the pebbles & cobbles rather than attached to a particular rock. Gastropods are abundant & small, mostly *Littorina saxatilis*, *L. scutellata*, *Notorhynchus* *saxatilis* & *Nucella*. The proportion of limpets increases in the higher shore where sand & gravel is close to the surface. The density of gasts,

Wednesday 4/4/98

2.14

Segment GR-13

Observed From 1250 - 1440
(+6' - +2.5')

This segment is composed of 3 sections distinguishable on the basis of substrate composition, beach profile, & biota. From the N.W. point to the stream at the back of the inlet the beach is narrow and relatively steep. There are bedrock outcrops at the point but the rest of this section of beach is about 40% B, 50% C & 10% T. From +6' to +10' there is scattered Fucus & Rhodospira and sparse Barnacles (B. glandula & C. thalassius), Mytilus and gastropods (Littorina sitkana, L. scutulata, & Littorina N. scintilla). The proportion of limpets increased higher on the shore. The noticeable brown band of barnacles & Fucus is about 1 m wide. Fucus & barnacles continue into the mid zone but red algae predominates below about +2'.

Between the 2 anabranching streams at the back of the inlet the substrate is much finer with a high proportion of sand and pebbles. A large wedge E. of the first stream is about 80% sand. There is a moderate cover of Odontholima & Mytilus on the low sloping mid intertidal. Dense shell pack of mussels and clams.

Beyond the second stream the beach is still relatively wide with a gentle slope but the substrate is coarser - similar in composition to the first section. However, there is less Fucus, barnacles & Mytilus in the upper intertidal.

SHORELINE EVALUATION

SEGMENT ST/ GR-14 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 41 m: No Oil 696 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 7/21/90
ADEC ART WEINER Art Weiner
EXXON AMY TETZ Amy Tetz
NOAA Burt Wescott Burt Wescott
USCG KENNETH KENNETH

FOSC: DATE: 5-6-90

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

SEGMENT ST / G-R ¹⁴ ~~105~~ SUBDIVISION: _____ DATE 4/4/90

SCG
NAME Robert Jensen SIGNATURE Robert Jensen

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Just sporadic splashes at the beginning of the segment only. Could be handled with segment G R 08 for treatment. This area has shorebird & high recreational use.

ADEC

NAME Rowann T. Hudnall SIGNATURE Rowann T. Hudnall

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Some oil in surface sediments; sporadic suggest stirring; bioremediate. No subsurface oil.

LAND MANAGER

NAME U.S. Forest Service SIGNATURE Les Kules

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Found small patch of oil at junction with G R 08. Could be handled as part of G R 08 treatment.

¹⁴
Rest of ~~105~~ was free of oil - None found.

SHORELINE OILING SUMMARY

REVISION NO. 03/22/88

OG John M. Simpson USCG Boat SEGMENT ST/ Q2-14
 BIO John Dixon LAND REP Leo Keeler SUBDIVISION A
 EXXON Jim E. Olson ADEC Rewanna Hubbell TIME 15:20:12:45
 TEAM NO. 2 TIDE LEVEL: +2' to +1.5 DATE Apr 11 1990
 EST. SUBDIVISION LENGTH: 1259 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 4 % C 15 % P 35 % G 0 % S 45 % M 0 % V 0 %
 SLOPE: Long 100 % Hang 0 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 50 m NO 1209 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	IC	IS	IF	IB	SR	OR	OL	OF	NO	UO	UC	U	U	U	U	U
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT			X			X						X				
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL										X			X		X	

PAVEMENT: H F S 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. no photoFrames taken

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	SR	OR	OL	OF	NO	UO	UC	U	U	U	U	U		
1	30					X	-											X				NO	23/5/1/1/1
2	30					X	-												X			"	"
3	30					X	-													X		"	"
4	30					X	-											X				"	"
5	30					X	-												X			"	"
6	30					X	-													X		"	"

COMMENTS

OG for [redacted] Sample

SKETCH MAP

SEGMENT ST/ GR-14

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)
- ☐ Photo Location(s)
- ☐ Photo Location(s)

Legend



angular cobble / p. bbl
sand / boulder beach

width (m)

20, 50

length (m)

ct / p

distribution

10% 1m

character

coverage

thickness

LEGEND

1 ▲

PII - No Subsurface Oil

2 ▲

PII - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

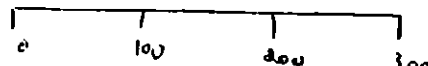
CT/S

Splashed Distribution

Oiled Vegetation

1 ●→

Photo location, direction,
and number



Oil Character Length (m): AP 0 PO 0 CV 0 CT 50 ST 0 MS 0 PT 0 TB 0 FL 0 NO 1209

REVISION: 03/24/88

GR 14 P 007

Green Island, GR-14, April 4, 1990

Segment GR-14 is a 1.2 km section of shoreline located on the north central coast of Green Island. It is in a very sheltered environment with the fetch being blocked by a large unnamed island to the north and several smaller ones to the east and west. The only wave energy this segment can receive is from swell travelling from the northeast or southwest and refracting along the shoreline.

The shorezone of segment GR-14 consists of a wide and gently sloping intertidal zone of mixed angular sediments, mainly pebble, sand, cobble, and very little boulders and bedrock. A major indentation in the coastline of the western part of the segment gives it the appearance of a sand flat.

Oil was found on the western part of this segment only. There, it consists of patchy coatings covering about 10% of a 20 m wide and 50 m long band of the upper intertidal zone. The thickness of the oil is about 1 mm or less. Test pits in this area and in the eastern part of this segment showed no subsurface oil.

SHORELINE ECOLOGICAL SUMMARY

2 R 17 p. 537

REVISION: 03/22/90

Segment ST / GR-14 Subdivision N/A Date (mo / day / yr) 04/05/90

Time (24 hr) 1925-1940 Biologist John Dixon

(A) Substrate type and % of segments:
(1) Bedrock 1 (2) Boulder 4 (3) Cobble 15 (4) Pebble 35 (5) Sand 45 (6) Silt

(B) Overall % cover of biota (% of segment): Dense 5 Moderate 25 Low 70

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

Photographs:
Roll No. none

Frames

BARNACLES

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

NOT PRESENT

FUCUS

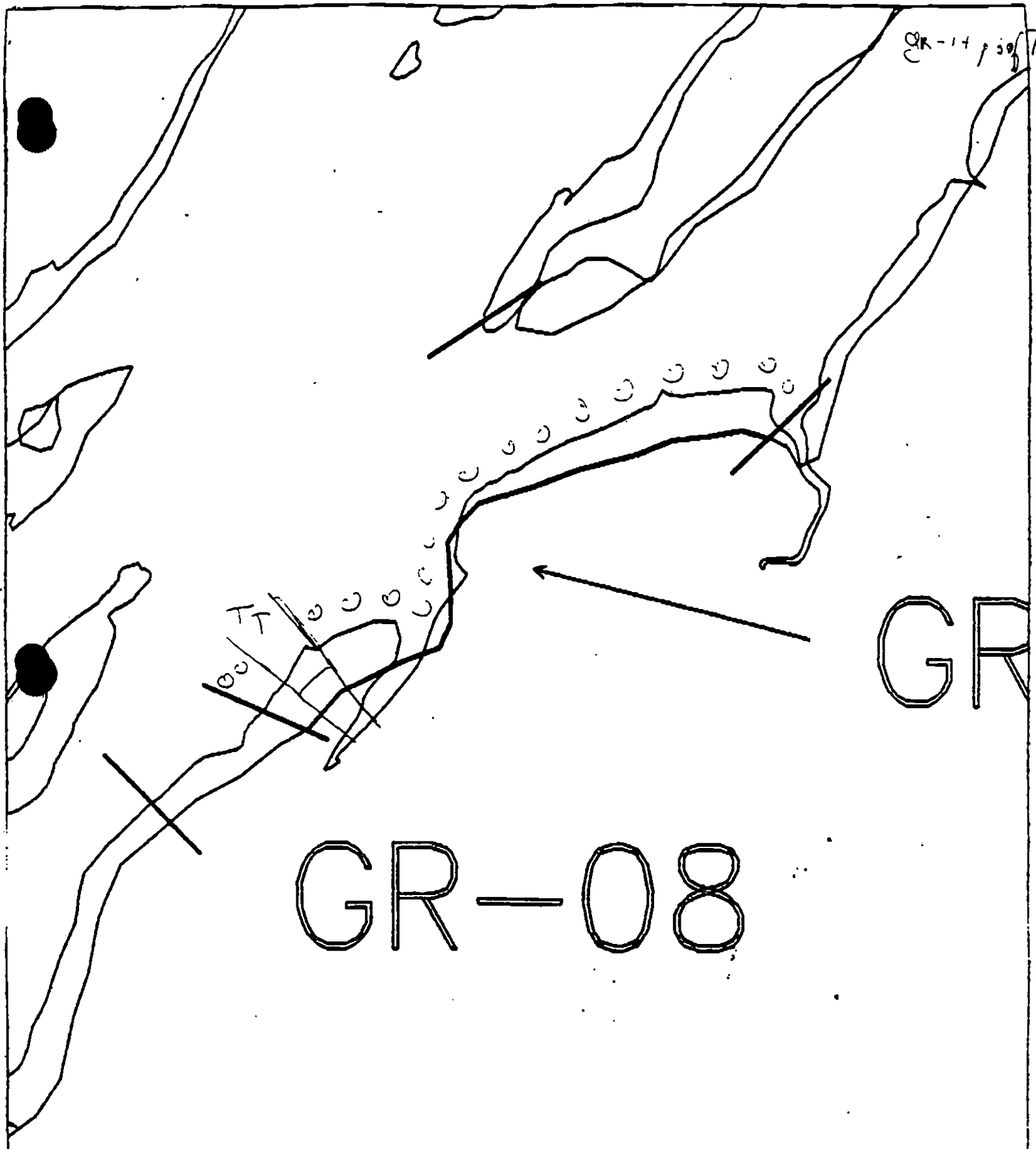
Dense			Moderate			Sparse			Rare		
1U	1M	L	1U	1M	L	1U	1M	L	1U	1M	L
2	2		2	2		X	2		1U	X	
3	3		3	3		X	3		2	X	
4	4		4	4		X	4		X	X	
5	5		5	5		5	5		5	5	
6	6		6	6		6	6		6	6	

NOT PRESENT

Wildlife Observations/ General Comments: Many canadian geese in the area.

Ecological Considerations: This segment is a sand flat with many
small holes and dead clam shells at the surface. Most
cover is provided by filamentous red & green algal mats
and large patches of Rhodospirillum. Most Fucus, Mytilus
barnacles, & Littorina among cobbles and pebbles at the
edges of the sand flat.

GR-14 / 50/7



GR-08

GR

XXXX Wide	GR-14	
/// Medium	ADEC Segment Length: 1259m	
--- Narrow		
TTTT Very Light		
0000 No Oil		



METERS

Map Key: PWS-312

Name: Jean-Luc Sempé

Date: GR-14

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ GR-15 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

2 eagle nests nearby in GR-101.

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Rachel Jean Darr DATE: 5/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 81 m: Narrow 0 m: V.Light 607 m: No Oil 1335 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes bioremediation of areas indicated on sketch map. Work should be conducted between 7/1 and 8/15 due to seal and sea lion pupping, and with approval of USFWS due to eagle nest constraint.

TAG COMMENTS: BLO DUE TO ENVIRONMENTAL SENSITIVITY - WATERFOWL.

TAG APPROVAL DATE: 4/30/90

ADEC ART WIGNER
EXXON ANDY GIL
NOAA GARY PETRO
USCG KENNETH KENNEDY

FOSC: [Signature] DATE: 6/9/90

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

FIELD SHORELINE COMMENT SHEET

Inner Islands Between Green
and Barrier Islands

SEGMENT ST / Islands (6) Underway SUBDIVISION: None

DATE 4/7

SCG

NAME Robert Jansen

SIGNATURE

[Signature]

☒ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

NO evidence of oil found on small
island #2. The remaining islands had
a very few splatters in a very small
area.

ADEC

NAME Rowann T. Hudnall

SIGNATURE Rowann T. Hudnall

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Splattered rocks found on Islands
1, 3, 4, 5, 6. Island 1 has broken
distribution - suggest bioremediation.

LAND MANAGER

NAME U.S. Forest Service

SIGNATURE Dea Keebler

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

6 Islands surveyed, numbered 1-6, North to South
Found oil on ~~west~~ west side Island 1
No oil on rocky Island #2
small patch on Island 3 east side,
small patches on Island 4
small area on Island 5
few scattered splatters on one small area of #6
Bio heavier areas as shown on
the enclosed map.

SHORELINE OILING SUMMARY

OG John New Sample USCG Boljensen SEGMENT ST/ Inna Islands GR
 BIO John Dixon LAND REP Leo Kuter SUBDIVISION None
 EXXONO Jim Ellison ADEC Rouvenn Hudmell TIME 08:52 to 09:35
 TEAM NO. 2 TIDE LEVEL: 4.5' to 5:5 DATE 4/17/90
 EST. SUBDIVISION LENGTH: Unknown m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock None
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 29 % B 16 % C 33 % P 21 % G 0 % S 1 % M 0 % V 0 %
 SLOPE: Lang 100 % Hang 0 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 80 m N 0 m VL 525 m NO? 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	IC	IR	IP	IS	SB BT	DBL HW	GY SL	DBL TL	LB	SU	U	M	U	
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT				X		X					X			
STAIN				X		X					X			
MOUSSE														
PATTIES														
TARBALLS														
FILM														
NO OIL											X		X	X

Note: A & B islands have sections of and no oil.
 Too small to measure meaningfully
 PAVEMENT: H F S NO sq. m by 0.1 cm
 PATTIES / TARBALLS NO BAGS
 NEAR SHORE SHEEN? NO BR RW SL TL

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

Photographs:

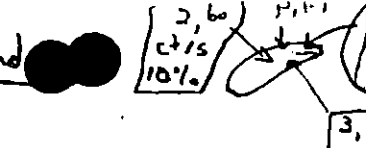
Roll No. ST-2-9 ST-2-10
 Frames 26-34 1-7

SUBSURFACE OIL

None found

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	SL BL	DL BL	FW BL	GY BL	DR BL	TL BL	LB	SU	U	M	U			
1	30					X	-										X				PS/SD/CL		
2	30					X	-										X				"		
3	30					X	-										X				"		
4	30					X	-										X				"		
5	30					X	-										X				"		
6	30					X	-										X				"		

COMMENTS

Island 
 3, 60
 ct/s
 10%
 15, 5
 ct/s
 100%
 3, 20
 st/s
 < 10%

Jean-Marie Sempy
 Segment of R-Immune Islands
 Subdivision: Name
 DATE: April 7/1990

Island II Zodiac
 survey, intertidal rocks, no oil seen

BIOREMEDIATE
 TWO AREAS
 I & II

Island III
 No oil P. 1, 2
 1, 10
 ct/s
 10%

SKETCH MAP

Island IV
 P. 1, 2
 5, 80
 ct/P
 20%
 Note: 3 patches ~ 40 cm diameter
 of oil (sediments ~ 2 cm thick)

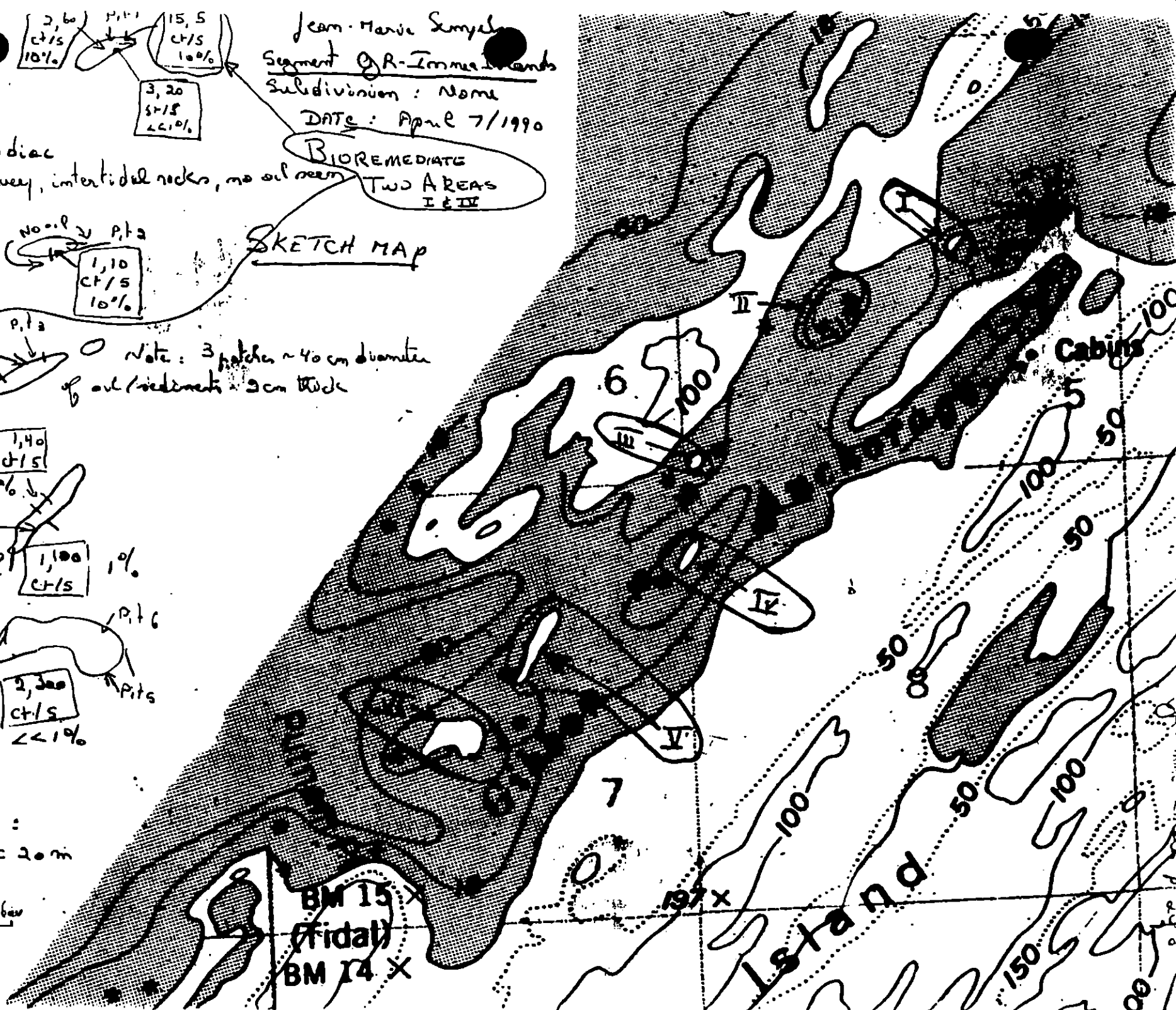
Island V
 1, 40
 ct/s
 2%
 P. 1, 4
 1, 100
 ct/s
 1%

Island VI
 P. 1, 6
 Pits
 2, 200
 ct/s
 < 10%

Scale 1 m = 20 m

0 200 400 600
 M

BM 15 X
 (Tidal)
 BM 14 X



Green Island, GR-Inner Islands, April 7, 1990

Segment GR-Inner Islands was surveyed on April 7, 1990. Although not part of the assigned list of segments and not part of the GIS data base, our presence in the area and the presence of oil on shorelines in the vicinity led us to survey 6 small islands located in Gibbon Anchorage, on the north coast of Green Island.

All 6 islands are in a sheltered environment except for the northwestern shore of islands 5 and 6. These last two sections are exposed to a long fetch in a northwesterly direction and have a narrow fetch window. Shorelines in this segment consist of low bedrock bluffs with small talus, short sections of bedrock ramps, or beaches of angular pebble/cobble.

Oil was found on 5 of the 6 islands; island no. 2 is an intertidal island and was observed from the zodiac only. Most of the oil occurs as scattered stains or coatings of splatters in a band along the upper intertidal zone.

Island 4 shows the heaviest concentration in a band 5 x 80 m of patchy coatings with 20% coverage.

SHORELINE ECOLOGICAL SUMMARY

Small Islands 1-6
 REVISION: 03/22/88

Segment ST Small Islands 1-6 Subdivision N/A Date (mo / day / yr) 04/07/90
 Time (24 hr) 0852-1030 Biologist John Dixon

Substrate type and % of segments:

(1) Bedrock 27 (2) Boulder 16 (3) Cobble 33 (4) Pebble 21 (5) Sand 1 (6) Silt

(B) Overall % cover of biota (% of segment): Dense 10 Moderate 25 Low 65

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

Photographs:

Roll No. ST-2-9 / ST-2-10

Frames 26-34 / 1-7

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: +4.5' and higher observed.

Ecological Considerations: These islands are made up of boulder & cobble beaches with small areas of bedrock outcrop. Typically toward the E & W ends, the density & vertical extent of Fucus, Mytilus, Gastropods, & barnacles considerably higher on the shaded N sides of the islands than on the S sides.

Inner Islands 1002

Control No.
(Office Use Only)

PHOTOGRAPHY LOG

ROLL NO. 972-9 FROM _____ TO _____
TEAM NO. 2 PWS / KENAI / KODIAK / AK. PENINSULAFRAME NO. 1 TO 1
NUMBER 1 OF 1

1st Island			
26	Kuler	4/7	Looking from beach to beach
27	8:50 AM		on E. side 1st Island
27	8:50 AM		Looking NE along shore 1st Island
28			Looking at Rocky Pt at head of
			Island
29			Looking SW along shore 1st Island
30	9:00		Looking West along shore
2nd Island			
31	Kuler	4/7	Looking at Rocky Island on
			Pointed Rocks
3rd Island			
32	Kuler	4/7	Looking from E. side from beach
33			to water from beach
34			clean from beach from Island 3

PHOTOGRAPHY LOG

FROM **TO**

FRAME	PHOTO	NUMBER	GRAPHER	DATE	TIME	LOCATION	INSTRUMENT	REMARKS
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
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72								
73								

1	Kuler	4/7		Chaparral catkins on rocks at S end of Island 4
2	9:40 AM			Feeding N on west side Island 4
3				Feeding at rocks on S end Island 4
4				Feeding N on E side Island 4
5				Feeding at Northern Edge West side Island 4
6				

6	Fisher	4/7		Feeding up beach from water at N side Saline
7	10:00 AM			Feeding 5 along shore Saline H 6

Oiling Map:

Jean-Marie Sempels

Segment: GR-Finner Islands

Subdivision: None

Date: April 7/1990

Island
I



Island
II



Island
III



Island
IV



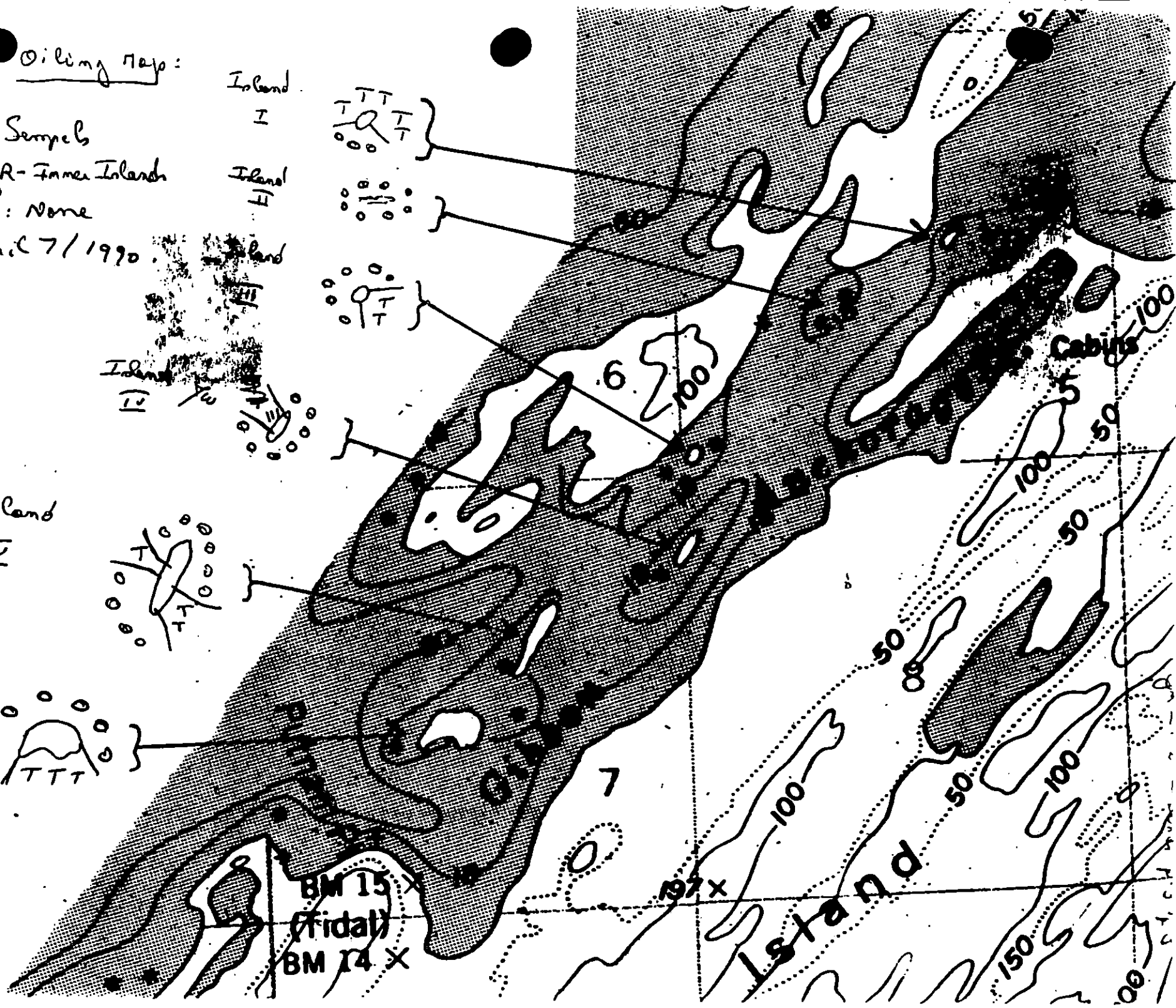
Island
V



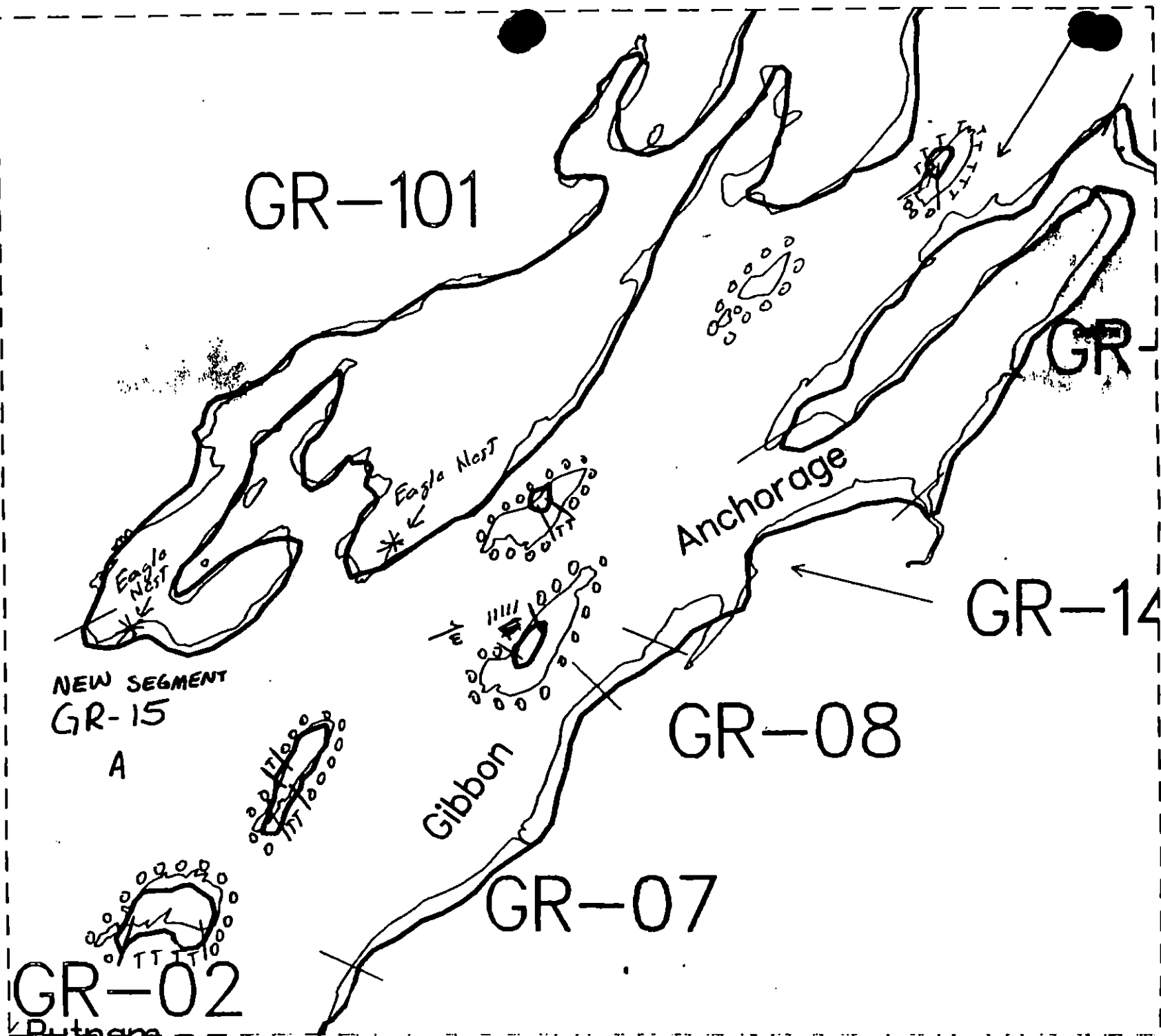
Island
VI



BM 15 x
(Fidal)
BM 14 x



Username: dee
Date/Time: 4/12/1990 6:52 PM
Plotfiles: gibbon1



ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-15 SUBDIVISION A (1 of 1)

WORK WINDOW

Bioremediation

WORK 7/1 to 7/31

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q	Harbor Seal & Sea Lion Pupping and Molting	Closed to bioremediation prior to 7/1 and after 7/31.
5S	Shorebird/Waterfowl Concentration	No constraint to bioremediation.
5T	Bald Eagle Nest	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.

OTHER ECOLOGICAL CONSIDERATIONS

Do not apply bioremediation to specific areas where seals are observed to haulout. Do not chase or harass seals or sea lions, and do not approach pups under any circumstances. When working on or near haulouts, complete the job as quickly as possible with minimum personnel, equipment, noise and disturbance. Keep boats and personnel as far from actual haulouts as is practical to do the work specified. Minimize air traffic near haulouts, maintain elevation as is practical, and avoid repeated overflights of the same haulout areas. Avoid any unnecessary disturbance or damage to uncolled biota and substrate.

FOSC

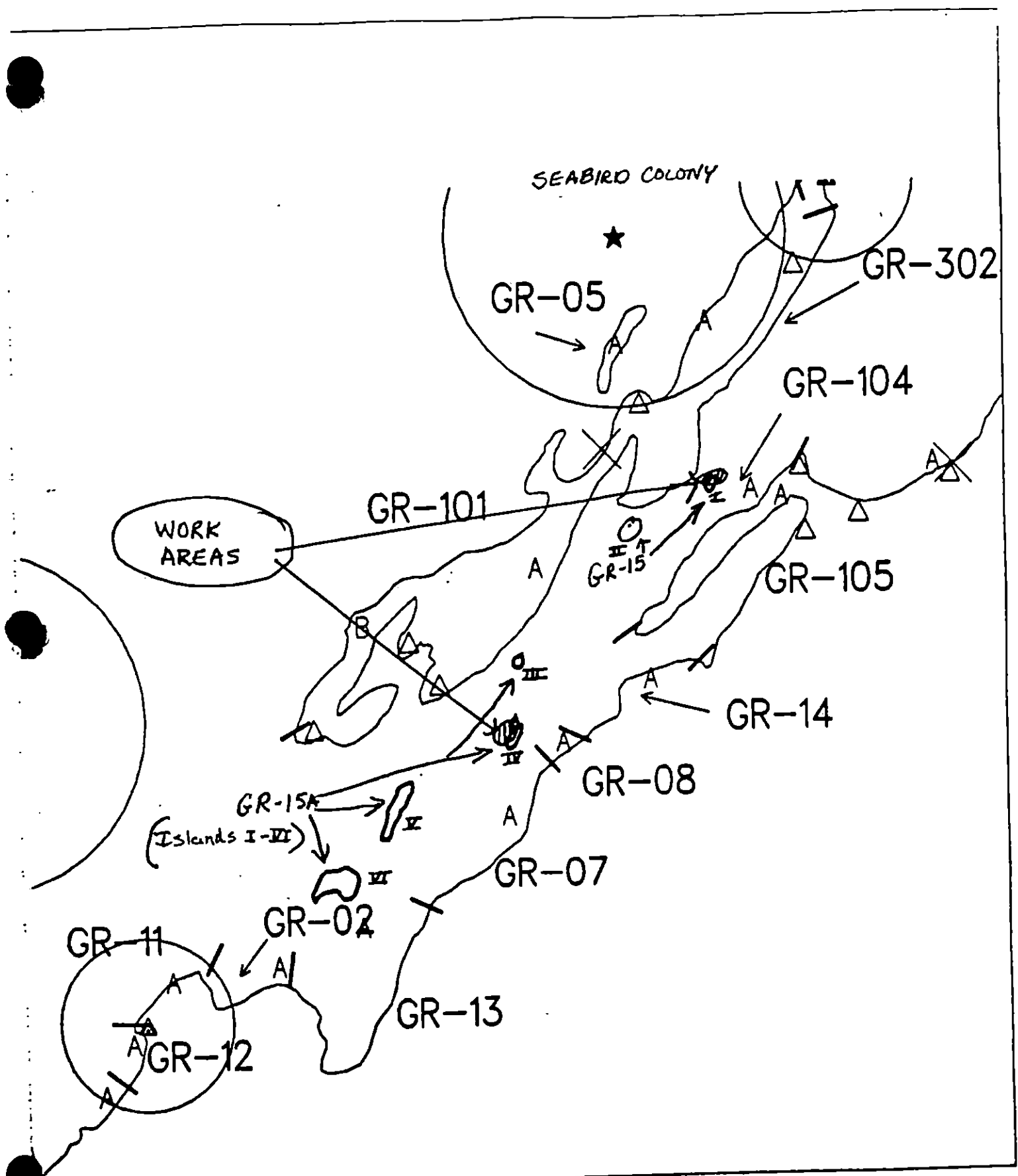
Date

6/17/90

Prepared by

Date

6/12/90



Exxon Company, USA
Map Key: PMS-GR-15
© 1989



ECOLOGY MAP
SEGMENT GR-15
SUBDIVISION A (1 of 1)
METERS
0 600 1212

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

1 inch = 1989 feet

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.

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
REMOVAL 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 WEAVER Art Weaver

EXXON ANDY TAYLOR Andy Taylor

NOAA BILL WESCOFF Bill Wescoff

USCG KENNETH KEENE Kenneth Keene

FOSC: DATE: 4-27-90

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.

~~2A~~
 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.

~~3A, 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.

~~6R~~
 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

SCG

NAME James C. Campbell SIGNATURE James C. Campbell

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

mostly patchy oil extending from 10m-20m wide MITZ to UITZ, light sheening noted. Several eagles sighting. Lot of seals along north. Cootin Pockets are west of last then others. See Exxon sketch map, please.

ADEC

NAME Brian K. FitzSimons SIGNATURE Brian K. FitzSimons

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS 100% of segment has been contaminated; light sheening into H₂O observed throughout 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 & B → CT → Patchy/Drier
PGS } 10cm → OP This beach is made up of large boulders/
BR → CT fine sediments (saturated) on bedrock (shiny).
Much leaching is occurring forming rainbow sheens on H₂O. Both boulders and bedrock within @ 25-40m band (MITZ to HIZ) 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. $B \rightarrow CT \rightarrow Braken$ This beach consists of medium to small boulders overlaying a pebble/ gravel layer that is saturated and beginning to form pavement. Underneath 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 HITZ.

$\left. \begin{array}{l} PG \\ BC G \end{array} \right\} 6cm OP$

$BC G \rightarrow NO$

Suggested Treatment(s):

1. This may be an area where disking/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. 03/23/90

OG B. Berglund USCG J. Gamble SEGMENT ST/ GR-10B
 BIO S. Schroeder LAND REP C. Huber (NES) SUBDIVISION A
 EXXON C. Levine ADEC B. Fritzsimons TIME 7:00 10:4:38
 TEAM NO.: 1 TIDE LEVEL: 1.7 10 6 DATE 4/7/90
 ST. SUBDIVISION LENGTH: 1398 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 PLANDS DESCRIPTION: ☐ Grass ☐ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: NE 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 380 m M 768 m N — m VL 250 m NO — m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	1C	1B	1P	1R	2	3	4	5	6	7	8	9	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)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	6	7	8	SU	U	M	L		
1	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 (600m). It coats the surfaces of boulders and at times saturates the surrounding gravel 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 uncoiled.

Page 1 of 8

REVIEWED — DATE —

OG B. England

SEGMENT ST/ GR-101

SUBDIVISION A

DATE 4 / 7 90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Bndry
- ☐ Off Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HULL/VL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Photo(s)
- ☐ Pk Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
Pit - No Subsurface Oil

2 Δ
Pit - Subsurface Oil

$\square$ CT/C
Continuous Distribution

$\square$ CT/B
Broken Distribution

Width

Length

CT/P W80 15%

CT/P 70%

Patchy Distribution

CT/S

Splashed Distribution

Oiled Vegetation

1 $\rightarrow$

Photo location, direction, and number

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

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

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

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

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

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

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

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

Profile

CT/S CT/P

Cable Boulder

50m
VI MI

N

Meters (along shore)

0 100 200 300

* Exposed Bedrock

-o-o- SSL where significantly different from HWL

Oiled Zone Shaded

Non HULL

End of GR-101-A

SKETCH MAP

Non HULL S4/S

CT/P mid UZ

CT/P W80 15%

Non HULL CT/S

CT/P W10-12 70%

CT/P W10-12 70%

CT/P W10-12 70%

CT/P W10-12 70%

CT/P W10-12 70%

CT/P W10-12 70%

CT/P W10-12 70%

STAR (near HWL)

CT/P W10-12 70%

CT/P W10-12 70%

CT/P W10-12 70%

CT/P W10-12 70%

CT/P W10-12 70%

CT/P W10-12 70%

CT/P W10-12 70%

CT/P W10-12 70%

CT/P W10-12 70%

CT/P W10-12 70%

Profile

Remove Oil Vegetation Debris

Spot Wash

Vegetated Berm CT/S

CT/B

Small Numbers

30m

VI MI

Start of GR-101-A

LWL

Spot Wash

Stain + Heavy Coat on Sides of Boulder

Large Talus Boulders

CT/B

CT/P

Boulders on Bedrock

40m

VI MI

Note: Snow covered upper Storm Berm in REVISION 202400 most localities at

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/22/90

Segment ST / GRI 101 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: N/A
 Roll No. N/A
 Frames None

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	
1L 2 3 4 5 6	1L 2 3 4 5 6	1L 2 3 4 5 6	1L 2 3 4 5 6	NOT PRESENT

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	
1L 2 3 4 5 6	1L 2 3 4 5 6	1L 2 3 4 5 6	1L 2 3 4 5 6	NOT PRESENT

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	
1L 2 3 4 5 6	1L 2 3 4 5 6	1L 2 3 4 5 6	1L 2 3 4 5 6	NOT PRESENT

FUCUS

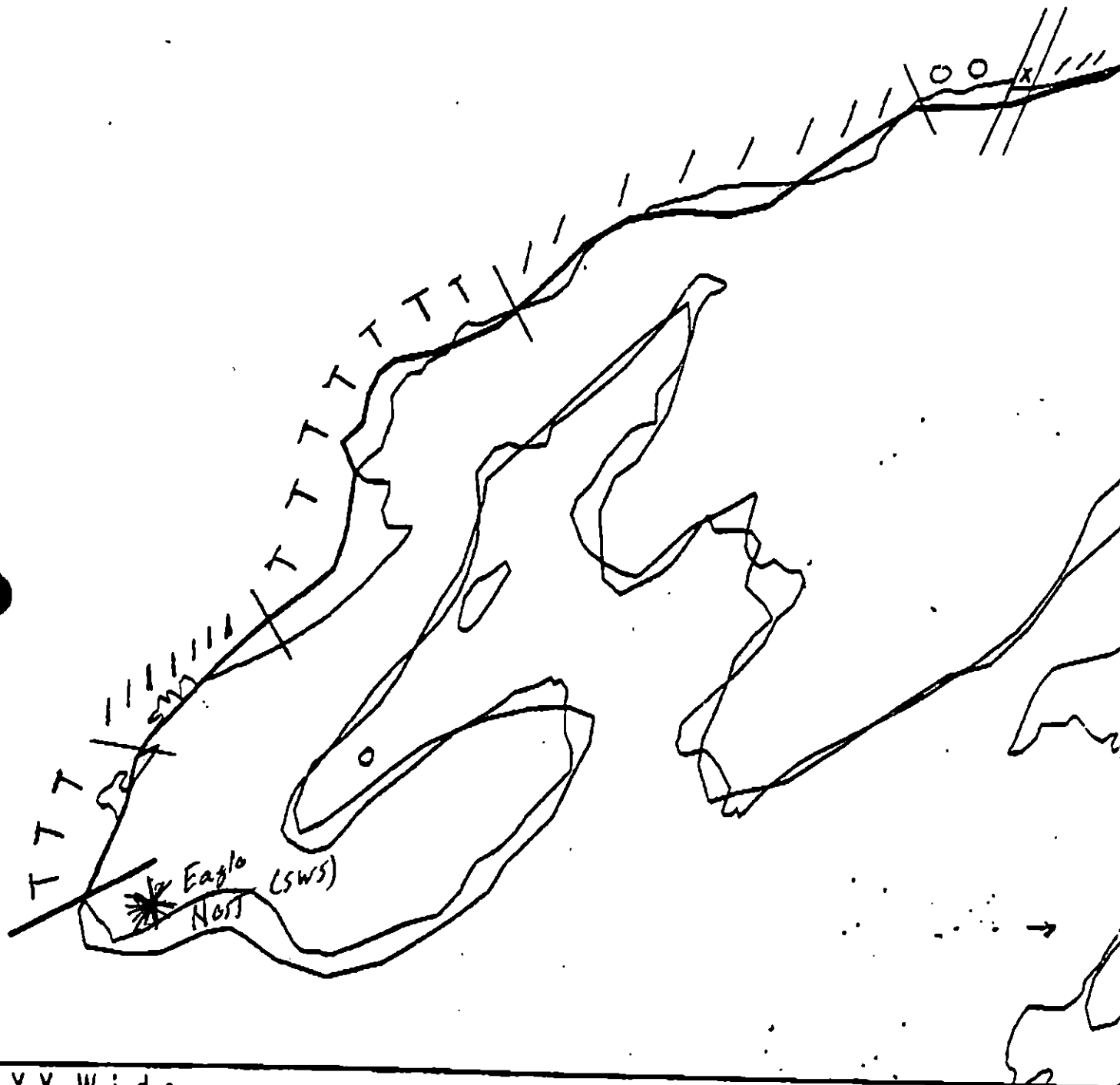
Dense	Moderate	Sparse	Rare	
1U 2 3 4 5 6	1U 2 3 4 5 6	1U 2 3 4 5 6	1U 2 3 4 5 6	
1M 2 3 4 5 6	1M 2 3 4 5 6	1M 2 3 4 5 6	1M 2 3 4 5 6	
1L 2 3 4 5 6	1L 2 3 4 5 6	1L 2 3 4 5 6	1L 2 3 4 5 6	NOT PRESENT

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

Sensitivity	BY	PH	3UP	WSS	AMP	SS
Priority	3	4	1	1	3	1

Ecological Considerations:

Segment is series of boulder + cobble pocket beaches, separated by shall bedrock headlands. There is little fresh water in this intertidal area. There are high densities of Littorina + the limpet, 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 + Rhodoglossum in the mid intertidal + about 10-20% cover of eel grass (L. Scaberrima). Pools in the mid intertidal contain occasional dense aggregations of P. ochraceus. Large areas of mid intertidal pool which have high cover of Cerastium canaliculatum.



