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EXXON VALDEZ OIL SPILL
PRINCE WILLIAM SOUND ZONE

A CHRONOLOGY OF OIL SPILL RELATED ACTIVITIES
AT ANADROMOUS STREAM NUMBER
226-10-16996

BEACH SEGMENT KN 500B

ALASKA DEPARTMENT OF FISH AND GAME
HABITAT DIVISION

ACE 1370177



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ALASKA DEPARTMENT OF FISH AND GAME
HABITAT DIVISION

1989 & 1990

Alaska Department of Fish and Game
333 Raspberry Road
Anchorage, Alaska 99518
November, 1990

ACE 7468814 H/F/PC/HF

INTRODUCTION

The purpose of this document is to provide state attorneys and Alaska Department of Fish and Game (ADF&G) staff personnel with a ready reference source for one of the more severely oiled streams in Prince William Sound. The information available in ADF&G files is presented in chronological order beginning with the earliest records and ending at the conclusion of 1990 field activities. It is important to realize that this report does not necessarily represent a summary of all information available.

This unnamed stream was uncataloged before 1989. As a result of the Exxon Valdez oil spill activity and investigations, this stream was nominated and designated anadromous for the 1990 catalog (ASC #226-10-16996). It is located southwest of Herring Point on the northwest corner of Knight Island.

Historical data relative to salmon production is unknown at this time. It is doubtful, but possible, that occasional early observations are on record. Our records reflect six spawning pink salmon and approximately 20 carcasses on September 9, 1989. In 1990, seven aerial surveys were conducted. No fish were observed on four occasions, fish milling offshore were observed twice, and 30 pink salmon were seen just off the stream once. Due to the known "straying" inclination of pink salmon, plus variances between even and odd year cycles (and within cycle years), it is not possible to say much about salmon production other than it is probably minor. Nevertheless, the stream ranks high in oil impact, both in terms of surface coverage and subsurface penetration. Another aspect of this area is that it was essentially "missed" in 1989. Documentation for oil impact assessment of the shoreline area did not occur until the Alaska Department of Environmental Conservation Walk-A-Thon on 9/26/89. The first comprehensive survey of the stream did not occur until the Anad Scat visit on April 24, 1990. Consequently, there was no cleanup activity in this area until 1990. This was not unusual, in that there was more than enough work in other more obvious areas in 1989, and numerous "pockets" such as this were not "discovered" and attended to until the 1990 summer season. This also accounted in part for some of the problems associated with getting some of these numerous "new" areas adequately cleaned from the State of Alaska perspective, especially in association with deep subsurface oil penetration.

Cleanup of this stream was not completed in 1990, and it is scheduled for reassessment in the spring of 1991.

SOURCES OF INFORMATION

ADEC: Post-Treatment Survey Report, Anad Scat (Anadromous Stream Cleanup Assessment Team), Field Shoreline Comment Sheet, Daily Shoreline Assessment, ASAP Follow-up Recommendations, Bioremediation Daily Report.

ADF&G: Winter Stream Survey Form, Multi-Assessment Form, Daily Reports, Work Plan Modification Recommendation.

Exxon: Operations Field Notes, Shoreline Oiling Summary, O.G./Operations Bioremediation Application Report, BAT Team Reports.

Anadromous Fish Stream Assessment - TAG plus associated forms and maps from cooperating agencies, Work Plan Addendum.

ATTACHMENTS

1. General map of Knight Island.
2. Specific site map of KN 500A&B.
3. Detailed map outlining oiled areas and oil types.
4. Detailed map describing five sites for bioremediation.
5. Log of ADF&G oil sediment samples.
6. Log of ADF&G videotapes.

STREAM SUMMARY REPORT

CHRONOLOGY OF EVENTS

KN 500B

ASC# 226-10-16996

- 9/6/89 Trip report by Michael East, ADF&G monitor. The first segment the RAT team stopped at was KN 500, which is located on the west side of Herring Point. This segment contains a heavily oiled pocket beach. We discovered a small uncatalogued anadromous fish stream on this beach and observed six spawning pink salmon and approximately 20 carcasses. I documented these conditions on video #V-89ME002-V.
- 9/26/89 ADEC Walk-A-Thon survey of entire KN-500 segment. Oiling characterization ranged from VL to H. Oil thickness rated at 4mm, and penetration at 20 cm. Segment categorized at 100% oiled.
- 1/2/90 Winter survey via helicopter by ADF&G monitor Tom Crowe. Observed sheen off the coast of this bay. The stream is very heavily oiled.
- 1/4/90 A reconnaissance trip was made by an ADF&G and ADNR observer. (Tom Crowe and Mathews). Snow cover was extensive, but video filming was obtained of oiling adjacent to the stream in the intertidal zone.
- 4/12/90 Stream survey field trip (pre-anad scat) by Rick Gustin aboard helicopter N5799Z. Anadromous stream #226-10-16996 in KN 500B was recorded as heavily oiled with all types of oil present (mousse, tar, asphalt, sticky, stain) except pooled. Oil was also noted as being present in the streambed and on stream banks.
- 4/24/90 ANAD SCAT survey conducted. Basically, this anadromous stream area was heavily oiled over extensive areas of the UITZ, MITZ, and LITZ to either side of the stream, but most extensively to the north side of the stream (see accompanying map). Sample pits in the MITZ indicated significant quantity and penetration of subsurface oil, in excess of 30 cm.
- At the time of the 4/24/90 field survey, the City of Whittier had a crew of 12 people working on manual cleanup of this area.
- 5/7/90 STAG receipt and review of field data and comments of ANAD SCAT team (4/24/90). Also accompanied by Exxon cleanup evaluation and recommendation sheet for submittal to TAG. Several comments were noted in the STAG review:

- 1) unacceptable work plan;
- 2) OR should be classified OP on OG shoreline summary sheet;
- 3) original field sketch

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was altered to remove site specific notations for removal and treatment. Presumably, this resulted in the additional reference (hand written) for manual tilling adjacent to and within the streambed under TAG comments on the Work Order.

5/15/90 Work Order signed by FOSC. Cleanup recommendations and comments as follows:

Subsurface Oil Observed: Yes X No Maximum Depth 30+cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of tarmats, 2) manual pickup of mousse patties and oiled debris, 3) manual tilling of area with subsurface oil, and 4) bioremediation of areas shown on attached sketch map. Work should be conducted between 6/1 and 7/10 based on salmon constraints with approval of ADF&G regarding tilling and bioremediation of stream banks.

