[Shoreline evaluations, 1990].

IN-20 – IN-34

SHORELINE EVALUATION

SEGMENT ST/ IN-20 SUBDIVISION A (1 OF 1) DATE 4/23/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1) Eagle nest in adjacent segment ≤ 500M.
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: 5/5/90

OILING CATEGORIZATION:

Wide 102m: Medium 286 m: Narrow 77 m: V.Light 0 m: No Oil 427 m
Subsurface Oil Observed: Yes X No ____ Maximum Depth 25 cm

RECOMMENDATIONS:

____No Treatment Recommended	____Snare/Absorbent Booms
__X__Treatment Recommended	____Oil Snares (pom poms)
__X__Manual Pickup	____Absorbents (pads,rolls,etc)
MWB __X__Bioremediation	____Spot Washing:____Wands
____Tarmat Removal	____Beach Cleaner
	____Other (see comments) MWB

mousse and

COMMENTS: Recommended treatment includes manual removal of cleanup debris (pom poms) in areas indicated on sketch map. Work should be conducted after 6/1 with approval of USFWS regarding eagle nest constraint.

TAG COMMENTS: ____

TAG APPROVAL DATE: May 5 1990
ADEC Art Weiner Art Weiner
EXXON Mark N. Silbert Mark N. Silbert FOSC: [signature] DATE: 5-9-90
NOAA Gary Petrone Gary Petrone
USCG G.A. Reiter G.A. Reiter

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (5/1 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 Suzomoto 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 unoiled 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

[redacted] Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q Harbor seal and sea lion molting (6/15 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 (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)
7H-H Finfish harvesting
[redacted] Deer harvesting (8/15 to 2/28)
Invertebrate harvesting
[redacted]
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 / IN-20 SUBDIVISION: A DATE 4/23/90

USCG

NAME AEC Vandepols SIGNATURE AEC Vandepols

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

ADEC

NAME Michele Baer SIGNATURE MBaer

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

1) Remove mousse by pits #1 and #2 where possible. Lg. Limit access ~~[struck]~~ to mousse in between.
2) On SW side of cove, there are areas of hand-size cobble amongst B's. In these areas (approx. 2 x 5 M) remove the cobble, shovel away mousse layers, ma[ny] of which are anaerobic, down to clean layer then replace cobble, No treatment recommended on northernmost Boulder field.
3) Retrieve pom-poms from both sides of the beach (3 bags full)

LAND MANAGER

NAME Carol S Huber SIGNATURE

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Recommend manual pick up of tarmats and oily debris. Snow melt water flowing across beach indicates oil is mobil by the abundant rainbow sheening. Resource values ~~[struck]~~ listed as None. Tent sites might be feasible on the ~~[struck]~~ largest pocket beach.

SHORELINE OILING SUMMARY

OG J. Springer USCG R. Vandepels SEGMENT ST/ IN-20
BIO P. Crank LAND REP C. Huber SUBDIVISION A 1 OF 1
EXXON T. Temblin ADEC M. Baer TIME 18:00 to 20:20
TEAM NO. 5 TIDE LEVEL +1 TO +2 DATE 04/23/90
EST. SUBDIVISION LENGTH: 1035 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: SE to NW
SURFACE SEDIMENTS: R 75 % B 40 % C 15 % P 15 % G 10 % S 5 % M 0 % V 0
SLOPE: Lang 50 % Hang 30 % Vert 20 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
OIL CATEGORY LENGTH: W 90 m M ~~10~~ 255 m N ~~255~~ 40 m VL ~~40~~ 0 m NO 650

SURFACE OIL

CHARACTER	DISTRIBUTION: C	B	P	S	OIL / FILM COLOR: 1	2	3	4	5	IMPACTED ZONES: SU	UI	MI	LI
ASPHALT PAVEMENT													
POOLED													
COVER			X					X			X		
COAT		+/*	Y/V	O		+/Y		8/X			[illegible]	X	
STAIN													
MOUSSE				X				X			X		
PATTIES													
TARBALLS													
FILM													
NO OIL										X			X

PAVEMENT H F S 0 sq. m by 0
PATTIES / TARBALLS 0 BA
NEAR SHORE SHEEN? (NO) BR RW SL T

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

DID YOU COLLECT DEBRIS? YES ☒ NO
TYPE trash Pcm/Pc
#BAGS 1

Photographs:
Roll No. 51-5-7
Frames 6 – 11

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER: OP	OR	OL	OF	NO	OILED INTERVAL (CM-CM)	BELOW: UO	UC	OIL / FILM COLOR: 1	2	3	4	5	PIT ZONE: SU	UI	MI	LI	ANA	SHEEN (Y/N)	▼	SURFACE/SUBSURFACE SEDIMENT
1	30		X				0-12		X					X		X				BR	28	B/PG
2	20		X				16-18		X					X			X			BR	18	Bc/C
3	15					X	·		X									X		N	13	BC/PG
4	25			X			23-25		X		X						X					BC/CP
5	60					X	·		X								X					G/GC
6	35					X	·		X						X							PS/S

COMMENTS MS on northeast-facing (cobble-boulder) beach has stronger petroleum odor than usual but is not anaerobic.

REVIEWED [signature] DATE 4-27-90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04.1.3/89

SEGMENT ST/ IN-20 SUBDIVISION A (1 OF 1)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (TENTH CMS)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SHEEN (Y/N)	!	SURFACE SUBSURFAC SEDIMENT:
		OP	OR	OL	OF	NO		UO	UC						SU	LI	MI	U				
7	30					X	.		X					.			X					GS/PG
8	30					X	.		X								X					G/G
9	30					X	.		X							X						G/G
							.															
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							.															

COMMENTS

REVIEWED MH DATE 4-25

OO J. Selinger

SEGMENT ST IN-20

SUBDIVISION A

DATE 04 / 23 / 00

CHECKLIST

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

LEGEND

1 ▲

P1 - No Subsurface Oil

2 ▲

P2 - Subsurface Oil

CT/C Continuous Distribution

CT/D Broken Distribution

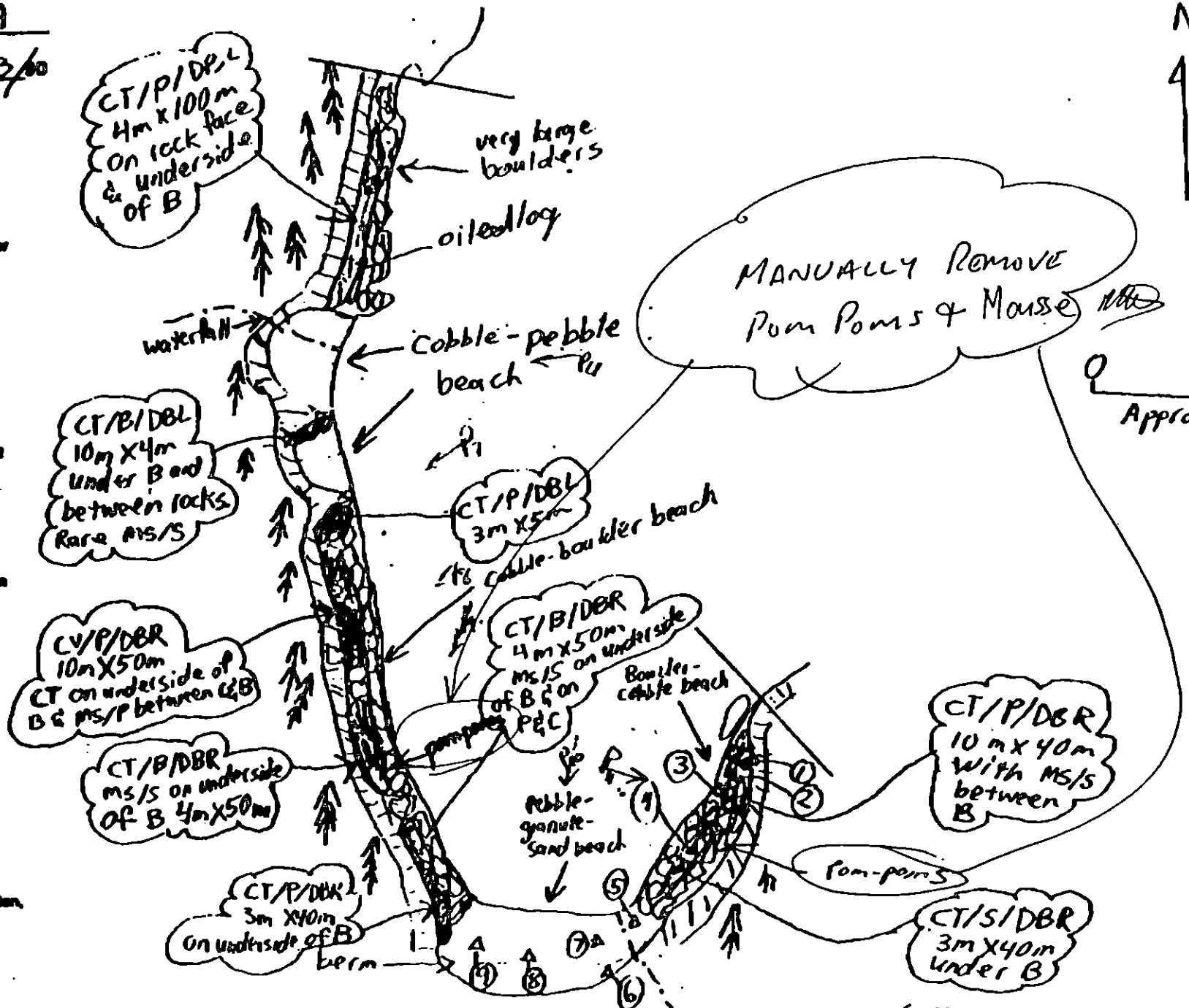
CT/P Patchy Distribution

CT/S Splashed Distribution

Oiled Vegetation

Photo location, direction, and number

SKETCH MAP



Oil Character Length (m): AP____ PO____ CV 50 CT 335 ST____ MS____ PT____ TB____ FL____ NO 650

SHORELINE ECOLOGICAL SUMMARY

REVISION: BY:

Segment ST / 1N 20 Subdivision A Date (mo / day / yr) 4/23/90

Time (24 hr) 1815-2030 Biologist Crum

pg 1 of 3

(A) Substrate type and % of segments:
(1) Bedrock 15 (2) Boulder 40 (3) Cobble 15 (4) Pebble 15 (5) Sand 10 (6) Silt ____

(B) Overall % cover of biota (% of segment): Dense 10 Moderate 20 Low 70

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

Photographs:
Roll No. ST-5-7
Frames 6-11 overview: 9A:11

BARNACLES

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

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	X	X	X	
3	3	3	3	3	3	3	X	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	

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	2	2	2	
3	3	3	3	3	3	X	X	X	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	

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	X	2	X	
3	3	3	3	3	3	3		3	3	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	

Wildlife Observations/ General Comments:

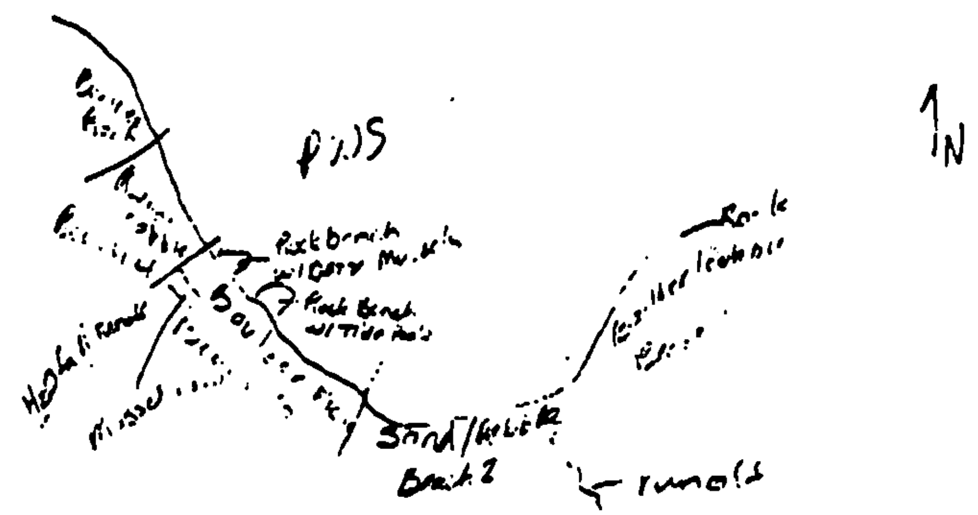
11 - Ducks on H_2O
1 - Bird - No ID (small)
3 - Marbled Murrelets
1 - Cormorant
2 Sealions
2 Gulls
1 Great Blue Heron

Ecological Considerations:

None

Segment : ST/IN20A Length : 1035 m Biologist : Crank

Date : 4/23/90 Time : 1815 - 2030 Tide Height : 11 → 12 ft



General Comments

Beach 1 : Boulder/Cobble

- MITZ boulder & cobble 80% cover w/F... green Algae, 60% in UITZ, 20% in LITZ
- Rare barnacle distribution in UITZ & LITZ. 1 m band with moderate concentration of barnacle spat on boulders in MITZ - 20% mortality (many covered with algae)
- No Mussels observed
- Sparse number of Nucella found in LITZ, ... Littorina ...
- 1/2 m band with sparse concentration of Fucus with rare sporlings in L

Beach 2 : Pebble/Sand ... with some cobble

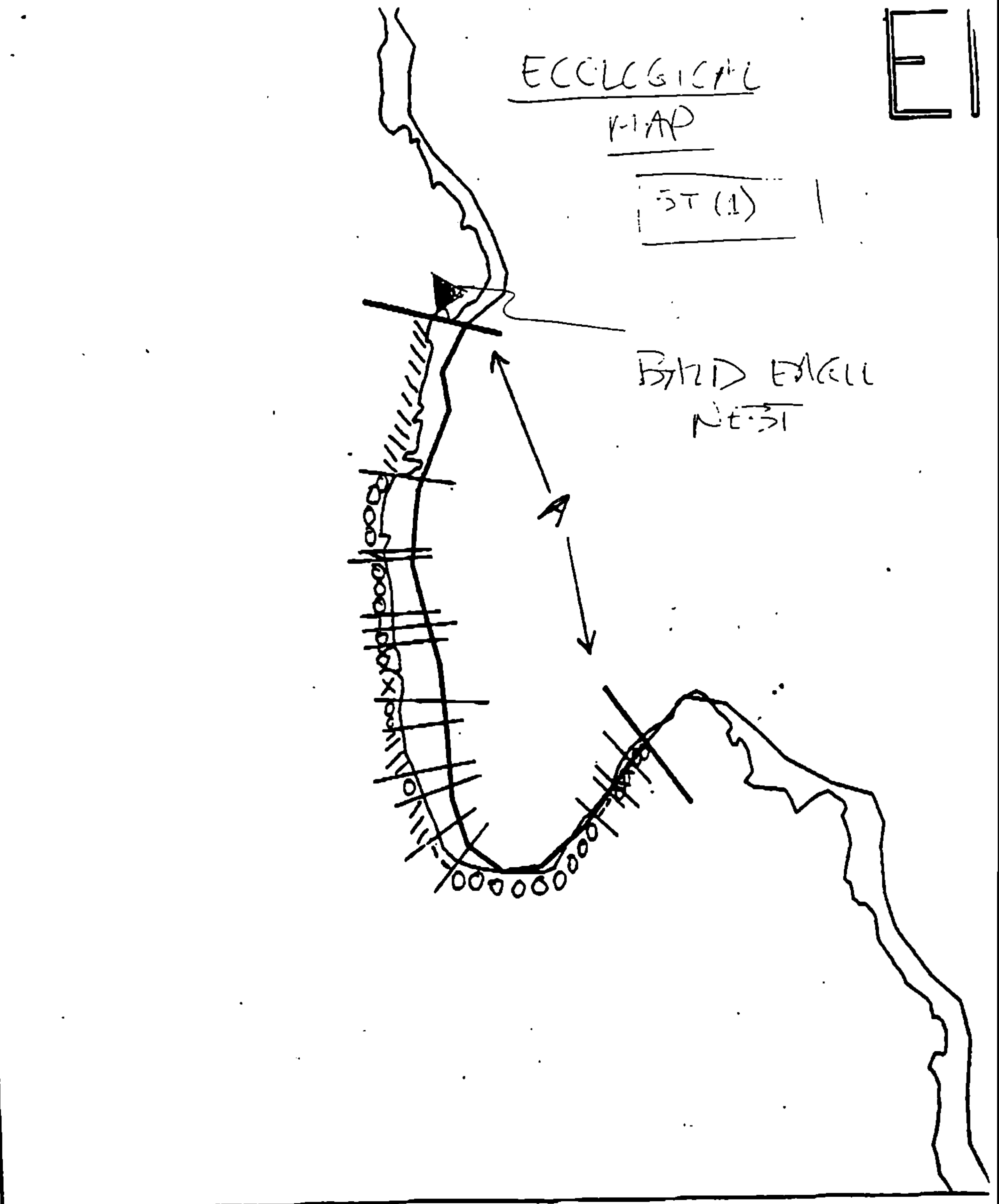
- Runoff stream
- 100% ...
- Small (≈ 2 cm long) segmented white worm under cobble

Beach 3 : Boulder Field w/cobble : 2 : rock benches

- Mussels - rare patches on eastern side. Concentration increases to form a moderate band along the boulders. 10% mortality on unoiled substrate; 30% on oiled surfaces.
- Barnacles - medium to ... spat in MITZ, dense in UITZ rare in LITZ. 10% mortality in unoiled surfaces; 20% on oiled
- Fucus. There is a 1 m band of moderate concentration in MITZ with sparse sporlings.
- 2 rock benches : eastern bench has several tidepools with diverse fauna; western bench has dense mussel bed and a moderate concentration of Katharina tunicata.

Beach 4 : Rounded Cobble w/a few Boulders.

- Boulders have rare Mussels (recruits in crevices) and rare barnacles (Native



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

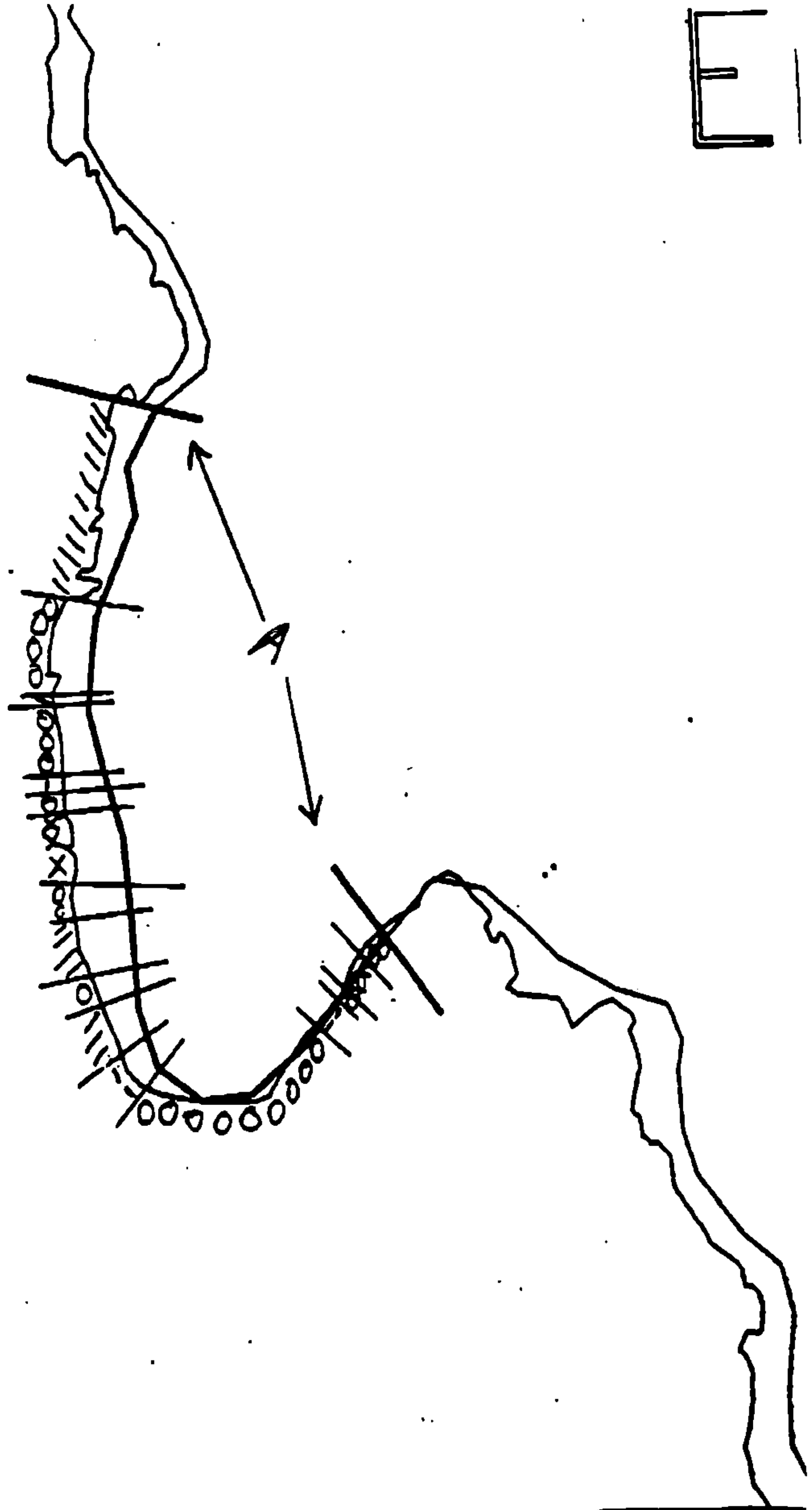
IN-20

ADEC Segment Length: ~~882~~ 1035 m

0 100 200 300
METERS

Map Key: PWS-268
Name: James Spring
Date: 4/23/90
Data Entered:

E



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

IN-20

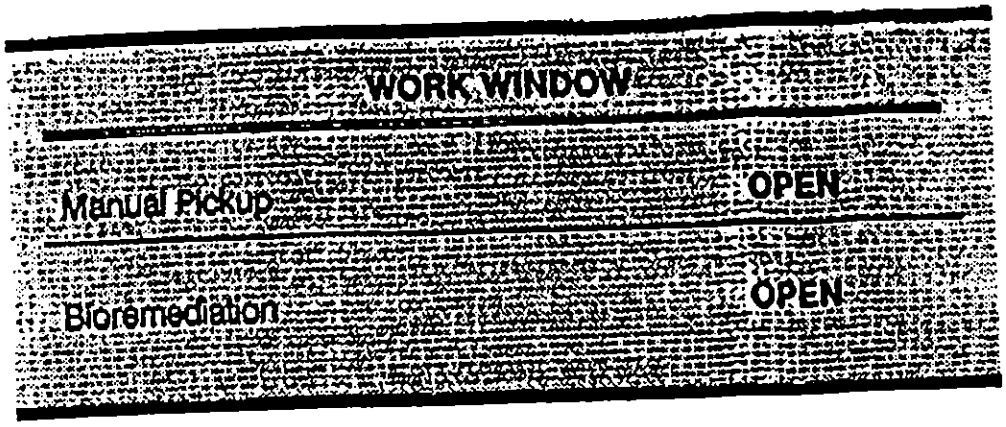
ADEC Segment Length: 1035 m

0 100 200 300
METERS

Map Key: PWS-268
Name: James Sprin
Date: 4/23/90
Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT IN-20 SUBDIVISION A (1 of 1)



ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

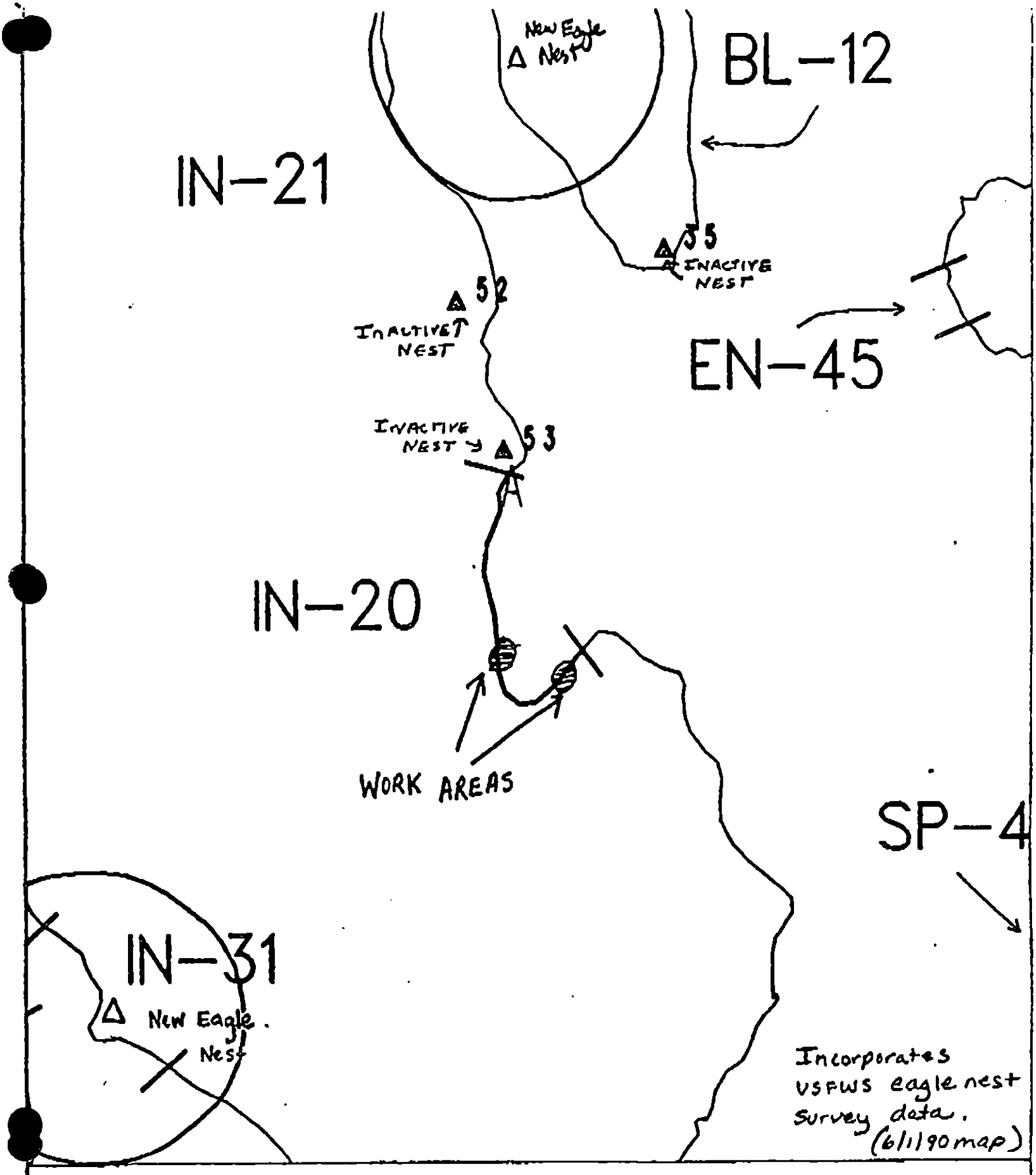
5T	Bald Eagle Nest	NO CONSTRAINT. Bald eagle nests in adjacent Subdivision are inactive according to USFWS 6/1/90 survey map.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC _____ DATE 6-10-90

Prepared By: Andrea Meyer/PP Date 6/5/90



Incorporates USFWS eagle nest survey data. (6/1/90 map)

EXXON

Exxon Company, USA

ECOLOGY MAP
SEGMENT IN-20
SUBDIVISION A (_1_of_1)

★ Seabird Colony
▲ Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ IN-21 SUBDIVISION A (1 OF 1) DATE 4/6/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5T-2 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: [signature] DATE: 4/23/90

OILING CATEGORIZATION:

Wide 101 m: Medium 23 m: Narrow 54 m: V.Light 69 m: No Oil 1815 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)
X Spot Washing: X Wands
___ Beach Cleaner
X Other (see comments)

COMMENTS: Recommend 1) spot wash with pom poms, then 2) bioremediation of oiled coat, cover and subsurface oil areas as indicated on sketch map. Work should be conducted after 6/1 with approval of ADF&G and USFWS regarding eagle nest constraint.
MANUALLY TILL IN AREA OF PITS 1+2 IF FEASIBLE + SPOT WASH PRIOR TO BIO.

TAG COMMENTS:

TAG APPROVAL DATE: 4/21/90.
ADEC Art Weiner [signature]
EXXON Andy Teal [signature]
NOAA Bud Wescott [signature]
USCG Kenneth Keane [signature]

FOSC: [signature] DATE: 4-27-90

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		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 unoiled 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 / IN-21 SUBDIVISION: A (1 of 1) DATE 04-06-96

USCG
NAME AEC Vandegeels SIGNATURE AEC Vandegeels

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS
I suggest the 20 x 40 M cobble beach 140 to 180 from the northern most end of IN-21 needs hot water wash, till + bio. The 15 x 100 M cobble beach 290 to 350 M from the northern most end of this segment needs bio.

ADEC
NAME Michele Pace SIGNATURE MPace

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS
The northernmost beach is C, P, low energy & very accessib. Till and bioremediate the area, manually scrub the wa. and hand remove the mousse patties. On the 2nd C, P, G beach a CT of lies on the sides and under the BS. A fresh-water runoff goes through the beach and no subsurface oi was found. Manual wiping of coated area would be best. The adjoining plateau requires tilling and bioremediation. ~~to remove~~ of removal of the 5 x 15M CV/B with mousse under cobbles to 5cm in depth. I would not recommend treatment for the rest of the segment.

LAND MANAGER
NAME DAN LOGAN SIGNATURE Dan Logan

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS
HAND TILL THE 2M x 20M CV/C/LBR THEN APPLY FERTILIZER. HAND WIPE THE ROCKS. THE 15M x 100M CT/B BEACH SHOULD BE HAND TILLED THEN FERTILIZER APPLICATION. THE 5M x 15M SECTION SHOULD HAVE THE MOUSE REMOVED THEN HAND TILLED AND FERTILIZED.

71

REVISION NO. 03/21/95

SHORELINE ECOLOGICAL SUMMARY

REVISION: 8.

Segment ST / IN 21 Subdivision A Date (mo / day / yr) 4/6/90

Time (24 hr) 1840-2025 Biologist CRANK

Length 2197m
Tide Height +1 → +3 ft

(A) Substrate type and % of segments:
(1) Bedrock 70 (2) Boulder 10 (3) Cobble 10 (4) Pebble 5 (5) Sand 5 (6) Silt ____

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

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

Photographs:
Roll No. ST-5-4
Frames 15

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments:

2 Mergansers
1 Bald Eagle - Adult
≈ 200 Pink Salmon Smolts
1 Hawk

- There is 20-50% barnacle mortality in UITZ oil band. Heavy scarring.
- Cobble on beaches are angular, rich flora in LITZ - [illegible] dominant in MITZ cobble.
- There is moderate recruitment in this subdivision
- Clam habitat, clam shells on beach had gastropod drill holes. 69
- a 10 x 30 m [illegible] on beach one
- Diminutive Eelgrass bed in subtidal zone able to see [illegible] sand collars through. [illegible]

Ecological Considerations:

ST-3 - Active Bald Eagle Nest
Did not locate

SEGMENT: ST/ IN 21 SUBDIVISION A LENGTH 2197 m BIOLOGIST Crank

DATE 4/11/90 TIME 1540 - 2025 TIDE HEIGHT +1 → +3 ft

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

	SPECIES	U/TZ	MID/TZ	L/TZ	COMMENTS
FLORA:	BOSSIELLA/CORALLINA				
	CALLIARTHRON/CORALLINA				
	CLADOPHORA SPP				
	COSTARIA SPP				
	ENDOCLADIA MURICATA				
	FILAMENTOUS GREENS		123	123	
	FILAMENTOUS REDS			1	
	GLOIOPELTIS FURCATA		12		
	HALOSACCION GLANDIFORME		1	1	
	LAMINARIA SPP			23	understipe
	LITHOTHAMNION				
	NEREOCYSTIS SPP				
	PORPHYRA SPP		123	123	
	RALPHSIA/HILDENBRANDIA				
	RHODOMELA LARIX			23	
	RHODOMENIA PALMATA			1,23	
	SCYTOSIPHON SPP		123	1	
	ULVA SPP			1,2	
	ZOSTERA MARINA			3	
FAUNA:	ANTHOPLEURA SPP				
	(SEMI) BALANUS CARIOSUS		23	23	
	B. GLANDULA	123	123	123	
	BRYOZOANS				
	CHITONS (OTHER THAN K. TUNICATU)				
	CLAMS			3	Protothaca / Saxidomus
	CRABS			3	Hemigrapsus
	DERMASTERIAS IMBRICATA			3	under H_2O dense 3/m²
	KATHARINA TUNICATA				
	LEPTASTERIAS HEXACTIS			3	
	LIMPETS	123	123	123	
	LITTORINA SPP	123	123	123	
	NUCELLA SPP		23	3	
	PAGURUS SPP		3	3	
	PISASTER OCHRACEUS				
	POLYCHAETES				
	PYCNOPODIA HELIANTHOIDES			1	
	SEARLESIA DIRA		34	34	
	SERPULIDS				
	SIPHONARIA THERSITES				
	TEALIA				
	Juvenile Fed			3	
	"				

SHORELINE OILING SUMMARY

REVISION NO. 08/22

OG J. Springer USCG R. Vandepels SEGMENT ST/ IN-21
BIO Picrait LAND REP D. Logan SUBDIVISION A (of 1)
EXXON T. Tomblin ADEC M. Baer TIME 18:45 to 20:25
TEAM NO.: 6 TIDE LEVEL: +1 to +4 DATE 04/05 /90
EST. SUBDIVISION LENGTH: 2197 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
SURFACE SEDIMENTS: R 70 % B 10 % C 10 % P 5 % G 5 % S 0 % M 0 % V 0
SLOPE : Lang 30 % Hang 50 % Vert 20 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
OIL CATEGORY LENGTH: W 100 m M 15 m N 60 m VL 21 m NO 2001 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	/C	/B	/P	/A						SU	US	MI	U
ASPHALT PAVEMENT													
POOLED													
COVER	X	V							V		X		
COAT		X						X			X		
STAIN			X						X		X		
MOUSSE				V				X	V		V		
PATTIES													
TARBALLS													
FILM													
NO OIL										X		X	X

PAVEMENT: H F S 0 sq. m by 0
PATTIES / TARBALLS 10 BAGS
NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☒ YES ☐ NO
TYPE buoy
#BAGS

Photographs:
Roll No. ST-5-4
Frames 15

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC						SU	US	MI	U		
1	15	X					0-15	X					X			X				CPG
2	25	X					5-25	X					X				X			PG
3	25					X	-		X							X					PGSM
4	20					X	-		X							X					CPGSM
							-													
							-													

COMMENTS

45

REVIEWED JW DATE 4/13/90

OG J. Springer

SEGMENT ST/ IN-21

SUBDIVISION A

DATE 04 / 06 /90

SKETCH MAP

CHECKLIST

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

LEGEND

1 △ Pit - No Subsurface Oil

2 ▲ Pit - Subsurface Oil

CT/C Continuous Distribution

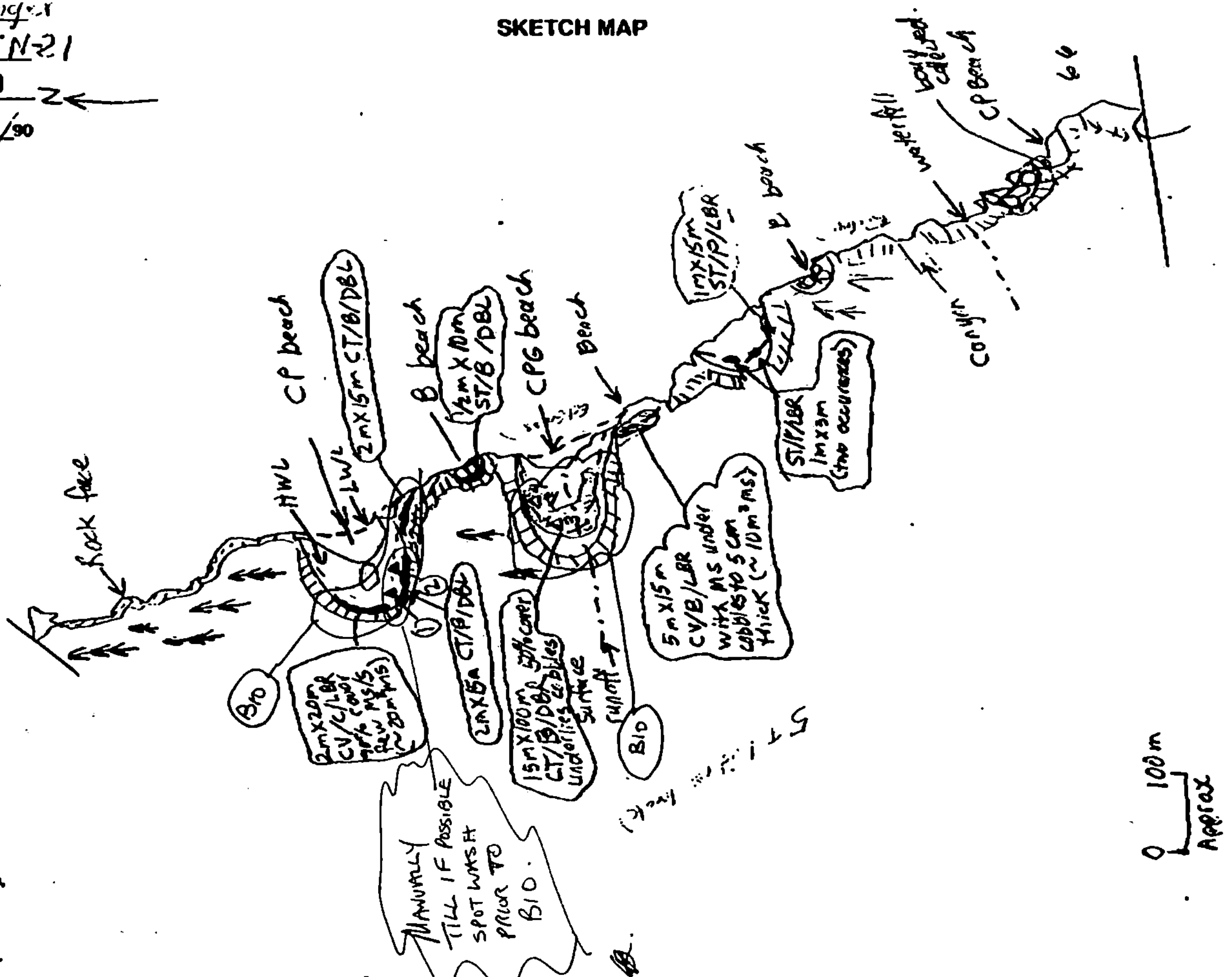
CT/B Broken Distribution

CT/P Patchy Distribution

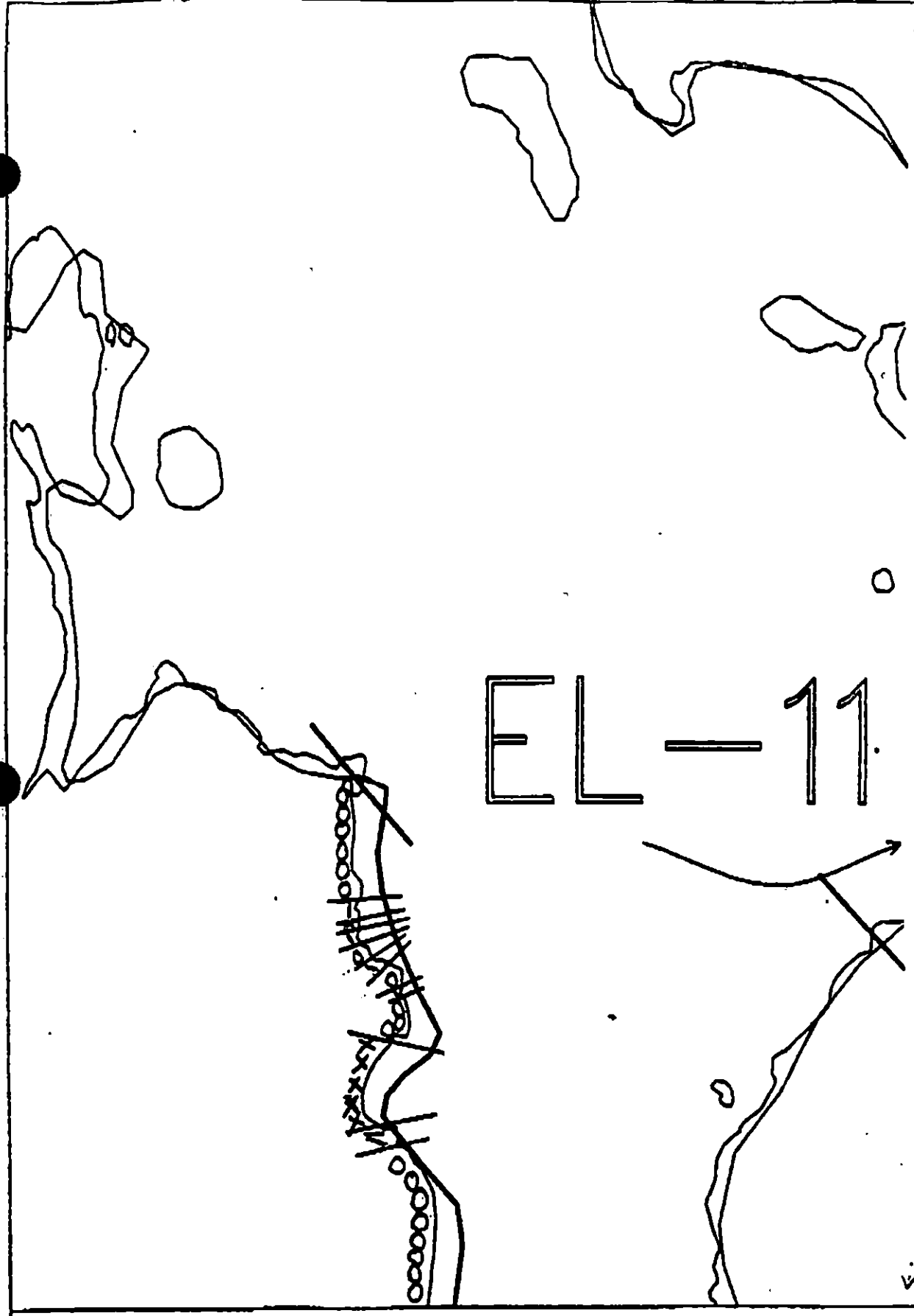
CT/S Splashed Distribution

Oiled Vegetation

1 Photo location, direction, and number



Oil Character Length (m): AP____ PO____ CV 35 CT 130 ST 31 MS____ PT____ TB____ FL____ NO 2001



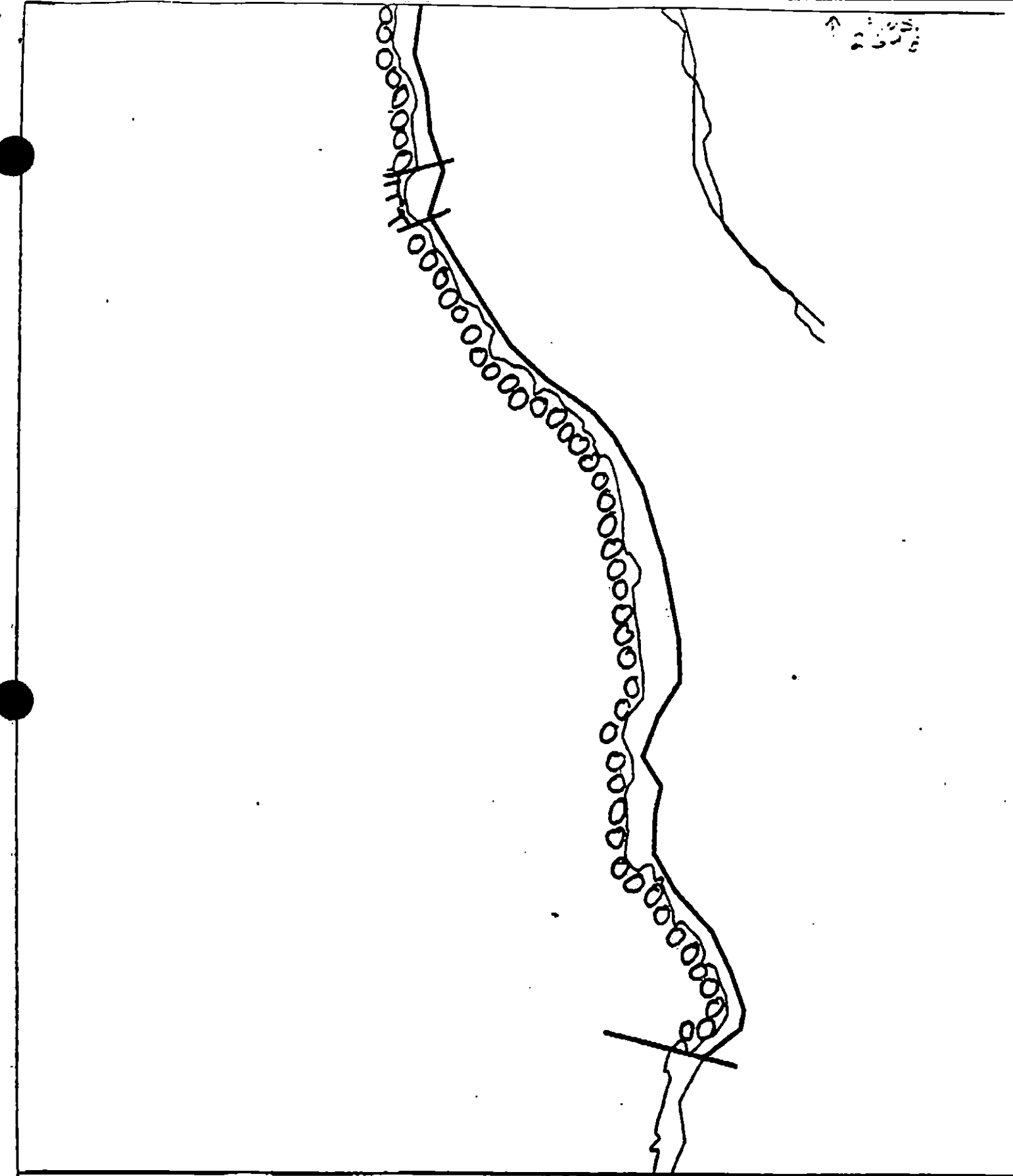
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