XXXX Wide

/// Medium

--- Narrow

TT Very Light

0000 No Oil

GR-101

ADEC Segment Length: 4473m



Map Key: PWS-2470

Name: B. Berglund

Date: 4/7/90

Data Entered:

see 7 of 11

R-05



GR-101

ADEC Segment Length: 4473m

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

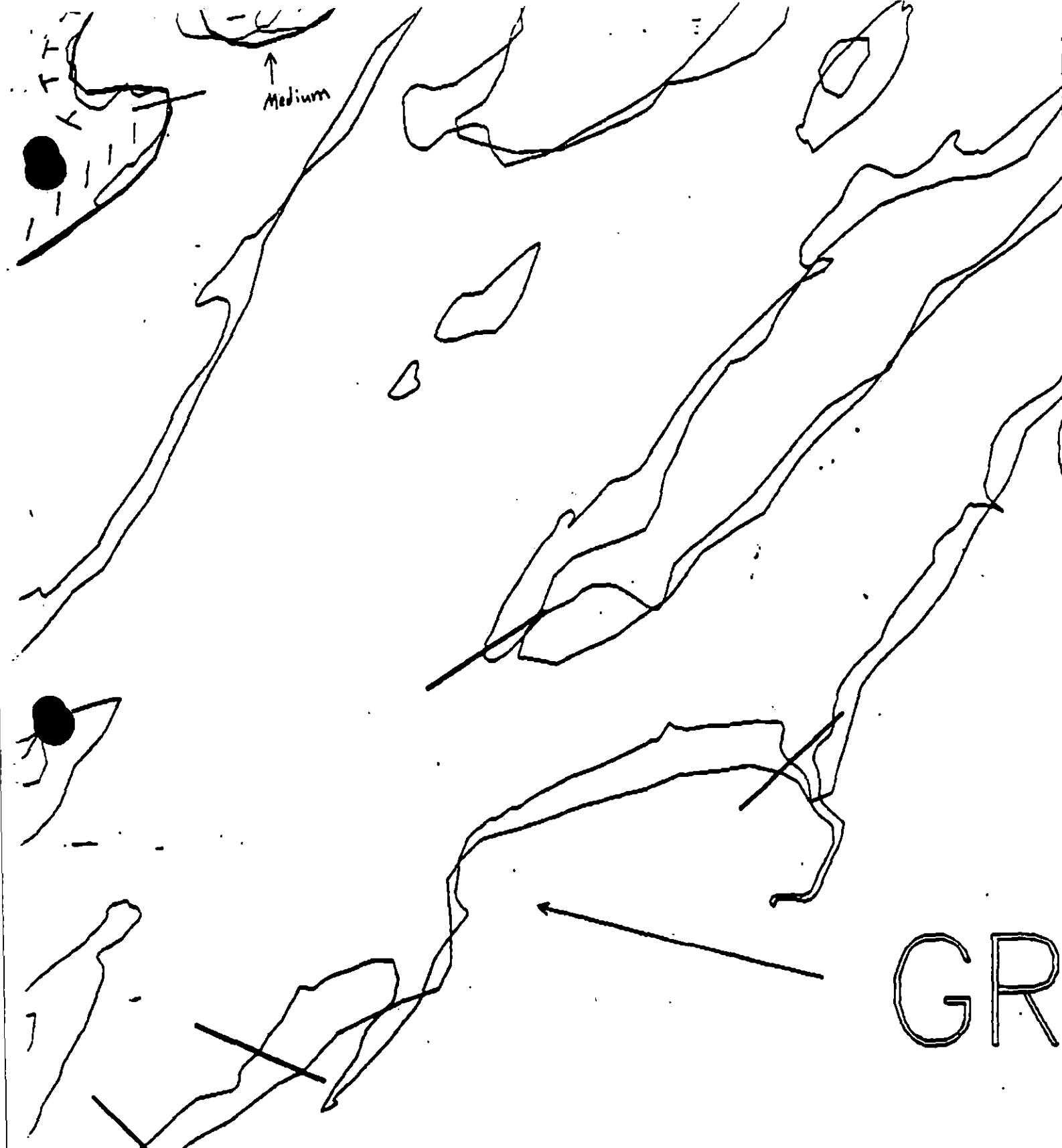
Map Key: PWS-2470

Name: B. Bengtson

Date: 4/7/90

Date Entered:

0000 No Oil



XXXX Wide

//// Medium

● -- Narrow

TTT Very Light

0000 No Oil

GR-101

ADEC Segment Length: 4473m



Map Key: PWS-247b

Name: B. Benglund

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

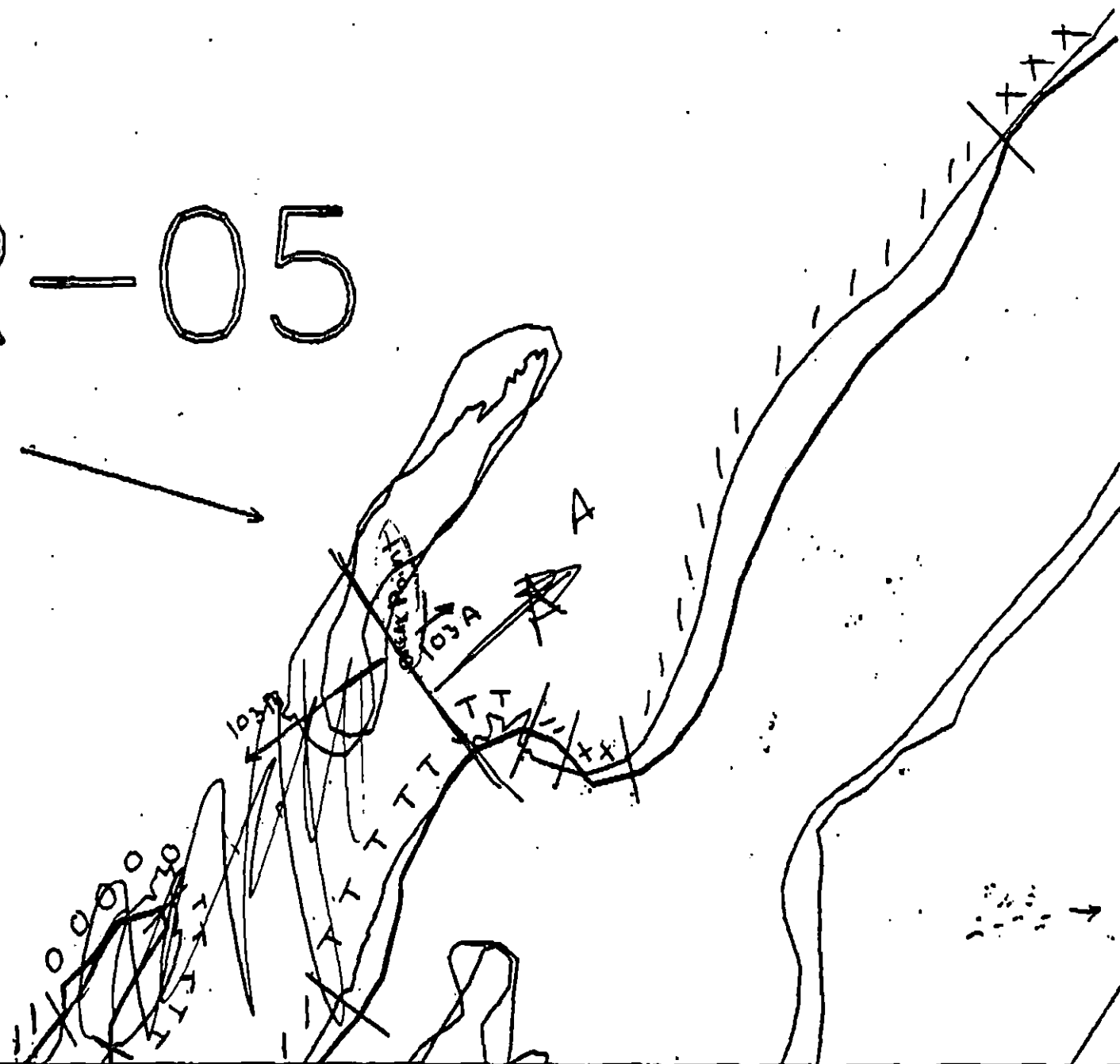
Name: B. Benglund

Date: 4/7/90

Date Entered:



GR-05



XXXX Wide

/// Medium

-- Narrow

TTTT Very Light

0000 No Oil

GR-101A

ADEC Segment Length: 4473m



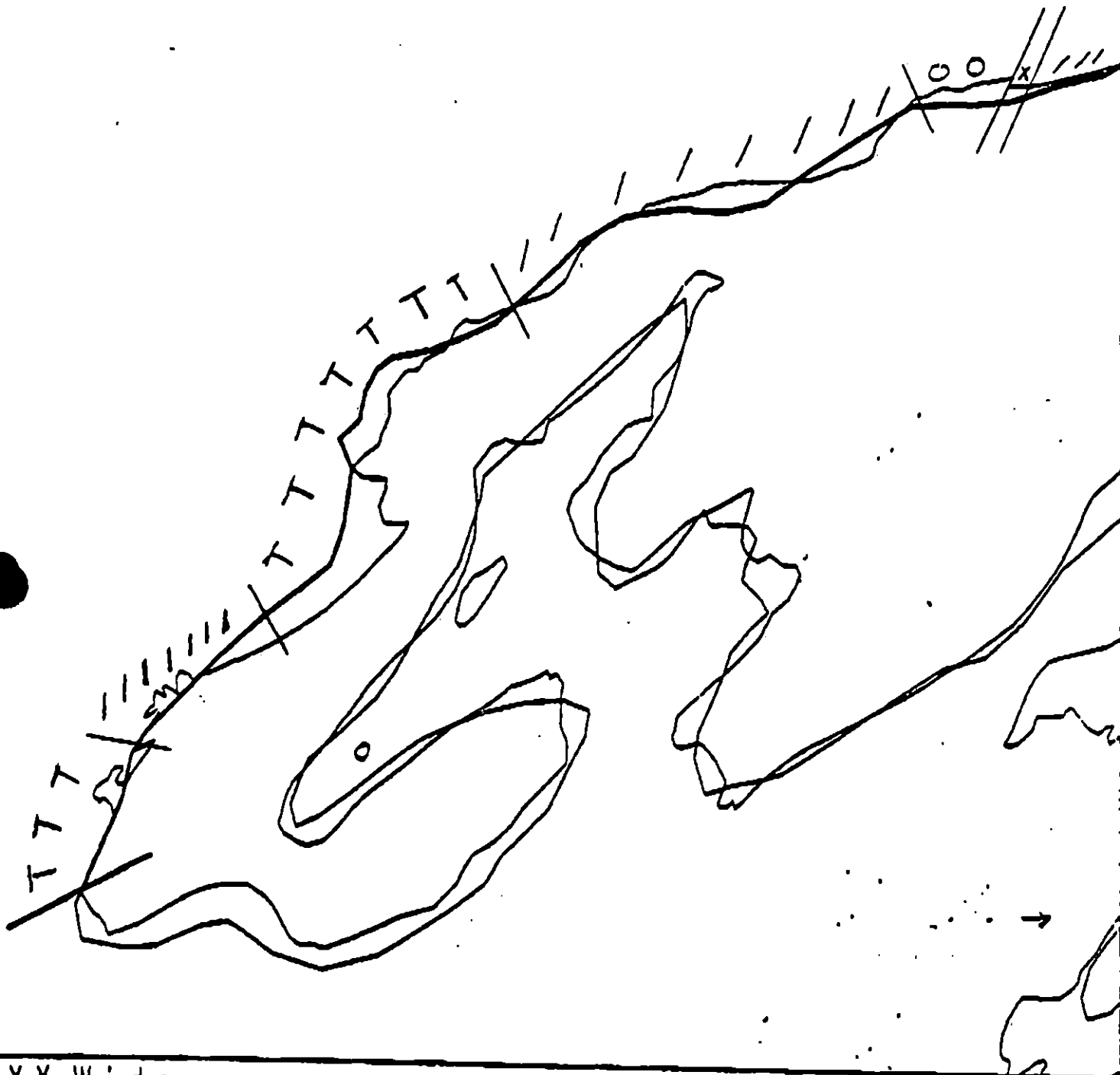
Map Key: PWS-2470

Name: B. Bengland

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

Data Entered:

age 7 of 11

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 Harbor Seal & Sea Lion
3O,Q 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
800 m 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

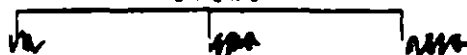
GR-17



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

WANDA M. STOUT MAM

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 L. J. T. 10/10/90

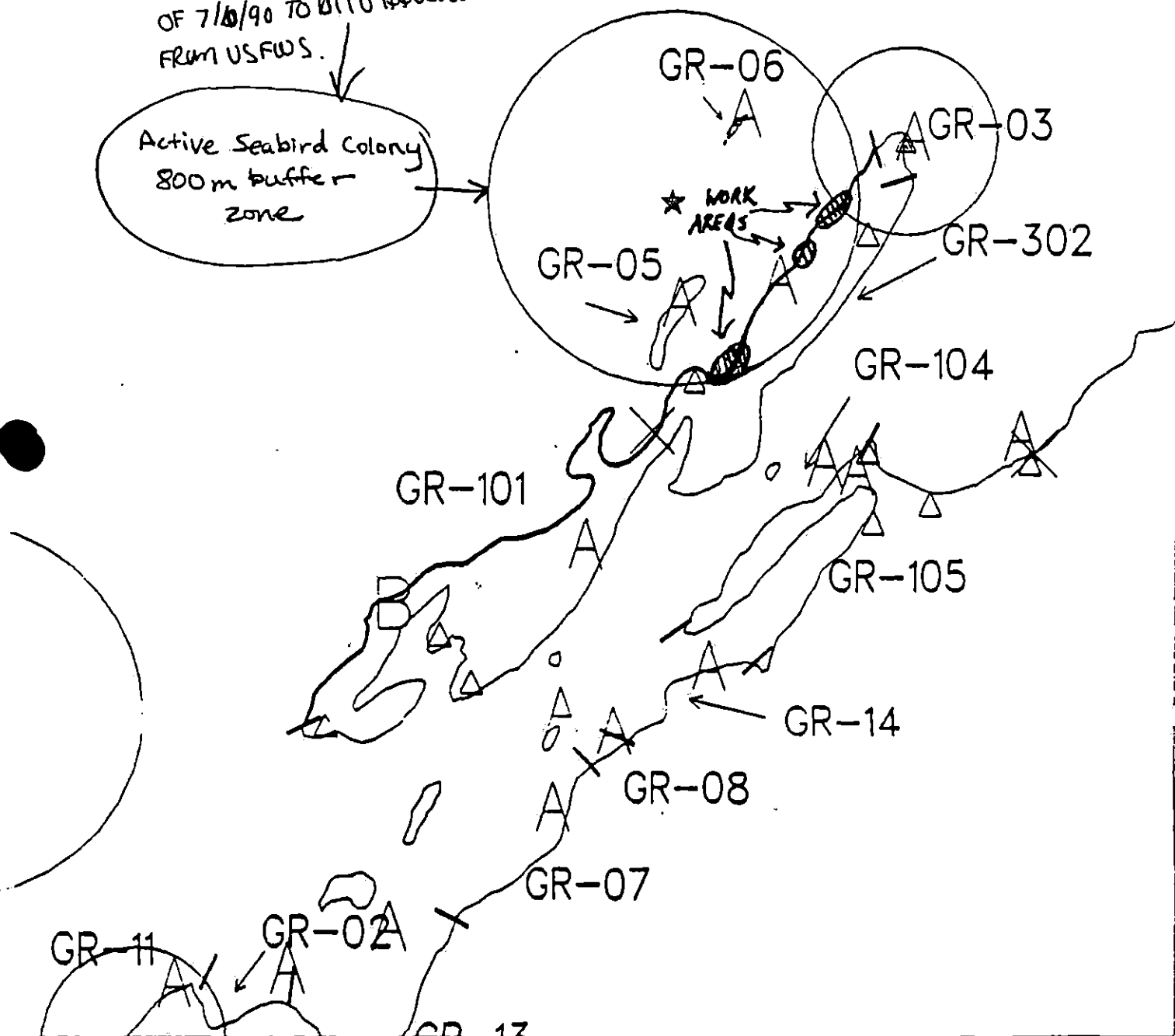
Date

7/12/90

REVISION 1
7/13/90

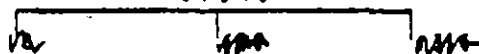
CONSTRAINT BUFFER
ZONE LIFTED BY LETTER
OF 7/10/90 TO OTTO HARRISON
FROM USFWS.

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 1000 AM

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 uncoiled biota and substrate. Eagle nest on border between Subdivision A/B, near border with GR-03.

SHPO SIGNATURE: Charles J. Hoffman 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 Bill Wescott Bill Wescott
USCG Kenneth Keane Kenneth Keane

FOSC: hgl DATE: 4-27-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / GR101 SUBDIVISION: B DATE 7 APR 90

CG
NAME James C. Gambrell SIGNATURE James C. Gambrell

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

There is some moderately oiled beaches. Natural cleansing seems to be removing much of the gross contamination from boulder. Some shelter areas of concern is headland and sheltered areas. See sketch of sketch map.

ADEC

NAME Brian K. FitzSimons SIGNATURE Brian K. FitzSimons

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

I concur with the OGs 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. ~~BCE~~ Cove at Northeast end of segment.

BC → C+ (patchy) → 30m wide } There is a 6 meter band of
PCG → OR → 2cm → intermittent } Broken Coat within the 30 meter band.

See Attached.

LAND MANAGER

NAME Carol S Huber SIGNATURE Carol S Huber

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

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 south west 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 B
Bedrock } Shiny

Suggested Treatment

1. HPHT wash with header flood

Note: 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. Johnson

SHORELINE OILING SUMMARY

REVISION NO. 03/22/88

OG: B. Berglund USCG: J. Gamble SEGMENT ST/ GR-1(1)
 BIO: S. Schreiner LAND REP: C. Hubert (NAS) SUBDIVISION: B 2042
 EXXON: C. Levine ADEC: B. Fritzsman TIME: 15:01 to 20:00
 TEAM NO.: 2 TIDE LEVEL: +6 to 1.1 DATE: 4/7/90
 SUBDIVISION LENGTH: 3701 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 LANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N 1/2 to S 1/2
 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 110 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	N	S	E	W	1	2	3	4	5	6	7	8	SW	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT						1-2							1-2			
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM						1-2							1-2			
OIL													X			X

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		X	
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE 0#BAGS 0

Photographs:

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

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UG	UC	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP		
1	20		X				0-20	X			X						X			N	G/S (Beneath Boulder)		
2	20		X				0-10		X		X						X			1	G (Lower Beach)		
3	15		X				0-3		X		X						X			1	G/S (Beneath Boulder)		
4	20					X			X									X			G/S		
5	20		X			X	0- 20		X		X						X				G/S		
6	10		X				0-1		X		X						X			Y	G/S (Beneath Boulder)		

COMMENTS:

at depth of 9 to 10 m in G/S does not
 constitute subsurface oiling

SEGMENT ST/ GR-101 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		UC	UC	SP	BR	DR	FR	ST	SL	LT	LT	SU	U	ME	LI		
7	30		X				0-5		X	X								X				N	G/S (Beneath Boulder)
8	35		X			X	5-10		X	X								X					G/S (Lower Berm)
9	40		X				10-18		X	X								X					C/G (Lower Berm)
10	20	X					5-20	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

* Exposed Bedrock

--- SSL (where significantly different than HWL)

SKETCH MAP (1 of 2)

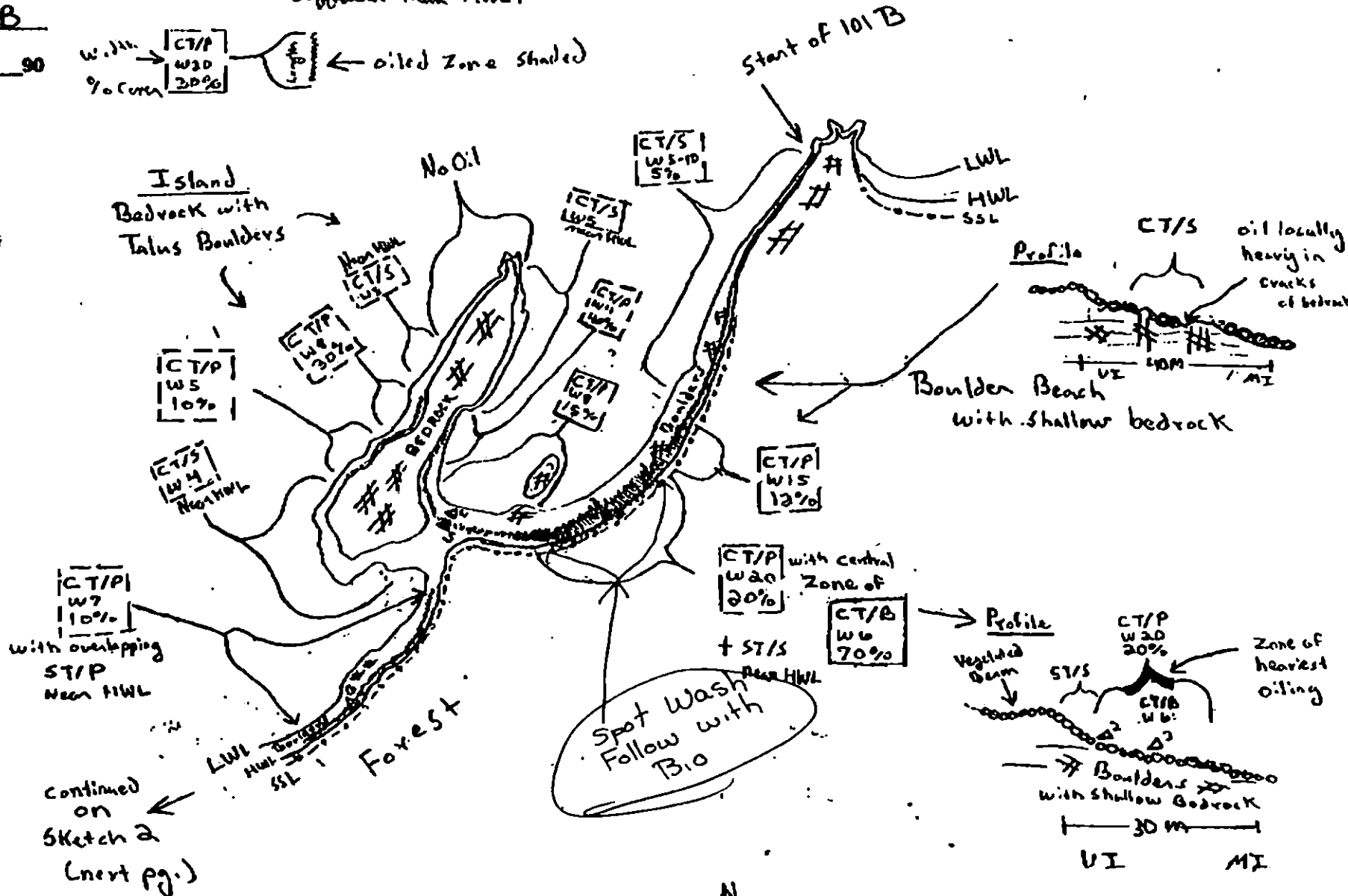
CHECKLIST

- N Arrow
- Approx. Scale
- Seg/Sub Entry
- 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

W. 100% $\rightarrow$ $\boxed{CT/P}$ W 20 20% $\leftarrow$ oiled zone shaded



Oil Character Length (m): AP PO CV CT 391 ST 420 MS PT TB FL 180 NO 410

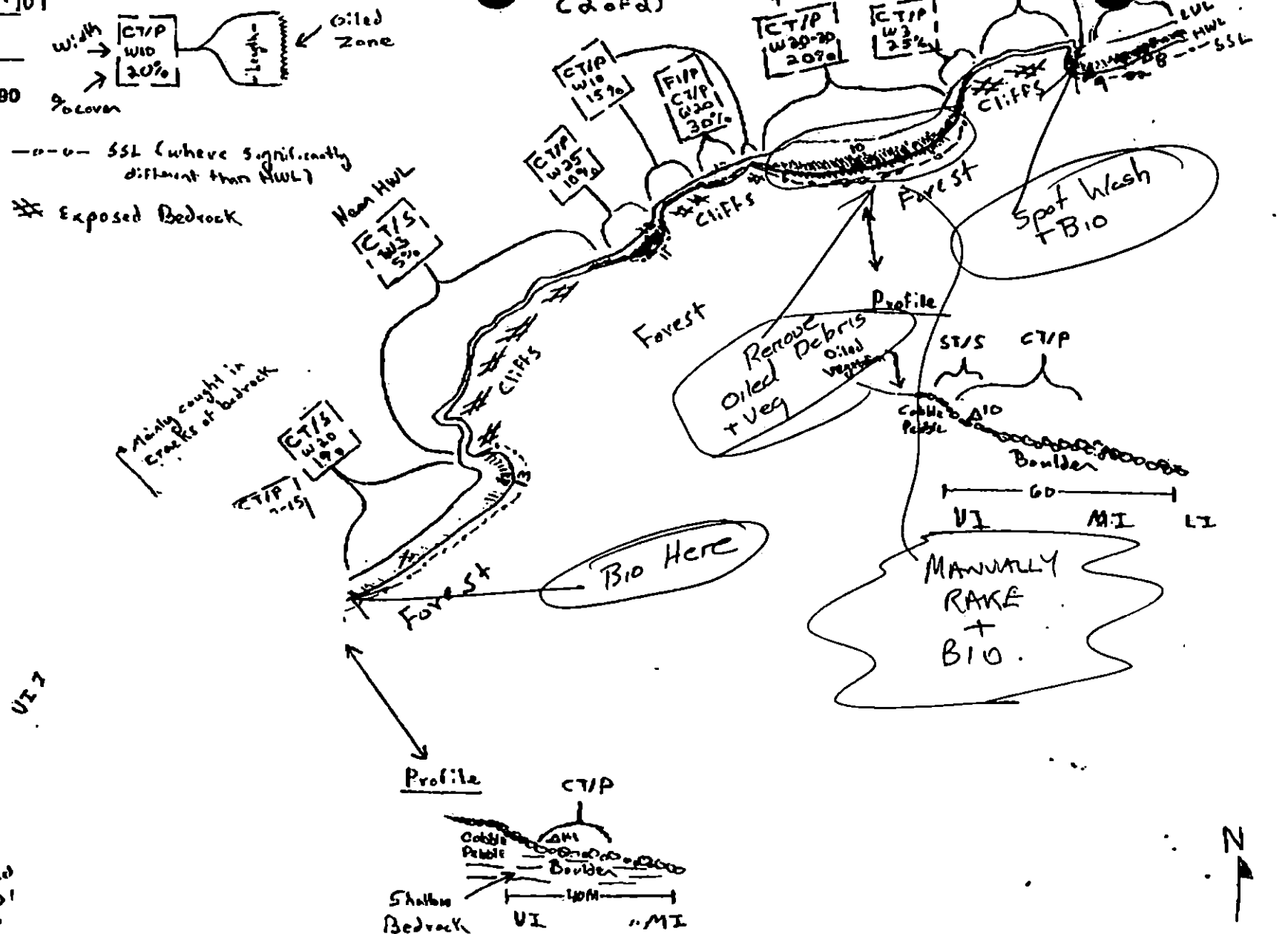
REVISION 282400

OG P. BerglundSECRET ST/ GR-101SUBDIVISION BDATE 4/7/90**CHECKLIST**

☐ N Area
☐ Approx. Scale
☐ Seg/Sub Endy
☐ Oil Dist
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Ext. HAZ/ALVA
☐ SSL
☐ Profile Location(s)
☐ Profile(s)
☐ P/L Location(s)
☐ Photo Location(s)

LEGEND

1 Δ
 P/L - No Subsurface Oil
 2 Δ
 P/L - 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
(2 of 2)Oil Character Length (m): AP PO CV CT ST MS PT TB FL NO

See sketch 1 for totals.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/88

Segment ST / GR101 Subdivision B Date (mo / day / yr) 4/7/90
 Time (24 hr) 1545 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 15, 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	1L 2 3 4 5 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	1L 2 3 4 5 6
				NOT PRESENT

STROPODS

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	1L 2 3 4 5 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	1L 2 3 4 5 6
				NOT PRESENT

Wildlife Observations/ General Comments: Tidal Range: > +1.43 Sensitivity 6Y 711 3N-A 3AWQ 2m
 No principal land use observed Priority 3 4 1 1 3

Ecological Considerations: Subdivisions contained numerous upper & mid intertidal pools with high concentrations of crustaceans & fleshy coralline algae. Gastropods were abundant & in decreasing order of abundance were Scutaria, Tanachia, Mytilus, Mytilus & Katharina. Strophods were abundant in all habitats but most clearly in boulder & cobble habitats in the mid & low-upper intertidal. Leptasterias & Hexaster were abundant among boulders in the low & mid intertidal. Pooled beaches with high cover of cobbles & pebbles often had high densities of B. flabellum & mussels in the low-upper & 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 crassicornia. Grazers were also common and in decreasing order of abundance were: N. acutus, 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 drobachensis 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. drobachensis 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.

ECOLOGY MAP

R-05

Seabird
Colony

GR-101

ADEC Segment Length: 4473m

Map Key: PWS-2470

Name: B. Bengland

Date: 4/7/90

Data Entered:

XXXX Wide

/// Medium

-- Narrow

TTT Very Light

0000 No Oil



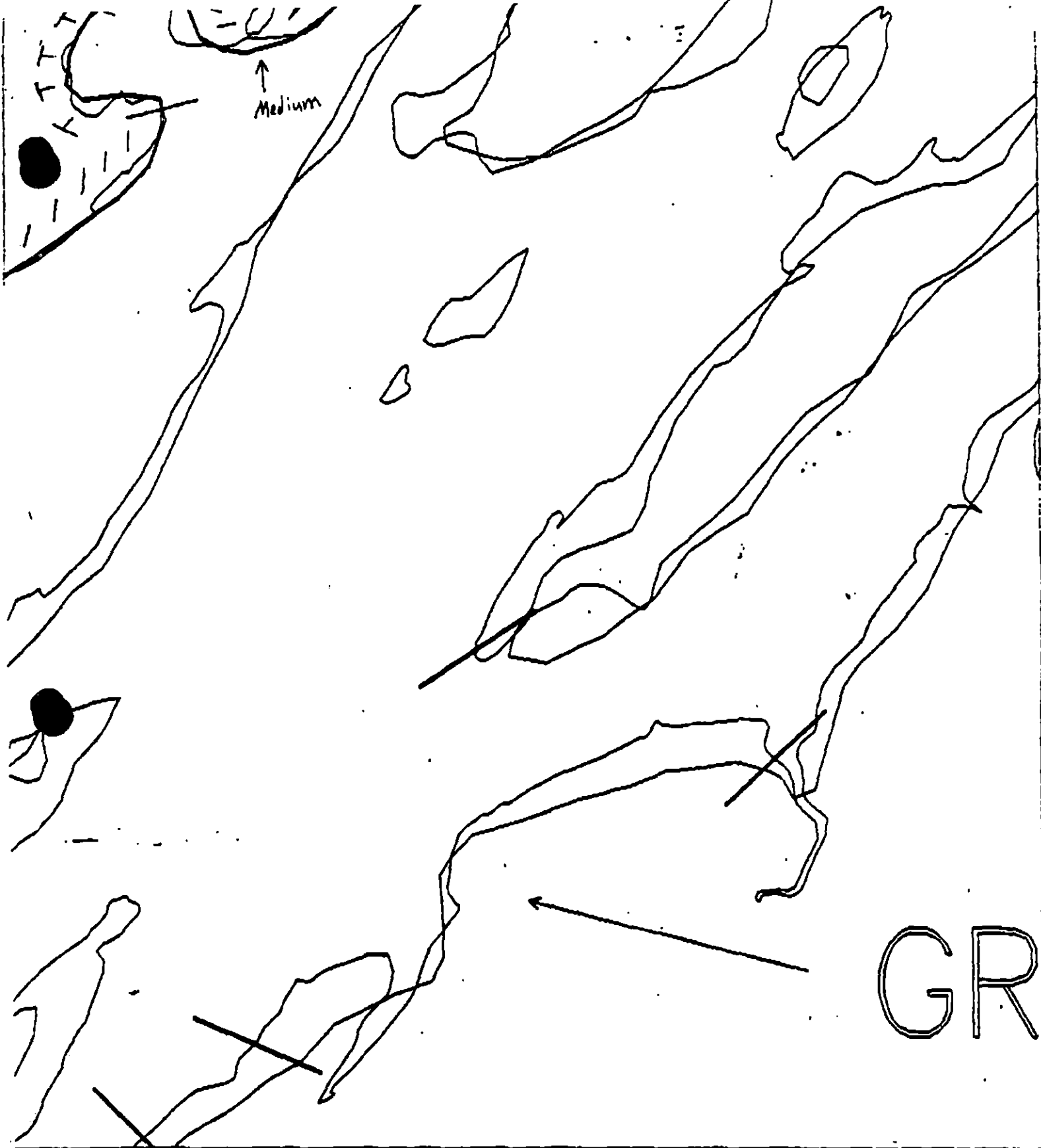
11 of 5

P.L. SCAT

TO

DON BOLLINGER 2152

APR-09-1990 17:29 FROM



XXXX Wide

//// Medium

-- Narrow

TT Very Light

0000 No Oil

GR-101

ADEC Segment Length: 4473m



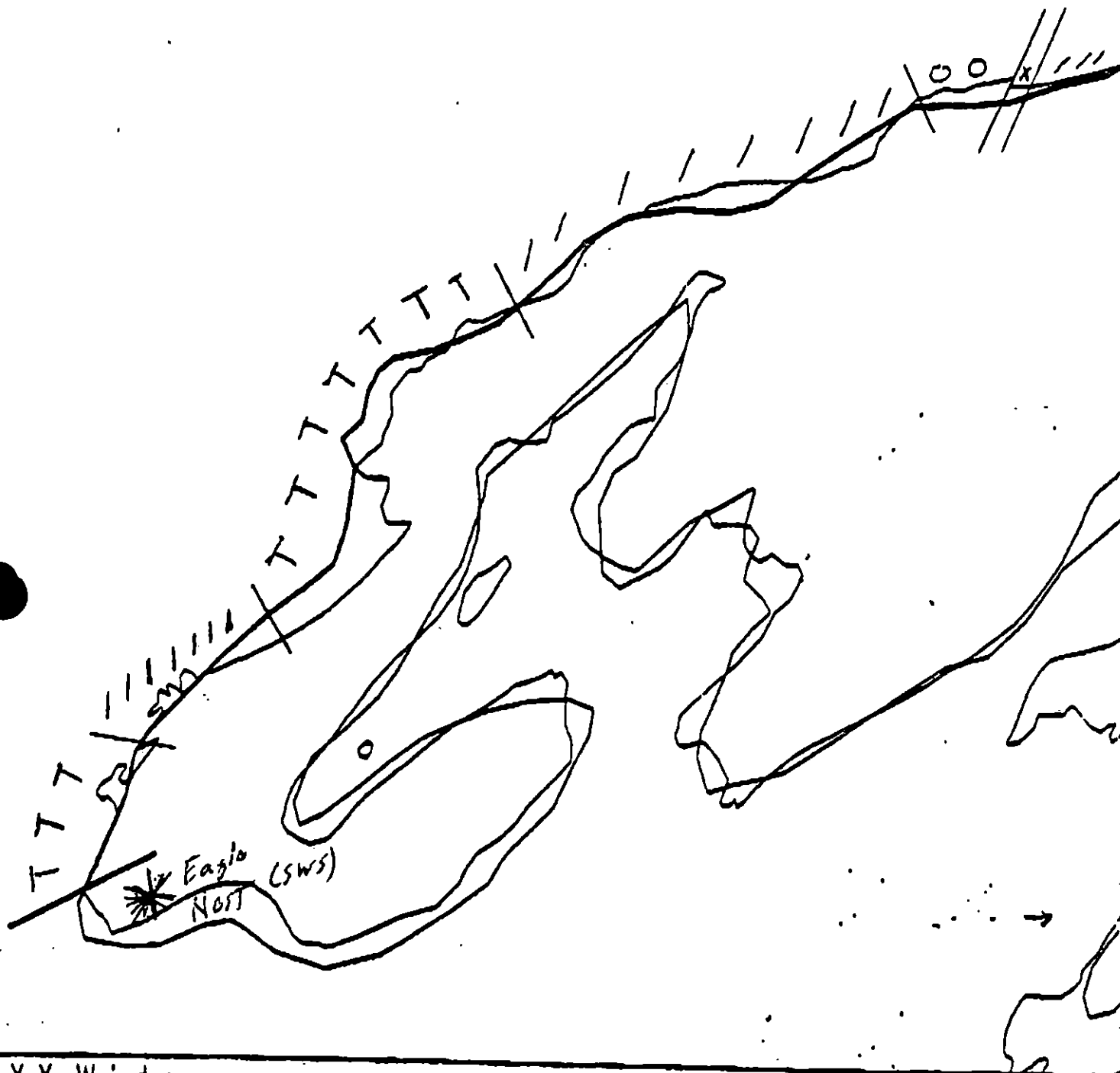
Map Key: PWS-247b

Name: B. Berglund

Date: 4/7/90

Data Entered:

GR-101



<XXX Wide

//// Medium

--- Narrow

T T Very Light

0000 No Oil

GR-101

ADEC Segment Length: 4473m



Map Key: PWS-2470

Name: B. Berglund

Date: 4/7/90

Date 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



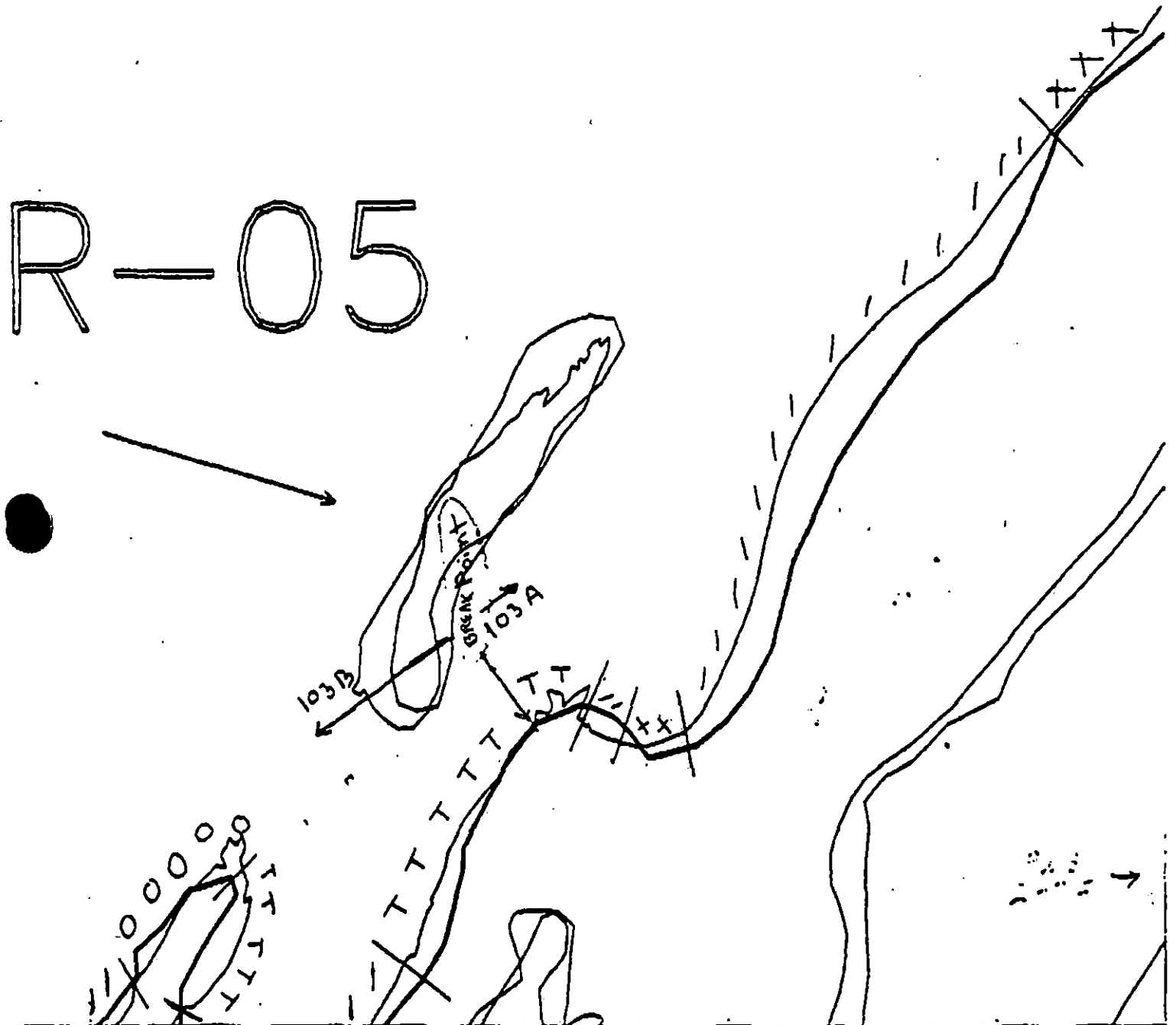
Map Key: PWS-2471

Name: B. Bengtson

Date: 6/7/90

Data Entered:

R-05



XXXX Wide	GR-101	Map Key: PWS-2470
//// Medium		Name: <u>B. Bengland</u>
-- Narrow		Date: <u>4/7/90</u>
TTTT Very Light		Data Entered:
0000 No Oil		



XXXX Wide

//// Medium

-- Narrow

TTT Very Light

0000 No Oil

GR-101

ADEC Segment Length: 4473m



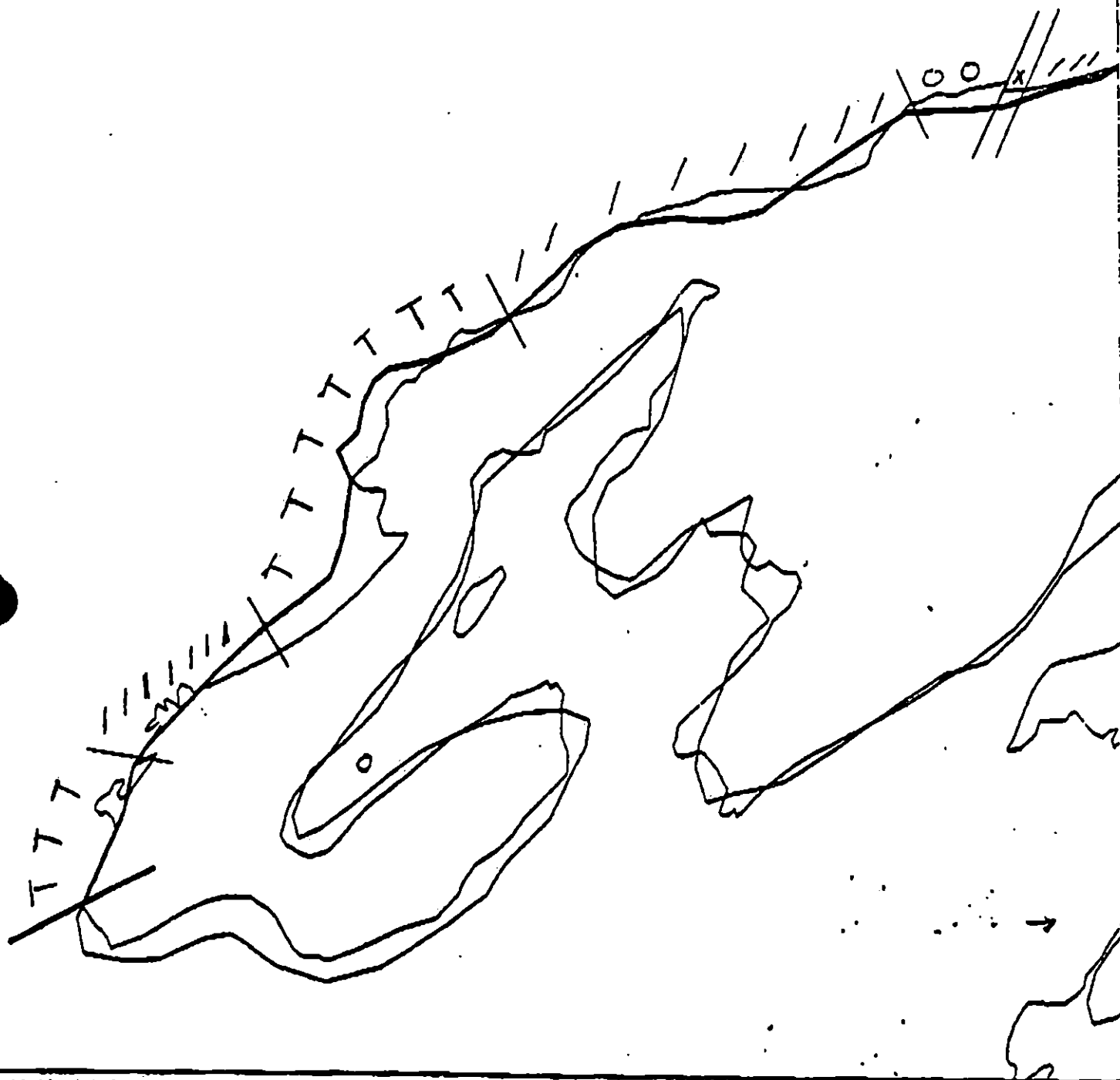
Map Key: PWS-247b

Name: B. Benglund

Date: 4/7/90

Data Entered:

GR-101



XXX Wide
 /// Medium
 --- Narrow
 TT 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

HPR-09-1998 17:31 FROM DON BOLLINGER 2152

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

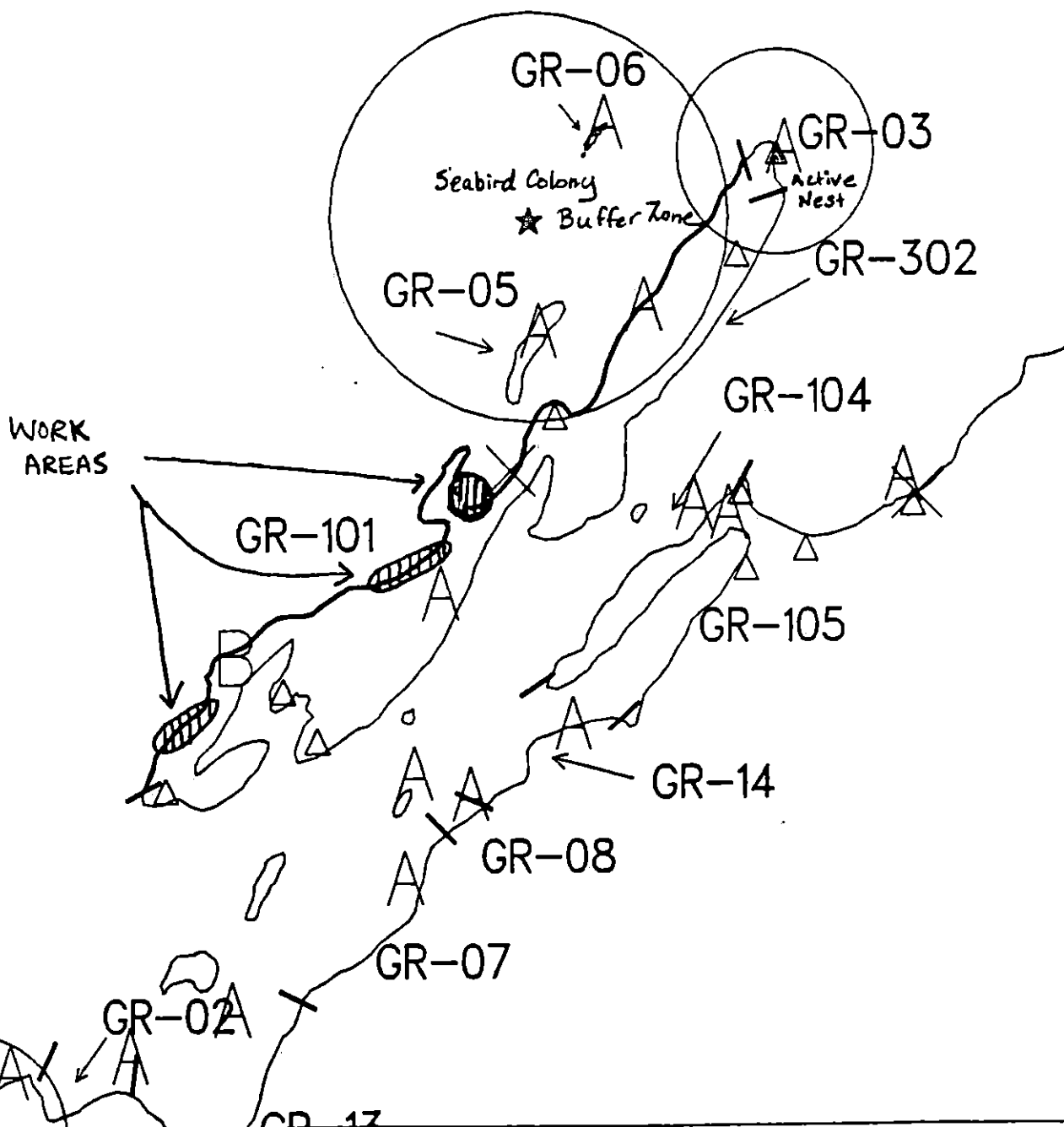
Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass. Restrict air traffic and beach disturbance to essential minimum after 8/15. Do not apply bioremediation to specific areas where seals are observed to haulout. Do not chase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

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-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.

SHPO SIGNATURE: Charles Z. Hoffman 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:

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

COMMENTS: 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 Art Weiner
EXXON ANDY TETZ Andy Tetz
NOAA Paul Wascott Paul Wascott
USCG KENNETH KEARNEY Kenneth Kearney

FOSC: WJL DATE: 4-26-90

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 (8/11 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.
- 6T 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

GR-100 19.9

SEGMENT ST / GR 102 SUBDIVISION: _____ DATE 4/7/90

EG
NAME Robert G. Jensen SIGNATURE [Signature]

☒ 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 [Signature]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

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

SHORELINE OILING SUMMARY

GR 102 / 1019

REVISION NO. 03/22/98

OG Jan Marie Semple USCG Bob Jensen SEGMENT ST/ AR-102
 BIO John Dixon LAND REP Leo Keefer SUBDIVISION A-10
 EXXON Jim Ellison ADEC Rowan 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			
	IC	IB	IP	IS	SB	SB	SB	SB	SB	SB	SB	SB	SU	UI	MI	LI
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL																

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	SB	SB	SB	SB	SB	SB	SB	SU	UI	MI	LI		
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

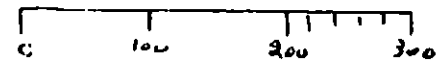
OG from ~~the~~ Samples
 SEGMENT ST/ GR-102
 SUBDIVISION NONE
 DATE April 7/90

CHECKLIST

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

506 850

Approx. scale
 HWL LWL
 PATCH MAP

DIAGRAM 1

Legend

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

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

$\boxed{\text{dots}}$ Pebble / Sand beach

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

DIAGRAM 2

Stream

(max 3 cm)

5, 6
 CT/B
 1 cm 60%

5, 300
 St/S
 < 10%

10, 50
 CT/S
 2 mm 5%

5, 150
 CT/S
 1 mm 10%

5, 550
 St/S
 < 10%

GR-102, p. 3 of 9

Jean Marie Sengels

Segment GR-102

Subdivision None

Atc: April 7/1990

Q12 - 10 : 1, 9

Diagram 1

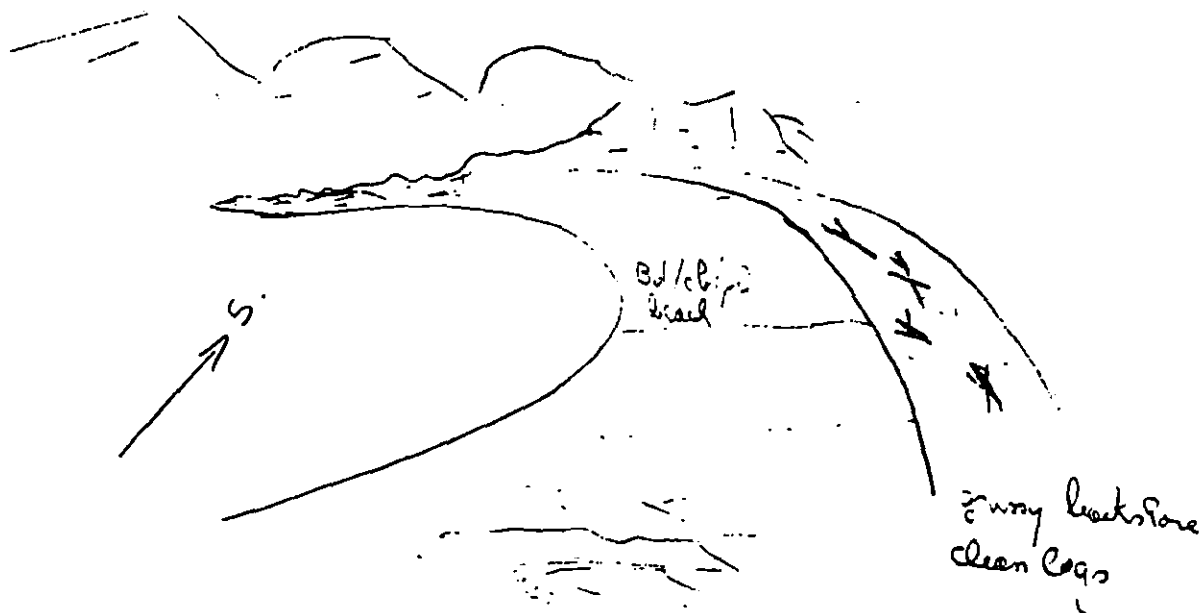
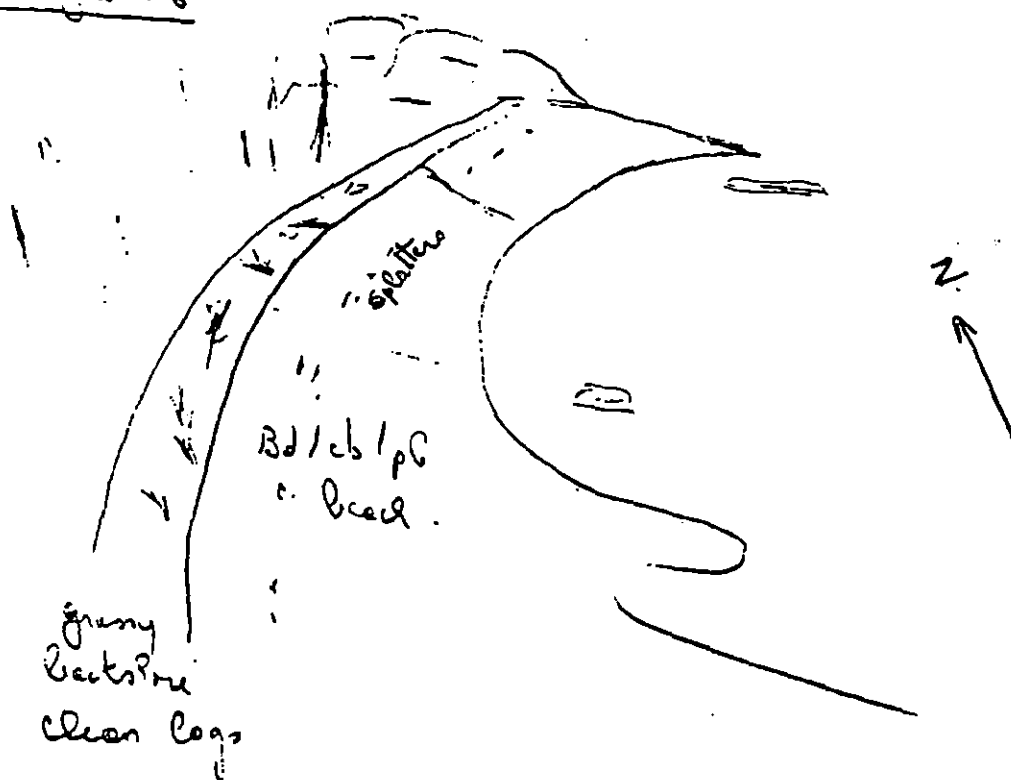


Diagram 2



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 (3)

Photographs: Roll No. ST-2-9

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

BARNACLES

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

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

GASTROPODS

Dense			Moderate			Sparse			Rare			NOT PRESENT
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	X	4	4	X	X	X	
5	5	5	5	5	5	X	5	5	X	X	X	
6	6	6	6	6	6	X	6	6	X	X	X	

FUCUS

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

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

Ecological Considerations: Sensitivities: FII, 6V, ST-4, 9CC, 2M, 5S

Rocky headlands bounding cobble beaches. Lower beaches sandy with sparse cover of *Phyllosopora*, scattered moon snail 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 barnacles & sparse cover of mussels. *Leptasterias*, blennies & *N. scutum* under boulders.