TAG COMMENTS: Manual tilling, raking adjacent to and within the stream bed as indicated on the sketch.

6/12/90 Anadromous Fish Stream Evaluation Addendum KN-500B. Constraints for stream #226-10-16996 (partial listing as pertains to salmon steam only).

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A, 1B Salmon Stream: ADF&G catalogued anadromous stream (226-10-16996) is in Subdivision B. This subdivision is closed to bioremediation, manual tilling, and manual raking less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation, manual tilling, and manual raking are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation, manual tilling, and manual raking more than 100m from stream. No constraint to manual pickup and tarmat removal.

7/5/90 ADEC Daily Shoreline Assessment, Wes Ghormley; other representatives: Rey Satelo, Exxon - Scott Thomas, USCG - Doug Stine, USFWS. Anadromous steam #226-10-16992 in

this sector. Inspection trip - four workers using shovels to remove AP.

Comments - (Ghormley):

"There is a tremendous amount of black, pooled, liquid mobile oil present subsurface. A work modification will be made out."

OBSERVATIONS: (Ghormley)

1. Tarmats removed, area filled with black mobile pooled oil.
2. Two oiled snare booms were removed, along with a large bag of trash.
3. Area has a tremendous amount of black pooled oil subsurface. Oil lens is approximately 15cm.
4. Area needs to be mechanically ripped and oil brought to surface to be picked up.
5. Area is very feasible to use a rock washer and dredge, there is a tremendous amount of heavy, mobile oil present subsurface.

7/6/90

Field report by Rick Gustin, ADF&G monitor:

Work began here on July 6 with the crew of the Buella Candies with Rey Satello (Exxon), Scott Thomas (USCG), Wes Ghormley (ADEC), Tommy Smith (OOPS), and myself. Areas on the north side of 500B had large tarmats with oil penetrating 25 to 30 cm deep. As the crews tilled these areas they were hitting a band of heavy OR and OP at a depth of 6 to 8 inches. This band was anywhere from 3 to 10 inches thick. It became apparent that the tide was coming in so fast that they would not get the chance to remove any of the sediments, so we agreed that when the cat arrived, we would skim off the heavy OR and OP at that time. The crews worked ahead of the rising tide and snare boom was deployed. Heavy sheening was observed.

7/7/90

Field Report by Rick Gustin, ADF&G monitor:

When I arrived on July 7, the bulldozer had already been tilling for an hour or so. The heavy OR and OP sediments being turned up were not being removed however. Larry Fletcher of the USCG had instructed the Exxon rep to leave them. He had stated many times in the past that he does not believe in manual removal of oiled sediments and exercised his power here by stating that the sediments here were not heavy OR or OP. Now that they have been

washed by 4 or 5 tides, the heavy OR and OP has been spread over the entire beach and is not practically recoverable. Later in the day, after Larry Fletcher left, his monitor Scott Thomas refused to allow the entire oiled area to be tilled saying he thought we were tearing the beach up too much. Since the cleaning of this salmon stream was being hindered so much by the USCG we had no other alternative but to bump it up to TAG for a decision. The areas tilled with the bulldozer were customblen'd and tilled again to get the fertilizer deeper into the ground.

7/7/90 Field report by Tom Crowe, ADF&G monitor (partial extract).

When we arrived only a small part of oiled area had been tilled. Rick asked Rey Sotelo (Exxon squad leader) why they were not tilling the rest of the beach. To our surprise Rey told us that they were getting ready to demobe. We approached Scott Thomas (USCG rep) to find out why he had stopped the tilling. His answer was that his orders were not to "tear up the beach". We asked him how he thought that tilling was tearing up the beach. His reply was that he did not want to talk further with us and if we had a concern we would have to talk to the DEC monitor Wes Ghormley. After talking to Wes we managed to get Scott Thomas to agree to tilling more of the beach. A large part of the beach that would have benefitted from tilling did not receive it because Scott Thomas did not feel that the oiling was severe enough, even though this determination had already been decided by the TAG and the work order was specific to the extent of the oiling.

After talking to the tractor operator I discovered that Bill Stillings (Exxon rep) had walked him through the beach and told him to rake the entire area covered by the work order. Rey Sotelo was also willing to comply with our wishes to use the tiller where applicable. The only hold up to completing any meaningful work was the USCG monitor who stopped it.

7/7/90 ADEC Demobilization Report For Physical/Mechanical Treatment and Customblen. Report by ADEC monitor Wesley Ghormley.

1. Has work been completed as stated on the work order? If your answer is no please explain in detail how the work performed was different from the work order language.

Answer: Yes

2. Is there additional oil remaining which can be removed with further physical/mechanical treatment? If yes what is the recommended treatment method?

Answer: There was a tremendous amount of subsurface oil present that was not discovered during shoreline surveys. Area is 30X40m and consisted of OR and OP sediments. Area was manually tilled and heavy saturated sediments removed. Customblen was applied. Reassessment in future is necessary. If no improvement more manual removal recommended.

SPECIAL USE AREA: Heavy cover with spruce needles on bedrock on north side of stream. Use Landa unit to remove or scrape off manually.

3. Describe the amount of oil remaining (type, size of area and location).

Answer: North side of stream 30x40m area of OR sediments. Subsurface oil was 25cm deep but has been brought to the surface by manually tilling.

North side of stream heavy cover in bedrocks. Oil is mixed with spruce needles and is one inch thick in some areas.

Additional comments (keep objective): No manual tilling was recommended by TAG. However, a tremendous amount of subsurface oil was discovered on the north side of stream scheduled for bioremediation. An agreement was reached on site to manually till area and manually pick up heavy OR and OP. Exxon, Satelo was very cooperative in reaching an agreement with me and Rick Gustin, ADF&G. Area was Customblen'd but needs reassessment in the future.

7/8/90 Work Plan Modification Recommendation

KN500B

ASC# 226-10-18996

1. REASON FOR MODIFICATION (ADEC AND ADF&G)

Tilling of this anadromous stream site was incomplete during the time of treatment. Further treatment will be beneficial to removing and degradation oiled sediments from this salmon spawning area.

Comments: USCG

Further treatment not necessary. Snare boom should be replaced as necessary until sheening subsides.

2. SUGGESTED ADJUSTMENT TO WORK PLAN (ADEC AND ADF&G)

Mechanically till and customblen remaining untreated areas to aerate and expose buried oiled sediments.

COMMENTS: USCG

The remaining untreated areas are substantially unoiled, therefore tilling is not necessary.