IN-21

ADEC Segment Length: ~~2,000~~ 2197 m

0 100 200 300
METERS

Map Key: PWS-269b
Name: J. Springer 68
Date: 4/4/90
Data Entered:



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

IN-21

ADEC Segment Length: ~~2061m~~ 2197

0 100 200 300
METERS

Map Key: PWS-269a
Name: J. Springer 67
Date: 4/6/90
Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

- SEGMENT IN-21 SUBDIVISION A (1 of 1)

WORK WINDOW	
Bioremediation, Manual Tilling Spot Washing, and Other Approved Treatment More Than 400m From Active Nest	OPEN
Bioremediation, Manual Tilling Spot Washing, and Other Approved Treatment Less Than 400m From Active Nest	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

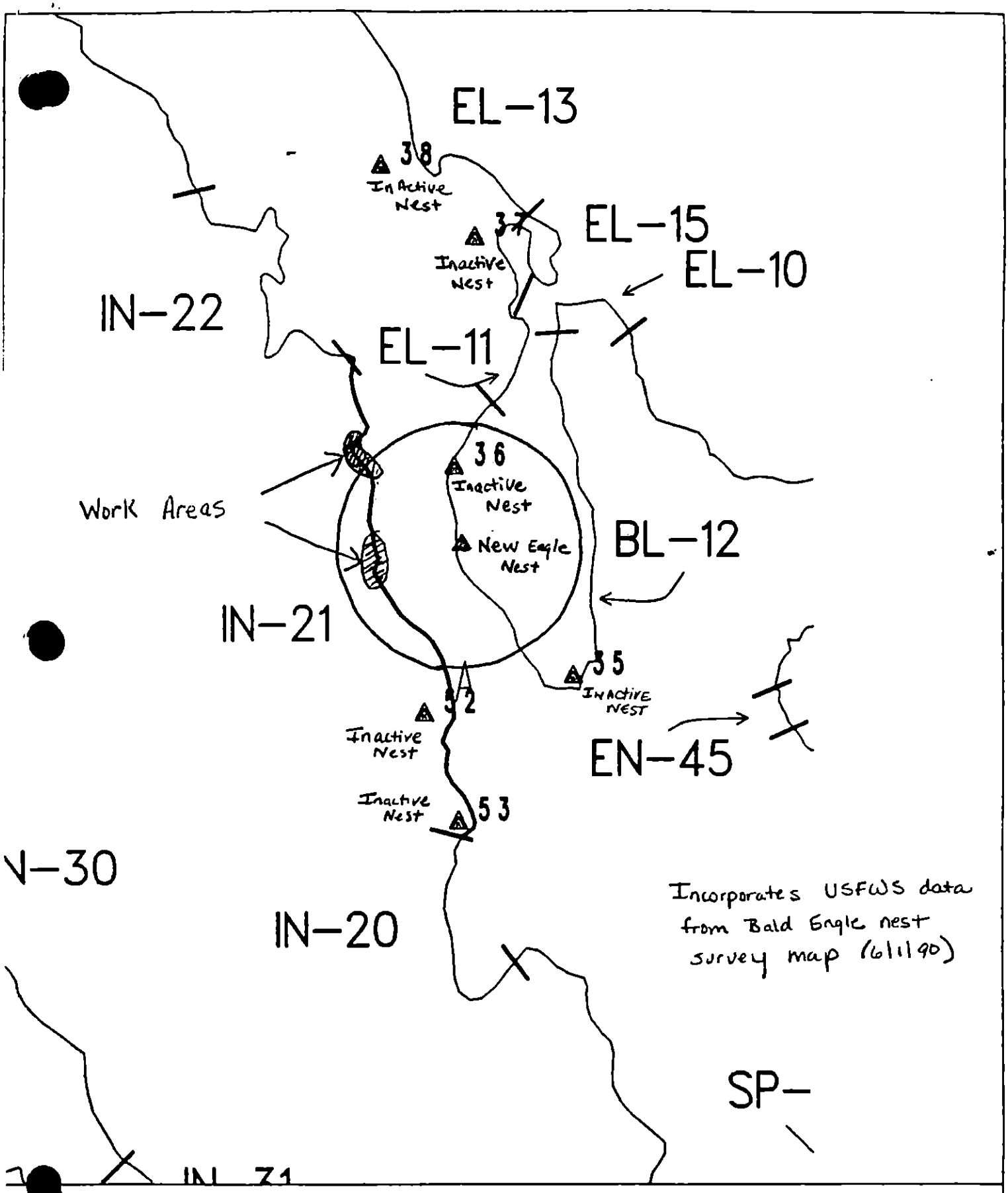
5T	Bald Eagle Nest	USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to bioremediation, manual tilling, spot washing, and other approved treatment within 400m of active nest.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

FOSC _____ DATE 6-10-90

Prepared By: WK Date 6/8/90



EXXON

Exxon Company, USA

Map Key: KNI-IN-21

ECOLOGY MAP 6/3/90

SEGMENT IN-21

SUBDIVISION A (1 of 1)

METERS

★ Seabird Colony

▲ Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ IN-22 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
6U Recreation: Tent sites (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: 4/23/90

OILING CATEGORIZATION:

Wide 55 m: Medium 205 m: Narrow 302 m: V.Light 536 m: No Oil 366 m
Subsurface Oil Observed: Yes X No ___ Maximum Depth 27 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) blotting up mobile oil with snares, 2) Bioremediation of areas shown on sketch map, and 3) removal of tarmats in areas shown on map. No specific ecological time constraints identified. Lagoon portion of segment will be surveyed in Phase II.

TAG COMMENTS: ___

TAG APPROVAL DATE: 4/23/90
ADEC [signature: Art Weiner]
EXXON [signature]
NOAA [signature: Joseph Talbot]
USCG [signature: Kenneth Keane]

FOSC: [signature] DATE: 4-27-90

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

DRAFT

SEGMENT ST/ IN-22 SUBDIVISION: A DATE 4-9-90

USCG
NAME CWO2 J. MC MAHON SIGNATURE

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

1. Recommend treatment of bioremediation of beach #3, map A, possibly also at pit 1 or 2.
2. MAP C, recommend bioremediation of 4 meter wide area extending from the stream through end of segment
3. MAP C reflects the ANADROMOUS stream which may or may not allow treatment.

ADEC
NAME GREG WINTER SIGNATURE

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

MAP A: AREA OF POOLED OIL AMONG BOULDERS SHOULD BE MANUALLY REMOVED (ON BEACH W/ PITS #1-4)
THE SAME BEACH HAS PENETRATION TO 18 CM IN THE MID TO UPPER ITZ WITH SATURATED SOIL. REMOVAL/WASH AND REPLACE THIS BAND.

THE BEACH EAST OF THE ABOVE BEACH HAS OIL DOWN TO A PEAT LAYER IN THERE A 3M BAND IN THE UITZ. EITHER I DON'T HAVE A RECOMMENDATION FOR THIS BEACH DUE TO THE PROXIMITY OF THE PEAT LAYER TO THE OIL @ 25 CM.

MAP B: THE AREA OF PATCHY POOLED OIL 5M x 3M UITZ SHOULD BE MANUALLY REMOVED.

MAP C: MANUAL REMOVAL OF ALL POOLED, ASPHALT & COVER IS WARRANTED FOR THIS ENTIRE AREA EXCEPT WHERE THERE ARE ONLY TARBALLS & STAINS ON BOULDERS. (SEE ATTACHMENT FOR CONTINUED COMMENTS)

LAND MANAGER
NAME Mike Bennett ADNR SIGNATURE Mike Bennett

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Treatment suggested in the following areas: Pocket beach between pits nos 3 & 4, extending to pit #1 - near pit 1 manual removal & bioremediation would be adequate - near pits 3 & 4 bio would be sufficient if it works on subsurface oil; recommend removal of oil by bio if it works on subsurface) or other treatment necessary to remove oil from bands of oil in the vicinity of pits 3 & 4 (map A); no treatment recommended for portion in Map B; recommend manual cleanup & turning of boulder on bands of oiling on scratch map C - note bioremediation may also work in this vicinity but may cause more harm than good near anadromous stream in segment. Note that resource use for [illegible] is test sites, which do exist. Also noted deer presence as well as eagles in the vicinity.

FIELD SHORELINE COMMENT SHEET

SEGMENT IN 22 SUBDIVISION A DATE 4-9-90

ADEC

GREG WINTER

☒ STAG VISIT RECOMMENDED

THERE IS A NARROW EMBAYMENT/LAGOON THAT IS VERY HEAVILY OILED. DUE TO THE SENSITIVITY OF THIS AREA, A STAG VISIT IS WARRANTED. WHEN THE SUN HITS THIS AREA - MOBILE OIL OOZES FROM THE MUDDY SEDIMENTS. THERE IS CONSIDERABLE PAVEMENT ALSO.

SHORELINE OILING SUMMARY

REVISION NO. 02/28/90

OG D. F. Fitzgerald USCG J. McMahon SEGMENT ST/ IN-22
BIO O Raiden LAND REP M. Bennett SUBDIVISION A (1 of 1)
EXXON S. Nauman ADEC G. Winter TIME 8:45 to 11:30
TEAM NO.: #15 TIDE LEVEL: 0 to 13.0m from MLLW DATE Apr 19 /90
EST. SUBDIVISION LENGTH: 1540 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: northwest to southeast
SURFACE SEDIMENTS: R 30 % B 40 % C 20 % P 10 % G 0 % S 0 % M 0 % V 0 %
SLOPE : Lang 5 % Hang 65 % Vert 30 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
OIL CATEGORY LENGTH: W 10 m M 205 m N 280 m VL 311 m NO 734 m.

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	ro	ra	rr	ra						su	ui	mi	u
ASPHALT PAVEMENT	X		X								X		
POOLED		X	X	X						X	X		
COVER			X	X							X		
COAT		X	X	X							X		
STAIN				X							X		
MOUSSE													
PATTIES				X							X		
TARBALLS				X							X		
FILM													
NO OIL												X	X

PAVEMENT: H (F) S 59 sq. m by 3 cm
PATTIES / TARBALLS < 1/4 bag BAGS
NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

None

DEBRIS COLLECTED ☐ YES ☒ NO
TYPE O
#BAGS O

Photographs:
Roll No. 8
Frames 1-35

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm-cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SUBSURFACE SEDIMENTS
		or	or	ol	or	no		uo	uc						su	ui	mi	u		
1	20					X	-		X								X			Peb / Cob / Gran
2	25	X					9 - 18		X				X			X				Gran / Peb / Cob
3	25	X					5 - 15		X	/X			X				X			Gran / Peb / Cob
4	25					X	-											X		Gran / Cob / Peb
5	30	X					23 - 27		X				X			X				Cob / Gran / Sand / Peat
6	20					X	-										X			Gran / Cob / Sand

COMMENTS Priority #1

The oiling of this segment varied considerably with the greatest concentration occurring along the southern portion of the segment. Along this shoreline (map C) pavements and pools are found. There is also subsurface oil in the eastern pocket beach in Map A segment.

The lagoon portion of this segment was not scatted due to very heavy oiling conditions and the lack of time. JW 4/12/9

SHORELINE OILING SUMMARY (PAGE 2 of 2)

REVISION 03/28/00

SEGMENT ST/ IN-22 SUBDIVISION A

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	BRT OR	DRK OR	OL	TR	LGHT	SU	UI	MI	LI		
7	20					X	-											X		Cob / Peb / Gran
8	25					X	-								X					Cob / Peb / Gran
9	25					X	-									X				Cob / Peb / Gran
10	15					X	-										X			Cob / Peb / Sand
11	25					X	-									X				Cob / Peb
12	30					X	-											X		Boulders / Peb / Gran
							-													
							-													
							-													
							-													
							-													
							-													
							-													
							-													

COMMENTS

REVIEWED _____ DATE _____

OG Fitzge[illegible]

SEGMENT ST/ LH-22

SUBDIVISION A

DATE Apr 1 8 90

SKETCH MAP A.

CHECKLIST

- ___N Arrow
- ___Approx. Scale
- ___Seg/Sub Bndry
- ___Oil Dist.
  - Width
  - Length
  - % Cover
- ___Substrate Character
- ___Est. HWL/LWL
- ___SSL
- ___Profile Location(s)
- ___Profile(s)
- ___Pit Location(s)
- ___Photo Location(s)

LEGEND

1 △ Pit - No Subsurface Oil

2 ▲ Pit - Subsurface Oil

CT/C Continuous Distribution

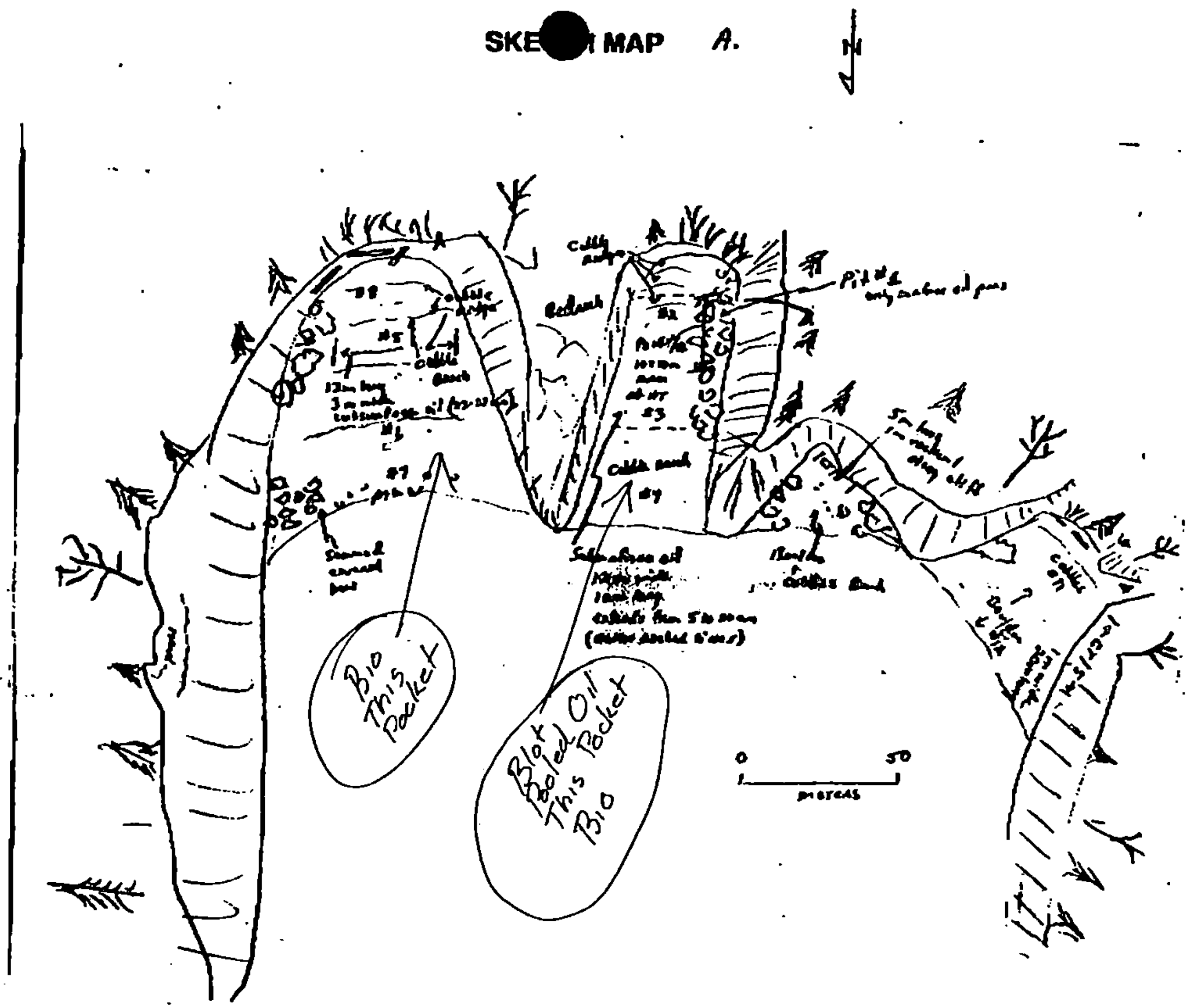
CT/B Broken Distribution

CT/P Patchy Distribution

CT/S Splashed Distribution

Oiled Vegetation

1 Photo location, direction, and number



Oil Character Length (m): AP_____ PO 5 CV 5 CT 25 ST_____ MS_____ PT_____ TB_____ FL_____ NO 465

OG Fitzgerald

SEGMENT ST/ IN-22

SUBDIVISION A

DATE Apr / 9 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

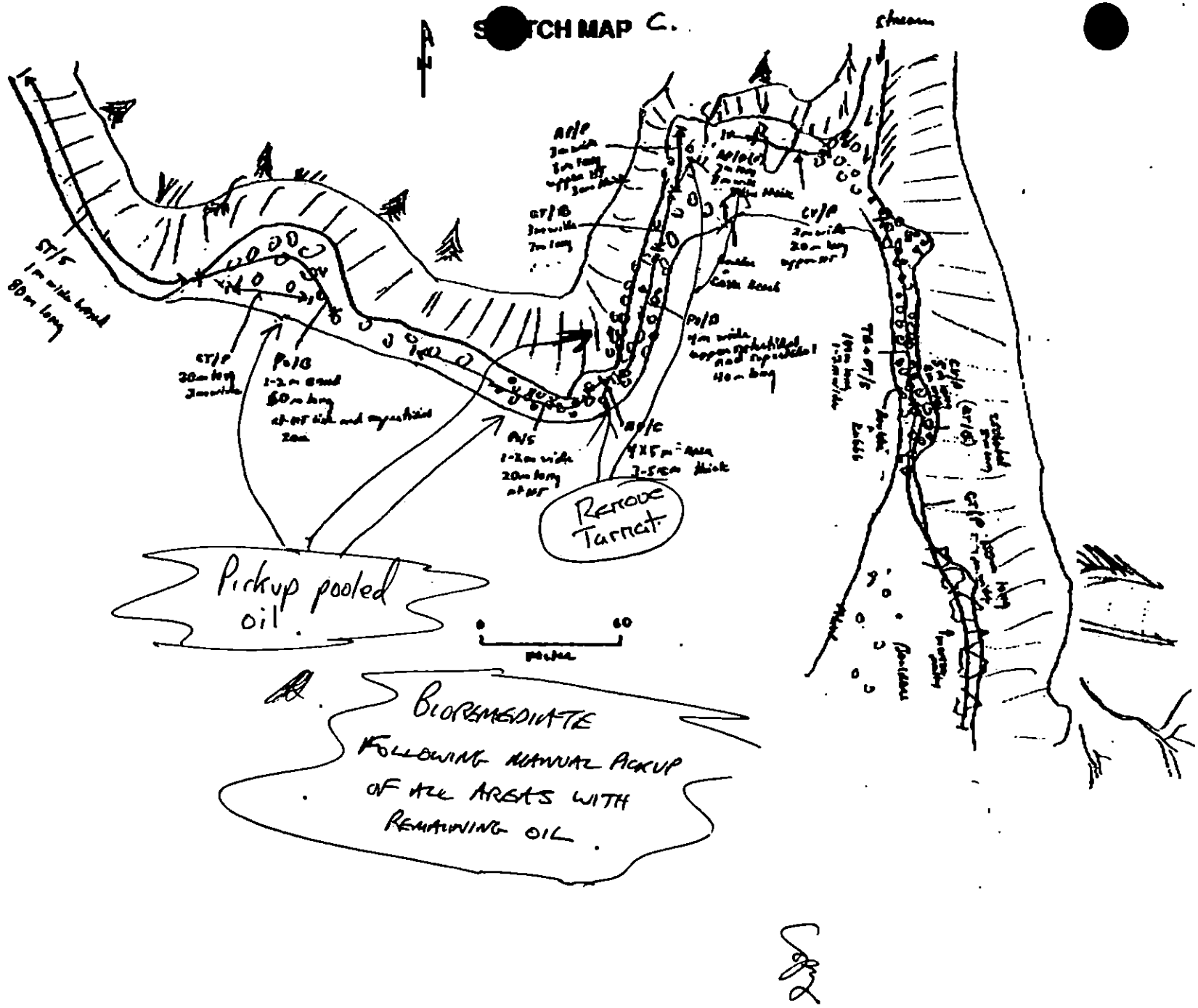
CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

1 ⇨
Photo location, direction, and number

SKETCH MAP C.



Oil Character Length (m): AP 17 PO 120 CV ____ CT 182 ST 80 MB ____ PT 50 TB 50 FL ____

REVISION/CHANGE

OG Fish Cove

SEGMENT STATION 22

SUBDIVISION A

DATE Apr 1 9 1990

SKETCH MAP B.

CHECKLIST

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

LEGEND

1 ▲
Pit - No Subsurface Oil

2 ▲
Pit - Subsurface Oil

CT/C
Continuous Distribution

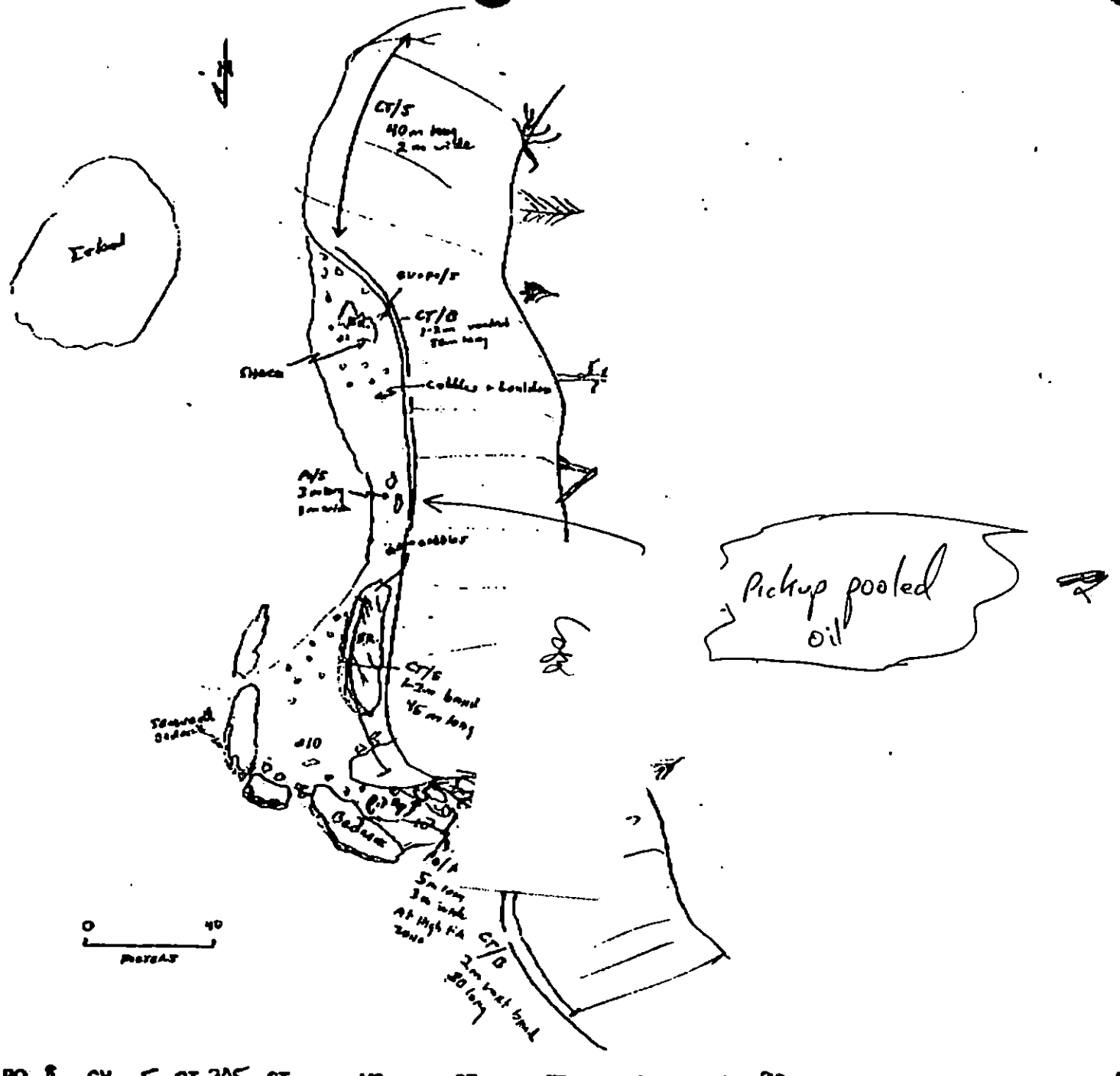
CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

1 ⇐
Photo location, direction, and number



Oil Character Length (m): AP_____ PO 8 CV 5 CT 205 ST_____ MS_____ PT_____ TB_____ FL_____ NO 82

REVISION/ISSUED

SHORELINE ECOLOGICAL SUMMARY

REVISED 6/25/90

Segment ST / JN 22 Subdivision A Date (mo / day / yr) 4/8/90

Time (24 hr) 8:45 Biologist DANIEL RAIDER

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

(B) Overall % cover of biota (% of segment): Dense 30 Moderate 75 Low 35
Low to none.

(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. 8
Frames 1-35

BARNACLES

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

- Shorebirds / ducks
- Eagles (2)

Ecological Considerations:

PRIORITY 3

6 V 6/1 - 9/15 TENT SITES

IN-22 4 of 2

8 APRIL 1990

18:10

A) - DENSE MUSCLES ON BEDROCK Upper Intertidal Zone
- MODERATE FUCUS ON BEDROCK UPPER INTERTIDAL ZONE
- DENSE FUCUS (NEW SETTLEMENT) ON BEDROCK IN U.I.T.Z
- DENSE BARNACLES IN UITZ ON BEDROCK
- SPARSE GASTROPODS

B) - DENSE FUCUS IN MID. I.T. ZONE & UPPER INTERTIDAL ZONE ON BEDROCK (ADULT & NEW COLONY)
- DENSE RED ALGAE
- DENSE BARNACLES IN U.I.T.Z.
- DENSE MYTILUS ON BOULDERS IN U.I.T.Z
- DENSE NEW FUCUS ON "
- PYCNOPODIA - ABUNDANT
- CHITIN
- EEL BLENNY

C) - DENSE GREEN FILAMENTUS ALGAE & ZOSTERA & RED ALGAE
- PEANUT WORM
- TANNER CRABS
- MODERATE BARNACLES ON BEDROCK (ADULT) IN MITZ
- DENSE FUCUS IN MITZ & LITZ ON BOULDERS & BEDROCK
- DENSE MYTILUS ON BEDROCK IN U.I.T.Z
- " BARNACLES ON BEDROCK IN U.I.T.Z
- MODERATE ADULT BARNACLES ON UNDERSIDE OF COBBLES AND BOULDERS IN LOWER INTERTIDAL ZONE & LOWER MID-INTERTIDAL ZONE

-DENSE FUCUS, ZOSTERA AND RED ALGAE IN L.I.T.Z

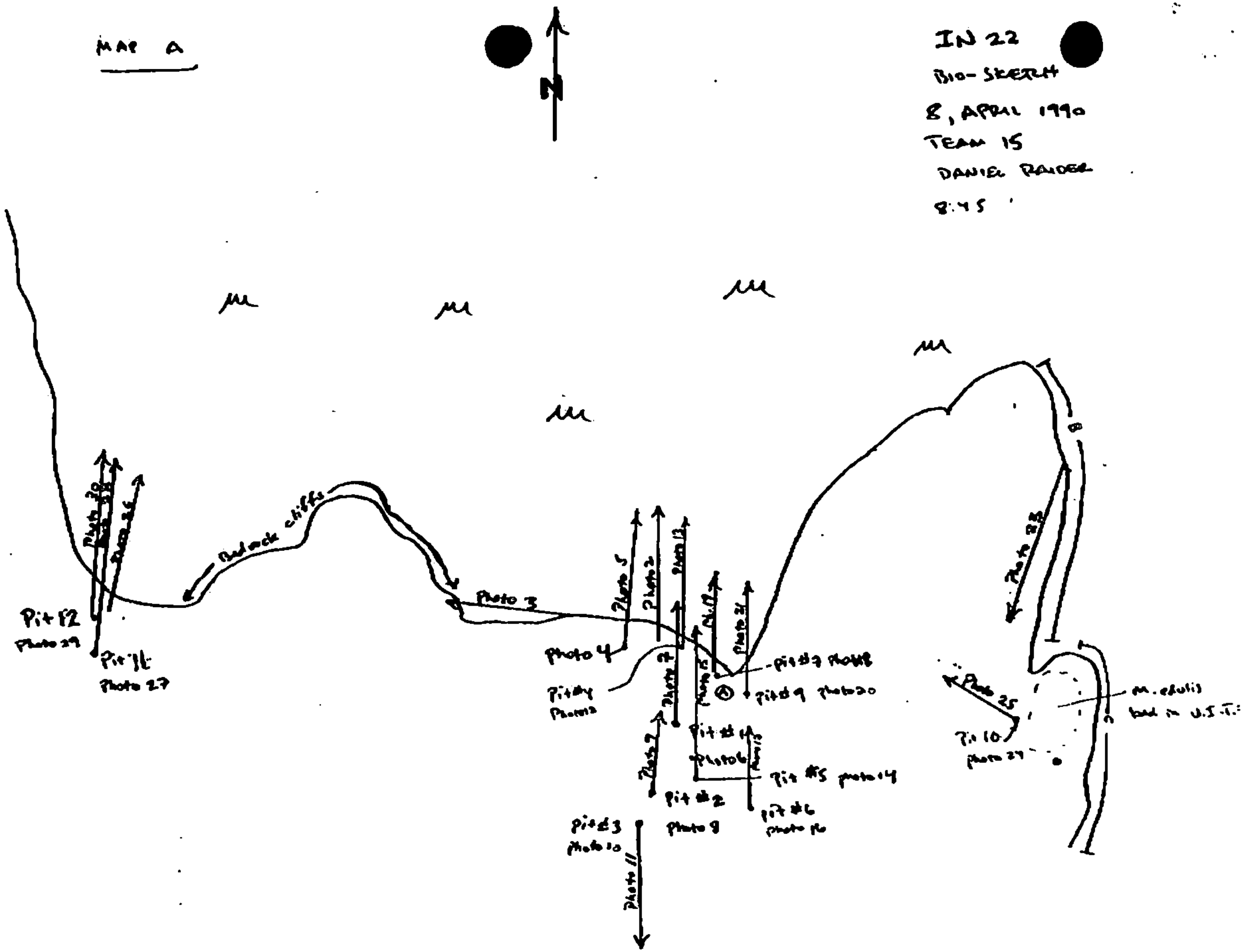
D) DENSE FUCUS (ADULT & NEW) IN UPPER MID-I.T.Z.
DENSE MYTILUS EDULIS IN U.M.I.T. ZONE
DENSE BARNACLES (ADULT) IN UPPER-MID INTERTIDAL ZONE

E) - DENSE FUCUS IN M.I.T.Z ON BOULDERS
- DENSE FUCUS ON BEDROCK IN M.I.T.Z & V.I.T.Z
- MODERATE BARNACLES ON COBBLES/BOULDERS IN M.I.T.Z. & U.I.T.Z.
- DENSE LITTORINA IN UPPER MID INTERTIDAL ZONE - BOULDERS

F) - DENSE BARNACLES ON U.I.T.Z. ON BEDROCK
- DENSE FUCUS ON M.I.T.Z ON BOULDERS & BEDROCK
- DENSE FUCUS IN L.I.T.Z & U.I.T.Z.
- DENSE FUCUS M.I.T.Z - BOULDERS / COBBLES

G) DENSE FUCUS AND BARNACLES IN M.I.T.Z.

MAP A


N
IN 22
BIO-SKETCH
8, APRIL 1990
TEAM 15
DANIEL RAIDER
8:45
Bedrock cliffs
Photo 3
Photo 4
Photo 5
Photo 2
Photo 13
Photo 21
Photo 26
Pit 12
Photo 29
Pit 11
Photo 27
Pit #7 Photo 18
Pit #9 Photo 20
Pit #1
Photo 6
Pit #5 photo 14
Pit #2
Photo 8
Pit #6
photo 16
Pit #3
photo 10
Photo 11
Photo 9
Photo 23
Photo 25
Pit 10
photo 24
M. edulis
bed in U.S.T.

IN 22

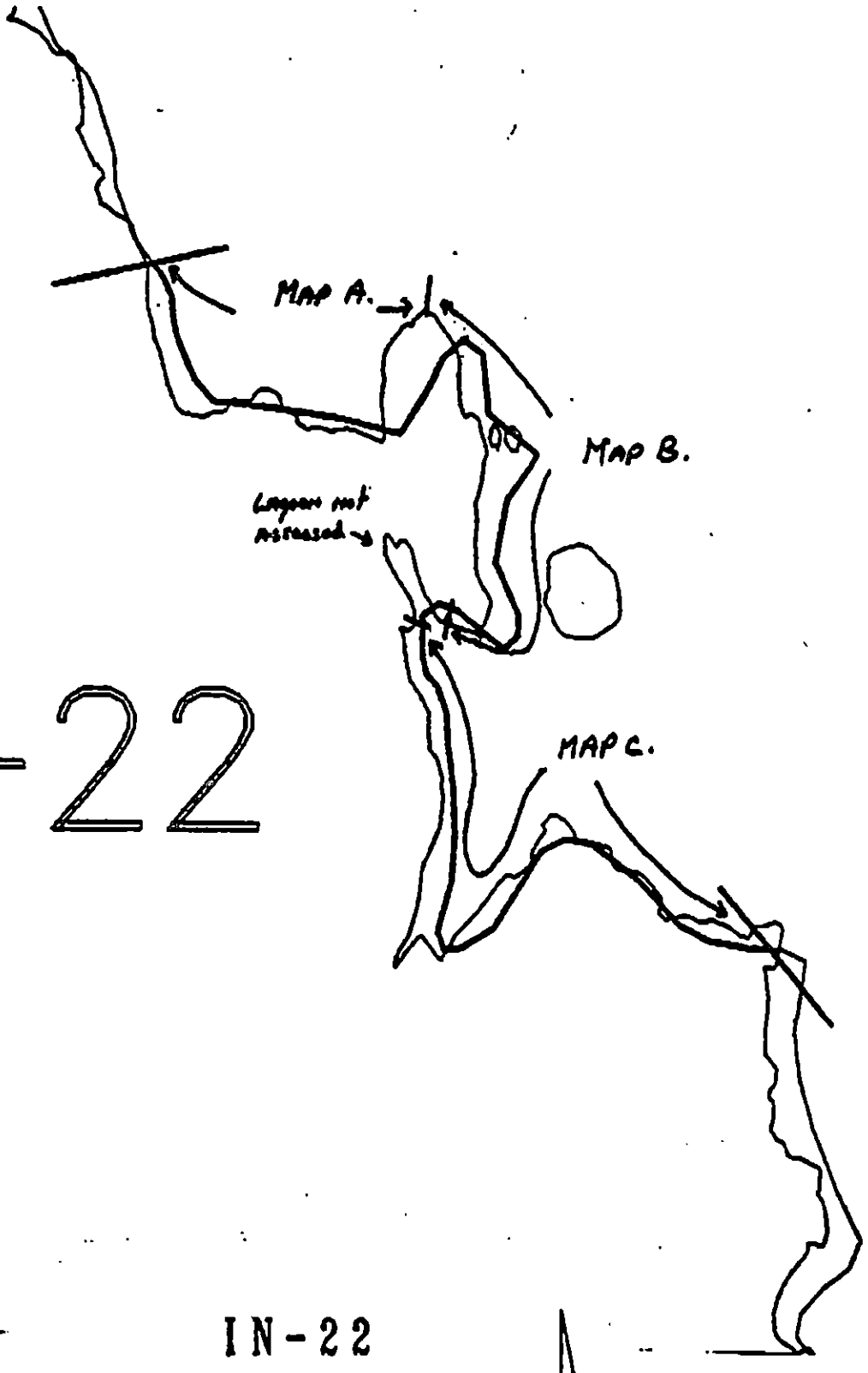
9 APRIL 1990

8:45

TEAM 15

BIO SKETCH, DANIEL RAIDER

MAP LOCATIONS FOR LN-22-M



V-22

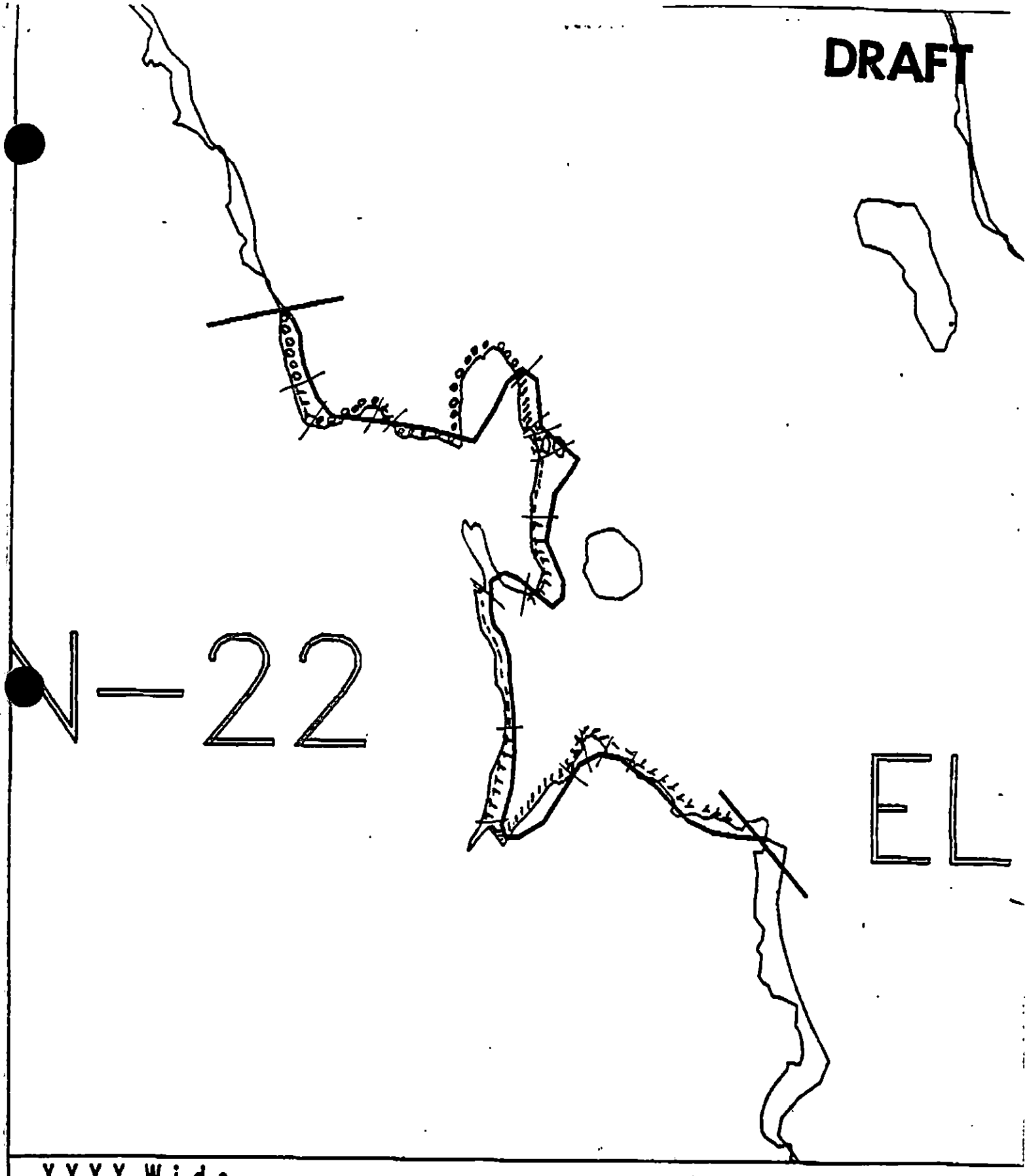
IN-22

ADEC Segment Length: 1535m

0 100 200 300
METERS

N

DRAFT



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

IN-22

ADEC Segment Length: 1535m

0 100 200 300
METERS

Map Key: PWS-270
Name: Fitzgerald
Date: 9 Apr 1990
Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT IN-22 SUBDIVISION B (2 of 3)

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

No ecological time constraints.

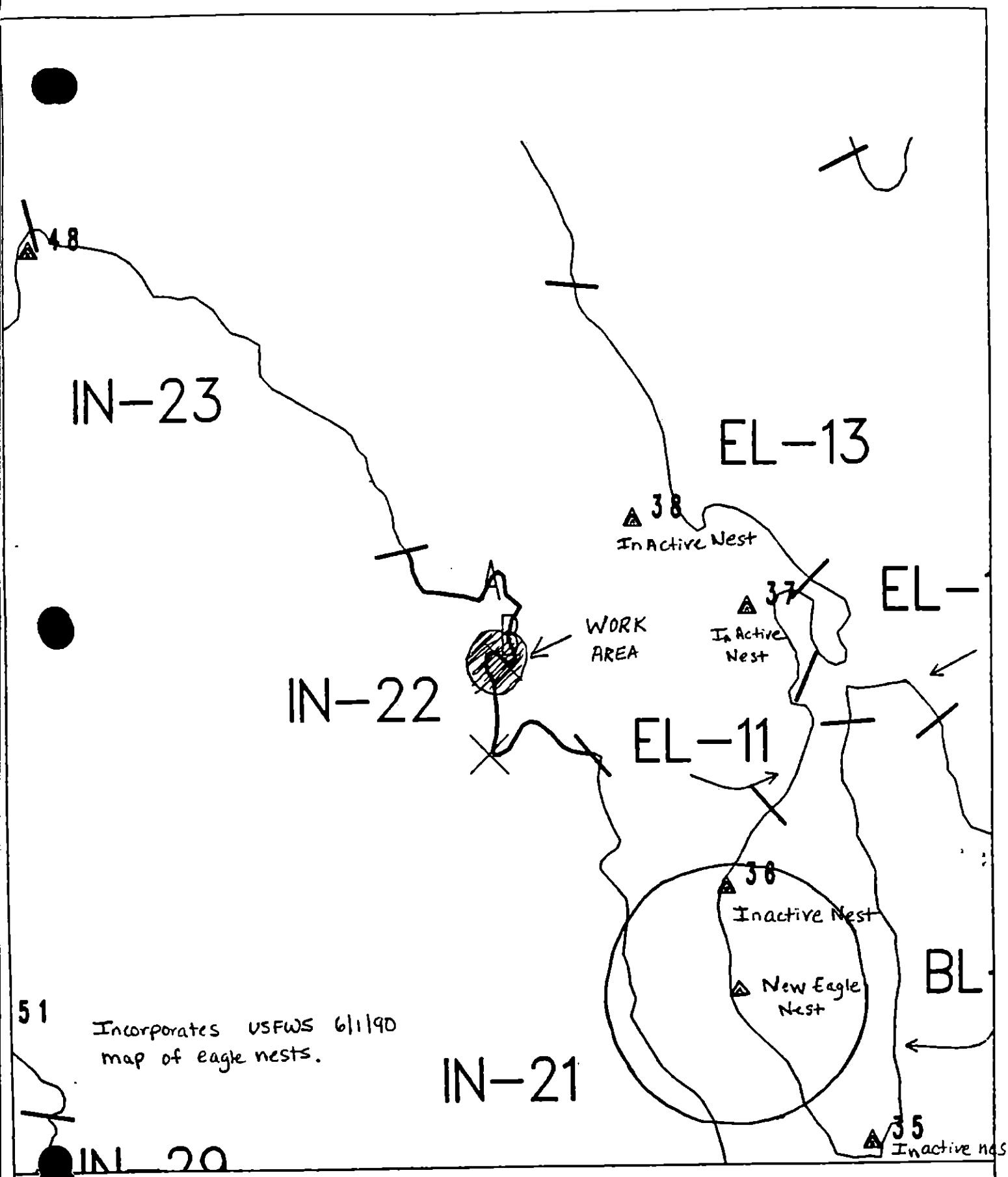
OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. This is a "low-flush" area with well developed clam beds and an uncatalogued stream. Potential seal haul-out area: Do not chase or harass seals or sea lions, and do not approach pups under any circumstances. Do not apply bioremediation to specific areas where seals are observed to haulout. 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.