Saturday 7/1/90

GR-102

0655-0835

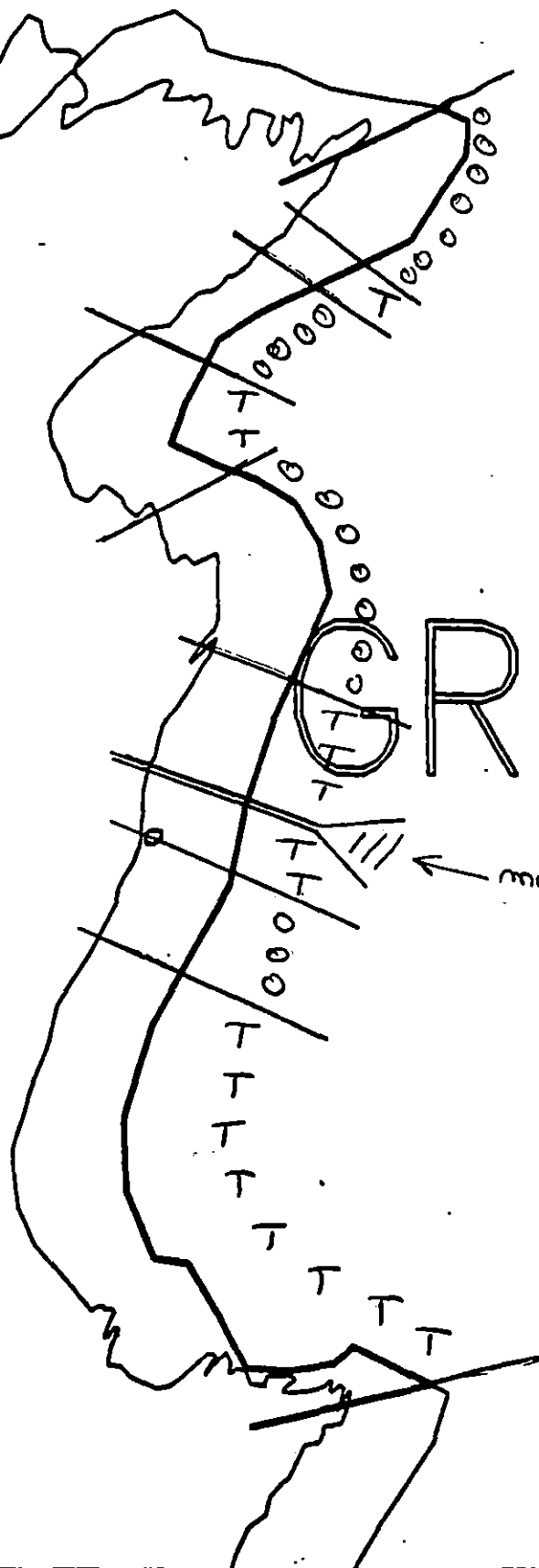
(+1' - +3')

5

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

In the sandy lower parts of the cobbly beaches there is a sparse cover of Phylloporus, scattered moon snail egg cases, dead shells of clams, and occasional Pycnogonidae (~15-20 cm d.). The scattered boulders and cobbles bear a moderate to dense cover of Fucus, Ulva, Tridacna & 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 mussels 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.

8A-102 / 409



XXXX Wide

// Medium

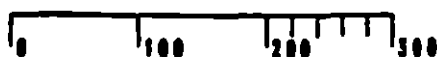
--- Narrow

TTTT Very Light

0000 No Oil

GR-102

ADEC Segment Length: 1532m



METERS

Map Key: PWS-248

Name: Jan Marie Smith

Date: April 7/1990

Data Entered:

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.

SHPO SIGNATURE: Charles A. 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: _____ Wands
☒ Tarmat: _____ 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.

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/17/90
ADEC JOHN BAUER John Bauer
EXXON ANDY TEAL Andy Teal
NOAA Bill Wescott Bill Wescott
USCG KENNETH KEENE Kenneth Keene

FOSC: ML DATE: 7-26-90

If area is not aerobic, till prior to
begin bioremediation - if it is aerobic, tilling
not necessary.

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 (8/7 to 8/31)

1J

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

1K

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

1L

Set net sites (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 / 6 R / 23

SUBDIVISION: A

DATE 4/22/90

SCG

NAME James C. Campbell

SIGNATURE James C. Campbell

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Oil vegetation in upper intertidal zone. 1 m oil band on headland west end of stat 103.

Oil smell in middle intertidal zone. Pit #2 oil 30 cm deep. See extra sketch map note saw a lot of brown 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 100 m of ^{western} end of segment. Saturated oiled V (1 m deep x 3 m wide x @ 100 m long). Pit at base of oiled berm ^{west} end. PG → NO → some
the only pit dug in whole segment which revealed oiled sediments. PG → OP → 30 cm
Storm berm along rest of segment consists of patchy oiled V, drift, etc. CPB → NO

extending shoreward under snow pack. Bover looking exposed BR made most of eastern 1/2 of segment. BR contained patchy mouse in cracks & under boulders and boulders had patchy tarry coats. 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 lines in cracks of BR throughout segment. Surface H₂O seeping throughout eastern 1/2 of segment to stream. One Tar patty (3 m x 4 m x 7 cm thick) at eastern MIZ of this area.

See Attached

LAND MANAGER

NAME Carol S Huber

SIGNATURE Carol S Huber

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Protect anadromous stream (East end of this subdivider) 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. 02/71/90

Segment GR103A

Suggested Treatment:

1. Move oiled storm berms to active tidal area and disperse or remove

2. Bioremediate B/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. Johnson

SHORELINE OILING SUMMARY

REVISION NO. 03/22/79

OG B. Bernalund USCG J. Gamble SEGMENT ST/CR-103
 BIO S. Schreder LAND REP C. Huber (NPS) SUBDIVISION A
 EXXON C. Levine ADEC B. Fritzsche TIME 15:00 to 20:00
 TEAM NO.: 2 TIDE LEVEL: +1.8 to +6 DATE 4 / 4 / 90
 EST. SUBDIVISION LENGTH: 850 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 PLANDS 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 448 m N 60 m VL - m NO 240 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	R	P	N	1	2	3	4	5	SU	U	M	U
ASPHALT PAVEMENT													
POOLED													
COVER			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 8 - 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-CM)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	1	2	3	4	5	SU	U	M	U		
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.

SUBSURFACE OIL (CONTINUED)

[illegible]

The western end has a heavily oiled section near the H.W.L. 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 _____

Page 3/8

OG B Berglund

SEGMENT ST/ 103

SUBDIVISION A

DATE 4/4/80

CHECKLIST

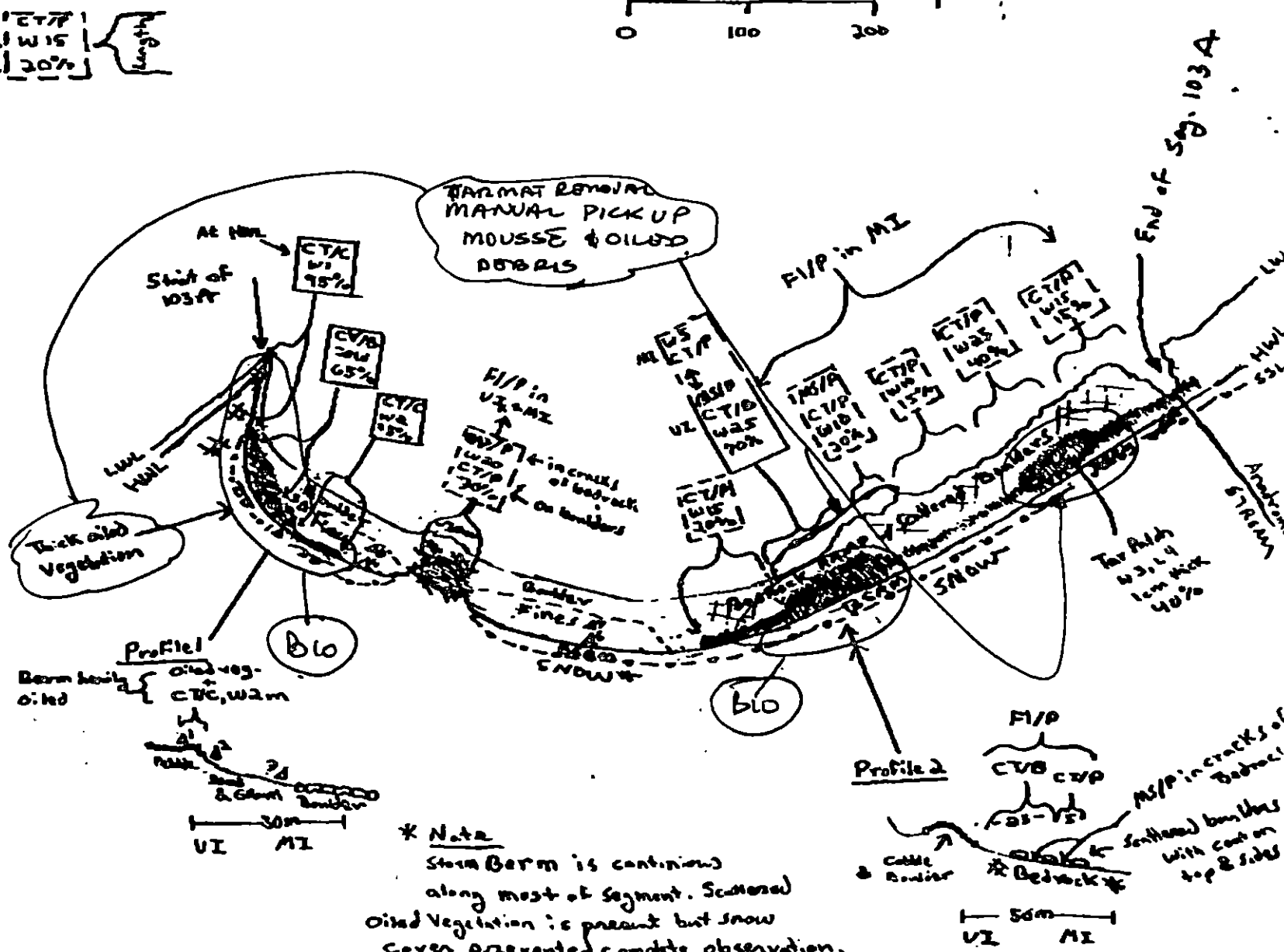
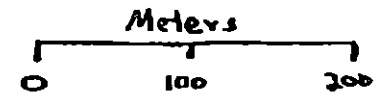
- Map
- Approx. Scale
- Seg/Sub Entry
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HML/VL
- SSE
- Profile Location(s)
- Photo Location(s)

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
- 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.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/28/90

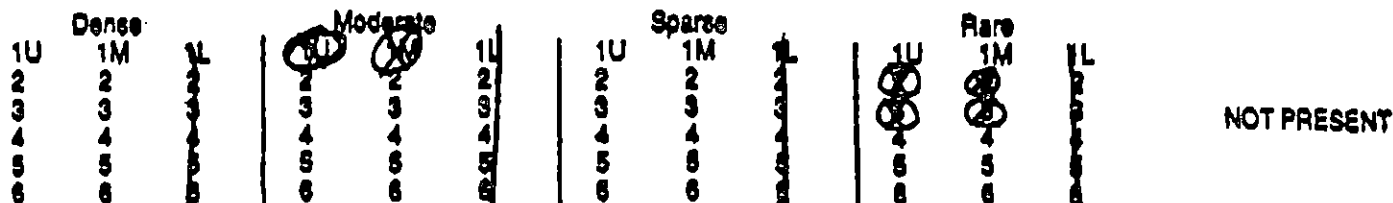
Segment ST/ GR-103 Subdivision A Date (mo / day / yr) 4/4/90

Time (24 hr) 17:17 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)

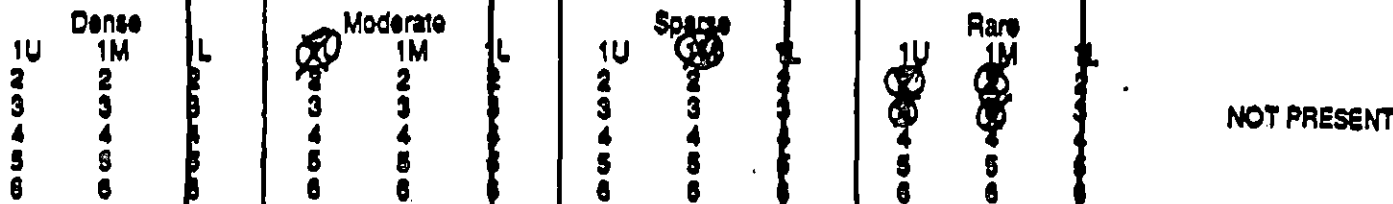
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 Roll No. N/A
 Frames N/A

BARNACLES



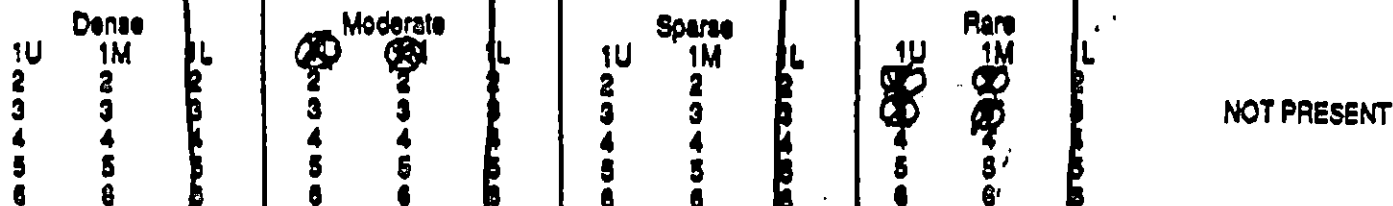
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MYTILUS



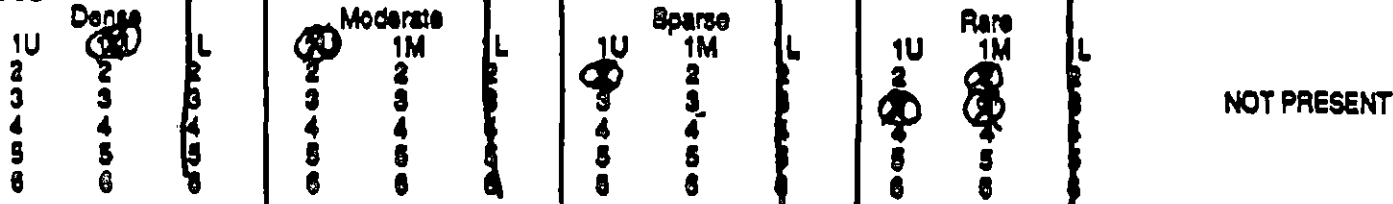
NOT PRESENT

GASTROPODS



NOT PRESENT

FUCUS



NOT PRESENT

Wildlife Observations/ General Comments: Tidal Height observed >+1.9; Anadromous stream at east end of subdivision. Sensitivity 5B 6/7/11/72/118/3M/5S
 2 bald eagles offshore, Herring gulls offshore Priority 2 3 4 4 1 3 1

Ecological Considerations: Segment composed roughly 57% hard land + 43% Boulder/Cobble/Gravel pocket beach. Fucus + barnacles moderate to dense in mid intertidal on boulders over bedrock + bedrock. Mid intertidal on hardlands was dominated by red algae (Rhodomyces + Iridaea) + Fucus. S. carolinensis were moderately to sparse on hardlands + there were few K. tunnicliffi. This may have been due to high concentrations of P. ochraceus + P. purpur.

Segment: GR-103 Subdivision: A Date: 4/4/90
Bio: S. Schroeter CG: B. Berglund Tidal Heights: >+1.8

This segment/subdivision consisted of about 37% 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 Dendasterias). Star densities around this headland averaged over 2 per m².

There were moderate to dense patches of large S. aspicus in the mid-intertidal on the headlands, but very few Katherina 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 Fucus 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. acutus and G. parsons). In many cases, all 4 kinds of organisms could be found immersed in the running fresh water.

page 8/8

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

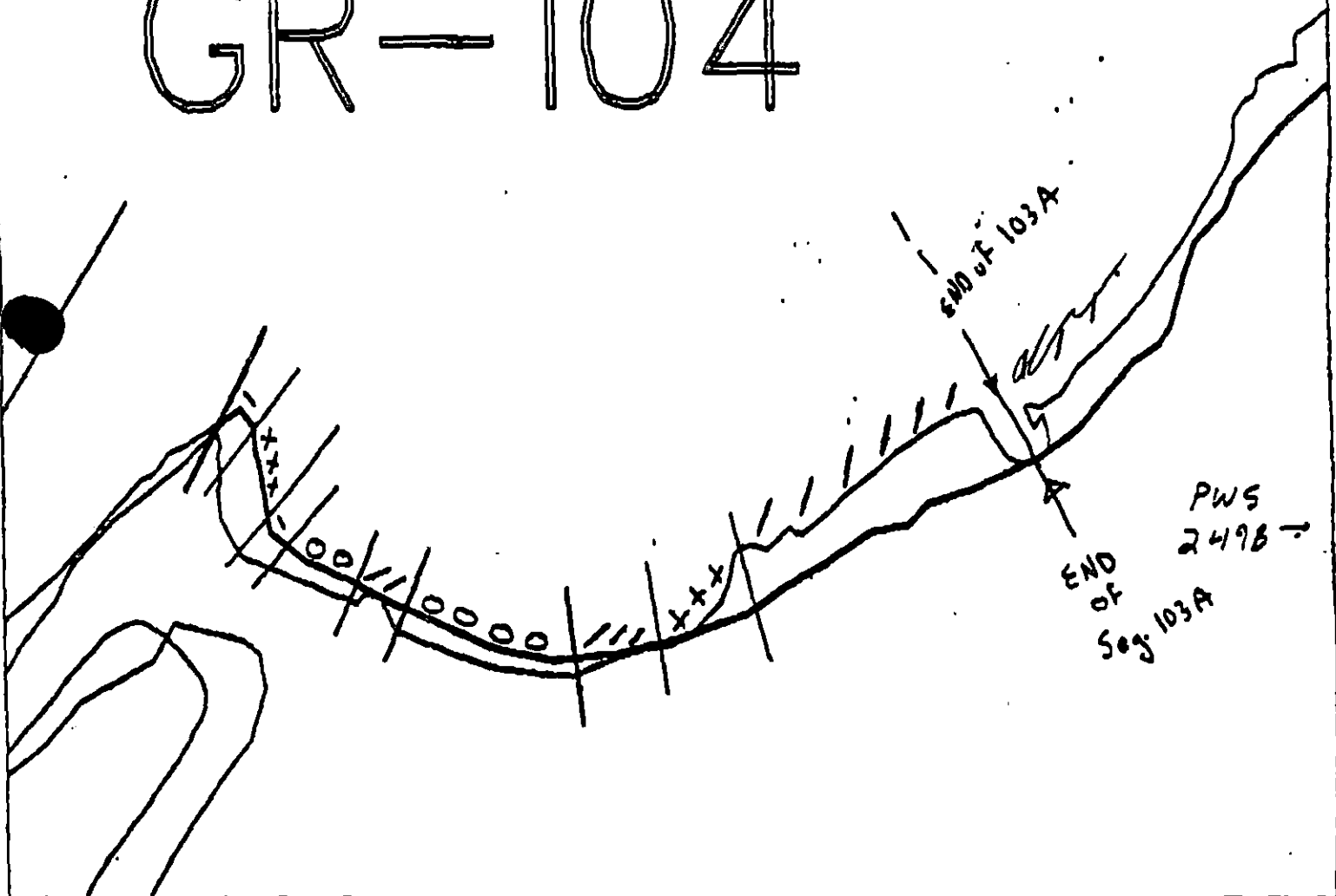
Date: April 7, 1990
Time: 0700-0930
Tidal Range: >+1.3

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. acutum*) 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. ochraceus* 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).

GR-502

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:

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.

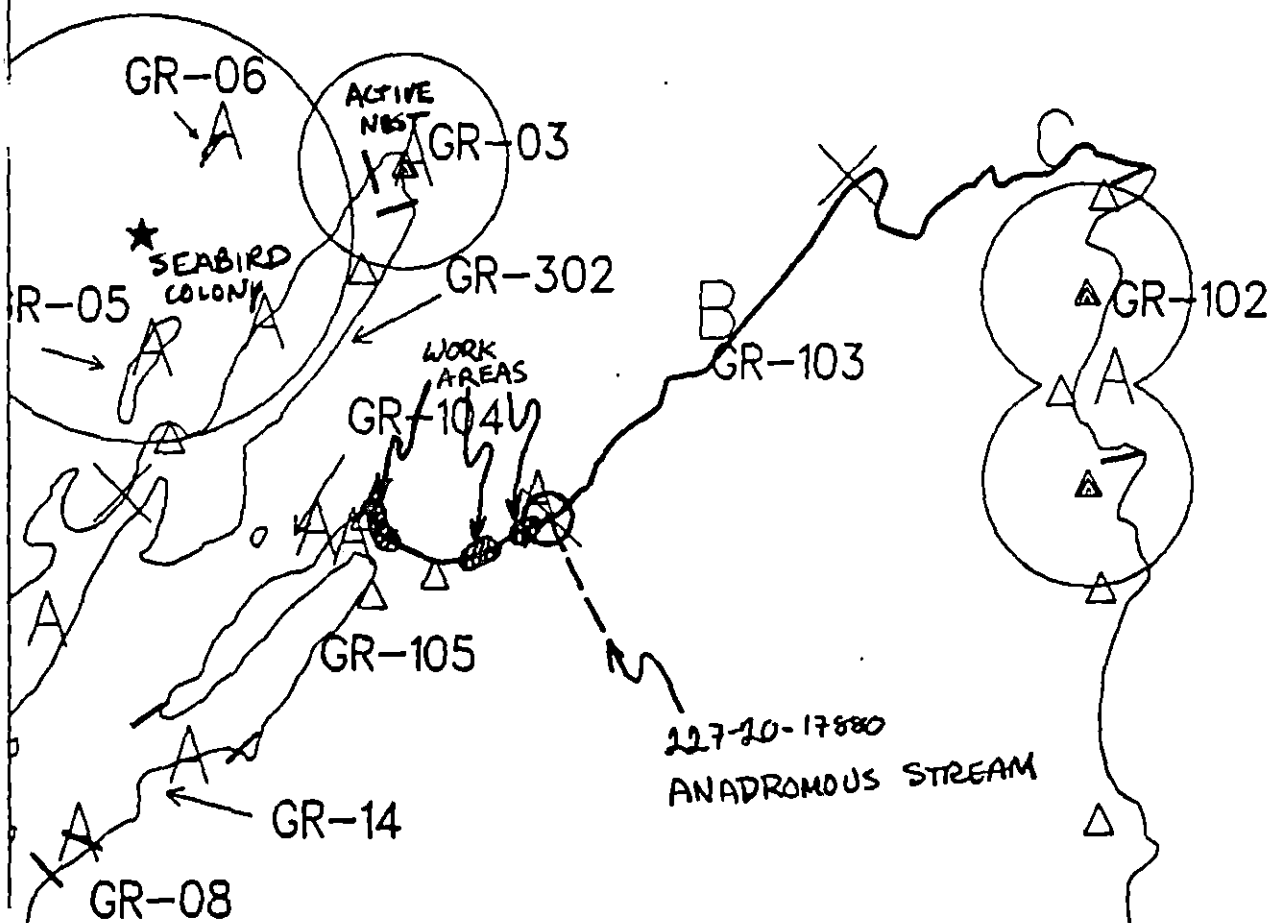
OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow 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. Avoid any unnecessary disturbance or damage to unloosed 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

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 uncoiled biota and substrate.

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 STORM BERM DURING TREATMENT. SNOW COVERED DURING SSAT.

TAG APPROVAL DATE: 4/19/90
ADEC JOHN BAKER
EXXON ANDY TATE
NOAA BILL WESCOTT
USCG KENNETH KEANE

FOSC: WJL

DATE: 5-12-90

Consider telling before bioremediation.

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.
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
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 / GR 103 B SUBDIVISION: B DATE 05 APR 90SCG
NAME James C. Gambrell SIGNATURE James C. Gambrell☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTEDCOMMENTS
2' x 8' Tar Patches about 30' E of stream in the upper intertidal zone. And oil band of 15m to 25m from mid upper intertidal zone to mid middle intertidal zone. Oil in stream 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 mouse paths along salmon stream on east end of segment - break up and scatter to LZT

2. Most of segment has wide band of patchy to broken coat is: B → coat
PG → OP → OR

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, tarry weathered oil). P/G may respond to HTHP wash and B/OR to steam wands & be 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. HLTZ Berm: CS → coatGS → OR → Dents 10cm } Much of berm was frozen and/or under
see attached

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 intertidal 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. GR103A.

GR103B

snowpack.

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.

Done 8/10

SHORELINE OILING SUMMARY

REVISION NO. 08/2000

OG B. Devaland USCG J. Gamble SEGMENT ST/GR-103
 BIO S. Schroeder LAND REP C. Hughes (NES) SUBDIVISION B (213)
 EXXON C. Levine ADEC B. Fritzmann TIME 14:00 to 16:10
 TEAM NO.: 2 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 93 % 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	R	1	2	3	4	SU	U	M	V
ASPHALT PAVEMENT												
POOLED												
COVER												
COAT	X	X	X	L					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)	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OF	OR	OL	OF	NO		LO	UC	1	2	3	4	SU	U	M	V		
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					P
4	40					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 cm below NW constituent Subsurface oil.

An oiled is visible the entire length of this segment, located near a couple meters below the HWL. 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.

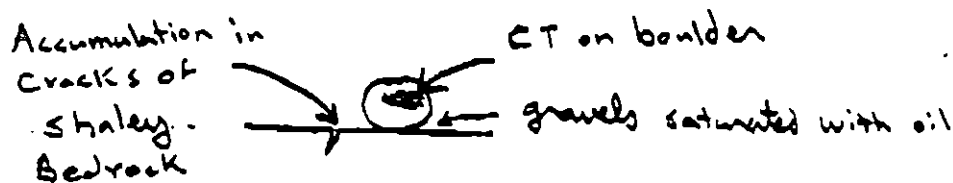
(next page)

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):



00 B.1 Island
 SEGMENT ST/ GA-103
 SUBDIVISION B
 DATE 4 / 5 90

CHECKLIST

N Arrow
 Approx. Scale
 Seg/Sub Boundary
 Oil Dist.
 Width
 Length
 % Cover
 Substrate Character
 Est. HML/LWL
 SSI
 Profile Location(s)
 Profile(s)
 PI Location(s)
 Photo Location(s)

* Exposed Bedrock
 o-o-o SSL
 width
 CT/P
 W15
 25%
 2 Cover
 with oiled zone shaded

LEGEND

1 Δ
 PI - No Subsurface Oil
 2 Δ
 PI - Subsurface Oil
 CT/C
 Continuous Distribution
 CT/B
 Broken Distribution
 CT/P
 Patchy Distribution
 CT/S
 Splintered Distribution
 Oiled Vegetation
 1 00
 Photo location, direction, and number

CT/P on bedrock & large boulders n
 WL
 TCH MAP
 F3-1
 Large Tides
 Boulder
 Bedrock
 VI MI
 35m

Profile 1

& Accumulations in cracks of
 bedrock (MS/P)
 CT/P - on boulders
 -15m-
 Oil saturated
 sediments
 at base of
 boulder
 Bedrock
 VI MI

Start of Segment 103B

LWL
 HML
 SSL

MANUAL PICKUP OF TAIL PATTERNS & OILED VEGETATION

ANADROMOUS STREAM

Profile 2

CT/B
 CT/S
 Bedrock
 Road
 w/ Scattered Boulders
 VI MI
 0 20 40

Enlarged view

CT on
 boulder
 Bedrock
 Gravel
 Sand
 w/ oil

Along Shore Scale
 Meters
 0 100 200 300

Oil Character Length (m): AP PO CV CT 1740 ST MS PT TB 3 FL 1740 NO

KEYWORD: 000000

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/20/90

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 (3)

Photographs: ST-1-3
 Roll No. ST-1-3
 Frames 3,4

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments:

<u>Sensitivity</u>	<u>ST-3</u>	<u>6Y</u>	<u>71</u>	<u>72</u>	<u>16</u>	<u>2M</u>	<u>55</u>
<u>Priority</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>4</u>	<u>1</u>	<u>3</u>	<u>1</u>

Ecological Considerations:

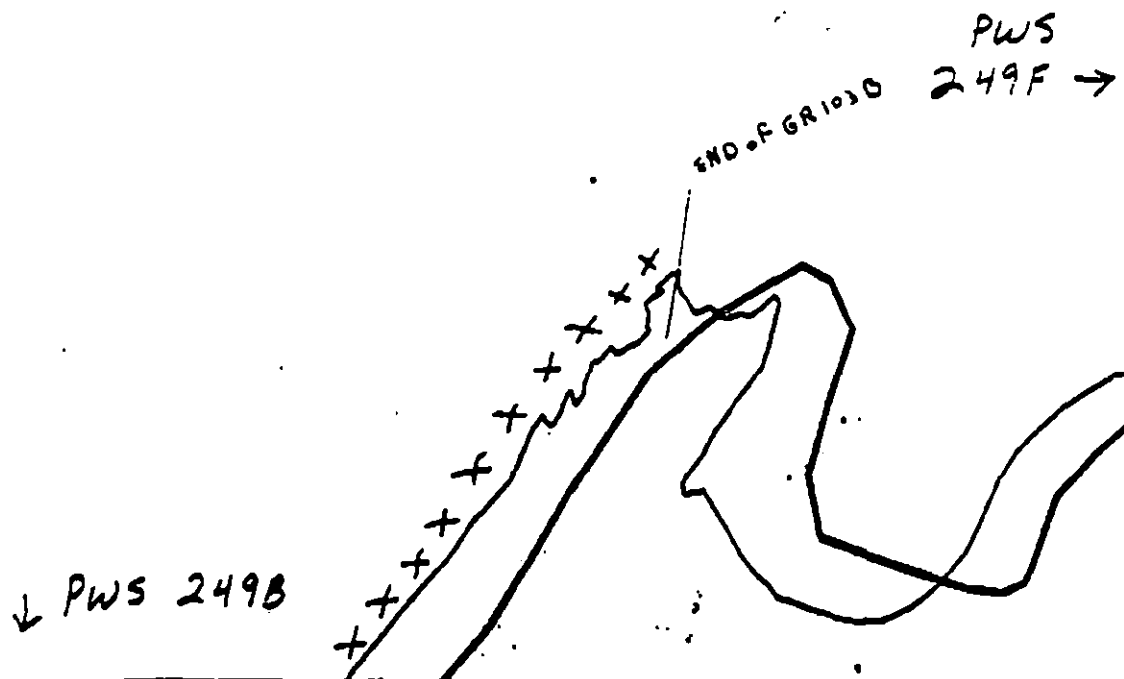
Intertidal on bedrock headlands contains many pools in mid-upper intertidal that have high cover of crustacean coralline algae & eelgrass. Anemones & chitons are common in these pools, as are sea stars, primarily *Pisaster ochraceus*. *Rhodomya larix* contributes about 50% of cover in areas of dense biota on mud intertidal platforms. Large portions of the shore bedrock form streamlets that drain the snow melt. In these areas, mussels, *Balanus glandula*, littorines, & *N. Scutiger* occur in moderate to high densities in the

Case 9/107

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. alikana and L. scutulata and Notacmaea acutum. The red alga, Rhodoglossum laxum 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 Iridea 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, Ankopleura elegantissima and Epiactis prolifera 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. Pycnopodia and Parastasterias 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. Katharina 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

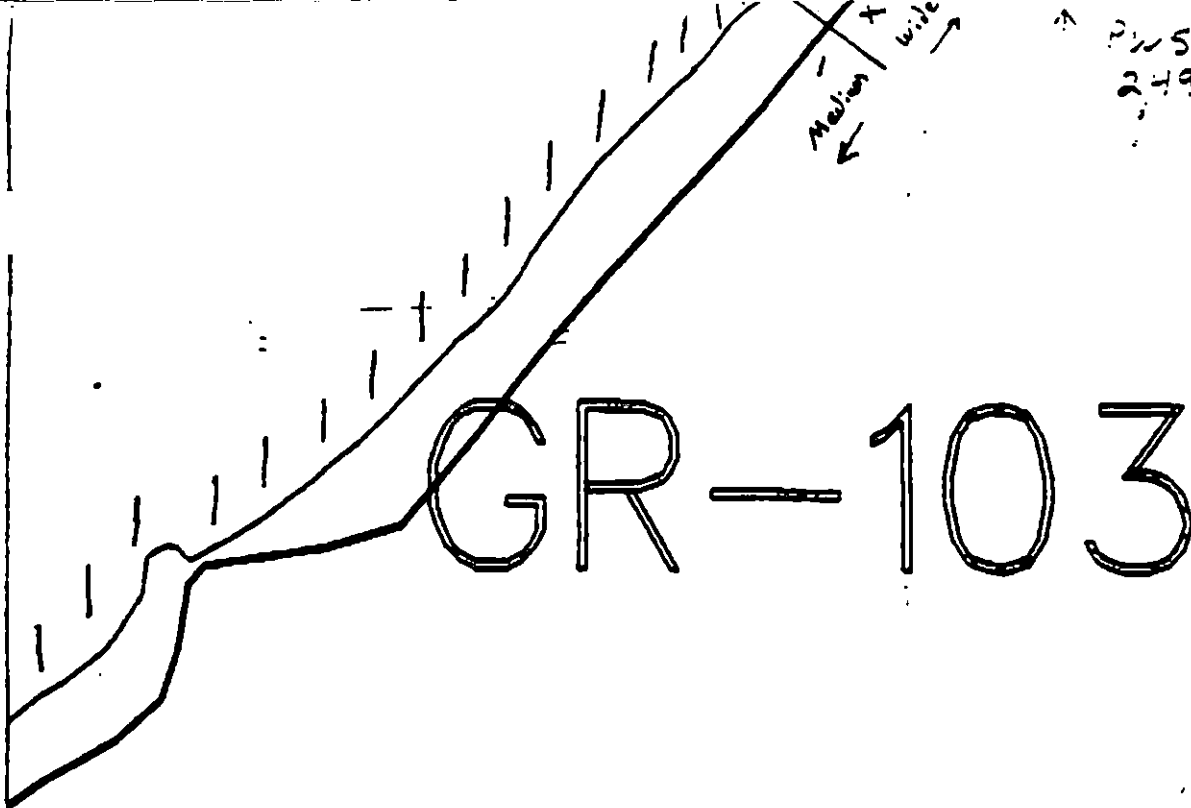


Map Key: PWS-2490

Name: B. Bengtson

Date: 4/5/90

Date Entered:



← 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

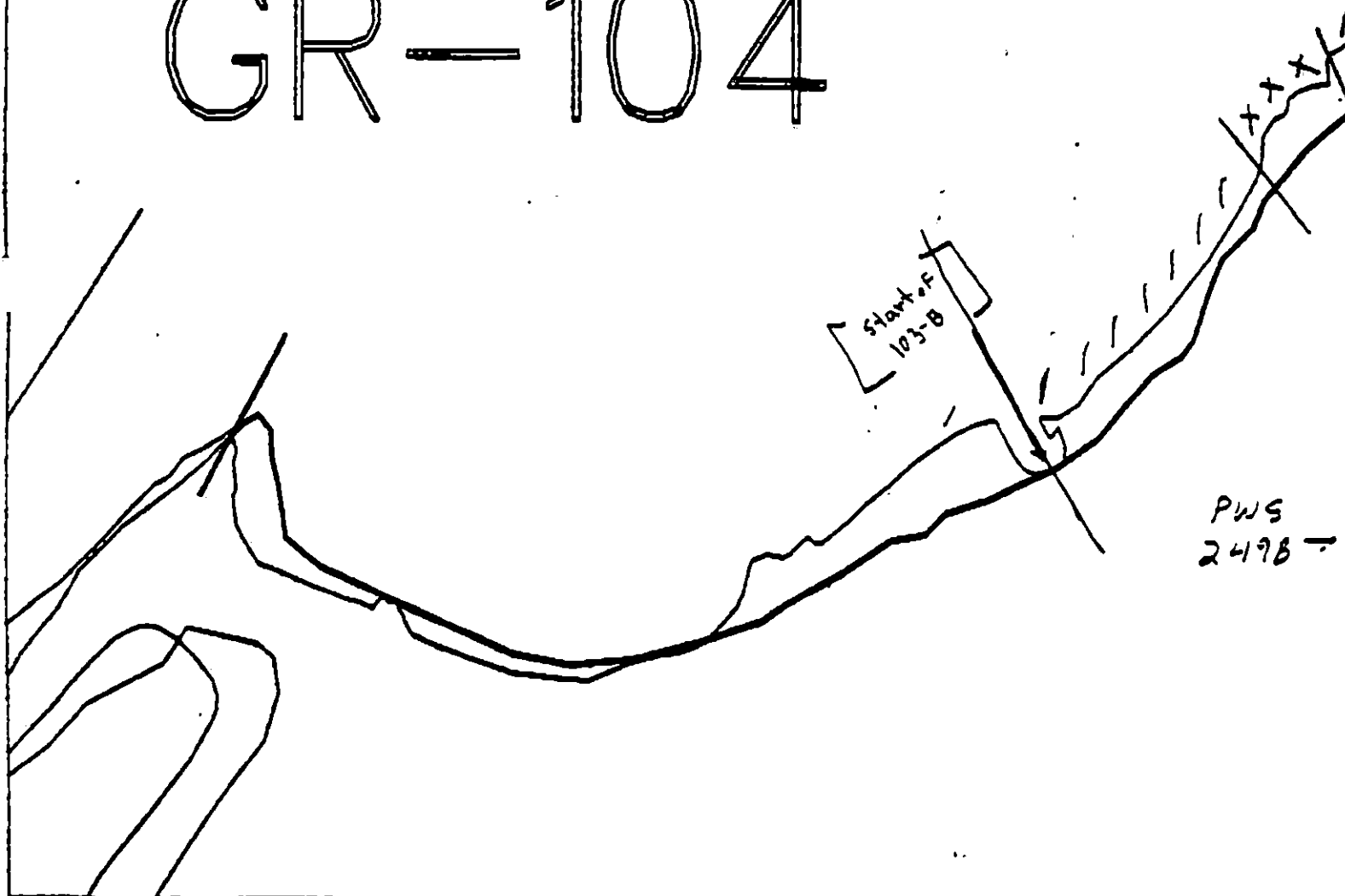
Date: 4/5/90

Date Entered:

Print 5/10

GR-302

GR-104



PWS
2498

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

GR-103

ADEC Segment Length: 4278m



Map Key: PWS-249a

Name: B. Benglund

Date: 4/5/90

Date 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 6/15. 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 unrolled intertidal and subtidal algae and seagrass. Restrict air traffic and beach disturbance to essential minimum after 7/1.

FOSC

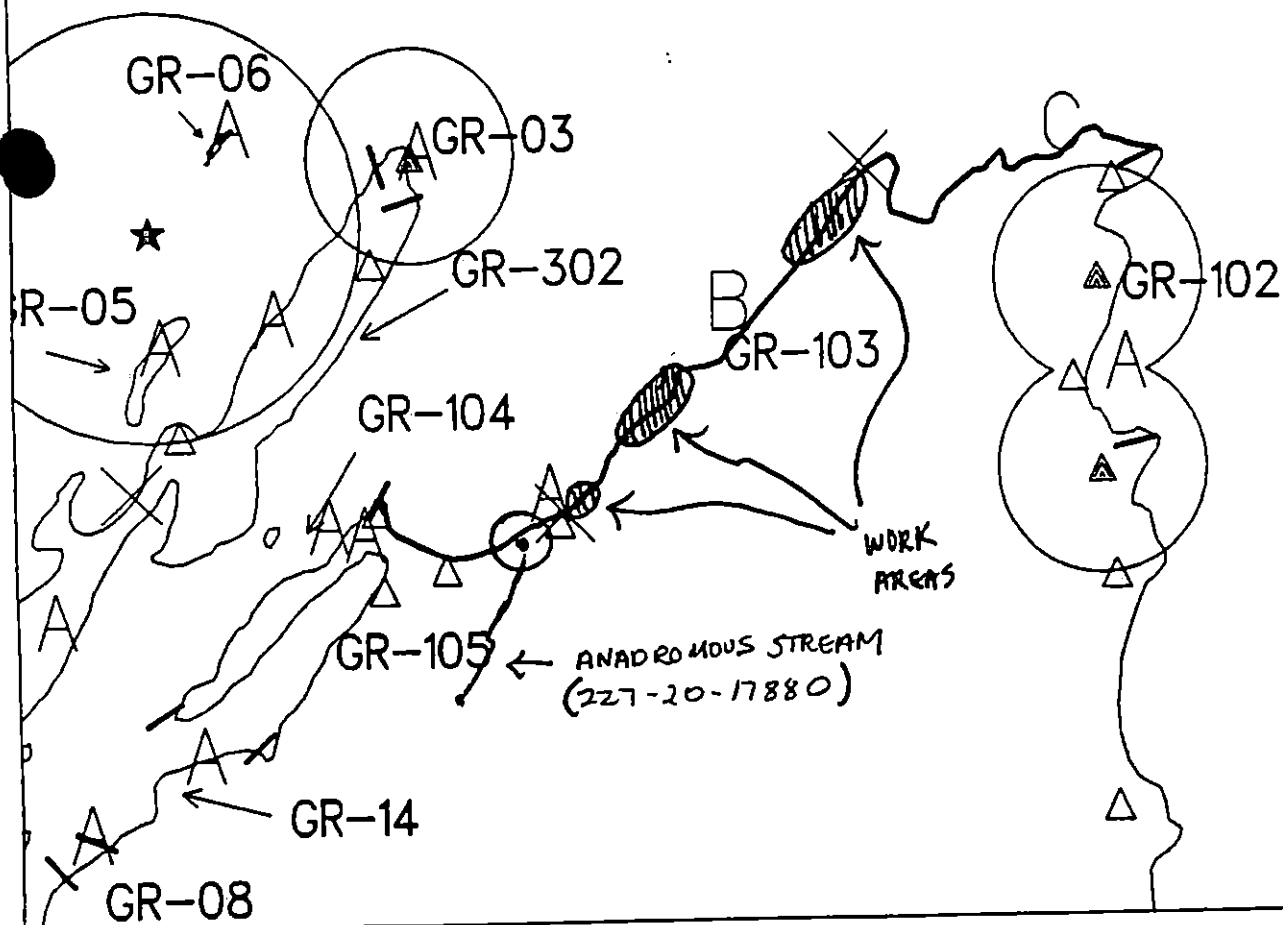
Date

6-10-90

[Handwritten signature]
M.D. P.C.

6/10/90

2/1/1

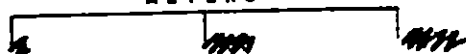


Exxon Company, USA
Map Key: PWS-GR-103
June 04, 1990



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

METERS



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

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

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 Richard J. Doe 7/5/90
INSPECTION CONSTRAINT APPLIES

TAG APPROVAL DATE 7/5/90

ADEC Ray Morris, R. Morris

EXXON Amy TEAL Deal

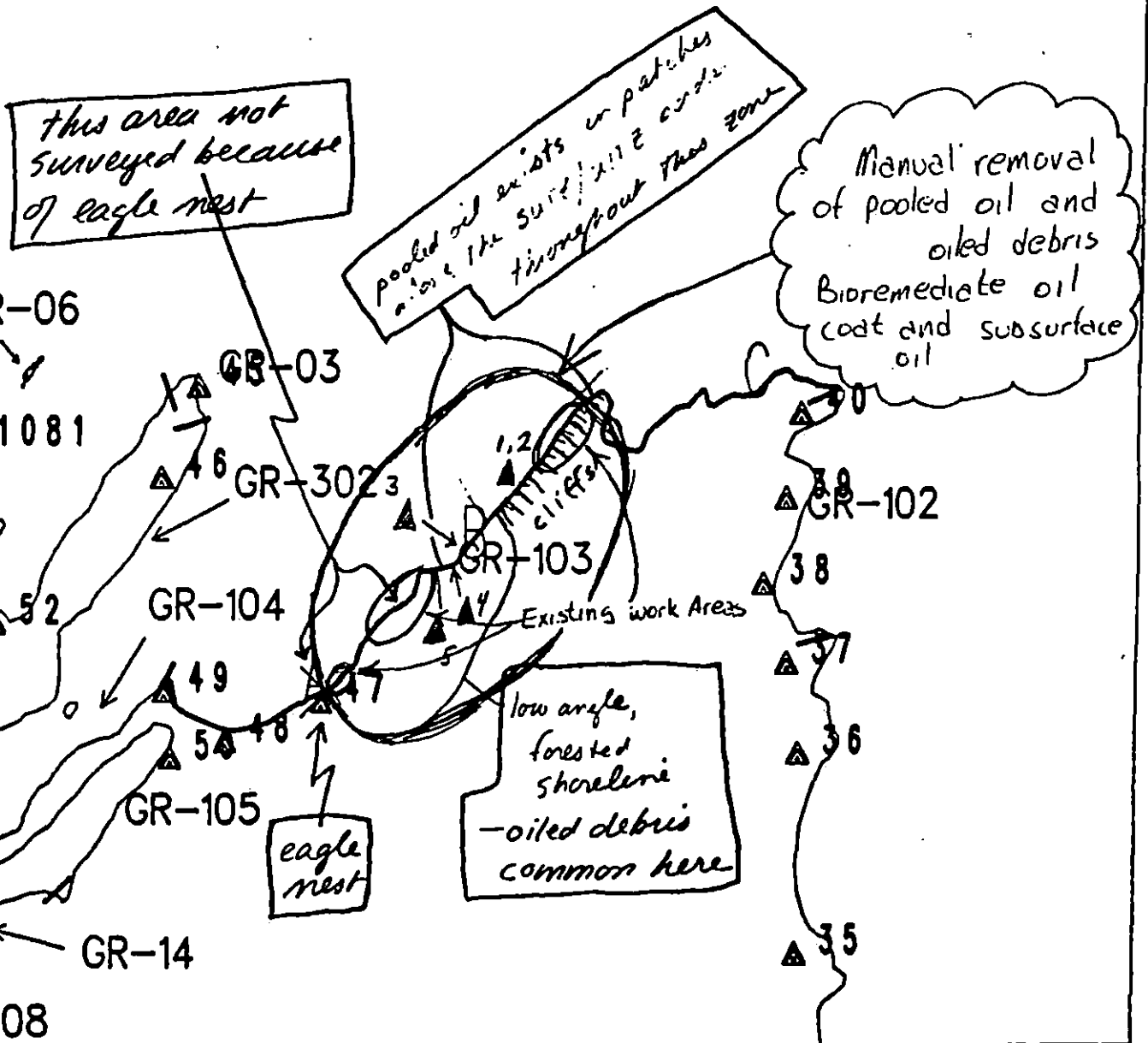
NOAA Joseph Talbot

USCG G.A. Reiter G.A. BEITER

FOSC W. L. DATE 7-10-90

6/4/90

Supratidal Resurvey Mann (pit locations)



ECOLOGY MAP SEGMENT GR-103

SUBDIVISION (of)

METERS

0 750 1470

- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 2421 feet



Exxon Company, USA
Map Key: PLS-GR-103
May 11, 1990

CONSTRAINTS FOR STREAM NO. 227-20-17880

SEGMENT GR-103 SUBDIVISION A/B*

WORK WINDOWManual 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 Inpol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. 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

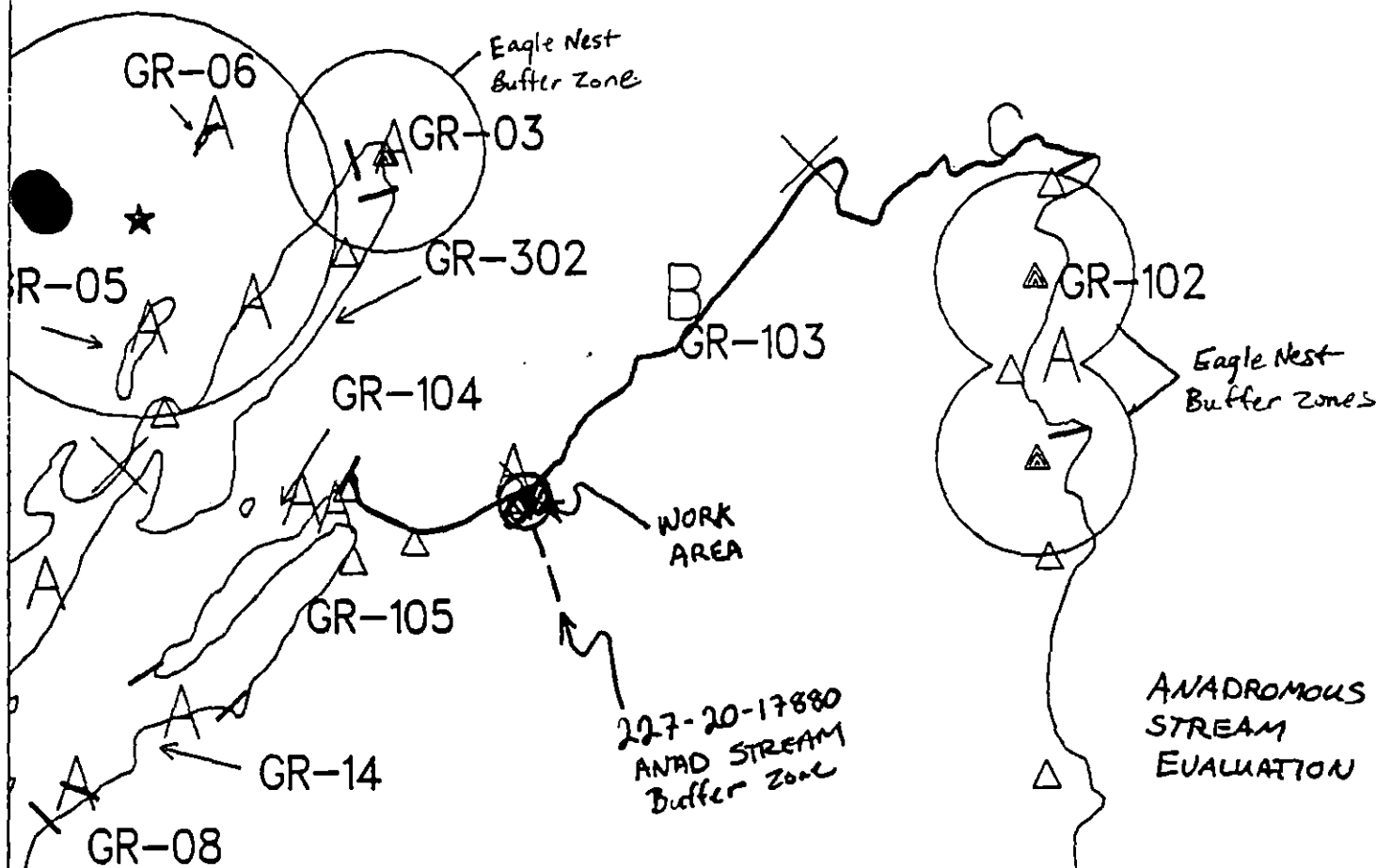
Date

5/16/90

Prepared by

Date

6/14/90

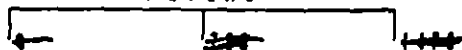


Exxon Company, USA
Map Key: PWS-GR-103
June 04, 1990

ECOLOGY MAP SEGMENT GR-103

SUBDIVISION A/B ($\frac{1}{2}$ of 3)

METERS



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

1 inch = 2431 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.