3. TIMING ISSUES

July 10, 1990 salmon spawning restriction. (It is likely that salmon will not move into this area until late July or early August according to ADF&G observations last summer.)

7/10/90 Field Report - Rick Gustin, ADF&G monitor.

Tag met here at KN500B today to discuss further mechanical tilling of the beach on either side of the steam. TAG consisted of Gary Reiter (USCG), Andy Teal (Exxon), Tom Rielly (USCG), John Morrison (ADF&G), Larry Fletcher (USCG), and Burl Wescott (NOAA). After looking the beach over, everyone except Gary Reiter (USCG) suggested doing more tilling.

7/11/90 Work Plan Addendum, KN500B

Reapplication of bioremediation recommended for the area with remaining oil as indicated on attached sketch. ADF&G has approved Inipol application for the entire beach area prior to salmon spawning (permit required). In preparation for the Inipol application, mechanically till the entire area where application is to occur. During tilling, reapply Customblen. Locate snare boom on the beach to recover any free oil. (See attached sketch)

7/20/90 BAT Team 2/Arctic Salvor (5 sites)

Site 1 - Customblen and Inipol treatment. Customblen applied during morning low tide, tilled mechanically, and Inipol applied during evening low tide. 310 gallons Inipol over 3,926 square meters. 176 pounds Customblen over 425 square meters.

Site 2 - 3 pounds Customblen over 80 square meters.

Site 3 - 304 gallons Inipol over 3,850 square meters, 144 pounds Customblen over 3,850 square meters.

Site 4 - 31 pounds Customblen over 150 square meters.

Site 5 - 29 gallons Inipol over 360 square meters, 14 pounds Customblen over 360 square meters.

7/20/90 ADF&G Survey - Aimee Weseman and Doug Hill

0940 hours - Aimee, Dave Kenagy (ADNR) and Doug Hill depart M/V Corinthian on the M/V Malibu.

1020 hours - Arrive KN-500B. On the beach we met Vince Mulligan (USCG), Glenn Hatmen (OG), Tony Diaz (Exxon) and Chuck Swarta (Exxon). The beach on either side of the stream was being mechanically tilled with a small cat. A ripper with tines about 16" long was being dragged by the cat. The ripper penetrated only about 6-8 inches and the oil is often found at greater depths than this. Customblen was applied prior to tilling. On the south bank of the stream I observed heavy OR and light OP at depths below what was being tilled. We pointed this out to Tony Diaz. Tony had the cat till this area even though the ripper would not reach to the depths of this oil deposit. After tilling we found the heaviest oil concentration below what had been tilled. As the tide rose we observed globs of oil on the water surface. The crew snare boomed the banks of the stream at Aimee's request.

1359 hours - High tide. Significant amounts of sheen in stream channel. We spent about an hour and one-half sopping the sheen and oil globs from the stream channel--using pom poms. Inipol was kept 15' from the stream bank. The OG calculated that 295 gallons of Inipol were necessary for the north beach. Upon completion of the north beach the 300 gallon Inipol tank level had dropped only 10". However, the OG told me that over a period of time the amount of Inipol applied comes within a 10% margin of what he calculates. He had no answer as to what that period of time is. No flow meters exist in this operation. Chuck Buffington (VECO) told me that the dipstick used to measure the 300 gallon tank is barely readable. Chuck also told me that when Al Snook (Exxon) was in charge of this crew they were always rushed. Chuck says, proper decon procedures were not followed and they even applied the stuff in 50 knot winds---much of the stuff ended up in the bushes. Even today with this light 10 knot breeze alot of misting and horizontal flow is occurring.

8/8/90 ASAP Survey (Site 1)

DEC - Continue to assess effectiveness of mechanical tilling of oiled sediments and recovery of heavily oiled sediment layers. No further treatment at this time although retilling will be considered for 1991. Stream has OR/M-H along lower banks. Reassess in 1991.

Exxon - Area still has a lot of SOR on surface. Should be assessed in 1991.

Coast Guard - Majority of segment is heavy SOR to OP surface.

Land Manager - Reassess in 1991.

8/8/90 ASAP Follow-up Recommendations (Site 4)

DEC - 1) Mechanical till; 2) remove mousse OP sediments; 3) deploy snare booms if necessary; 4) wash if necessary; 5) retill if necessary; 6) Bioremediate.

Exxon - No action needed - winter storms will get remaining oil - subsurface oil is deep and no threat.

Coast Guard - No action required.

Land Manager - No follow-up required.

8/15/90 ADF&G Survey (Crowe, Gustin) oil in streambed, oil on streambanks, oil within 50m of mouth. Both sides of stream have extensive areas of oiling. The north side has pockets of heavy-moderate OR in the mid to upper ITZ near cliffs. The upper ITZ on the north side has remnants of a large tarmat. Oiling persists into stream channel approximately 20 feet down from point where stream channel cuts the berm. The south side has large areas of moderate to light OR stretching from the upper ITZ to the upper one-fourth of the LITZ. Further tilling might aid breakdown of oil. No fish present.

8/24/90 BAT Team 1 Report KN 500 BS + B

Site 1 - 635 pounds Custom, 66m x 48m x 100% = 3,170 sq. meters.

Site 2 - 475 pounds Custom, 44m x 54m x 100% = 2,380 sq. meters.