TAG APPROVAL DATE_____
ADEC
EXXON Hans O. Jahns 6/8/90
NOAA
USCG

FOSC _____ DATE 6-8-90

Prepared By: WK Date 6/7/90



EXXON

Exxon Company, USA

Map Key: KNT-IN-22

ECOLOGY MAP

SEGMENT IN-22

SUBDIVISION B (2 of 3)

METERS

★ Seabird Colony

▲ Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ IN-23 SUBDIVISION A (1 OF 1) DATE 4/25/90

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)
6Y Recreation: Special use destination
6U Recreation: Tent sites (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: 5/5/90

OILING CATEGORIZATION:

Wide 31 m: Medium 23 m: Narrow 141 m: V.Light 852 m: No Oil 634 m
Subsurface Oil Observed: Yes X No ____ Maximum Depth 20 cm

RECOMMENDATIONS:

____No Treatment Recommended	____Snare/Absorbent Booms
__X__Treatment Recommended	____Oil Snares (pom poms)
__X__Manual Pickup	____Absorbents (pads,rolls,etc)
__X__Bioremediation	____Spot Washing:____Wands
__X__Tarmat Removal	____Beach Cleaner
	____Other (see comments)

COMMENTS: Recommended treatment includes 1) removal of tarmat, 2)pick-up of debris, and 3) bioremediation of lang pocket beaches as shown on sketch map. Work should be conducted after 6/1 with USFWS approval based on eagle nest constraints.

TAG COMMENTS: MONITORS TO ASSESS THE OILED LOG

TAG APPROVAL DATE: 5/4/90.
ADEC Art Weiner Art Weiner
EXXON Andy Ter [illegible]
NOAA Gary Petrone Gary Petrone
USCG G.A. Reiter G.A. Reiter

FOSC: [signature] 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 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 Suzomoto 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 unoiled 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 Rothy 267-2206

5T All Bald Eagle nests (3/1 to 8/1)
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 8/1. 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)
7[redacted] Finfish harvesting
Deer harvesting (8/15 to 2/28)
Invertebrate harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / IN-23 SUBDIVISION: A DATE 4/25/90

USCG
NAME William E White SIGNATURE William E White

☐ NO TREATMENT RECOMMENDED ■ TREATMENT SUGGESTED
COMMENTS

SKETCH MAP # 1

(1) Bioremediate area

SKETCH map # 2
1. manual pickup of asphalt
2. Pick up oiled SNARE Boom
3. Bioremediate area
4. Till surface layer

ADEC
NAME Peter Montesano SIGNATURE Peter J Monte

☐ NO TREATMENT RECOMMENDED ■ TREATMENT SUGGESTED
COMMENTS Pit #1 medium sized cobbles with NO FINER Sediments filling in between. Bio with granular since it seems that liquid would seep below oiled layer.
Pit #2 - Easily hand tilled with shovel prior to bioremediation.
- Remove oiled SNARELINE above beach
- shovel up AP at North end of Pit #3 & oiling prior to Bioremediation

Above comments parallel the Exxon "operation Notes."

LAND MANAGER USDA - Forest Service
NAME Don T. Brautigan SIGNATURE Don T. Brautigan

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

This area is used for recreation, tents sites and as a special use destination area for the period 6/1 - 9/15.
I. Area near pit #1 should be bioremediated.
II Area near pit #3 should have manual pickup of asphalt, fill surface layer and bioremediate area. Oiled pom-pom SNARE boom needs to be picked up.
The rest of the segment should be left natural

REVISION NO. 02/1/90

SHORELINE OILING SUMMARY

REVISION NO. 6A.1

OG C. DILLON USCG PS1 E. WHITE SEGMENT ST/ IN-23
BIO J. BARRY LAND REP D. BREITLAUER (NES) SUBDIVISION A (1 OF 1)
EXXON G. STILES ADEC P MONTESANO TIME 10:15 to 11:45
TEAM NO. 6 TIDE LEVEL +1 to +4 DATE 04/25/90
EST. SUBDIVISION LENGTH: 1826 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: E to W
SURFACE SEDIMENTS: R 80 % B 10 % C 5 % P 5 % G 0 % S 0 % M 0 % V 0
SLOPE : Lang 50 % Hang 45 % Vert 5 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
OIL CATEGORY LENGTH: W 20 m M 15 m N 121 m VL 1070 m NO 600 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	AD	AB	AP	AS						SU	UI	MI	U
ASPHALT PAVEMENT			X			X					X		
POOLED													
COVER													
COAT	✓	X	X	X		X					X	✓	
STAIN				X				X			X		
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL										X			X

PAVEMENT H F (S) 8 sq. m by 4 c
PATTIES / TARBALLS — BAGS
NEAR SHORE SHEEN? (NO) BR RW SL TL

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

DID YOU COLLECT DEBRIS?
YES ☒ NO ☐
TYPE unoiled tra / oiled pum
#BAGS

Photographs:
Roll No. ST-6-7
Frames 4-6

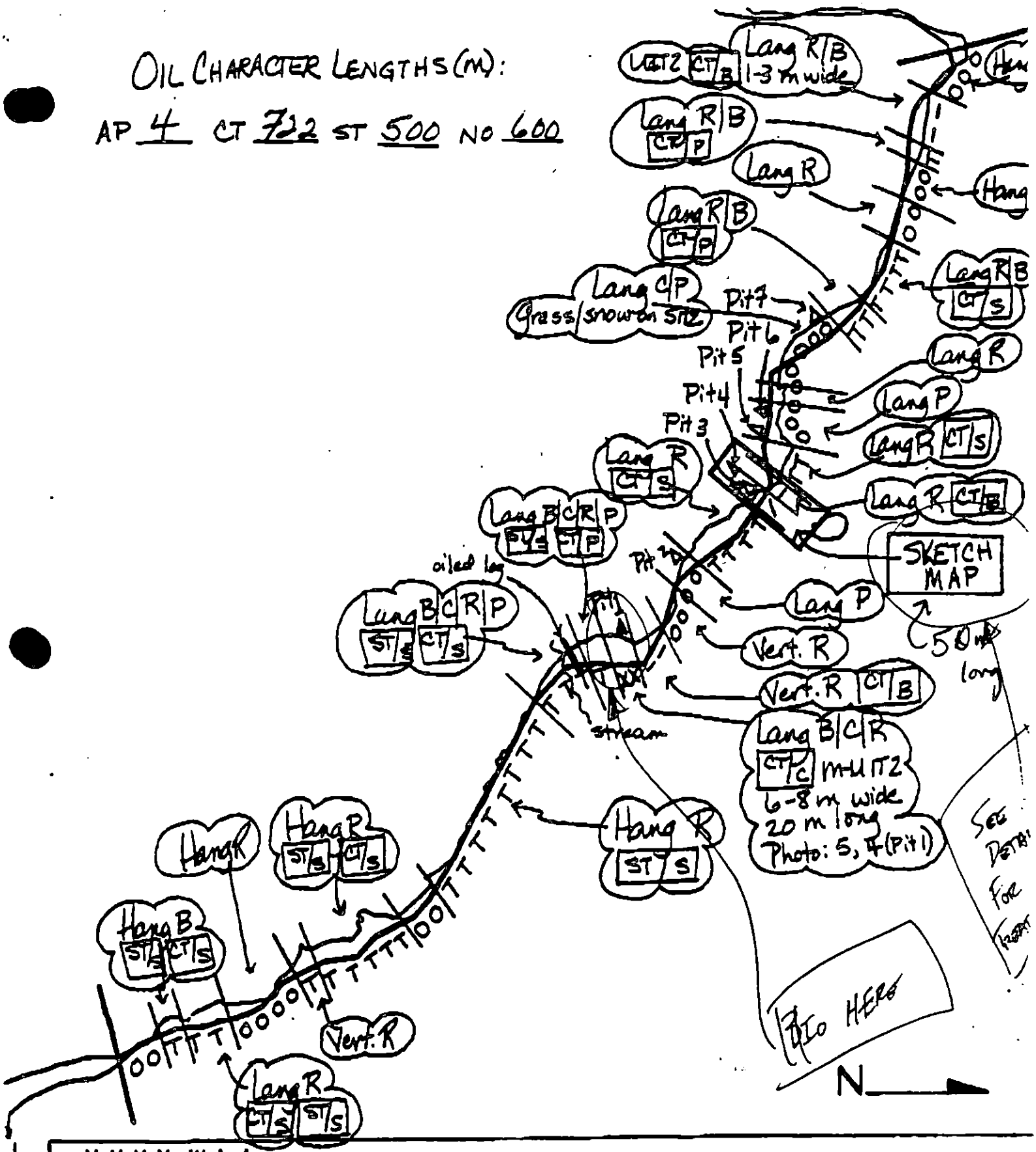
SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SHEEN (Y/N)	▼	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	VC						SU	UI	MI	U				
1	23		X				0-20		X		X					X				N	—	B/C-C/Ve
2	40					X	-		X							X				N	—	P-P
3	10		X				0-3		X	X							X			N	—	C/P-P/G
4	15					X	-		X							X				N	—	P-P/G
5	60					X	-		X							X				N	—	P-P/G
6	25					X	-		X								X			N	15	C/P-P/G
7	30					X			X								X			N	—	P-P/G/S

REVIEWED GH DATE 4-26-90

OIL CHARACTER LENGTHS (M):

AP 4 CT 712 ST 500 NO 600



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

IN-23-A

EXXON SEGMENT LENGTH: 1826m
ABEC Segment Length: 1883m

0 100 200 300
METERS

Map Key: PWS-271a
Name: C. DILLON
Date: 4/25/90
Date Entered:

SEGMENT S[redacted]N-23

SUBDIVISION A

DATE 04/25/90

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

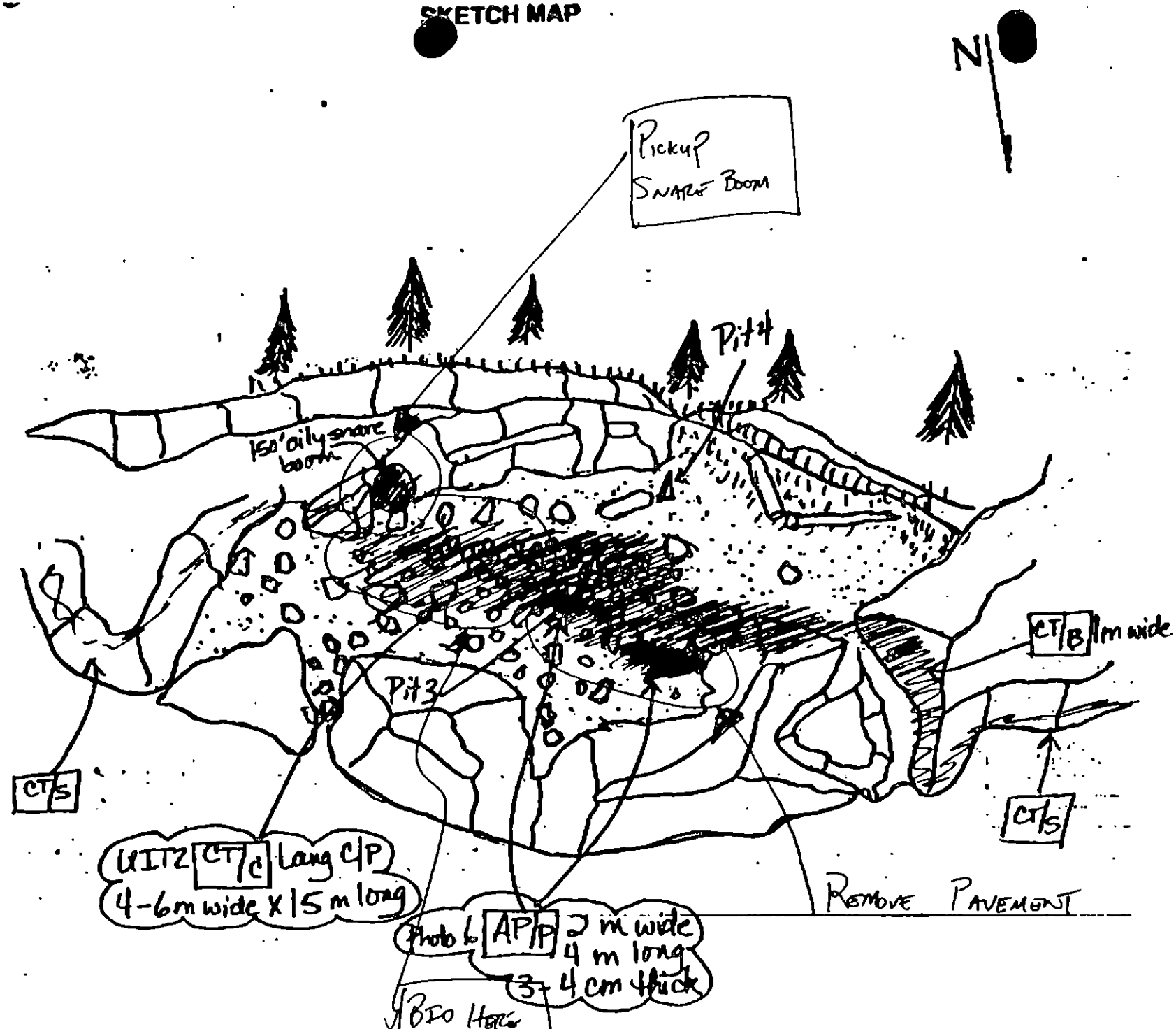
CT/P — Patchy Distribution

CT/S — Splashed Distribution

Oiled Vegetation

Photo location, direction, and number

SKETCH MAP



Oil Character Length (m): AP 4 PD 0 CV 0 CT 46 ST 0 MS 0 PT 0 TB 0 FL 0 NO ____ TOTAL LENGTH 50

SHORELINE ECOLOGICAL SUMMARY

REVISION: 6/92

Segment ST / IN23 Subdivision A Date (mo / day / yr) 4/25/90

Time (24 hr) 1030-1130 Biologist JIM BARRY Length 1826 1/

(A) Substrate type and % of segments:
(1) Bedrock 80 (2) Boulder 10 (3) Cobble 5 (4) Pebble 5 (5) Sand 0 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 60 Moderate 25 Low 25

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

Photographs:
Roll No. ST-7
Frames ——

BARNACLES

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

MYTILUS

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

GASTROPODS

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

Wildlife Observations/ General Comments:

BALD EAGLE - 2 - 1 NEST
PELAGIC CORMORANT - 3
HERRING GULL - 6
WHITE WINGED SCOTER - 1
CROW - 3
RAVEN - 1
SEAL - 1
DEER TRACKS

Ecological Considerations:

EAGLE NEST AT JUNCTION OF IN23, IN24 - AVOID DISTURBANCE
OTTER HAULOUT SITE - SEE MAP

INZ3-A INGOT ISLAND APRIL 25 1990 2/7

TIME 1000 - 1130
TIDE +0 → +5

I General Comments

A. Exposure - Most of segment is moderate exposure: North end has a high exposure.

B. HABITATS

1) Vertical and High Angle bedrock & boulder shores

Biota are generally sparse, due in part to the high cover of filamentous and bladelike algae. Fucus moderate density in general low in low to middle zones. Dominant algae in the middle to low zones are Ulva, Odonthalia, Ptilota, Polysiphonia?, and stipitate brown algae.

Fauna - Typical of exposure gradient. Pisaster, an exposed shore sea star, is abundant near the North end of the segment, and less abundant towards the South. Mytilus is very patchy, but generally moderate in patches. Littorines are dense on some cobble shores. Limpets are moderate to sparse and whelks are moderate to sparse, with egg cases present throughout the segment. Barnacles are often dense in the upper zone, and Semibalanus is abundant (dense) near the north end.

2) Cobble and Cobble/Pebble beaches.

Beaches towards the South end have higher cover of algae, and denser biota in general, than one or 2 beaches at the north end which face Prince William Sound to the north. Mytilus are often moderate and dense in patches at the periphery of these beaches. Littorines are often dense on large cobble and boulders on these beaches.

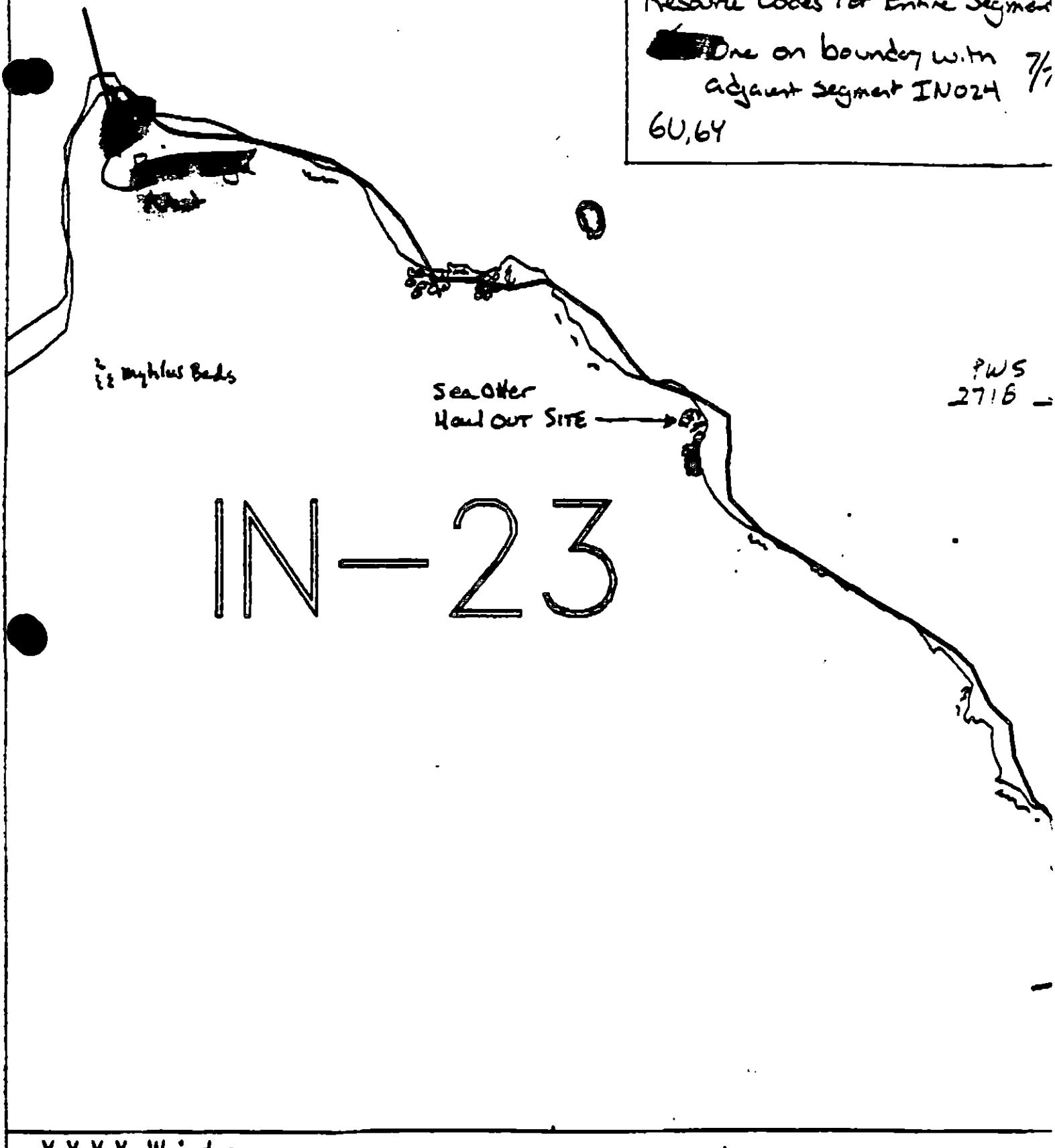
c. Oil Related Comments

1) Oil is light to very light throughout the segment. Some oil related mortality is evident & probable for barnacles under a coat where mortality (% dead) is about 30-50%.

2) Sensitivities — Eagle nest at north end of segment. Other haul out site on segment — see maps. Cleanup crews should avoid prolonged visitation near these sites.

APRIL 25 1990

Ecology Map 1 of 2
Resource Codes For Entire Segment
[redacted] One on boundary with adjacent segment IN024 7/1
60, 64



IN-23

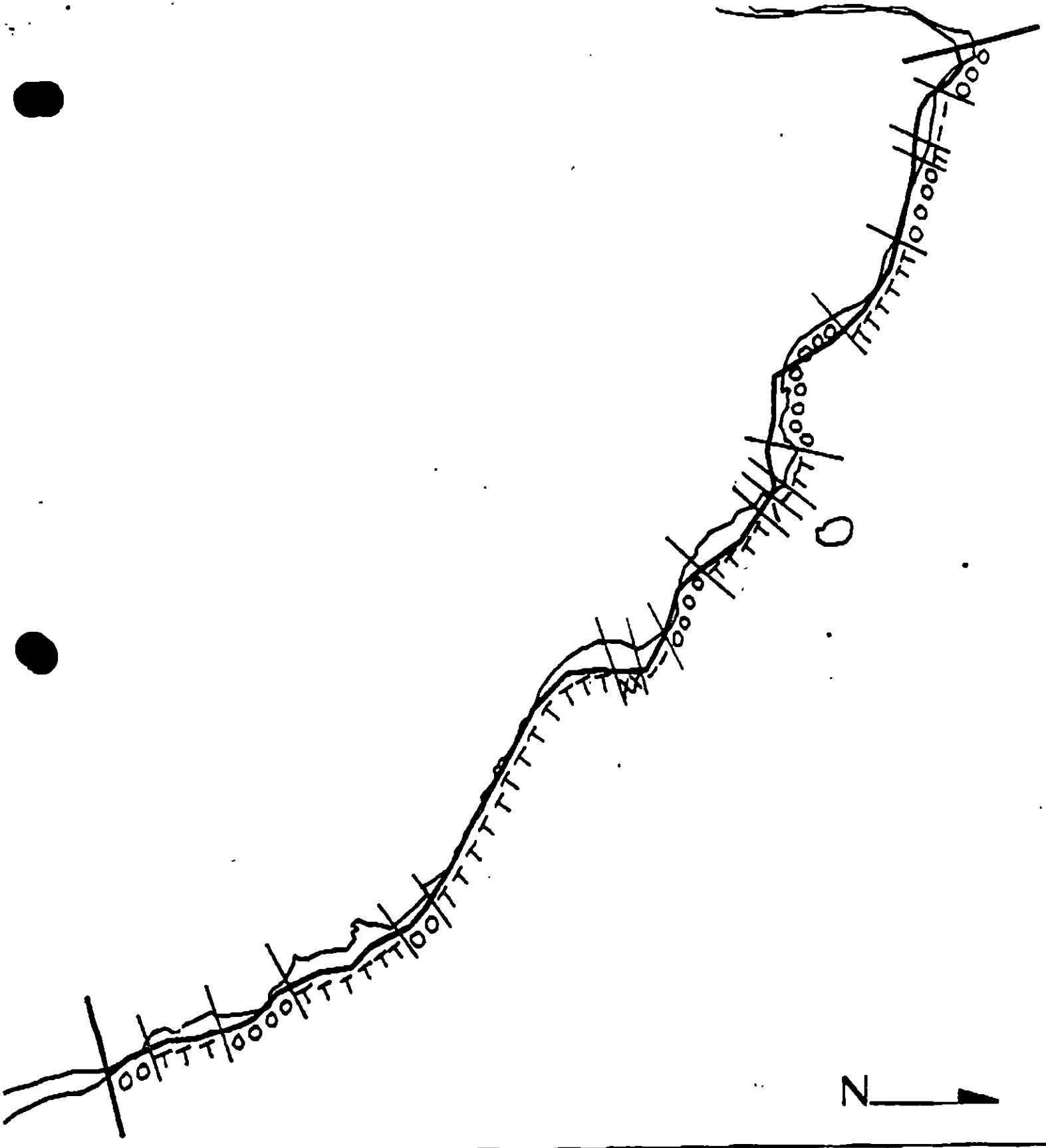
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

IN-23

ABEC Segment Length: 1683m

0 100 200 300
METERS

Map Key: PWS-271a
Name: _____
Date: _____
Date Entered: _____



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

IN-23-A

EXXON SEGMENT LENGTH: 1826m
ADEC Segment Length: 1883m

0 100 200 300
METERS

Map Key: PWS-271a
Name: C. DILLON
Date: 4/25/90
Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT IN-23 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T	**Bald Eagle Nest**	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.

OTHER ECOLOGICAL CONSIDERATIONS

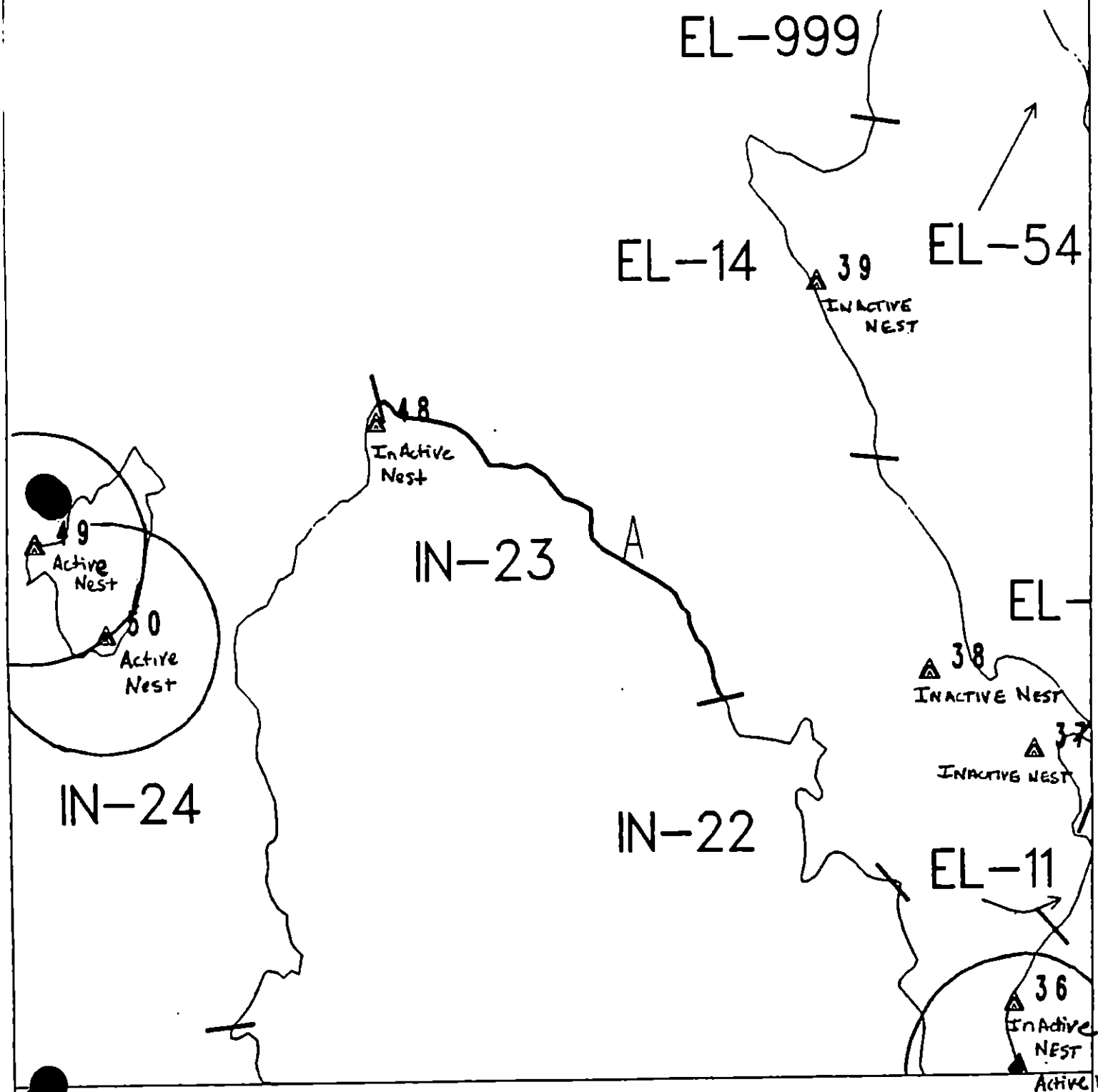
Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

TAG APPROVAL DATE _____
ADEC Ray Morris R. Morris
EXXON Andy Tom W. Kelley
NOAA _____
USCG _____

FOSC _____ DATE 8 June 90

Prepared By: Linda Megan JPP Date 6/5/90

*Incorporates USFWS eagle nest data from 6/1/90 map.



EXXON

Exxon Company, USA

Map Key: KNI-IN-23

ECOLOGY MAP

SEGMENT IN-23

SUBDIVISION _A_ (_1_of_1_)

METERS

★ Seabird Colony

△ Eagle Nest

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT IN-24 SUBDIVISION B (2 of 3)

WORK WINDOW	
Bioremediation Manual Raking	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T	**Bald Eagle Nest**	NO CONSTRAINT. Bald eagle nest in Subdivision C is over 400m from work area.

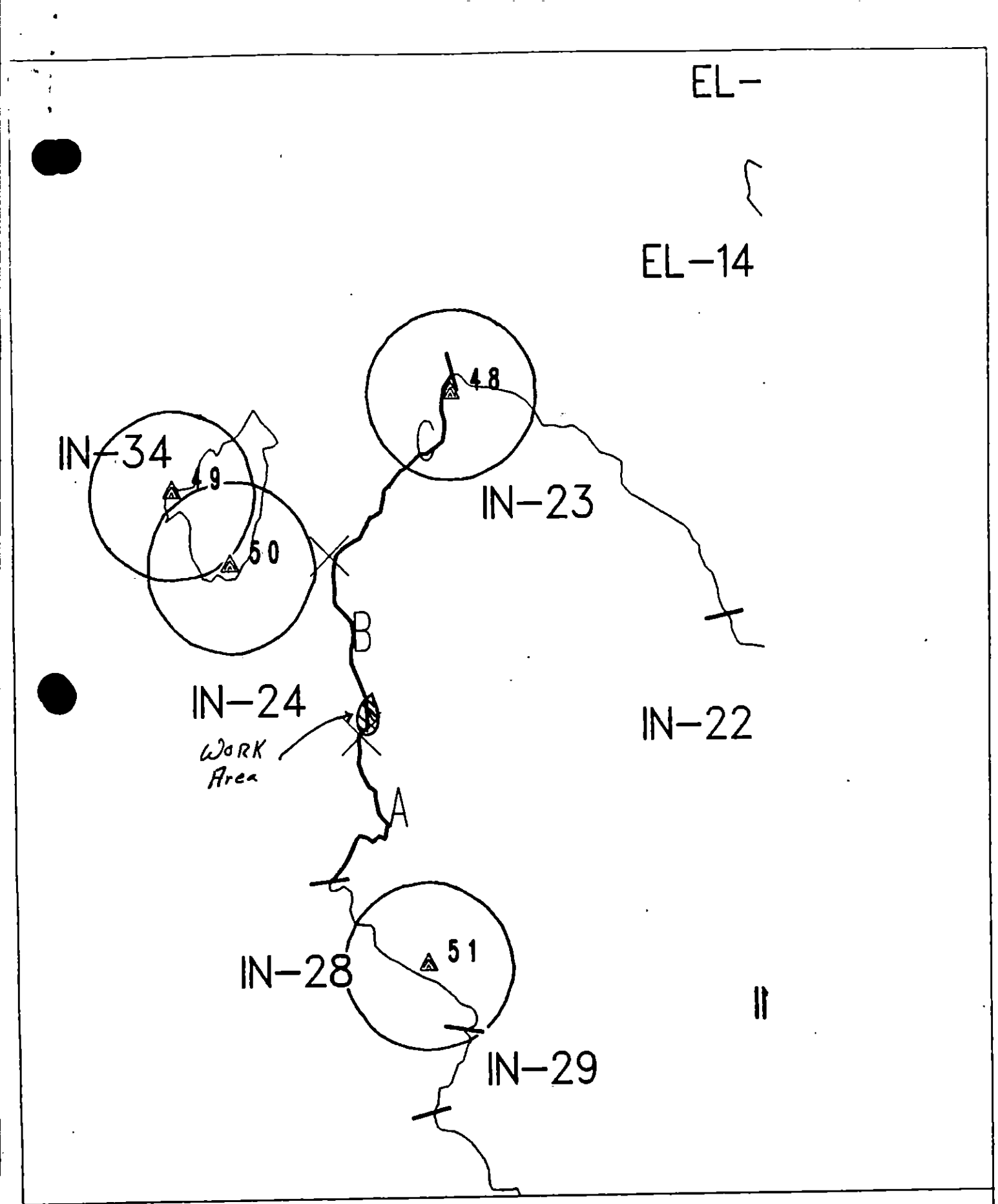
OTHER ECOLOGICAL CONSIDERATIONS

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

TAG APPROVAL DATE 5/29/90.
ADEC Art Weiner
EXXON Andy Teas
NOAA R Wescott
USCG G.A. DEITER

FOSC [signature] DATE MAY 29 1990

Prepared By: Arden Meyer WTK Date 5/27/90



ECOLOGY MAP
SEGMENT IN-24
SUBDIVISION B (2 of 3)

METERS
0 459 918

★ Seabird Colony
△ Eagle Nest

1 inch = 1506 feet

EXXON

Exxon Company, USA
Map Key: KNI-IN-24
May 11, 1990

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT IN-24 SUBDIVISION C (3 of 3)

WORK WINDOW	
Manual Pickup	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T	Bald Eagle Nest	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision C work site.

OTHER ECOLOGICAL CONSIDERATIONS

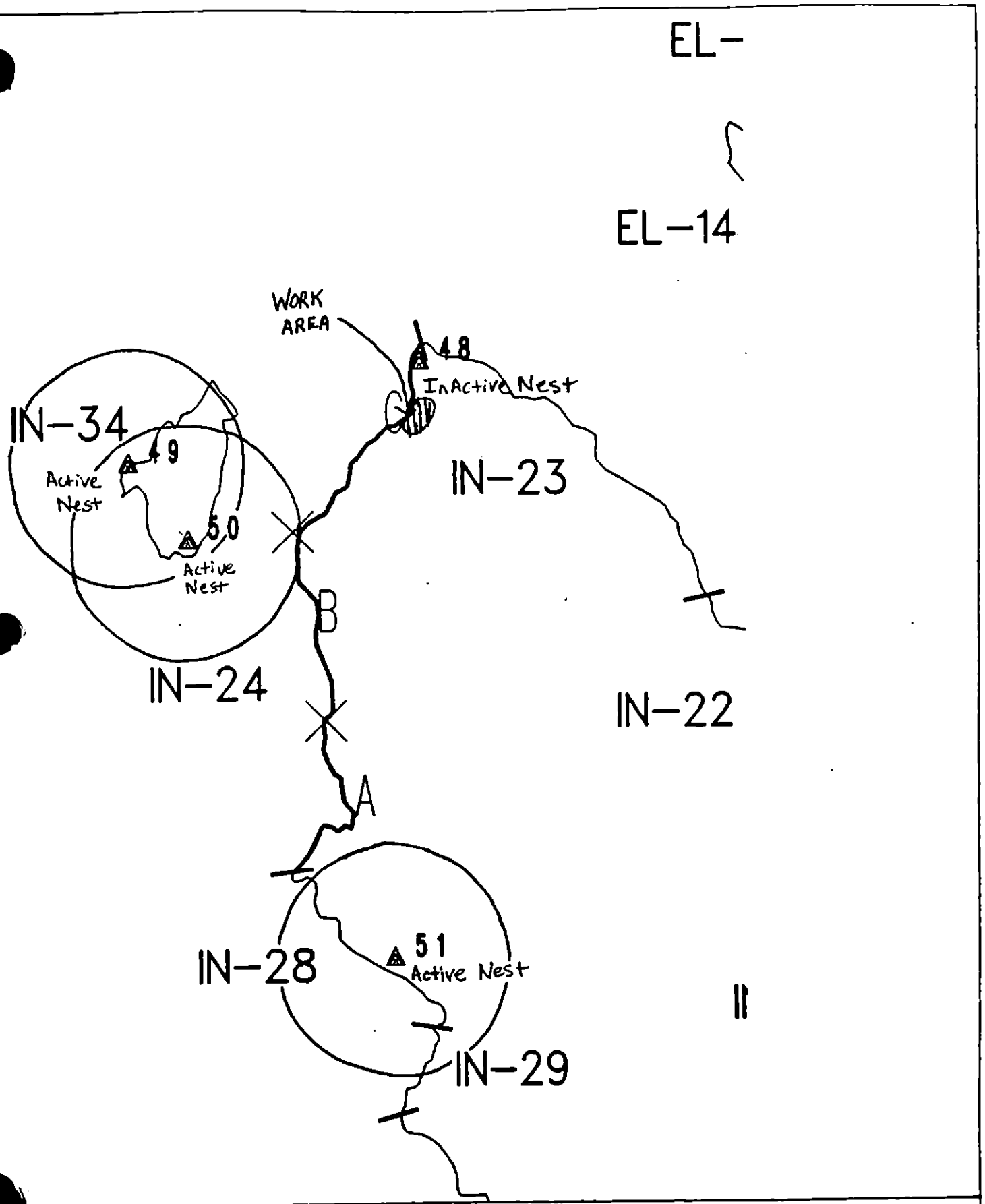
Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

TAG APPROVAL DATE
ADEC Ray Morris RcMorris
EXXON Andy Teal WKelley
NOAA
USCG

FOSC L DATE 8 June 90

Prepared By: Andrew Meyer JPP

Date 6/5/90



EXXON

Exxon Company, USA

Map Key: KNI-IN-24

ECOLOGY MAP

SEGMENT IN-24

SUBDIVISION C (3 of 3)

METERS

★ Seabird Colony

▲ Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ IN-28 SUBDIVISION A (1 OF 1) DATE 4/8/90

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)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: [signature] DATE: 5/8/90

OILING CATEGORIZATION:

Wide 32 m: Medium 0 m: Narrow 22 m: V.Light 468 m: No Oil 123 m
Subsurface Oil Observed: Yes ____ No X Maximum Depth ____

RECOMMENDATIONS:

____No Treatment Recommended	____Snare/Absorbent Booms
X Treatment Recommended	____Oil Snares (pom poms)
____Manual Pickup	____Absorbents (pads,rolls,etc)
X Bioremediation	____Spot Washing: ____Wands
____Tarmat: ____Breakup	____ Beach Cleaner
____Removal	____Other (see comments)

COMMENTS: Recommended treatment includes bioremediation of broken coat area shown on sketch map with USFWS permission regarding the eagle nest.

TAG COMMENTS: MONITORS TO ASSESS SVITZ DURING TREATMENT.

TAG APPROVAL DATE: 4/25/90
ADEC ART WEBER
EXXON [illegible]
NOAA Joseph Talbott
USCG [illegible]

FOSC: [signature] DATE: 5-12-90

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 6/31)
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 / IN-28-A SUBDIVISION: A DATE 4/10/90

USCG
NAME David A. Schneider SIGNATURE David A. Schneider
PSS/USCGR

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

No Treatment recommended for this subdivision. Degree of oiling is very light and consists of only very scattered cover, coat & stain among boulders and on some surface sediments. Supra intertidal zone should be re-evaluated after snowmelt. No Sub surface oil was found in this subdiv.

ADEC
NAME Peter Montesano SIGNATURE Peter Montesano

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS The Supratidal was snow covered on S beach at time of inspection. The S beach has heavy interstitial runoff down the middle.

LAND MANAGER
NAME JANETTA Pritchard SIGNATURE Janetta Pritchard

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

OG C. DILLON USCG D. SCHNEIDER SEGMENT ST/ IN-28
BIO J. BARRY LAND REP J. PRITCHARD SUBDIVISION A (1 of 2)
EXXON A. SNOOK ADEC P. MONTESANO TIME 17:30 to 18:15
TEAM NO.: 6 TIDE LEVEL: +3 to +1 DATE 04/02/90
EST. SUBDIVISION LENGTH: 650 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
SURFACE SEDIMENTS: R 45 % B 45 % C 5 % P 3 % G 2 % S 0 % M 0 % V 0
SLOPE : Lang 40 % Hang 35 % Vert 25 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
OIL CATEGORY LENGTH: W 20 m M 0 m N 15 m VL 525 m NO 90

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	B	P	S						SU	L	M	U
ASPHALT PAVEMENT													
POOLED													
COVER				X				X			X		
COAT		O	X	✓		[hatched]					[hatched]	O	
STAIN				X				X			X		
MOUSSE													
PATTIES													
TARBALLS				X		X					X		
FILM													
NO OIL	Snow on S'most beach									S			X

PAVEMENT: H F S 0 sq. m by 0

PATTIES / TARBALLS 0 BA

NEAR SHORE SHEEN? (NO) BR RW SL

OILED DEBRIS	AMOUNT SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED ☐ YES ☒ NO

TYPE 0

#BAGS 0

Photographs:

Roll No. NONE

Frames 0

SUBSURFACE OIL No SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO	(cm-cm)	WO	SC						SU	L	M	U		
							•													
							•													
							•													
							•													
							•													
							•													

COMMENTS OIL COAT IS HIGHLY WEATHERED AND IS ALMOST TAR. SPORADIC TAR SPOTS ARE UP TO 1 CM THICK SPLATTERS AFFIXED TO BOULDERS/COBBLES. OIL IS ONLY ON SURFACE SEDIMENTS. THE COATING ON THE LANG BOULDERS AND COBBLES IS PRIMARILY ON THE SIDES AND UNDERSIDES WITH MOSTLY JUST A STAIN ON THE TOPS. ONE SMALL AREA HAS A SPORADIC COVER IN THE CREVICES BETWEEN LARGE BOULDERS. JRH 4/13/90

Page 1 of ___ REVIEWED CSD DATE 4/11/90

SHORELINE ECOLOGICAL SUMMARY

Segment ST / IN28 Subdivision A Date (mo / day / yr) April 8 1990

Time (24 hr) 1730 - 1815 Biologist Jim Bacon Length - 650 m

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

(B) Overall % cover of biota (% of segment): Dense 50 Moderate 65 Low 5

(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-6-5
Frames 8-10

BARNACLES

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

Wildlife Observations/ General Comments:
1 Seal
2 Common Merganser
3 Pigeon Guillemot

Ecological Considerations: 6Y - Special use destination.
There are no special considerations for this segment that require specific changes in cleaning schedules or procedures.

IN2B APRIL 9 1990

START 1730 TIDE +5 → +2
STOP 1915 WINDOW

I. General Comments

A. IN2B is a short segment containing a pebble/cobble beach, a cobble/boulder beach/coastline, and vertical cliffs. Biota are of average density overall, with a moderate, and patchy density of mussels. Barnacles and Fucus are moderate in abundance. Gastropods are moderate in general, but whelks are dense in most mid-to-low zones.

B. Oil is sparsely distributed in the segment, and sparse or rare in the low to high zones. Several invertebrates are present as juveniles a spat (Clams, many species of algae, and other invertebrates).

II. Major Species.

A. BARNACLES - Dense or moderate populations along most of the segment. Juveniles of Balanus (Catophragmus and Semibalanus)

B. Mytilus - Sparse cover in most spots, but patches of higher densities, particularly on vertical cliffs.

C. Gastropods - Periwinkles and limpets are generally moderate in density, but whelks, specifically Nucella emarginata, is dense on most surfaces (adults and juveniles)

D. Fucus - moderate - occasional high density of juveniles or Sporlings in upper and mid zones.

III. Other Species

Most species typical of other locations, except highly exposed cliffs, are present in the segment. Filamentous algae are abundant at this site.