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 TAY
NOAA Bruce Wescott
USCG KENNETH KLEING

FOSC: W L DATE: 5-12-90

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

Sewmill 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 (5/7 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 (5/1 to 9/15)

6V

Anchorage (5/1 to 9/15)

6W

Forest Service cabins (5/1 to 9/15)

6X

Lodge (5/1 to 9/15)

6Y

Special use destination

7Z

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

7JH

Finfish harvesting

7I

Deer harvesting (5/15 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 909

37-2

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 storm berm~~ patchy. Also some
 staining. Also oiled debris at
 storm berm at the beginning of this
 sub-segment.

ADEC

NAME

Rowann F. Hudnall

SIGNATURE

Rowann F. Hudnall☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Coating on rocks^(shoulder, 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

Dee Fisher☐ 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. 02/20/91

OG San Juan Islands USCG B. G. Jensen SEGMENT ST/ QR-103
 BIO John Dizon LAND REP John K. K. K. SUBDIVISION C 191
 EXXON Jim Ellison ADEC Rowan H. H. TIME 10
 TEAM NO.: 2 TIDE LEVEL: +3.5 to +5.5 DATE 1 / 190
 EST. SUBDIVISION LENGTH: 1370 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: F to W
 SURFACE SEDIMENTS: R 39 % B 26 % C 35 % P 10 % G - % S - % M - % V - %
 SLOPE: Long 75 % Hang 35 % 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 visited

April 4 1990 1851 to 2000 R +3.5' to +6.5'
 April 5 1990 1345 to 1400 R +6.5' to +4'

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	C	R	P	B	OP	OR	OL	OF	SU	U	M	U
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: H F S NTG sq. m by - cr

PATTIES / TARBALLS NTG BAGS

NEAR SHORE SHEENT NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE -

#BAGS -

Photographs:

Roll No. ST-2-7 ST-2-2

Frames F13-34 F1-6

SUBSURFACE OIL 700 yds on Gerdock ramp.

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	U		
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

Offshore Trench Samples

SEGMENT ST/ GA-103

SUBDIVISION C

DATE Jul 14/5/00

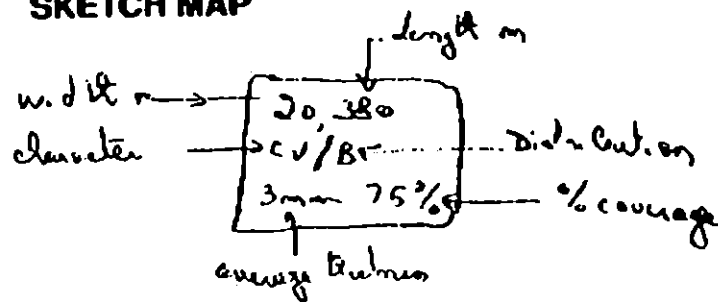
CHECKLIST

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

LEGEND

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

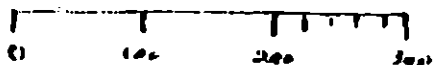
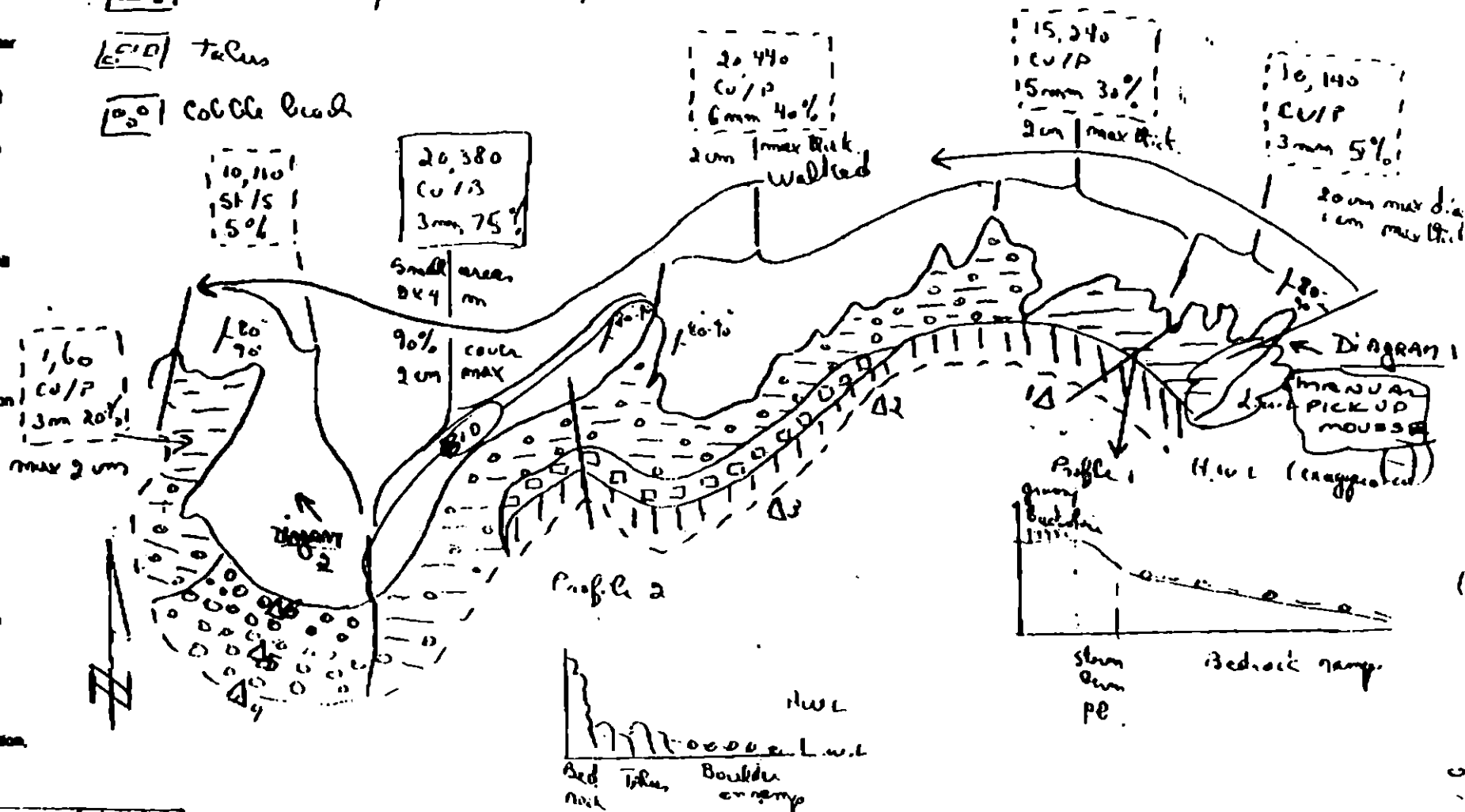
SKETCH MAP



- $\square$ Bedrock cliffs
- $\square$ Bedrock ramp, few sediments
- $\square$ Bedrock ramp, boulders/cobble/pebbles

$\square$ Talus

$\square$ Cobble beach



Oil Character Length (m): AP 260 PO 110 CV 110 CT 110 MS 110 PT 110 TB 110 FL 110 NO 110

Jean-Marie Sempels

Segment GA-103

Subdivision C

April 4 and 5, 1990

Diagram 1

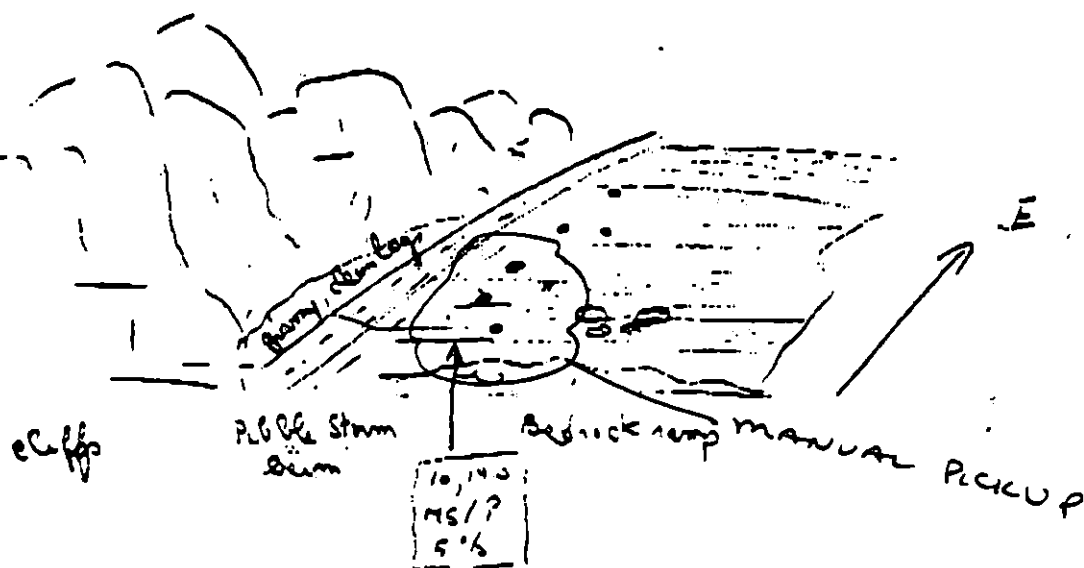
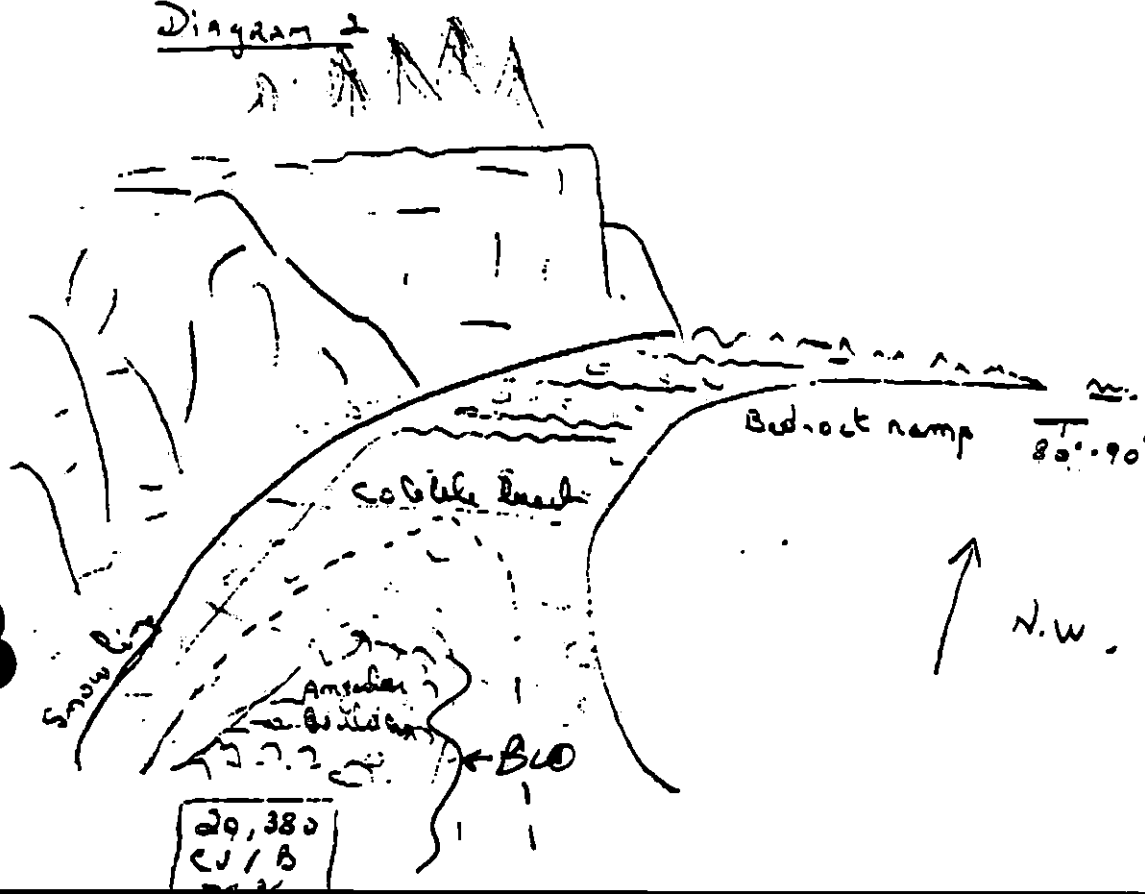


Diagram 2



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

REVISED 1972

Segment ST / GR-103 Subdivision "C" Date (mo / day / yr) 04/04/90
1982 - 1995
 Time (24 hr) 1800 - 1900 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	1U 1M	1U 1M	1U 1M
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	1U 1M	1U 1M	1U 1M
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	1U 1M	1U 1M	1U 1M
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	1U 1M	1U 1M	1U 1M
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 oystercatchers in area. Rainbow oil sheen in most middle to upper intertidal pools. High intertidal green algal film not growing on oil coat. 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/pebble 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 rocks, kelp at W end of subdivision. Phylloporid & erect coralline in pools. Much Laminaria drift on gently sloping beaches.

496

GR-103

meat Length: 4278m



Map Key: PWS-2490

Name: *San Juan Sempel*

Date: *April 5 / 1990*

Date Entered:

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

GR-103

ADEC Segment Length: 4278m



GR-103 4278m

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

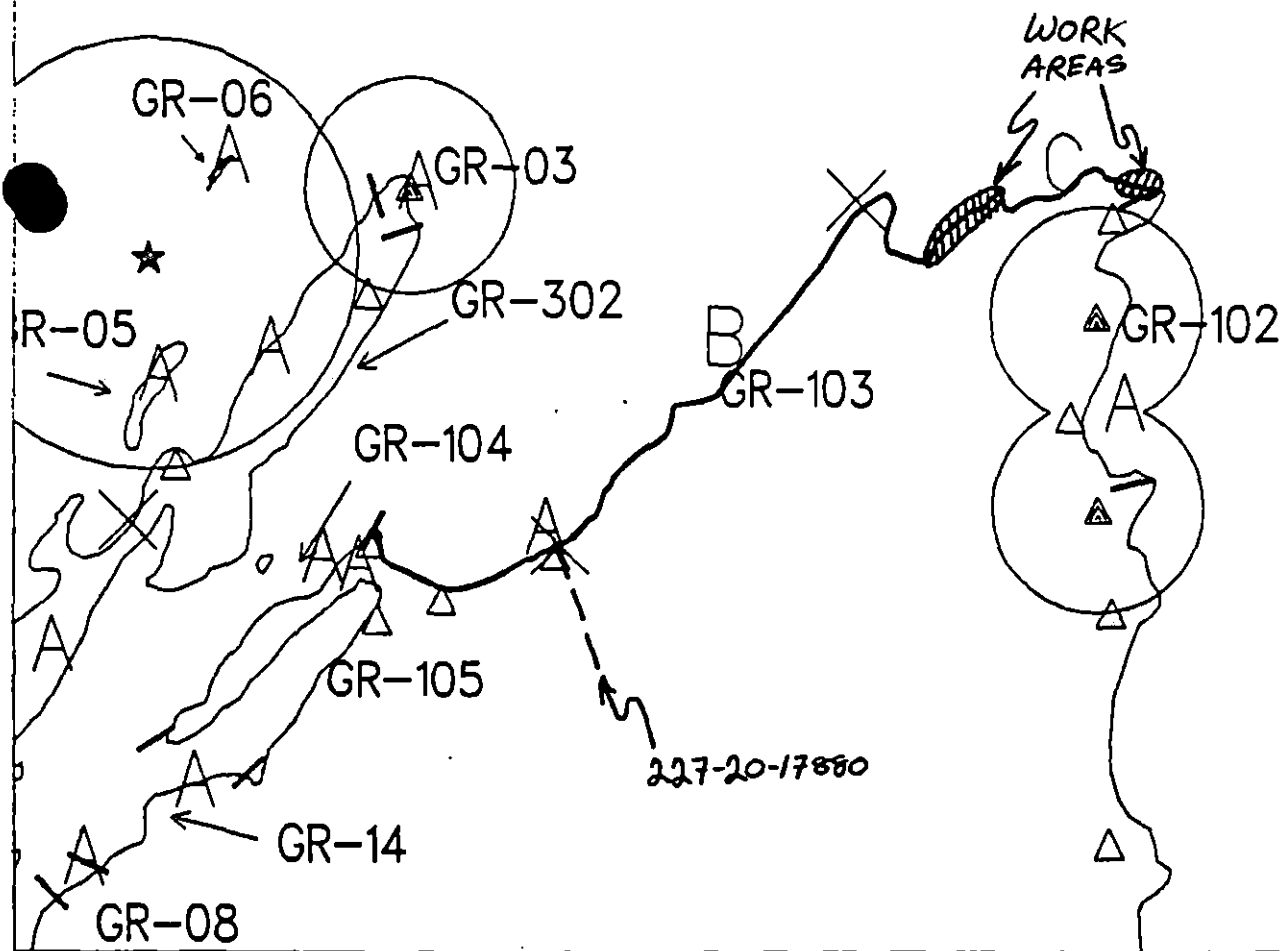
Date

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
0 738 1476

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

1 inch = 2421 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 uncoiled biota and substrate.

SHPO SIGNATURE: Charles E. BrownDATE: 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: 4/21/90ADEC ART WEINER Art WeinerEXXON ANDY TEAL Andy TealNOAA Burt Wescott Burt WescottSCG KENNETH KEANE Kenneth KeaneFOSC: DATE: 4-27-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG: Team 7 Area Samples USCG 206 p.m. SEGMENT ST/ GR-104
 BIO: John Daxon LAND REP Lee Kula SUBDIVISION A
 EXXON: Jim Ellison ADEC Rebecca Hudnall TIME 16:30 to 18:30
 TEAM NO.: 2 TIDE LEVEL: +1 to +3' DATE April 14 /90
 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 9 % G 0 % S 5 % M 0 % V 0 %
 SLOPE: Lang 80 % Hang 90 % 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			
	IC	IB	IP	IS	SB	DB	FB	GB	SB	DB	FB	GB	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER		B	X			B	X						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	SB	DB	FB	GB	SB	DB	FB	GB			
1	40					X	-											X		Pb 150/cb
2	30					X	-											X		Pb 150/cb
3	30					X	-											X		Pb 150/cb
4	35					X	-											X		Pb 150/cb
5	40					X	-											X		Pb 150/cb
6	30					X	-											X		Pb 150/cb

COMMENTS

Note: Pit 7 in Boulder Beach area shows the following:

7 40m No

(oil only restricted to top 2 cm).

No Bb/pb/ld up to 10m
Peat underneath to 40 cm.

FIELD SHORELINE COMMENT SHEET

10 12

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 spherules
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

Ground splashes of oil throughout area,
@ Bands of asphalt ground near high tide
area.

Jean-Marie Sempé
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 bands 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: 02/22/90

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 (3)

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	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:

Oyster catchers working to 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 a diverse algal community, (Fucus, Jodaea, Halosaccion, Rhodocladia, Gelidium, Monostroma, Scytosiphon, Endocladia & Ulva 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. Phyllorhynchus & Tellinids egg cases in L.I. Small mussels & abundant Littorina in mid & high shore. Sensitive to 64, 55, 72, 11, 12

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 freshwater runoff and 100 m 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 Liriodactylus and some Littorina. In the M.I. algae appears more diverse with Fucus, Fucus, Hattonia, Odonthalia, Ulva, coralline, Rhodomeles 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. Porphyra on high horizontal surfaces.

In the areas of small cobbles & rubble the communities are most similar. The lower intertidal is ~20% sand and covered with dead clam shells. Phyllodoce is common and there are many Tallineae egg cases, although no more snails were seen. The middle intertidal has a sparse cover of barnacles (B. glandula & Chthamalus) Fucus & Mytilus (within the pebble/cobble matrix). Gastropods, especially Littorina are moderately abundant. On the high shore barnacles & mussels are the main sessile organisms; Littorina & Littorina the major mobile species.

SEGMENT ST/QR-104

SUBDIVISION N.B.N.C.

DATE Aug 11 / 1990

CHECKLIST

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

LEGEND

1. A character $\chi \in \mathcal{B}$ is a distribution

Pit - No Subsurface Oil

2 ▲

Pl1 - 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: 03/24/16

SKETCH MAP

Legend!

 cliffs with lots of angular boulders

Boulder Beach

 Angular pebble / Sand / Cobble Gravel

 do u bedrock nump

WALKED

Diagram:

Blomquist, MF
St. Louis

31025m 801A58

Stacy C. C.

H.W.V

No 2, 0

H w .L

Approximate LWL

Pl. 4, 5, 6

L.W.L

244

Pit 4

P. 4

100



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

GR-104

ADEC Segment Length: 1124m



Map Key: PWS-250

Name: San Jose Bay

Date: Jan 2 / 00

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 unloosed substrate and biota especially intertidal and subtidal algae and seagrass.

FOSC

[Signature]

Date

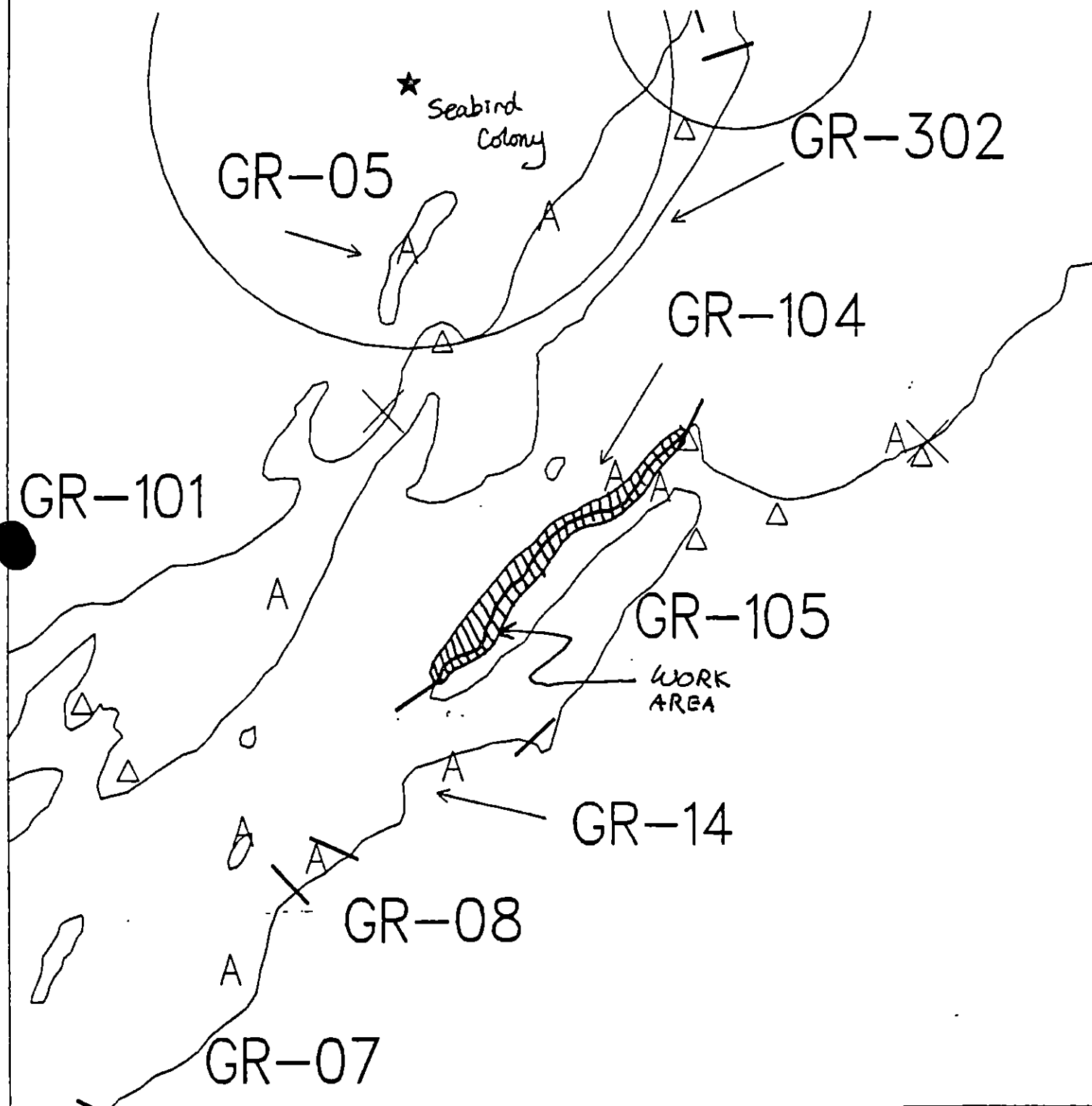
6/15/90

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



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

~~1:10000~~

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
2M BALD EAGLE NEST
Herring Spawning

5S Shorebird/Waterfowl
Concentration

7II Subsistence: Deer Harvesting

7Z Subsistence: Salmon Harvesting

ACTIVE EAGLE NEST LOCATED ON 6/15/90 BY
MIKE LUKE. WORK PERMITTED INSIDE 400 M AREA
WITH USFWS MONITOR PRESENT & ACCESS ALLOWED.
Closed to bioremediation prior to 6/15. AREAS OUTSIDE
400 M BUFFER
AREA NOT
RESTRICTED

No constraint to bioremediation.

Closed to bioremediation after 8/15.

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

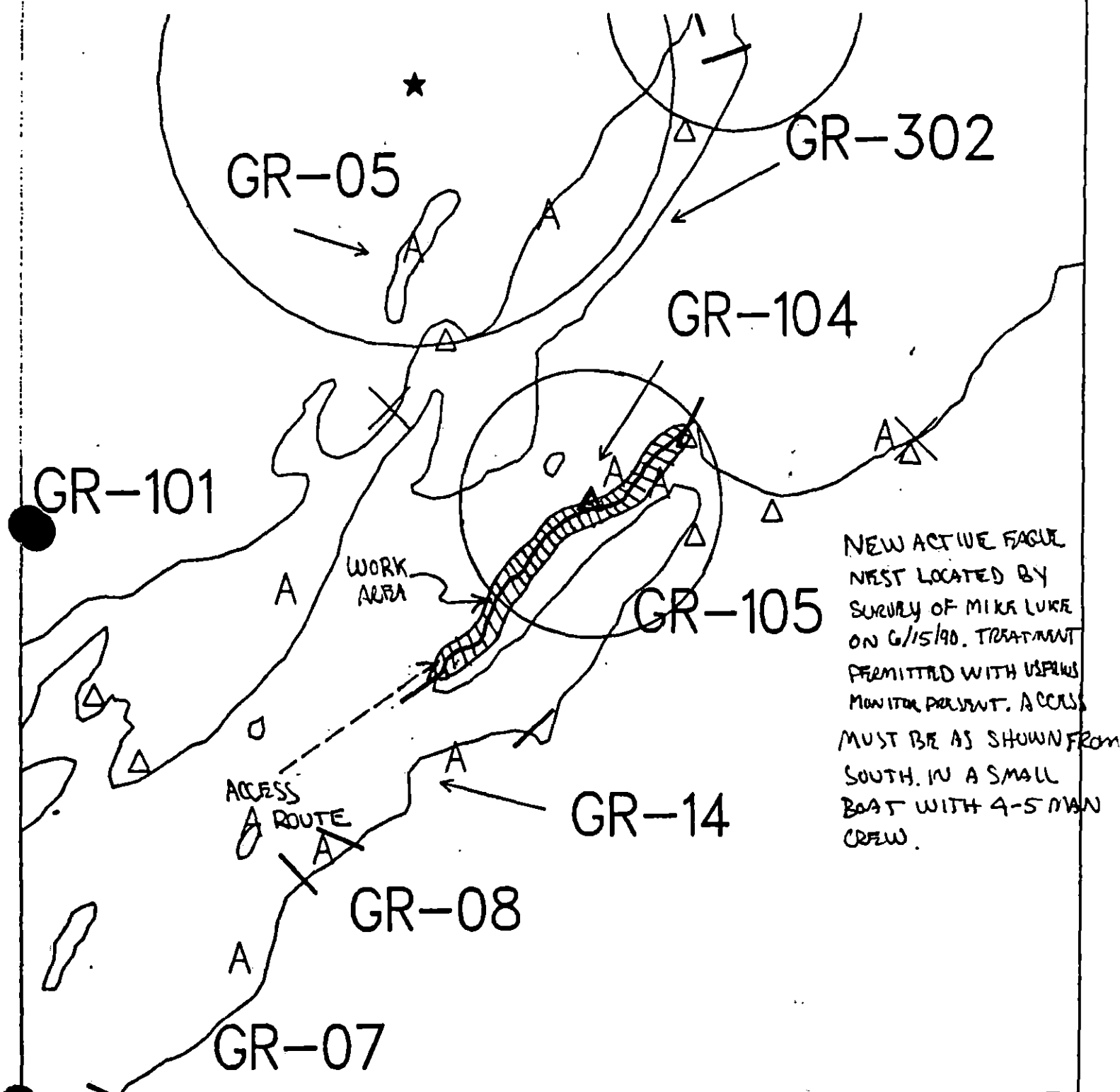
6/15/90

Prepared by

[Signature]

Date

6/14/90



Exxon Company, USA
Map Key: PMS-GR-104
June 09, 1990

ECOLOGY MAP
SEGMENT GR-104
SUBDIVISION A (L-01-L-1)
METERS
0 420 850

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

1 inch = 1405 feet

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.

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 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:

TAG COMMENTS:

TAG APPROVAL DATE: 4/20/90.

ADEC ART WEINER
EXXON AMY TATE
NOAA Bruce Wescott
USCG KENNETH KOTAN

FOSC: *[Signature]*

DATE: 4-26-90

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.
- 6T 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
 7J 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 105 SUBDIVISION: _____ DATE 4/4/90

CG
NAME Robert Jensen SIGNATURE Robert G 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 Teuler

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

No oil found.

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG John Teru Smith USCG Bob Jensen SEGMENT ST/ QA-105
 BIO John Jensen LAND REP Lead Keeler SUBDIVISION C A
 EXXON Jim Ellison ADEC Rosanna Hudmell TIME 15:45 to 16:30
 TEAM NO. 2 TIDE LEVEL: +1.5 to +7 DATE April 4 1990
 ST. 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 9 % 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			
	C	B	P	S	SU	UI	M	U	BR	RW	SL	TL	SU	UI	M	U
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL													X	X	X	X

PAVEMENT: H F S (No) sq. m by 0 cm

PATTIES / TARBALLS (No) BAGS

NEAR SHORE SHEEN? (No) BR RW SL TL

OILED DEBRIS (No)	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NO

TYPE 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	SU	UI	M	U	BR	RW	SL	TL	SU	UI	M	U		
1	30					X	-											X				No	Pb/sl/cb
2	30					X	-												X			"	"
3	30					X	-													X		"	sd / Pb/cb
4	30					X	-											X				"	Pb / sd/cb
5	30					X	-												X			"	"
6	30					X	-													X		"	sd / Pb/cb

COMMENTS

7W

4/11/90

OG John Serrano
SEGMENT ST/ QA-105

SKETCH MAP

SUBDIVISION None

DATE Apr 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

Legend

100 Angular ph/sd/bd

HWL

LWL

walked

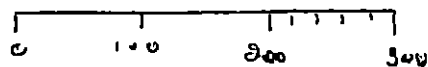
calm...

Stream

Test pits

Test pits

Note: Very springy area,



Oil Character Length (m): AP ☐ PO ☐ CV ☐ CT ☐ ST ☐ MS ☐ PT ☐ TB ☐ FL ☐ NO 2490

REVISION: 03/24/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/80

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 7 (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 (3)

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	2	2	2	2	
3	3	3	3	3	3	X	X	3	3	3	3	
4	4	4	4	4	4	X	X	4	X	X	4	NOT PRESENT
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

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

GASTROPODS

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

FUCUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	X	X	2	X	X	2	
3	3	3	3	3	3	3	3	3	3	3	3	NOT PRESENT
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: Bear scat at Tiro line with shell debris. 7 oyster catchers in intertidal. Sea otter skull & deer mandible in intertidal. Much shell debris in lower areas (muscle & clams). Several hundred cormorant gulls in area.

Ecological Considerations: 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.

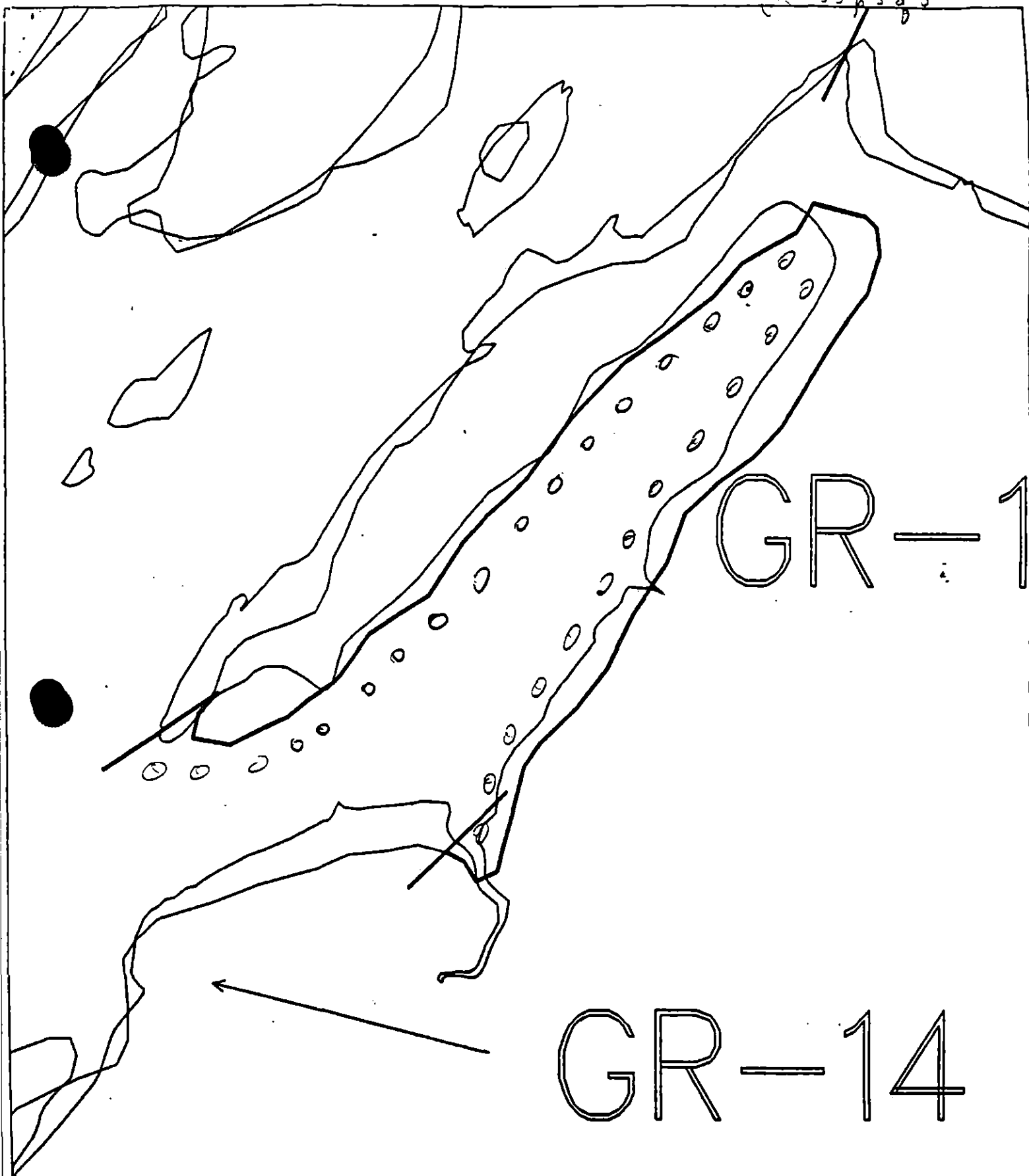
The shoreline of GR-105 consists, along its western part, of a wide gently sloping intertidal zone of angular cobble/pebble/sand interrupted by two streams. Further to the northeast, and particularly near the cabin indicated on the sketch map, the intertidal zone is considerably narrower and steeper and low outcrops of bedrock are present in the backshore area. No surface and subsurface oil were found along this segment.

Wednesday

Segment 106 1446 - 1615 (+2.5' - N1.5')

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 mid-way 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. See other shell & deer mandible in intertidal. 2 oyster catchers present.

Balanus glandula, Chthamalus, Mytilus & Fucus dominant sessile organisms in middle & upper intertidal. Filamentous red algae & Phylloporhiza dominant in lower sandy areas. Based on siphon holes & shell debris, clams are... great common. Littorina sitkana & L. acutulata moderately abundant; eggs where there is less sand & gravel. Nucella linea abundant along E. shore. Egg masses & cases common.



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:

SHORELINE EVALUATION

SEGMENT ST/ GR-300 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-3 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
 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.

SHPO SIGNATURE: *Charles E. Homan* DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 43 m: No Oil 7378 m
 Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pick up of oiled log if >10% coverage and splash impact. Work should be conducted between 6/1 and 8/14 with USFWS permission due to eagle nest constraint.

TAG COMMENTS: MONITORS TO ASSESS LOGS AND DETERMIN NEED TO ADDRESS

TAG APPROVAL DATE: 4/21/90
 ADEC *Arthur W. Homan*
 EXXON *Andy Tate*
 NOAA *Burl Wescott*
 USCG *Kenneth Kenne*

FOSC: *h L* DATE: 4-27-90

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 (8/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (6/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to uncolled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (8/1 to 9/15)
 6V Anchorages (8/1 to 9/15)
 6W Forest Service cabins (8/1 to 9/15)
 6X Lodge (8/1 to 9/15)
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 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 / G-9 300 SUBDIVISION: _____ DATE 4/7-8

SCG

NAME Robert G. Jensen SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

Occass. mal splatters or drips.

ADEC

NAME Roxann T. Hudnall SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

Splashes and drips. Scattered distribution

LAND MANAGER

NAME U.S. Forest Service SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

Found scattered pockets of splatter, generally very small and broken up. - see BioSoft Report
Continue Natural Cleaning

SHORELINE OILING SUMMARY

REVISION NO. 03/22/89

OG John Marie Sampson USCG Bob Jones SEGMENT ST/ GR-300 ✓
 BIO John Dixon LAND REP Don K. C. (FS) SUBDIVISION A (1091) ✓
 EXXON Jim Ellison ADEC Karen Huemmel TIME 15:50 to 20:00
 TEAM NO. 9 TIDE LEVEL: +6.5' to +1.5' DATE April 7 and 8/90 ✓
 EST. SUBDIVISION LENGTH: 9498 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 34 % B 26 % C 20 % P 10 % G 5 % S 10 % M 0 % V 0 %
 SLOPE: Lang 75 % Hang 25 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 105 m NO 9093 m

SURFACE OIL

Note Segment done April 7/90 155° - 200° +6.5' +1.5'
 April 8/90 0655-0902 +0.5' +2.5'

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	B	P	S	SBL BR	DBL RW	GY SL	DBL TL	LABL	SU	UI	M	U
ASPHALT PAVEMENT													
POOLED													
COVER				X		X					X		
COAT		C		X		0/x					X		
STAIN				X		X					X		
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL										X		X	Y

PAVEMENT: H F S (A80) sq. m by 0 cmPATTIES / TARBALLS (A30) 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-2-10 ST-2-11Frames 8-36 1-14

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR							PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SBL OR	DBL RW	GY SL	DBL TL	LABL	SU	UI	M	U				
1	30					"	.									X			No	Pb / cb / Sol		
2	40					"	.									X			"	"		
3	35					"	.										X		"	"		
4	40					"	.											X	"	Pb / Sol / cb		
5	35					"	.										X		"	Pb / cb / Sol		
6	40					"	.											X	"	Pb / Sol		

COMMENTS

Legend

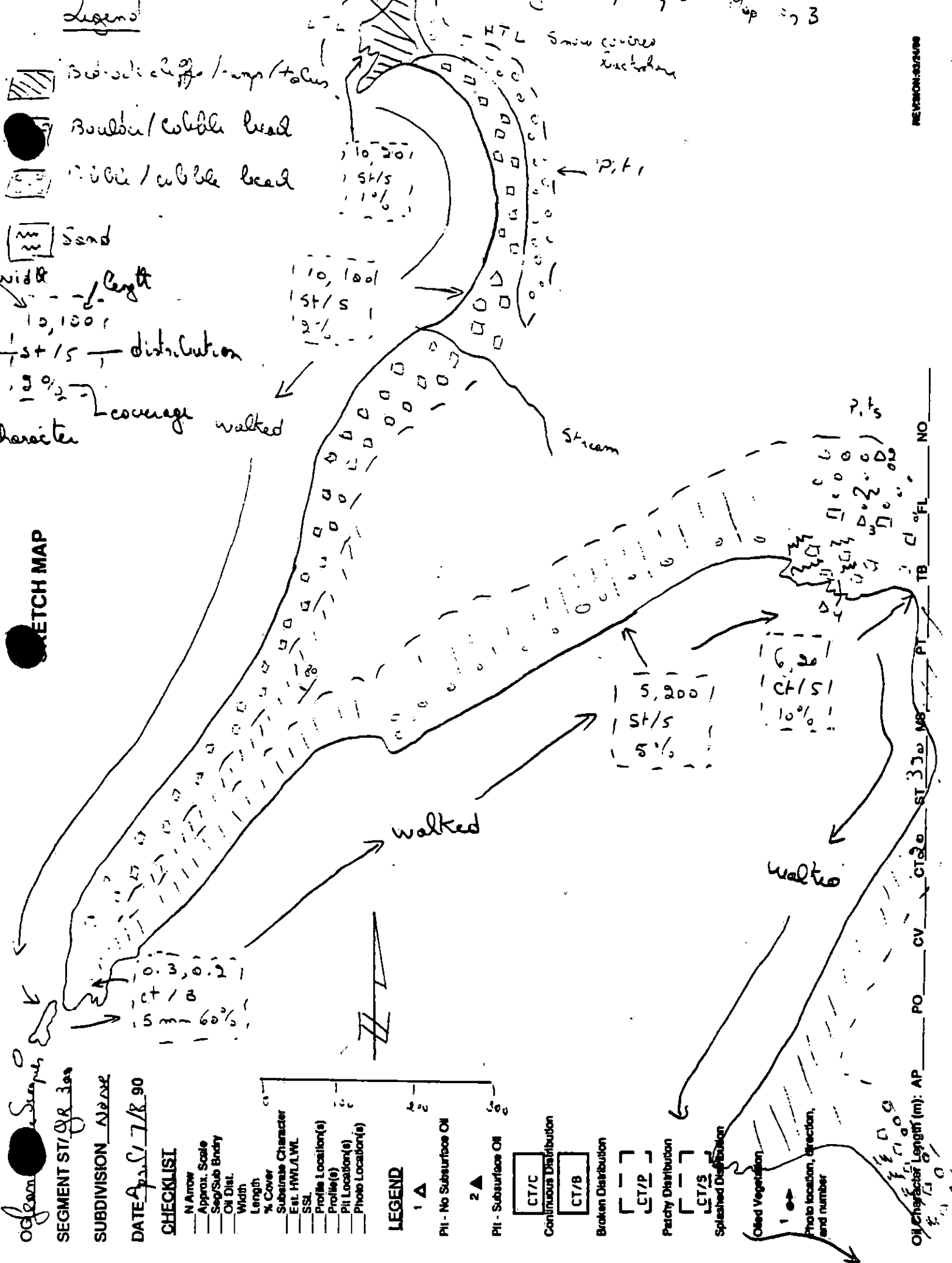
-  Sub-surface / imp / toles
-  Boulder / cobble beach
-  Gravel / rubble beach
-  Sand

width - length
10, 100

st/s - distribution

coverage walked
character

SKETCH MAP



odform
SEGMENT ST/GR 300

SUBDIVISION 10000

DATE Apr 17/8/90

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  Pit - No Subsurface Oil
- 2  Pit - Subsurface Oil

-  CT/C Continuous Distribution
-  CT/B Broken Distribution
-  CT/P Patchy Distribution
-  CT/S Splashed Distribution

Oil Character Length (m):

AP

PO

CV

ST 370 MB

CT 20

PT

TB

FL

NO

Oil Character Length (m):

AP

PO

CV

ST 370 MB

CT 20

PT

TB

FL

NO

OG

SEGMENT ST/GR-300

SUBDIVISION NOME

DATE 11/17/14 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 ▲

Pit - No Subsurface Oil

2 ▲

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

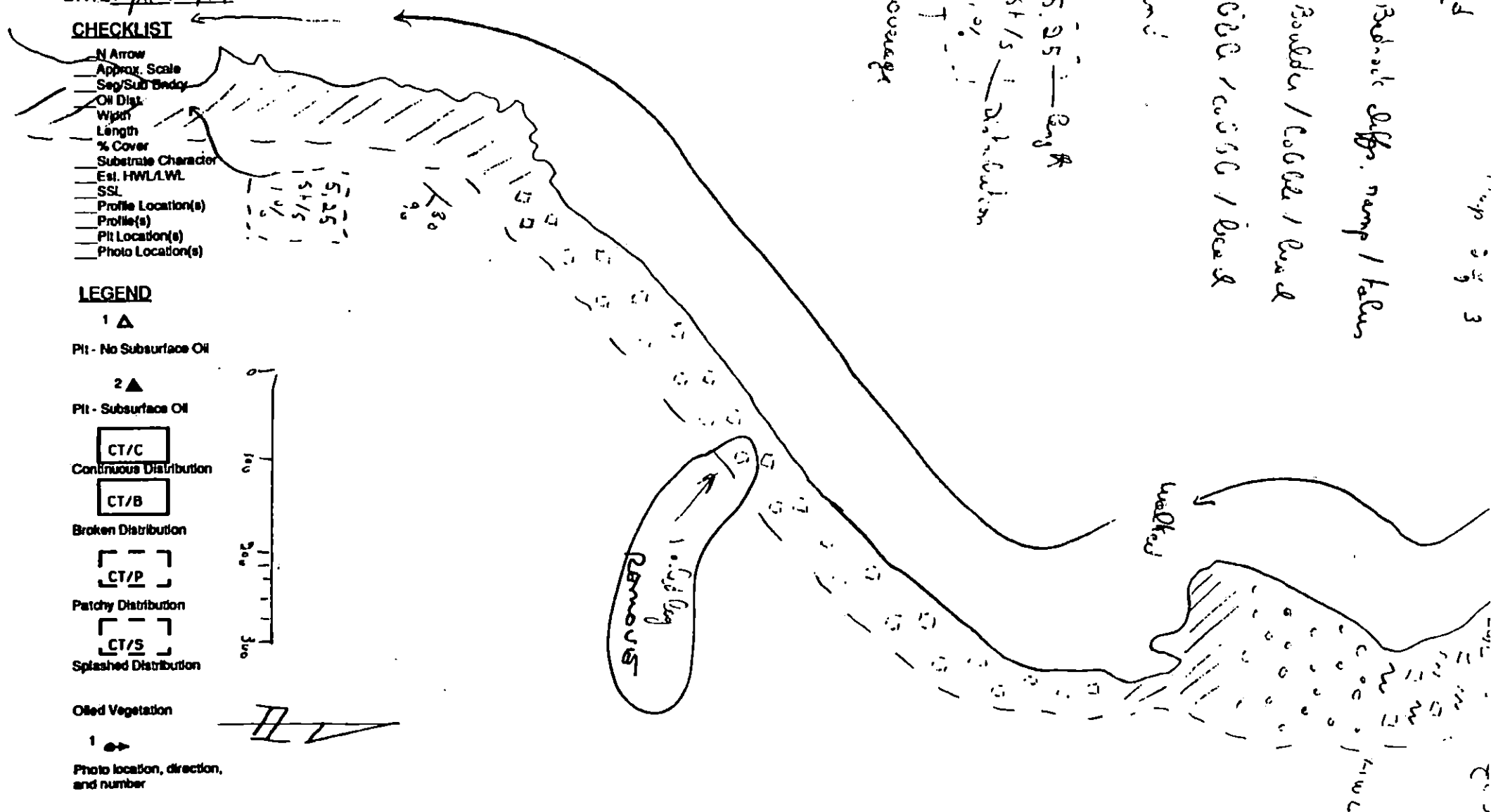
Splashed Distribution

Oiled Vegetation

1 ➔

Photo location, direction, and number

SKETCH MAP



Oil Character Length (m): AP PO CV CT ST 35 MS PT TB FL NO

REVISION: 03/24/90

0570-1-2-6

Green Island, GR-300, April 7, 1990

Segment GR-300 makes up the west coast of Green Island. It is a 9.5 km long section of shoreline exposed to a moderate (west) to long fetch (southwest). The shoreline is relatively indented with long projecting headlands composed of vertically tilted metamorphic rocks trending northeast. The same trend and dip was observed throughout the segment and in many places, it gives rise to bedrock ramps on the northwestern side ("top" side of dipping beds) and accumulation of boulders and cobbles on the southeastern side ("bottom" side of dipping beds) of southwesterly trending headlands. The vertical bedding also gave the bedrock intertidal ramps a very jagged surface.