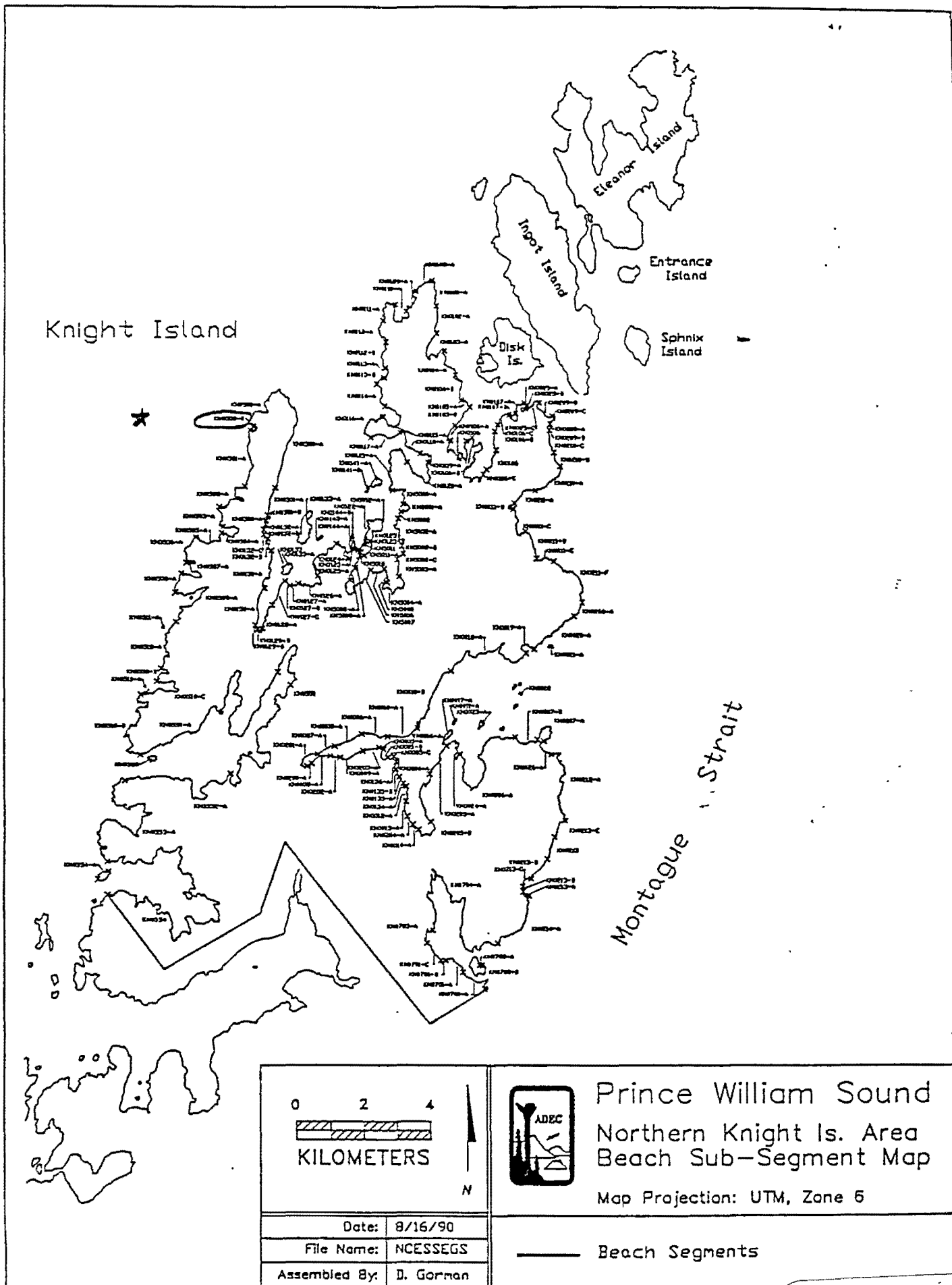
9/11/90 ADEC Bioremediation Daily Report

2 sites (KN 500B) 568 pounds Custom

Site 1 - 325 pounds Custom, 66m x 48m x 50% = 1,584 sq.
meters = 3rd treatment.

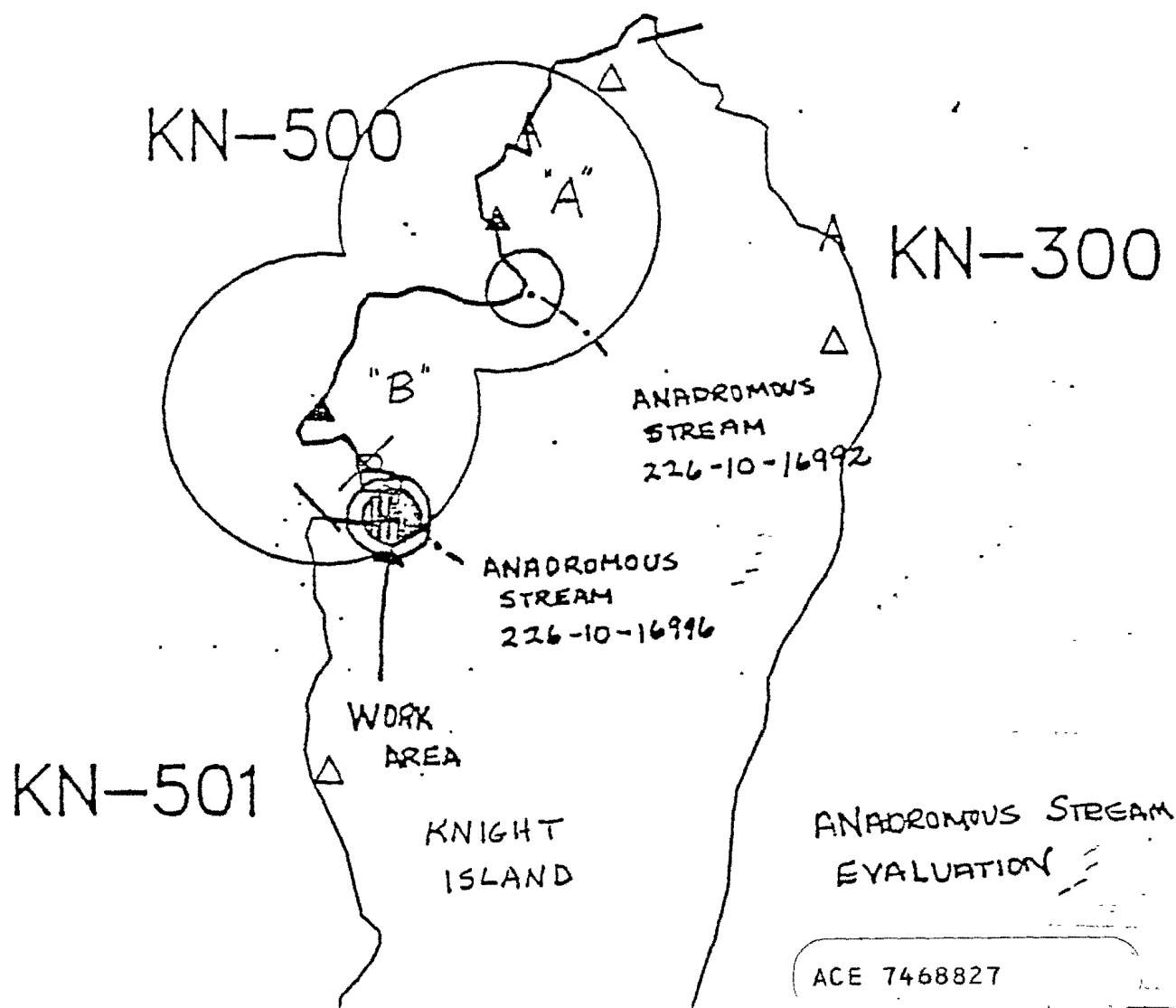
Site 2 - 243 pounds Custom, 44m x 54m x 50% = 1,188 sq.
meters = 3rd treatment.