IN28-A

APRIL 9 1990

3/6

III Species List

A. MARINE PLANTS

1) DIATOMS / BLUE GREEN ALGAE M·D 123

2) GREEN ALGAE - CHLOROPHYTA

ACROSIPHONIA D23
CLADOPHORA S12
ENTEROMORPHA M123
GREEN CRUST. R12
ULVA M123
UROSPORA M23

3) RED ALGAE - RHODOPHYTA

BOSSIELLA R12
CALLIARTHRON R12
CORALLINA R12
CRYPTOSIPHONIA M231
ENDOCLADIA MURICATA S1
HALOSACCION GLANDIFORME M123
IRIDAEA S12
MASTOCARPUS S12
MEMBRANOPTERA S12
MICROCLADIA M123
LITHOTHAMNION PELIFICUM S12
PETROCELIS MIDDENDORFII S1
PORPHYRA SPP. S12
RHODOMELA LONGA M213
RHODYMENIA PACIFICA M12

4) BROWN ALGAE - PHAEOPHYTA

ALARIA MARGINATA M41
AGARUM SPP. M4
COSTARIA M1
FUCUS DISTICHUS M12
HEDOPHYLLUM SESSILE M4
HILDENBRANDIA M12
LAMINARIA M4
NEREOCYSTIS S4
RALFSIA S12
SCYTOSIPHON LOMENTARIA S12

★ SPAT OR JUVENILES PRESENT
D DENSE
m moderate
S SPARSE
R RARE
1 BEDROCK
2 BOULDER
3 COBBLE
4 PEBBLE
4. SUBTIDAL

JN28-A APRIL 9 1990

B MARINE INVERTEBRATES

1) ANEMONES
- EPIACTIS RITTERI ? S12A
- URTICINA CRASSICORNIS R1
- Anthopleura elegantissima R1
- A. artimisea S12
- A. xanthogrammica R1

2) Annelid Worms
- Polychaetes
  - Nereidae S23
  - Nepthydae S23
  - Serpulidae
    - Serpula M1 *
    - Crucigera M1
  - Spirorbidae
    - Spirorbis . D23 *

3) Peanut Worms - Sipunculid
- PHASCOLOSOMA [illegible] S23 *

4) MOLLUSCS
- a) CHITONS
  - KATHARINA TUNICATA S12A
  - TONICELLA LINEATA S12A
  - MOPALIA spp. R1
- b) Snails - GASTROPODS
  - Littorina scutulata M123A
  - L. sitkana M123A
  - Nucella lamellosa M123A
  - N. emarginata D12A
  - Searlesia dira M23A
  - Amphissa columbiana S23A
  - Tachyrhynchus spp. R23
- c) Nudibranchs
  - Lamellidoris fusca S12
- d) Limpets
  - Lottia digitalis M12A
  - Acmaea mitra S12
  - Lottia persona M123A
- d) Limpets (cont)
  - Tectura scutum [illegible]
  - T. persona S12
  - Siphonaria thersites M12
  - Diadora aspera R1
- e) Mussels -
  - Mytilus edulis M-D123
- f) Clams
  - Single - POROPSAMMUS [illegible] M
  - Hiatella spp. S23A
  - Protothaca staminea S23A
  - Macoma spp. R23
- g) Crustaceans
  - 1) BARNACLES
    - Semibalanus cariosus D-M12
    - Balanus glandula A M123
    - Chthamalus dalli A M123
  - 2) Crabs
    - Haplogaster spp S23
    - Hemigrapsus oregonensis R.
    - Pugettia spp. S23A
    - Hermit Crabs - Paguridae M
  - 3) Beach Hopper
    - ISOPODA - S23A
    - AMPHIPODA
      - Orchestia ? M23A
- h) Bryozoans
  - Schizoporella spp? M23
- i. Echinoderms
  - 1). Sea Stars
    - D23A Pycnopodia helianthoides
    - D23A Dermasterias imbricata
    - M23A Leptasterias hexactis
    - S23 Evasterias troscheli
    - R23 Orthasterias koehleri
    - M12 Pisaster ochraceus.

SPECIES LIST (cont)

i Echinoderms (cont)

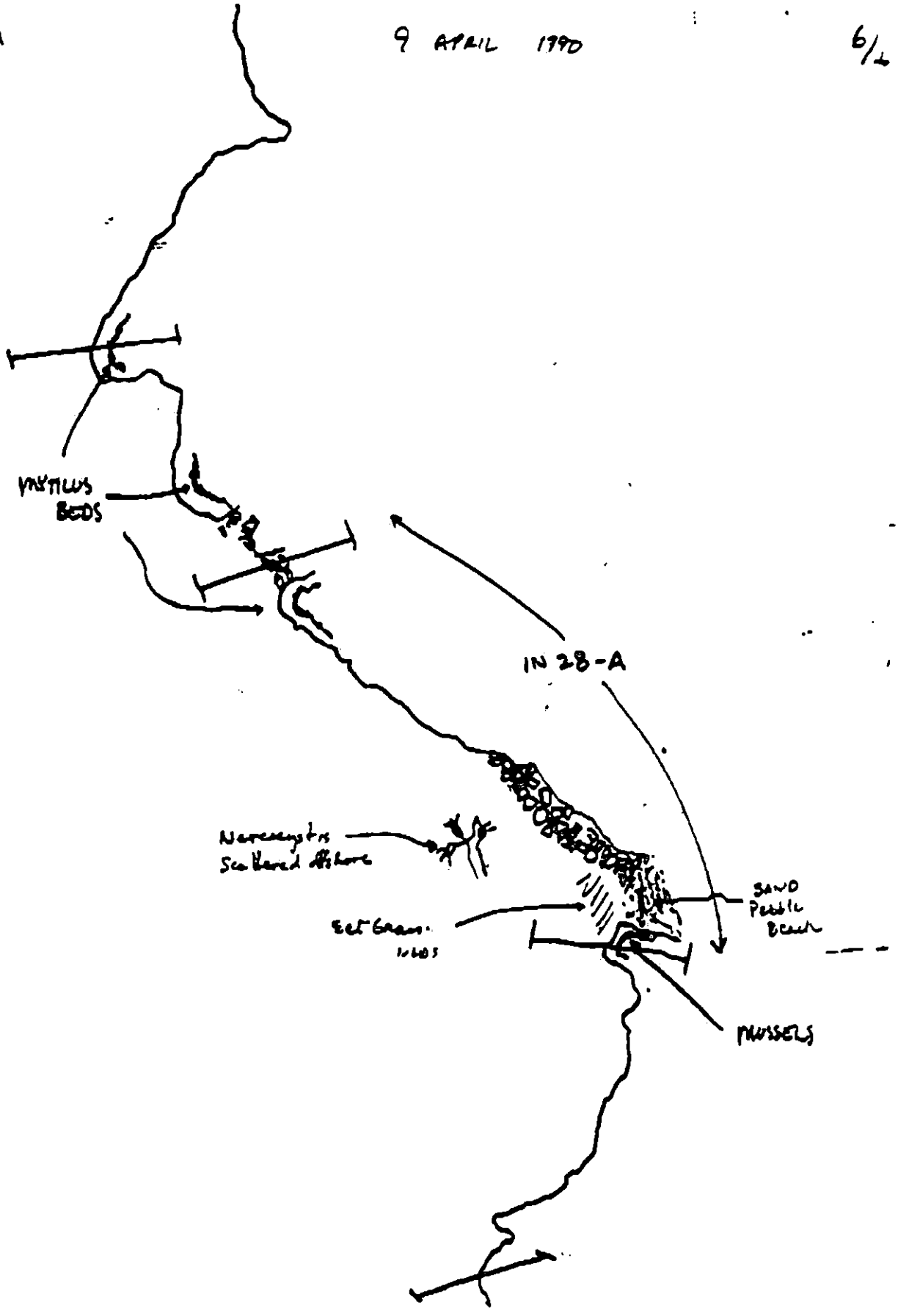
2) Brittle Stars
Ophiothrix spp? R23

3) Sea Cucumbers
Cucumaria miniata R23

3) Sea urchins
Strongylocentrotus drobachiensis R23

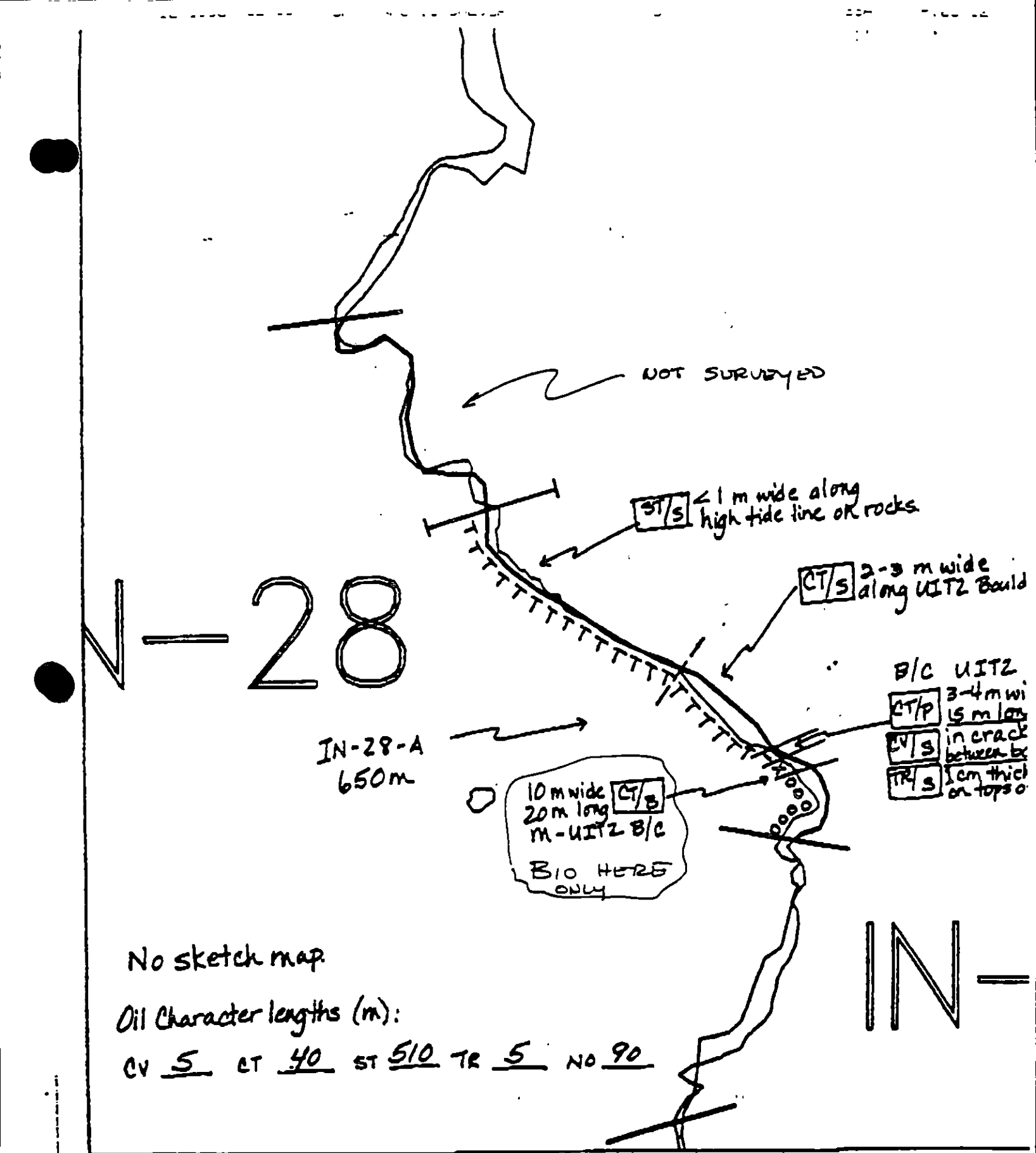
C. Marine Vertebrates

1) Fish: PHOLIDAE M-0234
COTTIDAE 5128



IN28-A

9 APRIL 1990



No sketch map

Oil Character lengths (m):

CV 5 CT 40 ST 510 TR 5 NO 90

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

IN-28

EXXON SEGMENT LENGTH: 1052 m
ADEC Segment Length: 1044m

0 100 200 300
METERS

Map Key: PWS-273
Name: C. DILLON
Date: 4/8/90
Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT IN-28 SUBDIVISION A (1 of 1)

WORK WINDOW	
Bioremediation	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T	**Bald Eagle Nest**	USFWS 6/1/90 map indicates an active nest in Subdivision B. Closed to bioremediation within 400m of active nest.

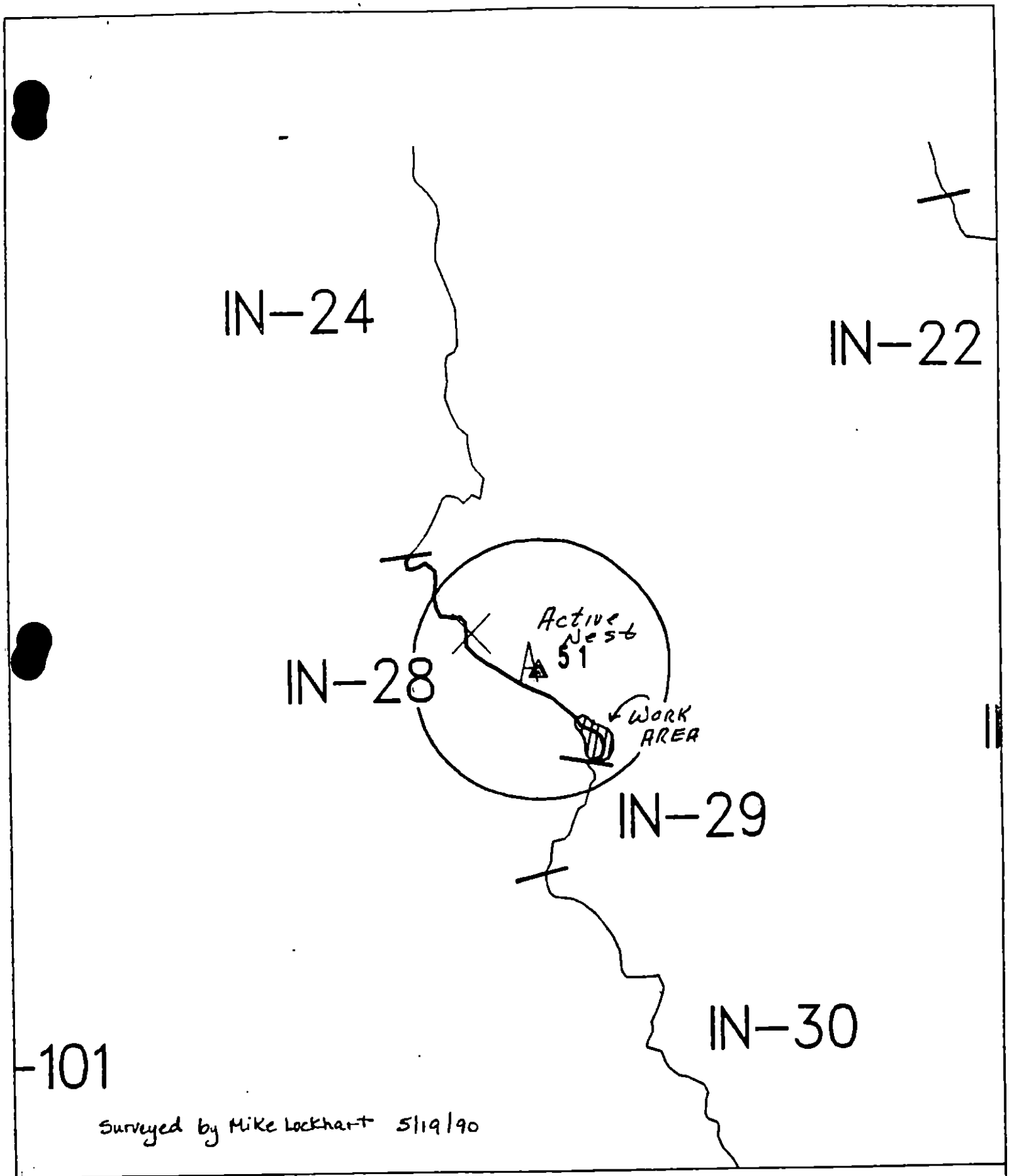
OTHER ECOLOGICAL CONSIDERATIONS

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

TAG APPROVAL DATE_____
ADEC_____
EXXON_____
NOAA_____
USCG_____

FOSC_____ DATE 6-10-90

Prepared By: W Kellen Date 6/9/90



Surveyed by Mike Lockhart 5/19/90

EXXON

Exxon Company, USA

Map Key: KNI-IN-28

ECOLOGY MAP

SEGMENT IN-28

SUBDIVISION A (1 of 1)

METERS

★ Seabird Colony

▲ Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ IN-29 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
6Y Recreation: Special use destination
Note adjacent segment with bald eagle nest >400 m from subject segment. 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 Dan DATE: 6/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 8 m: V.Light 274 m: No Oil 129 m
Subsurface Oil Observed: Yes X No ___ Maximum Depth 20 cm

RECOMMENDATIONS:

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

COMMENTS: MANUAL ACCUM OF TAR PATTIES AS INDICATED ON SKETCH
MANUAL RAKING IN OF CONTAMINATION IN AREA OF TP 8 (STORM BERM)

TAG COMMENTS: ___

TAG APPROVAL DATE: 5/1/90
ADEC ART WARNER
EXXON Andy Teal
NOAA Gary Petrosa
USCG KENNETH KEANE

FOSC: [signature] DATE: 6-8-90

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 Suzomoto 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 uncited intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235

3N, 3P **Harbor seal and sea lion pupping (5/15 to 7/1)**
3O, 3Q **Harbor seal and sea lion molting (8/15 to 9/15)**
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403

5R **Seabird colony (5/1 to 9/1)**
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

5S **Shorebird/waterfowl concentration (4/1 to 5/15)**
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Rothy 267-2208

5T **All Bald Eagle nests (3/1 to 6/1)**
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6U **Recreation: Tent sites (6/1 to 9/15)**
6V **Anchorages (6/1 to 9/15)**
6W **Forest Service cabins (6/1 to 9/15)**
6X **Lodge (6/1 to 9/15)**
[redacted] **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 / IN-29 SUBDIVISION: A DATE 4/24/90

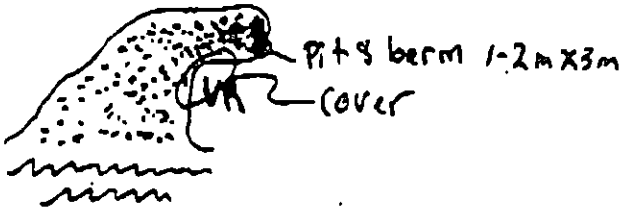
USCG
NAME William E. WHITE SIGNATURE William E. White

■ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

ADEC
NAME Peter Montesano SIGNATURE Peter J. Montesano

☐ NO TREATMENT RECOMMENDED ■ TREATMENT SUGGESTED
COMMENTS

Hand wipe cover off of Rock face & tucked back up off water leading to Pit #8. Pull down + Bio small Pit #8 berm which is hidden and runs perpendicular to beach.



LAND MANAGER – USDA – Forest Service
NAME Don J. Breitinger SIGNATURE Don J. Breitinger

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

This segment serves as a recreation special use destination area for the period 6/1 – 9/15.
Natural weathering appears to be the best form of treatment.

REVISION NO. 03/11/88

SHORELINE OILING SUMMARY

REVISION NO. 0

OG C. DILLON USCG PS1 E. WHITE SEGMENT ST/ IN-29
BIO J. BARRY LAND REP D. BREITLAUER (NES) SUBDIVISION A (1 OF 1)
EXXON G. STILES ADEC P. MONTESANO TIME 07:15 to 08:30
TEAM NO. 6 TIDE LEVEL -2 to -1 DATE 04/24/90
EST. SUBDIVISION LENGTH: 483 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
SURFACE SEDIMENTS: R 40 % B 50 % C 5 % P 5 % G 0 % S 0 % M 0 % V 0
SLOPE : Lang 65 % Hang 25 % Vert 10 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
OIL CATEGORY LENGTH: W 0 m M 0 m N 10 m VL 353 m NO 120

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	AS	AB	AP	AB						SU	UI	MI	U
ASPHALT PAVEMENT													
POOLED													
COVER		X			X					X	X		
COAT			X	X		X					X		
STAIN				X			X				X		
MOUSSE													
PATTIES				X				X		X			
TARBALLS													
FILM													
NO OIL												X	X

PAVEMENT H F S — sq. m by —

(PATTIES) TARBALLS 1 BAG

NEAR SHORE SHEEN? (NO) BR RW SL TI

OILED DEBRIS	AMOUNT SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒

TYPE —

#BAGS —

Photographs:

Roll No. ST-6-7

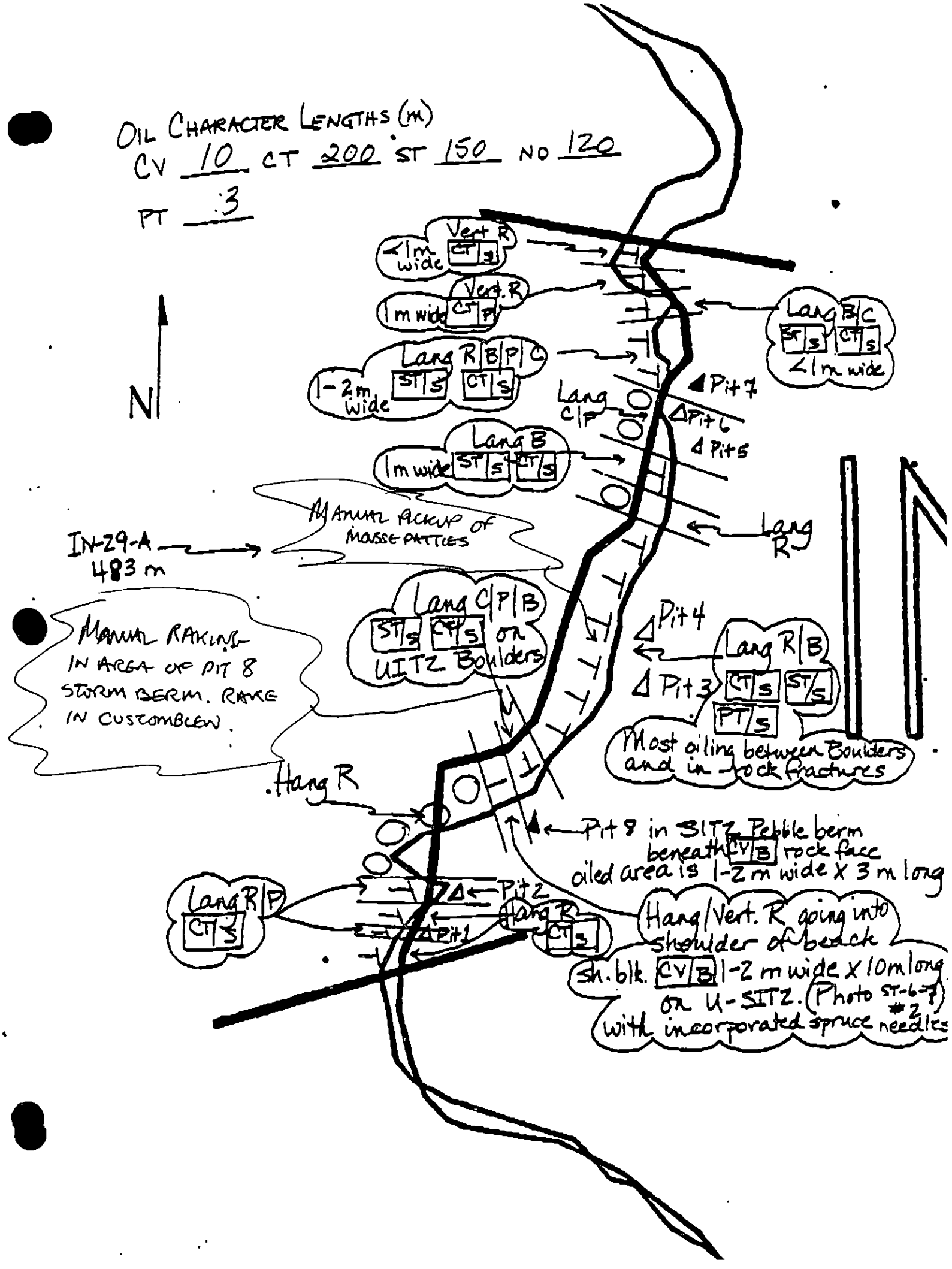
Frames 2

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SHEEN (Y/N)	▼	SURFACE SUBSURFACE SEDIMENT
		OP	OR	OL	OP	NO		UO	UC						SU	UI	MI	U				
1	30					X	-		X							X				N	—	P-P
2	10					X	-		X							X				N	—	B/C-P/G
3	10		X				0-3		X				X		X					N	—	R/B/C-P/G
4	10					X	-		X							X				N	—	C/B/P-P
5	30					X	-		X							X				N	—	P-P
6	35					X	-		X									X		N	—	P-G
7	5		X				0-4		X				X		X					N	—	B/C-P/G
8	25		X				0-20		X				X		X					N	—	P-P/Veg

ONLY SIGNIFICANT OILING IS A 1-2 M WIDE X 10 m LONG BROKEN, SHINY BLACK COVER ON A ROCK FACE AT THE SOUTH END OF THE SUBDIVISION. PIT 8 IS IN A PEBBLE BERM AT THE BASE OF THIS COVERED ROCK. THE OILED BERM AREA IS 1-2 M WIDE X 3 M LONG AND UP TO 20 CM DEEP. PIT 3 WAS DUG THROUGH A 15 cm SS PATTY.

REVIEWED HF DATE 4-25-90


OIL CHARACTER LENGTHS (m)
CV 10 CT 200 ST 150 NO 120
PT 3
N
Vert R
<1m wide
CT S
Vert. R
1m wide
CT P
Lang B C
ST S
CT S
<1m wide
Lang R B P C
1-2m wide
ST S
CT S
Lang C P
Pit 7
Δ Pit 6
Δ Pit 5
Lang B
1m wide
ST S
CT S
MANUAL PICKUP OF MOUSSE PATTIES
IN-29-A
483 m
Lang R
MANUAL RAKING IN AREA OF PIT 8 STORM BERM. RAKE IN CUSTOMBLEN.
Lang C P B
ST S
CT S
on UITZ Boulders
Pit 4
Lang R B
Δ Pit 3
CT S
ST S
PT S
Most oiling between Boulders and in rock fractures
Hang R
Pit 8 in SITZ Pebble berm beneath CV B rock face
oiled area is 1-2 m wide X 3 m long
Lang R P
CT S
Pit 2
Pit 1
Hang R
CT S
Hang/Vert. R going into shoulder of beach
Sh. blk. CV B 1-2 m wide X 10m long on U-SITZ. (Photo ST-6-7 #2)
with incorporated spruce needles

SHORELINE ECOLOGICAL SUMMARY

REVISION: 6/92

Segment ST / IN29 Subdivision A Date (mo / day / yr) 24 APRIL 1990

Time (24 hr) 0700 → 0825 Biologist Jim BARRY Length = 483 1/7

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

(B) Overall % cover of biota (% of segment): Dense ____ 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-6-7 Frames 1

BARNACLES — NOT PRESENT

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

MYTILUS — NOT PRESENT

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

GASTROPODS — NOT PRESENT

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

FUCUS — NOT PRESENT

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

Wildlife Observations/ General Comments: Sea Otter - 1 HARBOR SEAL - 2 BALD EAGLE - 2
Herring Gull - 3 Pelagic Cormorant - 2 Sea Otter Skull - 1 (badly decomposed)
Glaucous-winged Gull - 2 Deer Skeleton - 1
Pigeon Guillemot - 7

Ecological Considerations: ST - BALD EAGLE NEST IN SEGMENT ADJACENT TO IN29.
54 - SPECIAL USE DESTINATION

* Sea Otter haul out site located in segment - see OS map.

TIME 0730-0830
TIDE -2 → -1

I General Comments

IN29 is located along a moderately exposed shore in upper passage. The main Habitat types are vertical bedrock cliffs and high angle bedrock shores, and cobble/pebble beaches.

A. HABITATS

1) Vertical Bedrock / High Angle Bedrock.

BIOTA are typical of habitat type, with patchy, & mussel density, overall moderate to sparse. Barnacles, mainly Balanus and Chthamalus, are dense in patches, but mostly moderate. Semibalanus is much less abundant than on more exposed segments. Fucus was moderate, with some withered thalli that may have been related to heat treatment last summer.

Seastars were strikingly abundant in the low zone along this shore, ~~and~~ with Pycnopodia, Dermasterias, Solaster being most abundant. Densities reached 8/m² in some areas. Algal cover in the low zone was dense, with ULVA covering the middle to low zone in some areas. Odonthalia, Ptilota, Membranoptera, and Palmaria cover nearly all the extreme low zone. Kelps are abundant in the subtidal.

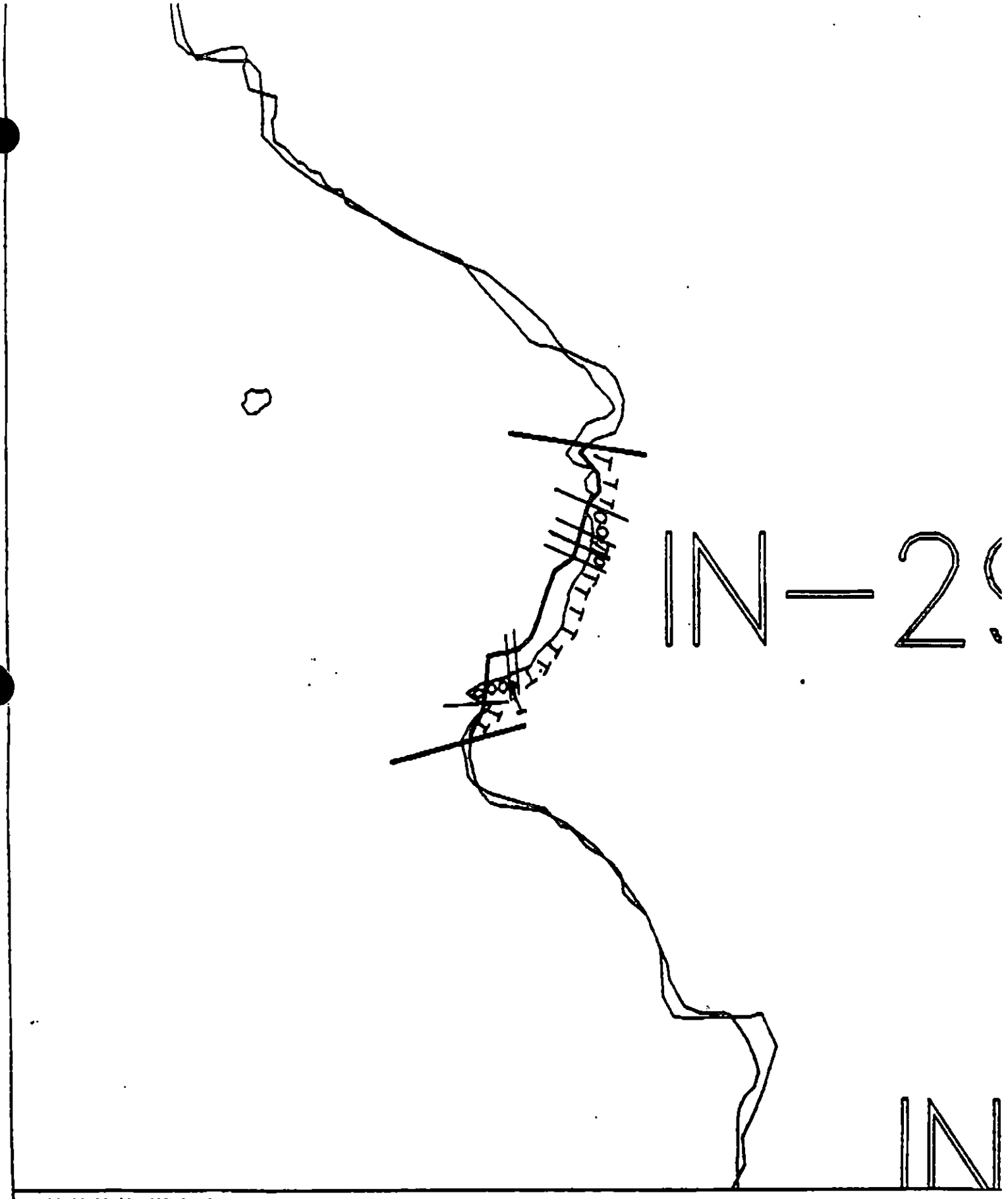
2) COBBLE/PEBBLE BEACHES -

These beaches are exposed to moderate swell. Most of the biota in the high to middle zones are killed, leaving only a cover of rapidly growing algae (filamentous green) and some Littorine snails. In the middle to low zone, larger cobble are densely covered w/ green algae, as well as sparse Fucus and other red algae. Littorines are moderate under & on these rocks. Beneath them, several species of intertidal fishes are abundant (pricklebacks, Sculpins) (~ 5-10/m²). Barnacles & Mussels are rare.

B. Oil-Related Comments.

1) Oil cleanup is apparently very minor on this segment (see OG forms) and will have little impact on any ecological considerations. A bald eagle nest is located w/in 400 m of the segment.

2) Sea otters utilize one of the headlands as a haul out site (see OG map) and should not be disturbed or approached, if possible.



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

IN-29-A
EXXON SEGMENT LENGTH: 483m
ADEC Segment Length: 411m

0 100 200 300
METERS

N

Map Key: PWS-274
Name: C. DILLON
Date: 4/24/90
Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT IN-29 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup	OPEN
Bioremediation Manual Raking	WORK PRIOR TO 7/20

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

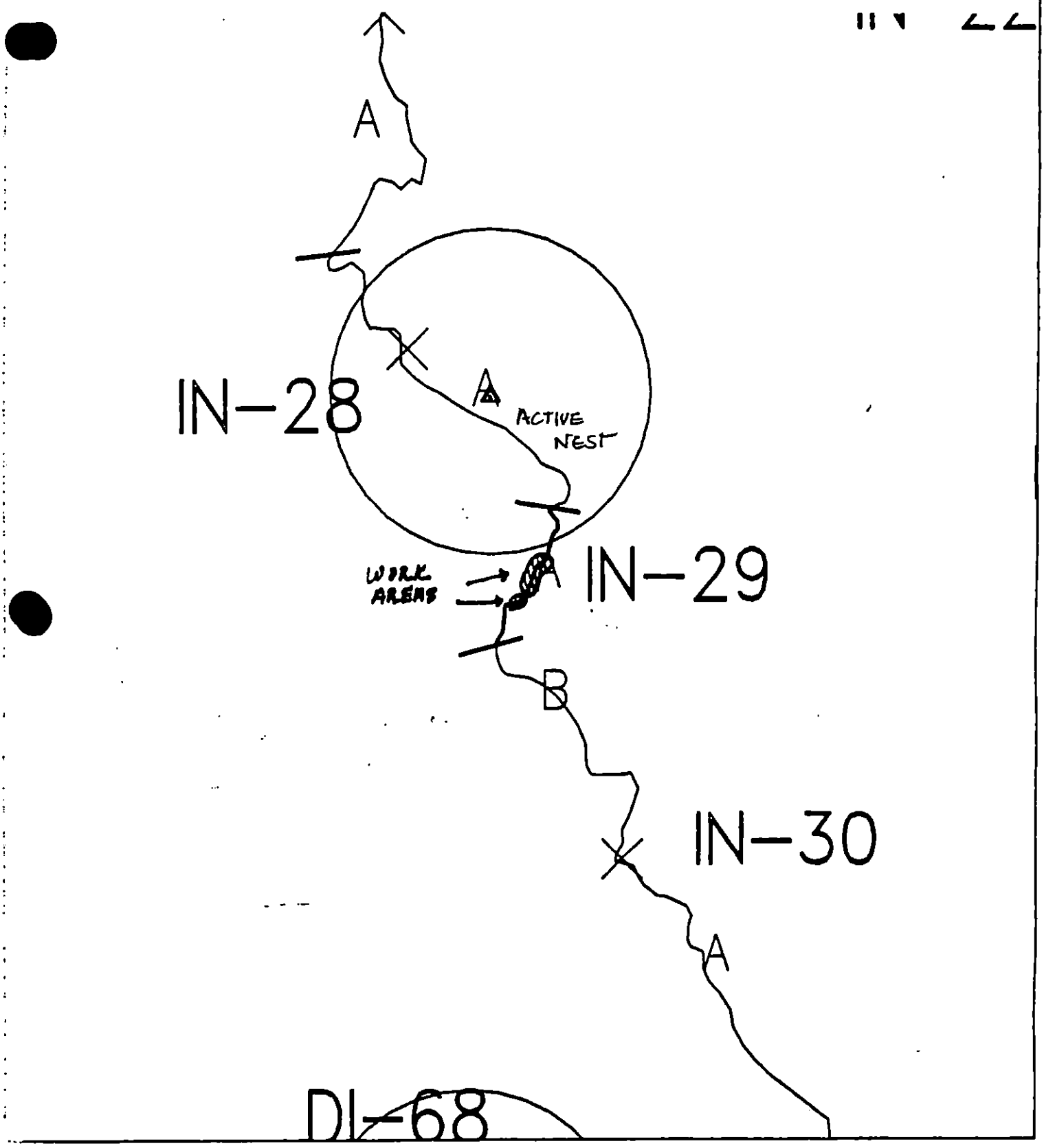
1K	**Purse Seine Hook-off**	Closed to bioremediation and manual raking after 7/20. No constraint to manual pickup.
5T	**Bald Eagle Nest**	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.
7II	**Subsistence: Deer Harvesting**	Closed to bioremediation and manual raking after 8/15. No constraint to manual pickup.

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 and beach disturbance to essential minimum after 7/20. Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

FOSC _____ Date 6/6/90

Prepared by _____ Date 6/4/90



EXXON

Exxon Company, USA
Map Key: PWS-IN-29
June 09, 1990

ECOLOGY MAP
SEGMENT IN-29
SUBDIVISION _B_ (_1_of_1_)

METERS
0 337 673

★ Seabird Colony
▲ Active Eagle Nest
△ Inactive Eagle Nest

1 inch = 1104 feet

SHORELINE EVALUATION

SEGMENT ST/ IN-30 SUBDIVISION A (1 OF 2) DATE 4/25/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
6U Recreation: Tent sites (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: Rachel Jean Dan DATE: 5/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 44 m: V.Light 197 m: No Oil 1109 m
Subsurface Oil Observed: Yes X No ____ Maximum Depth 45 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes bioremediation of areas of surface coat/stain in areas shown on attached sketch map. No specific ecological time constraints identified.

TAG COMMENTS: NO BIO ON STAIN — USE CUSTOMBLEN IN AREAS OF SUBSURFACE LEWS AS INDICATED ON SKETCH

TAG APPROVAL DATE: 5/12/90
ADEC Art Weiner Art Weiner
EXXON Andy Tran
NOAA Gary Petrae Gary Petrae
USCG D.D. Ronne D.D. Ronne

FOSC: [signature] DATE: 6/8/90

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 Suzomoto 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 unoiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235

3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403

5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Rothy 267-2206

5T All Bald Eagle nests (3/1 to 8/1)
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)
7H Finfish harvesting
7I Deer harvesting (8/15 to 2/28)
7J 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 / IN 30 SUBDIVISION: A DATE 4-26-9

USCG
NAME AECVandepels SIGNATURE AEC Vandepels

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

ADEC
NAME Michele Baer SIGNATURE MBaer

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Note: Beach to SE of segment was included with IN-31 comments.

1) In B field, on headland, remove cobble to scrape out OR layer between the cobble and boulders (by pits #4 and #5).
2) By pit #9 OF layer ~~should~~ and OR be tilled to expose oil ~~layer~~. Oil is light and the area of OF is small. Consider this pat a low priority.

LAND MANAGER
NAME Carol S Huber SIGNATURE Carol S Huber

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS
Recommend continued natural cleansing

OG J. Springer USCG R. Vandepeels SEGMENT ST/ IN-30
BIO P. Crank LAND REP C. Huber SUBDIVISION A 1 OF 2
EXXON T. Tamblin ADEC M. Baer TIME 07:30 to 09:15
TEAM NO. 5 TIDE LEVEL -3 TO -2 DATE 04/25/90
EST. SUBDIVISION LENGTH: 1360 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: SE to NW
SURFACE SEDIMENTS: R 10 % B 35 % C 40 % P 15 % G 0 % S 0 % M 0 % V 0
SLOPE : Lang 80 % Hang 20 % Vert ____ % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
OIL CATEGORY LENGTH: W 0 m M 0 m N 30 m VL 200 m NO 1130

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	AC	AB	AP	AS						SU	SM	SB	SL
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT				X/V		X		V		X/V			
STAIN			+	X/V		X/+		/		+X/			
MOUSSE													
PATTIES													
TARBALLS													
FILM										·			
NO OIL										X		X	X

PAVEMENT H F S 0 sq. m by 0
PATTIES / TARBALLS 0 BA(
NEAR SHORE SHEEN? (NO) BR RW SL T

OILED DEBRIS	AMOUNT SM	MD	LG
Logs			
Vegetation			
Trash	/		
Debris			

DID YOU COLLEC DEBRIS?
YES ☒ NO ☐
TYPE [illegible]
#BAGS <1

Photographs:
Roll No. ST-5-7
Frames 20

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SHEEN (Y/N)	!	SURFACE SUBSURFACE SEDIMENT
		CP	CM	CL	CF	NO		BO	BC						SU	SM	SB	SL				
1	30					X	·		X								X					P/PG
2	50					X	·		X						X							P/P
3	30					X	·		X						X							P/P
4	20		X				10-12		X				X			X						BC/PG
5	25		X				23-25	X					X			X				BR	24	CP/CPG
6	25					X	·		X							X						P/PM

COMMENTS Some subsurface oil beneath pebble beaches. A few splashes of coat and stain in boulderfields. TW

REVIEWED TW DATE 4/30/90

SHORELINE OILING SUMMARY (PAGE 2)

SEGMENT ST/ IN-30 SUBDIVISION A (1 OF 2)

REVISION 04/12/90

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SHEEN (Y/N)	▼	SURFACE-SUBSURFAC SEDIMENTS
		OP	OR	OL	OF	NO		UO	UG						SU	UI	MI	LI				
7	55					X	-		X								X					
8	30					X	-		X								X					BP/BP
9	50		X				15-17		X					X		X						P/P
9	50				X		17-45		X					X		X						CP/PGS
10	20					X	-		X								X					CP/PGS
11	30					X	-		X								X					CP/PGS
							-															CP/PGS
							-															
							-															
							-															
							-															
							-															
							-															
							-															
							-															

* Pit 9 had a 2 cm layer of OR underlain by 28cm of OF. The bottom of the pit was clean.

COMMENTS

REVIEWED JW DATE 4/30/90

OC Ji Spring of

SEGMENT STA IN-30

SUBDIVISION A

DATE 04/25/90

CHECKLIST

- N Arrow
- Approx. Scale
- Sag/Sub Grdry
- 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/D

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

lll

Oiled Vegetation

Photo location, direction, and number

SKETCH MAP

ST/P/DBL 1m x 50m on rock face

CT/S/DBR 10m x 10m on B & adjacent C

N

0 100m Approx

Boulder beach

watch out for shallow rocks!

Rock face

waterfalls

Bio. CUSTOMBLEN

Cobble-pebble beach

clam bed

ST/S/DBL ½m x 100m

No Bio on stain

Bio

boulder beach

Bio

Oiled bamboo stick collection

CT/S/DBL 2m x 30m

berm

ST/S/DBR 6m x 30m

cobble-pebble beach

Rock

Bio

CUSTOMBLEN

Oil Character Length (m): AP____ PO____ CV____ CT 70 ST 160 MS____ PT____ TB____ FL____ NO 1130

SHORELINE ECOLOGICAL SUMMARY pg 1 of 2

Segment ST / IN 1a Subdivision A Date (mo / day / yr) 4/25/90

Time (24 hr) 0740 Biologist Crank Length: 1360 m

Tide Height: -3 → -2 ft

(A) Substrate type and % of segments:
(1) Bedrock 10 (2) Boulder 35 (3) Cobble 40 (4) Pebble 15 (5) Sand ___ (6) Silt ___

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

(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-5-7
Frames 20

BARNACLES

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

NOT PRESENT U

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	X	X	2	2	2	X
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

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	X	2	X	X	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 - Magpie 4 - Alcids 2 - Sea Lions
7 - Gulls 1 - Crow 1 - Harbor Seal

Ecological Considerations:

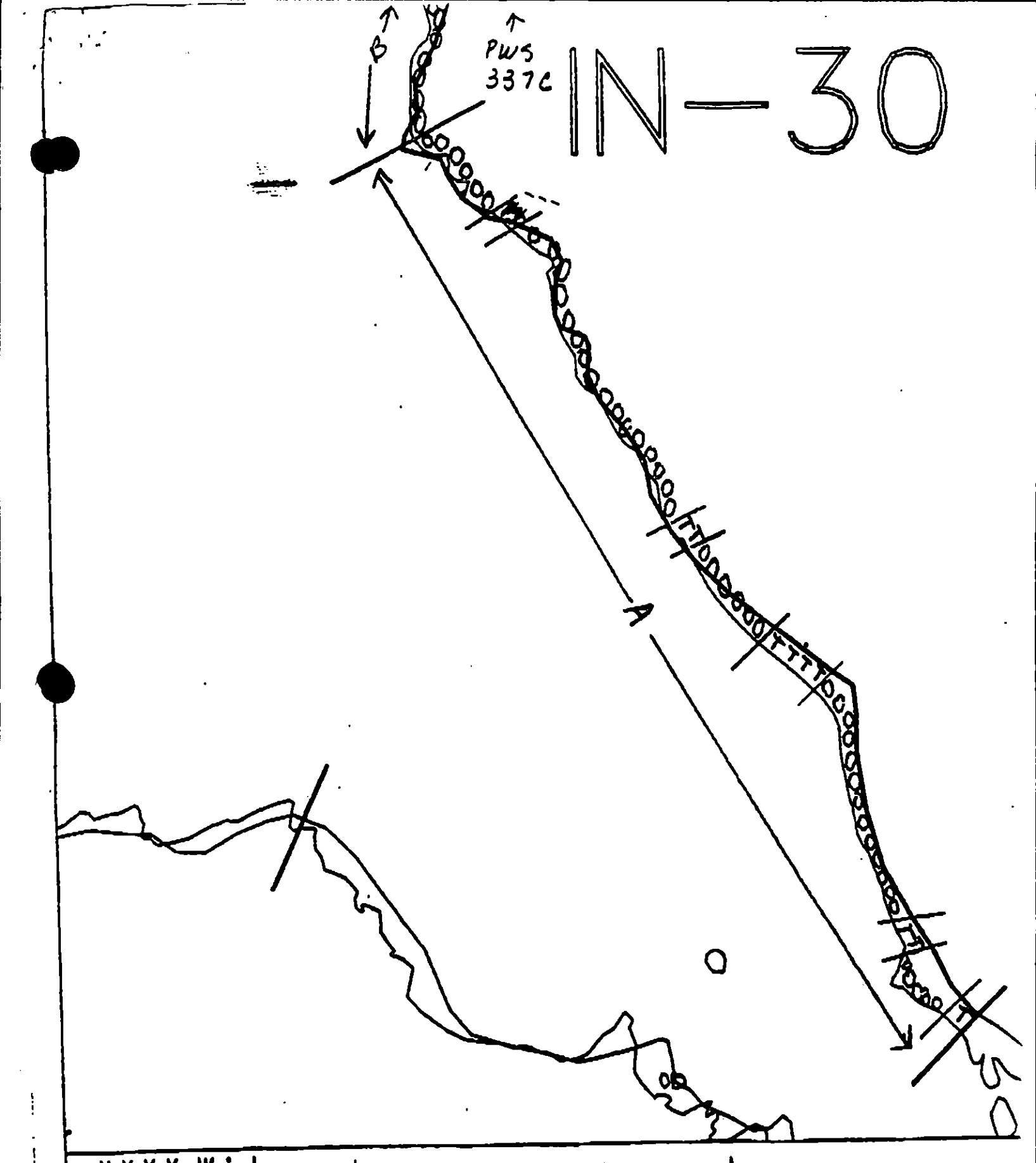
4 U - Find Sites

Avoid disturbing clam bed (see OG Map)

Segment ST/ IN 30A Length: 1360m Biol: Crank
Date: 4/25/90 Time: 0740-0915 Tide Height: -3 → -2 ft

General Comments -

- Pollen film on the water surface.
- Brown film on LITZ cobble - Diatoms?
- Below waterfall. (see OG map) there is a colonial bed - Protothece and [illegible] ≈ 100m x 10m.
- Also below falls Littorina are [illegible] and moderate in UITZ and MITZ cobble.
- At NW end of subdivision Mytilus form a moderate 100m x ½m band in MITZ along rock face and [illegible].
- Mussels in small sporadic patches on MITZ Rock/Boulder.
- In the lower intertidal, along the boulders and rocks, biota is rich and dense; space appears to be a limiting factor for barnacles.
- Sparse Fucus band on MITZ boulder, rare on rock
- Subdivision appears healthy.