From north to south, the segment includes a series of bedrock headlands separated by bedrock ramps with some coarse sediments, or boulder beaches. The coves occurring between headlands are generally composed of boulders with accumulations of pebbles in the storm berm area, and in two occasions, substantial deposits of sand in the middle and lower intertidal area at the head of the cove.

Very little oil was found on this segment. Where it occurs, it consists mainly of stains and small patches of tarry coatings of splatters in the upper intertidal zone. No subsurface oil was found in the test pits that were dug on this segment.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / GR-300 Subdivision N/A Date (mo / day / yr) 04/07/90
1550 - 2000
 Time (24 hr) 0655-0703 Biologist John Dixon

- (A) Substrate type and % of segments:
 (1) Bedrock 34 (2) Boulder 26 (3) Cobble 20 (4) Pebble 10 (5) Sand 10 (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 23 Moderate 26 Low 51
- (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. 57-2-10 57-2-11
 Frames 9-12 17-20 1, 4, 9, 10, 14

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	O	O	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	X	X	X	X	X	X	
6	6	6	6	6	6	X	X	X	X	X	X	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	O	O	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	X	X	X	X	X	X	
6	6	6	6	6	6	X	X	X	X	X	X	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	O	O	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	X	X	X	X	X	X	
6	6	6	6	6	6	X	X	X	X	X	X	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	O	O	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	X	X	X	X	X	X	
6	6	6	6	6	6	X	X	X	X	X	X	NOT PRESENT

Wildlife Observations/ General Comments: Water line $+5.5' - +0.5'$ during observation.
 Bald eagles over beach. Many crows, catching in water. Small flock of Canadian geese on the beach. Winter wrens.

Ecological Considerations: Sonar, T.V. Truss: FII, 2M, ST-3, 55.

This 7.4 km segment is made up of variety of habitats, including rocky headlands, large talus, boulder/cobble beaches & sand/pebble beaches with much freshwater runoff. Diversity & density is highest in areas of rock outcrop & talus. *Caprellidae* (many brooding), *Pyrosoma*, *Idotea* N. S. T. *Phacelasma* (Phacelasma) thicket crabs common under rocks. *Gracilior* in areas of freshwater runoff. *Mytilus* is abundant in pebble matrix. The pillbug *Gnathoporus* common under boulders in these areas. *Volutha* locally abundant under boulders on bedrock. *Fucus* recruiting in many areas. *Codium* present.

G.R-300 7.4 Km

This long segment is made up of a great variety of habitats and a heterogeneous assemblage of biotic communities. There are seven headlands or promontories composed of bedrock outcrops. Typically these grade into large talus and then boulders & cobbles of decreasing size as one proceeds from a point to an embayment. Toward the back of the embayments the beach slope decreases and there is considerable fresh water runoff. The runoff generally occurs over a wide, poorly delineated area but discrete streams discharge into two of the embayments. The areas of runoff tend to be sandy or gravelly with scattered cobbles & boulders.

The headlands support the most diverse and highest density biota. The bedrock outcrops tend to form large areas of relatively flat beach interspersed with more erosion resistant rock with considerable vertical relief. In the low intertidal there is typically ~80% cover of algae, mostly Fucus and Rhodomena but Tridacna & Sargassum may also be abundant. Unidentified filamentous reds and greens, Ulva & Alaria are often present. Bivalves are ~~very~~ extremely rare on bedrock but may occur on small cobbles. Gastropods are also rare. Mussels are generally absent. Sea stars are often abundant, with Pycnopoda being the most common in exposed locations. (non-cryptic)

In the middle intertidal (+2 - +7) there tends to be more open space and more horizontal areas with scattered boulders and cobbles. Fucus ranges from moderate densities in lower areas to sparse in higher locations. Barnacles tend to be sparse with B. carionum most numerous. Mussels tend to occur on horizontal benches from around +5' - +8'. On these benches erosion has produced alternating high & low areas - ~ 30 cm ridges & troughs. Fucus & barnacles, B. carionum & B. glandula tend to occur on the ridges, whereas Mytilus, Rhodonele, Phyllorhynchus dominate the troughs. Under large boulders there are broadly Tyrtasteria, Idotea, large N. scutum, flatworms, Holothurians, ^{ECUMORIN} Sipunculars, often dense aggregation of Forams hermit crabs.

On the high shore along headlands cover is much more sparse. Fucus is sparse, Mytilus occurs in patches, but tend to be sparse to rare overall. Balanus carionum give way to B. glandula & sometimes Chthamalus. ^{vertical} Orthis rock gastropods tend to be rare & generally small Turritella & eroded limpets. Under boulders & cobbles gastropods are often moderate. On horizontal bed rock & in rocks littorine often attain very high densities.

The biota on large tubes tends to be similar to that on bedrock. On boulder/cobble beaches density & diversity are much lower. If the rocks are red in a sand they may be very sparse. If the cobbles & pebbles are deep, they in fact have a fairly high density of gastropods (L. neritina, L. stultorum) amphipods, hermit crabs, & blennies. In some areas sponges, prob. Leptogorgia are common. As one moves up the shore Littorine often replace limpets as the most abundant gastropods. On the lower shore there is usually a high cover of filamentous red & green algae.

Where the beach is made up of boulders & cobbles in a coarse sand/gravel matrix Mytilus are often very abundant in the middle & upper intertidal. This often is the case in areas of freshwater runoff. The small pulley-labbing isopod Gnathosphaeroma is often dense under boulders in such locations.

GR 300

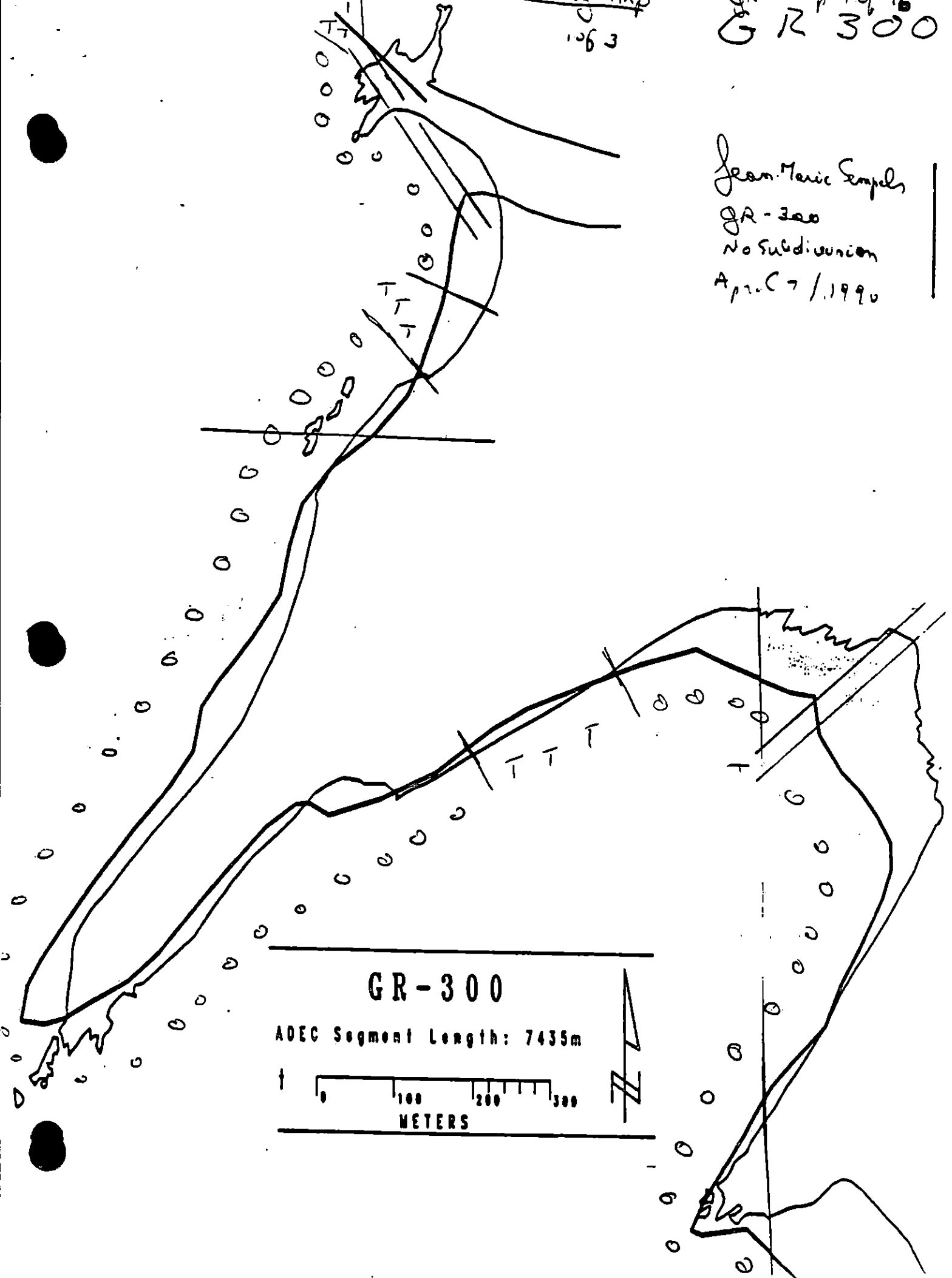
1063

Jean-Marie Sempels

GR-300

No Subdivision

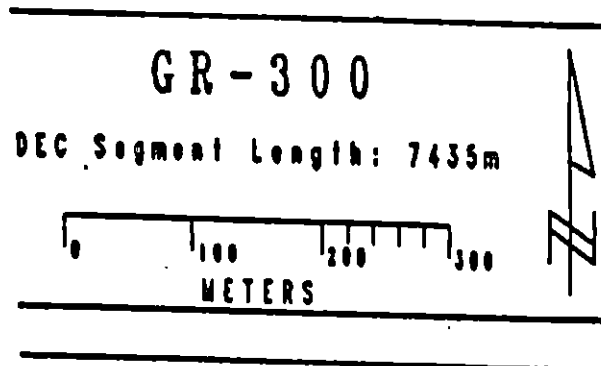
Apr. 7 / 1990



Dilling Map 2 of 3

GR 300 p 6 of 16

from Marie Temples
Segment GR-300
No subdivision
April 7/1990

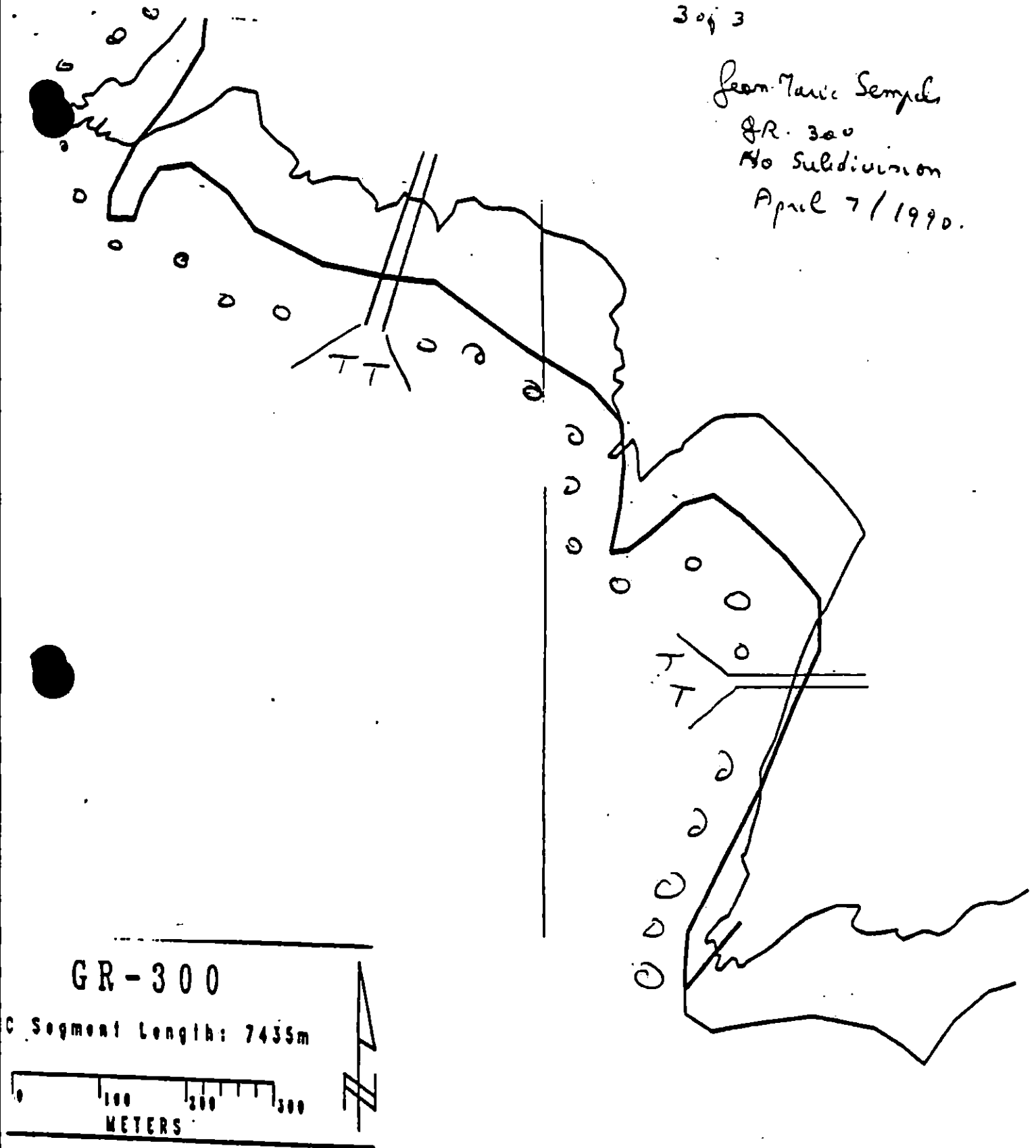


from Marie Sample

GR. 300

No Subdivision

April 7/1990.



ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-300 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup

OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M	Herring Spawning	No constraint to manual pickup
5S	Shorebird/Waterfowl Concentration	No constraint to manual pickup.
5T	Bald Eagle Nest	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.
7II	Subsistence: Deer Harvesting	No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic to essential minimum before 6/15 and after 8/15. Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass.

FOSC

[Signature]

Date

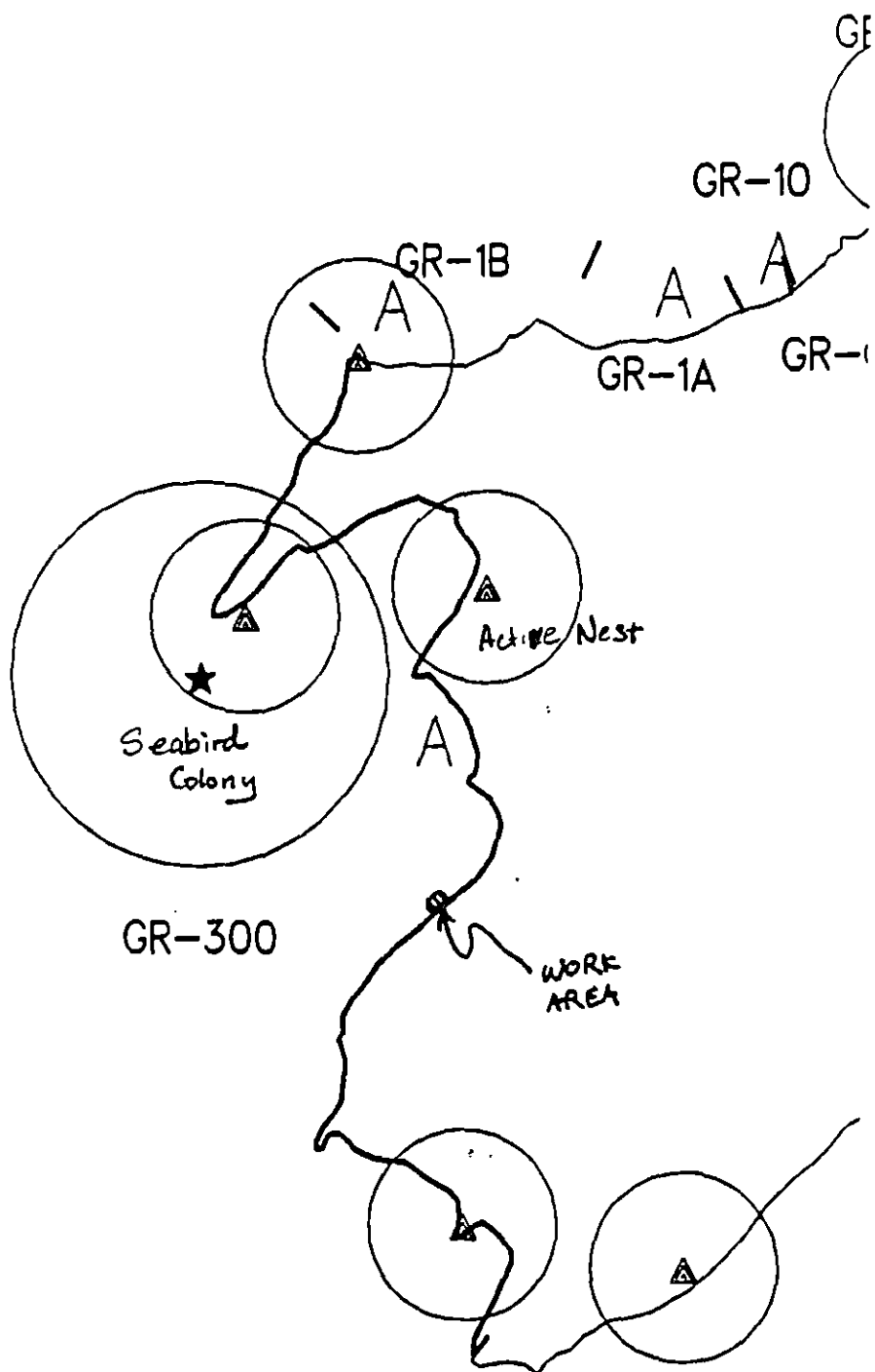
6/14/90

Prepared by

[Signature]

Date

6/14/90



Exxon Company, USA
Map Key: PWS-GR-300
June 04, 1990



ECOLOGY MAP
SEGMENT GR-300
SUBDIVISION A (-L- of -L-)
METERS



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

1 inch = 1000 feet

SHORELINE EVALUATION

SEGMENT ST/ GR-301 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
5T-9 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.

SHPO SIGNATURE: [Signature] DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 6892 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
☐ <u> </u> Removal	☐ Other (see comments)

COMMENTS:

TAG COMMENTS:

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: [Signature] DATE: 5-1-90

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 (8/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (8/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (6/1 to 9/15)
 6V Anchorages (6/1 to 9/15)
 6W Forest Service cabins (6/1 to 9/15)
 6X Lodge (6/1 to 9/15)
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 7HH Finfish harvesting
 7II Deer harvesting (8/15 to 2/28)
 7JJ Invertebrate harvesting
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / GR301 SUBDIVISION: A DATE 4-8-90

SCG
NAME James C. Gentry SIGNATURE James C. Gentry

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS no oil found

ADEC
NAME Brian K. FitzSimons SIGNATURE Brian K. FitzSimons

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS No oil observed within this subsegment.

LAND MANAGER
NAME Carol S Huber SIGNATURE Carol S Huber

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS No oil observed.

SHORELINE OILING SUMMARY

REVISION NO. 06/28/88

OG B. Berglund USCG J. Gamble SEGMENT ST/ CR-301
 BIO S. Schrader LAND REP C. Humberg (NES) SUBDIVISION A
 EXXON C. Levine ADEC Tb. Fitzsimons TIME 9:00 to 10:20
 EAM NO.: 1 TIDE LEVEL: 2 to G.O DATE 4/1/90
 ST. SUBDIVISION LENGTH: 1274 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☐ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: SW to NE
 SURFACE SEDIMENTS: R 5 % S 50 % C 22 % P 13 % G 7 % S 3 % M % V %
 SLOPE: Long 100 % Hang % Vert % WAVE EXPOSURE: ☐ Low ☒ Med ☒ High
 OIL CATEGORY LENGTH: W m M m N m VL m NO 1274 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	R	P	B	1	2	3	4	5	SU	U	M	V
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT													
STAIN													
MOUSSE													
PATTIES													
TARBALLS													
ILM													
NO OIL										X	X	X	X

PAVEMENT: H F S None sq. m by cmPATTIES / TARBALLS None BAGSNEAR SHORE SHEEN? ☒ BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NOTYPE #BAGS 1

Photographs:

Roll No. ST-1-3Frames 27

SUBSURFACE OIL

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

COMMENTS

This subdivision is predominantly a boulder beach with a few sand gravel sections and exposed bedrock. Most of the beach was walked and no oil was found (A GIS Map is provided but no sketch map).

Segment: GR301
BIO: S. Schroeter

Subdivision: A
OG: S. Berglund

Date: April 8, 1990
Tidal Range: >+0.2

This subdivision was composed largely (~80%) of boulder/cobble beaches where the density of the biota was sparse to low. The remaining 20% of shoreline consisted of boulder and shale bedrock headlands where densities were high to moderate in the low and mid intertidal, and sparse in the upper intertidal. There were few stars in the low and mid intertidal, and the only species seen was Pisaster ochraceus.

On the cobble and boulder beaches composing most of the subdivision, the most abundant organisms were Eucus, gastropods (primarily L. sitkana, L. acutulata, and N. gentium), and the red alga Rhodomyela larix. Rhodomyela was most abundant in the mid and upper-low intertidal on horizontal bedrock benches where cover of 50% to 70% is common. A variety of leafy and filamentous red algae were abundant in the low intertidal. Laminarians were not abundant in the low intertidal and shallow subtidal.

SHORELINE ECOLOGICAL SUMMARY.

Segment ST / GR 301 Subdivision A Date (mo / day / yr) 4/8/90
 Time (24 hr) 1020 Biologist S. Schroeter Tidal Range +0.2

- (A) Substrate type and % of segments:
 (1) Bedrock 11 (2) Boulder 23 (3) Cobble 26 (4) Pebble 31 (5) Sand 10 (6) SR 0
- (B) Overall % cover of biota (% of segment): Dense 16 Moderate 17 Low 67
- (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		
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

TROPODE

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

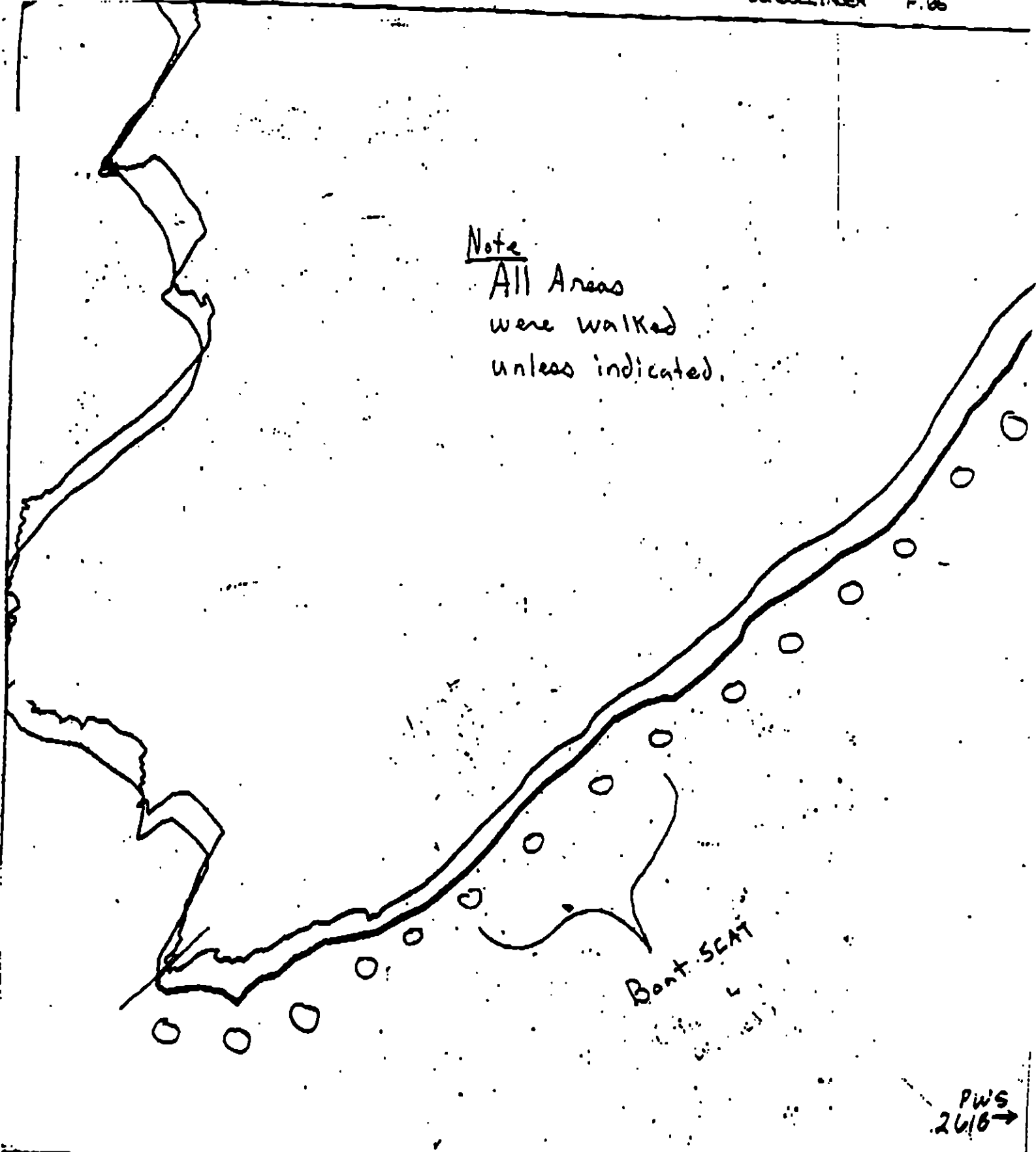
Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

Wildlife Observations/ General Comments: Kingfishers abundant; otters + spotted seals were seen occasionally; an adult + juv. bald eagle were also spotted; abundant bear scat + deer tracks. I have seen at beginning of SCAT.

Ecological Considerations: Subdivision was largely composed of cobble/boulder beaches where the density of biota was low. About 20% of subdivision consisted of sand bars where biota was moderately dense in the lower + mid intertidal + sparse in the upper intertidal. There were very few sea stars in either the low or mid intertidal. Much of the lower shore was bordered by a sandy subtidal. Equis + gastropods (Littorina + D. Scutum) were the most abundant macrofauna + were found mainly in the mid intertidal. Rhodomya was also abundant in the mid intertidal.

Note
All Areas
were walked
unless indicated.



PWS
2616 →

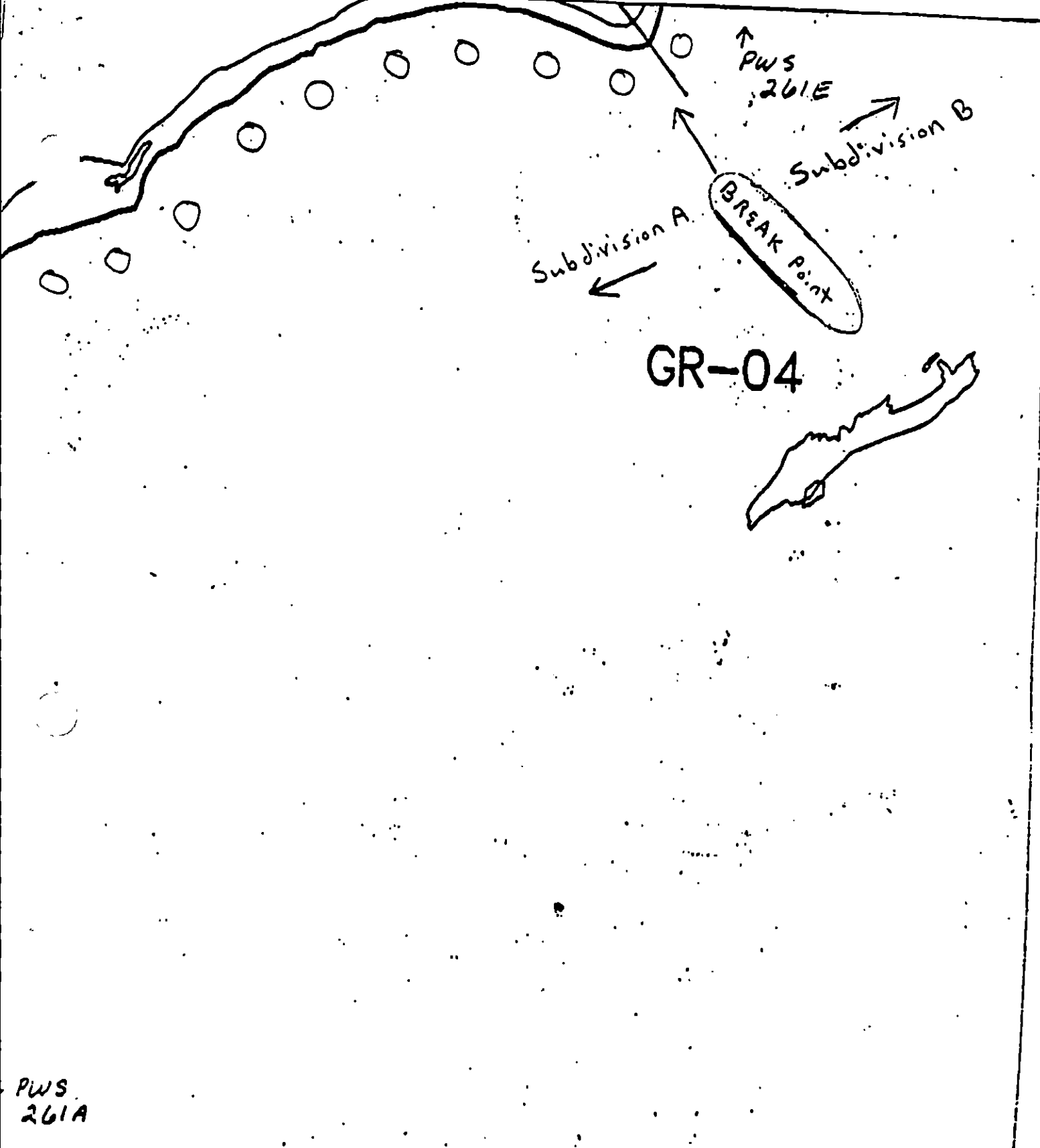
XXXX Wide
// Medium
--- Narrow
TTTT Very Light
0000 No Oil

GR-301 (CA)

ADEC Segment Length: 13417m



Map Key: PWS-2010
Name: B. Benglin
Date: 4/8/90
Date Entered:



XXXX Wide	GR-301 (A) ADEC Segment Length: 13417m 0 100 200 300 400 500 METERS Map Key: PWS-281b Name: <u>B. Berglund</u> Date: <u>4/8/90</u> Data Entered:
/// Medium	
- - - Narrow	
TTT Very Light	
0000 No Oil	

P₇ 5 of 6

SHORELINE EVALUATION

SEGMENT ST/ GR-301 SUBDIVISION B (2 OF 2) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
5T-9 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
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Segment B has 7 bald eagle nests (see ecology map).

SHPO SIGNATURE: Rachel Dean Owe DATE: 5/23/90

OILING CATEGORIZATION:

Wide 37 m: Medium 0 m: Narrow 40 m: V.Light 1406m: No Oil 5104 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of tarmat,
2) manual pick up of tar balls and patties. Work should be conducted
after 6/1, with approval of USFWS and ADF&G regarding eagle nests and
research natural area respectively.

TAG COMMENTS:

TAG APPROVAL DATE: 4/26/90.
ADEC John Baust
EXXON Andy Gail
NOAA Gary Petrac
USCG Kenneth Kemo

FOSC: [Signature] DATE: MAY 25 1990

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CR 301 SUBDIVISION: B DATE 4-9-90

SCG
NAME JAMES C. Gimbill SIGNATURE James C. Gimbill

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

TAR Patches 10m x 8m wide, broken macerated and saturated sediment at the UITE.
2m x 35m band of Tarry Asphalt. Splashes of oil 3.5m x 1m x 2cm at TO UITE.
Splashes (2' x 2.5cm movable Patches)

ADEC
NAME Brian K. FitzSimons SIGNATURE Brian K. FitzSimons

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Tar Patches ~~occur~~ intermittently along the base of the HITZ Berm from the northeast end of the segment to the headlands south of the second anadromous from the beginning. The largest tar patch is located adjacent to and to the north of the 1st stream on the NE end of 1st segment.

Suggested Treatment: Hand removal by shovel of tar patches - Start crew at one end of oiled area at HITZ and patrol & work beach till out of oiled zone

LAND MANAGER
NAME Carol S. Huber SIGNATURE Carol S. Huber

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Only N.E. half of this segment is oiled. There are some locally very thick tar patches (up to 5cm deep) in a narrow band in the UITE. Oil very mobile (leaching out). Possible anadromous streams in this area.

→ Note: listed as "Research Natural Area" in data table
Resource sensitivities: deer harvesting (deer observed on beach), anchorage, bald eagle nests (2 eagles sighted),
further information on beach 11.5m T.D. on 11.5m T.D.

SHORELINE OILING SUMMARY

REVISION NO. 02/2/90

OG B. Beraland USCG J. Gamble SEGMENT ST/ GR-301
 BIO S. Schreiner LAND REP C. Hibbs (NES) SUBDIVISION B 201
 EXXON C. Levine ADEC B. Fritz-Simons TIME 7:00 to 11:00
 TEAM NO.: 2 TIDE LEVEL: 2 to +6 DATE 4/9/90
 EST. SUBDIVISION LENGTH: 6300 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: NE to SW
 SURFACE SEDIMENTS: R 20 % B 50 % C 30 % P 0 % G 3 % S 1 % M 0 % V 0 %
 SLOPE: Long 100 % Hang 0 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 38 m M 0 m N 27 m VL 2160 m NO 4025 m

SURFACE OIL

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

PAVEMENT: H (F) S 60 sq. m by 4 cmPATTIES / TARBALLS 10 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Oiled Buckle#BAGS 1

Photographs:

Roll No. ST-1-3Frames 28-29

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-OS)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UG	1	2	3	4	5	SU	U	M	L		
1	20					X	-	X							X					P/G/S (Lower Beach)
2	30					X	-	X							X					P/G/S (Lower Beach)
3	20					X	-	X							X					G/S (Between Boulder)
							-													
							-													
							-													

COMMENTS

Only the NE half of this segment is oiled. The oiled section of the beach consists of shallow or exposed bedrock with scattered boulders.

Oiling is very light, principally isolated splashy coats near the HWL (Next page).

GR-301-B (continued)

Surfaces of boulders are coated. Occasionally small "globbs" of oil ($\approx 3 \text{ cm}^2$) saturate the gravels between boulders (1 cm in thickness) or oil accumulations are present in cracks of the bedrock.

A few areas have heavier oiling (coat or pavement) as noted on the sketch map. Their distribution suggests they were isolated patches that washed up and were deposited near the HWL. Except in these areas deep oiling does not pose a problem (deep subsurface oiling being prevented by the shallow bedrock).

A storm berm is fairly continuous along this segment. It contains considerable vegetation but it is unoiled.

Note

Only a sketch map of the oiled sector was drawn.

P.05
SCAT
TO
DON BOLLINGER 2152
FROM
20:53
APR-03-1990

SEGMENT... GR-301
SUBDIVISION B
DATE 4 / 9 90

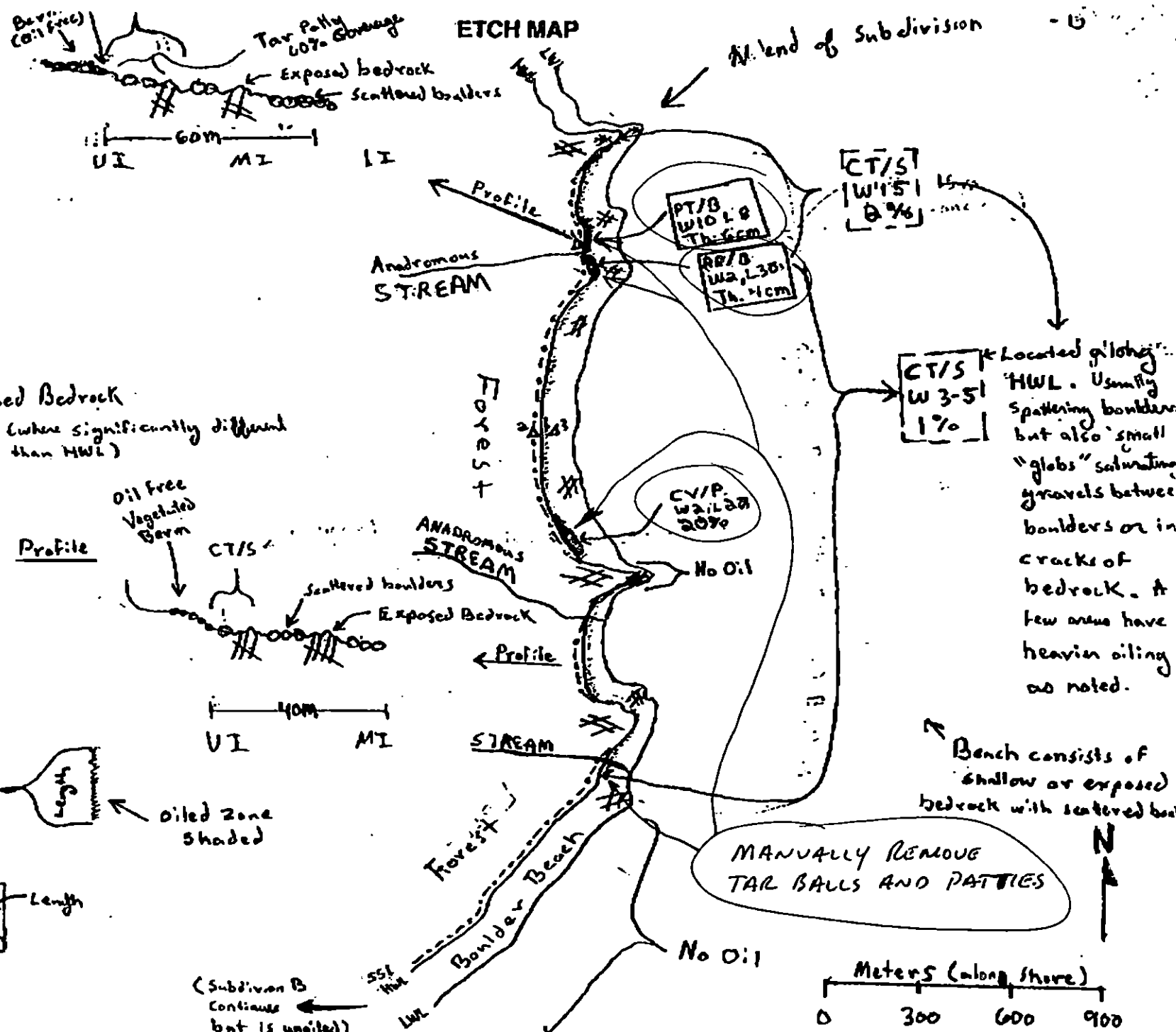
CHECKLIST

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

LEGEND

- 1 Δ
Pb - No Subsurface Oil
- 2 Δ
Pb - Subsurface Oil
- CT/C
Continuous Distribution
- CT/B
Broken Distribution
- CT/P
Patched Distribution
- CT/S
Splashed Distribution
- % Cover or
Oiled Vegetation
- 1 ●
Photo location, direction,
and number

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



Oil Character Length (m): AP 30 PO CV 27 CT ST 2160 MS PT 10 TB FL NO

See GIS Map for Subdivision boundaries

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / GR301 Subdivision B Date (mo / day / yr) 4/9/90
 (24 hr) 0710 Biologist S. Schroeter

(A) Substrate type and % of segments:
 (1) Bedrock 14 (2) Boulder 26 (3) Cobble 52 (4) Pebble 10 (5) Sand 5 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 13 Moderate 21 Low 66

(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: N/A
 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	

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments:

NO priority or sensitivities

priority & sensitivities same as GR301A
 wild life: 4 bald eagles, numerous deer
 ~10 spotted seals, many deer tracks & bear
 tracks & scat, 2 anadromous streams (see sketch
 map).

Ecological Considerations:

This subdivision is very similar to GR301A. It is
 predominantly a cobble/boulder beach where the
 primary biota are barnacles, gastropods & sparse to
 rare fucus. The bedrock head lands are rich, but
 represent only about 1/4 of the shoreline length.
 On these headlands, in the low & low-mid intertidal
 are phenomenally high densities of sea stars, primarily
 purple urchins (some over 3/m²) & evidently high recovery.

Segment: GR301 Subdivision: B Date: April 9, 1980
BIO: S. Schroeter OG: B. Berglund Tidal Range: > -0.3

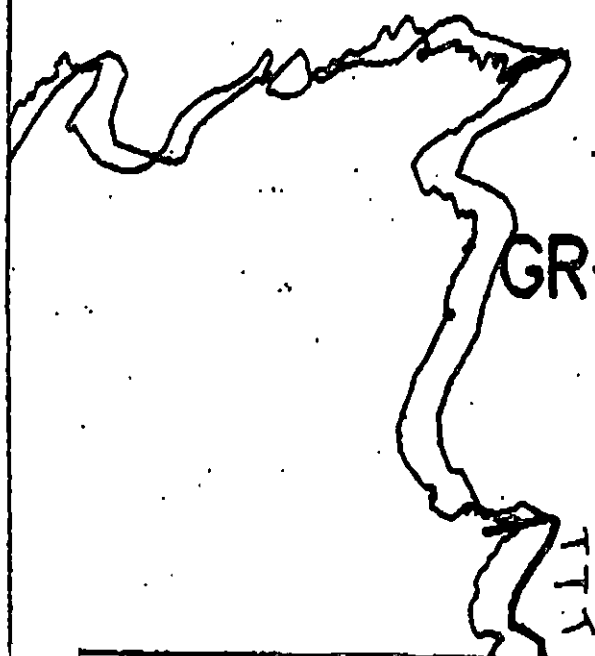
This subdivision is similar to GR301A; predominantly a cobble and boulder beach (~80%) with widely spaced headlands making up about 20% of the shore. The predominant organisms on the cobble and boulder beaches are barnacles and gastropods (primarily littorines and *N. scutum*). *Fucus* also occurs, but is rare.

The biota on the headlands are dense in the low-middle and low intertidal. The low intertidal is predominated by leafy red algae (e.g. *Iridea*, *Odonthalia*, *Halosaccion*, *Rhodoglossum*), eelgrasses (*P. scouleri*), and sparse concentrations of laminarians. *P. scouleri* beds border much of the subdivision in the low intertidal and shallow subtidal. Sea stars occur in particularly high densities (3 per m² in some areas) in the low intertidal on and under boulders on the headlands. Most of the sea stars (~90%) are *Pycnopodia* that range in size from 2.5 to 14 cm in ray length. The other sea star species seen include: *Pisaster ochraceus*, *Henricia leviuscula*, *Eyasterias trochili*, *Dermasterias imbricata*, and *Leptasterias hexactis*. About half of the *Pycnopodia* had ray lengths < 10 cm and may represent fairly recent recruits.

In two areas where streams ran across the intertidal there were sparse to medium densities of barnacles (primarily *B. glandula*) and mussels throughout the intertidal on boulder and cobble substrates. These "islands" of high concentrations may be refuges from predation, as predatory snails and sea stars are absent here. Similar substrates at the same tidal levels 2 - 5 meters from the streams had much higher densities of sea stars (primarily *L. hexactis*) and barnacles and mussels were rare.

Note

All areas walked
unless indicated.



GR-102

see "pasted" page.

↓ PWS
261 F

XXX Wide

/// Medium

--- Narrow

TTTT Very Light

OOOO

GR-301

ADEC Segment Length: 13417m

0 500 1000 1500

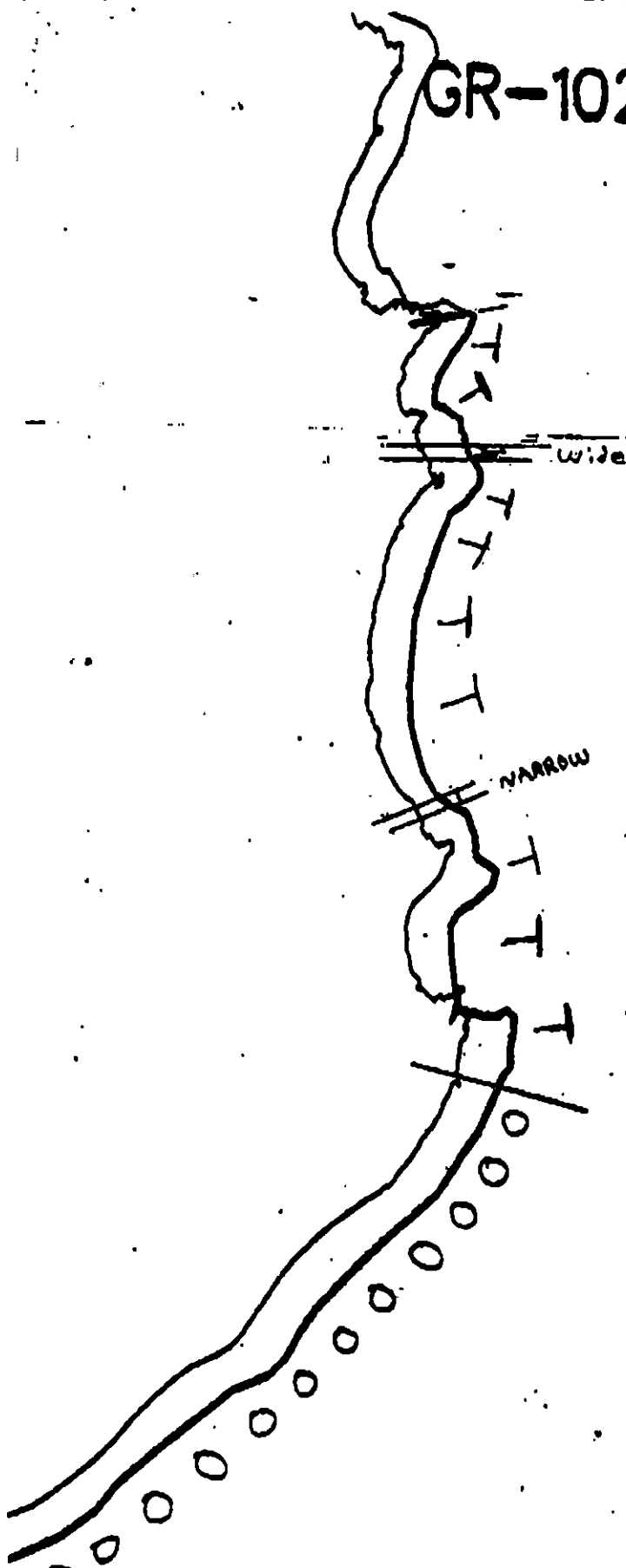


Map Key: PWS-2011

Name: B. Benglund

Date: 4/9/90

GR-102

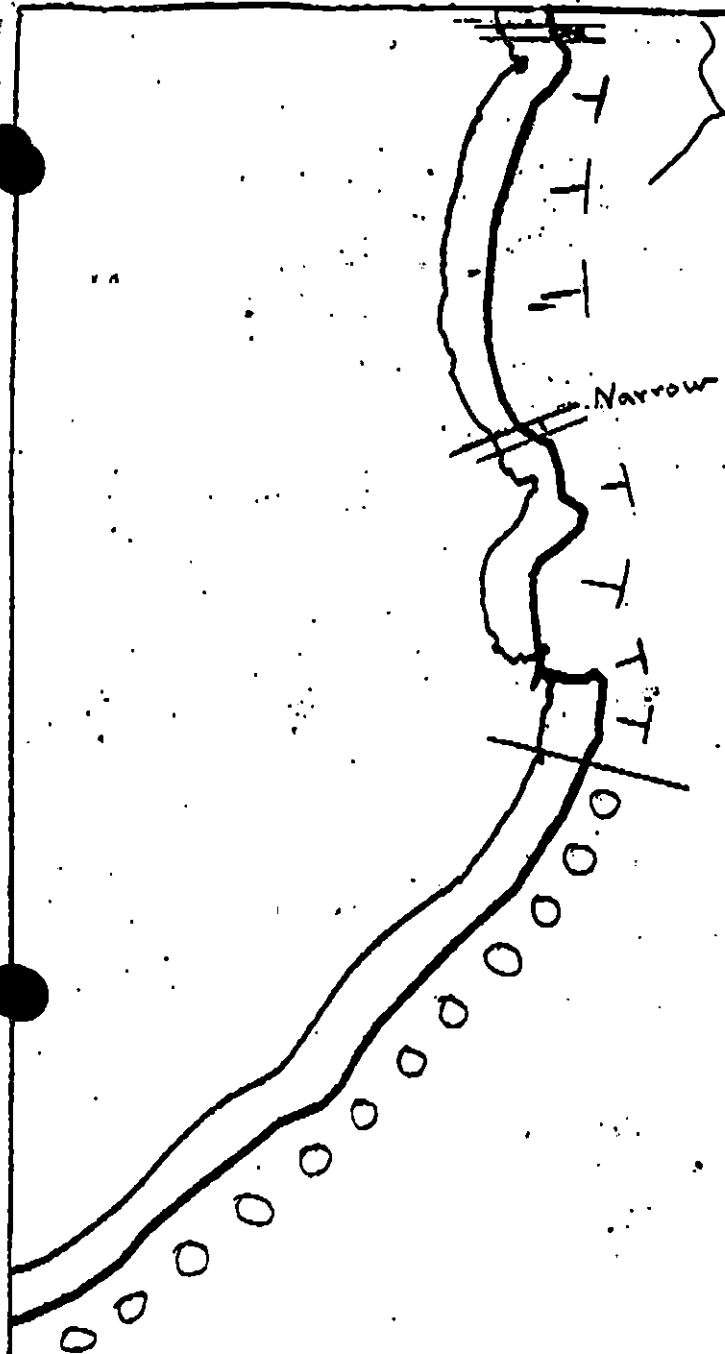


↓ PWS 261 F
↑ PWS 261 i
"Pasted" page

G-R-301

("Pasted" Page).