11/90 KN 500B and ASC #226-10-16996 recommended for
reassessment in 1991.



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HERRING BAY



Exxon Company, USA
Map Key: PWS-KH-500
June 09, 1990



ECOLOGY MAP
SEGMENT KN-500
SUBDIVISION B (1 of 2)
METERS
0 152 303

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

1 inch = 1482 feet

STREAM 226-10-16976

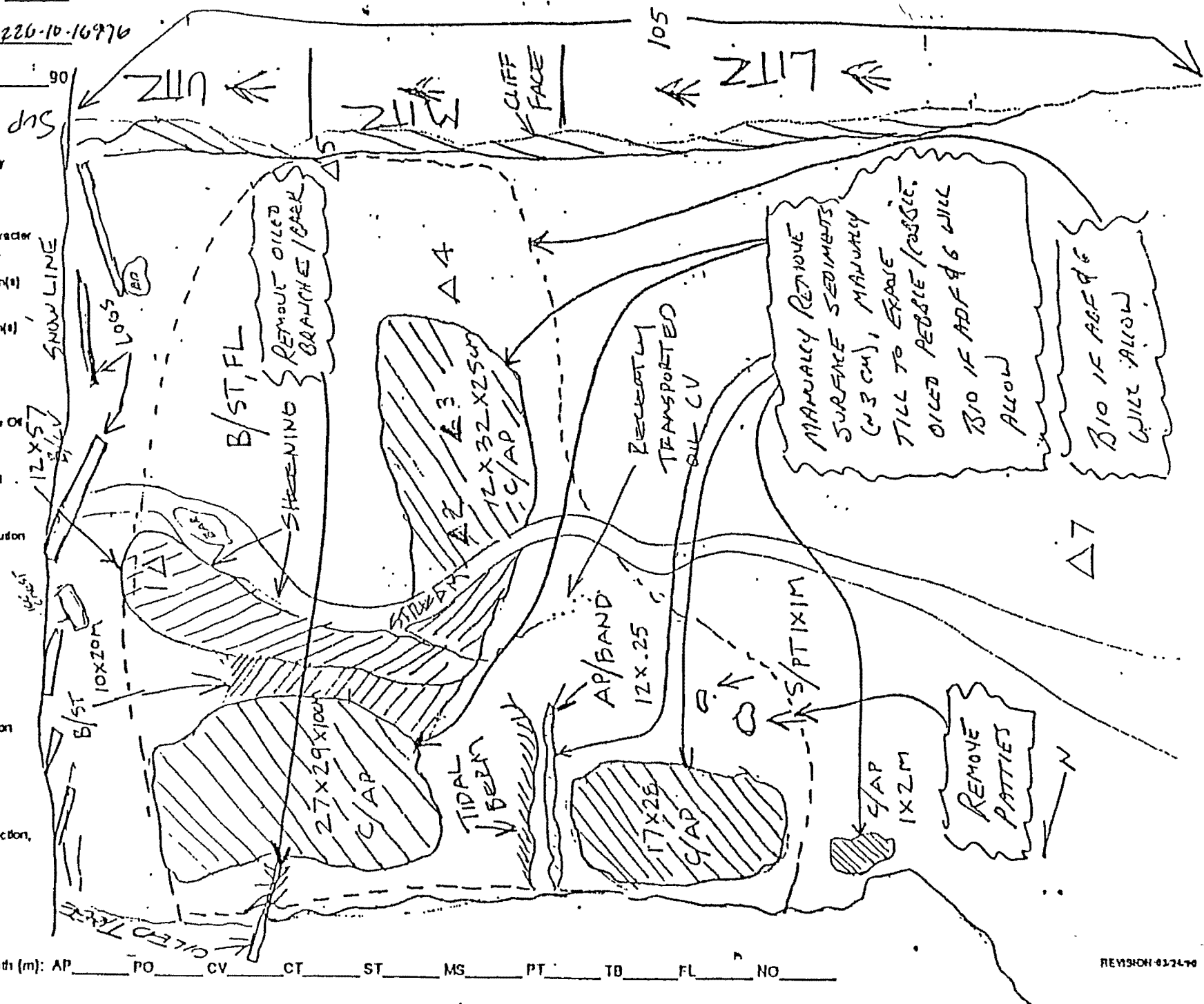
DATE 1/90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seq/Sub Bdry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. H/W/L
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pht Location(s)
- ☐ Photo Location(s)

LEGEND

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



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

00 06 HEYMANSEGMENT STIKN-500SUBDIVISION BDATE 7 120/90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Div
- ☐ Oil Dist
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. Time/Lvl
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PI Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
PI - No Subsurface Oil2 Δ
PI - Subsurface OilCT/C
Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

(CCCC)
Oiled Vegetation1 Δ
Photo location, direction,
and number

LEGEND

X INIPOL/CUSTOMBLEN BOUNDARY,
CUSTOMBLEN ALSO APPLIED TO
EDGE OF STREAM BANK AT
ADFIG REQUEST.