B
PWS
337C
IN-30
A
IN-30A
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil
ABEC Segment Length: 2088m
0
100
200
300
METERS
Map Key: PWS-337a
Name: James Springs
Date: 4/25/90
Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT IN-30 SUBDIVISION A (1 of 2)

WORK WINDOW	
Bioremediation More Than 400m From Eagle Nest	**OPEN**
Bioremediation Less Than 400m From Eagle Nest	**CLOSED**

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T **Bald Eagle Nest** — USFWS 6/1/90 map indicates an active nest in Subdivision B. Closed to bioremediation within 400m of active nest. No constraints more than 400m from active eagle nest.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

TAG APPROVAL DATE_____

ADEC

EXXON HANS O. JAHNS 6/8/90 FOSC _____ DATE 6-8-90

NOAA _____

USCG _____

Prepared By: WJK Date 6/7/90

SHORELINE EVALUATION

SEGMENT ST/ IN-31 SUBDIVISION A (1 OF 2) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream catalogue no. 226-10-16916
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6Y Recreation: Special use destination

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Avoid disturbance of salmon stream bed and bank. Stream will be surveyed during ANAD scat.

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

OILING CATEGORIZATION:

Wide 0 m: Medium 112 m: Narrow 0 m: V.Light 0 m: No Oil 215 m
Subsurface Oil Observed: Yes____ No X Maximum Depth____

RECOMMENDATIONS:

____No Treatment Recommended	____Snare/Absorbent Booms
X Treatment Recommended	____Oil Snares (pom poms)
X Manual Pickup	____Absorbents (pads,rolls,etc)
____Bioremediation	____Spot Washing:____Wands
X Tarmat: ____Breakup	____ Beach Cleaner
X Removal	____Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of tarmats. Work should be conducted after 5/1, contact ADF&G regarding stream constraint.

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90.
ADEC ART WEINER Art Weiner
EXXON ANDY TEAL Andy Teal
NOAA Joseph Talbot
USCG KENNETH KEANE

FOSC: [signature] DATE: 4-27-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / IN-31 SUBDIVISION: A DATE 04/07/90

USCG
NAME AEC Vandepeels SIGNATURE AEC Vandepeels

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

I suggest picking up tar mats, hot water wash, till + b.i.o. of the area of IN-31 sub A from the stream south 100 M distant by 10 wide.

ADEC
NAME Michele Baer SIGNATURE MBaer

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

This area is a very nice anchorage and camp site, with a salmon stream, mussel and clam beds. When bit I concur with the Land Managers recommendations. When the hand tilling of the 10 x 100M and 10 x 30M areas occurs, special consideration should be made to stay away from the salmon stream.

LAND MANAGER
NAME DAN LOGAN SIGNATURE Dan L

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

I RECOMMEND MANUALLY REMOVING TAR MATS, AND THE ANADROMOUS STREAM DUE TO THE DENSE FLORA AND FAUNA POPULATIONS IN THE LITL ANA MITZV THE 10M X 100M AND 10M X 30M CT/P BANDS SHOULD BE HAND TILLED WITH NO FERTILIZER APPLICATION.

31

REVISION NO. 08/21/89

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 unoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
3N, 3P		**Harbor seal and sea lion pupping (5/15 to 7/1)**
3O, 3Q		**Harbor seal and sea lion molting (8/15 to 9/15)** Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
5R		**Seabird colony (5/1 to 9/1)** Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
5S		**Shorebird/waterfowl concentration (4/1 to 5/15)** Restrict all activity to essential minimum, especially air traffic.
5T		**All Bald Eagle nests (3/1 to 6/1)** **Active Bald Eagle nests (3/1 to 9/1)** Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
6U	Recreation:	**Tent sites (6/1 to 9/15)**
6V		**Anchorages (6/1 to 9/15)**
6W		**Forest Service cabins (6/1 to 9/15)**
6X		**Lodge (6/1 to 9/15)**
6Y		**Special use destination**
7Z	Subsistence area:	**Salmon harvesting (5/1 to 9/30)**
7HH		**Finfish harvesting**
7II		**Deer harvesting (8/15 to 2/28)**
7JJ		**Invertebrate harvesting** For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

SHORELINE OILING SUMMARY

REVISION NO. 03/30/90

OG J. Springer USCG R. Vandepels SEGMENT ST/ IN-31
BIO P. Crapp LAND REP D. Logan SUBDIVISION A(1 of 2)
EXXON T. Tomblin ADEC M. Baer TIME 08:15 to 08:55
TEAM NO.: 5 TIDE LEVEL: +2 to +4 DATE 04/07/90
EST. SUBDIVISION LENGTH: 450 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: NW to SE
SURFACE SEDIMENTS: R 5 % B 10 % C 50 % P 25 % G 7 % S 3 % M ____ % V ____ %
SLOPE : Lang 95 % Hang 5 % Vert — % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
OIL CATEGORY LENGTH: W Ø m M 130 m N ~~X~~ 0 m VL Ø m NO 316 m
YE

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	AC	AB	AP	AS						SU	UI	MI	LI
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT			X					X			X		
STAIN													
MOUSSE													
PATTIES				X				X			X		
TARBALLS													
FILM													
NO OIL										X		X	X

PAVEMENT: H F S Ø sq. m by Ø cm

PATTIES / TARBALLS 2 BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED ☐ YES ☒ NO

TYPE —

#BAGS —

Photographs:

Roll No. —

Frames —

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm-cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC						SU	UI	MI	LI		
1	25					X	•		X									X		PGS
2	20					X	•		X							X				PGS
3	30					X	•		X							X				CPGS
4	30					X	•		X							X				PMV
5	60					X	•		X							X				PGV
							•		X											

COMMENTS

26

REVIEWED ____ DATE ____

OG ______

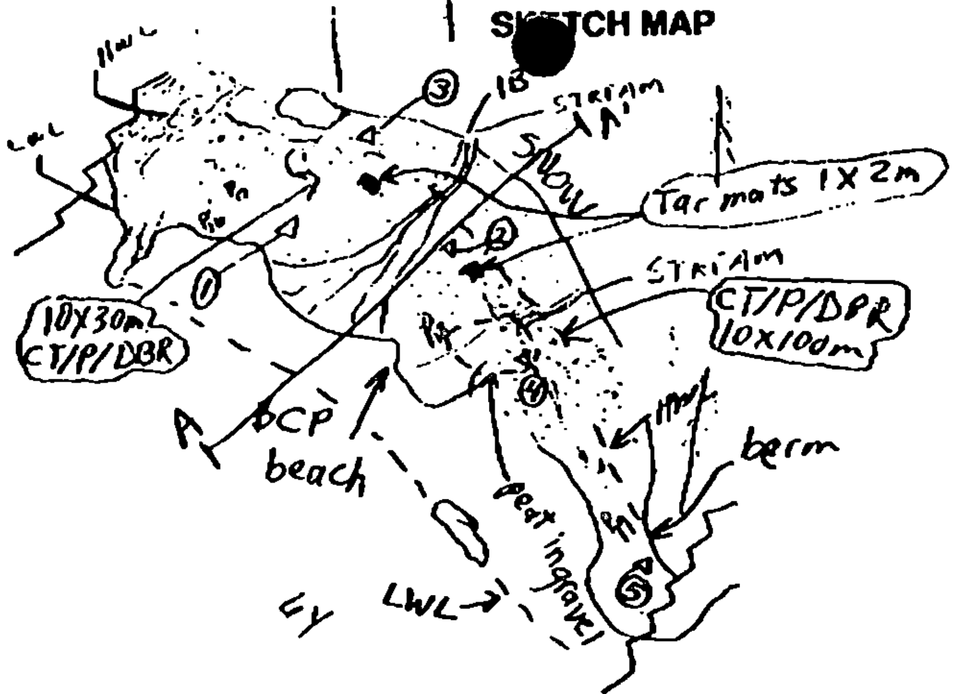
SEGMENT S[illegible]-31

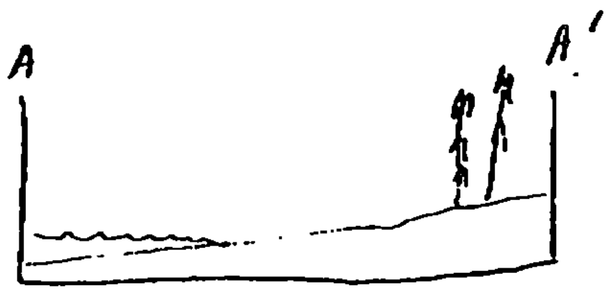
SUBDIVISION A

DATE 04/07/90

22

SKETCH MAP





CHECKLIST

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

LEGEND

1 △ Pit - No Subsurface Oil

2 ▲ Pit - Subsurface Oil

CT/C Continuous Distribution

CT/B Broken Distribution

CT/P Patchy Distribution

CT/S Splashed Distribution

Oiled Vegetation

1 Photo location, direction, and number

Oil Character Length (m): AP ____ PO ____ CV ____ CT 130 ST ____ MS ____ PT ____ TB 4 R ____ NO 316

SHORELINE ECOLOGICAL SUMMARY pg 1 of 3

Segment ST / IN 31 Subdivision A Date (mo / day / yr) 4/9/92

Length 450m

Time (24 hr) 0810-0910 Biologist Creek Tide Height +2.3+3 ft

(A) Substrate type and % of segments:
(1) Bedrock 5 (2) Boulder 10 (3) Cobble 50 (4) Pebble 25 (5) Sand 10 (6) Silt ____

(B) Overall % cover of biota (% of segment): Dense 80 Moderate 10 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. ST-5-4
Frames 16-19

BARNACLES

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

NOT PRESEN

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

NOT PRESEN

GASTROPODS

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

NOT PRESEN

FUCUS

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

Wildlife Observations/ General Comments:
1 Sea Otter
2 Arctic Cormorants - in breeding plumage
1 Glaucous-wing Gull
Deer on Island
5 Barrow's Goldeneye
6 - unidentified Murre birds
4 Tufted Puffin

Ecological Considerations:

6Y - Special Use Destination

16 - Salmon Stream

28

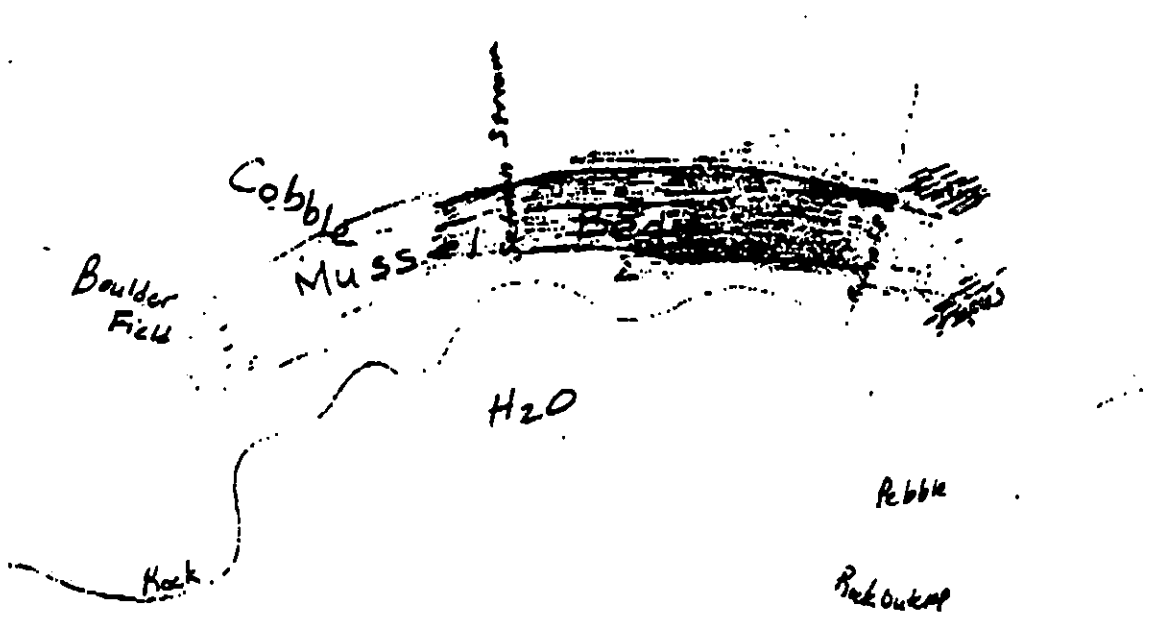
SEGMENT:ST/ IN 31 SUBDIVISION A LENGTH ______ BIOLOGIST Crank pg 3 of 3

DATE 4/7/90 TIME 0810-0910 TIDE HEIGHT +2 → +3 ft

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

	SPECIES	UITZ	MITZ	LITZ	COMMENTS
FLORA:	BOSSIELLA/CORALLINA				
	CALLIARTHRON/CORALLINA				
	CLADOPHORA SPP				
	COSTARIA SPP				
	ENDOCLADIA MURICATA				
	FILAMENTOUS GREENS				
	FILAMENTOUS REDS				
	GLOIOPELTIS FURCATA		321	32	
	HALOSACCION GLANDIFORME				
	LAMINARIA SPP				
	LITHOTHAMNION				
	NEREOCYSTIS SPP				
	PORPHYRA SPP				
	RALFSIA/HILDENBRANDIA				
	RHODOMELA LARIX		12		
	RHODOMENIA PALMATA				
	SCYTOSIPHON SPP				
	ULVA SPP		1		
	ZOSTERA MARINA				
FAUNA:	ANTHOPLEURA SPP				
	(SEMI) BALANUS CARIOSUS			2	
	B. GLANDULA	1234	1234	1234	
	BRYOZOANS				
	CHITONS (OTHER THAN K. TUNICATA)				
	CLAMS		345	345	Saxidomus, Protothaca. Dense Aggregations
	CRABS				
	DERMASTERIAS IMBRICATA				
	KATHARINA TUNICATA				
	LEPTASTERIAS HEXACTIS				
	LIMPETS	1234	1234	1234	
	LITTORINA SPP	12345	12345	12345	
	NUCELLA SPP				
	PAGURUS SPP				
	PISASTER OCHRACEUS				
	POLYCHAETES				
	PYCNOPODIA HELIANTHOIDES				
	SEARLESIA DIRA		345	345	
	SERPULIDS				
	SIPHONARIA THERSITES				
	TEALIA				
	Echiuran worm			5	Under cobble
	Ribbon worm			5	"
	Strongylocentrotus droebachiensis			4	"
	Nimatidea			1	in Boot
	Lunatia lewisii			45	Dense Sand Collars

29



Comments

- The LIT2 and MIT2 are a rich Saxidomus : Protothaca clam bed. Within the clam bed dense concentrations of Predatory gastropods, Littorina, Pagurus, and various worms. Littorina, Nucella and Lunatia egg cases are dense.

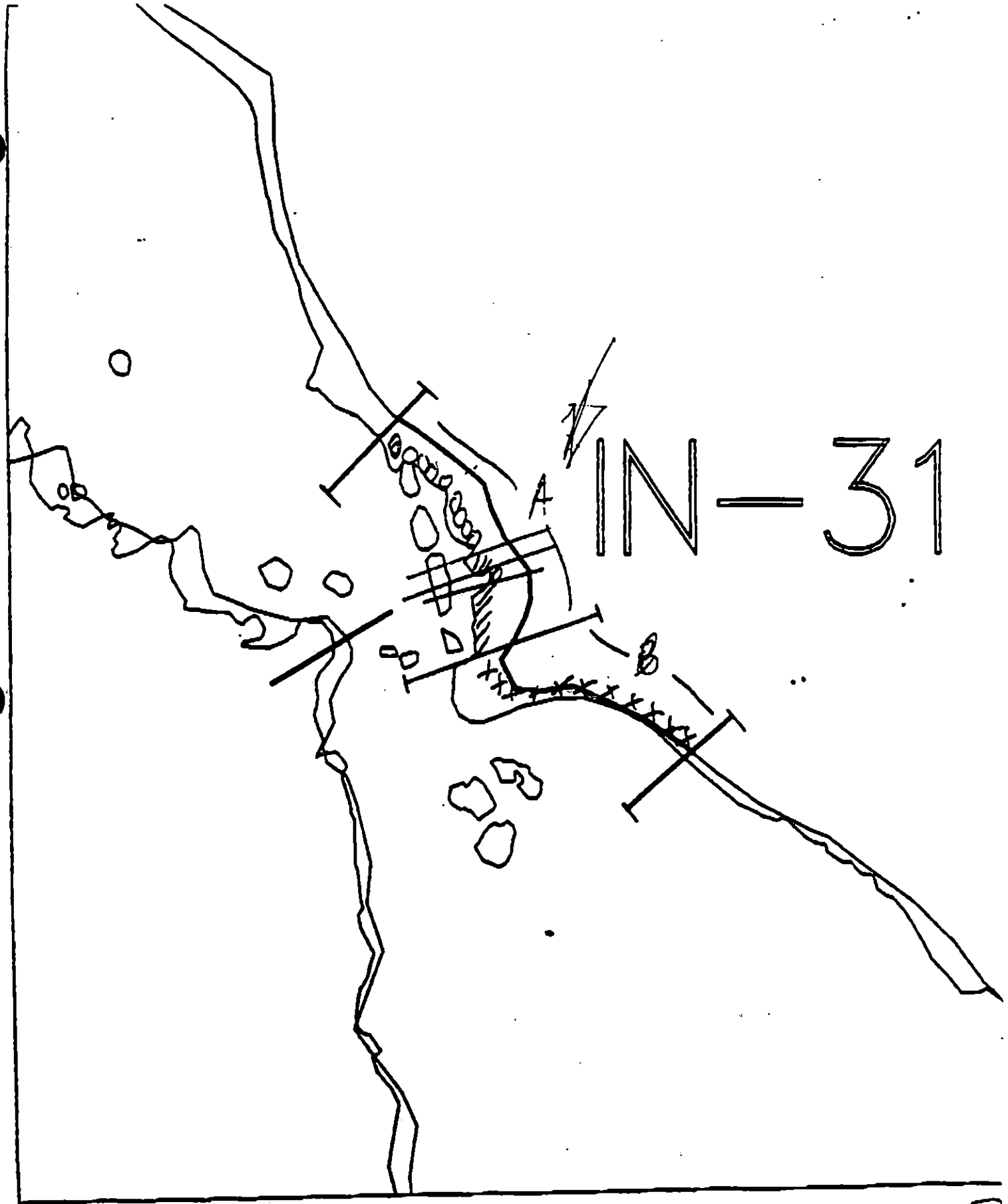
- Fucus is in a discontinuous band along the MIT2 cobble. There are 2 dense patches (≈ 3m²) in MIT2 345 with high recruitment.

- There is a 150m x 30m Intergravel/cobble mussel bed. Concentration is sparse on the northern end but increases to dense on the southern end. Northern end has been heavily preyed upon by Predatory gastropods.

- Barnacles are a minor portion of the biota in this subdivision. Recruitment is only evident on the bedrock and then in moderate to sparse concentrations. Scarring is present on Rock outcrops.

- This area appears healthy and precautionary measures should be taken to avoid damage to this well-established ecosystem.

30



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

IN-31

ABEC Segment Length: 824 ~~810~~m

0 100 200 300
METERS

52

Map Key: PWS-276
Name: James Spri
Date: 4/2/90
Date Entered:

REVISION 1 6/10/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT IN-31 SUBDIVISION A (1 of 2)

WORK WINDOW	
Manual Pickup* Tarmat Removal	CLOSED

*EXXON 'A' STUDY SITE #AP-4 DO NOT REMOVE STAKES FROM BACK OF INTERTIDAL ZONE

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

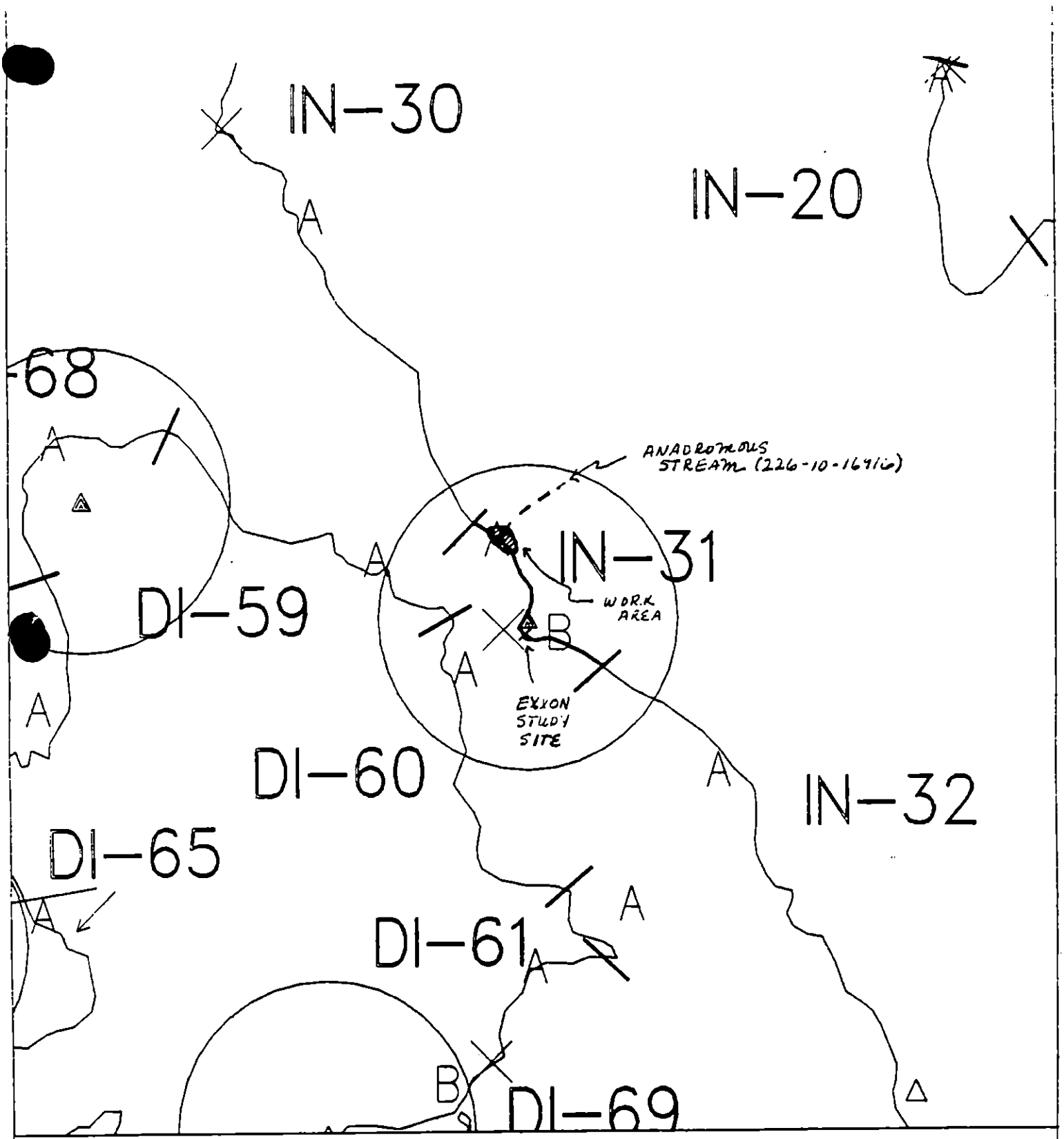
1A,1B	**Salmon Stream**	An ADF&G catalogued anadromous stream is present within Subdivision A (226-10-16916). No constraint to manual pickup and tarmat removal.
5T	**Bald Eagle Nest**	USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup and tarmat removal within 400m of active nest. No constraint to manual pickup and tarmat removal more than 400m from active nest.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC _____ Date 6-12-90

Prepared by _____ Date 6/10/90



EXXON

Exxon Company, USA
Map Key: PWS-IN-31
June 04, 1990

ECOLOGY MAP
SEGMENT IN-31
SUBDIVISION A (1 of 2)

METERS

★ Seabird Colony
▲ Active Eagle Nest
△ Inactive Eagle Nest

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16916

SEGMENT IN-31 SUBDIVISION A

WORK WINDOW	
Tarmat Removal *	CLOSED
Manual Raking	

* EXXON STUDY SITE AP-4 – DO NOT REMOVE STAKES FROM BACK OF INTERTIDAL ZONE

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B	**Salmon Stream**	ADF&G catalogued anadromous stream (226-10-16916) is in Subdivision A. No constraint to tarmat removal and manual raking.
5T	**Bald Eagle Nest**	USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to within 400m of active nest. No constraint to more than 400m from active nest.

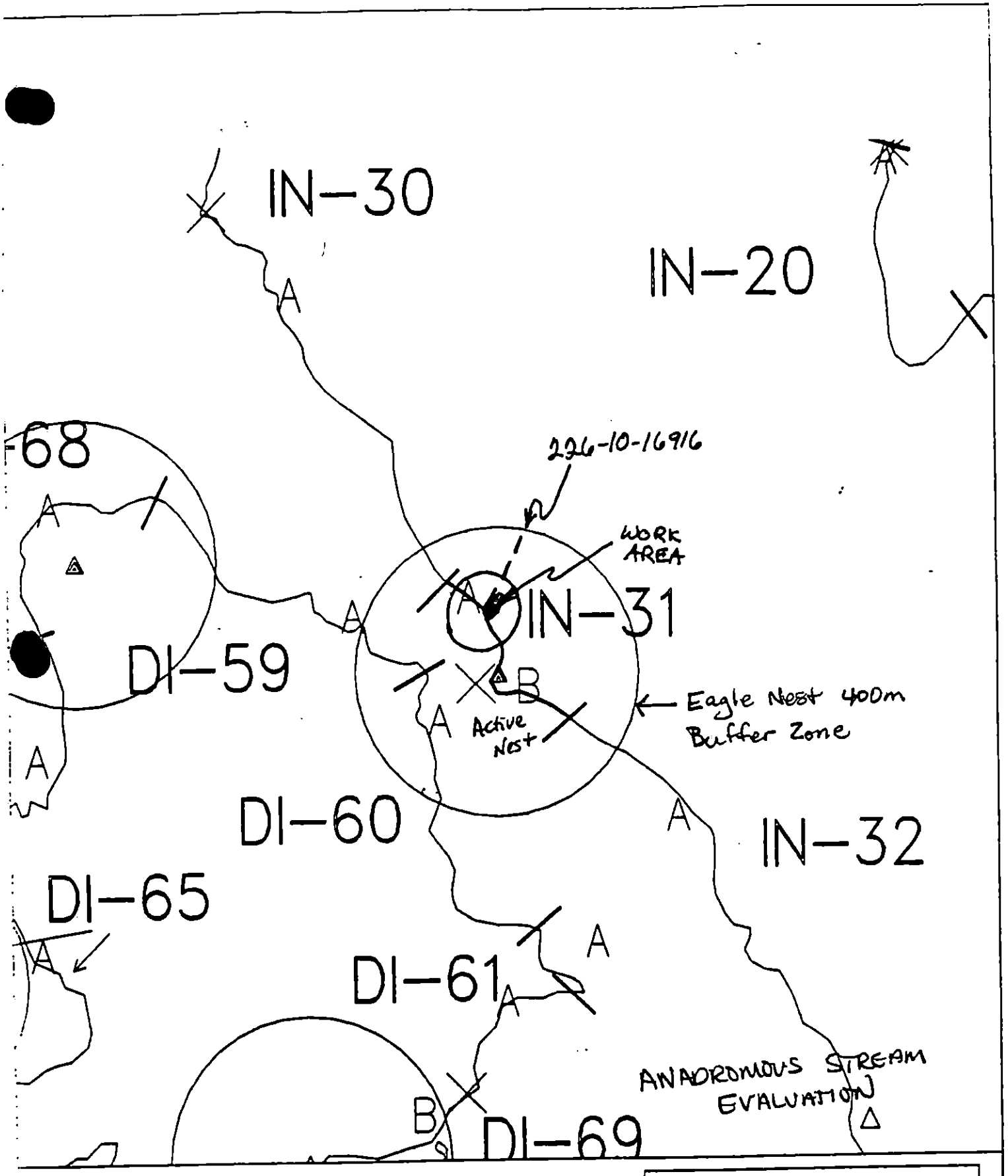
OTHER ECOLOGICAL CONSIDERATIONS

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

SEE SUBDIVISION CONSTRAINT ADDENDUM IN-31A FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC _____ Date 6-10-90

Prepared by J. P Phillips Date 6/10/90



EXXON

Exxon Company, USA
Map Key: PWS-IN-31
June 04, 1990

ECOLOGY MAP

SEGMENT IN-31

SUBDIVISION A (1 of 2)

METERS

★ Seabird Colony
▲ Active Eagle Nest
△ Inactive Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ IN-31 SUBDIVISION B (2 OF 2) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
6Y Recreation: Special use destination
No specific constraints identified.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: [signature] DATE: 4/23/90

OILING CATEGORIZATION:

Wide 283 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No ____ Maximum Depth 15 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of tarmats. 2) manual pick up of tarballs, 3) bioremediation of areas shown on attached sketch map. No specific constraints for performing work.

TAG COMMENTS: MONITORS TO ASSESS FEASIBILITY / NEED TO BIOREMEDIATE THE COVER/COAT ON THE TWO SMALL ISLANDS

TAG APPROVAL DATE: 4/23/90

ADEC ART WEINER [signature]
EXXON ANDY TEAL [signature]
NOAA Joseph Talbott [signature]
USCG KENNETH KEANE [signature]

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 unoiled 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)
7H-H		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 / IN-31 SUBDIVISION: B DATE 04/07/90

USCG
NAME AEC Vandepels SIGNATURE AEC Vandepels

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS
I suggest picking up tar mats, hot water wash, till + bio. of the 15x100 band in this sub sec.

ADEC
NAME Michele Baer SIGNATURE MBaer

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS
This area should have a second opinion due to the characteristics of the sub-segment. We discussed the pros + cons of several treatments which have been outlined by the land manager. In addition, ~~the~~ two of the outer islands require treatment. I walked around both of them and found a band varying from CV→CT of 1M in width and a band of CT→ST 2M in width (below the 1st band). Hot water wash and manual removal of patches and tarballs are both possibilities, but the LITZ is very rich and should be kept in consideration. The B and C surrounding the island is approx. a ~~1~~ slope.

LAND MANAGER
NAME DAN LOGAN SIGNATURE Dan Logan

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS
Segment IN-31(B) is a 300M low energy, high recreational value beach. This area should be listed as a camp site on the resource sensitivity list. Except for the western most 50M which is a cobble/gravel/sand beach the subdivision is comprised of Rock/boulder over a cobble/gravel/sand substrate. The mid/lower intertidal zone has dense mussel, fucus, gastropod production and moderate to light barnacle density.

Starting at the approximate location of the [illegible] 100M x 15M mat of AP/F.

REVISION NO. 05/21/90

I recommend this area to be treated by breaking up the asphalt mat by hand, removing the oiled material, then apply fertilizer. This procedure should be done only after the area has been cleared by an archeologist.
Immediately southeast of the asphalt section is 15M x 20M of broken cover which can be easily recognized from the water. The cover appears to be stable and is above mean high tide.
I suggest a review of the segment and one of the following three alternatives selected:

ALTERNATIVE 1 - NO TREATMENT

The advantage of this alternative is the oil appears to be stable at this time and no further disturbance would eliminate the risk of oil moving into the mid-intertidal zone. The disadvantage is that on this low energy beach the oil will remain visible for several years.

ALTERNATIVE 2 - REMOVE OILED MATERIAL

Removing oiled rocks and boulders will require the use of heavy equipment which will remove the oil but will leave a deep scar on the upper/supra intertidal zone. Removing the rocks and boulders will create a risk of mass slumping from the immediate surrounds.

50

ALTERNATIVE 3 - HOT WATER WASH

A hot water, high pressure wash of 150°F or greater will be necessary to breakdown the stable coat. The hot water wash will convert the stable surface oil to a liquid which approximately 10% will be recovered. This alternative will remove the oil from the visible surface but should be evaluated against the effects of hot water (150°F) on intertidal ecology. The transp of stable surface oil to unstable sub-surface oil should also be considered. The 150°F water temperat is above the current maximum acceptable 120°F standard

I recommend alternative 3 as this will have the least effect on upper and supratertidal geomorphology while significantly reducing visible oil. If the wash is conducted during a plus 4 tide or greater the movement of oil to lower intertidal zone should be reduced. The movement of subsurface oil could be further reduced by constructing a 20cm ditch at the 4 foot tide mark. The 150°F hot water wash could possibly be mitigate by reducing the total water volume sprayed at one time to allow subtidal waters to dissipate high temperatures faster. This area should have an archeological clearance prior to any disturbance.

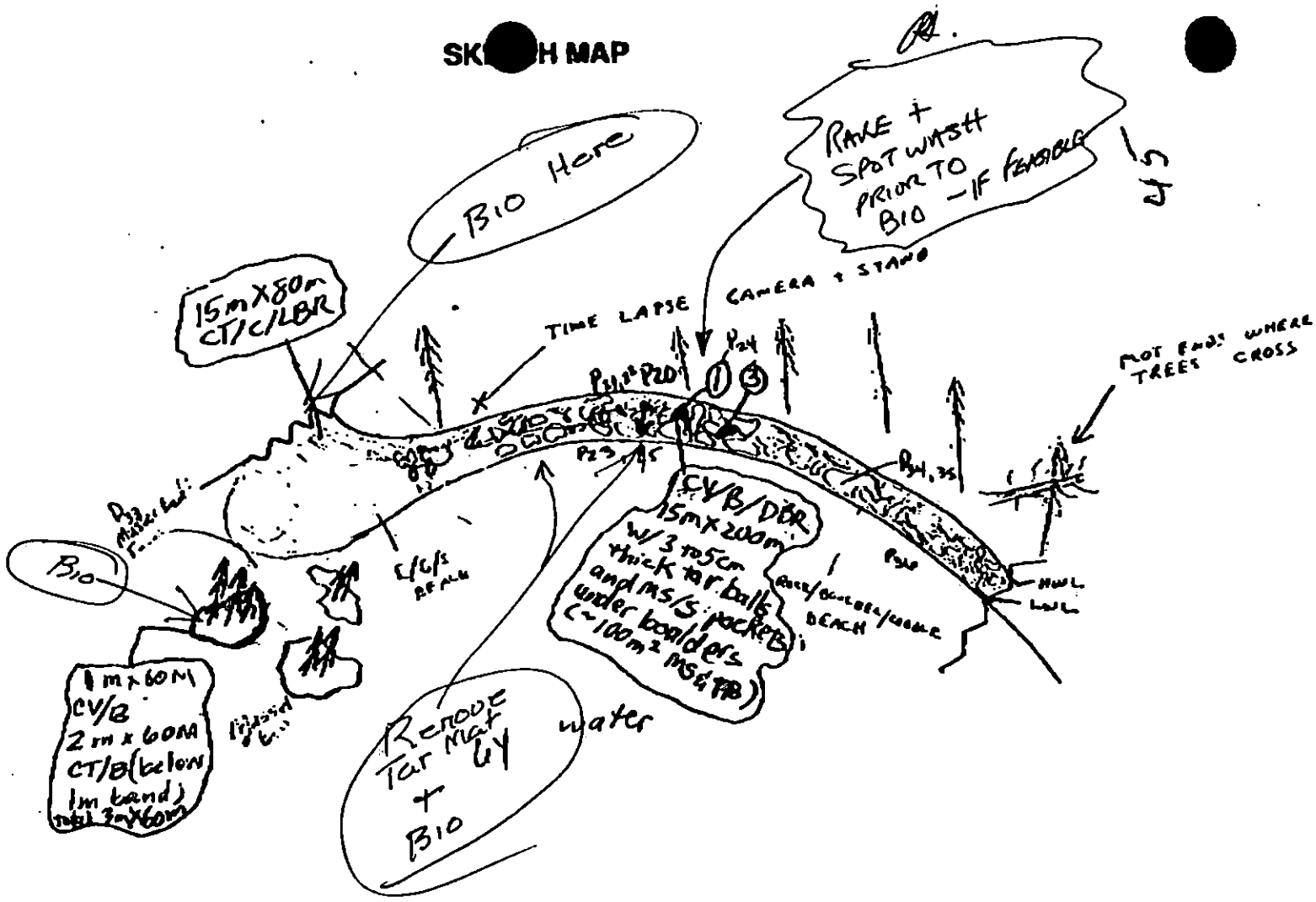
OG T SP[redacted]R

SEGMENT ST/ IN-31

SUBDIVISION B

DATE Oct 10 / 90

SK[redacted]H MAP



CHECKLIST

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

LEGEND

1 ▲ Pit - No Subsurface Oil

2 ▲ Pit - Subsurface Oil

CT/C Continuous Distribution

CT/B Broken Distribution

CT/P Patchy Distribution

CT/S Splashed Distribution

Oiled Vegetation

1 Photo location, direction, and number

Oil Character Length (m): AP_____ PO_____ CV 260 CT 80 ST_____ MS_____ PT_____ TB_____ FL_____ NO 34

REVISED 03/01/90

SHORELINE OILING SUMMARY

REVISION NO. 04/07/90

OG J. Springer USCG R. Vandepels SEGMENT ST/ IN-31
BIO P. Crank LAND REP D. Logan SUBDIVISION B (2 of 2)
EXXON T. Tomblin ADEC M. Baer TIME 08:55 to 10:00
TEAM NO.: 5 TIDE LEVEL: +4 to +6 DATE 04/07/90
EST. SUBDIVISION LENGTH: 374 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: NW to SE
SURFACE SEDIMENTS: R 10 % B 60 % C 15 % P 10 % G 5 % S ____ % M ____ % V ____ %
SLOPE : Lang 95 % Hang 5 % Vert ____ % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
OIL CATEGORY LENGTH: W 280 m M ~~50~~ 0 m N 0 m VL 0 m NO ~~32~~ 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	/C	/A	/P	/S						SW	SI	MI	LI
ASPHALT PAVEMENT													
POOLED													
COVER		X						X			X		
COAT	X								X		X		
STAIN													
MOUSSE				X				X			X		
PATTIES													
TARBALLS				X				X			X		
FILM													
NO OIL													

PAVEMENT: H F S 0 sq. m by 0 cm
PATTIES / TARBALLS 300 BAGS
NEAR SHORE SHEEN? (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-5-4
Frames 20-25, 33-36

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm-cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		WO	SO						SW	SI	MI	LI		
1	50		X				0-15		X				X			X				C PG S
* 2	10	X					0-7		X				X			X				GS
							-													
							-													
							-													
							-													

COMMENTS LITZ covered by tide.

* oil depths ≤ 5 cm do not constitute 44 subsurface oiling.

REVIEWED ____ DATE ____

SHORELINE ECOLOGICAL SUMMARY

 REVISION:

Segment ST / 1N 31 Subdivision B Date (mo / day / yr) 4/7/90, 4/8

Time (24 hr) 0910 - 1045 Biologist Crank Tide Heights +5 → +9
0720 - 0830 0 → +1 ft.