4/9/90
B. Berglund



See pasted page.

↑ PWS 2611

← PWS 261E

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

GR-301

ADEC Segment Length: 13417m

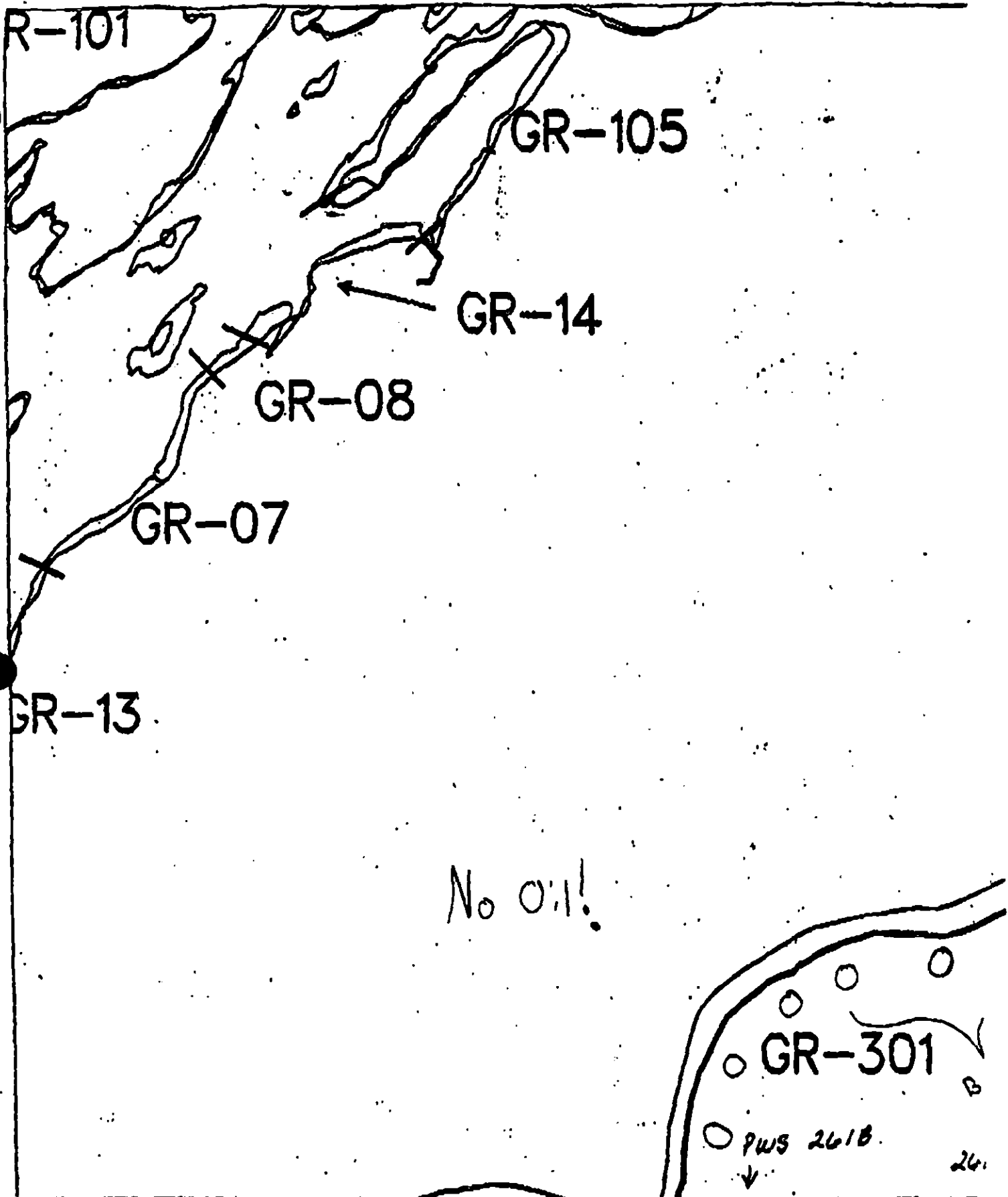


Map Key: PWS-2011

Name: B. Berglund

Date: 4/9/90





No Oil!

GR-301

PWS 261B

261

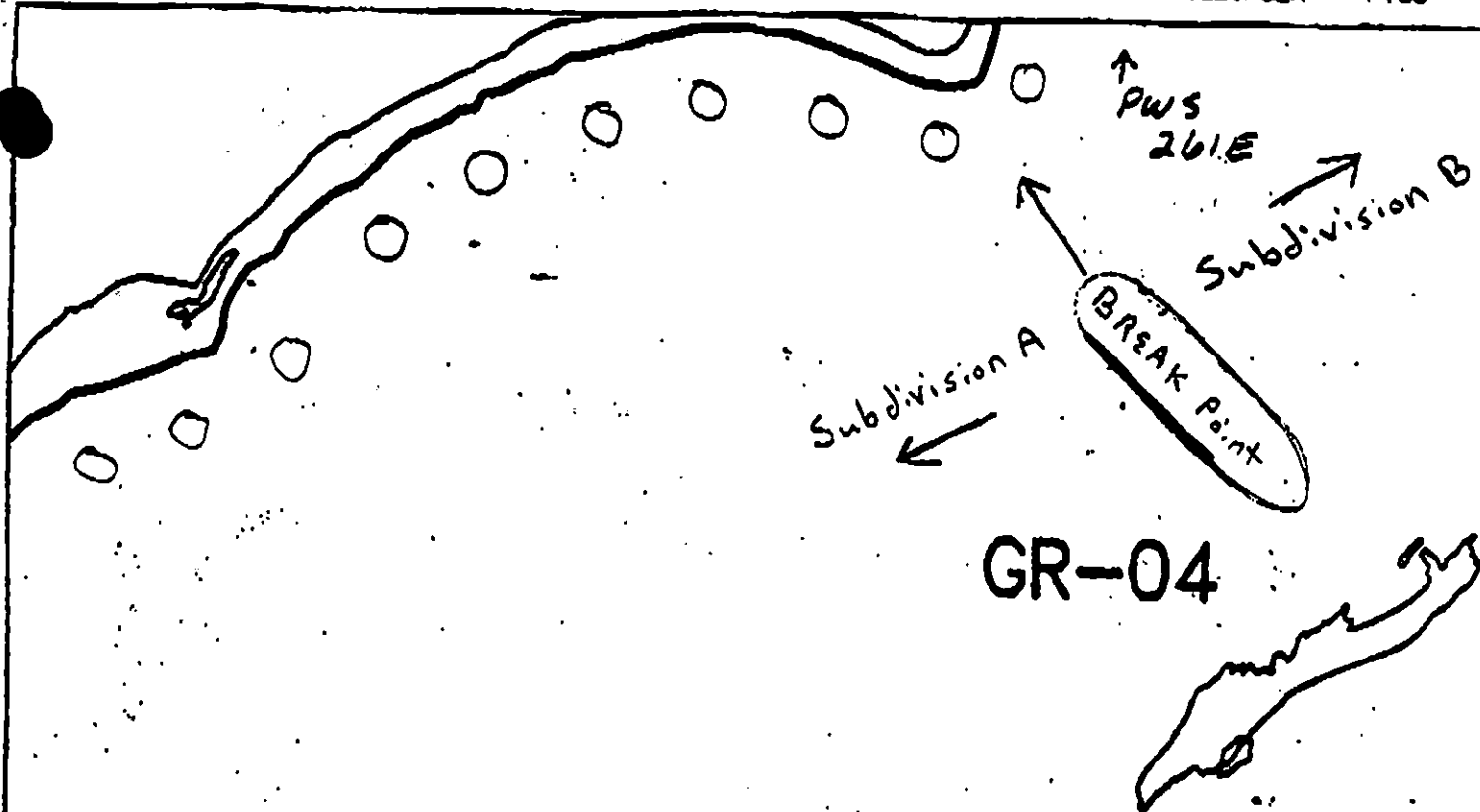
GR-301

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

ADEC Segment Length: 13417m



Map Key: PWS-261
 Name: B. Bergl
 Date: 4/9/90



← PWS
261A

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

GR-301

ADEC Segment Length: 13417m

Map Key: PWS-201b

Name: B. Bengtson

Date: 4/8/90

GR-102

ECOLOGY MAP

▲ = Eagle
Nests

wide

NARROW

↓ PWS
261 F

↑ PWS 261 i

"Pasted" page

G-R-301

(Pasted Page).

4/9/90
T.B. Berglund

R-101

GR-105

ECOLOGY MAP

GR-14

GR-08

GR-07

GR-13

No Oil!

GR-301

PWS 2618

26.

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

GR-301

ADEC Segment Length: 13417m

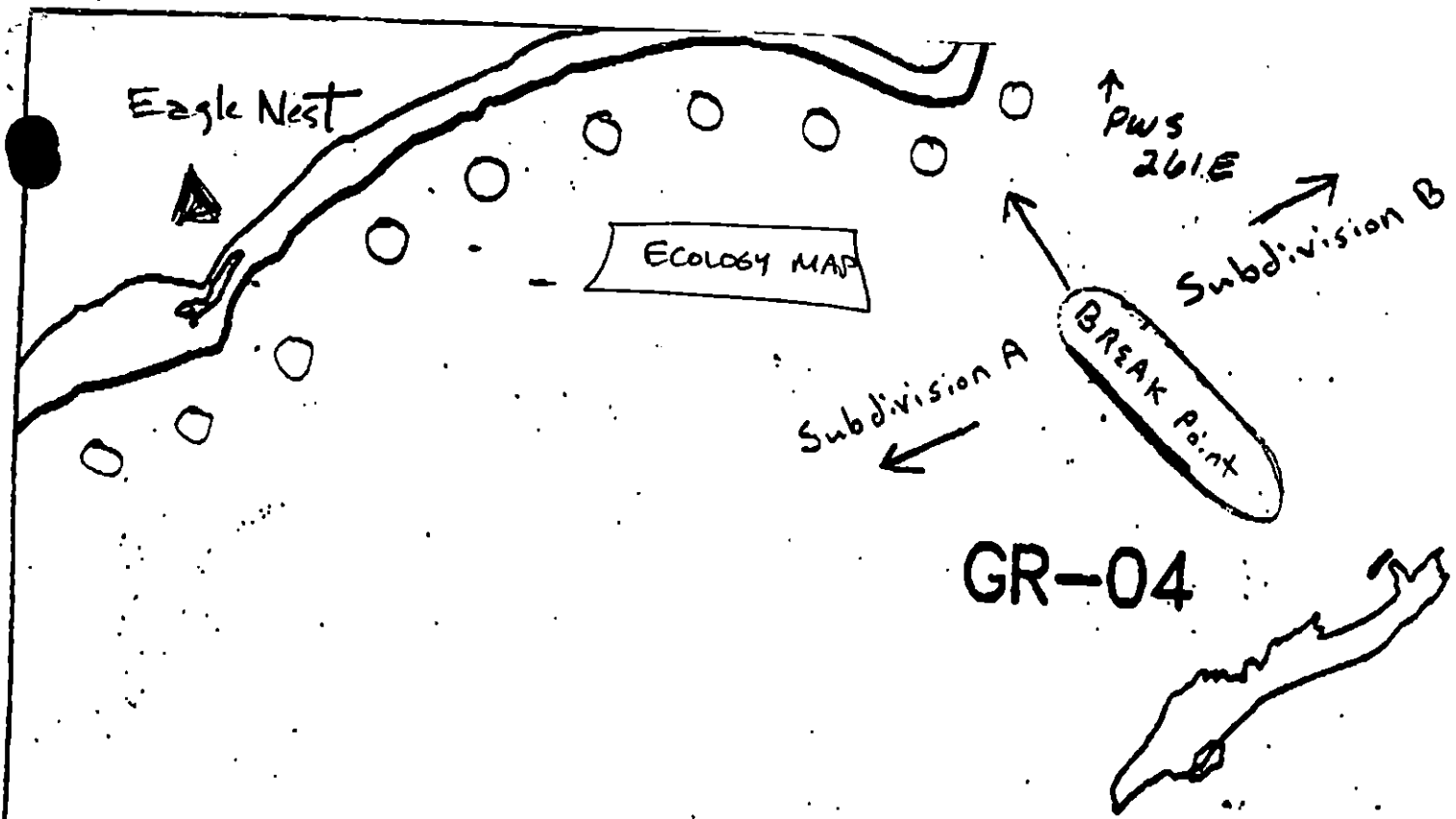


Map Key: PWS-261c

Name: B. Bergl

Date: 4/9/90

Data Entered:



← PWS
261A

XXX Wide

/// Medium

--- Narrow

TTTT Very Light

GR-301

ABCC Segment Length: 13417m



Map Key: PWS-201b

Name: B. Bengtson

Date: 4/8/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-301 SUBDIVISION B (2 of 2)

WORK WINDOW

Manual Pickup and Tarmat Removal*
Less Than 400m From Active Nest

CLOSED

Manual Pickup and Tarmat Removal
More Than 400m From Active Nest

OPEN

* EXXON 'A' STUDY SITE # APB-19 - DO NOT REMOVE STAKES FROM BACK OF INTERIOR ZONE.

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M Herring Spawning

NO CONSTRAINT. Authorized by Evelyn Biggs/ADF&G on 5/17/90 to Exxon/Tom Kelley.

5S Shorebird/Waterfowl
Concentration

No constraint to manual pickup and tarmat removal after 5/15.

5T Bald Eagle Nest

USFWS 6/1/90 map indicates active nests in Subdivision B. Closed to manual pickup and tarmat removal within 400m of active nests. No constraint to manual pickup and tarmat removal more than 400m from active nests.

7II Subsistence: Deer Harvesting

No constraint to manual pickup and tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Restrict boat traffic to essential minimum. Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

FOSC

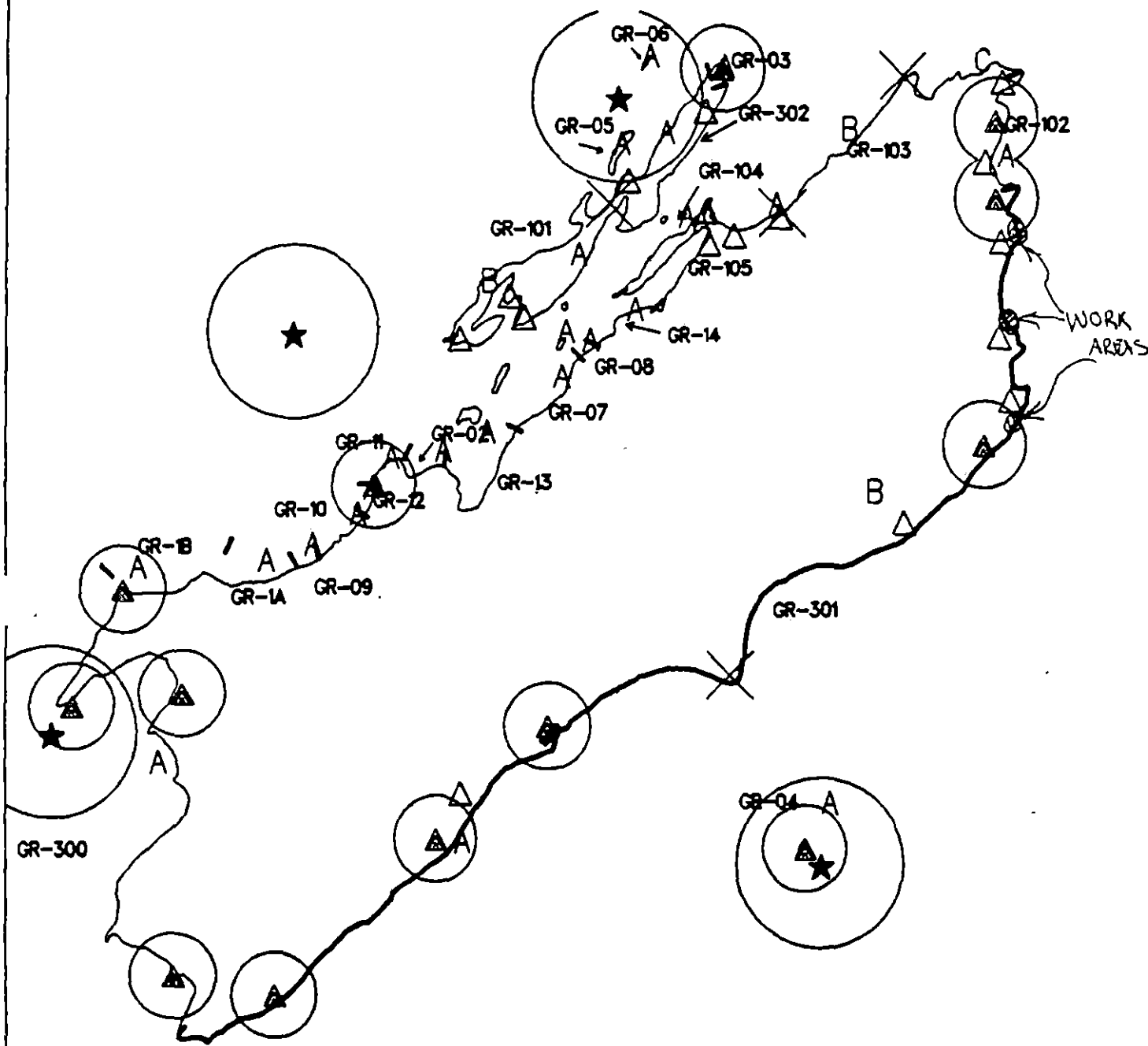
Date

6-12-90

Prepared by

Date

6/14/90



Exxon Company, USA
 Map Key: PWS-GR-301
 June 09, 1990



ECOLOGY MAP
SEGMENT GR-301
SUBDIVISION B (2012)
METERS
 0 1464 2928

★	Seabird Colony
▲	Active Eagle Nest
△	Inactive Eagle Nest
1 inch = 4804 feet	

REVISION 1
6/23/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-301 SUBDIVISION B (2 of 2)

WORK WINDOW

Manual Pickup and Tarmat Removal*
Less Than 400m From Active Nest

CLOSED

Manual Pickup and Tarmat Removal
More Than 400m From Active Nest

OPEN

* EXXON 'A' STUDY SITE # APB-19 - DO NOT REMOVE STAKES FROM BACK OF INTERIOR ZONE.

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

ARCHAEOLOGICAL
MONITOR REQUIRED ON
SITE. Phone 564-3274
PP
6/23

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M Herring Spawning

NO CONSTRAINT. Authorized by Evelyn Biggs/ADF&G on 5/17/90 to Exxon/Tom Kelley.

5S Shorebird/Waterfowl
Concentration

No constraint to manual pickup and tarmat removal after 5/15.

5T Bald Eagle Nest

USFWS 6/1/90 map indicates active nests in Subdivision B. Closed to manual pickup and tarmat removal within 400m of active nests. No constraint to manual pickup and tarmat removal more than 400m from active nests.

7II Subsistence: Deer Harvesting

No constraint to manual pickup and tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Restrict boat traffic to essential minimum. Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

FOSC

Date

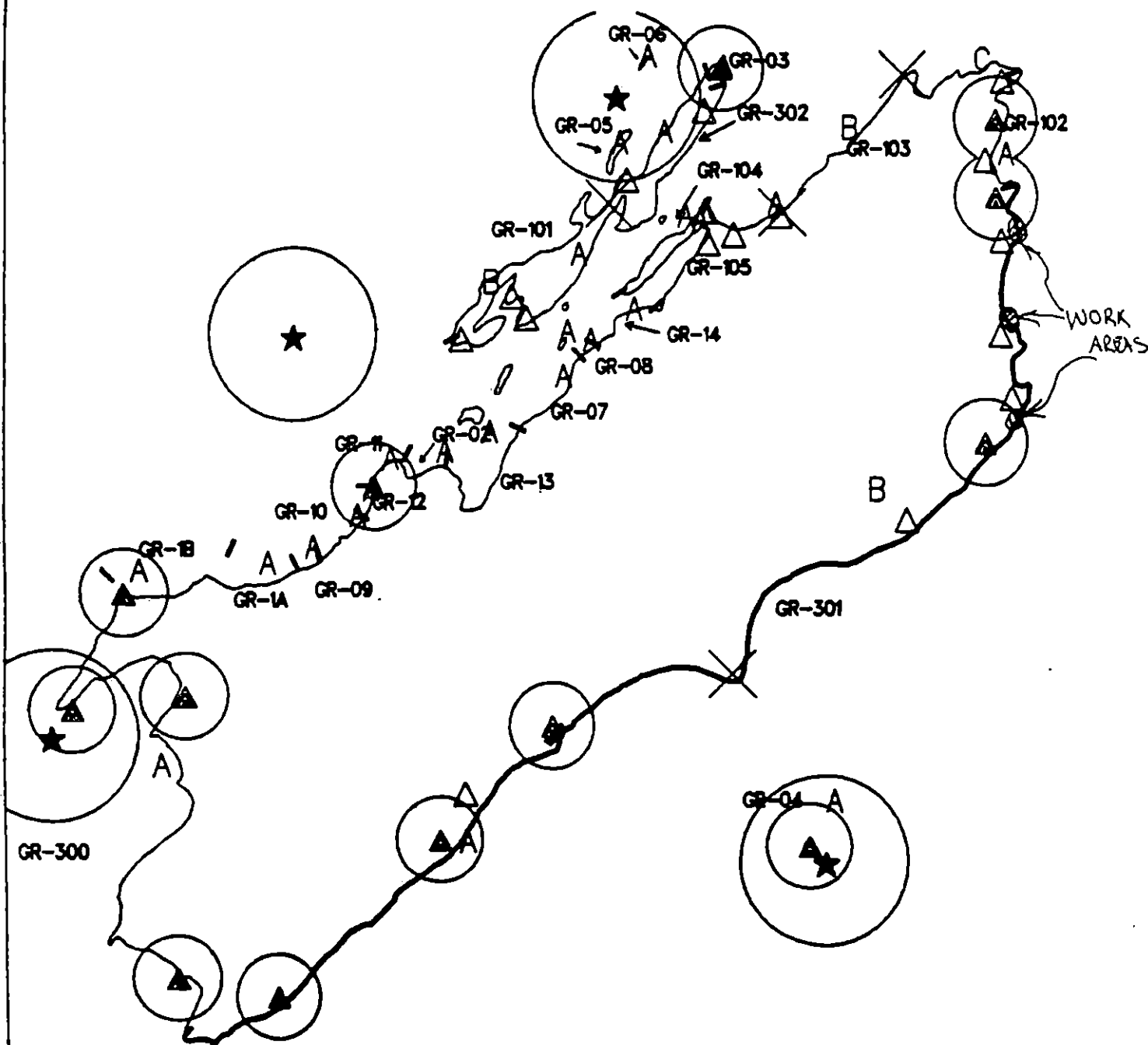
6-12-90

Prepared by

John P. Phillips

Date

6/11/90



Exxon Company, USA
Map Key: PMS-GR-301



ECOLOGY MAP SEGMENT GR-301 SUBDIVISION B (2 of 2) METERS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT AS / GR-301 SUBDIVISION: B SITE: (New site) DATE 8/1/90

USCG/NOAA PSI Leo Berszlong uscg ^(SEE MAP) Leo Berszlong

NAME ART WEINER SIGNATURE Art Weiner

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

IF ALL MOUSSE IS REMOVED FROM SITE, THERE WOULD BE NO REASON FOR REASSESSMENT. ALL MOUSSE APPEARS TO BE ACCESSIBLE.

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley 

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

During reassessment activities mousse was found in this area that was not slated for clean-up. A work modification form was made out. Manual Removal was recommended & reassessment is necessary upon completion of work in 1990. IN Addition Reassessment for 1991 is in order to determine any additional clean-up.

LAND MANAGER

NAME John Ebel SIGNATURE John Ebel

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Mousse was identified beyond cobbles covered w/ grass. Reassessment should be completed before spring grasses develop, shortly after break up.

EXXON

NAME REY SOTERO SIGNATURE Rey Sotero

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Manual removal of mousse between cobbles as indicated on sketch map. This site was found while looking for other sites in subdivision. After manual work is completed and assessed in '90, suggest application of customblend. There

WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT GR-301 SUBDIVISION B DATE 8/1/90

MODIFICATION CLASS I

1. REASON FOR MODIFICATION

MOUSSE WAS located in Area that was previously recommended for NO work.
(SEE MAP)

2. SUGGESTED ADJUSTMENT TO WORK PLAN

MANUAL Removal OF MOUSSE at UITE. Popweed & small boulders will have to be moved in some areas to expose MOUSSE. Some Areas Surface MOUSSE IS present.

- Orange flagging & small rock piles were constructed to locate areas for work crews.

3. TIMING ISSUES

ADEC

EXXON

NOAA USCG

LAND MANAGER

Wesley Ghormley 

Ray Stitt

Art Weiner

Toba Felt

(if field rep is on scene)

SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WEATHER: ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
OIL CATEGORY LENGTH: W m M m N 50 m VL 190 m NO m US m

SURFACE OR **SITE 1.** NOT VISIBLE **SITE 2.** NOT VISIBLE **SITE 3.** NOT VISIBLE

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SO	U	ME	U
ASPHALT				X		X		
S.O.R.								
POOLED								
COVER								
COAT								
STAIN								
MOUSSE		X				X	X	
PATTIES/T.B								
FILM								
NO OIL							X	
BT. SITE LENGTH					50			

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SO	U	ME	U
ASPHALT				X		X		
S.O.R.				X		X		
POOLED								
COVER								
COAT				X	X	X		
STAIN								
MOUSSE								
PATTIES/T.B								
FILM								
NO OIL							X	
BT. SITE LENGTH					25			

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SO	U	ME	U
ASPHALT								
S.O.R.								
POOLED								
COVER								
COAT				X	X	X		
STAIN								
MOUSSE								
PATTIES/T.B								
FILM								
NO OIL								X
BT. SITE LENGTH					100			

SUBSURFACE ONLY. No pits were dug due to boulders

[illegible]**Photographs:**

Roll No. ASAP 2
Roll # 1
Frames 15, 16, 17

COMMENTS Site #1 did not appear to have been worked. 12 cm deep pockets of pooled mousse were observed on the U1T2. Scattered SOR/I was located at site 2 but most of the oil seems to have

REVISION NO. 7/27/88

03 CHANEY

SEGMENT ST/ GR-301

SUBDIVISION B

DATE Aug 1 90

CHECKLIST

- ☐ N Area
- ☐ Approx. Size
- ☐ Boundary
- ☐ On Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Success (Number)
- ☐ Est. HAV/LAVL
- ☐ SBL
- ☐ Profile (Location)
- ☐ Profile(s)
- ☐ Pt. Location(s)
- ☐ Photo Location(s)

LEGEND

1 ▲
Pt - No Subsurface Cl

2 ▲
Pt - Subsurface Cl

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Sporadic Distribution

000
Other Vegetation

1
Photo location, direction,
and number

NOTE: THIS MAP WAS TRACED
FROM THE ORIGINAL

SKETCH MAP

AREA THAT NEEDS REWORK
- SEE SMALLER DETAILED MAP

Site #1

STREAM

MS/B/H

MS/B/I

REMOVE MOUSSE
MANUALLY

Large Drift log

Steep Rock Outcrop

STREAM

STREAM



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

REVISION: 08/24/90

8/1/90
ASAP TEAM #2

NAME HANEY

SEGMENT ST/GR-301

SUBDIVISION B

DATE Aug 1 90

CHECKLIST

N Arrow
Approx. Scale
Seg/Sub Bndry
Oil Dist.
Width
Length
% Cover
Substrate Character
Est. HW/LWL
SSL
Profile Location(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

Oil Vegetation

Photo location, direction,
and number

SKETCH MAP NORTH END OF SUBDIVISION

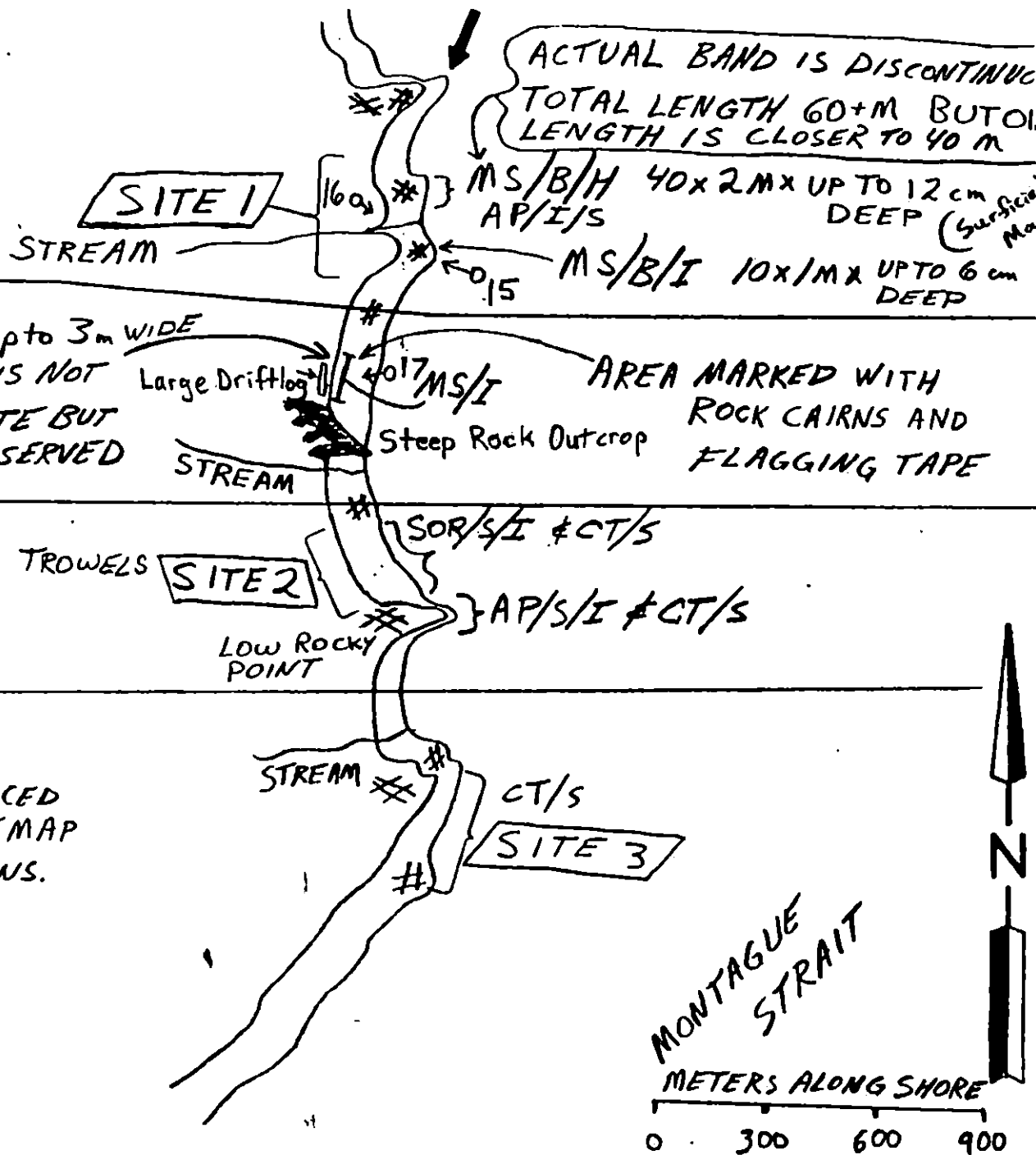
GREEN ISLAND

NEW SITE

MS/I
65m long and up to 3m WIDE
THIS REGION IS NOT
IN A WORK SITE BUT
MS/I WAS OBSERVED

SITE 2 WAS WORKED. 2 TROWELS
WERE RECOVERED.

NOTE: THIS MAP WAS TRACED
FROM THE ORIGINAL SSAT MAP
WITH MINOR MODIFICATIONS.



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

REVISION: 08/24/90

SEGMENT ST/GR-101

SUBDIVISION B (Site #1)

DATE 4/9/00

CHECKLIST

- ☐ In Area
- ☐ Approx. Date
- ☐ English Only
- ☐ 80 Feet
- ☐ 100 Feet
- ☐ 150 Feet
- ☐ 200 Feet
- ☐ 250 Feet
- ☐ 300 Feet
- ☐ 350 Feet
- ☐ 400 Feet
- ☐ 450 Feet
- ☐ 500 Feet
- ☐ 550 Feet
- ☐ 600 Feet
- ☐ 650 Feet
- ☐ 700 Feet
- ☐ 750 Feet
- ☐ 800 Feet
- ☐ 850 Feet
- ☐ 900 Feet
- ☐ 950 Feet
- ☐ 1000 Feet

LEGEND

1A
PT. 1000000000

1A
PT. 1000000000

CT/C
CUTTING

CT/B
CUTTING

CT/B
CUTTING

CT/B
CUTTING

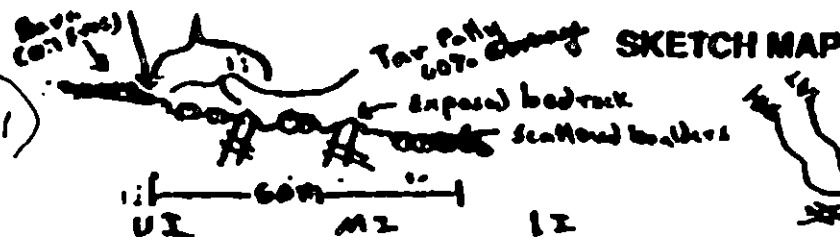
CT/B
CUTTING

CT/B
CUTTING

CT/B
CUTTING

CT/B
CUTTING

CT/B
CUTTING



8/1/90 ASAP TEAM #2

AREA THAT NEEDS REWORKED
- SEE SMALLER DETAILED MAP

* Exposed Bedrock

--- S&L tubes significantly different than HWL

Profile

Oil free
Vegetated
Area

CT/S

Scattered boulders

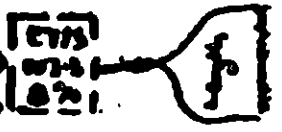
ANADROMOUS
STREAM

Profile

STREAM

U1 M1

Oiled zone
Shaded



Ticks

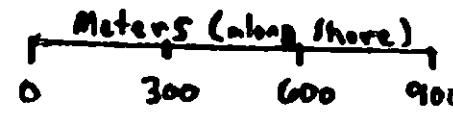
(Subdiv B
Continues
but is unfiled)

Flow
Boulder Beach

No Oil

MANUALLY REMOVE
TAR BALLS AND PATTIES

Bench consists
shallow or dry
bedrock with water



CT/C Length: 30 PO CV 27 CT ST 2160 PT 10 TB FL NO

N. end of Subdivision 301-U

CT/S
W 3-5
17%

PT/B
W 10-15
17%

Located g'l
HWL. Us
spawning b
but also
"globs" of
gravel &
boulders
cracks o
bedrock
few areas
heavier.
as noted

00-7771157

SEGMENT GR-301

SUBDIVISION B

DATE 7/1/90

CHECKLIST

- ☐ N Arrow
- ☐ Aspect (S/N)
- ☐ Slope (S/N)
- ☐ CT Data
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWA/LWL
- ☐ DBL
- ☐ Profile Location(s)
- ☐ Photo(s)
- ☐ PT Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
PH - No Subsurface CI

2 Δ
PH - Subsurface CI

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Peculiar Distribution

CT/S
Spotted Distribution

CT/V
Old Vegetation

1 Δ
Photo location, direction,
and number

AREA THAT NEEDS REWORK
- SEE SMALLER DETAILED MAP

Site #1

STREAM

MS/B/H

MS/B/I

REMOVE Mousse
MANUALLY

Large Driftlog

Steep Rock Outcrop

STREAM

STREAM

NOTE: THIS MAP WAS TRACED
FROM THE ORIGINAL

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

- MANUALLY REPRODUCED -

SKETCH MAP

8/1/90
ASAP TEAM #2

ASAP TEAM #2



0 300 600 900

REVISION: 08/24/90

FIELD SHORELINE COMMENT SHEET

SEGMENT AS/ GR-30 SUBDIVISION: B SITE: 1 DATE 8/1/90

USCG/NOAA PSI Leo Bersalona USCG Leo Bersalona

NAME ART WEINER SIGNATURE Art Weiner

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

All Mousse is ACCESSIBLE FOR REMOVAL USING MANUAL METHODS. IF ALL MATERIAL IS REMOVED, THERE WOULD BE NO NEED FOR A REASSESSMENT IN 1991.

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Additional manual work is recommended for 1990. Mousse to the depth of 12 cm is present. Reassessment is recommended to determine the effect of manual work and to determine the amount of oil if any, remains after additional work is completed.

— Assessment should also be conducted in 1990 to see if additional work is in order after crew reworks area.

LAND MANAGER

NAME John Ebel SIGNATURE John Ebel

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Mousse is readily identified in zone which can be worked. Most tide cycles. However, cobbles may be hidden under grasses when green. Reassessment should be performed shortly after break-up.

EXXON

NAME REY SOTO SIGNATURE Rey Soto

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

This site was missed by clean-up crews while working on this subdivision. Manual pick-up of all mousse should be followed by application of custoblend. After all the manual work is done, there should be no need for reassessment in '91.

WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT GR-301 SUBDIVISION B (site #1) DATE 8/1/90
MODIFICATION CLASS I

1. REASON FOR MODIFICATION

LARGE AMOUNT OF MOUSSE WAS NOT WORKED during clean-

2. SUGGESTED ADJUSTMENT TO WORK PLAN

MANUAL Removal OF MOUSSE and small patches OF asphalt.
USE Available hand tools. Wipe oil Residue with pom-poms
upon Removal OF MOUSSE.

- Bands OF MOUSSE located on both sides OF stream
- Some Areas MOUSSE is present to 12 cm in depth.

3. TIMING ISSUES

ADEC

EXXON

NOAA

USCG

LAND MANAGER

(if field rep is on scene)

ASAP TAG REVIEW SHEET

Segment: GR301 Subd: B Site: 1

Date
PRE-Review 11 AUG 90

Priority For Addressing In 1990

 HIGH

 MEDIUM

 X LOW

 NTR

N/A ^{NO} sheet

Treatment

Recommended:

MANUAL PICKUP ASPHALT & MOUSE

Priority Site For Reassessment In 1991

YES

NO

 CG X

YES

NO

 ✓ ADEC

YES

NO

 EXXON X

YES

NO

 ✓ LAND MGR

TAG 13 AUG 90

Manual pick up mouse

HIGH PRIORITY

FIELD SHORELINE COMMENT SHEET

SEGMENT AS/ GB-301 SUBDIVISION: B SITE: 2 DATE 8/1/90

USCG/NOAA PSI LEO Bersalona, USCG Les Bersalona

NAME ART WEINER SIGNATURE Art Weiner

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

REMAINING OIL IS NOT MOBILE, PRESENT IN VERY SMALL AMOUNTS + DOES NOT REPRESENT A THREAT TO RESOURCES. WEATHERING EFFECTS DURING THE WINTER WILL PROBABLY REMOVE MOST, OR ALL, OF THE REMAINING OIL.

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Reassessment is required to determine the effects of winter storms on remaining oil

- No further treatment is recommended at this time -

LAND MANAGER

NAME John Ebel SIGNATURE John Ebel

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Site reassessment recommended to evaluate effects of weathering on AP, PT/TP; 66t not reassessed as a priority.

XXON

NAME REY SHELLO SIGNATURE Rey Shel

☒ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

No further treatment or reassessment is needed on this site. All work is completed.

ASAP TAG REVIEW SHEET

Segment: GR 301 Subd: B Site: 2 Date
PRE-Review 11 AUG 90

Priority For Addressing In 1990

 HIGH

 MEDIUM

X (see comment) LOW

 NTR

Treatment

Recommended:

~~MANUAL PICKUP AP~~

~~MANUAL PICKUP SPORATIC AP~~

Realistically should be NTR
But since work being done
on site I rec. ABOVE.

Priority Site For Reassessment In 1991

YES

NO

 CG X

YES

NO

X ADEC

YES

NO

 EXXON X

YES

NO

 LAND MGR X

TAG 13 AUG

NTR

FIELD SHORELINE COMMENT SHEET

SEGMENT AS / GR-301 SUBDIVISION: 3 SITE: 3 DATE 8/1/90

USCG

NAME [Signature] SIGNATURE [Signature]

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

No treatment or assessment.

ADEC

NAME Wesley Ghermley SIGNATURE Wesley Ghermley 

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

No further treatment at this time.

LAND MANAGER

NAME John Ebel SIGNATURE John Ebel

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

no oil observed.

EXXON

NAME Ray Sotelo SIGNATURE Ray Sotelo

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

No oiling observed that requires treatment or assessment.

ASAP TAG REVIEW SHEET

Segment: GR 301 Subd: B Site: 3 Date
PRE-Review 11 AUG 90

Priority For Addressing In 1990

 HIGH MEDIUM LOW X NTR

Treatment
Recommended:

NO OIL — SPORADIC COAT

NTR

Priority Site For Reassessment In 1991

YES NO YES NO YES NO YES NO
CG X ADEC X EXXON X LAND MGR X

TAG 13 AUG 90

NTR

SEGMENT AS, GR-301 SUBDIVISION B

SURFACE OIL (CONTINUED)

NEW SITE 4

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	S	U	M	L
ASPHALT								
S.O.R.								
POOLED								
COVER								
COAT								
STAIN								
MOUSSE				X		X		
PATTIES/T.B.								
FILM								
NO OIL					X		X	
EST. SITE LENGTH:					65			

SITE

[illegible]

SITE

[illegible]

SUBSURFACE OIL (CONTINUED)

[illegible]

COMMENTS The new area which was identified had a discontinuous band of MS/I along the U/TZ which was partially covered with seaweed. The area is adjacent to a steep rock outcrop.

ASAP TAG REVIEW SHEET

Segment: GR 301 Subd: B Site: 4

Date
PRE-Review 11 AUG 90

Priority For Addressing In 1990

 HIGH MEDIUM LOW X NTR

Treatment
Recommended:

SPORADIC MOUSSE

NTR

Priority Site For Reassessment In 1991

YES NO YES NO YES NO YES NO
 CG X X ADEC EXXON X X LAND MGR

TAG 13 AUG 90

Manual Pick up mousse

HIGH - PRIORITY

SHORELINE EVALUATION

SEGMENT ST/ GR-302 SUBDIVISION A (1 OF 1) DATE 4/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
5T-4 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
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.

SHPO SIGNATURE: [Signature]

DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 1102 m: Narrow 0 m: V.Light 2816 m: No Oil 2491 m
Subsurface Oil Observed: Yes X No Maximum Depth 35 cm

RECOMMENDATIONS:

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

COMMENTS: Manual pick up of oiled logs with >10% coverage and splash impact. Bioremediate subsurface oil (pit 1 location). Work between 6/1 and 8/14 with ADF&G and USFWS approval regarding eagle nest constraints and herring spawning.

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90

ADEC ART WENGER
EXXON AMY TEN
NOAA Joseph Talbot
USCG KEANE KEWORTH

FOSC: [Signature]

DATE: 4-27-90

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

ST-2

SEGMENT ST / G-1 #302 SUBDIVISION: _____ DATE 4/5/90SCG
NAMERobert Jensen

SIGNATURE

Robert Jensen☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Oil distribution is patchy for the first kilometer on the north side of this segment. It then reduces down to splashes post this location to very hard to find.

ADEC

NAME

Roxann T. Hudnall

SIGNATURE

Roxann T. Hudnall☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

North end of segment has sporadic staining and coats. South end is very lightly oiled - hard to find splashes of stain

LAND MANAGER

NAME

U.S. Forest Service

SIGNATURE

Don Traylor☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Ground oil as discontinuous bands of splatter cover at Northmost end of segment. Band becomes less obvious as proceeded southward along segment. By time reached 1st small cove it was very broken and hard to find. By 2nd small lagoon area was scattered. Only small splatter found below lagoon.