• CUSTOMBLEN ONLY BOUNDARY

--- CONTINUOUS SURFACE OIL
COVER

~~~~~ SNARE BOOM

[ ] SAUSAGE BOOM

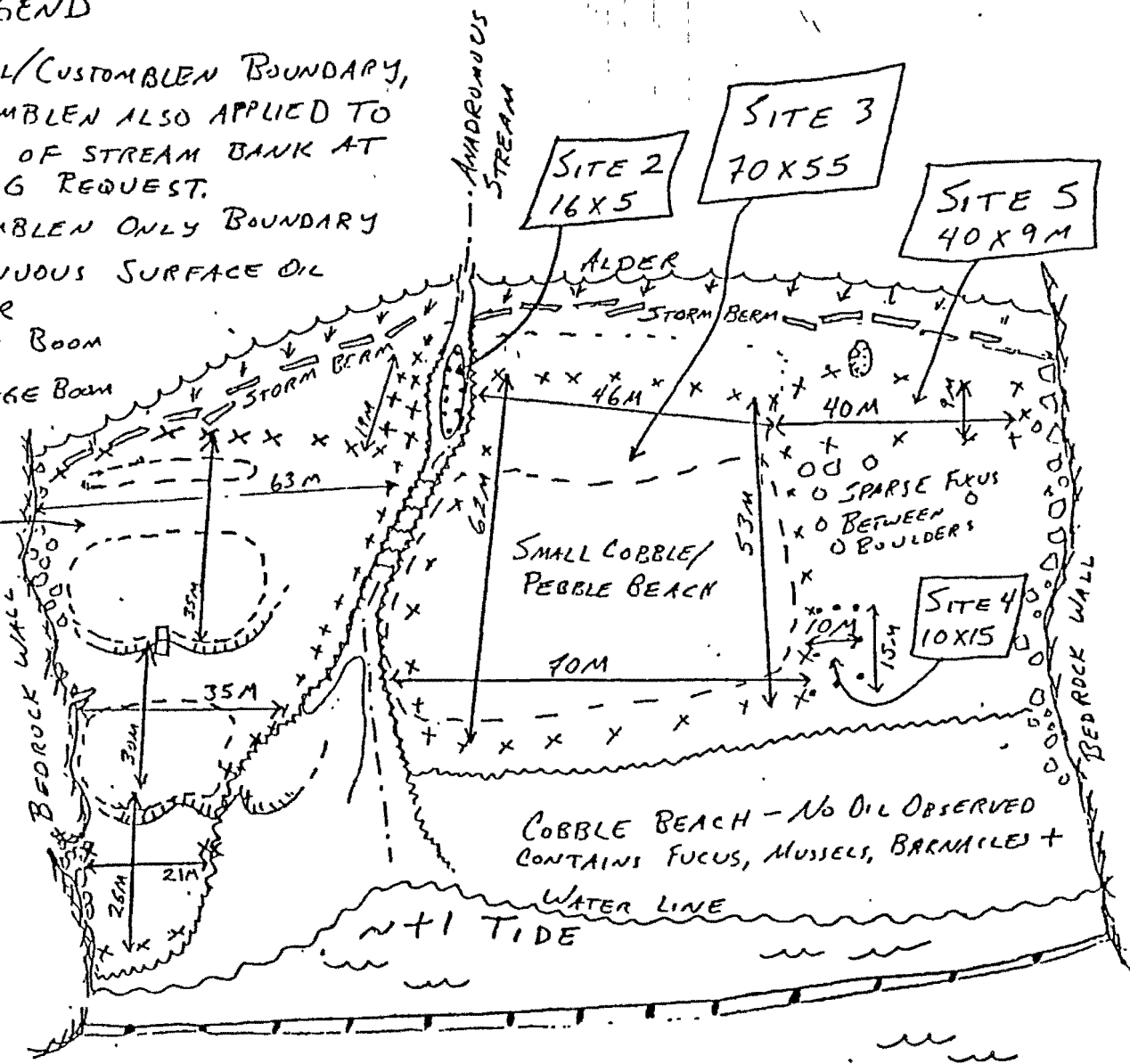
SITE 1  
(63X35)+(50X36)+  
(26X21)+(5X19)

SITE 2  
16X5

SITE 3  
70X55

SITE 5  
40X9M

SITE 4  
10X15



METERS  
(APPROXIMATE)  
SCALE

ALASKA DEPARTMENT OF FISH AND GAME  
"EXXON VALDEZ" OIL SPILL PROJECT  
LOG OF TISSUE AND SEDIMENT SAMPLES

ASC #: 2261016996

| SEGMENT # | LATITUDE/<br>LONGITUDE   | SAMPLE<br>ID #                     | MTX | #CNT | COLLECTOR       | RLS# | SAMPLE<br>DATE | SAMPLE<br>TIME | COMMENTS                                      |
|-----------|--------------------------|------------------------------------|-----|------|-----------------|------|----------------|----------------|-----------------------------------------------|
| KN500S    | -0°-01'-0"<br>-0°-01'-0" | 90MW010V<br>90MW010VA<br>89MW010VB | SED | 1    | MICHAEL WIEDMER | -0-  | 05/12/90       | 1200           | 3/4 MILES SW OF HERRING POINT, KNIGHT ISLAND. |
| KN500S    | -0°-01'-0"<br>-0°-01'-0" | 90MW011V<br>90MW011VA<br>90MW011VB | SED | 1    | MICHAEL WIEDMER | -0-  | 05/12/90       | 1205           | 3/4 MILES SW OF HERRING POINT, KNIGHT ISLAND. |
| KN500S    | -0°-01'-0"<br>-0°-01'-0" | 90MW012V<br>90MW012VA<br>90MW012VB | SED | 1    | MICHAEL WIEDMER | -0-  | 05/12/90       | 1210           | 3/4 MILES SW OF HERRING POINT, KNIGHT ISLAND. |
| KN500S    | -0°-01'-0"<br>-0°-01'-0" | 90MW013V<br>90MW013VA<br>90MW013VB | SED | 1    | MICHAEL WIEDMER | -0-  | 05/12/90       | 1215           | 3/4 MILES SW OF HERRING POINT, KNIGHT ISLAND. |
| KN500S    | -0°-01'-0"<br>-0°-01'-0" | 90MW014V<br>90MW014VA<br>90MW014VB | SED | 1    | MICHAEL WIEDMER | -0-  | 05/12/90       | 1220           | 3/4 MILES SW OF HERRING POINT, KNIGHT ISLAND. |
| KN500S    | -0°-01'-0"<br>-0°-01'-0" | 90MW015V<br>90MW015VA<br>90MW015VB | SED | 1    | MICHAEL WIEDMER | -0-  | 05/12/90       | 1225           | 3/4 MILES SW OF HERRING POINT, KNIGHT ISLAND. |

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ATTACHMENT V (page 1)

ASC #: 2261016996

| SEGMENT # | LATITUDE/<br>LONGITUDE     | SAMPLE<br>ID #                     | MTX | #CNT | COLLECTOR       | RLS# | SAMPLE<br>DATE | SAMPLE<br>TIME | COMMENTS                                                                       |
|-----------|----------------------------|------------------------------------|-----|------|-----------------|------|----------------|----------------|--------------------------------------------------------------------------------|
| KN500S    | -0°-01'-0"<br>-0°-°-01'-0" | 90MW016V<br>90MW016VA<br>90MW016VB | SED | 1    | MICHAEL WIEDMER | -0-  | 05/12/90       | 1230           | 3/4 MILES SW OF HERRING POINT, KNIGHT ISLAND.                                  |
| KN500S    | -0°-01'-0"<br>-0°-°-01'-0" | 90MW017V<br>90MW017VA<br>90MW017VB | SED | 1    | MICHAEL WIEDMER | -0-  | 05/12/90       | 1235           | 3/4 MILES SW OF HERRING POINT, KNIGHT ISLAND.                                  |
| KN500S    | -0°-01'-0"<br>-0°-°-01'-0" | 90MW018V<br>90MW018VA<br>90MW018VB | SED | 1    | MICHAEL WIEDMER | -0-  | 05/12/90       | 1240           | 3/4 MILES SW OF HERRING POINT, KNIGHT ISLAND.                                  |
| KN500S    | -0°-01'-0"<br>-0°-°-01'-0" | 90MW019V<br>90MW019VA<br>90MW019VB | SED | 1    | MICHAEL WIEDMER | -0-  | 05/12/90       | 1245           | 3/4 MILES SW OF HERRING POINT, KNIGHT ISLAND.                                  |
| KN500S    | -0°-01'-0"<br>-0°-°-01'-0" | 90MW020V<br>90MW020VA<br>90MW020VB | SED | 1    | MICHAEL WIEDMER | -0-  | 05/12/90       | 1250           | 3/4 MILES SW OF HERRING POINT, KNIGHT ISLAND.                                  |
| KN500S    | -0°-01'-0"<br>-0°-°-01'-0" | 90MW021V<br>90MW021VA<br>90MW021VB | SED | 1    | MICHAEL WIEDMER | -0-  | 05/12/90       | 1255           | 3/4 MILES SW OF HERRING POINT, KNIGHT ISLAND.                                  |
| KN500B    | -0°-01'-0"<br>-0°-°-01'-0" | 90MW100V<br>-0-<br>-0-             | TIS | 1    | MICHAEL WIEDMER | -0-  | 05/12/90       | 1140           | LOWER-MID INTERTIDAL ZONE DOWNSTREAM OF MOST OBVIOUS<br>SURFACE OILING. (FISH) |

ACE 7468831

ASC #: 2261016996

| SEGMENT # | LATITUDE/<br>LONGITUDE   | SAMPLE<br>ID #         | MTX | #CNT | COLLECTOR       | RLS# | SAMPLE<br>DATE | SAMPLE<br>TIME | COMMENTS                                                            |