(A) Substrate type and % of segments:
(1) Bedrock____ (2) Boulder____ (3) Cobble____ (4) Pebble____ (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 (3)

Photographs:
Roll No. ST-5-4
Frames 33-36

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	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 PRESE

MYTILUS

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

NOT PRESE

GASTROPODS

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

FUCUS

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

NOT PRESEN

Wildlife Observations/ General Comments:
1 - Harbor Seal - Adult
2 - Otters
5 - Glaucous-wing Gulls
1 dark unidentified Marine Bird
2 - Cormorants
2 - Tufted Puffins
3 - Mergansers
1 - Spruce Grouse

Ecological Considerations:
6Y - Special Use Destination
There is high tenting potential for this area

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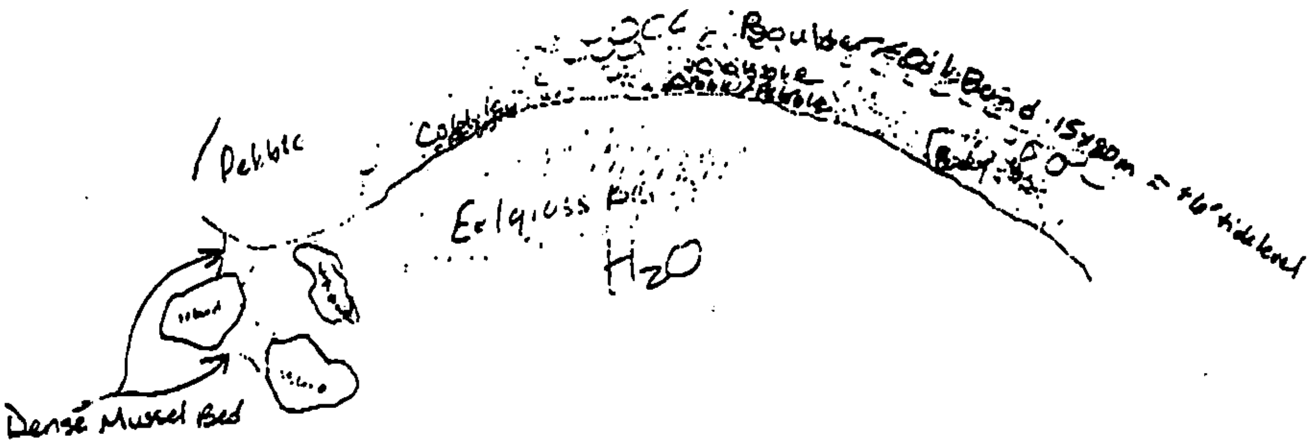
SEGMENT: ST/ 1131 SUBDIVISION b LENGTH 374m BIOLOGIST Crank

DATE 4/7/90 TIME 0910-1045 TIDE HEIGHT +5 → +8 ft
4/8/90 0720-0830 0 → +1 ft

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

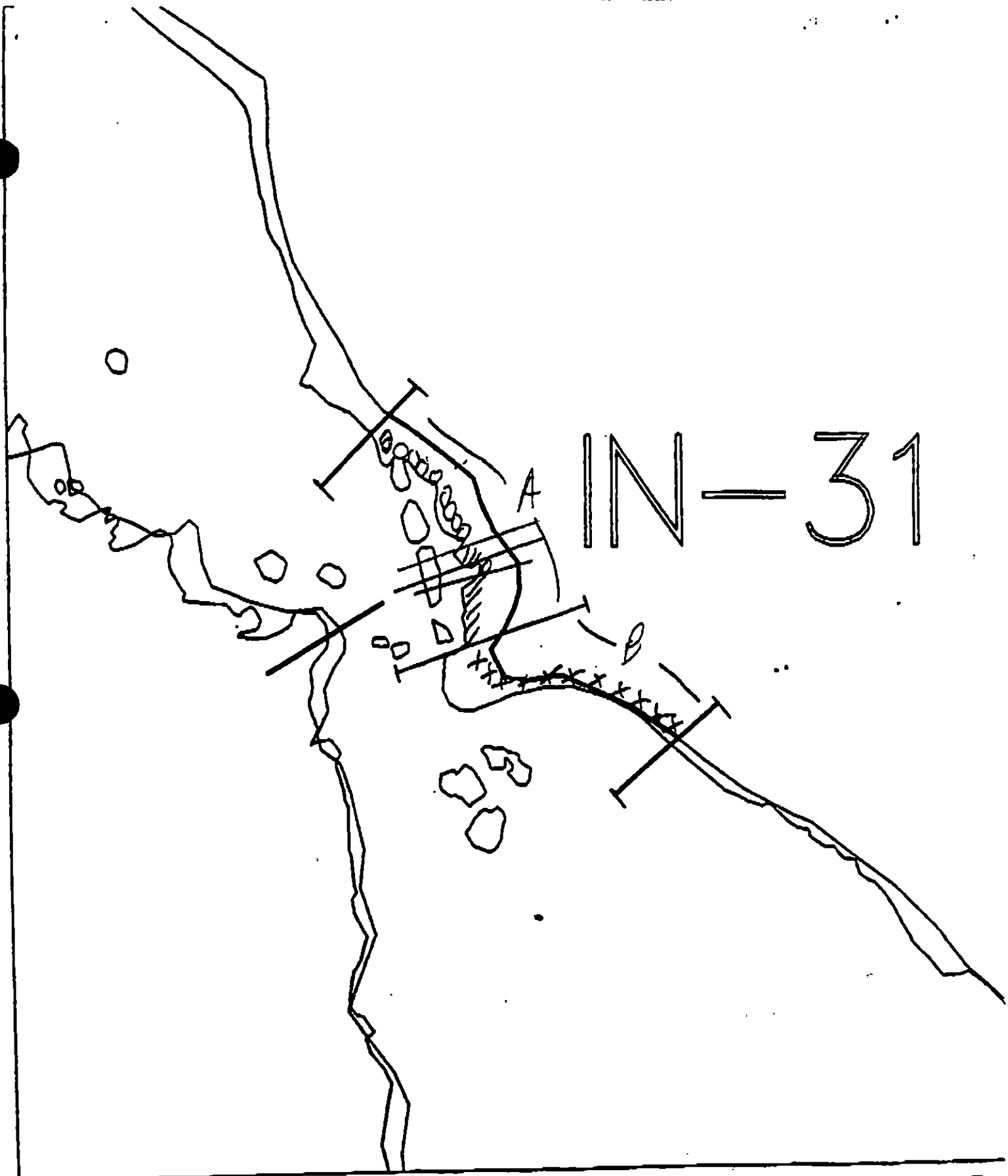
	SPECIES	UITZ	MITZ	UTZ	COMMENTS
FLORA:	BOSSIELLA/CORALLINA				
	CALLIARTHRON/CORALLINA				
	CLADOPHORA SPP				
	COSTARIA SPP				Drift
	ENDOCLADIA MURICATA				
	FILAMENTOUS GREENS		432	234	Dense on MITZ cobble
	FILAMENTOUS REDS		34	34	
	GLOIOPELTIS FURCATA	13	123		
	HALOSACCION GLANDIFORME		123	123	
	LAMINARIA SPP				in drift
	LITHOTHAMNION		12	12	
	NEREOCYSTIS SPP				
	PORPHYRA SPP				
	RALPHSIA/HILDENBRANDIA		32		
	RHODOMELA LARIX		123	123	
	RHODOMENIA PALMATA		1234	1234	
	SCYTOSIPHON SPP				
	ULVA SPP				
	ZOSTERA MARINA		123	123	
	Cryptosiphonia				
FAUNA:	ANTHOPLEURA SPP				
	(SEMI) BALANUS CARIOSUS		21	12	
	B. GLANDULA	1234	1234	1234	
	BRYOZOANS				
	CHITONS (OTHER THAN K. TUNICATU)				
	CLAMS		345	345	High Clam Production
	CRABS		34	34	Hemigrapsus
	DERMASTERIAS IMBRICATA		2	3	
	KATHARINA TUNICATA		2		
	LEPTASTERIAS HEXACTIS		34	34	Brooding - Dense
	LIMPETS	1234	12345	12345	
	LITTORINA SPP	2341	2345	2345	
	NUCELLA SPP	3412	234	234	
	PAGURUS SPP		345	345	Dense
	PISASTER OCHRACEUS				
	POLYCHAETES				
	PYCNOPODIA HELIANTHOIDES			345	Dense
	SEARLESIA DIRA		234	234	
	SERPULIDS				
	SIPHONARIA THERSITES		1		
	TEALIA				
	Juvenile Eels		34	34	
	Metridium sp.			4	
	Eelgrass			345	Moderate → Sparse Cov. 50x30m
	Echinus			45	
	Lunatia			45	Dense Sand Collars

Segment IN31B
Date: 4/7/90 Time: 0910-1045 Tide Height: +5→+8 ft Length 374 m
4/8/90 0720-0830 0→+1 ft



Comments
- Subdivision has rich flora/fauna community below 3 ft tide level.
- Directly below oil band in boulder field, Filamentous [illegible] dominate the +3 to +5 ft. range.
- LITZ is a clam bed, utilized by [illegible].
- There is a 80 x 30 m eelgrass bed (no [illegible] to [illegible] [illegible]).
- Area has high [illegible] potential.
- [illegible] areas - possible archeological site?
- To protect LITZ any work done in this area should be performed at +4 or higher; taking precautions not to contaminate clam beds.

48



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

IN-31

ADEC Segment Length: ~~810~~ 824

0 100 200 300
METERS

52

Map Key: PWS-276
Name: James Spring
Date: 4/7/90
Date Entered:

REVISION 1 6/10/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT IN-31 SUBDIVISION B (2 of 2)

WORK WINDOW	
Manual Pickup * Tarmat Removal	CLOSED
Bioremediation	CLOSED

* Exxon 'A' STUDY SITE # AP-4
DO NOT REMOVE STAKES FROM BACK OF INTERTIDAL ZONE.

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

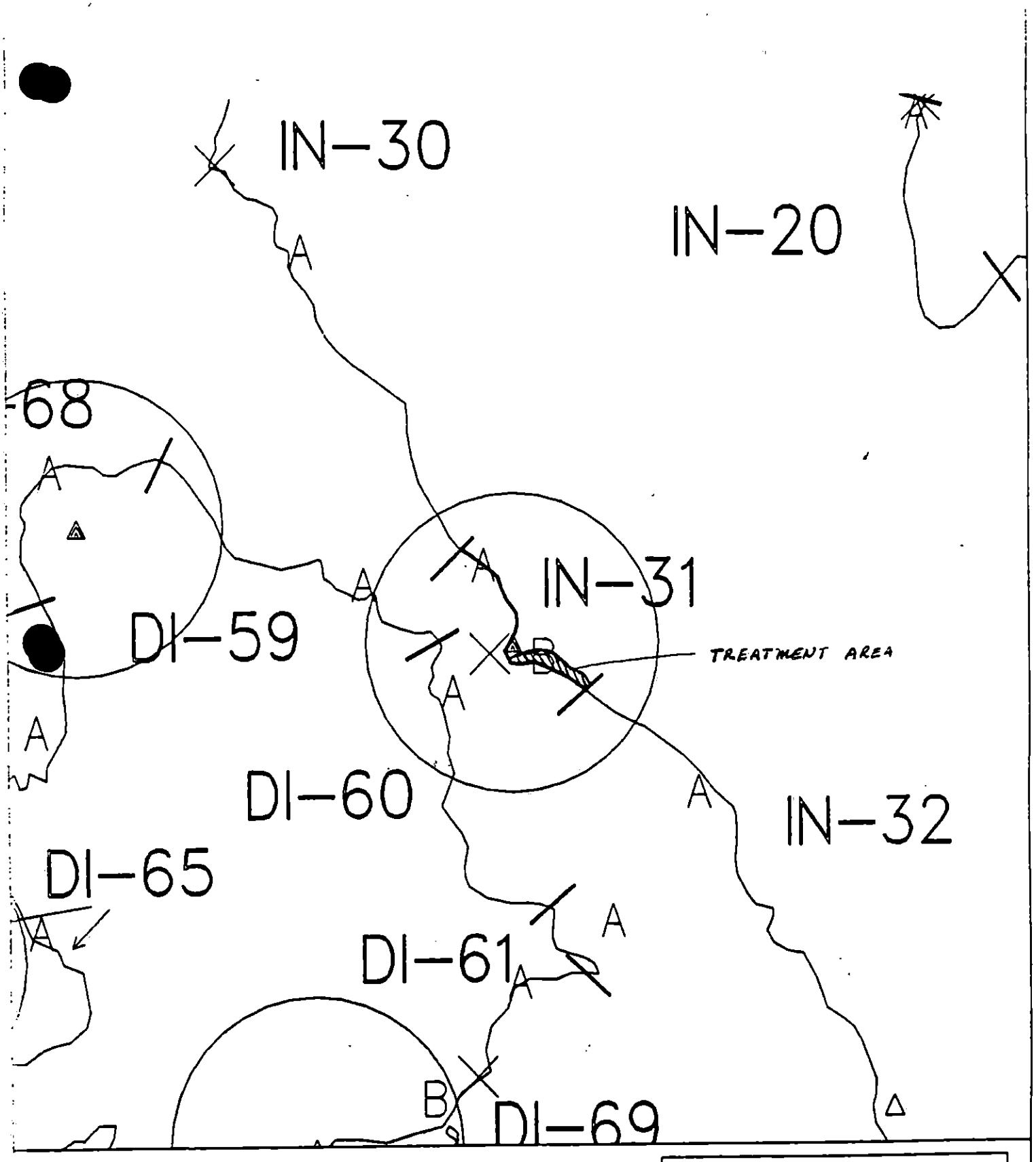
5T	**Bald Eagle Nest**	USFWS 6/1/90 map indicates an active nest in Subdivision B. Closed to manual pickup, tarmat removal, and bioremediation within 400m of active nest.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC _____ Date 6-10-90

Prepared by _____ 6-10-90 Date 6/10/90



EXXON

Exxon Company, USA
Map Key: PWS-IN-31
June 04, 1990

ECOLOGY MAP
SEGMENT IN-31
SUBDIVISION B (2 of 2)

METERS

★ Seabird Colony
△ Active Eagle Nest
△ Inactive Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ IN-32 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
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. Holmes DATE: 4/20/90

OILING CATEGORIZATION:

Wide 34 m: Medium 50 m: Narrow 760 m: V.Light 1526 m: No Oil 0 m
Subsurface Oil Observed: Yes X No ____ Maximum Depth 10 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, 2) manual pick up of oiled debris, 3) bioremediation of areas shown on attached sketch maps. Work should be conducted after 6/1 based on eagle nest constraints after the approval of ADF&G and USFWS regarding eagle nest.

TAG COMMENTS: ____

TAG APPROVAL DATE: 4/20/90.
ADEC ART WEINER
EXXON Amoy Tear
NOAA Burl Wescott
USCG 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 unoiled 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 / IN-32-A SUBDIVISION: A DATE 4/8/90

USCG
NAME DAVID A. SCHNEIDER SIGNATURE David A. Schneider PS3/USCGR

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS
The bedrock platform in the SE corner of subdivision A will require extensive manual cleanup measures. In Addition, Removal of thin layer of small cobble, pebble & sand surface sediments down to bedrock platform should be carried out. Remaining tar & coating should be manually scrapped from all rock and boulder surfaces. DAS

ADEC
NAME Peter Montesano SIGNATURE Peter J Montesano

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS the areas to the North end of map of Coating are similar to the area of pit #3. these require some hand wiping and removal of sediments under and around the larger surface materials. Additionally, these area are Bio candidates after considering drainage and underlying bedrocks.

at the South end of IN32A is a Saddle between Ingot and a large shoreline Bedrock formation. This Saddle slopes down E+W to the Shore. one isolated local of mousse penetration was located (pit #1) which is not [redacted] indicative of the areas oiling. this should be wiped and/or removed. the Area is best characterized by Pit #2 into the tarred/paved [redacted] surface. This pavement requires extensive removal of these hardened/hardening sediments along with wiping/scraping of the side walls. I do not recommend treatment on the beach just to the N of the saddle. the SBL Coat is in Boulder shadows.

LAND MANAGER
NAME JANETTA PRITCHARD SIGNATURE Janetta Pritchard

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS
I concur with the ADEC comments and also recommend the manual removal of pebbles on south end of subdivision. Remove asphalt. Scrape and remove coat. Remove pompoms or other debris.

OG C. DILLON USCG D. SCHNEIDER SEGMENT ST/ IN-32
BIO T. BARRY LAND REP J. PRITCHARD SUBDIVISION A (1of1)
EXXON A. SNOOK ADEC P. MONTESANO TIME 16:45 to 19:20
TEAM NO.: 6 TIDE LEVEL: +3 to +0.75 DATE 04/07/90
EST. SUBDIVISION LENGTH: 2777 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
SURFACE SEDIMENTS: R 20 % B 70 % C 9 % P 1 % G 0 % S 0 % M 0 % V 0
SLOPE: Lang 10 % Hang 70 % Vert 20 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
OIL CATEGORY LENGTH: W 70 m M 40 m N 785 m VL 2317 m NO 65

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	AC	AB	AP	AS						su	ui	mi	u
ASPHALT PAVEMENT		X				X				X	X		
POOLED													
COVER													
COAT	X	O	✓	✓		✓				✓	✓	O	
STAIN		X	X	X				X			X		
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL													X

PAVEMENT: (H) F S 250 sq. m by 10
PATTIES / TARBALLS 0 BA
NEAR SHORE SHEEN? (NO) BR RW SL T

OILED DEBRIS	AMOUNT SM	MD	LG
Logs			
Vegetation			
Trash			
Debris	X		

DEBRIS COLLECT ☐ YES ☒ NO
TYPE O
#BAGS O

Photographs:
Roll No. ST-6-5
Frames 3-57

SUBSURFACE OIL

* oiled interval <5 cm in pit #3 does not constitute subsurface oil.

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm-cm)	BELOW	OIL / FILM COLOR					PIT ZONE				ANA	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		SO	UC					su	ui	mi	u		
1	12	X					0-10		X	X				X					CP to bedrock
2	12	X					0-10		X	X				X					CP/G thru asphalt pavement
* 3	18	X					0-8		X	X			X		X				P/G/M
							-												
							-												
							-												

COMMENTS MAJORITY OF SUBDIVISION IS VERT ROCK AND HANG ROCK AND BOULDER SLOPES. WITH A VL OR NARROW STAIN WITH SPORADIC OR PATCHY COAT (HIGHLY WEATHERED). AS THE ANGLE OF THE SLOPE LESSENS, THE WIDTH OF THE BAND INCREASES BETWEEN 1-2 m WIDE AND 3-4 m WIDE. THE OIL BAND DESCRIPTIONS ARE INDICATED ON THE COMPUTER MAP. THE SKETCH MAP SHOWS ONE PARTICULARLY OILED SECTION.

 REVIEWED CD DATE 4/11/90

OG C. [redacted]ILON

SEGMENT ST/ IN-32

SUBDIVISION A

DATE 07 MAR 00

CHECKLIST

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

LEGEND

1 ▲

Pit - No Subsurface Oil

2 ▲

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Oiled Vegetation

1 ⇦

Photo location, direction, and number

SKETCH MAP

Photo 4: AP/B and CT/C
6-8 m wide X 50 m long
U-SIT2 large crevice across bedrock containing B/C/P/M
Dull black weathered coat (tarry) on surface and hard, broken asphalt pavement to 10 cm thickness

4-5m wide
15 m long
CT/B
on B/C U1T2

PIT 1
Photo 3

PIT 2
Photo 5

ASPHALT REMOVAL

BIOREMEDIATE COAT
& SUBSURFACE OIL

N

Oil lengths are for entire subdivision

Oil Character Length (m): AP 0 PO 0 CV 50 CT 195 BT 597 MS 0 PT 0 TB 0 FL 0 NO 65

SEGMENT IN-32
SUBDIVISION A
LENGTH = 2777 METERS

SHORELINE ECOLOGICAL SUMMARY

Segment ST / 1N32 Subdivision A Date (mo / day / yr) APRIL 7 1990

Time (24 hr) 1430-1930 Biologist JIM BARRY Length 2777 1/6

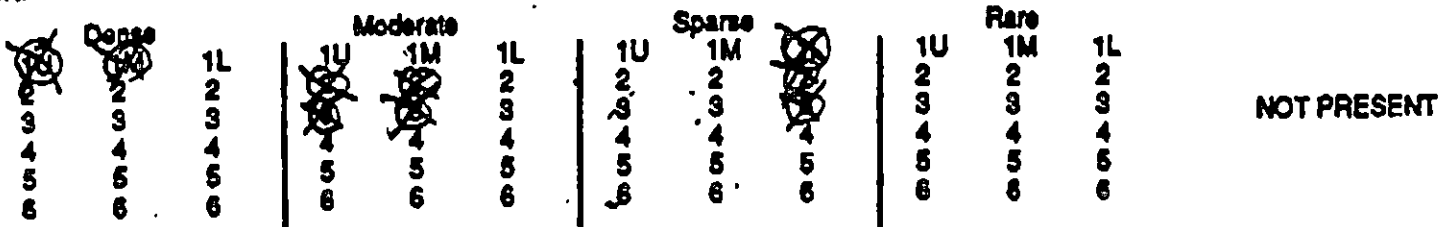
(A) Substrate type and % of segments:
(1) Bedrock 20 (2) Boulder 70 (3) Cobble 9 (4) Pebble 1 (5) Sand ____ (6) Silt ____

(B) Overall % cover of biota (% of segment): Dense 20 Moderate 70 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)

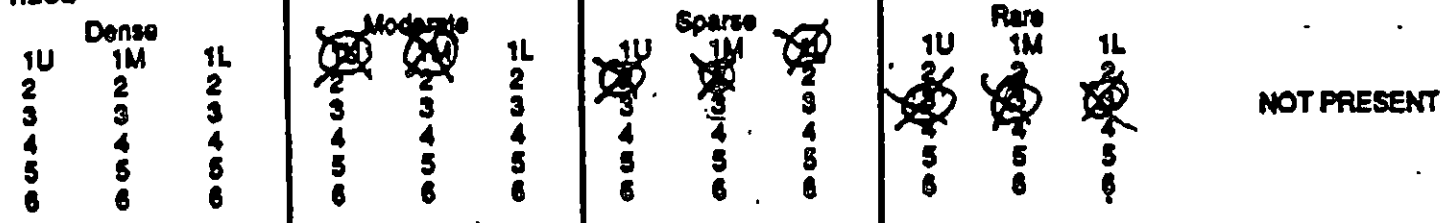
Photographs:
Roll No. ST-6-5
Frames #17

BARNACLES



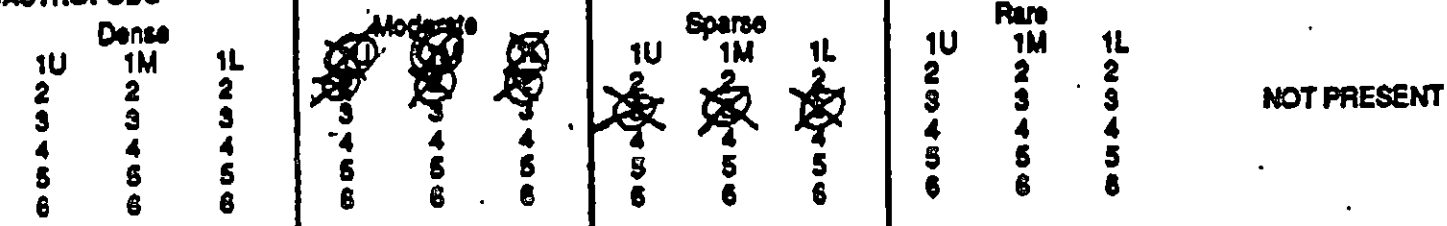
NOT PRESENT

MYTILUS



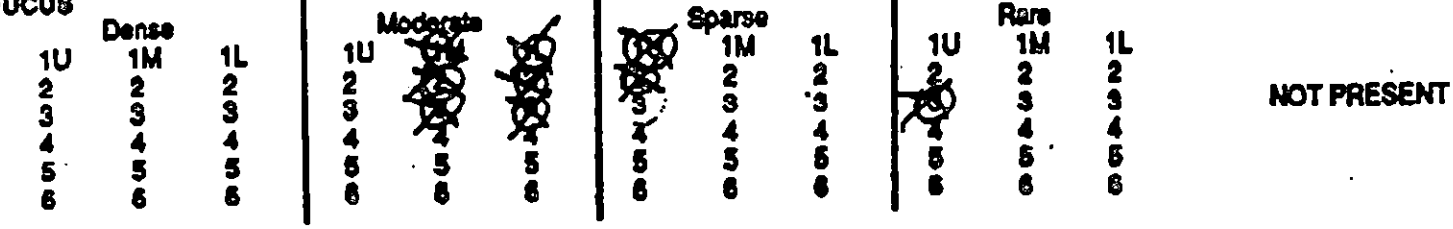
NOT PRESENT

GASTROPODS



NOT PRESENT

FUCUS



NOT PRESENT

Wildlife Observations/ General Comments:
PIGEON GUILLEMOT - 10 BALD EAGLES - 4 COMMON MERGANSER - 3
SEA OTTERS - 3 CROWS - 6 BARROW'S GOLDENEYE - 10
GLAUCOUS-WINGED GULL - 10 PELAGIC CORMORANT - 5
GOLDEN EAGLE CONFIRM - 1 - HIGHLY DECOMPOSED

Ecological Considerations: 7 11 - Deer Harvesting

1) EEL GRASS BEDS & CLAM BEDS ARE UNLIKELY TO BE DISTURBED BY CLEANING OPERATIONS

2) Deer harvesting will likely not be disturbed by cleaning operations.

I General Comments.

A. This segment contains only 1 subdivision, in which there is a gradient from a highly exposed high angle bedrock (headland at south end) to a protected cobble/pebble beach. The change in wave exposure and substratum type also is accompanied by a shift in species composition.

B. Effects of oil are less evident than in other segments. Oil deposits are most mainly restricted to the upper and supra tidal zones.

II HABITAT CHARACTERISTICS

A Headlands and exposed cliff faces.

These habitats generally are occupied by mussels (most abundant along headland areas), barnacles (large and small acorn barnacles), moderate to occasionally high gastropod densities, and sea stars. Marine plant plants include moderate to dense Fucus densities as well as high cover of filamentous and blade-like red algae. Kelps and other blade-like brown algae are abundant in the shallow subtidal.

B. Cobble and boulder covered beaches. These habitats have a relatively sparse cover of mussels (or no mussels in some cases), but have high cover of small acorn barnacles. Sea stars are very abundant in the extreme low intertidal and shallow subtidal. Fucus and other algae are similar in distribution to cliff habitats, and green and red filamentous algae occasionally have very high cover. Many sites along the transect have high numbers of empty clam shells from several species. Some of these species are present in the sediments as juveniles - Adults are likely to be present in the shallow subtidal zone. Finally, Eel grass beds are abundant along the transect and may be used by herons for foraging purposes.

III MAJOR SPECIES

A. BARNACLES -

Large acorn barnacles (Semibalanus cariosus) are dense in the middle intertidal along headlands towards the southern end of the segment. Compared to several other sites that experienced high oiling and extensive clean up activity, these barnacles appear to have been much less disturbed.

B. Mytilus - Mussels are abundant in the upper to middle zone of exposed headlands at the southern end of the segment. Mytilus californianus, the California mussel is present, as well as the bay mussel. ~~And~~ The cover of mussels is sparse over the remainder of the segment and mussels are restricted to large boulders and bedrock.

C. Gastropods - Littorine snails (Periwinkles) are less abundant than on many other segments, but still are present in sparse to moderate densities. Whelks are very abundant, with densities of 30 or more per m^2 over some bedrock faces. Limpets are moderately abundant. The pulmonate snail Siphonaria is occasionally dense along the segment

D. Fucus - Fucus was abundant all along the segment, but less dense than on other segments. It was present on all substratum types, but sparse or rare on small cobble and pebbles

IV Other Species

Sea Stars - Sea stars were particularly abundant along the extreme low zone and shallow subtidal. Leather stars (Dermasterias), Sunflower Stars (Pycnopodia), ~~and~~ were the 2 most dominant species. Pisaster ochraceus, which feed on barnacles and mussels, also was common.

Clams. Several species of clam shells were present along the shore and could be seen littering the bottom in shallow ~~wd~~ water.

Algae - Large stipitate brown algae densely populate the subtidal zone.

Eel Grass - Eel grass is present in the shallow subtidal zone along the protected end (north) of the segment

V Wildlife Observations

Several species of birds were observed in the area of IN32A

Common Merganser
Bearded Goldeneye
Crow
Raven
Bald Eagle -
Glaucous-winged Gulls
Pelgic Cormorants
Pigeon Guillemot

Sea otters also were present - 3 to 5

One bald eagle skeleton was found on a beach in the segment.

VI Species List

* SPAT OR JUVENILES
D DENSE
M MODERATE
S SPARSE
R RARE
1 BEDROCK
2 BOULDER
3 COBBLE
4 PEBBLE
5 SAND

A. MARINE PLANTS

1) DIATOMS / BLUE GREEN ALGAE M12*4

2) Green Algae - CHLOROPHYTA

Acrosiphonia / Spongomorpha M23
Cladophora S12
Enteromorpha S123
Ulva S123
Green Crust ( ) R1
Urospora M23

3) RED ALGAE - RHODOPHYTA

Bossiella sp S12
CALLIARTHRON sp. S12
CORALLINA sp. S12
ENDOCLADIA muricata S12
HALOSACCION glandiforme M123
IRIDAEA spp ? S M12
Cryptosiphonia sp M12
MASTOCARPUS sp. S12
MEMBRANOPTERA sp. M12
MICROCLADIA ? M12
LITHOTHAMNION glaciale S12
PETTOCELIS middendorffii S12
PORPHYRA sp S123
RHODOMELA LARIX M12
RHODYMENIA palmata M12

INSZA APRIL 7 1990

VI SPECIES LIST (CONT)

4) BROWN ALGAE - PHAEOPHYTA (Subtidal)

- ALARIA MARGINATA M12 U
- COSTARIA SPP S12 U
- AGARUM spp. O U
- Hedophyllum sessile S12 U
- HALOSACCION M1
- LAMINARIA sp S U
- NEREOCYSTIS sp S U
- FUCUS DISTICHUS M12
- SYSTOSIPHON lomentaria - M12
- Ralfsia S12

5) HIGHER PLANTS

ZOSTERA MARINA - eel grass M U

B MARINE INVERTEBRATES

1) SPONGES - Porifera

- Tethya spp - Red/orange Ball sponge R1
- Halisarca sacra? - yellow brown sponge S23

2) Jellyfish/Anemones/Corals - Cnidaria

1) Hydroids - Order Hydroida
   - Sertularidae - Sertularella? R1.

2) Hydrocorals - Order Stylasterina
   - Allopora porphyra R12

3) Anemones - Class Anthozoa
   - Epiactis rillrici? M12
   - Urticina crassicornis S12
   - Anthopleura elegantissima S12
   - A. artemisia S12
   - A. xanthogrammica S12

3) Ctenophores - Beroe spp.? R occasional

4) FLATWORMS - PLATYHELMINTHES -
   - 2 unknown spp. R23

5) Annelid Worms

Polychaetes.
- Nereidae M12
- Nephtyidae M12
- Serpulidae Serpula M123
  - Crucigera spp. M123
- Spirorbidae - Spirorbis M123

B. MARINE INVERTEBRATES (cont)

6) Echiuran Worms - Weasel Worms
Echiurus echiurus R23

7) Sipunculid Worms - Peanut Worms
Phascolosoma agassizii R23

8) Molluscs.

a) Chitons - Polyplacophora
Katharina tunicata S12
Tonicella lineata R12
Mopalia spp. R12
Unknown spp or juvenile R123

b) Snails - Gastropods
Littorina scutulata M12
L. sitkana M12
Nucella lamellosa M012
N. emarginata M12
Searlesia dira M23
? Amphissa columbiana S23

c) Limpets -
Acmaea mitra R12
Lottia digitalis S12
L. persona S12
Tectura scutum M23
Tectura fenestrata R12
T. persona R12
Siphonaria thersites M12
Diadora aspera R1

d) Mussels -
Mytilus edulis M12
M. californianus R1

e) Clams
Jingle - Pododesmus cepio S12
Hiatella spp. R123
Protothaca staminea R23
Macoma spp. R23

f) Nudibranchs
Limacilidevis fusca M12

F) Crustaceans

1) Barnacles - Cirripedia
Semibalanus cariosus D12
Chthamalus dalli D12
Balanus glandula M12

2) Crabs
Hermit Crabs - Paguridae M2
Hemigrapsus oregonensis S23
Haplogaster spp. M23
Pugettia spp. S23

3) Beach Hoppers
Isopoda - ? spp M23
Amphipods
Orchestia? M23

4) SHRIMPS
Lebbeus spp. R23

6) Bryozoans
Microporina borealis R23
Schizoporella ? spp. M23

H) Echinoderms (Sea Stars/Urchins
1) Sea Stars
Pycnopodia helianthoides M
Dermasterias imbricata M23
Leptasterias hexactis M23
Evasterias troschelii R23
Orthasterias koehleri R23
Pisaster brevispinus M12

2) Brittle Stars - Ophiuroids
Ophiolus spp? R23

3) Sea Cucumbers -
Cucumaria miniata R23

C. MARINE VERTEBRATES
FISH -
PHOLIDAE 2 spp M23
COTTIDAE - 3 spp S12
Grunt Sculpin R23

B. MARINE INVERTEBRATES (cont)

6) Echiuran Worms - Weenie Worms
Echiurus echiurus R23

7) Sipunculid Worms - Peanut Worms
Phascolosoma agassizii R23

8) Molluscs.
a) Chitons - Polyplacophora
Katharina tunicata S12
Tonicella lineata R12
Mopalia spp. R12
Unknown spp or juvenile R123
b) Snails - Gastropods
Littorina scutulata m12
L. sitkana m12
Nucella lamellosa m012
N. emarginata m12
Searlesia dira m23
? Amphissa columbiana S23
c) Limpets -
Acmaea mitra R12
Lottia digitalis S12
L. persona S12
Tectura scutum m23
~~Tectura fenestrata R12~~
T. persona R12
Siphonaria thersites m12
~~Crepidula spp. R1~~
D) Mussels -
Mytilus edulis m12
~~M. californianus R1~~
e) Clams
Jingle - Pododesmus cepio S12
Hiatella spp. R123
~~Protothaca staminea R23~~
~~Macoma spp. R23~~
f) Nudibranchs
~~Dendronotus frondosus m12~~

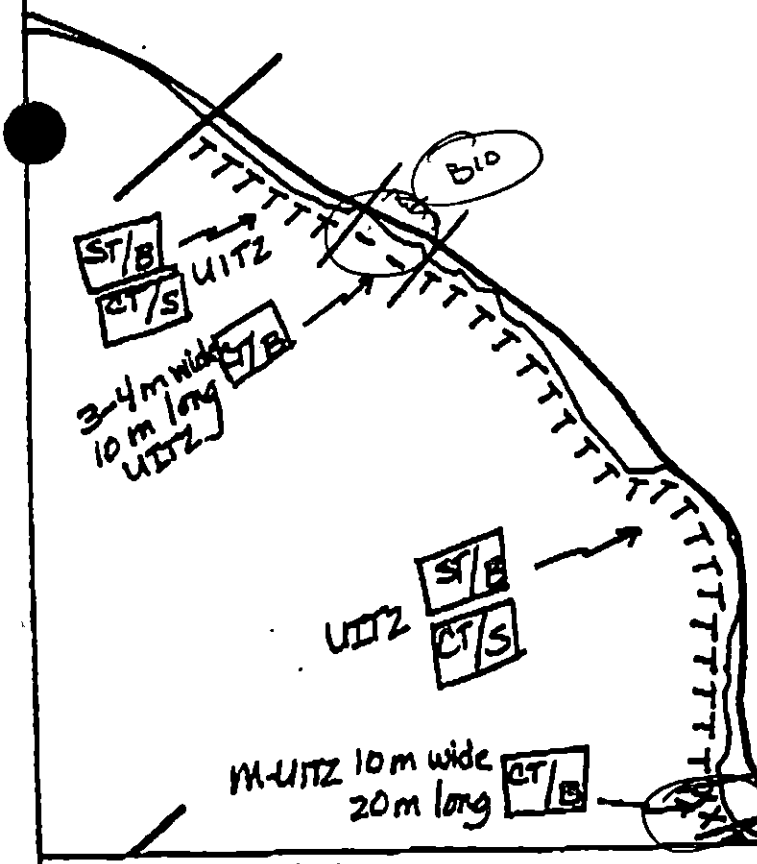
F) Crustaceans
1) Barnacles - Cirripedia
Semibalanus cariosus D12
Chthamalus dalli D12
Balanus glandula m12
2) Crabs
Hermit Crabs - Paguridae m23
Hemigrapsus oregonensis S23
Haplogaster spp. m23
Pugettia spp. S23
3) Beach Hoppers
Isopoda - ? spp m23
Amphipods
Orchestia? m23
4) SHRIMPS
~~Lebbeus spp. R23~~

6) Bryozoans
~~Alcyonidium parasiticum R23~~
Schizoporella ? spp. m23
H) Echinoderms (Sea Stars/Urchins)
1) Sea Stars
Pycnopodia helianthoides m23
Dermasterias imbricata m23
Leptasterias hexactis m23
~~Evasterias troschelii R23~~
Orthasterias koehleri R23
Pisaster ochraceus m12
2) Brittle Stars - Ophiuroids
~~Ophiura spp.? R23~~
3) Sea Cucumbers -
~~Cucumaria miniata R23~~

C. MARINE VERTEBRATES
FISH -
PHOLIDAE 2 spp m23
COTTIDAE - 3 spp S12
~~Leptocottus armatus R23~~

Sea urchins
Strongylocentrotus droebachiensis R23

IN-31



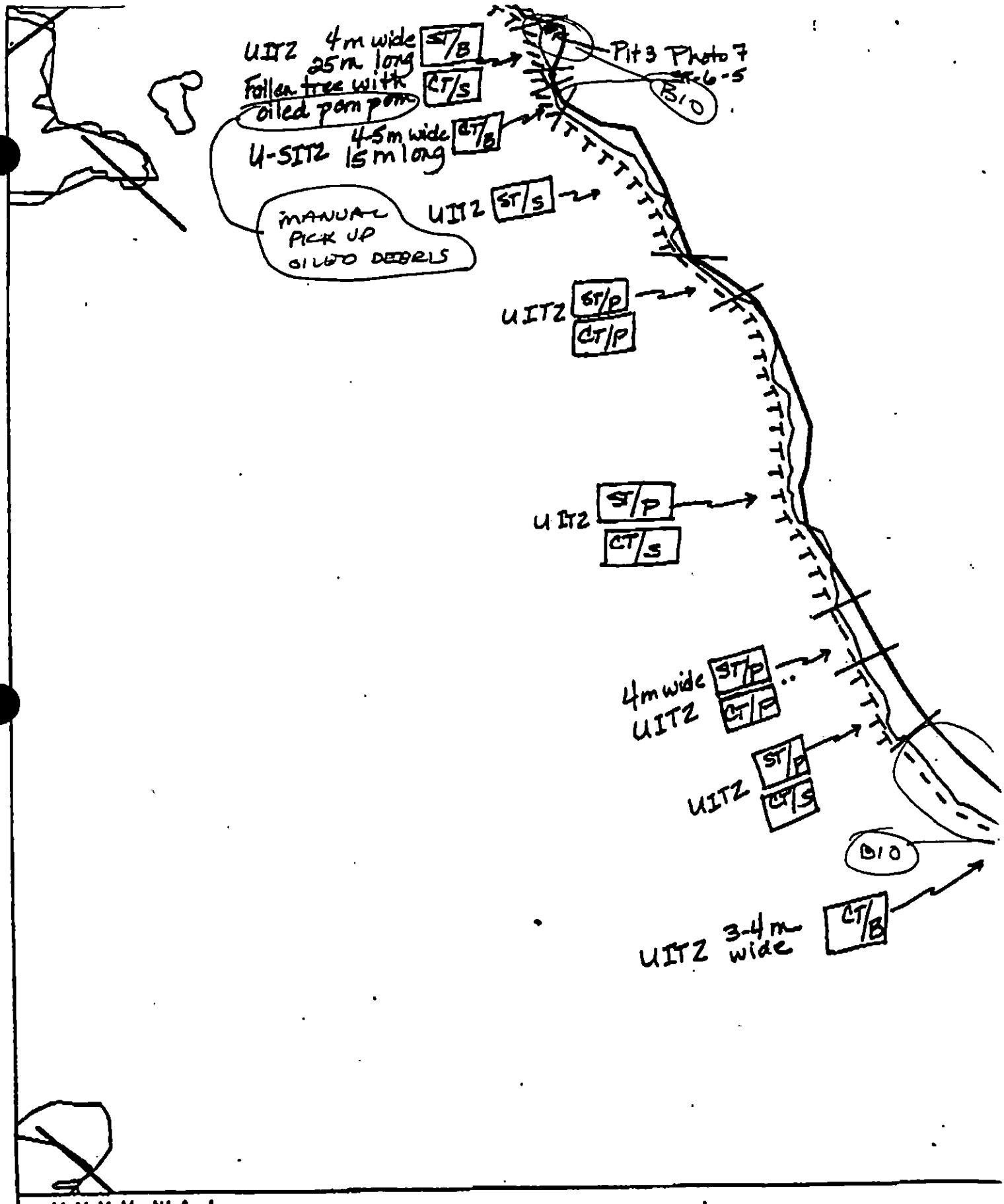
IN-32

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

IN-32
EXXON SEGMENT LENGTH: 2777m
ADEC Segment Length: 2369m

0 100 200 300
METERS

Map Key: PWS-277e
Name: C. DILLON
Date: 4/7/90
Date Entered:



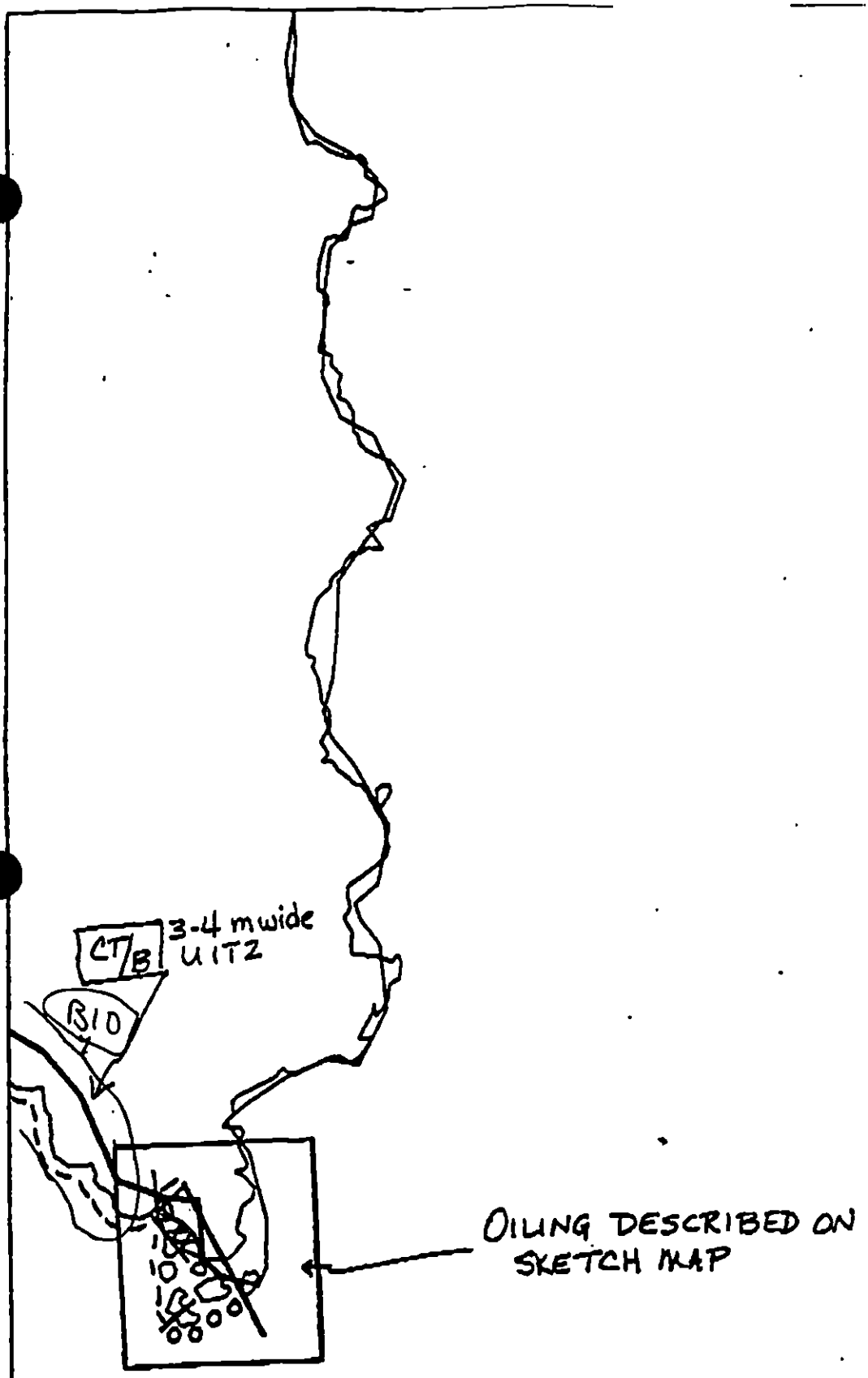
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

IN-32

EXXON SEGMENT LENGTH: 2777m
ADEC Segment Length: 2569m

0 100 200 300
METERS

Map Key: PWS-277a
Name: CDillon
Date: 4/7/90
Date Entered:



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

IN-32

EXXON SEGMENT LENGTH: 2777m
ADEC Segment Length: 2369m

0 100 200 300
METERS

Map Key: PWS-277b
Name: C DILLON
Date: 4/7/90
Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ IN-33 SUBDIVISION A (1 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
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: _____ DATE: 6/1/90

OILING CATEGORIZATION:

Wide 72 m: Medium 17 m: Narrow 213 m: V.Light 472 m: No Oil 486 m
Subsurface Oil Observed: Yes X No ____ Maximum Depth 30+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pickup of debris followed by bioremediation where indicated on sketch map.

TAG COMMENTS: MANUAL TILLING + SPOT WASH OF AREA AROUND TP5. USE SNARES TO RECOVER ANY FREE OIL. MONITORS TO ASSESS COCS AND SIGNIFICANCE OF REMAINING OIL

TAG APPROVAL DATE: 5/4/
ADEC ART WEINER
EXXON ANDY FOR
NOAA Gary Petrae Ray Paton
USCG G.A. BEITER G.A. Beiter

FOSC: _____ DATE: 6-8-90

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 Suzomoto 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 unoiled 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 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 (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)**
7HH **Finfish harvesting**
7JJ **Deer harvesting (8/15 to 2/28)**
Invertebrate harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / IN-33 SUBDIVISION: A DATE 4/22/90

USCG
NAME William E. White SIGNATURE William E White

☐ NO TREATMENT RECOMMENDED ■ TREATMENT SUGGESTED
COMMENTS

#1 AREA AROUND PIT #5 - MANUAL REMOVAL OF SEDIMENT AROUND COBBS AND BOULDERS AND REMOVE OILED DEBRIS.

#2 SKETCH MAP - SPORADIC MANUAL REMOVAL OF OILED SEDIMENT AROUND LARGE BOULDERS - THERM BIO. AREA.

#3 NO TREATMENT RECOMMENDED TO ANY OTHER AREA OF THIS SEGMENT.

ADEC
NAME Peter Montesano SIGNATURE Peter J Montesano

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

- Pit 5 Concurr w/Exxon rep. oil is pooled among pebbles lined by bedrocks and should be manually removed in N corner. Accross in S corner bag oiled vegetation + debris trapped in supra berm
- Pit 7 Boulders too large for bio. Hw hoses for flush with Steam wands to remove SBL, DBL on, under, around Boulders. Likely Too bleed.
- Pit 8 Heavy, deep OP oiling must be removed. Oiling in under median Sized Boulders on bedrocks Plateau, u/S tidal level. manual remova will be difficult but Needed. NO + suited for wash, till, heavy equiptment, Bio, etc.

-Note: I anticipate bleeding from other Boulder shadowed beaches comm Sum

LAND MANAGER USDA - Forest Service
NAME Don F. Breitzger SIGNATURE Don F. Breitzger

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

This area is used for subsistence deer hunting Aug 15 - F

Pit 5 - agree with Exxon rep., pooled oil should be removed along with oiled debris (Vegetation and other).