SHORELINE OILING SUMMARY

REVISION NO. 03/22/98

OG ben Tex. Samples USCG 306 Jensen SEGMENT ST/ GR-302
 BIO John Dixon LAND REP Leo Kellen SUBDIVISION A
 EXXON Jim Ellison ADEC Rouven Hudson TIME 15:05 to 19:40
 TEAM NO. 2 TIDE LEVEL: +4.1' to +3.5' DATE Apr 15 / 1990
 EST. SUBDIVISION LENGTH: 7056 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: NE to SW
 SURFACE SEDIMENTS: R 13 % B 18 % C 30 % P 20 % G 0 % S 14 % M 5 % V 0 %
 SLOPE: Long 80% Hang 20% Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 1020 m N 0 m VL 2850 m NO 3186 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	R	B	P	C	BR	BL	FW	GL	GR	TL	SU	U	M	L
ASPHALT PAVEMENT														
POOLED														
COVER			X		X						X			
COAT				X	X						X			
STAIN				X	X						X			
MOUSSE														
PATTIES														
TARBALLS														
FILM			X			X					X			
NO OIL											X		X	X

PAVEMENT: H F S 0 sq. m by 0 cmPATTIES / TARBALLS 20 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. ST2-8ST2-9Frames F7-34F1-7

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	BR	BL	FW	GL	GR	TL	SU	U	M	L		
1	40				X		0 - 35		X						X					NO	Pb / Cd / Se
2	30					X	-										X			"	"
3	35					X	-											X		"	"
4	40					X	-									X				"	"
5	35					X	-									X				"	"
6	40					X	-									X				"	"

COMMENTS

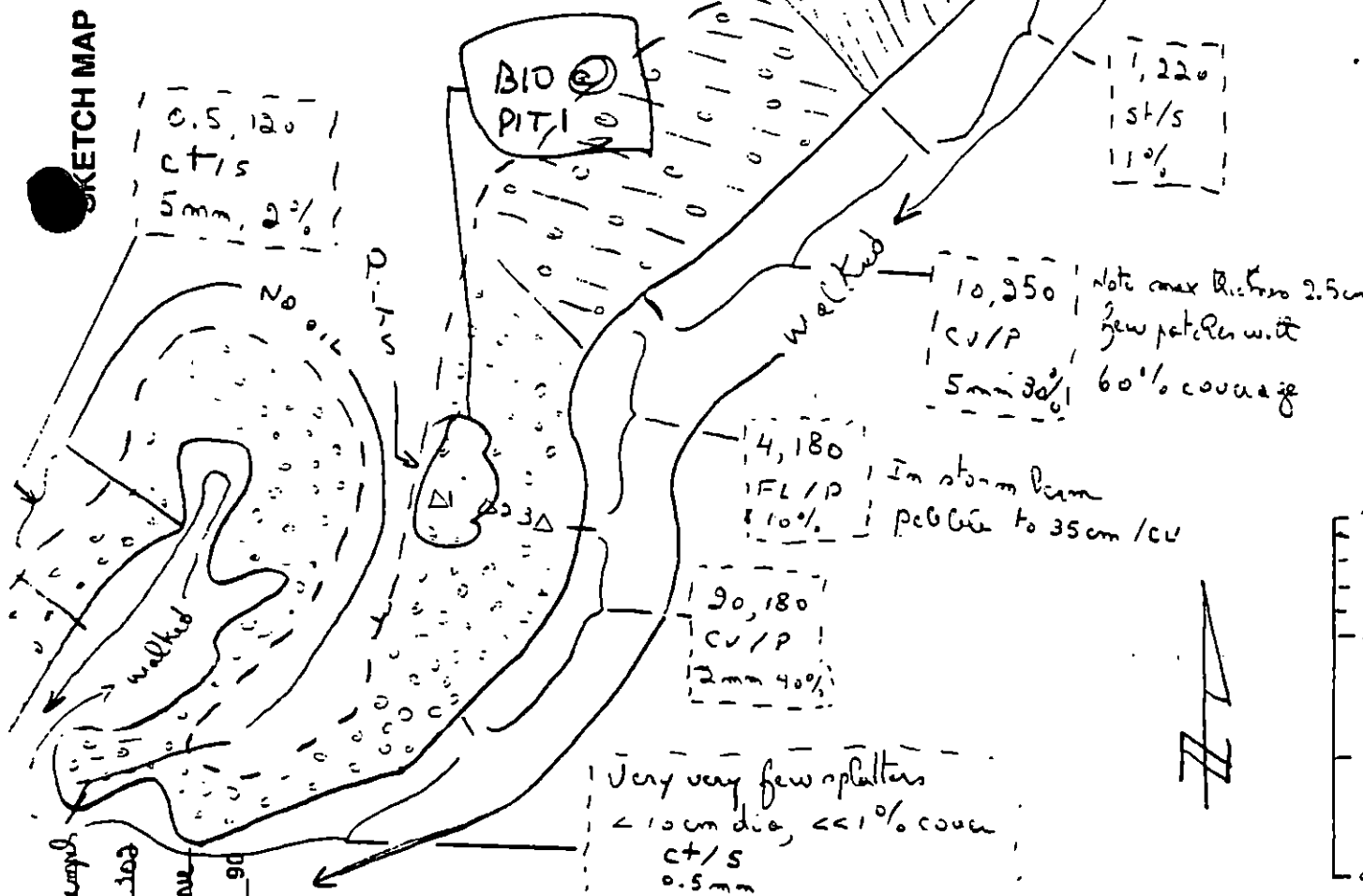
Legend

-  Cliffs and talus
-  Boulder beach on bedrock ramp
-  Boulder/cobble beach
-  c/p/c/sd (angular)

North Half of
Segment 303

width 10, 250 - length
character - c/p/c/sd - distribution
5m - 30%
+ - - - -
T. cover coverage

SKETCH MAP



CHECKLIST

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

LEGEND

- 1  Pit - No Subsurface Oil
- 2  Pit - Subsurface Oil
-  CT/C Continuous Distribution
-  CT/B Broken Distribution
-  CT/P Patchy Distribution
-  CT/S Splashed Distribution
-  Oiled Vegetation

1  Photo location, direction, and number

Oil Character Length (m): AP PO CV 94 CT 510 ST 220 MS PT TB FL 180 NO 660

OG James S. Sample

SEGMENT ST/ GR-302

SUBDIVISION None

DATE April 15/1990

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 Δ
Pit - No Subsurface Oil

2 Δ
Pit - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

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

Oil Character Length (m): AP PO CV CT ST 1950 MS PT TB FL NO 2594

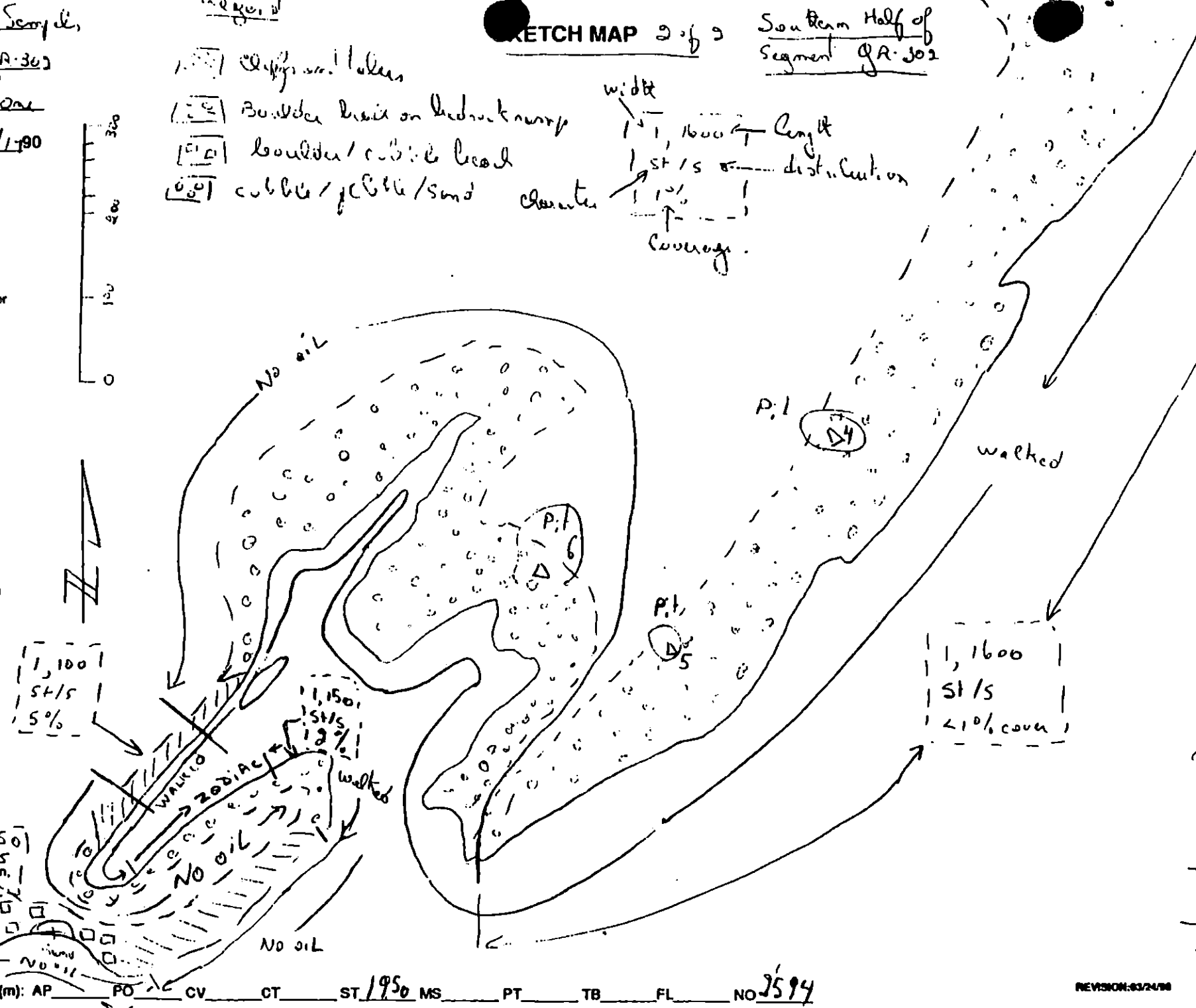
2594

SKETCH MAP 2 of 2

Southern Half of
Segment GR-302

- 1. Claypan / lakes
- 2. Boulder beach on bedrock ramp
- 3. boulder / rubble beach
- 4. cobble / rubble / sand character

width
15, 1600 $\rightarrow$ length
1 st / 5 s distribution
10% coverage



Green Island, GR-302, April 5, 1990

Segment GR-302 is a 7 km long section of shoreline forming the south coast of a long barrier island located north of Green Island. Most of this segment is exposed to a short fetch, the width of the channel separating it from Green Island, except at its northeastern extremity where refraction of waves travelling from the northeast can impinge on the shoreline.

At its northeastern extremity, this segment consists of cliffs and talus with boulders in the lower intertidal zone. This section gives way to the south to a beach of angular boulders and cobbles. In these two sections, oil occurs within a 12 m wide band as patchy covers with an average thickness of 3 mm and a surface coverage of 30%.

Further to the southwest, bedrock cliffs and talus form most of the intertidal zone. Here the oil decreases in coverage and forms stains of splatters with a coverage of only 1 % within a 1 m wide band of the upper intertidal zone. This unit is followed by another section of boulders on a bedrock ramp where the oil increases to form a 10 m wide band with 30% surface cover and 5 mm average thickness.

Further to the southwest, the intertidal zone increases in width and is composed of pebble/cobble. A film of oil surrounding sediments was detected in the storm berm of this area, down to depths of 35 cm, within a 4 m wide band with a 10% cover.

This type of beach continues to the southwest over a considerable distance including two large and complex embayments. Very little or no oil was found there; where present it consists mostly of very dispersed small splatters. Two short sections of the northwestern shoreline of the two embayments include narrow bands of stains and coats on the upper intertidal sediments. The southwestern end of this segment is made up of cliffs and talus and a

CR 300, 7, 13

cove including a pocket beach of boulder/cobble and sand in its center. No oil was found in this area, except at the southern extremity of the segment where stains of splatter occur within a 5 m wide band on the bedrock cliffs and boulders of the upper intertidal zone.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / GR-302 Subdivision N/A Date (mo / day / yr) 04/05/90
 Time (24 hr) 1505-1910 Biologist John Dixon

- (A) Substrate type and % of segments:
 (1) Bedrock 13 (2) Boulder 18 (3) Cobble 30 (4) Pebble 20 (5) Sand 14 (6) Silt 5
- (B) Overall % cover of biota (% of segment): Dense 11 Moderate 25 Low 64
- (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: ST 2-8
 Roll No. 57 2-8

Frames 7, 9, 13, 15,
23-26, 31-34

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	
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	

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	
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	

GASTROPODS

Dense	Moderate	Sparse	Rare	NOT PRESENT
1U 1M 1L	1U 1M 1L	1U 1M 1L	1U 1M 1L	
2 2	2 2	2 2	2 2	
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	

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	
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	

Wildlife Observations/ General Comments: Many oyst. catchers working to intertidal + near recently water NOTOCENEA scattered in general area.

Ecological Considerations: Sensitivities 6Y, 7IL, 7Z, 2M, 5S. This area is made up of 3 habitat types: bedrock, boulder/cobble, & sand. (1) boulder/cobble beaches of various pebbles & cobbles, & (2) sand areas with extensive sand flats. Most diverse biota is on bedrock & (3) least diverse epifauna is on the sand flat. Many *Pyrosoma* in L.I. above sand flat.

Segment GR-302 6.4 Km

9513

1505 - 1910 (+4' - +3')

This long segment is made up of three broad habitat types: ① bedrock outcrops & talus, ② boulder/cobble beaches of various profiles and slopes, and ③ lagoon or estuarine areas with extensive sand flats. The northern boundary of the segment is a rocky headland. Within about 200 m this grades into a predominantly boulder beach with large patches of bed rock outcrops with little relief. Mussels tend to occur on the outcrops in the higher areas (~ +5' - 8'). Barnacles & Fucus are most abundant on the larger, more stable rocks & gastropods tend to occur on boulders & cobbles on the mid to high shore. Many recently eaten Notosacmea sentum & Volututhaya. Looking down the shore on a boulder-cobble beach one is aware of 3 bands of color. From +1' to ~ +3' there is a red-brown band composed of filamentous red algae & Fucus. Below this, from ~ +3' - ~ +7' there is a gray band of rock with sparse mussels & moderate densities of limpet & littorine. From ~ +7' - ~ +12' there is a blue gray band of sparse mussels & barnacles & moderate densities of gastropods. In the central & southern portions of the segment there are large indentations in

60K-302 12/13
the shoreline where broad expanses of sand flat
occur. The substrate is ^{muddy} ~~a sandy~~ with much pebbles
& shell debris. Siphon holes are ~ 120/m² &
there are many dead clam shells (Pectinidae?). There
is moderate cover of red & green filamentous algae
in the lower areas. In the southwest arm of
the southern lagoon the shoreline steepens and sand
& pebbles give way to bedrock, boulders & large cobbles.
This substrate continues to the outer part of the island
& grades into vertical bedrock cliffs. The
southern boundary of the segment is a boulder
cobble beach between two outcrops of bedrock
& talus. The lower portion of this pocket beach
is sand.

8

100-200 2000

GP-300

GP-300

GP-300

GP-300

GP-300

GP-300

GP-300

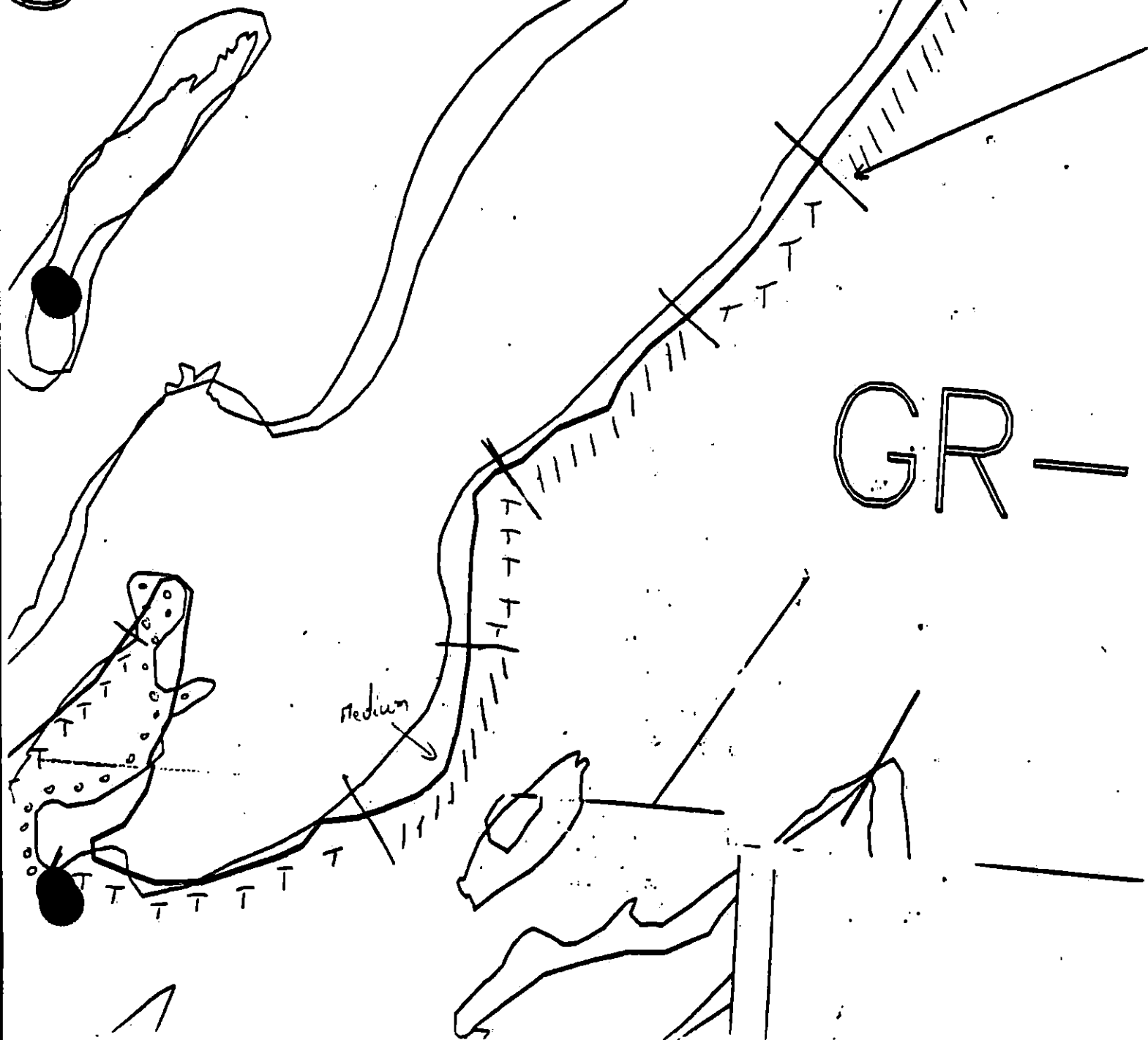
GR-302

ADEC Segment Length: 6409m



April 5/90

5



GR-

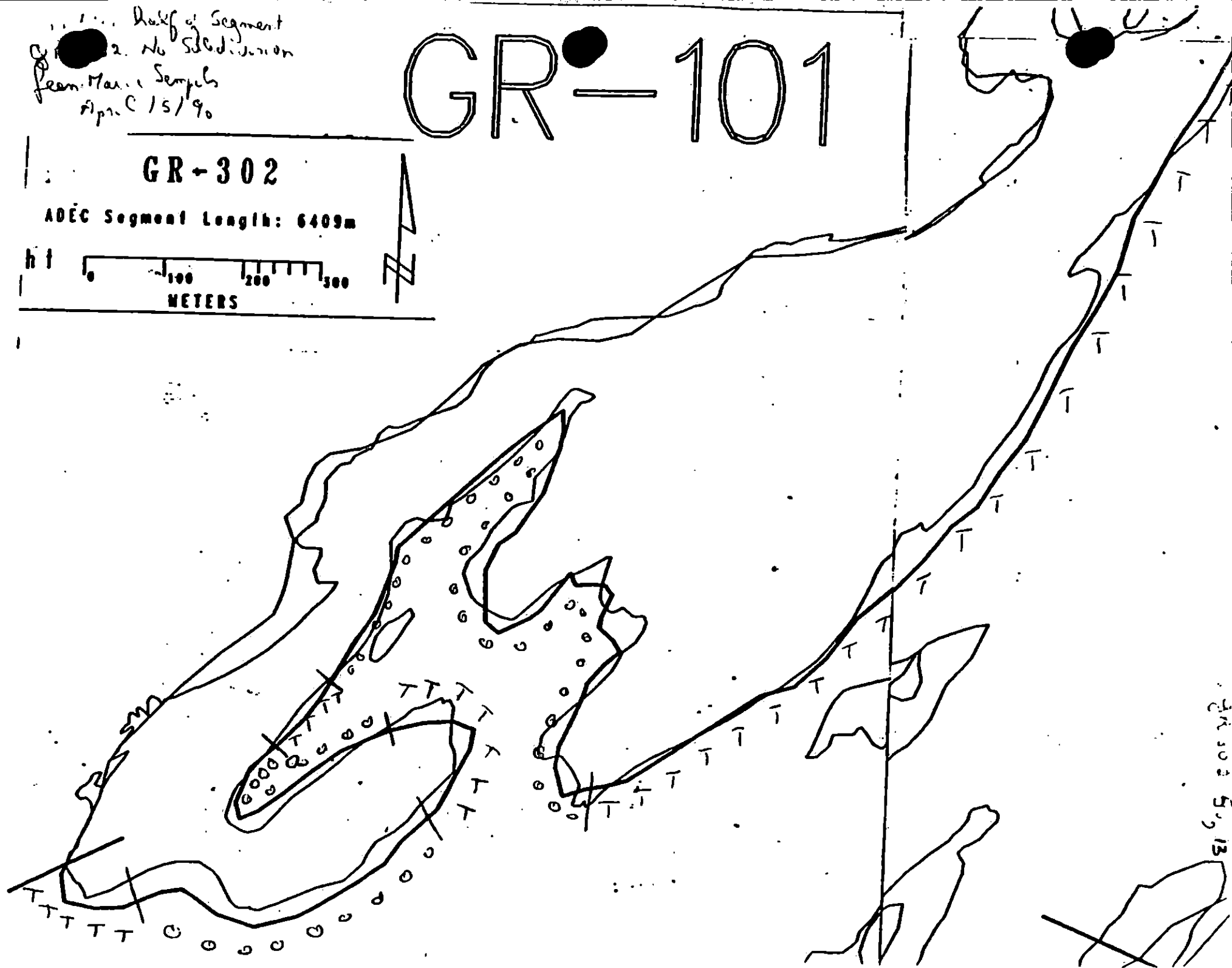
1. ... Half of Segment
2. No Sedimentation
from Marine Samples
Apr. C 15/90

GR-101

GR-302

ADEC Segment Length: 6409m

h t 0 100 200 300
METERS



ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT GR-302 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup	OPEN
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 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 A 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. 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.

FOSC

[Signature]

Date

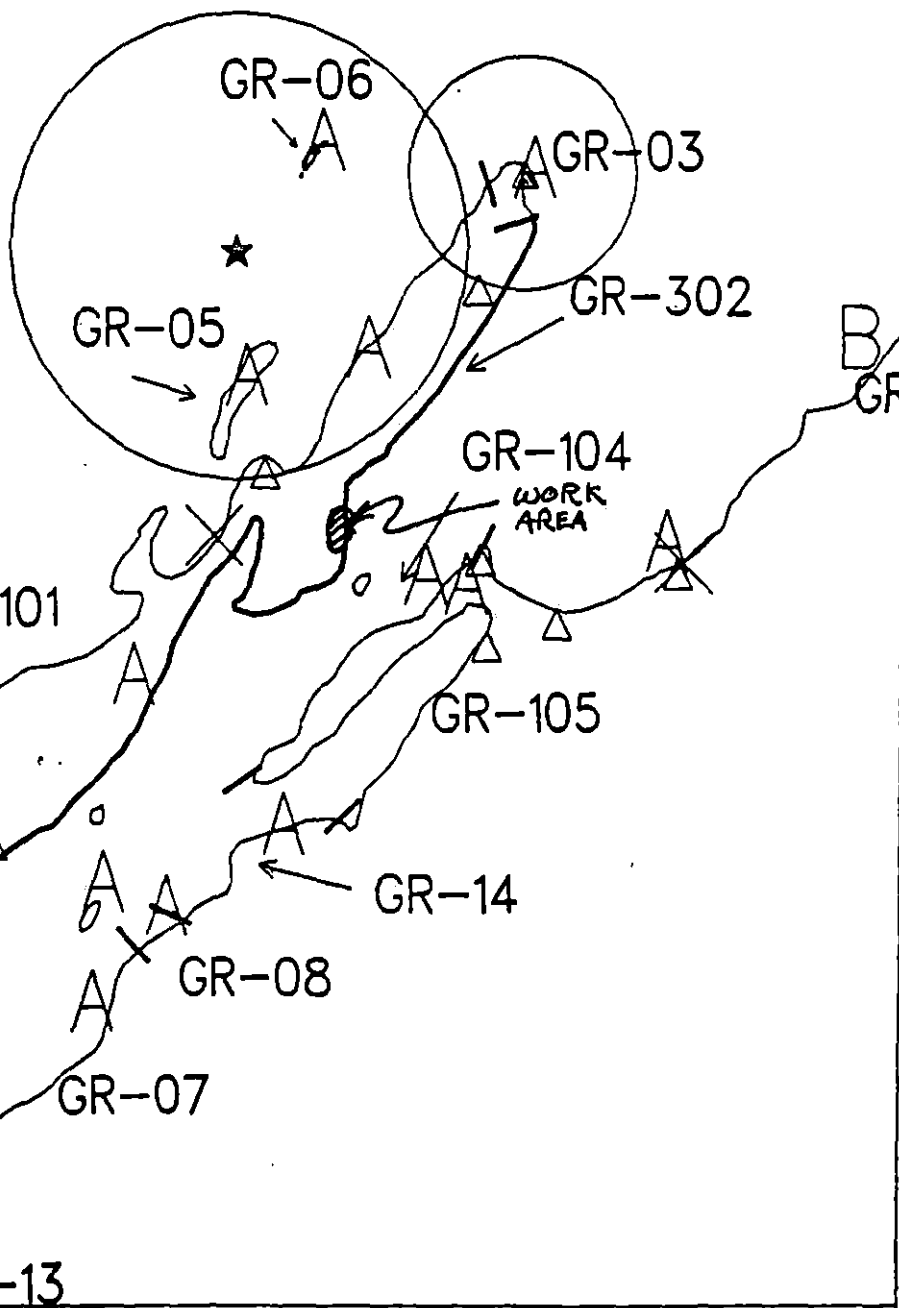
6/13/90

Prepared by

[Signature]

Date

6/12/90



Exxon Company, USA
Map Key: PWS-GR-302
June 04, 1990



ECOLOGY MAP
SEGMENT GR-302
SUBDIVISION A (L of L)
METERS



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

1 inch = 2286 feet

SHORELINE EVALUATION

SEGMENT ST/ HA-02 SUBDIVISION A (1 OF 1) DATE 4/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

4LL Kenai Fjords National Park
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6U Recreation: Tent sites (6/1 to 9/15)
6V Recreation: Anchorages (6/1 to 9/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: [Signature] DATE: 5/8/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 268 m: No Oil 2898 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 Removal	☐ Beach Cleaner
	☐ Other (see comments)

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 5/8/90

ADEC Art Weimer [Signature]

EXXON [Signature] [Signature]

NOAA Gary Petras [Signature]

USCG G.A. REITER [Signature]

FOSC: [Signature] DATE: 6 June 90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 HA-2 SUBDIVISION: A DATE 4/29/91

USCG

NAME JERRY SCHULTZ

SIGNATURE Jerry Schultz

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC

NAME Mike Ebel

SIGNATURE Michael J. Ebel

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

HA-2-A: Very little oil found on the southern end of segment, in the boulder/sand pocket beach (western shore). Splashes weathering off cliff faces need no attention and the few splashes of interstitial pool and asphalt found in rock crevices are not of enough substance to justify any further impact such as crunching underfoot the intertidal critters.

LAND MANAGER NPS

NAME Michael Tetrean

SIGNATURE Michael Tetrean

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

Good survey. Sparse oil was found, but treatment does not appear to be necessary.

SHORELINE OILING SUMMARY

REVISION NO. 06-13-90

OG Randy Siegel USCG Jerry Schulte (Mike Tetrow (UPS))
 BIO Lewis Sherman LAND REP Butler Zeller (CNS) SEGMENT ST/ HA-2
 EXXON Leonard Harbst ADEC Mike Ebel SUBDIVISION A (1 OF 1)
 TEAM NO. 12 TIDE LEVEL 6' to 2.8' DATE 4/29/90 TIME 08:05 to 09:05
 EST. SUBDIVISION LENGTH: 3.510 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow 44° F
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 15 % B 75 % C 5 % P 3 % G 1 % S 1 % M 0 % V 0 %
 SLOPE: Long 5 % Hang 95 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 240 m NO 3270 m

SURFACE OIL

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

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE Plastic#BAGS 1Photographs: NONERoll No. NONEFrames

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (VIN)	!	SURFACE-SUBSURFACE SEDIMENTS
		OF	OR	OL	OF	NO		UO	UC	1	2	3	4	5	SU	U	M	L				
1	25					X	0-0		X						X							C P G
2	37					X	0-0		X						X							S G C P
3	20					X	0-0		X						X							S
4	35					X	0-0		X						X							S
5	35					X	0-0		X						X							S

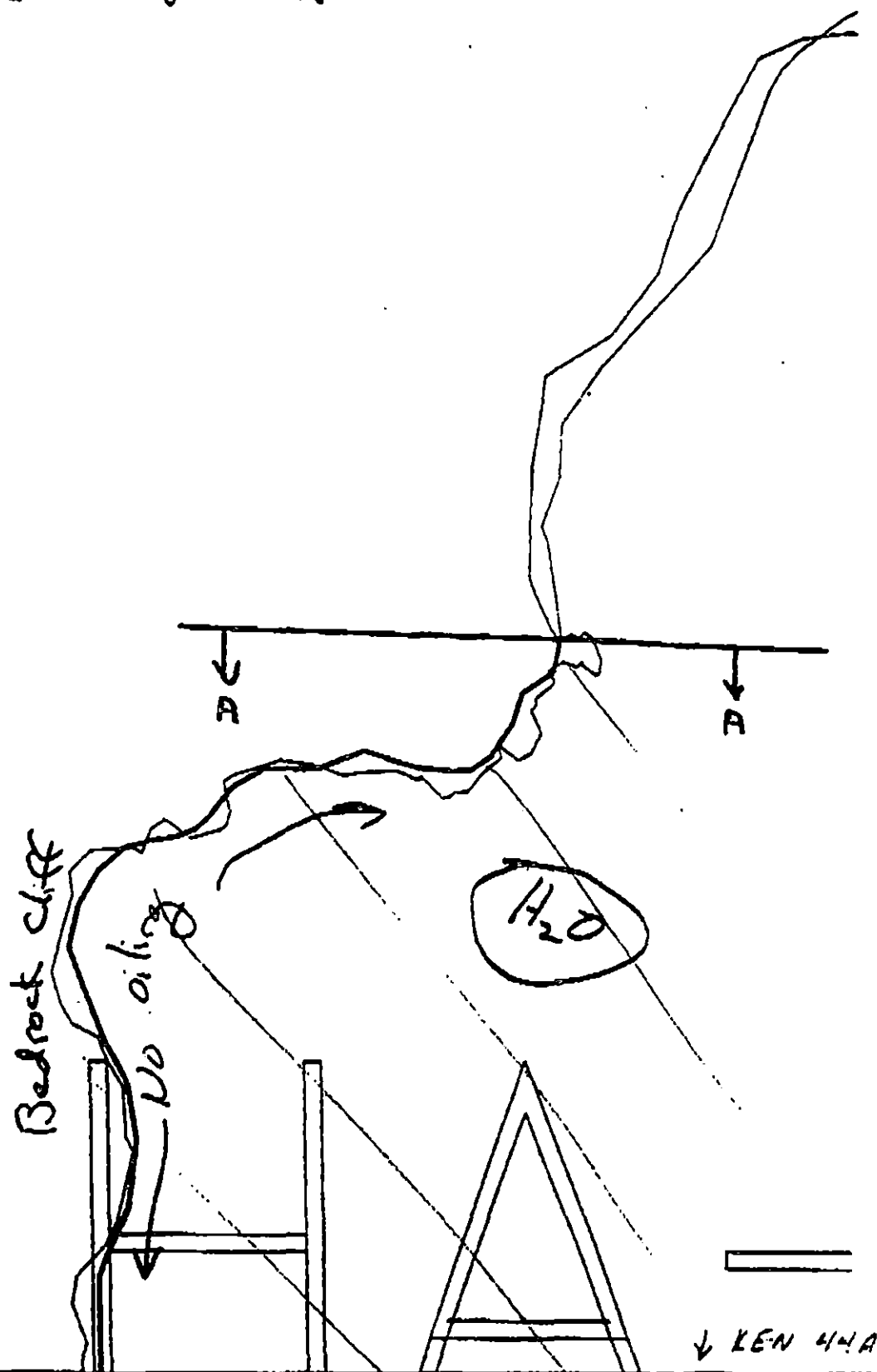
COMMENTS

Segment consisted of high angle cliffs with occasional pocket beaches. Light oiling in the southerly beach — coat-stain on cliff walls, and some asphalt-pools in boulder crevices. All pits were ~~un~~ oiled. Surveyed by boat with spot checks along shoreline.

REVIEWED BATDATE 1 MAY 90

Oil Character Length (m):

AP 10
 PO 10
 CV 0
 CT 240
 ST 240
 MS 0
 PT 0
 TB 0
 FL 0
 NO 3270



XXXX Wide

//// Medium

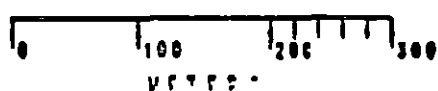
--- Narrow

TTTT Very Light

OOOO No Oil

HA-2

ADEC Segment Length: 3167m

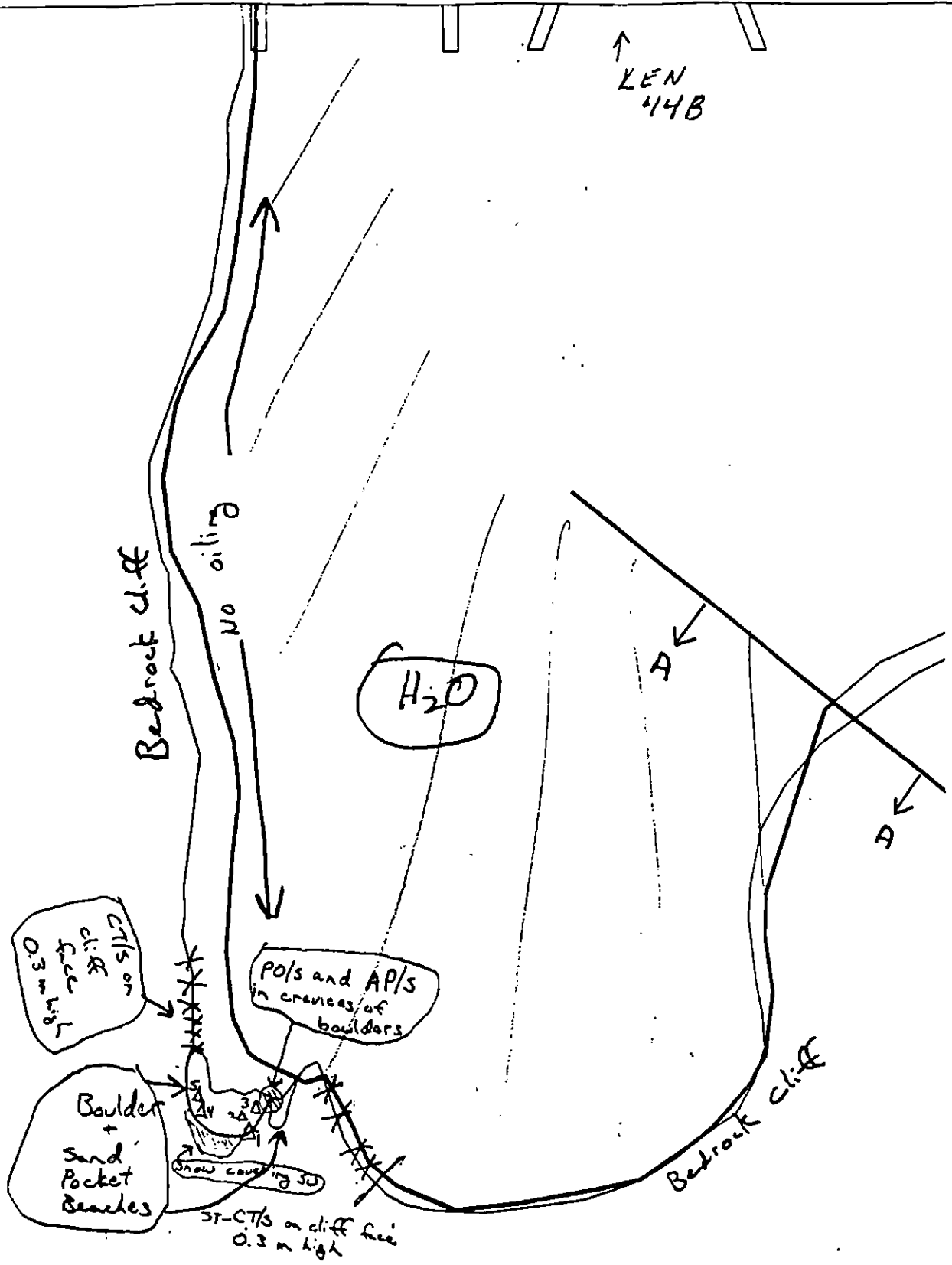


Map Key: KEN-44b

Name: Andy Siegel

Date: 4/29/90

Data Entered:



↑
KEN
44B

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

HA-2

ADEC Segment Length: 3167m



Map Key: KEN-44a
 Name: Ruby Siegel
 Date: 4/29/90
 Data Entered:

SHORELINE ECOLOGICAL SUMMARY (Page 1 of 2)

Segment ST / HA-2 Subdivision A Date (mo / day / yr) 4/29/90Time (24 hr) 0910-0910 Biologist SHARMAN

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

Photographs: —
Roll No. —Frames: —

BARNACLES

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

MYTILUS

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

GASTROPODS (ANCELA, LITTORINA, LIMAE)

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	

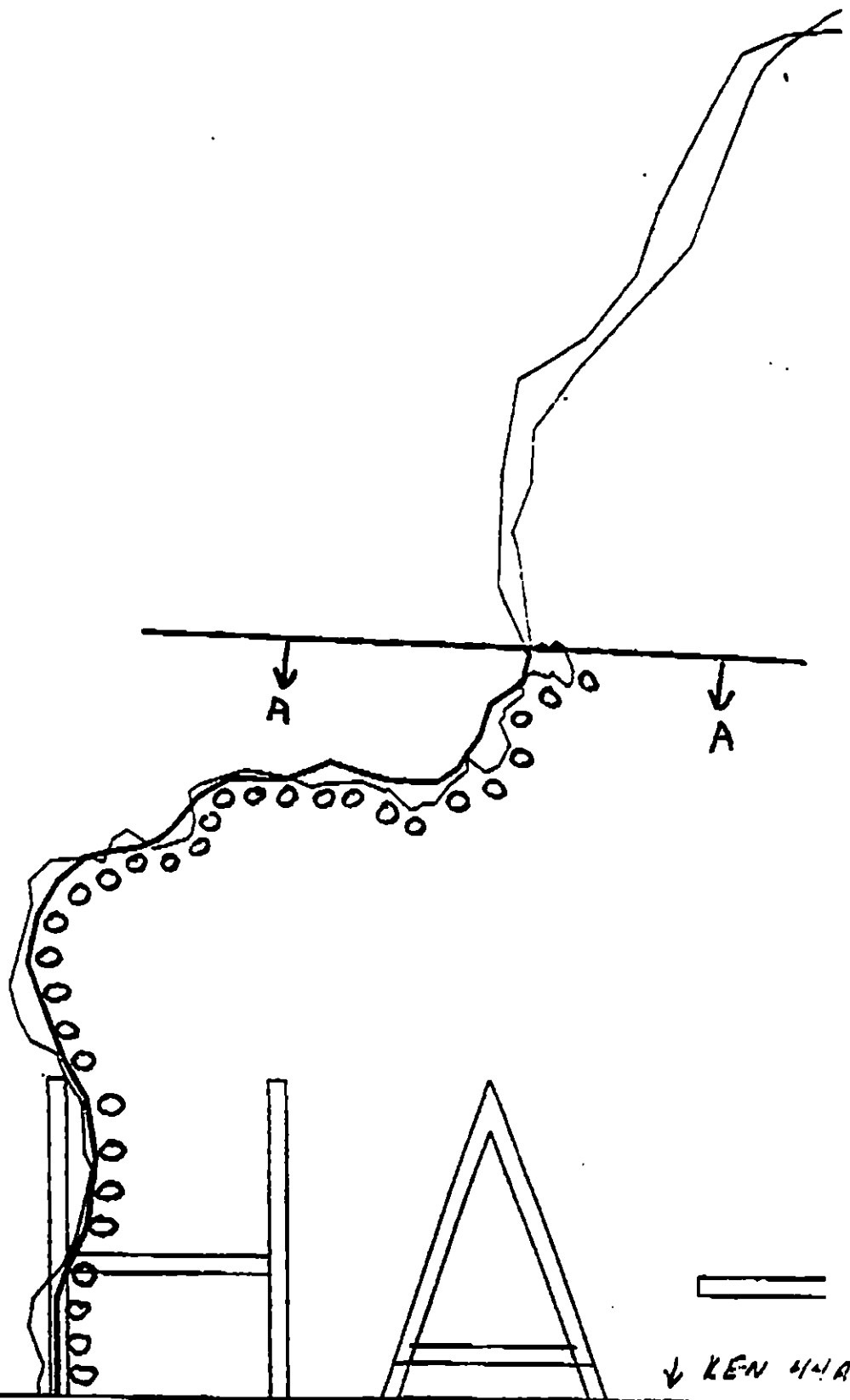
Wildlife Observations/ General Comments: 25 herring ducks, 2 pigeon, guillemots, 2 Barnow's goldeneyes, 1 western eagle, 1 fall sparrow foraging intertidally, varied thrushes singing by forest. A moderately robust intertidal community. HTE has locally abundant large littorina. MTE + LTE support a community typified by Anachis littorina, serpents, sponges, some coralline algae, Pycnopodia, Dennettia, (cont.)

Ecological Considerations:

We received no information regarding resource sensitivities previously identified for this segment. The only particular ecological priority apparent to me is the importance of the bedrock points at the N. end of the segment as habitats for pinnipeds.

HA-2Shoreline Ecological Summary (cont.)
(Page 2 of 2)Sharman
4/29/90General Comments (cont.):

Pinnate, etc. Moderate MTB + LTZ algal diversity. A generally normal + healthy intertidal community with normal ongoing recruitment.



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

OOOO No Oil

HA-2

ADEC Segment Length: 3167m

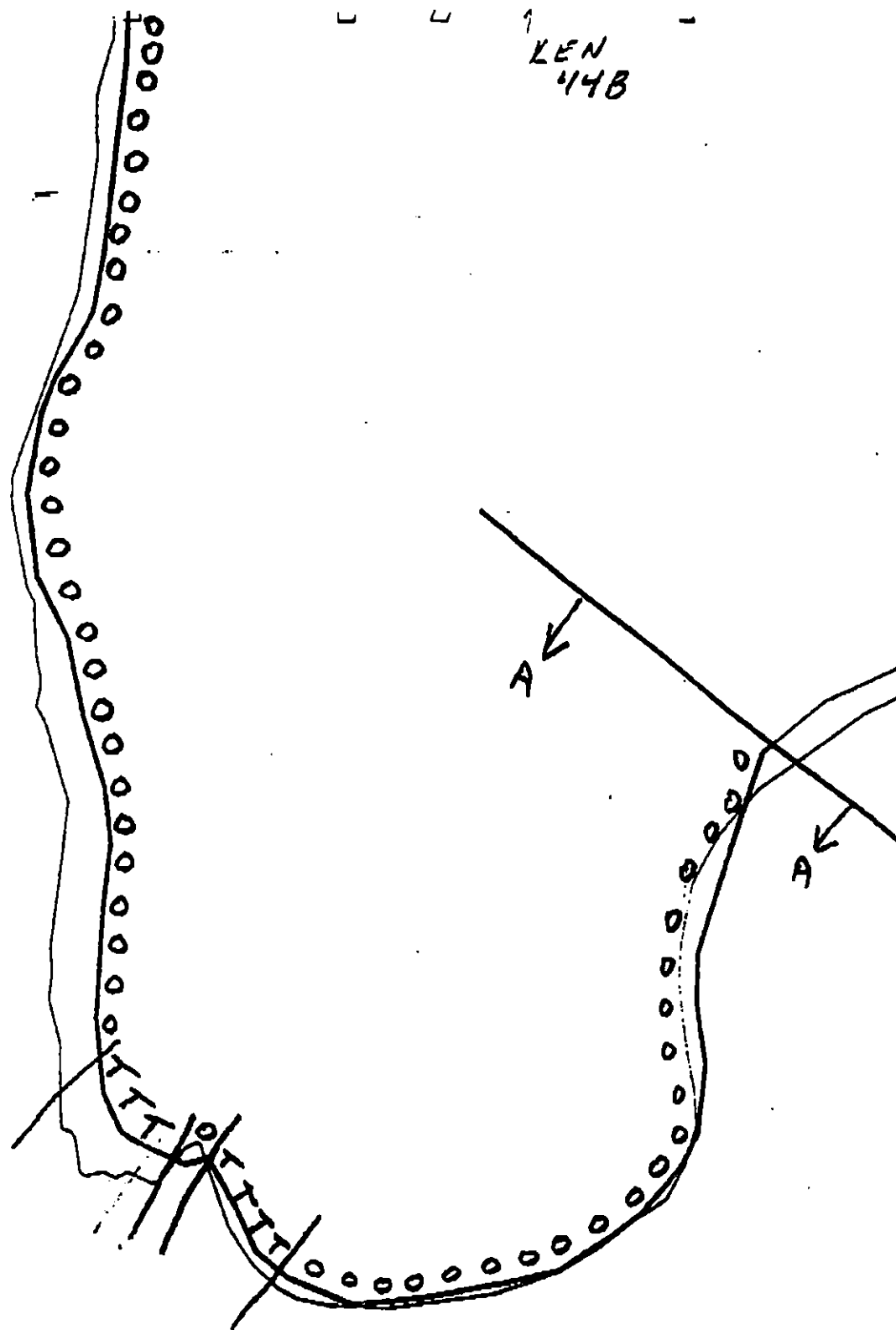


Map Key: KEN-44b

Name: *Ray Siegel*Date: *4/29/90*

Data Entered:

LEN
44B



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

HA-2

ADEC Segment Length: 3167m



Map Key: KEN-44a

Name: Rydiehl

Date: 4/29/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ HR-003 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

4QQ National Wildlife Refuge

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles Zeffman

DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 175 m: No Oil 1501 m
Subsurface Oil Observed: Yes X No Maximum Depth 25 cm

RECOMMENDATIONS:

 No Treatment Recommended

X Treatment Recommended

 Manual Pickup

X Bioremediation

 Tarmat: Breakup

 Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

 Spot Washing: Wands

 Beach Cleaner

 Other (see comments)

COMMENTS: Recommend bioremediation of subsurface oil as indicated on sketch map. Treatment should be conducted before 5/1 or with permission of USFWS after 5/1 due to presence of seabird colony.

TAG COMMENTS:

TAG APPROVAL DATE: 4/20/90

ADEC ART WENGER

EXXON ANDY TGAZ

NOAA Bull Wescroft

USCG KENNETH KEARNEY

FOSC:

DATE: 4-26-90

Due to the reason for not treating offered by USFWS, proceed with treatment as per TAG comments - shoreline condition should be enhanced.

PWS 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 (4/20 to 5/10)
 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 (7/21 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~~ ~~Shorebird/waterfowl concentration (4/1 to 5/15)~~
 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 / HR-3 SUBDIVISION: A DATE 4/8/90

USCG / NOAA
NAME JACQUI MICHEL SIGNATURE J. Michel

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

The only oil remaining was found on the southernmost boulder beach -- only a few drips were observed. No further treatment is warranted.

ADEC
NAME JOHN R. REED SIGNATURE John R. Reed

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

Very light oiling consisting of a few splatters. No treatment is required. I have read and agree with all data on S.S.A.T. Forms.

LAND MANAGER / USFWS

NAME Mary Partner SIGNATURE Mary Partner

☒ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS.

Oil remains as coat and stain between and beneath boulders in the boulder beach at the southern end of the segment. The amount and location of the oil remaining make it difficult to recover.

SHORELINE OILING SUMMARY

REVISION NO. 03/23/90

OG MANAB USCG/NOAA MICHEL SEGMENT ST/ HR 03
 BIO CARR LAND REP FORNER-LWS SUBDIVISION A
 EXXON BOYER ADEC DEED TIME 08:15:10 09:12
 TEAM NO.: 18 TIDE LEVEL: +1.0 to +2.2 DATE 4 / 8 / 1990
 EST. SUBDIVISION LENGTH: 1916 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: NW104 to South
 SURFACE SEDIMENTS: R 90 % B 10 % C 0 % P 0 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 10 % Hang 50 % Vert 40 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 100 m NO 1816 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	IC	IB	IF	IR	SP	BP	OP	BP	OP	BP	OP	BP	SU	U	M	L
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL																

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

OILED DEBRIS	NO	AMOUNT		
		SM	MD	LG
Logs				
Vegetation				
Trash				
Debris				

DEBRIS COLLECTED
☐ YES ☒ NOTYPE N/A#BAGS 0

Photographs:

Roll No. ST 18-5Frames (11-12)SUBSURFACE OIL N

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	BP	OP	BP	OP	BP	OP	BP	SU	U	M	L		
<u>1</u>	<u>50</u>						<u>0-25</u>															<u>NO</u>	<u>BC throughout</u>

COMMENTS

This is a monotonous, steep shoreline backed by a high-angle spruce forest. We landed on a boulder beach (very light oil category on map) where surface oil was scarce and showed signs of wave and boulder-battering erosion. CT and ST persists on boulder surfaces at depth but I doubt this is a significant volume of subsurface oil - i.e. I don't expect to

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / HR-3 Subdivision A (of A) Date (mo / day / yr) 4/8/90

Time (24 hr) 0840 Biologist M. CARR

(A) Substrate type and % of ^{subdivision} segments:
(1) Bedrock 90 (2) Boulder 10 (3) Cobble — (4) Pebble — (5) Sand — (6) Silt —

(B) Overall % cover of biota (% of ^{subdivision} segment): Dense 80 Moderate 20 Low —

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

Photographs: Roll No. 5

Frames 11-12

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments:

NONE

Ecological Considerations:

Sensitivity codes: 4-09 (National Wildlife Refuge), 5-R (Seabird colony).

OG 11111

SEGMENT ST 11R 3

SUBDIVISION A

DATE 1, 8 90

SKETCH MAP

CHECKLIST

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

No sketch

LEGEND

1 

Pt - No Subsurface Oil

2 

Pt - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Oil on Vegetation

1 

Photo location, direction,
and number

Oil Character Length (m): AP 0 PO 0 CV 0 CT 10 ST 10 MS 0 PT 0 TB 0 FL 0 NO 1906

STAR 8'15

HR003

500.0

Team 18

4/8/90

~~LIGHT IMPACT OF
HOUSE AND TARBALLS
ON THE MEDIUM COARSE
BEACH. MAJORITY OF
CONTAMINATION IS ON
THE HIGH TIDE LINE
WITH LIGHTER IMPACT
ON THE MID-TIDE
LINE.~~

~~SQUARED POST TREATMENT
SHORELINE ASSESS:
26 SEPTEMBER 1989
CREW: C. SHERIDAN
M. POTTER
L. PEARSON~~

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

30m x 3m
of < 10%

CT/S ST/S
none observed

1 pit dug to ~50cm
(all BC) oil is ST
scattered on boulders
to ~25cm.

HR003

500.0

Team 18
4/8/90

LIGHT IMPACT OF
MOUSSE AND TARBALLS
ON THIS MEDIUM COARSE
BEACH. MAJORITY OF
CONTAMINATION IS ON
THE HIGH TIDE LINE
WITH LIGHTER IMPACT
ON THE MID-TIDE
LINE.

VL

~~Seward Post Treat.~~
~~SHORELINE ASSES~~
~~26 SEPTEMBER 1989~~
~~CEM: C. SHERIDAN~~
~~M. POTTER~~
~~L. PEARSON~~

← 100 m →
← 12" →

GIS: I don't have Exxon map
- please fill it out yourself.