|-----------|--------------------------|------------------------|-----|------|-----------------|------|----------------|----------------|---------------------------------------------------------------------|
| KN500B    | -0°-01'-0"<br>-0°-01'-0" | 90MW101V<br>-0-<br>-0- | TIS | 1    | MICHAEL WIEDMER | -0-  | 05/12/90       | 1411           | UPPER INTERTIDAL UPSTREAM OF OBVIOUS SURFACE OIL. (FISH)            |
| KN500B    | -0°-01'-0"<br>-0°-01'-0" | 90MW102V<br>-0-<br>-0- | TIS | 1    | MICHAEL WIEDMER | -0-  | 05/12/90       | 1437           | MID INTERTIDAL ZONE - FROM WITHIN BANK OF SURFACE OIL. (FISH)       |
| KN500B    | -0°-01'-0"<br>-0°-01'-0" | 90MW111V<br>-0-<br>-0- | TIS | 1    | MICHAEL WIEDMER | -0-  | 06/02/90       | 1500           | UPPER INTERTIDAL ZONE WITHIN BAND OF OBVIOUS SURFACE OIL. (FISH)    |
| KN500B    | -0°-01'-0"<br>-0°-01'-0" | 90MW112V<br>-0-<br>-0- | TIS | 1    | MICHAEL WIEDMER | -0-  | 06/08/90       | 1115           | UPPER INTERTIDAL WITHIN SURFACE OIL BAND. (FISH)                    |
| KN500B    | -0°-01'-0"<br>-0°-01'-0" | 90MW113V<br>-0-<br>-0- | TIS | 1    | MICHAEL WIEDMER | -0-  | 06/08/90       | 1145           | UPPER INTERTIDAL WITHIN OILED ZONE. (FISH)                          |
| KN500B    | -0°-01'-0"<br>-0°-01'-0" | 90MW114V<br>-0-<br>-0- | TIS | 1    | MICHAEL WIEDMER | -0-  | 06/08/90       | 1230           | VERY HIGH UPPER INTERTIDAL, ABOVE OBVIOUS SURFACE OIL BAND. (FISH)  |
| KN500B    | -0°-01'-0"<br>-0°-01'-0" | 90MW815V<br>-0-<br>-0- | SED | 1    | MICHAEL WIEDMER | -0-  | 09/25/90       | 1350           | MID INTERTIDAL ZONE IMMEDIATELY ADJACENT TO TISSUE SAMPLE 90MW915V. |

ACE 7468832

ASC #: 2261016996

| SEGMENT # | LATITUDE/<br>LONGITUDE | SAMPLE<br>ID #          | MTX | #CNT | COLLECTOR       | RLS# | SAMPLE<br>DATE | SAMPLE<br>TIME | COMMENTS                                                                     |
|-----------|------------------------|-------------------------|-----|------|-----------------|------|----------------|----------------|------------------------------------------------------------------------------|
| KN500B    | -0°-0'-0"<br>-0°-0'-0" | 90MW915V<br>-0-<br>-0-  | TIS | 1    | MICHAEL WIEDMER | -0-  | 09/25/90       | 1350           | MID INTERTIDAL WITHIN OILED ZONE.                                            |
| KN500B    | -0°-0'-0"<br>-0°-0'-0" | 90RLG003V<br>-0-<br>-0- | SED | 1    | RICHARD GUSTIN  | -0-  | 08/24/90       | 1035           | RIGHT SIDE FACING DOWNSTREAM 10M FROM STREAM CHANNEL<br>MID INTERTIDAL ZONE. |
|           |                        |                         |     |      |                 |      |                |                |                                                                              |

## ALASKA DEPARTMENT OF FISH &amp; GAME

ATTACHMENT VI

## OILSPILL VIDEOTAPE LOG

ASC #: 2261016996

| Roll #    | Meter #      | Date     | Segment# | Videographer         | Latitude/<br>Longitude     | Location      | Comments                                                                                                                                                                              |
|-----------|--------------|----------|----------|----------------------|----------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 90AJW002V | 0070<br>0209 | 04/24/90 | KN500S   | AIMEE WESEMAN        | -0°-01'-00"<br>-0°-01'-00" | KNIGHT ISLAND | HEAVY OILING THRU-OUT BEACH/STREAM AREA.                                                                                                                                              |
| 90RLG001V | 0050<br>0140 | 04/05/90 | KN500B   | RICHARD L.<br>GUSTIN | -0°-01'-00"<br>-0°-01'-00" | KNIGHT ISLAND | VIDEO OF PREVIOUSLY UNTREATED HEAVILY OILED<br>STREAM SEGMENT.                                                                                                                        |
| 90RLG012V | 0356<br>0540 | 08/24/90 | KN500B   | RICHARD L.<br>GUSTIN | -0°-01'-00"<br>-0°-01'-00" | KNIGHT ISLAND | VIDEO OF OIL SAMPLE 90RLG003V, TAKEN ON THE<br>NORTH BANK OF THE STREAM IN THE MIDDLE<br>INTERTIDAL ZONE, APPROX 20 METERS FROM STREAM<br>EDGE.                                       |
| 90RLG013V | 0504<br>0724 | 09/13/90 | KN500B   | RICHARD L.<br>GUSTIN | -0°-01'-00"<br>-0°-01'-00" | KNIGHT ISLAND | SHEEN COVERING 2/3'S OF COVE & FISH IN<br>STREAM. AERIAL OF SHEEN 2 DAYS AFTER RAKING<br>IN THE FINAL APPLICATION OF CUSTOMBLEN. FISH<br>BEGINNING TO SPAWN IN UPPER INTERTIDAL ZONE. |