Areas adjacent to pits 7 and 8 should have patchy removal of oiled sediments - the bio remediation.

the rest of the segment should be left to natural weathering process. Oiled debris should

REVISION NO. 03/21/91

SHORELINE OILING SUMMARY

REVISION NO. 04/13/89

OG C. DILLON USCG PS1 E. WHITE SEGMENT ST/ IN-33
BIO J. BARRY LAND REP D. BRAUNINGER (NES) SUBDIVISION A (1 OF 2)
EXXON G. STILES ADEC P MONTESANO TIME 15:30 to 17:55
TEAM NO. 6 TIDE LEVEL +3 to +1 DATE 04 / 22 / 90
EST. SUBDIVISION LENGTH: 1700 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
SURFACE SEDIMENTS: R 90 % B 5 % C 4 % P 1 % G 0 % S 0 % M 0 % V 0 %
SLOPE : Lang 5 % Hang 5 % Vert 90 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
OIL CATEGORY LENGTH: W 60 m M 30 m N 200 m VL 770 m NO 650 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	/0	/S	/P	/S						SU	UI	MI	LI
ASPHALT PAVEMENT													
POOLED													
COVER				X				X		X			
COAT	✓	✓	X	X		✓				✓	✓	✓	
STAIN				X				X			X		
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL													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	MO	LG
Logs			X
Vegetation			
Trash			
Debris	X		

DID YOU COLLECT DEBRIS?
YES ☒ NO ☐
TYPE oiled pom pom / unoiled tree
#BAGS 1

Photographs:
Roll No. ST-6-6
Frames 18, 20-25

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SHEEN (Y/N)	▼	SURFACE · SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UO						SU	UI	MI	LI				
1	10		X				0-8		X				X			X				N	—	B-P/G
2	40					X	·		X								X			N	—	C/P-P
3	40					X	·		X						X					N	—	C/P-P
4	70					X	·		X							X				N	—	C-C/P/G
5	15	X					0-15		X				X			X				N	—	P-P/bedrock
6	30					X	·		X								X			N	—	C/P-P

COMMENTS

REVIEWED JW DATE 4/25/90

OG C. DILLON
TEAM 6

SHORELINE OILING SUMMARY (PAGE 2)

SEGMENT ST/ IN-33 SUBDIVISION A (2 OF 2)

REVISION 04/13/1

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm-cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SHEEN (Y/N)	▼	SURFAC SUBSURF SEDIMEN
		OP	OR	OL	OF	HO		UO	UC						BU	M	MI	U				
7	5	X					0-3		X				X		X					N	—	B-P/m/
8	30	X					0-3	X		X					X					N	—	R/B/C-P/G
8	30	X					3-30	X					X		X					N	—	R/B/C-P/G
																						..
																						..

COMMENTS

REVIEWED TW DATE 4/25/90

SHORELINE ECOLOGICAL SUMMARY

Segment ST / IN 33 Subdivision A Date (mo / day / yr) 4/22/90

Time (24 hr) 1600-1755 Biologist Jim Bacey 1700 = Low tide 1/8

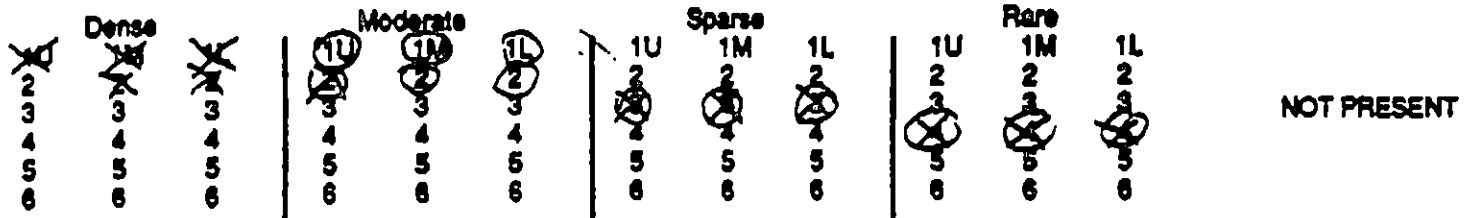
(A) Substrate type and % of segments:
(1) Bedrock 90 (2) Boulder 5 (3) Cobble 4 (4) Pebble 1 (5) Sand 0 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 75 Moderate 15 Low 10

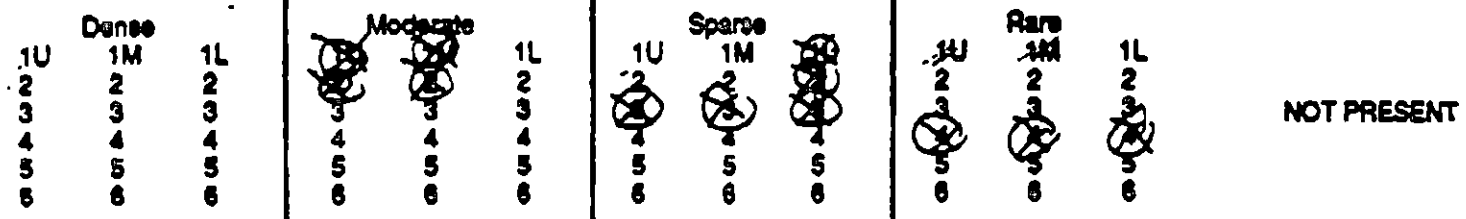
(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs: Roll No. ST-6-6
Frames 19

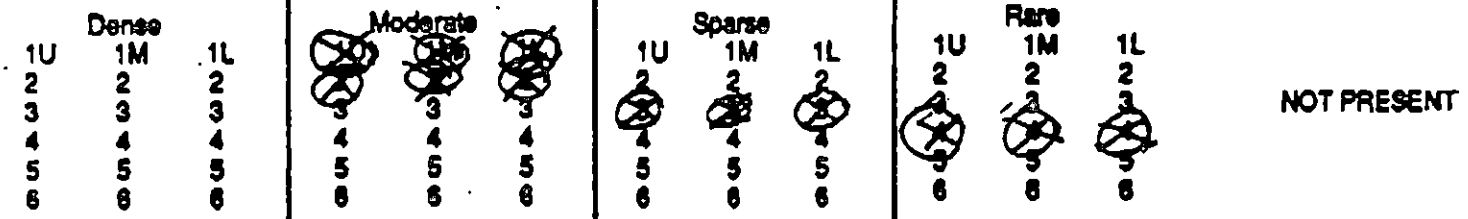
BARNACLES



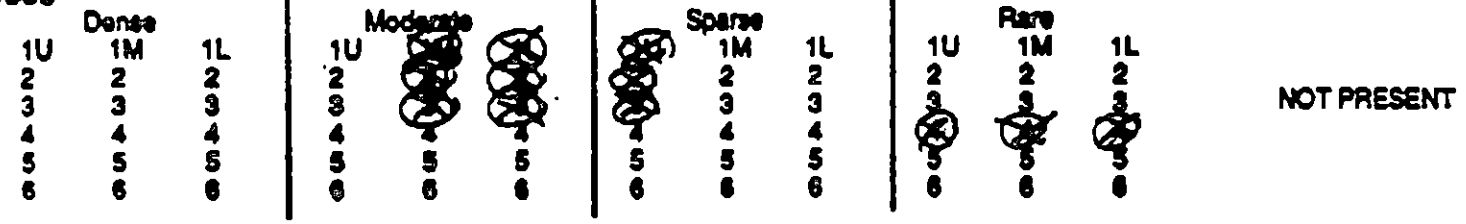
MYTILUS



GASTROPODS



FUCUS



Wildlife Observations/ General Comments:
Sea Otter - 3 Sea Lion - 1 Pigeon Guillemot - 1 Deer tracks
Bald eagle - 2 Glaucous winged gull - 5 Schools of Salmon Smolts
Common Merganser - 5

Ecological Considerations: 7II - Deer Harvesting Site

Clean up operations may interfere with deer harvesting on some locations during Aug – February.

No other conditions are sensitive.

B. Oil-Related Comments

1) The high upper zone and supra intertidal zone are the most strongly impacted by oil, where a cover of oil on and amongst cobble is occassonally present. This habitat typically has low covers of biota and often is a "bare zone", occupied by lichens and microalgae. Lower zones along this subdivision are mostly densely covered by oil, and appear at this time to be little affected by oil.

2) Deer harvesting in August - February is the only listed ecological sensitivity, and will likely not be affected by clean up operations or the present oil destribution.

OIL CHARACTER LENGTHS (m):

CV 5 CT 920 ST 125 NO 660

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

IN-33

EXXON SEGMENT LENGTH: 4261 m
ADEC Segment Length: 3722m

0 100 200 300
METERS

Map Key: PWS-278a
Name: C. DILLON
Date: 4/22/90
Date Entered:

OG C. Dillon Team 6

SEGMENT ST/ EN-33

SUBDIVISION A

DATE 4, 22 90

SKETCH MAP

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 △ Pit - No Subsurface Oil

2 △ Pit - Subsurface Oil

CT/C Continuous Distribution

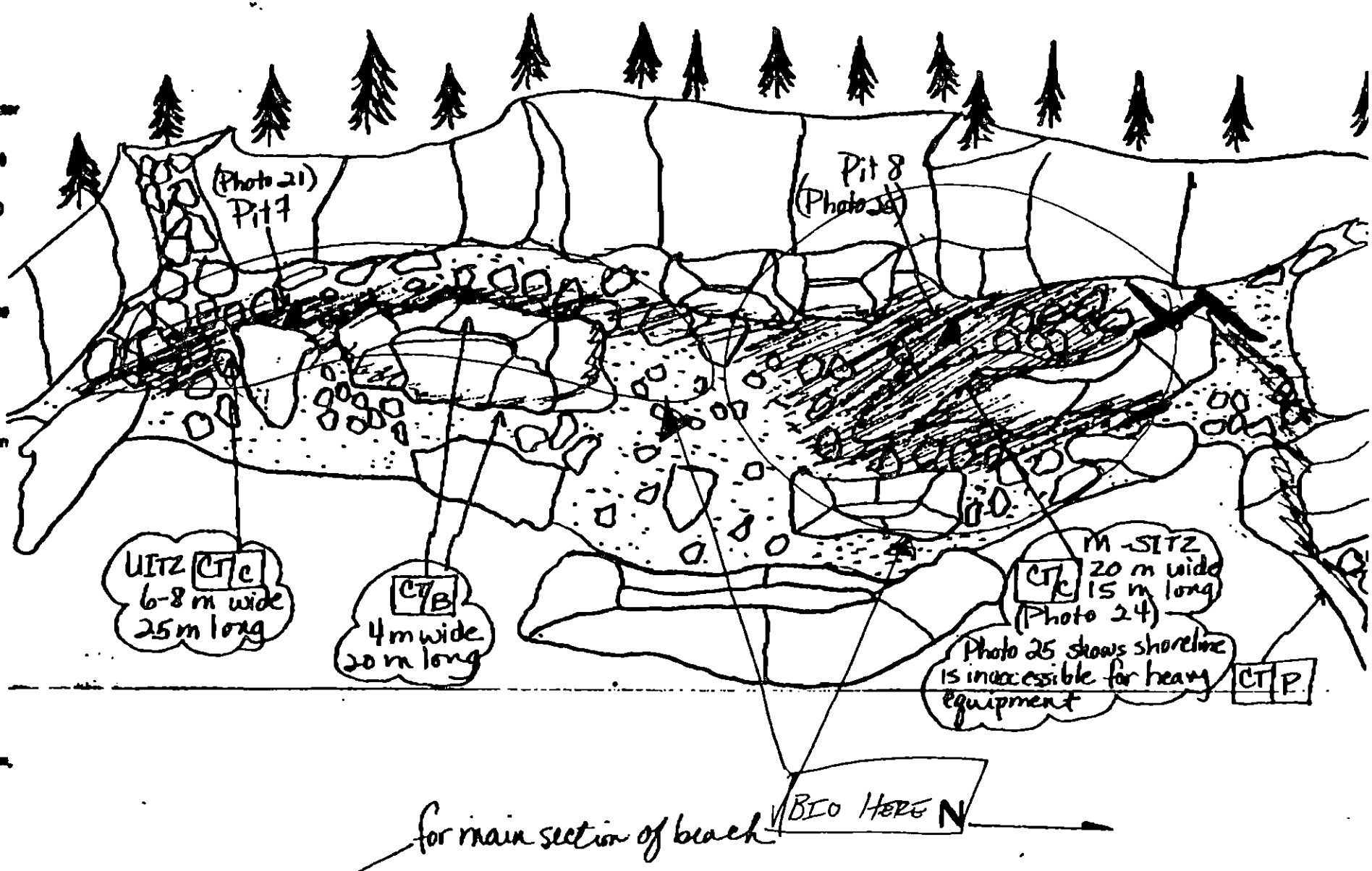
CT/B Broken Distribution

CT/P Patchy Distribution

CT/S Splashed Distribution

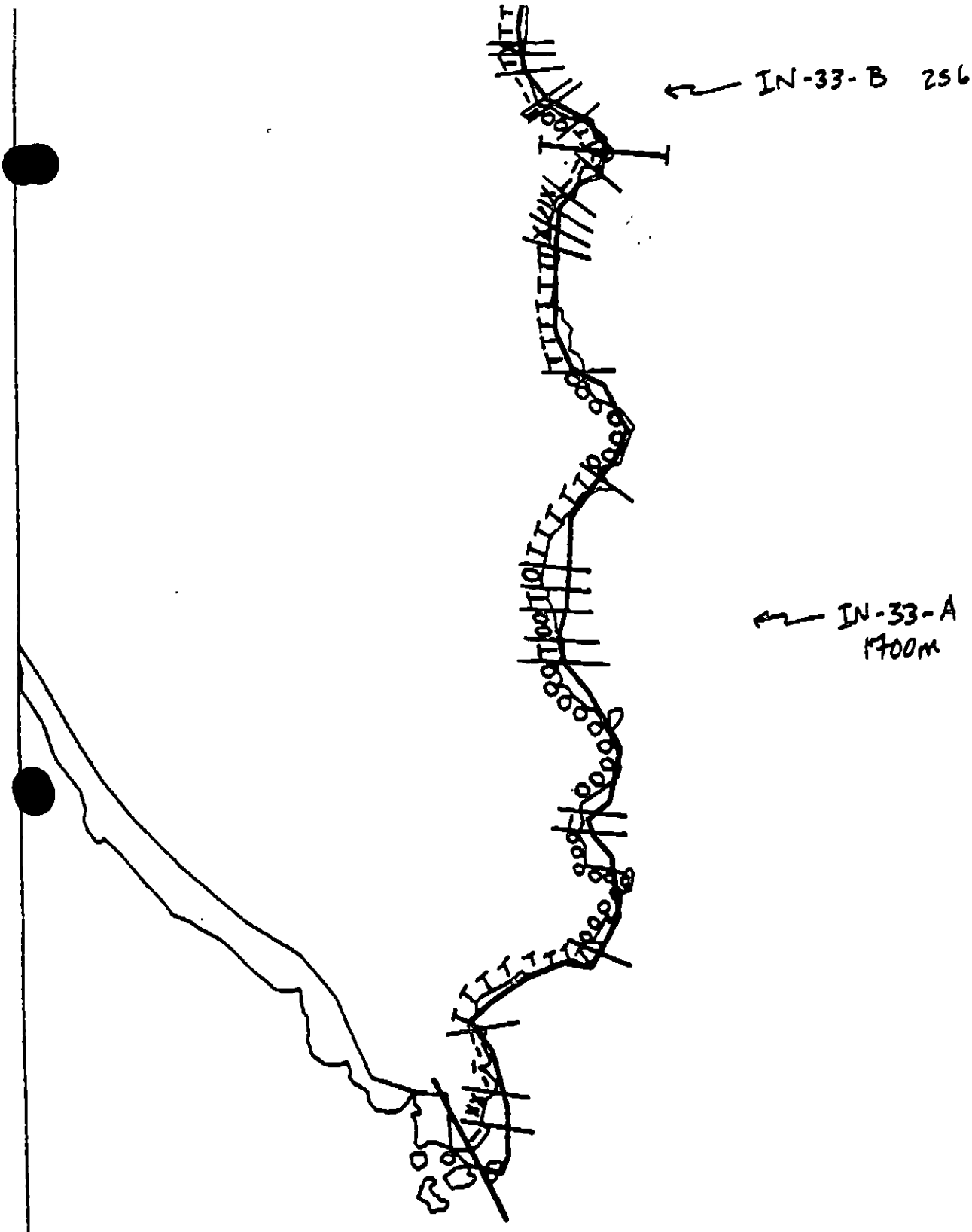
lll Oiled Vegetation

Photo location, direction, and number



for main section of beach

Oil Character Length (m): AP 0 PO 0 CV 0 CT 60 ST 0 MS 0 PT 0 TB 0 FL 0 NO 0



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

IN-33

EXXON SEGMENT LENGTH: 4261 m
ADEC Segment Length: 3722m

0 100 200 300
METERS

Map Key: PWS-278a
Name: C. DILLON
Date: 4/22/90
Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT IN-33 SUBDIVISION A (1 of 2)

WORK WINDOW	
Manual Pickup	OPEN
Bioremediation Spot Washing Other Approved Treatment Manual Tilling	WORK PRIOR TO 8/15

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

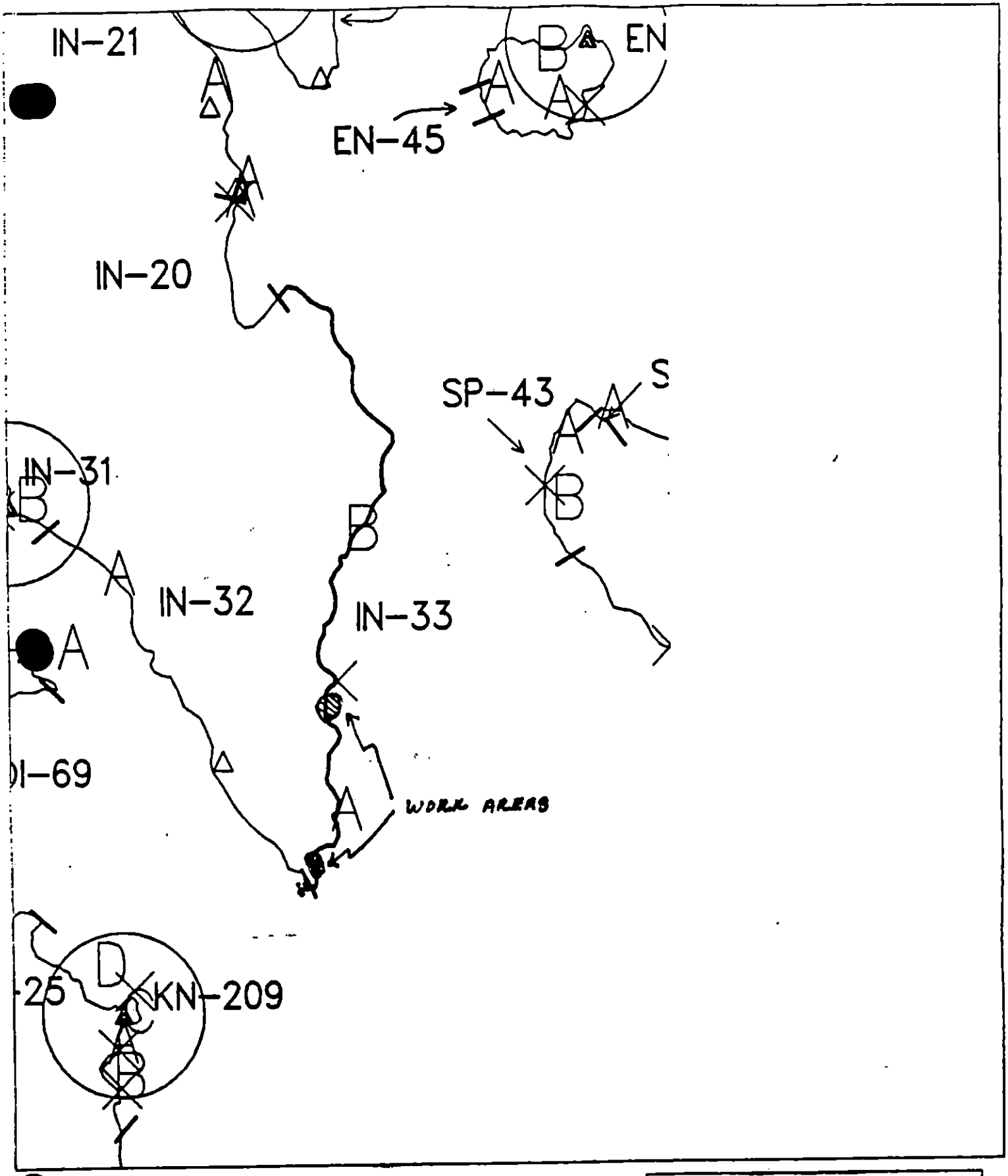
7II	**Subsistence: Deer Harvesting**	Closed to bioremediation, spot washing, other approved treatment, and manual/mechanical raking after 8/15. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum. Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

FOSC _____ Date 6/15/90

Prepared by J.P. Phillips Date 6/14/90



EXXON

Exxon Company, USA
Map Key: PWS-IN-33
June 09, 1990

ECOLOGY MAP

SEGMENT IN-33

SUBDIVISION A (1 of 2)

METERS

0 636 1272

★ Seabird Colony

▲ Active Eagle Nest

△ Inactive Eagle Nest

1 inch = 2086 feet

SHORELINE EVALUATION

SEGMENT ST/ IN-33 SUBDIVISION B (2 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
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: Rachel van Dale DATE: 6/1/90

OILING CATEGORIZATION:

Wide 11 m: Medium 30 m: Narrow 62 m: V.Light 217 m: No Oil 2142 m
Subsurface Oil Observed: Yes X No ____ Maximum Depth 20+ cm

RECOMMENDATIONS:

____No Treatment Recommended	____Snare/Absorbent Booms
X Treatment Recommended	____Oil Snares (pom poms)
____Manual Pickup	____Absorbents (pads,rolls,etc)
X Bioremediation	____Spot Washing:____Wands
____Tarmat Removal	____Beach Cleaner
	____Other (see comments)

COMMENTS: Recommend bioremediation of areas indicated on sketch map.

TAG COMMENTS: MANUALLY RAKE IN AREA OF TPS PRIOR TO BIO

TAG APPROVAL DATE: 5/4/90
ADEC ART WEINER Art Weiner
EXXON ANDY GAL Andy Gal
NOAA Gary Petrae Gary Petrae
USCG G.A. REITER G.A. Reiter

FOSC: [signature] DATE: 6-8-90
monitor evaluate need to rake area of Pit 10 prior to bioremediation.

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 Suzomoto 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 unoiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235

3N, 3P **Harbor seal and sea lion pupping (5/15 to 7/1)**
3O, 3Q **Harbor seal and sea lion molting (8/15 to 9/15)**
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403

5R **Seabird colony (5/1 to 9/1)**
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

5S **Shorebird/waterfowl concentration (4/1 to 5/15)**
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Rothy 267-2208

5T **All Bald Eagle nests (3/1 to 6/1)**
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

7Z **Subsistence area: Salmon harvesting (5/1 to 9/30)**
7HH **Finfish harvesting**
7I **Deer harvesting (8/15 to 2/28)**
7JJ **Invertebrate harvesting**
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / IN-33 SUBDIVISION: B DATE 4/22/90

USCG
NAME William E Wilke SIGNATURE William E. Wilke

☐ NO TREATMENT RECOMMENDED ■ TREATMENT SUGGESTED
COMMENTS

#1 SKETCH MAP #1 SPORADIC picking of OILED SEDIMENT AROUND LARGE BOULDERS

#2. SKETCH MAP #2 BRING IN EARTH MOVING EQUIPMENT TO PULL DOWN SUPERTIDAL INTO LOWER TIDAL ZONE THEN BIOREMEDIATE.

#3. NO TREATMENT TO THE REST OF THE SEGMENT;

ADEC
NAME Peter Montesano SIGNATURE Peter J. Montesano

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

- Pit 3, Soft Ap forming below surface, oil NOT Visible from Surface, unable to determine appropriate treatment.
- Pit 4, Spot Steam washable w/hose flush, SBL ON, under, + around, oil droplets in Pit water, At end of Area Silver Sheen on Surface waters at edge of Drain
- Pit 5, localized pickup of oiled Sediments
- Pit 9, Consider granular bio in place
- Pit 10, Few oil Signs on Surface, area too high to treat w/ Bio, CONCurr w/ Exxon to Pull down berm and bio on site, protect, Avoid Some tidal grass area.

LAND MANAGER USDA - Forest Service
NAME Don T. Britzger SIGNATURE Don T. Britzger

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

This area serves as a subsistance area for deer hunting Aug 15 - Feb 28th.

pit 5 oiled sediments should be picked up and removed.

pit 9 bioremediation

pit 10 agree with Exxon rep., to pull down tidal berm with mechanical equipment and apply bioremediation.

The rest of the segment including the rock faces (weathered oil) should be left to ocean wave action

REVISION NO. 03/21/89

SHORELINE OILING SUMMARY

REVISION NO. 0a-12-89

OG C. DILLON USCG PS1 E. WHITE → Breitinger SEGMENT ST/ IN-33
BIO I. BARRY LAND REP D. [redacted] (NES) SUBDIVISION B (2 OF 2)
EXXON G. STILES ADEC P. MONTESANO TIME 17:55 to 19:30
TEAM NO. 6 TIDE LEVEL +1 to +2 DATE 04 / 22 / 90
EST. SUBDIVISION LENGTH: 2561 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
SURFACE SEDIMENTS: R 75 % B 10 % C 10 % P 5 % G 0 % S 0 % M 0 % V 0 %
SLOPE: Lang 20 % Hang 5 % Vert 75 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
OIL CATEGORY LENGTH: W 10 m M 15 m N 25 m VL 300 m NO 2211 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	rc	ra	rp	rs						sw	ui	mi	u
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT		✓	X	X		✓/X					✓/X	✓	
STAIN		X	X	X				X			X		
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL										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	X		
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?
YES ☒ NO ☐
TYPE unoiled trash
#BAGS 1

Photographs:
Roll No. None
Frames —

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SHEEN (Y/N)	▼	SURFACE · SUBSURFACE SEDIMENTS
		co	cm	ca	cp	no		ub	uc						sw	ui	mi	u				
1	45					X	·		X								X			N	45	C/P-P/G/S
2	20					X	·		X							X				N	—	C/P-P/R
3	3		X				0-2		X				X			X				N	—	B/C-P/G/S
4	6	X					0-4		X				X			X				N	6	B/C-P/G/M
5	15	X					0-14		X	X			X			X				N	14	B/C-P/G
6	30					X	·		X								X			N	—	P-G

COMMENTS Majority of subdivision is Vert. R, unoiled or with occasional areas of stain and sporadic or patchy coat along the high tide line — the coat is usually in rock fractures and crevices. Some areas of hang and lang B/C slopes or beach have a coat that widens to 3 m and one 10 m long pocket of hang B/C there is a C/P on the MUIT2 that is 12 m wide with penetration of the underlying sediments to 4cm. The long, lang C/P beaches are mostly unoiled. Only the 2 areas of significant oiling are sketched.

REVIEWED [redacted] DATE 4/25/90

OG C. DILLON
TEAM 6

SHORELINE OILING SUMMARY (PAGE 2)

SEGMENT ST/ IN-33 SUBDIVISION B (2 OF 2)

REVISION 04/13/1

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm-cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SHEEN (YN)	▼	SURFACE SUBSURFA SEDIMENT
		OP	OR	OL	OF	NO		VO	VC						OU	UI	MI	U				
7	35					X	-		X							X				N	—	C/P-P/
8	25					X	-		X							X				N	—	R/C-C
9	20				X		0-20	X						X		X				N	—	B/C-P/G
10	25		X				0-15	X					X		X					N	—	C-C/P
10	25				X		15-20		X					X	X					N	—	C-P
							-															
							-															
							-															..
							-															..
							-															
							-															
							-															
							-															
							-															

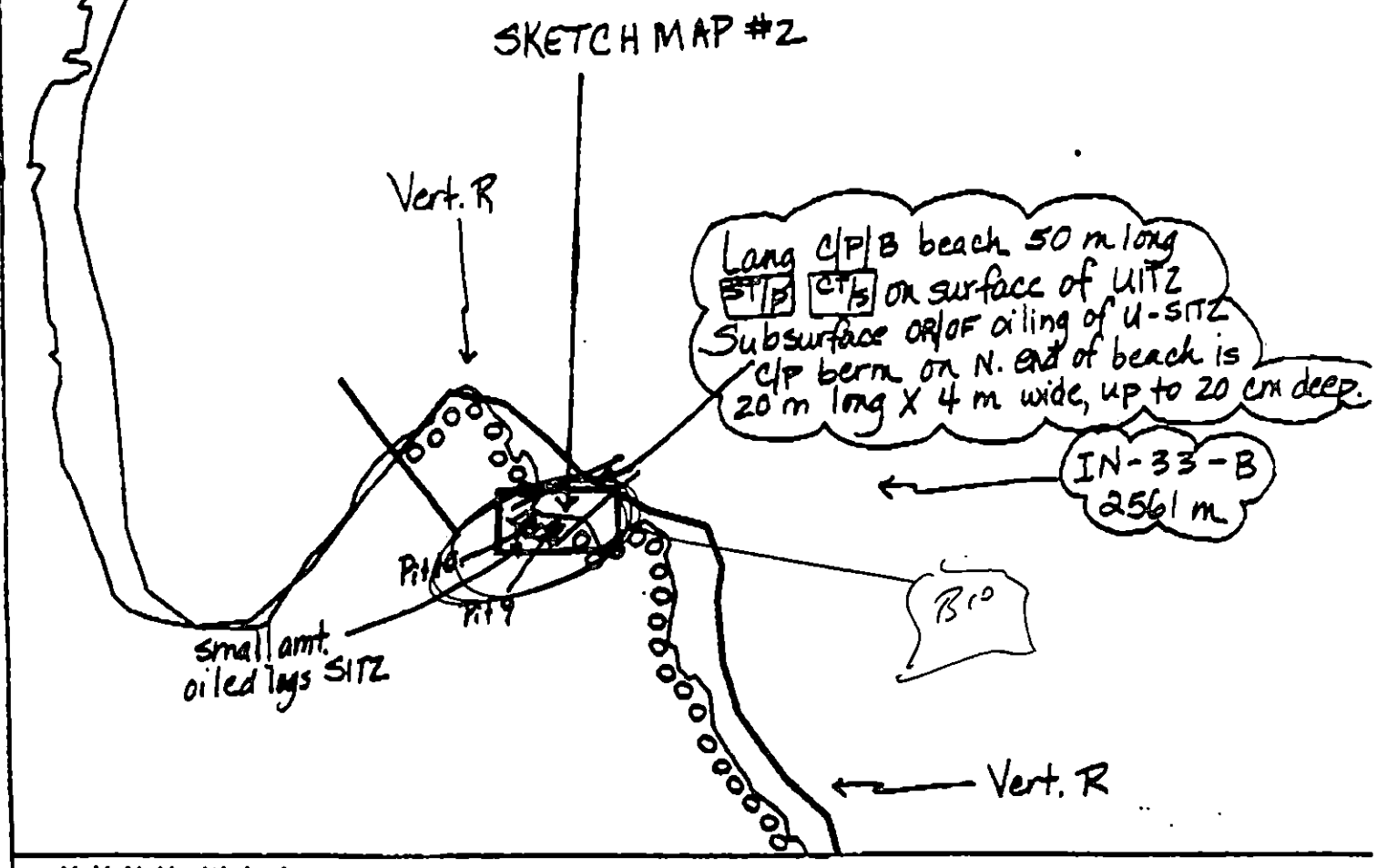
COMMENTS

REVIEWED JW DATE 4/25/90

EN-4

OIL CHARACTER LENGTHS (m): CJ 250 ST 100 NO 221

SKETCH MAP #2

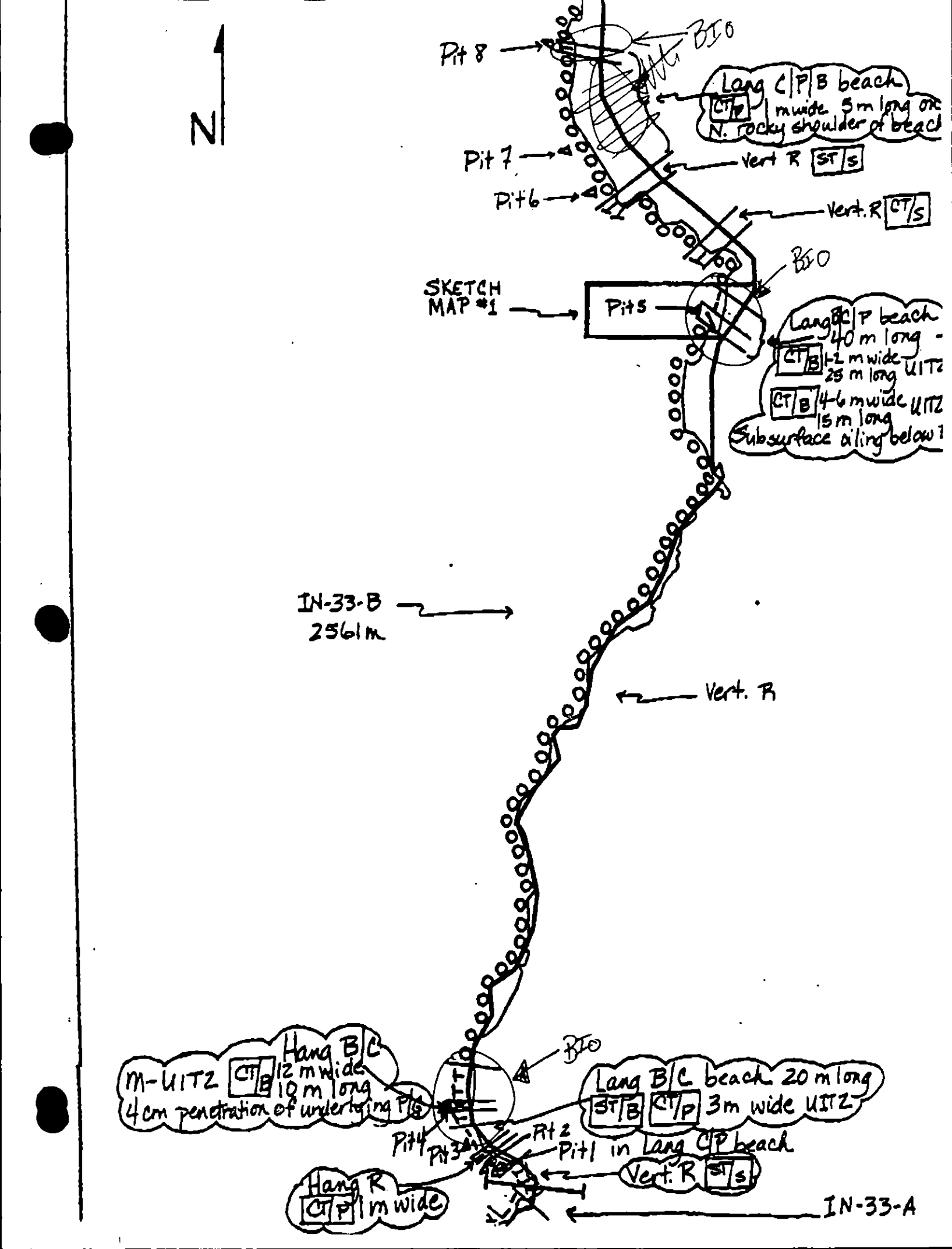


XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

IN-33
EXXON SEGMENT LENGTH: 4261 m
ADEC Segment Length: 3722m

0 100 200 300
METERS

Map Key: PWS-278c
Name: C. DILLON
Date: 4/22/90
Date Entered:


N
Pit 8
BIO
Lang C|P|B beach
CT|P
m wide 5 m long on
N. rocky shoulder of beach
Pit 7
Vert R ST|S
Pit 6
Vert. R CT|S
BIO
SKETCH MAP #1
Pit 5
Lang BC|P beach
40 m long -
CT|B 1-2 m wide
25 m long UIT2
CT|B 4-6 m wide UIT2
15 m long
Subsurface oiling below
IN-33-B
2561 m
Vert. R
BIO
M-UIT2 CT|B Hang B|C
12 m wide
10 m long
4 cm penetration of underlying P|S
Lang B|C beach 20 m long
ST|B CT|P 3m wide UIT2
Pit 4
Pit 3
Pit 2
Pit 1 in Lang C|P beach
Hang R
CT|P 1m wide
Vert. R ST|S
IN-33-A

OG C. DILLON TEAM 6

SEGMENT ST/[redacted]33

SUBDIVISION B

DATE 4 / 22 90

SKETCH MAP #1

N

CHECKLIST

- ___ N Arrow
- ___ Approx. Scale
- ___ Segment Study
- ___ 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

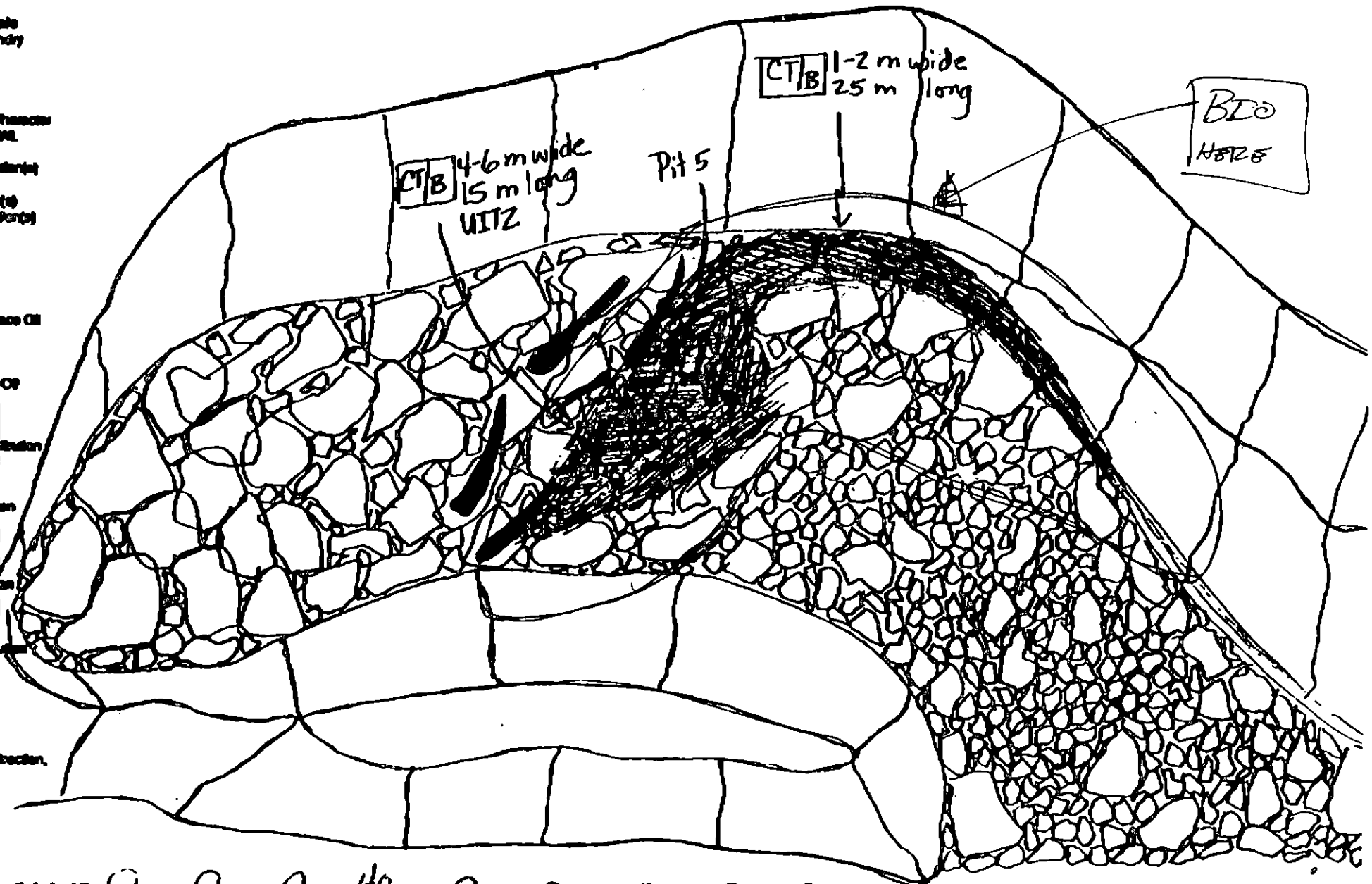
CT/B Broken Distribution

CT/P Patchy Distribution

CT/S Splashed Distribution

lll Oiled Vegetation

1 ⇨ Photo location, direction, and number



Oil Character Length (m): AP 0 PO 0 CV 0 CT 40 ST 0 NS 0 PT 0 TB 0 FL 0 NO 0

REVISED/ADDED

OG C. Dillon Team 6

SEGMENT ST/ SN-33

SUBDIVISION B

DATE 4 / 22 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

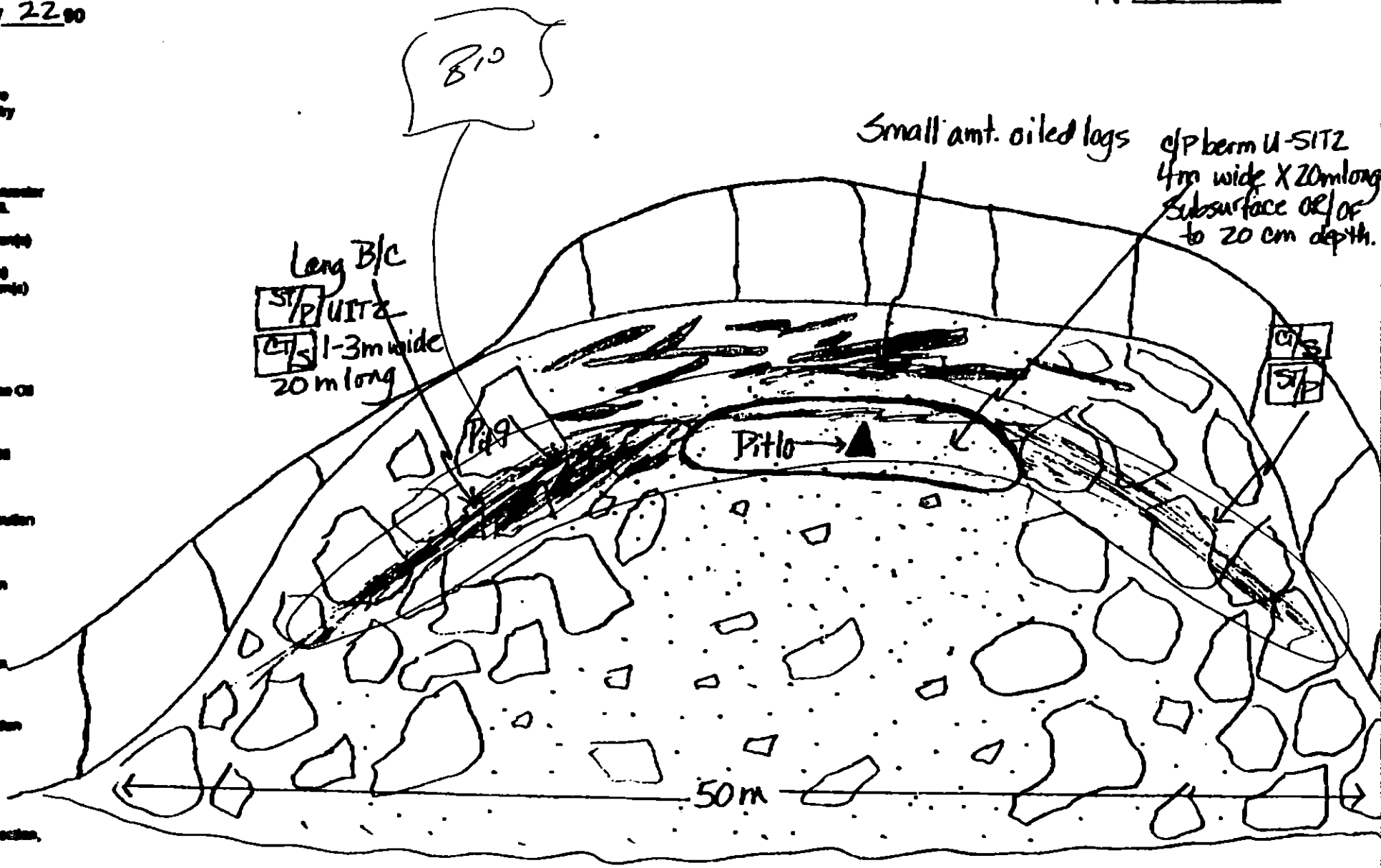
CT/S Splashed Distribution

Oiled Vegetation

1 Photo location, direction, and number

SKETCH MAP #2

N



Oil Character Length (m): AP 0 PO 0 CV 0 CT 5 ST 25 MS 0 PT 0 TB 0 FL 0 NO 0

REVISIONS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 6/92

Segment ST / IW33 Subdivision B Date (mo / day / yr) 4/22/90

Time (24 hr) 1745 – 1930 Biologist Jim Barry 2561 m. 1/

(A) Substrate type and % of segments:
(1) Bedrock 75 (2) Boulder 10 (3) Cobble 10 (4) Pebble 5 (5) Sand 0 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 60 Moderate 35 Low 25

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

Photographs:
Roll No. ST-6-6
Frames NONE

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

Sea Lion - 1 Glaucous winged gull - 2
Sea Otter - 2 Common Merganser - 2

Ecological Considerations:

7II - Deer harvesting - may be impacted slightly by clean up operations between August and February

APRIL 22 1990 INGOT ISLAND 33 B

TIME 1755 - 1930
TIDE +1 → +2

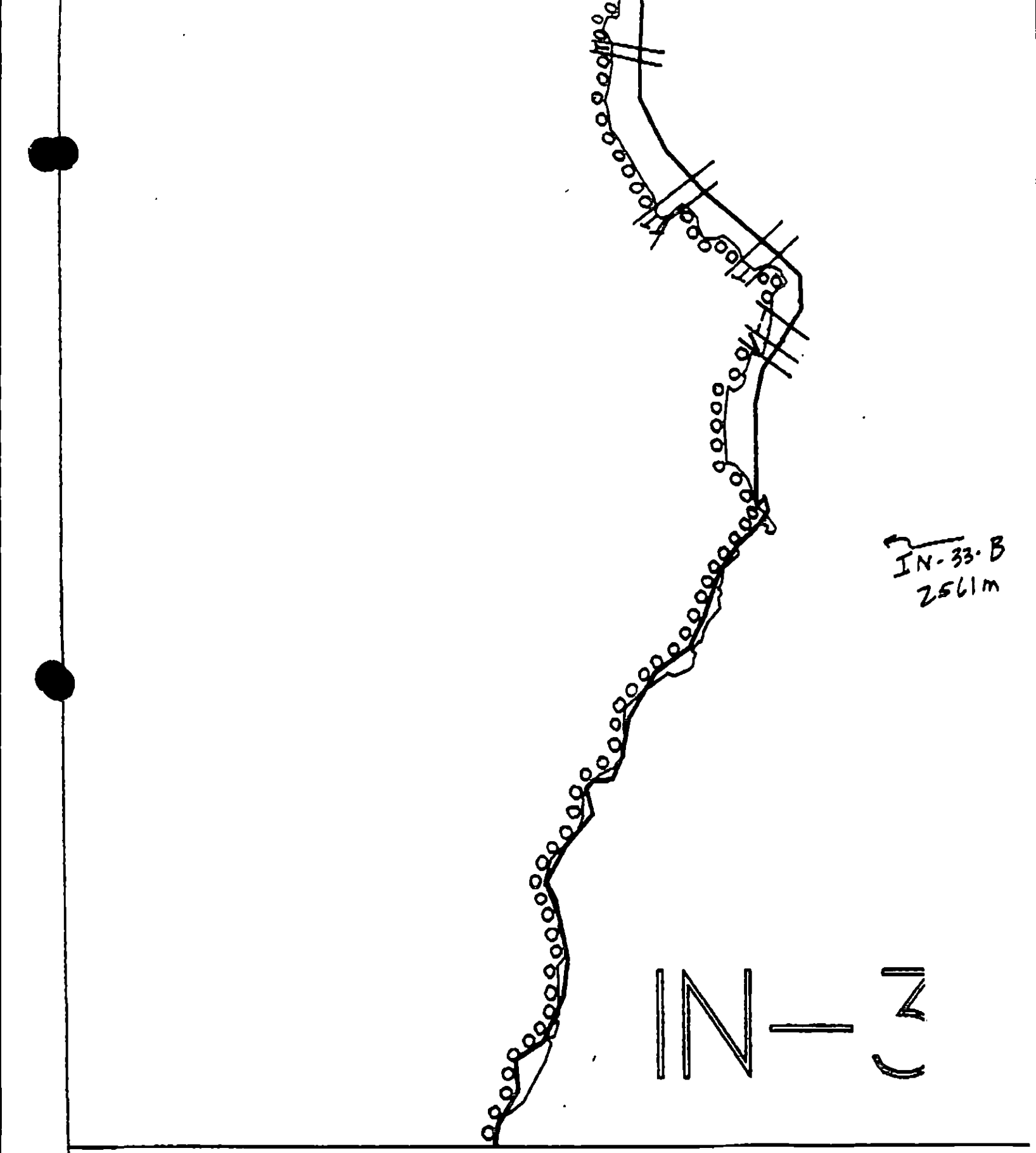
I General Comments

This subdivision is situated along a coastline w/ exposure to high waves. It is, however, not as exposed as subdivision IN 33 A, located to the immediate South. Because of its similarity in terms of exposure and habitat types, the biotic communities are very similar. Some slight differences are apparent. Whelks, (Nucella spp) are moderately to densely abundant, apparently due to the slightly more protected nature of most of the habitat. Mytilus is slightly more abundant on exposed headlands, and Pisaster, an important Mytilus predator seems slightly less abundant. Few other differences are apparent.