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

p2
Mann



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

HR-3

EXXON Segment Length: 1916m

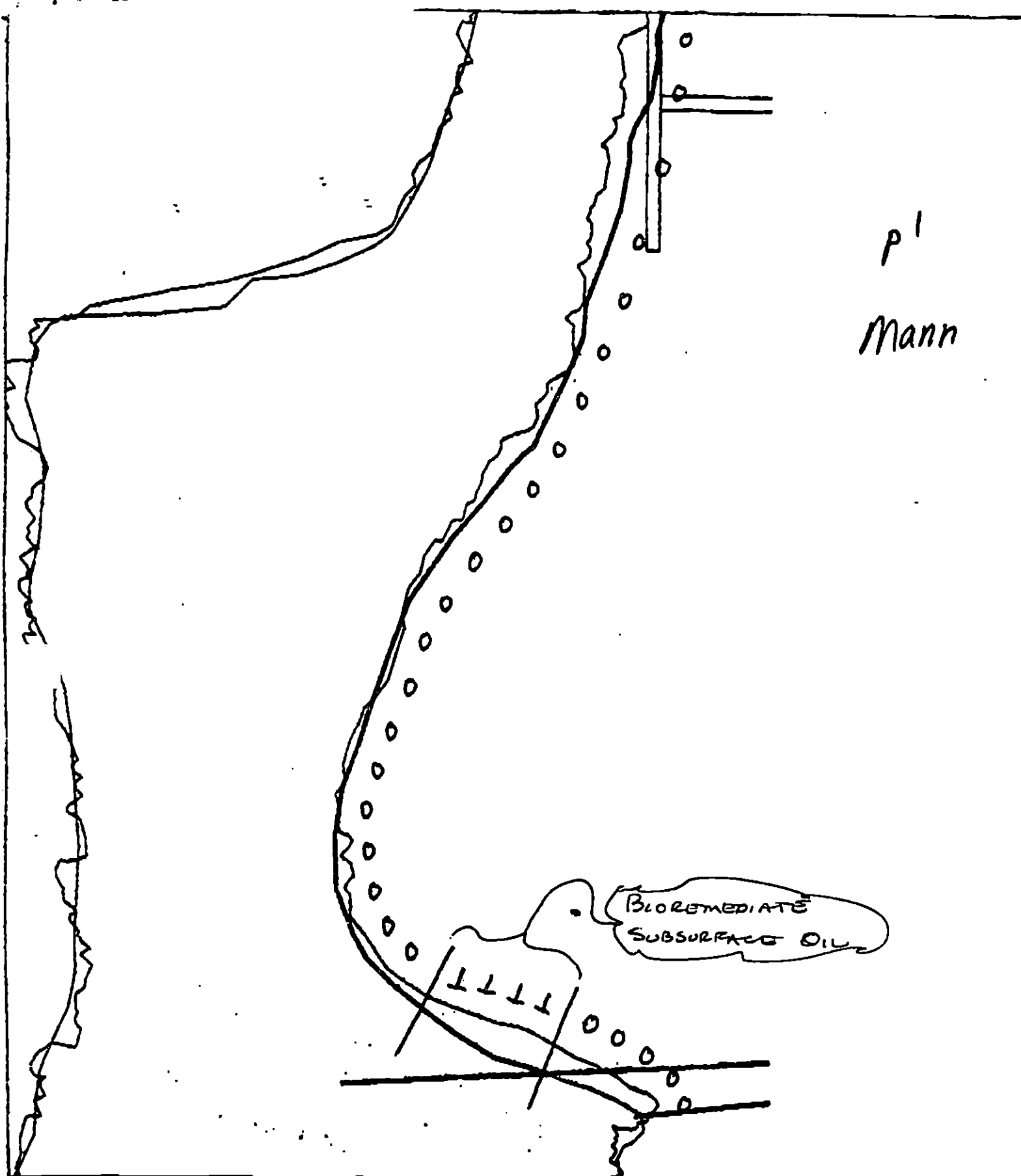


Map Key: PWS-HR-3b

Name: Mann

Date: 4/9/90 for 4/8/90

Date Entered:



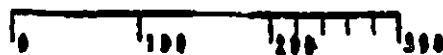
p1
Mann

BIOREMEDIATE
SUBSURFACE OIL

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

HR-3

EXXON Segment Length: 1915m



Map Key: PWS-HR-30

Name: Mann

Date: 4/9/90 for 4/8/90

SHORELINE EVALUATION

SEGMENT ST/ HR-005 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

4QQ National Wildlife Refuge (no time constraint given)

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to unoiled substrate and biota.

SHPO SIGNATURE: [Signature] DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 415 m: No Oil 1744 m
Subsurface Oil Observed: Yes X No Maximum Depth 40cm

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/14/90.

ADEC ART WANNER [Signature]

EXXON ANDY TEAL [Signature]

NOAA Barry Wainwright [Signature]

USCG G.A. REITER G.A. Rata

FOSC: [Signature] DATE: 5-1-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ HR 05 SUBDIVISION: A DATE 4/8/90

NAME G/NOAA SIGNATURE Michael

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

BASED ON PREVIOUS SCAT DESCRIPTIONS, THIS AREA HAS IMPROVED SIGNIFICANTLY BY NATURAL REMOVAL. THE REMAINING OIL WAS EITHER 1) VERY WIDELY SCATTERED SPOTLASS OR 2) PO/AP/CU/CT IN THE COVE THAT WAS ORIGINALLY HEAVILY OILED. NATURAL REMOVAL IS THE MOST EFFECTIVE APPROACH, EVEN FOR THE COVE.

ADEC NAME JOHN R. REED SIGNATURE John R. Reed

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

I am not recommending treatment due to the drastic change since last year. Natural removal has done a good job on this segment. I have read and agree with all data on S.S.H.T. Forms.

LAND MANAGER - USFWS NAME Mary Portner SIGNATURE Mary Portner

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Some natural weathering and removal of oil has taken place in this segment. Oil remaining at Site 1 consists primarily of scattered coat, cover and stain most of which is beneath and between boulders on the N and S end of beach. Several small areas of pooled oil and asphalt remain. The remainder of the segment consists of widely scattered C/Ps and ST/Is.

SHORELINE OILING SUMMARY

REVISION NO. 03/2000

OG Mann USCG NOAA Michel SEGMENT ST/ HR-5
 BIO Carr LAND REP Portner USFWS SUBDIVISION A
 EXXON Boyer ADEC Reed TIME 9:20 to 10:20
 I NO.: 18 TIDE LEVEL: +3.6 to +6 DATE 4/8/90
 SUBDIVISION LENGTH: 3023 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 80 % B 20 % C 0 % P 0 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 40 % Hang 40 % Vert 20 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 400 m NO 2623 m

SURFACE OIL

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

PAVEMENT: H E S 1 sq. m by 3 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NOTYPE 0#BAGS 0

Photographs:

Roll No. ST18-5Frames 13

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	BL/WH	BL/WH	GY/BL	GR/WH	LT/BL	LT/WH	SU	U	M	L				
1	50		✓				0-40		✓		✓					✓				NO	BC throughout		
2	30					✓	-									✓				"	" " "		
3	75		✓				0-30		✓		✓					✓				"	" "		
							-																
							-																
							-																

COMMENTS This is one of the more protected of the Cheswell Island shorelines. The coastline is steep but not precipitous. Kelp and drift logs were observed offshore of the southern cove (Sketch site 1). Oiling outside this cove consists of widely-scattered CTs + STs. In the cove, surface oiling is sparse and shows signs of being eroded by waves and rolling boulders. Much of the remnant oil is in the subsurface but most of this is CT and ST. Pronounced natural self-cleaning has occurred here since 1989.

OG Munn

SEGMENT HR-5

SUBDIVISION A

DATE 4/8 90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Boundary
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/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

Oil on Vegetation

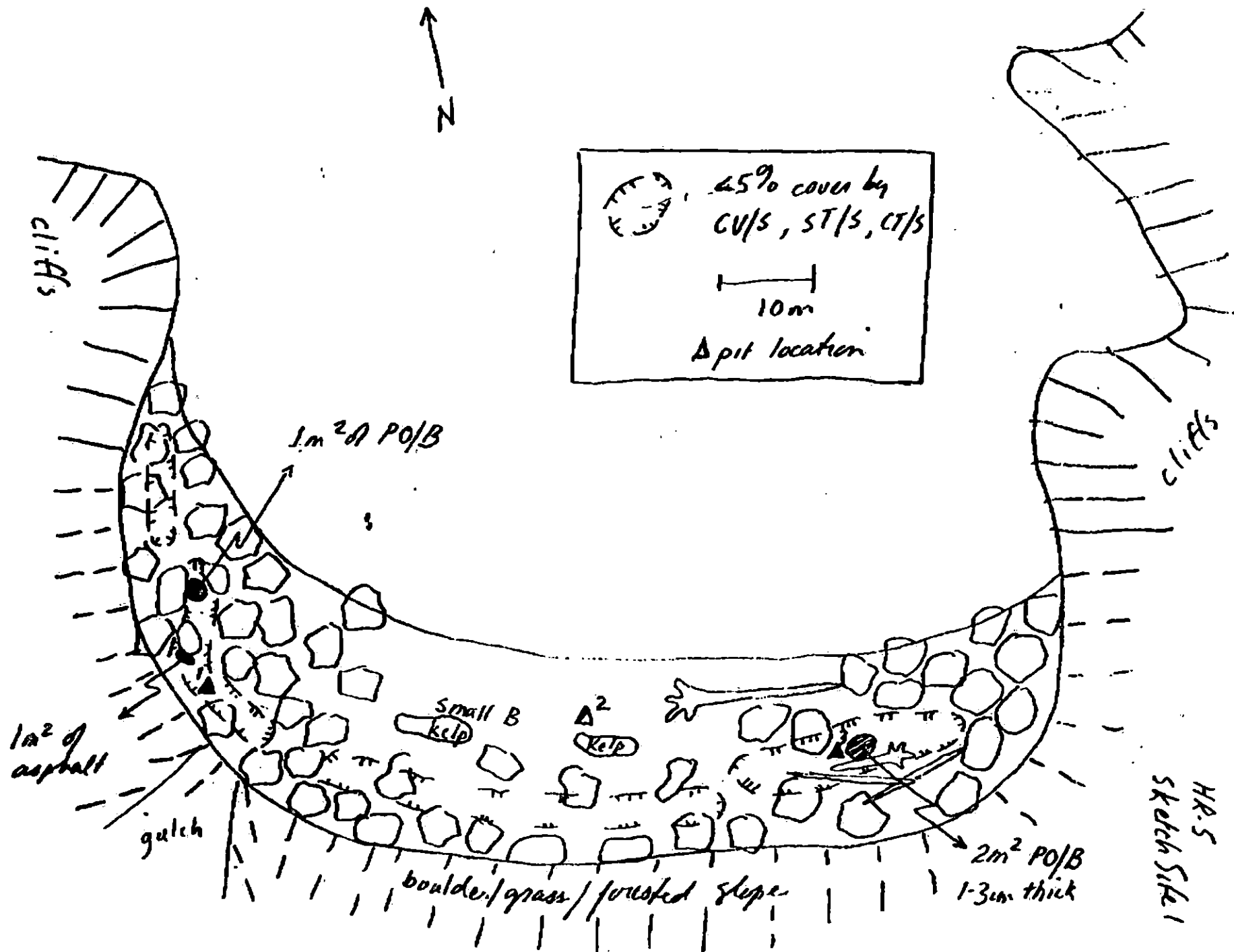
1 

Photo location, direction,
and number

SKETCH MAP

No sketch map

Oil Character Length (m): AP 1 PO 3 CV 50 CT 150 ST 200 MS 0 PT 0 TB 0 FL 0 NO 2623



H.R.5
Sketch Site 1

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/12/90

Segment ST / HR 5 Subdivision A (of A) Date (mo / day / yr) 4 / 8 / 90

Time (24 hr) 0920 Biologist M. CARR

Substrate type and % of ^{SUBDIVISION} segments:

(1) Bedrock 20 (2) Boulder 20 (3) Cobble — (4) Pebble — (5) Sand — (6) Silt —

(B) Overall % cover of biota (% of ^{SUBDIVISION} segment): Dense 70 Moderate 20 Low 10

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

Photographs: Roll No. 5

Frames 13

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

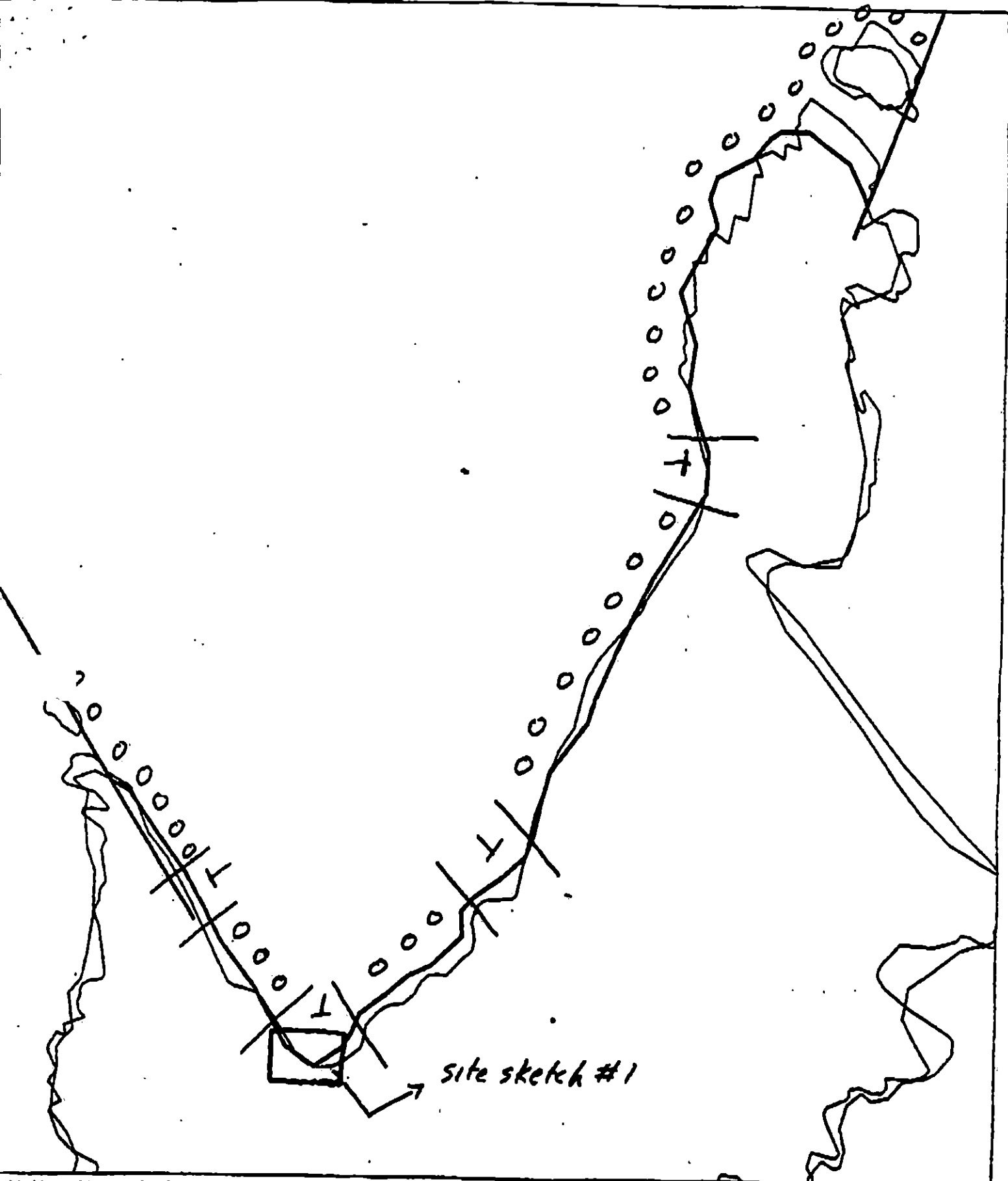
Wildlife Observations/ General Comments:

Bald eagles (2), mature
Black-bellied Kittiwaker (90) on rocks

Glaucons-winged gulls (~200)
Surf-scooter (4)
Maggie (1)

Ecological Considerations:

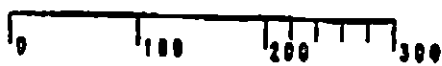
Sensitivity codes: 4-QQ (Natural Wildlife Refuge), 5-R (Seabird colony).



X V V X Wide
 / / / Medium
 - - - - Narrow
 T T T T Very Light
 O O O O No Oil

HR-5

ADEC Segment Length: 1901m



Map Key: KEN-50a

Name: Mann

Date: 4/8/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ HR-007 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5R Seabird colony (5/1 to 9/1)
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)
4QQ National Wildlife Refuge
5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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

OILING CATEGORIZATION:

Wide 0 m: Medium 58 m: Narrow 0 m: V.Light 0 m: No Oil 4562 m
Subsurface Oil Observed: Yes X No Maximum Depth 100+ 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: ☐ Breakup	☐ Beach Cleaner
☐ Removal	☐ Other (see comments)

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/21/90
ADEC ART WEINER
EXXON ANDY TATZ
NOAA Burt Wescott
USCG KENNETH KEANE

FOSC: WJL DATE: 4-27-90
Pay particular note to DOI's request concerning sheening.

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 (8/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (8/11 to 7/25)
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 unrolled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3M, 3B Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (8/1 to 9/15)
6V Anchorages (8/1 to 9/15)
6W Forest Service cabins (8/1 to 9/15)
6X Lodge (8/1 to 9/15)
6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
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/ HR 07 SUBDIVISION: A DATE 4/7/90

SCG/NOAA

NAME JACQUI MICHEL SIGNATURE Michel

☒ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

THIS SEGMENT WAS THE MOST RUGGED/EXPOSED SHORELINE SEEN TO DATE WITH LARGE NUMBERS OF SEABIRDS, MARINE MAMMALS AND A RICH INTERTIDAL ZONE. MOST (95%) OF THE SHORELINE CONSISTED OF VERTICAL CLIFFS THAT WERE FREE OF OIL. ONE AREA, A "NOTCH" BOULDER BEACH, CONTAINED OIL-COATED BOULDERS BELOW A CLEAN SURFACE. I WAS SURPRISED TO SEE OIL PERSIST ON THIS VERY HIGH ENERGY SHORELINE - YET THE LARGE SIZE OF THE BOULDERS HAS SLOWED EROSION OF OIL FROM BELOW THE SURFACE. THE RESIDUAL OIL IS STILL VERY LIGHT AND DOES NOT WARRANT TREATMENT.

ADEC

NAME JOHN R. REED SIGNATURE John R. Reed

☒ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

One small pocket beach of large boulders has a very small area of cover, coat, and stain that does not warrant treatment. The majority of the segment is vertical cliffs. I have Read and agree with all data on S.S.A.T. Forms.

LAND MANAGER - USFWS

NAME Mary Partner SIGNATURE Mary Partner

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

Since the 1989 SCAT of this segment some weathering of the oil coating the surface of cobbles and boulders (see site sketch) has occurred. However, beneath the surface layer of cobbles and boulders oil coverage in the band approaches 100%, primarily as coat cover and stain. Oil persists along the rock face and on bedrock in the North corner of the site. This is present as cover, coat and stain. Driftwood currently in the upper and surficial is uncited. Current treatment technology does not include effective methods for recovery of the subsurface oil at this site. Due to the rich orifauna and presence of pinnipeds, this site should be re-evaluated in stream throughout the summer. REVISION NO. 08/21/88

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG Mann NOAP Michel SEGMENT ST/ HR 7
 BIO Carr LAND REP Partner - USELWS SUBDIVISION A
 EXXON Boyer ADEC Reed TIME 18:00 to 19:20
 TEAM NO.: 18 TIDE LEVEL: +1 to +0.8 DATE 4/17/90
 EST. SUBDIVISION LENGTH: 6309 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 97 % B 3 % C 0 % P 0 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 3 % Hang 10 % Vert 87 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 75 m N 0 m VL 0 m NO 6234 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	B	P	S	SP	ST	SL	TL	LA	SU	U	M	U			
ASPHALT PAVEMENT																
POOLED																
COVER			✓			✓										
COAT			✓			✓					✓					
STAIN			✓			✓					✓					
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL										✓		✓	✓			

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE WAO#BAGS WAO

Photographs:

Roll No. 18-4 18-5Frames (32-37) (1-2)

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW	OIL / FILM COLOR								PIT ZONE	A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO			SP	ST	SL	TL	LA	SU	U	M	U		
1	30	✓					0 - 30	✓					✓		✓			NO	CB Throughout
2	100	✓					50 - 100	✓					✓		✓			NO	BC Throughout
3	75					✓	.								✓			NO	" "
							.												
							.												
							.												

This segment consists of a spectacular high cliff. Oil persists in one small pocket.
 COMMENTS beach.

→ This charm beach is composed of rounded to subrounded, granitic boulders (small to large). Oil is rare at the surface but persists in the subsurface as abundant CT and ST—apparently at depths below where the boulders have not moved since the oil arrived. Oil CT and ST on fringing rock walls has been wave abraded.

OG M 1

SEGMENT ST/ H207

SUBDIVISION A

DATE 04/07 90

CHECKLIST

☐ N Area
☐ Approx. Scale
☐ Seg/Sub Entry
☐ 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

PR - No Subsurface Oil

2 Δ

PR - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Spotted Distribution

Oiled Vegetation

1 $\Rightarrow$

Photo location, direction,
and number

SKETCH MAP

No SEGMENT SKETCH

Oil Character Length (m): AP 0 PO 0 CV 75 CT 75 ST 75 MS 0 PT 0 TB 0 FL 0 NO 6234

Site Sketch Map Subdiv. A

Mann 4/7

HR-7P

10m

Start 1815 -
end 1900

on the vertical walls...

CV/S, CT/S, ST/P

(tot. cov. ~ 20%)

75m x 2m wide

N

lg. B

CT/P, CV/S

ST/P

tot. cover ~ 20%

kelp debris

lg. B

splashed
CT/S, ST/S

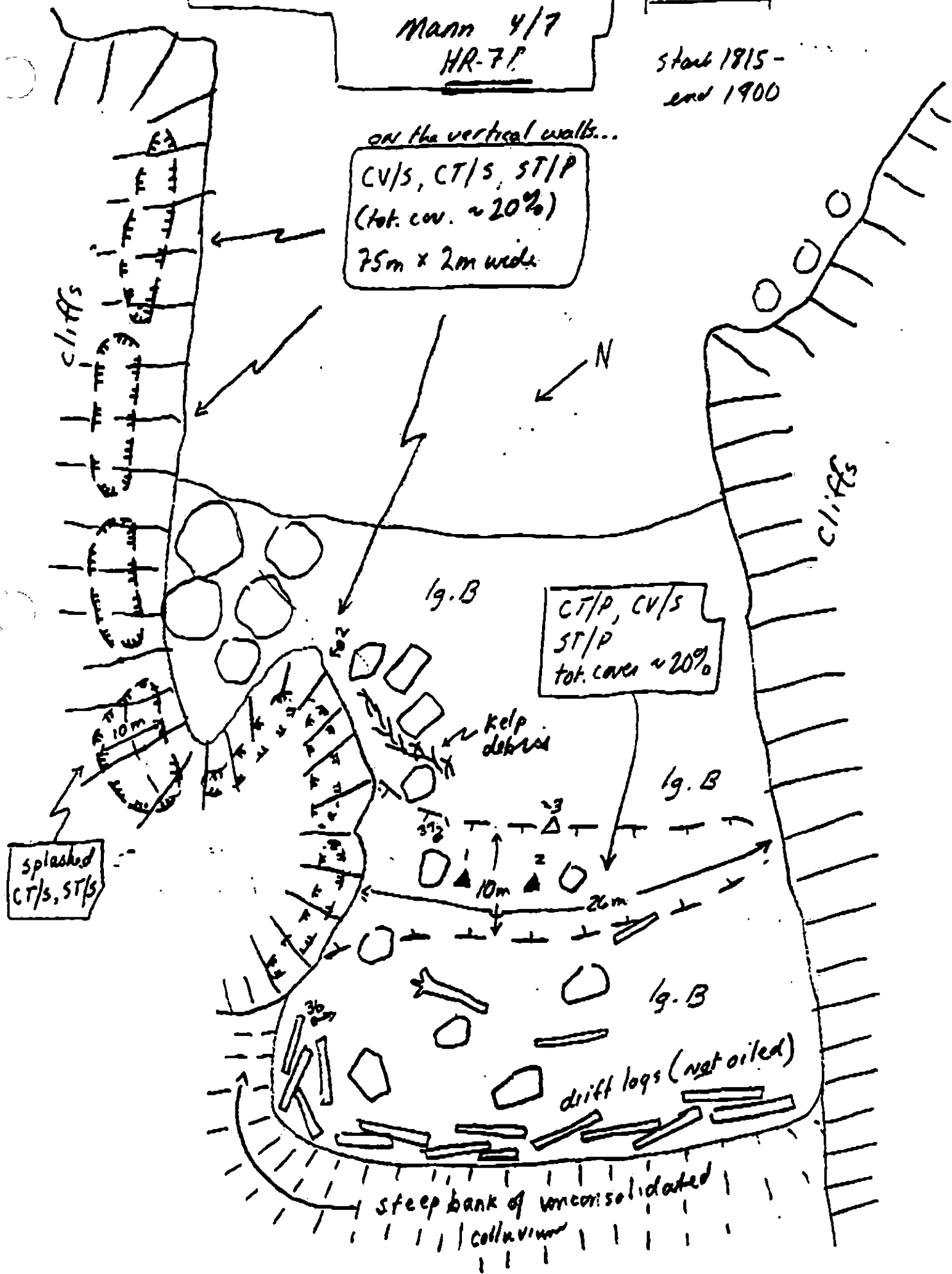
10m

26m

lg. B

drift logs (not oiled)

steep bank of unconsolidated
colluvium



SHORELINE ECOLOGICAL SUMMARY

REVISION: 000000

Segment ST / HR-7 Subdivision A (of A) Date (mo / day / yr) 4 / 7 / 90
 ne (24 hr) 1800 Biologist M. CARR

- (A) Substrate type and % of ^{SUBDIVISION} segments:
 (1) Bedrock 97 (2) Boulder 3 (3) Cobble (4) Pebble (5) Sand (6) Silt
- (B) Overall % cover of biota (% of ^{SUBDIVISION} segment): Dense 90 Moderate 10 Low
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs: 4 / 5
 Roll No.
 Frames 32-37 / 1-2

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:

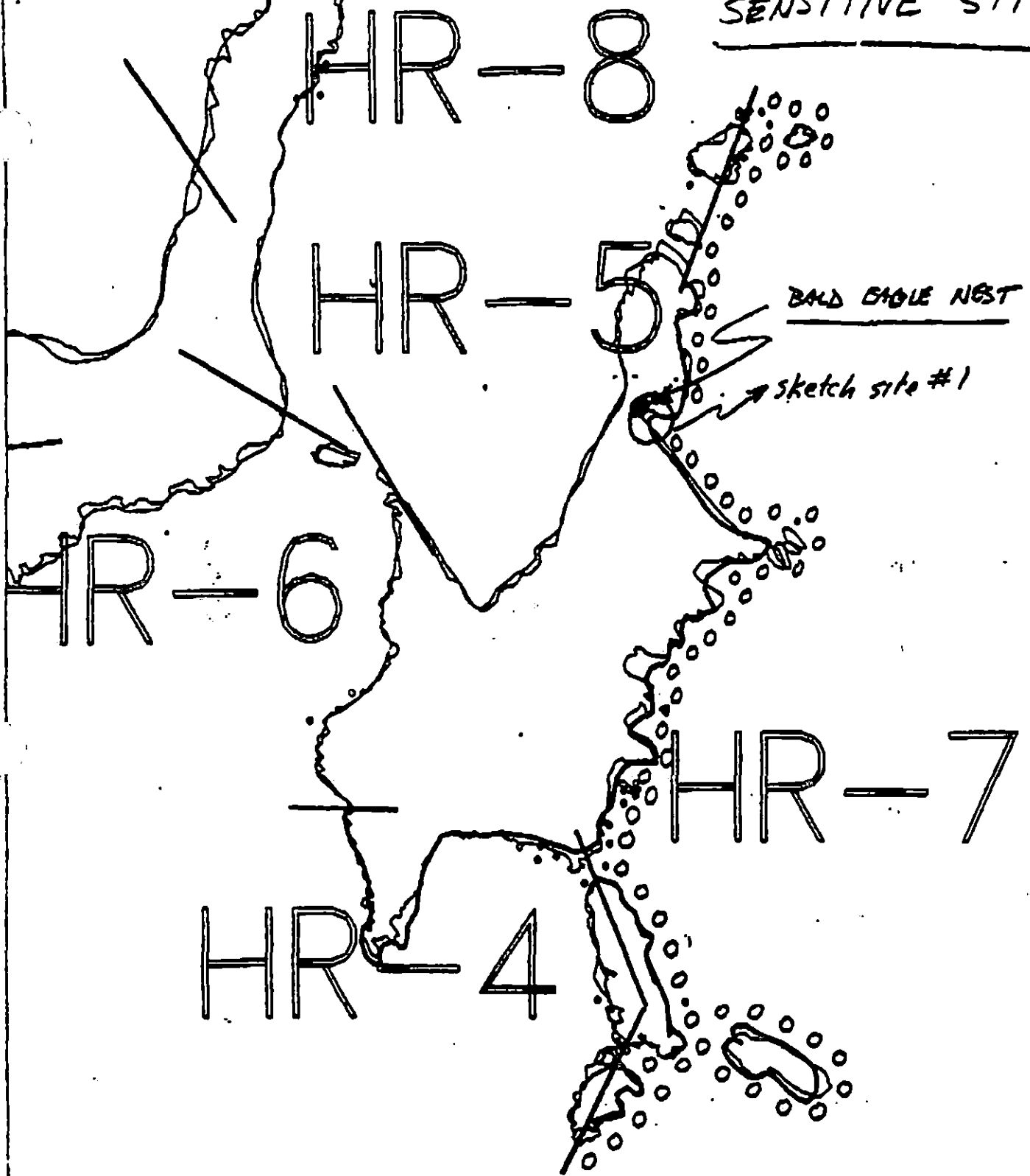
Glaucous-winged gull (2 w/o)
 Bald eagles (7) mature, (1) immature
 Oystercatchers (5)

Sea otter (1) Red-faced cormorant
 Sea lions (ca 115), Steller's
 Harlequin ducks (8) whales (4), unid.

Ecological Considerations:

Sensitivity codes: 4-00 (National Wildlife Refuge), 5-R (Sea bird colony),
 3-P (Sea Lion pupping), 3-G (Sea lion molting)
 5-T (Bald eagle nest)

SENSITIVE SITES *



* ENTIRE SHORELINE IS INHABITED BY SEABIRD COLONIES !

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

HR-7

ADEC Segment Length: 6148m

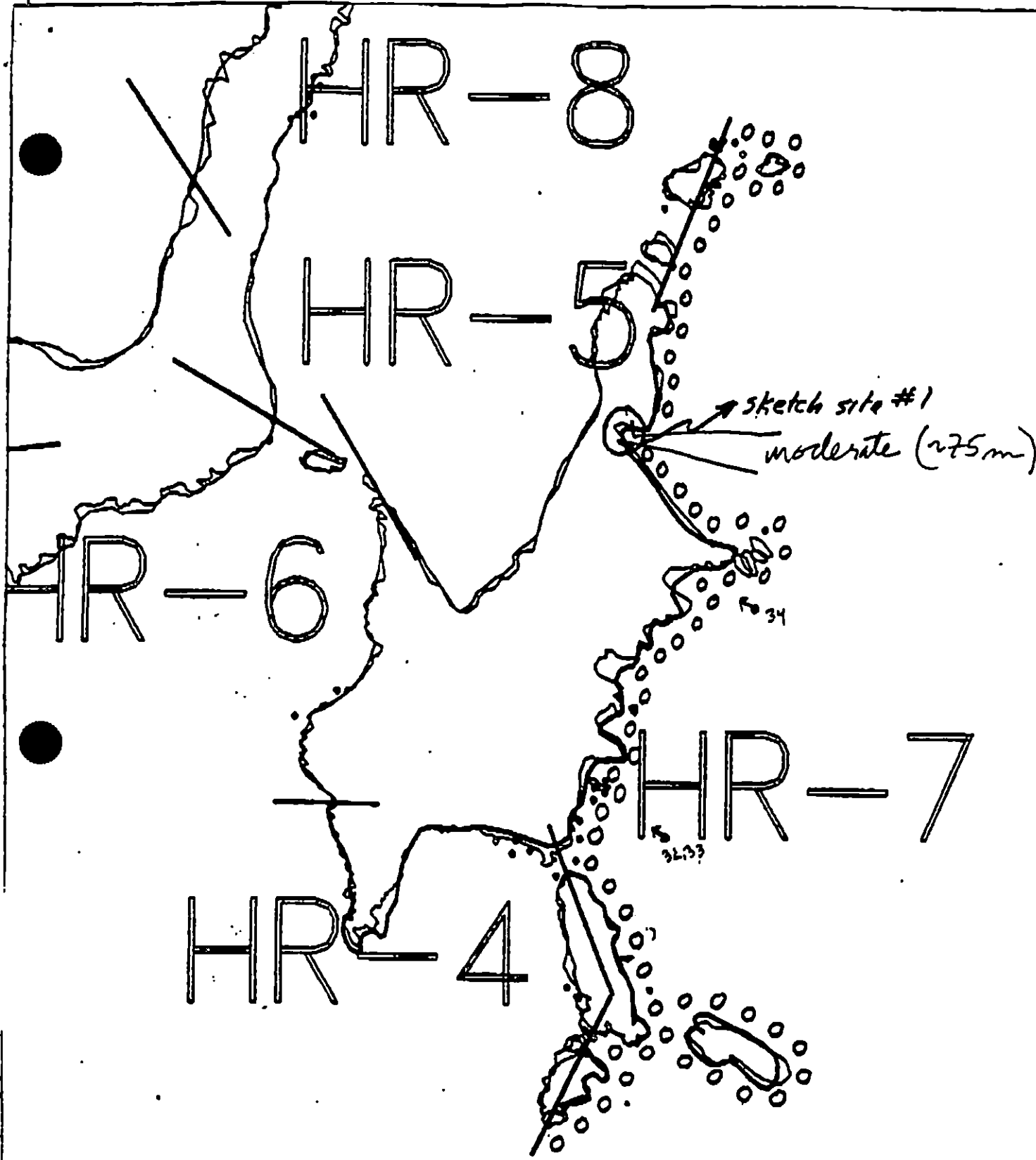


Map Key: KEN-52

Name: Mann

Date: 4/7/90

Data Entered:



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

HR-7

ADEC Segment Length: 5148m



Map Key: KEN-52
Name: Mann
Date: 4/7/90
Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ HR-009 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5R Seabird colony (5/1 to 9/1)
5T Active eagle nest (3/1 to 9/1)
4QQ National Wildlife Refuge (no time constraint given)

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid disturbance/damage to unoiled biota and substrate. See attached Ecological Constraints Sheet.

SHPO SIGNATURE: Charles J. Johnson DATE: 4/17/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 150 m: No Oil 5606 m
Subsurface Oil Observed: Yes X No Maximum Depth 100 cm

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/16/90
ADEC AL REITER
EXXON ANDY TEAL FOSC: D.F. Wyl DATE: 4-20-90
NOAA Burt Wescott
USCG G.A. REITER

PWS 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 (4/20 to 5/10)
- 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 (7/21 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 (8/1 to 9/15)
- 6W Forest Service cabins (6/1 to 9/15)
- 6X Lodge (6/1 to 9/15)
- 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
- 7HH Finfish harvesting
- 7II Deer harvesting (8/15 to 2/29)
- 7JJ Invertebrate harvesting
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

MENT ST / HR-9 SUBDIVISION: A DATE 4/8/90

USCG / NOAA

NAME JACQUI MICHEL SIGNATURE Michel

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

THIS SEGMENT WAS FREE OF OIL EXCEPT FOR SITE 1. A BOULDER BEACH THAT WAS ORIGINALLY HEAVILY OILED. ALTHOUGH THE SURFACE SEDIMENTS WERE NEARLY CLEAN, THE SUBSURFACE BOULDERS WERE STILL COATED (20-40%) WITH A THIN OIL LAYER ALONG THE UPPER 1/2 IN A DISCONTINUOUS BAND—EVEN ON THIS VERY EXPOSED SHORELINE. HOWEVER, NO FURTHER CLEANUP IS WARRANTED—NATURAL REMOVAL WILL BE MOST EFFECTIVE.

ADEC

NAME JOHN R. REED SIGNATURE John R. Reed

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

THIS SEGMENT IS MOSTLY VERTICAL CLIFFS THAT SHOW NO SIGNS OF OIL. THERE WAS SOME OIL AT SITE #1 (SEE SKETCH) THAT CONSISTED MAINLY OF COAT IN THE FORM OF SPLATTERS ON THE LARGE BOULDERED BEACH. I HAVE READ AND AGREE WITH ALL DATA ON S.S.A.T. FORMS.

LAND MANAGER / USFWS

NAME MARY PORTNER SIGNATURE Mary Portner

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

OIL PRESENT IN THIS SEGMENT AT SITE 1 (SEE SKETCH). SURFACES OF BOULDERS AND COBBLES HAS SHOWN IMPROVEMENT SINCE SEPTEMBER 1989. OIL REMAINS BETWEEN AND BENEATH BOULDERS AND COBBLES AS COVER, COAT AND STAIN WITH OCCASIONAL POOLS. MOST SPLATTERS ON THE SURFACE BOULDERS HAVE HARDENED TO A TARRY CONSISTENCY. SUBSURFACE OIL IS SOFT. WITH CURRENT TREATMENT TECHNOLOGY THE SUBSURFACE OIL WILL BE DIFFICULT TO RECOVER. THIS AREA HAS A RICH INTERTIDAL AND ALGAL COLONY ON SITE. AS THE SUMMER PROGRESSES AND

DEC
NAME JOHN R. REED SIGNATURE John R Reed

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

This segment is mostly vertical cliffs that show no signs of oil. There was some oil at site #1 (see sketch) that consisted mainly of coat in the form of splatters on the large bouldered beach. I have read and agree with all data on S.S.A.T. Forms.

LAND MANAGER/USFWS
NAME Mary Portner SIGNATURE Mary Portner

☒ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Oil persists in this segment at site 1 (see sketch). Surface cover of boulders and cobbles has shown improvement since September 1989. Oil remains between and beneath boulders and cobbles as cover, coat and stain with occasional pools. Most splatters on the surface boulders have hardened to a tarry consistency. Subsurface oil is soft. With current treatment technology the subsurface oil will be difficult to recover. This area has a rich intertidal and a seabird colony on site. As the summer progresses and the oil warms and becomes movable, the area should be reevaluated for skimming.

REVISION NO. 03/21/90

SHORELINE OILING SUMMARY

REVISION NO. 07/22/90

OG MANU USCG/USAA MICHEL SEGMENT ST/ HR-9
 BIO CARR LAND REP PORTNER - FUS SUBDIVISION A
 XON BYER ADEC REED TIME 07:12 to 08:15
 TEAM NO.: 12 TIDE LEVEL: +0.2 to +1.0 DATE 4/8/90
 EST. SUBDIVISION LENGTH: 6291 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: NORTH to SOUTH
 SURFACE SEDIMENTS: R 90 % B 10 % C 0 % P 0 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 5 % Hang 15 % Vert 80 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 120 m NO 671 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	10	15	17	18	ST	CT	CV	LT	LT	LT	LT	LT	SU	UI	ME	U
ASPHALT PAVEMENT																
POOLED				✓				✓						✓		
COVER				✓		✓								✓		
COAT				✓		✓								✓		
STAIN				✓		✓								✓		
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL													✓		✓	✓

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

OILED DEBRIS <u>NO</u>	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☒ YES ☐ NOTYPE 0#BAGS 0

Photographs:

Roll No. ST 18-5Frames (3-10)

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UO	50L OR	50L OR	50L OR	50L OR	50L OR	50L OR	50L OR	50L OR	SU	U	M	U		
1	45					✓	-											✓				NO	BC throughout
2	35		✓				0-35		✓		✓							✓				NO	BC throughout
3	30		✓				0-30	✓			✓							✓				"	" "
4	40					✓	-											✓					
5	100		✓				0-100		✓		✓							✓					
							-																

COMMENTS Much of the segment is vertical, granite wall. Oil persists only at site 1.In pits, oil CT and CV amount to a 10-40% coverage over subsurfacedebris. Surface cover by oil is low (~5%) and shows significantnatural cleaning since 1988. Oil persists in the subsurface as CT, CV, and
ST but is not abundant and probably will not be a source for
continued recontamination of this cover.

OG Man

SKETCH MAP

SEGMENT ST/ NR-9

SUBDIVISION A

DATE 4, 8 90

CHECKLIST

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

No sketch map

LEGEND

1 

PH - No Subsurface Oil

2 

PH - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Oiled Vegetation

1 

Photo location, direction,
and number

Oil Character Length (m): AP 0 PO 3 CV 40 CT 80 ST 120 MS 0 PT 0 TB 0 FL 0 NO 6171

REVISION: 000000

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/90

Segment ST / HR-9 Subdivision A (of A) Date (mo / day / yr) 4 / 8 / 90
 (24 hr) 0711 Biologist M. CARR

- (A) Substrate type and % of ^{SUBDIVISION} segments:
 (1) Bedrock 90 (2) Boulder 10 (3) Cobble — (4) Pebble — (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of ^{SUBDIVISION} segment): Dense 90 Moderate 10 Low —
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs: 5
 Roll No. —
 Frames 3-10

BARNACLES

	Dense		Moderate			Sparse			Rare		
	1U	1L	1U	1M	1L	1U	1M	X	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
 NOT PRESENT ON CO
 AT ANY ZONE.

MYTILUS

	Dense		Moderate			Sparse			Rare		
	1U	1L	1U	1M	1L	1U	1M	X	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
 NOT PRESENT ON CO
 AT ANY ZONE.

GASTROPODS

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

UPPER INTER. ENACLES
 NOT PRESENT
 NOT PRESENT ON CO
 AT ANY ZONE

FUCUS

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

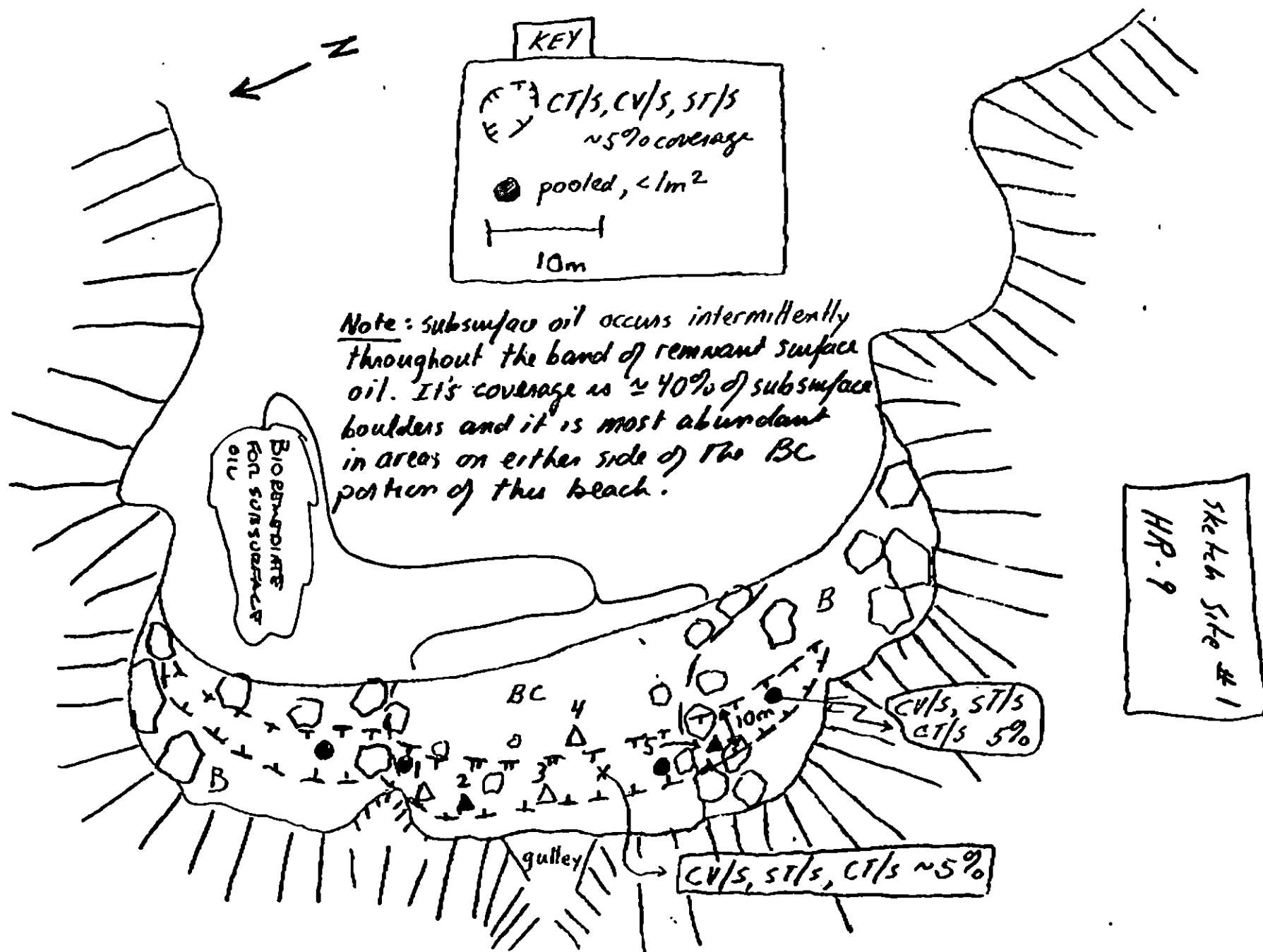
NOT PRESENT
 NOT PRESENT ON CO
 AT ANY ZONE

Wildlife Observations/ General Comments:

Harlequin ducks (6) Pigeon guillemot (1) N.W. crows (10)
 Land otter (1) Red-faced cormorant (8)
 Bald eagle (3) mature w/nest

Ecological Considerations:

Sensitivity codes: 4-QQ (National Wildlife Refuge), 5-T (Bald eagle nest)
 5-R (Seabird colony)



Sensitivity sites

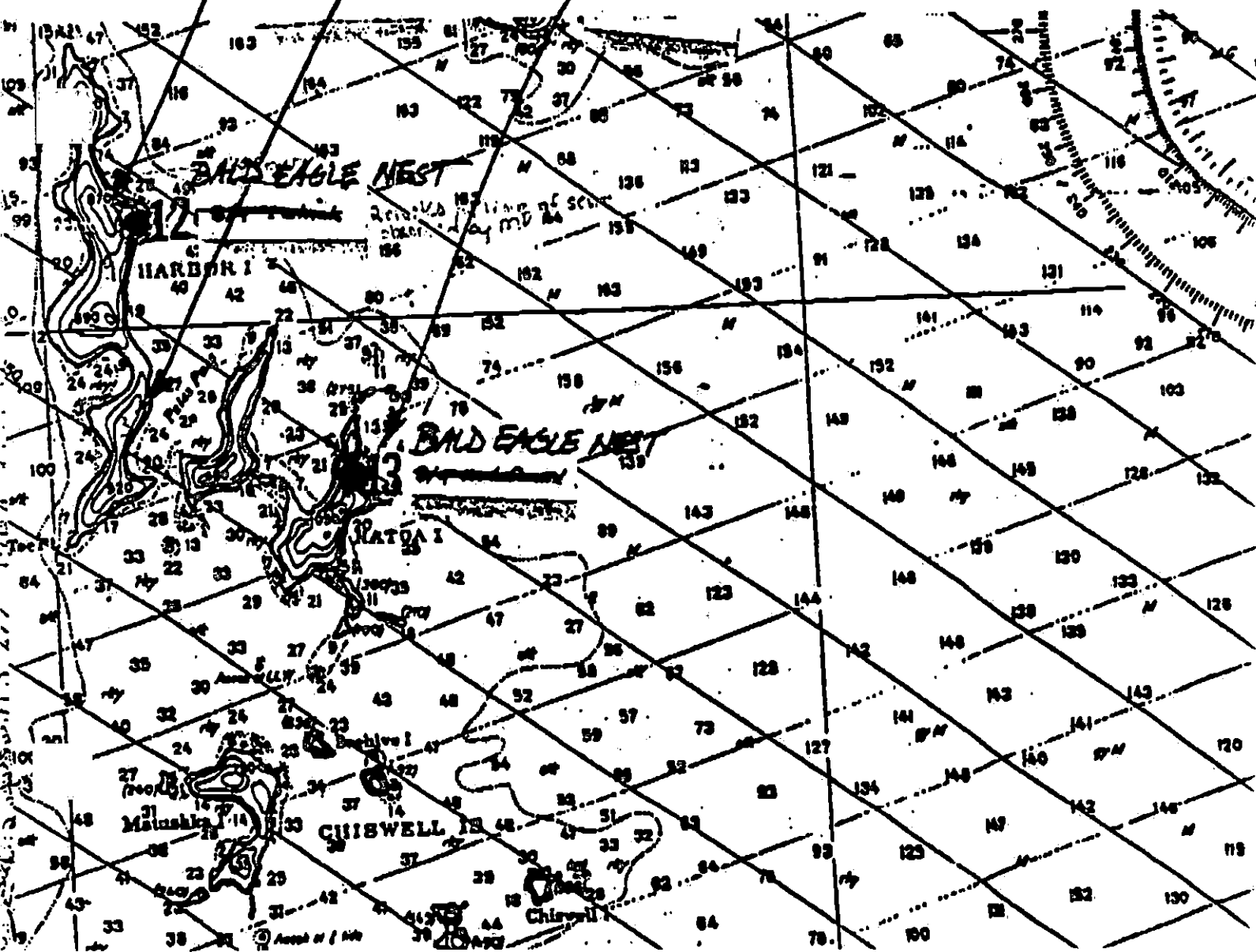
HR-9 (HARBOR ISLAND, NORTH)

- BALD EAGLE NEST (1)
- ENTIRE SHORELINE (INCLUDING IMPACTED BEACH) INHABITED BY SEABIRD COLONIES,

HR-3 (HARBOR ISLAND, SOUTH) ENTIRE SHORELINE INHABITED BY SEABIRD COLONIES

HR-5 (NATDA ISLAND)

- BALD EAGLE NEST (1)
- ENTIRE SHORELINE INHABITED BY SEABIRD COLONIES



HR-1

↑
KEN 54 B

→ sketch site #1

(see other
map for oiling
categories)

HR-9

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

ADEC Segment Length: 5756m

Map Key: KEN-540

Name: Mann

Date: 4/8/90



↑
KEN 54B

HR-1

XX Wide

/// Medium

--- Narrow

TTTT Very Light

OOOO M - 0.1

HR-9

ADEC Segment Length: 5756m

0 300 600 900

Map Key: KEN-54a

Name: Mamur

Date: 4/8/90

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