| 90TC003VW | 0001<br>0380 | 01/04/90 | KN500    | TOM W. CROWE         | -0°-01'-00"<br>-0°-01'-00" | KNIGHT ISLAND | GROUND & AERIAL VIEWS OF STREAMS.                                                                                                                                                     |
|           |              |          |          |                      |                            |               |                                                                                                                                                                                       |

ACE 7468834

ALASKA DEPARTMENT OF FISH AND GAME  
"EXXON VALDEZ" OIL SPILL PROJECT  
VIDEOTAPE LOGS

Date Printed: 01/03/91

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| Date     | Meter#       | Segment# | Station#   | Location         | Latitude/<br>Longitude   | Audio? | Subject                   | Comments                                                                                                                                                     | Videographer         | Roll #    |
|----------|--------------|----------|------------|------------------|--------------------------|--------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------|
| 04/24/90 | 0070<br>0209 | KN500B   | 2261016996 | KNIGHT<br>ISLAND | -0°-01'-0"<br>-0°-01'-0" | Y      | DESCRIPTION<br>OF OILING  | HEAVY OILING THRU-OUT<br>BEACH/STREAM AREA.                                                                                                                  | AIMEE WESEMAN        | 90AJW002V |
| 04/05/90 | 0050<br>0140 | KN500B   | 2261016996 | KNIGHT<br>ISLAND | -0°-01'-0"<br>-0°-01'-0" | Y      | OILED STREAM              | VIDEO OF PREVIOUSLY<br>UNTREATED HEAVILY OILED<br>STREAM SEGMENT.                                                                                            | RICHARD L.<br>GUSTIN | 90RLG001V |
| 08/24/90 | 0356<br>0540 | KN500B   | 2261016996 | KNIGHT<br>ISLAND | -0°-01'-0"<br>-0°-01'-0" | Y      | OIL SAMPLE                | VIDEO OF OIL SAMPLE<br>90RLG003V, TAKEN ON THE<br>NORTH BANK OF THE STREAM<br>IN THE MIDDLE INTERTIDAL<br>ZONE, APPROX. 20 METERS<br>FROM STREAM EDGE.       | RICHARD L.<br>GUSTIN | 90RLG012V |
| 09/13/90 | 0504<br>0724 | KN500B   | 2261016996 | KNIGHT<br>ISLAND | -0°-01'-0"<br>-0°-01'-0" | Y      | SHEEN AFTER<br>CUSTOMBLEN | SHEEN COVERING 2/3'S OF<br>COVE & FISH IN STREAM.<br>AERIAL VIEW OF SHEEN 2<br>DAYS AFTER RAKING IN THE<br>FINAL APPLICATION OF<br>CUSTOMBLEN. FISH BEGINNIN | RICHARD L.<br>GUSTIN | 90RLG013V |

ACE 7468835 - 1/90

ALASKA DEPARTMENT OF FISH AND GAME  
"EXXON VALDEZ" OIL SPILL PROJECT  
VIDEOTAPE LOGS

Date Printed: 01/03/91

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| Date     | Meter#       | Segment# | Station#   | Location         | Latitude/<br>Longitude | Audio? | Subject                   | Comments                                                                                                                                                     | Videographer         | Roll #    |
|----------|--------------|----------|------------|------------------|------------------------|--------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------|
| 04/24/90 | 0070<br>0209 | KN500B   | 2261016996 | KNIGHT<br>ISLAND | -0°-0'-0"<br>-0°-0'-0" | Y      | DESCRIPTION<br>OF OILING  | HEAVY OILING THRU-OUT<br>BEACH/STREAM AREA.                                                                                                                  | AIMEE WESEMAN        | 90AJW002V |
| 04/05/90 | 0050<br>0140 | KN500B   | 2261016996 | KNIGHT<br>ISLAND | -0°-0'-0"<br>-0°-0'-0" | Y      | OILED STREAM              | VIDEO OF PREVIOUSLY<br>UNTREATED HEAVILY OILED<br>STREAM SEGMENT.                                                                                            | RICHARD L.<br>GUSTIN | 90RLG001V |
| 08/24/90 | 0356<br>0540 | KN500B   | 2261016996 | KNIGHT<br>ISLAND | -0°-0'-0"<br>-0°-0'-0" | Y      | OIL SAMPLE                | VIDEO OF OIL SAMPLE<br>90RLG003V, TAKEN ON THE<br>NORTH BANK OF THE STREAM<br>IN THE MIDDLE INTERTIDAL<br>ZONE, APPROX. 20 METERS<br>FROM STREAM EDGE.       | RICHARD L.<br>GUSTIN | 90RLG012V |
| 09/13/90 | 0504<br>0724 | KN500B   | 2261016996 | KNIGHT<br>ISLAND | -0°-0'-0"<br>-0°-0'-0" | Y      | SHEEN AFTER<br>CUSTOMBLEN | SHEEN COVERING 2/3'S OF<br>COVE & FISH IN STREAM.<br>AERIAL VIEW OF SHEEN 2<br>DAYS AFTER RAKING IN THE<br>FINAL APPLICATION OF<br>CUSTOMBLEN. FISH BEGINNIN | RICHARD L.<br>GUSTIN | 90RLG013V |

ACE 7468836-11/14