See the bio forms for IN 33 A for further discussion.

II Oil Related Comments -

Same as IN 33 A.



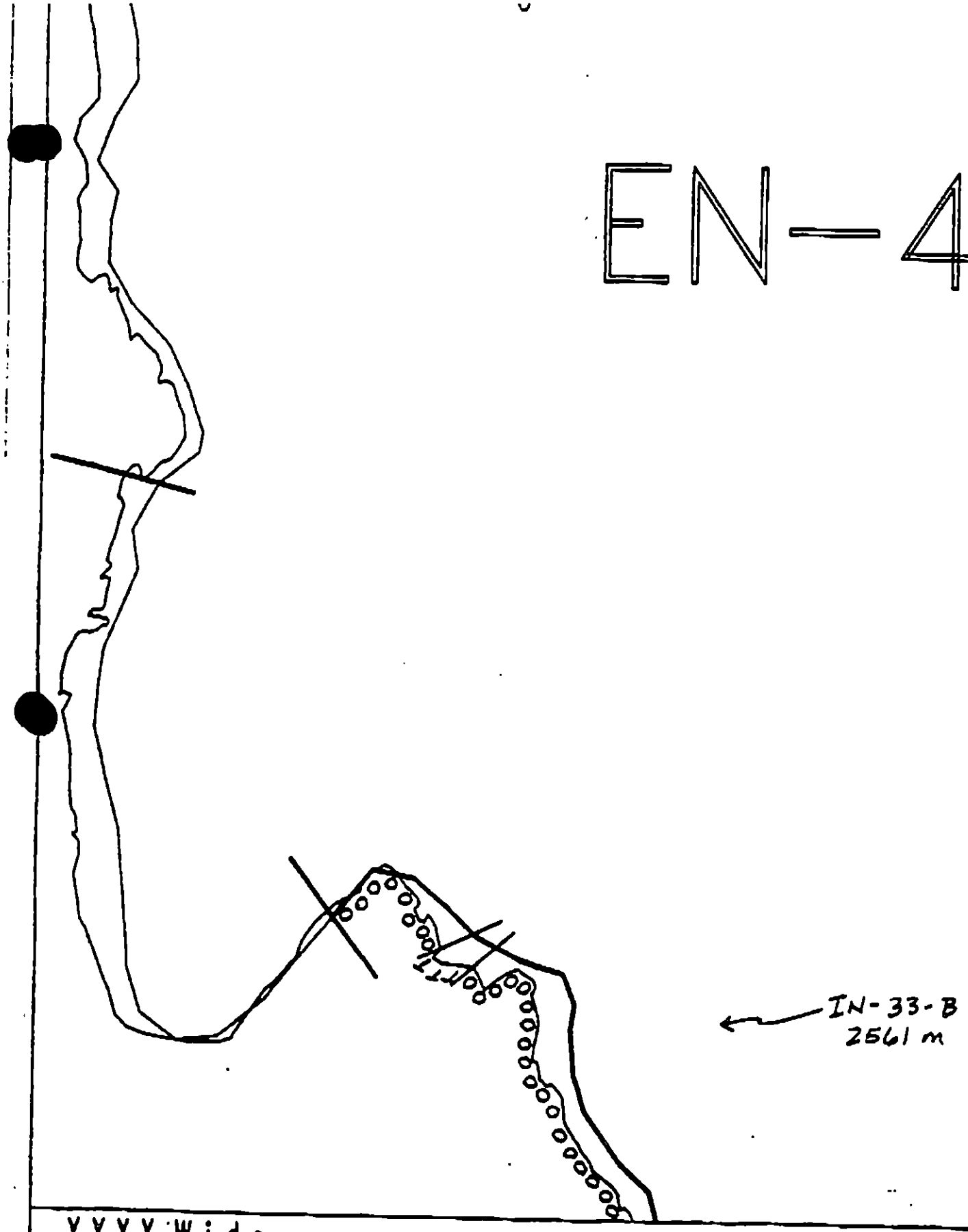
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

IN-33
EXXON SEGMENT LENGTH: 4261m
ABEC Segment Length: 3722m

0 100 200 300
METERS

Map Key: PWS-278b
Name: C. DILLON
Date: 4/22/90
Date Entered:

EN-4



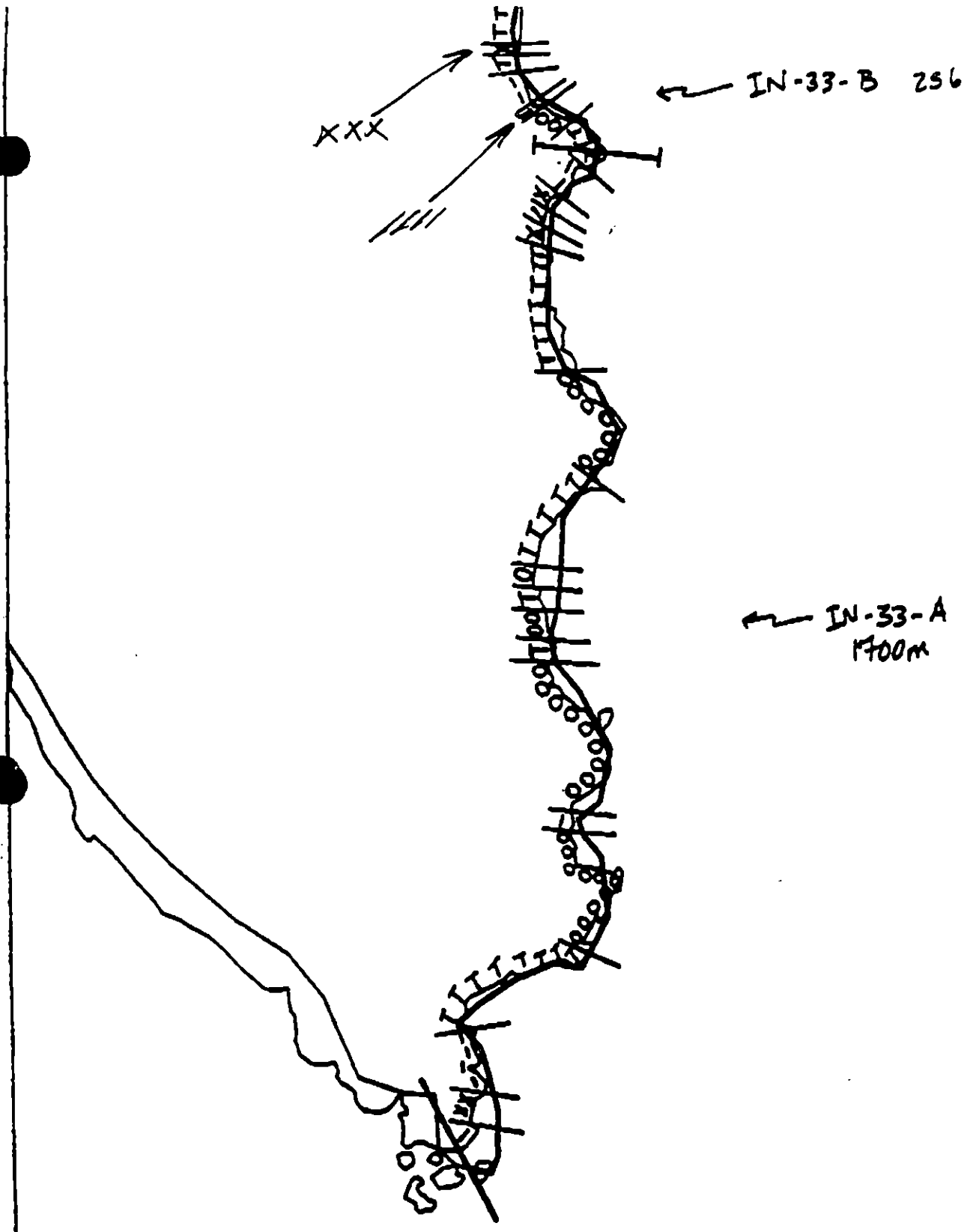
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

IN-33

EXXON Segment Length: 4261 m
ADEC Segment Length: 3722m

0 100 200 500
METERS

Map Key: PWS-278c
Name: C. DILLON
Date: 4/22/90
Date Entered:



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

IN-33

EXXON SEGMENT LENGTH: 4261 m
ADEC Segment Length: 3722m

0 100 200 300
METERS

Map Key: PWS-278a
Name: C. DILLON
Date: 4/22/90
Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT IN-33 SUBDIVISION B (2 of 2)

WORK WINDOW	
Manual Raking AND Bioremediation	WORK PRIOR TO 8/15

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

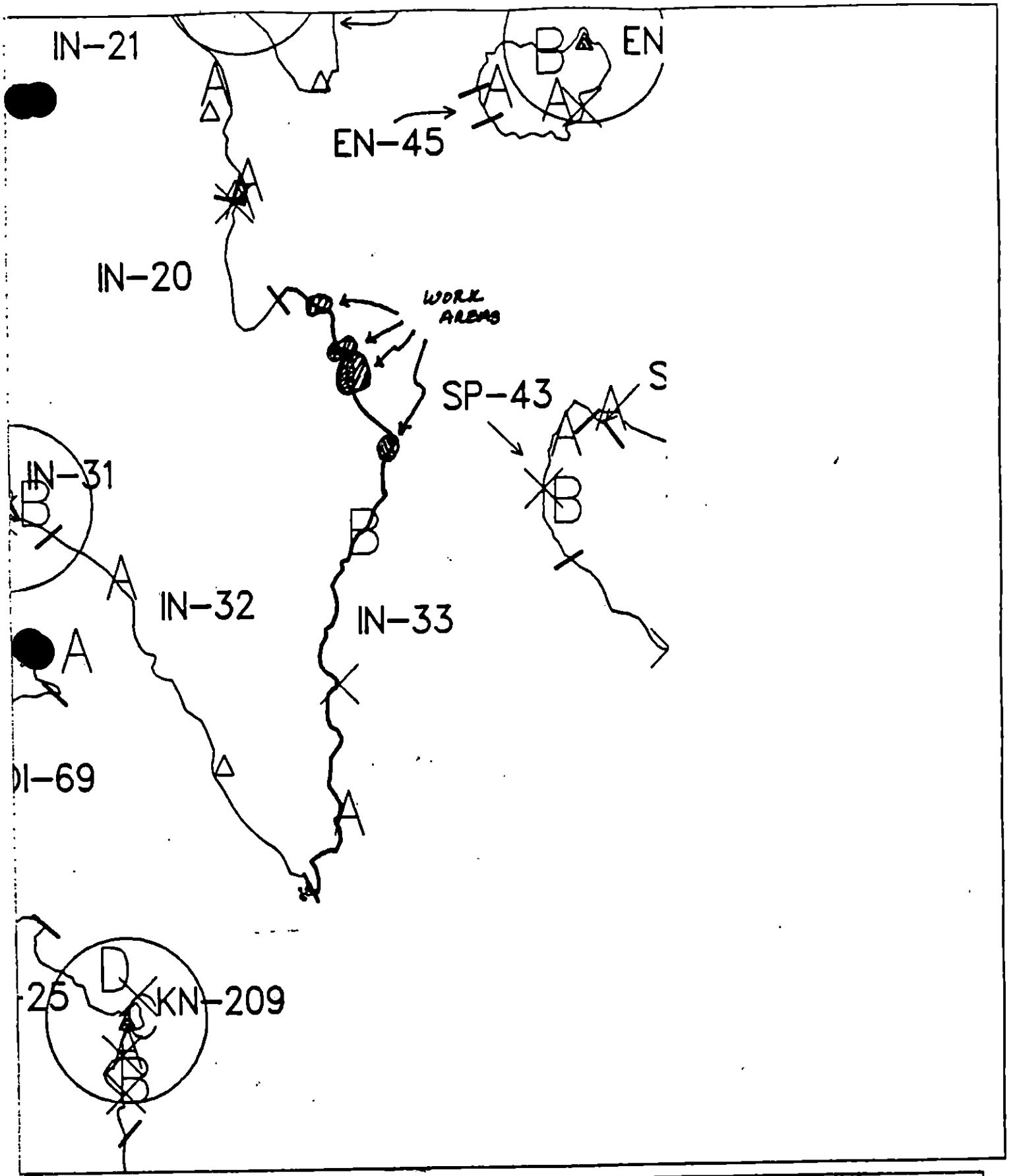
7II	**Subsistence: Deer Harvesting**	Closed to bioremediation and manual raking after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum. Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

FOSC _____ Date 6/18/90

Prepared by _____ Date 6/14/90



EXXON

Exxon Company, USA

Map Key: PHS-IN-33

ECOLOGY MAP

SEGMENT IN-33

SUBDIVISION B (2 of 2)

METERS

★ Seabird Colony

▲ Active Eagle Nest

△ Inactive Eagle Nest

1 inch = 2086 feet

SHORELINE EVALUATION

SEGMENT ST/ IN-34 SUBDIVISION A (1 OF 1) DATE 4/25/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

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

OILING CATEGORIZATION:

Wide 0 m: Medium 27 m: Narrow 29 m: V.Light 961 m: No Oil 1059 m
Subsurface Oil Observed: Yes X No Maximum Depth 60+ cm

RECOMMENDATIONS:

X 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: Monitors to reassess SUITE and logs when in the area

TAG APPROVAL DATE: May 5, 1990
ADEC Art Weiner Art Weiner
EXXON Mark N. Silbert Mark N. Silbert FOSC: _____ DATE: 5-9-90
NOAA Gary Petrae Gary Petrae
USCG G.A. Beiter G.A. Beiter

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 Suzomoto 424-7511

1I Gill net area (6/7 to 6/31)
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 unoiled 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, [redacted] Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403

5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Rothy 267-2208

✓ 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

7Z Subsistance area: Salmon harvesting (6/1 to 9/30)
7HH Finfish harvesting
7II Deer harvesting (8/15 to 2/28)
[redacted] 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 / IN-34 SUBDIVISION: A DATE 4/25/90

USCG
NAME William E. White SIGNATURE William E. White

NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

ADEC
NAME Peter Montagano SIGNATURE Peter J. Martin

NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS all subsurface oiling "OF." Area of Pits #6+7 is treatable but would involve pulling down a large berm with logs on it. Pit #6 is brown "OF" and pit #7 in the berm is lighter "OF"

LAND MANAGER USDA - Forest Service
NAME Don J. Breitinger SIGNATURE Don J. Breitinger

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

This segments serves as a recreation special use destination area for the period 6/1 - 9/15.

Natural weathering appears to be the best treatment method.

REVISION NO. 05/21/89

SHORELINE OILING SUMMARY

REVISION NO. 04/92

OG C. DILLON USCG PS1 E. WHITE SEGMENT ST/ IN-34
BIO J. BARRY LAND REP D. BRIGHTMAN (NES) SUBDIVISION A (1 OF 1)
EXXON G. STILES ADEC P MONTESANO TIME 07:15 to 10:00
TEAM NO. 6 TIDE LEVEL -2.25 ft DATE 04/25/90
EST. SUBDIVISION LENGTH: 2410 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock SUBDIVISION IS AN ISLAND
SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to E to N to W to S
SURFACE SEDIMENTS: R 80 % B 10 % C 5 % P 5 % G 0 % S 0 % M 0 % V 0
SLOPE: Lang 15 % Hang 55 % Vert 30 % WAVE EXPOSURE: ☐ Low ☒ Med ☒ High
OIL CATEGORY LENGTH: W 0 m M 20 m N 40 m VL 1080 m NO 1270 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	AC	AB	AP	AS						SW	W	M	U
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT		X	X	X		X				✓	X		
STAIN		X	X	X		X		X			X		
MOUSSE													
PATTIES													
TARBALLS				X		X					X		
FILM		X			X	X						X	
NO OIL	Snow on Sitz (Sketch 2)									S			X

PAVEMENT H F S — sq. m by — c

PATTIES (TARBALLS) 1 BAGS

NEAR SHORE SHEEN? NO BR RW (SL) TL

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

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐

TYPE unoiled trash, oiled paper

#BAGS 2

Photographs:

Roll No. NONE

Frames —

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SHEEN (Y/N)	▼	SURFACE SUBSURFAC SEDIMENTS
		OP	OR	OL	OF	MO		BC	UC						SW	W	M	U				
1	20					X	-		X							X				N	—	P-P/G
2	10		X				0-4		X				X			X				N	—	R/B/C-P/G
3	35					X	-		X							X				N	—	P-P
4	60					X	-		X						X					N	—	C/P-P/Ve
5	25				X		0-20		X					X		X				Y	20	B/C-C/F
6	40				X		0-35		X					X		X				N	—	C/P-P/Ve

COMMENTS

REVIEWED MH DATE 4-27-90

OG C. DILLON
TEAM 6

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04/13/90

SEGMENT ST/ IN-34 SUBDIVISION A (1 OF 1)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm-cm)	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	SHEEN (Y/N)	▼	SURFACE SUBSURFAC SEDIMENTS
		OP	OR	OL	OF	MD		SO	SC						SU	SI	MI	U				
7	25				X		0-10		X					X		X				N	-	C/P/Veg - P/V
8	60				X		30-60	X					X				X			Y	60	P-C/P/G/Veg/
9	80					X	-		X							X					N	-	P - P/G
10	40					X	-		X							X					N	-	C/P - P/G/C
11	40					X	-		X							X					N	-	C/P - P
							-															
							-															
							-															..
							-															..
							-															.
							-															
							-															
							-															
							-															

COMMENTS

REVIEWED YH DATE 4-27-90

SEGMENT IN-34

SUBDIVISION A

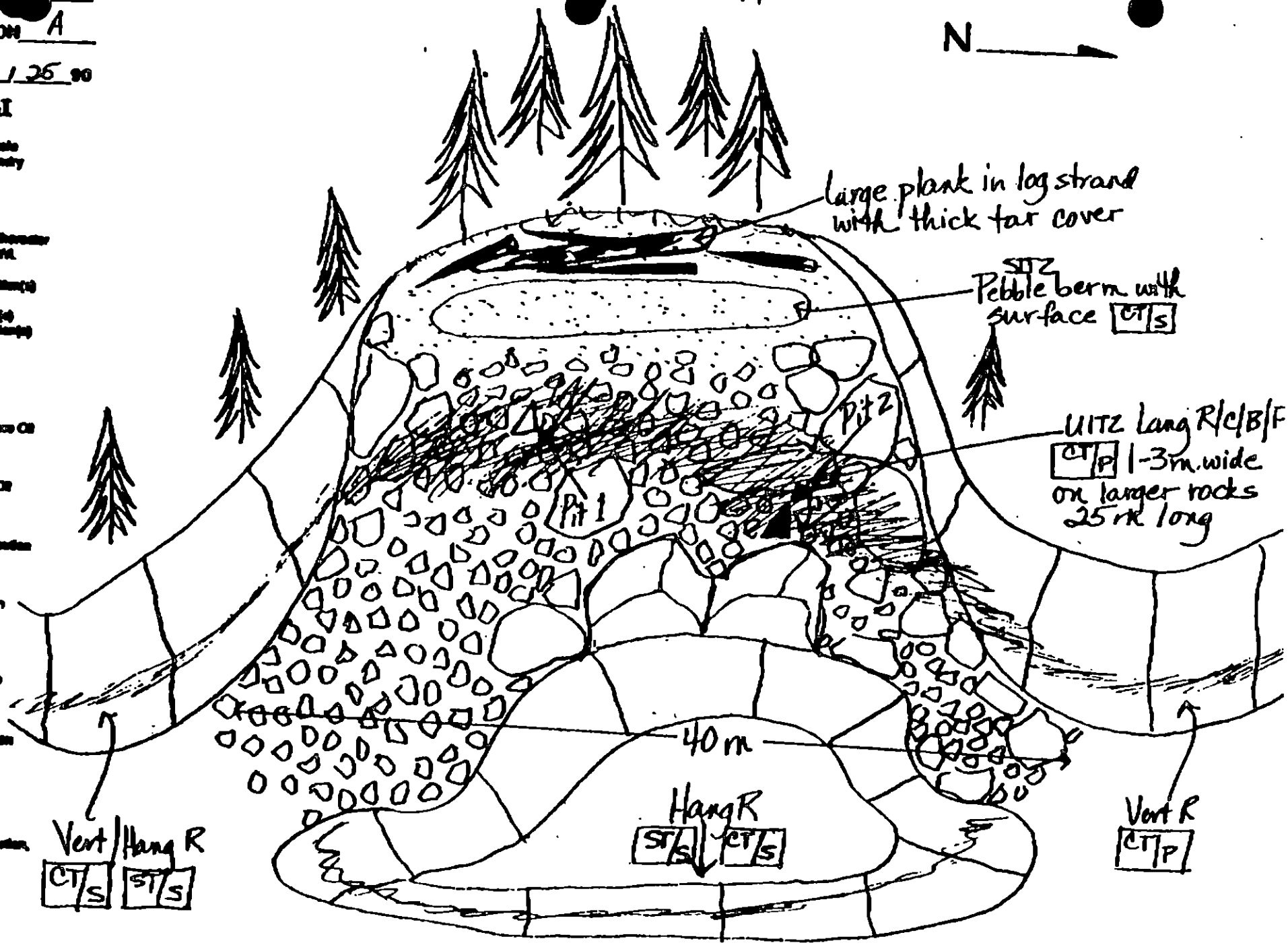
DATE 04/26/90

CHECKLIST

- N Arrow
- Approx. Scale
- Segment Boundary
- Oil Distribution
- Width
- Length
- % Cover
- Substrate Character
- Exposure
- Slope
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND

- Pit - No Subsurface Oil
- Pit - 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 0 PO 0 CV 0 CT 55 ST 5 MS 0 PT 0 TB 0 FL 0 NO 0 TOTAL LENGTH 60m

SEGMENT N-34

SUBDIVISION A

DATE 04/25/90

SKETCH MAP #2

N

CHECKLIST

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

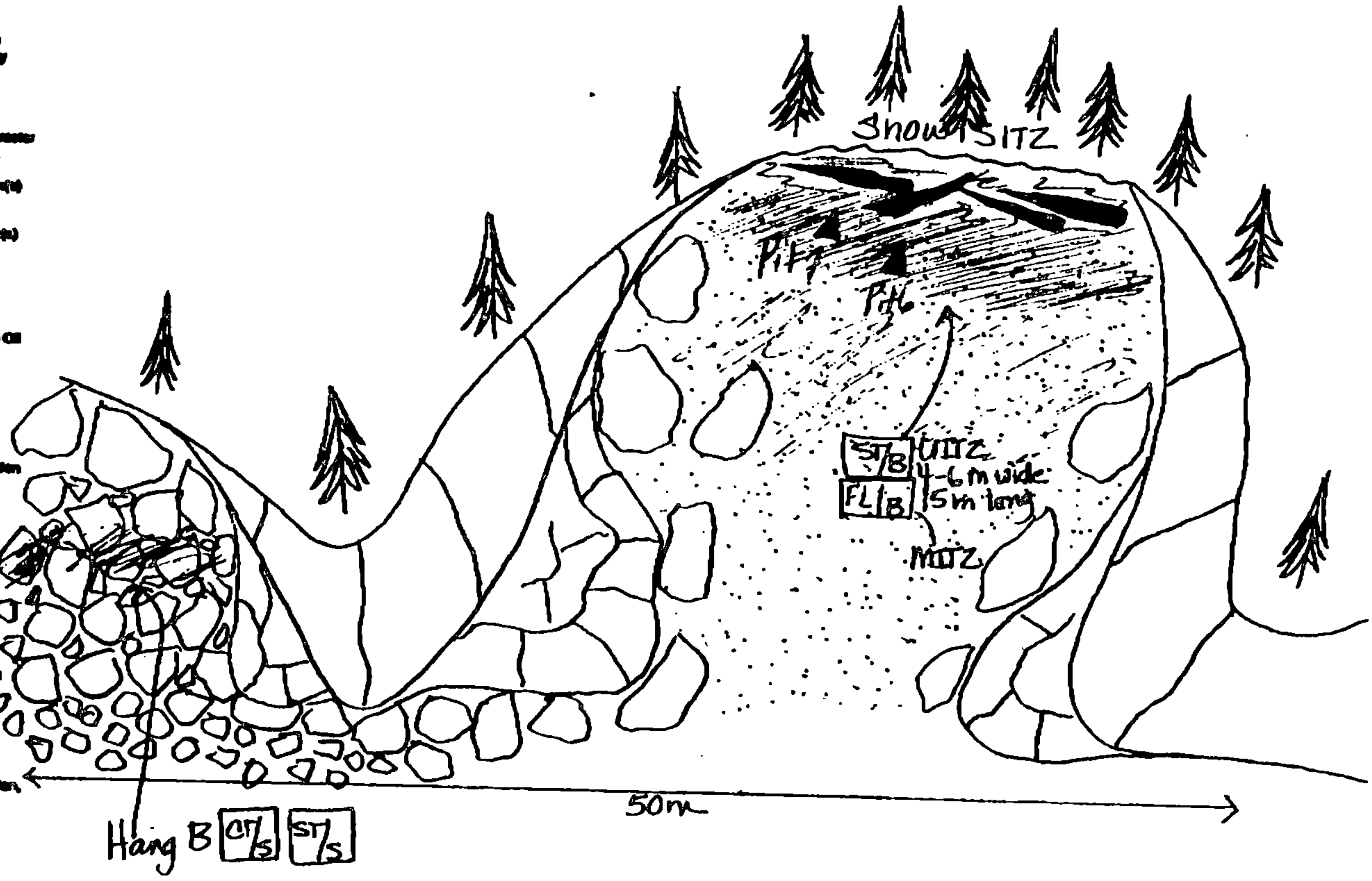
CT/B Broken Distribution

CT/P Patchy Distribution

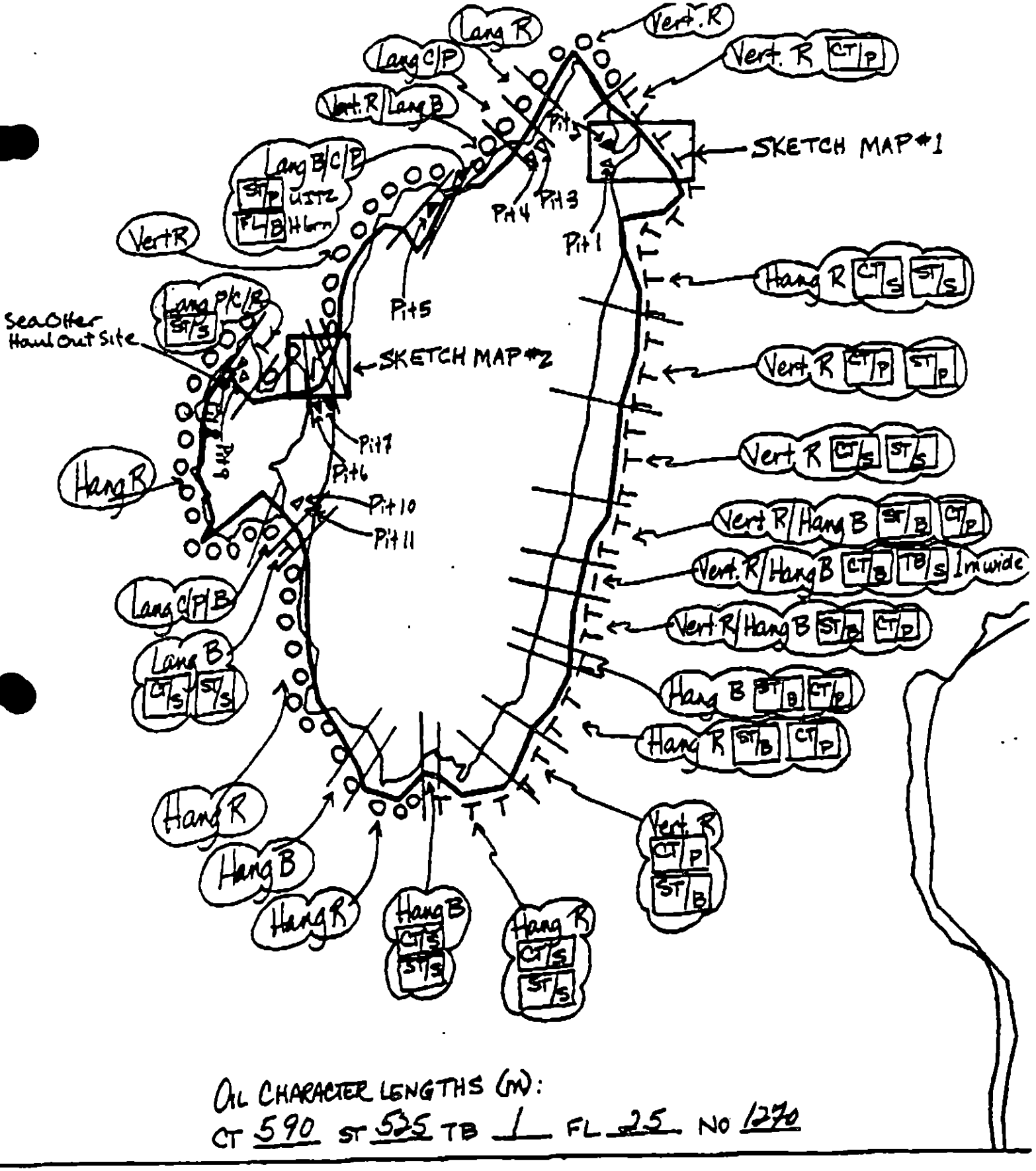
CT/S Splashed Distribution

eee Oiled Vegetation

1 → Photo location, direction, and number



Oil Character Length (m): AP 0 PO 0 CV 0 CT 0 ST 20 MS 0 PT 0 TB 0 FL 10 NO 30 TOTAL LENGTH = 50m



OIL CHARACTER LENGTHS (M):
CT 590 ST 525 TB 1 FL 25 NO 1270

Wide
Medium
Narrow
Very Light
No Oil

IN-34

EXXON SEGMENT LENGTH: 2410m
ADEC Segment Length: 2078m

0 100 200 300
METERS

Map Key: PWS-279
Name: C. DILLON
Date: 4/25/90
Date Entered:

SHORELINE ECOLOGICAL SUMMARY

REVISION: 6/2/89

Segment ST / 1N34 Subdivision A Date (mo / day / yr) 4/29/90

Time (24 hr) 0730-1008 Biologist JIM BARRY Length = 2410 1/8

(A) Substrate type and % of segments:
(1) Bedrock 80 (2) Boulder 10 (3) Cobble 5 (4) Pebble 5 (5) Sand 0 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 60 Moderate 30 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. ST-6-7
Frames 3

BARNACLES

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

FUCUS

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

BALD EAGLE - 5 MARPS - 2 WHITE WINGED SCOTER - 1 SEAL - 1
RAVEN - 2 Herring Gull - 5
CROW - 10 Pelagic Cormorant - 3
OTTER HAUL OUT SITE - 1

Ecological Considerations:

5T - EAGLE NEST - LOCATED ON ISLAND - 2 EACH

4 - SPECIAL USE DESTINATION

IN34A INGOT ISLAND APRIL 25 1990 2/8

TIME 0715 → 1000

TIDE −3.3 → +6

I General Comments

IN34 is a small island ~ 1/4 mi N of Ingot Island. The outer coast of the segment is exposed to moderate to large waves and the inner coast has a moderate to low exposure.

A. Habitat types

1) Vertical Bedrock & High angle Bedrock & Boulder shores. Most of the segment fits this category. Biota generally are dense, especially in the middle to low tidal zones when algae are abundant. Fucus is mostly moderate in the middle & low zone. Ulva and several species of filamentous algae are moderate to dense in the middle shore, particularly on the protected side of the island. In the low zone Odonthalia, Ptilota, and finely branched red algae (polysiphonous ceramiales?) are dense. The extreme low tidal zone and subtidal are covered by Costaria, Laminaria, and Agarum. Alaria is abundant on the exposed side of the island.

The fauna are typical of a moderately exposed shore. Mytilus adult is highly patchy, with moderate coverage in several slightly protected sites, and so sparse overall. Spats are present throughout the intertidal on most substrata in sparse densities. Littorines, limpets, and chitons are moderate to sparse, but have a high diversity. Barnacles often are dense in the upper zones, and on exposed shores, Semibalanus cariosus, the large acorn barnacle, is dense. Species diversity is quite high on the island, and related to the variable microhabitat types associated with the ~~ma~~ changing wave exposure.

2) Cobble and Cobble/Pebble beaches.

Several small beaches are present on the segment. On the exposed side of the island, the cobbles and pebbles are more rounded by wave action and biota are more restricted to areas with larger cobble and boulders. ~~Gastr~~. Littorine snails are dense on large cobble in ~~sea~~ beaches throughout the island. Mytilus adults are absent from most beaches, except for outcrops of boulder or bedrock where they can occasionally be moderate to dense. Spat and small juveniles are sparse ~~to~~ on all but small cobble and pebbles. Barnacles are sparse to dense, depending on the size of the cobble. Algae are abundant only in the middle and low zones on ~~sea~~ beaches. Small cobble and pebble are clean, except for a sparse cover of diatoms or filamentous algae. On exposed shores, cobble is nearly clean even in the ~~sub~~ subtidal zone. Protected shores have a thicker cover of filamentous algae and diatoms.

B. Oil Related Comments.

1) Oil cover is mostly restricted to upper & supratidal zones and is light to very light. The only apparent effect of oil is the coat found in some sections on the upper zone barnacle population. Coverage occurs over only a small part of the barnacle population and mortality, ~~&~~ estimated from the percentage of empty shells ~~is~~ is variable. Sites with oil have from 30 TO 80 % dead (averaging ~ 50%), while adjacent areas without a coat of oil average ~ 10%. Lower zones show little evidence of oil. Spat are present on oil stains, and rarely on weathered coats of oil.

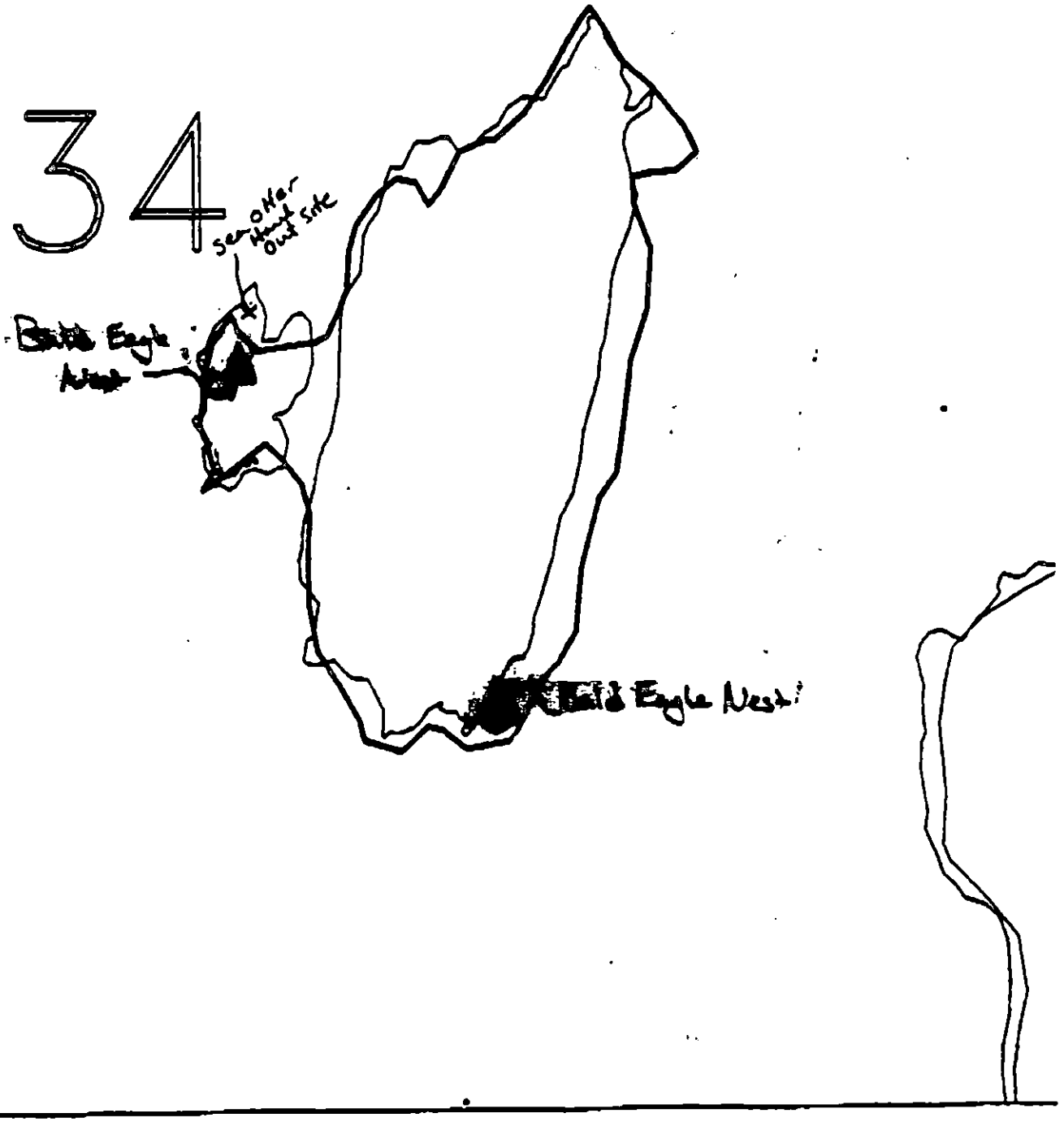
2) Cleanup operations will probably not affect local ecological sensitivities. However, 2 eagle nests are located on the island, and a sea otter haul-site occurs on the island. (See map)

APRIL 25 1990

[redacted] Resource Codes For Entire Segment
5T-2
64

8/8

IN-34



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

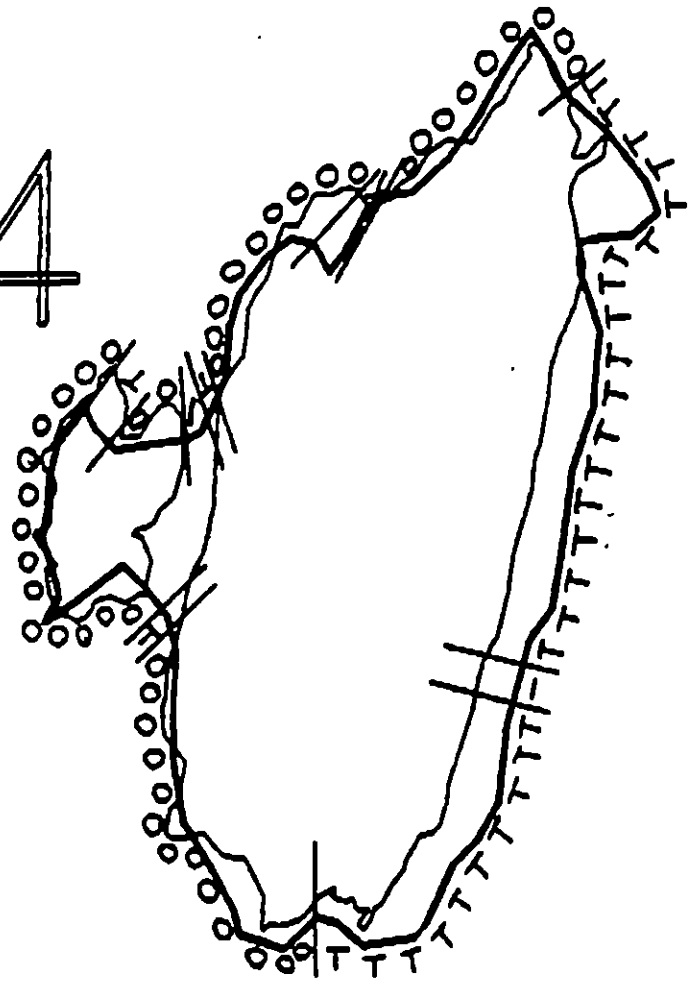
IN-34

ADEC Segment Length: 2078m

0 100 200 300
METERS

Map Key: PWS-279
Name:
Date:
Data Entered:

N-34



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

IN-34-A

EXXON SEGMENT LENGTH: 2410m
ADEC Segment Length: 2078m.

0 100 200 300
METERS

Map Key: PWS-279
Name: C. DILLON
Date: 4/25/90
Date Entered: