



EVOS
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1989
v.20

[Shoreline evaluations, 1989].

Volume 20

Knight Island (1-107)

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ISLANDS (Locations)

Naked Is.	NA
Peak Is.	PE
Stoney Is.	ST
Eleanor Is.	EL
Ingot Is.	IN
Block Is.	BL
Entrance Is.	EN
Sphinx Is.	SP
Disk Is.	DI
Knight Is.	KN
Smith Is.	SM
Seal Is.	SE
Applegate Is.	AP
Green Is.	GR
L. Green Is.	LG
Agnes (Bass) Is.	AB
L. Smith Is.	LS
Gore Point	GP
Montague Is.	MN
Aguliak Is.	AG
Squirrel Is.	SL
New Year Is.	NY
Murray Is.	MU
Squire Is.	SQ
Crafton Is.	CR
Pt. Nowell	PN
Junction Is.	JU
Chenega Is.	CH
Pleiades Is.	PL
Bainbridge Is.	BA
Flemming Is.	FL
Evans Is.	EV
Elrington Is.	ER
Latouche Is.	LA
Danger Is.	DA

* GEOLOGIC SEDIMENT TYPE

Boulder (>256mm)	B
Cobble (64-256)	C
Pebble (4-64)	P
Granule (2-4)	G
Sand (0.06-2)	S
Mud (less 0.06)	M
Rock	R

** DEGREE OF OILING

Heavy	HV
Moderate	MD
Light	LT
No Oil	NO
Unobserved	UN

AREA OF BEACH IMPACT

Supratidal (+SHWL)	SU
HWL to SHWL	SP
Upper 1/3 ITZ	H
Middle 1/3 ITZ	M
Lower 1/3 ITZ	L

ADEC IMPACT SURVEY

Heavy	HVY
Moderate	MOD
Light	LT
No Oil	NO
Unobserved	UNOBS

SHORELINE TYPE

Beach	BEA
Cove	COV
High Angle	HANG
Low Angle	LANG
Vertical	VER
Headland	HLD
Spit	SPI

Comments:

* Multiple entry is acceptable, use decreasing order of type found.
(ie. C/G/S where C is most predominant type and S is the least one.)

** Heavy (>6m wide and/or >1.0 cm thick)
Moderate (3-6m wide and/or 0.2-1.0 cm thick)
Light (0.1 -3m wide and/or <0.2 cm thick)
No Oil (free of visible oil)

RECEIVED
R.R.L.I.S.
ANCHORAGE, ALASKA
Est. 1997
May 23 1991
Oil Spill Public Information Center
645 G Street
ANCHORAGE, AK 99501

KEY

BEACH LEVEL

SUPRATIDAL (+SHWL)	SU
HWL to SHWL	SP
UPPER 1/3 ITZ	H
MIDDLE 1/3 ITZ	M
LOWER 1/3 ITZ	L

SEDIMENT TYPE

BOULDER (> 256 mm)	B
COBBLE (64 - 256)	C
PEBBLE (4 - 64)	P
GRANULE (2 - 4)	G
SAND (0.06- 2)	S
MUD (< 0.06)	M
ROCK	R

Can use multiple entries e.g. C/G/S; in which case the first letter is the predominant sediment type and the following are in decreasing order

KEY

LOCATION PREFIX

NAKED IS	NA
PEAK IS	PE
STOREY IS	ST
ELEANOR IS	EL
INGOT IS	IN
BLOCK IS	BL
ENTRANCE IS	EN
SPHINX IS	SP
DISK IS	DI
KNIGHT IS	KN
SMITH IS	SM
SEAL IS	SE
APPELGATE IS	AP
GREEN IS	GR

LOCATION SUFFIX

A unique number which identifies the distinct segment described in this report.

C:\WP\DATA\SHOREVAL.1

(version 5/13/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): KNIGHT ISLAND - BAY OF ISLES

WEST BLOCK

Includes Shoreline Segments: KN-4, KN-5, KN-7, KN-8, KN-9,
KN-12, KN-13, KN-14, KN-15, KN-134, KN-135, KN-136, KN-200,
KN-201, KN-202, KN-203, KN-204, KN-205, KN-208 ✓

OSC Recommendation: James L. Leland 6/5/89

Submitted : J.C. Reiss Date: 5/30/89
(for Exxon)

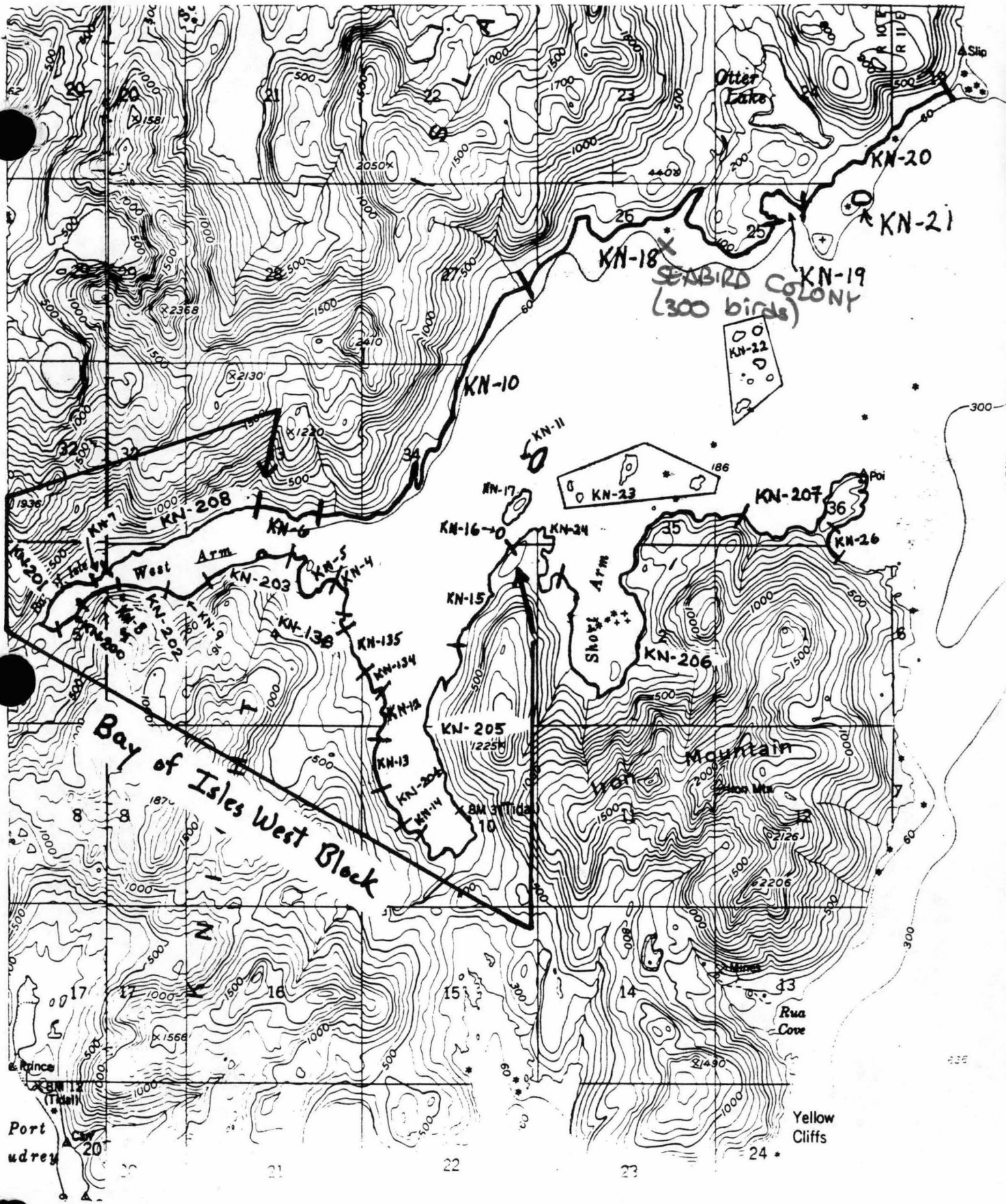
FOSC Approval: David J. Murphy Date: 6/6/89

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative has the authority to approve on-site modifications. The Field Resource Team should be consulted if these actions do not fit within the Ecological Constraints of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:

Exxon Shoreline Coordinator
Exxon Shoreline Supervisor
Exxon SCAT file

FOSC
CDFU
NOAA
EPA
USDA (FS)
USFW
A.DEC
A.FG
A.DNR
CAC



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989

SHORELINE SEGMENT KN-4

LOCATION: (see enclosed map) Knight Island - Bay of Isles

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/4/89

Recommended Cleanup Activity(ies):

Manual removes as much pooled oil as possible prior to washing, also oiled driftwood and seaweeds. High degree of weathering may require scraping as vacuum equipment may not work. Use high pressure agitation with flooding on beaches, high pressure wash on rock, hot water ok with constraints below. Manual movement of large boulders may be necessary to get at tar forming in crevices.

Priorities Considerations:

Concentrate on heavily oiled beach areas first.

Ecological Constraints (from site survey):

~~Streams in survey area should be surveyed for anadromous fish.~~ (NOT A CATFISH ANADROMOUS FISH STREAM).
herring reported in area but none observed (spawn or fish) check for herring spawn prior to cleanup. High temp and pressure ok above +1' tide zone. Mechanical removal of oiled fucus advised. Use moderate pressure in lower oiled zones (+2' to -3') to move mobile animal out then high temp and pressure ok. ■

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Daugherty

State Historic Preservation Officer *

ISCC

EXXON:

FOSC:

Date: 5/16/89

Date: 6/5/89

Date: 6/6/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

SHORELINE OIL EVALUATIONDate: 5/5/89 Time: 0910Observer: Reimer (Team 2)
(LUDWIG)Surveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/Fog**LOCATION**LOCATION Knight Island
Bay of IslesSEGMENT NUMBER Kn-4LENGTH OF SHORELINE SEGMENT: 500 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane**SHORELINE:**Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B 25 % / C 25 % / P 20 % / G X % / S 2 % / M - % / R 28 %Drift Debris on Beach: Yes/No

Supra/Upper/Mid/Lower Type

logs, rope
plastic**OIL**Degree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 100Width of Band: 30-60 mSporadic: Y/N % of Segment Est. Oil Thickness where > 1cm: 1-4 cm Est. Oil Penetration: 3-15 cmPooled Oil: 10 % "Free" Oil: 10 % Coated: H 30 % / M 30 % / L 20 %Fresh % Mousse 90 % Tar Formation: 10 %Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L**Comments:**

considerable free and pooled oil in mid to upper intertidal zone. 1-4 cm mousse covering rocks in crevices between cobbles and boulders. The oil is heavily weathered: brown & sticky. Tar balls found in lower intertidal zone with tar pavements forming in places. Other areas have varying degree of coating. Lighter in low intertidal increases up the beach. Low angle, wider beaches are generally pebble/cobble/boulder, where narrow steep beaches are boulder/cobble.

ECOLOGICAL EVALUATION

LOCATION: Knights Is. SITE: South Arm Bay of Isles OBSERVER: John Amdur
 LOCATION PREFIX: KN SEG. NO.: 4 LENGTH: 500 (M)
 DATE: 1/1 TIME (HHMM): 0910 TIDE HT.: -1.75 (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy (Y/N) Contin. Y/N Dense Y/N Sparse (Y/N) None Y/N

eelgrasses below tide zone

Mytilus (Mussels): Patchy (Y/N) Contin. Y/N Dense Y/N Sparse (Y/N) None Y/N

Balanus (Barnacles): Patchy (Y/N) Contin. Y/N Dense (Y/N) Sparse Y/N None Y/N

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None (Y/N)

Limpets: Patchy (Y/N) Contin. Y/N Dense Y/N Sparse (Y/N) None Y/N

OTHER OBSERVATIONS: Some mobile animals (hermit crabs, tidepool fish)
moving into lower oil zones. Amphipods under rocks in lower
zones. Remove all oiled fucus.

CLEANUP PRECAUTIONS: Moderate pressure at the lower zones to
flush out live organisms (± 0 to $\pm 2'$ tideline) then no
high pressure OK.

MAMMALS: Otters _____ Harbor Seals _____ Sea Lions _____ Whales _____
 Other _____

BIRDS: _____

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

South Arm

Date May 5, 1989 Location Knight Island Site Bay of Isles

Location Prefix KN Segment # 4 Length 500

Survey Method:

Air _____ (A - indicate on map) Boat _____ (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) none Data Source _____

Oil conditions/beach visibility heavy with areas of moderate

Width of beach zone surveyed 10 m Tree fringe surveyed _____

Cultural resources observed in beach zone (AHRS code) none

Cultural resources observed in tree fringe (AHRS code) none

General observations justifying survey method and segment's site probability:

Shore Profile gravel beach, 20° slope and rocky headland

Fresh Water Sources none

Sea Exposure Bay of Isles -- SW corner of intersection of West & South Arms

Access/Safety difficult access in rough weather

Probability of undiscovered sites in beach zone (circle one) 1 (2) 3 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # _____ Frames _____

B/W Roll # _____ Frames _____

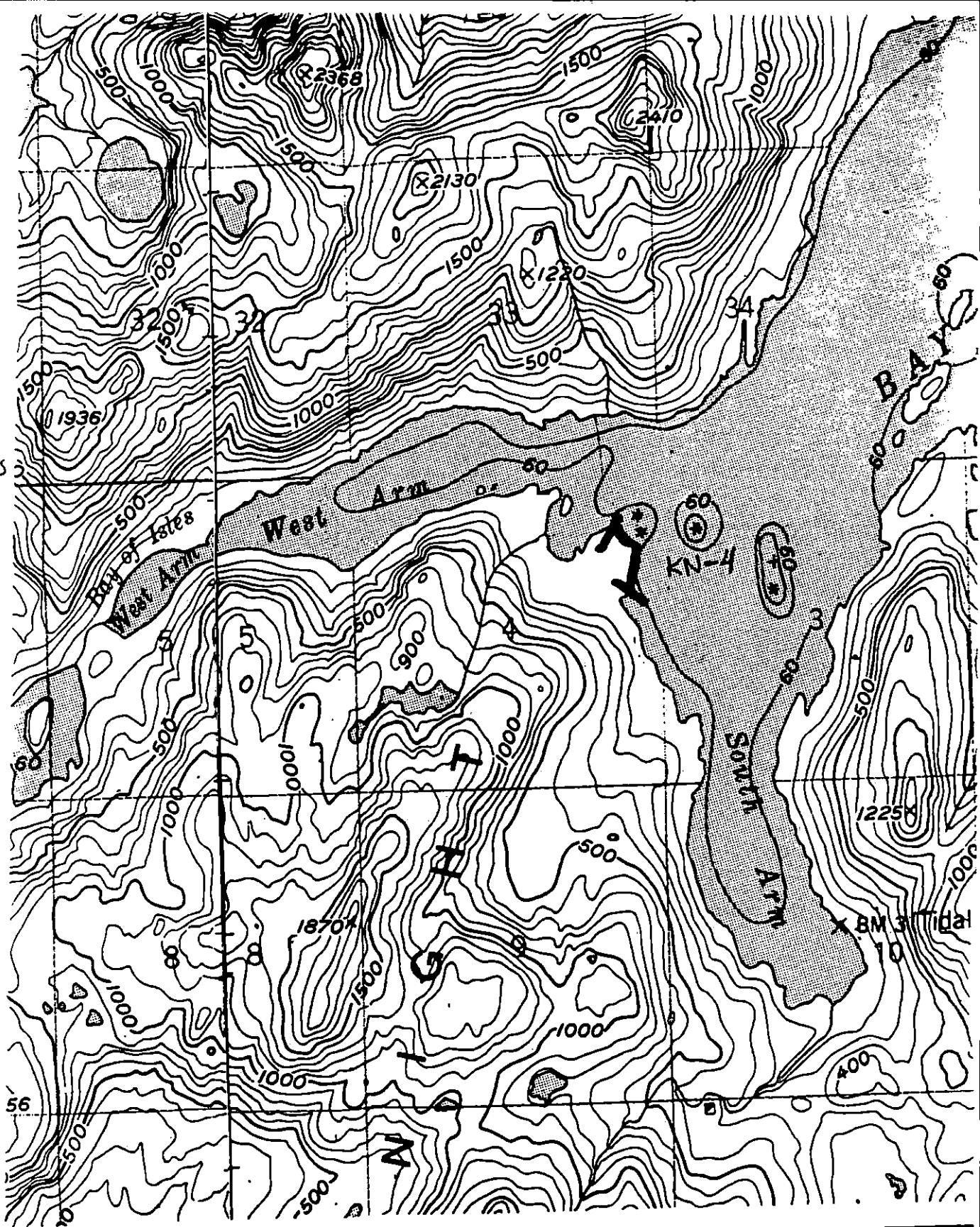
Observer(s) Ludwig

Time survey started 0910 Time survey ended 0940

Cultural resource considerations/restraints:

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon archaeologist C. Mobley immediately (835-7749)

Scat 2
5-4-89
KN-4
Bay of Isles
Knight
Is.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989

SHORELINE SEGMENT KN-5

LOCATION: (see enclosed map) Knight Island, Bay of Isles, Large
cove at entrance to west arm, south shore.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/7/89

Recommended Cleanup Activity(ies):

Warm water under pressure with cold water flooding and skimming.
Clean only zone with free oil, pooled oil, mousse.

Priorities Considerations:

Heavy free oil on rocks, fucus. Considerable pooled oil, mousse.

Ecological Constraints (from site survey):

Clean only areas with free oil, pooled oil. Retain fucus holdfasts and mytilus beds.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Daughes R. Reger
State Historic Preservation Officer *

Date: 5/29/89

ISCC Jaime Michael
EXXON: BA Hyman

6/5/89
Date: 6/5/89

FOSC: David J. Jaramila

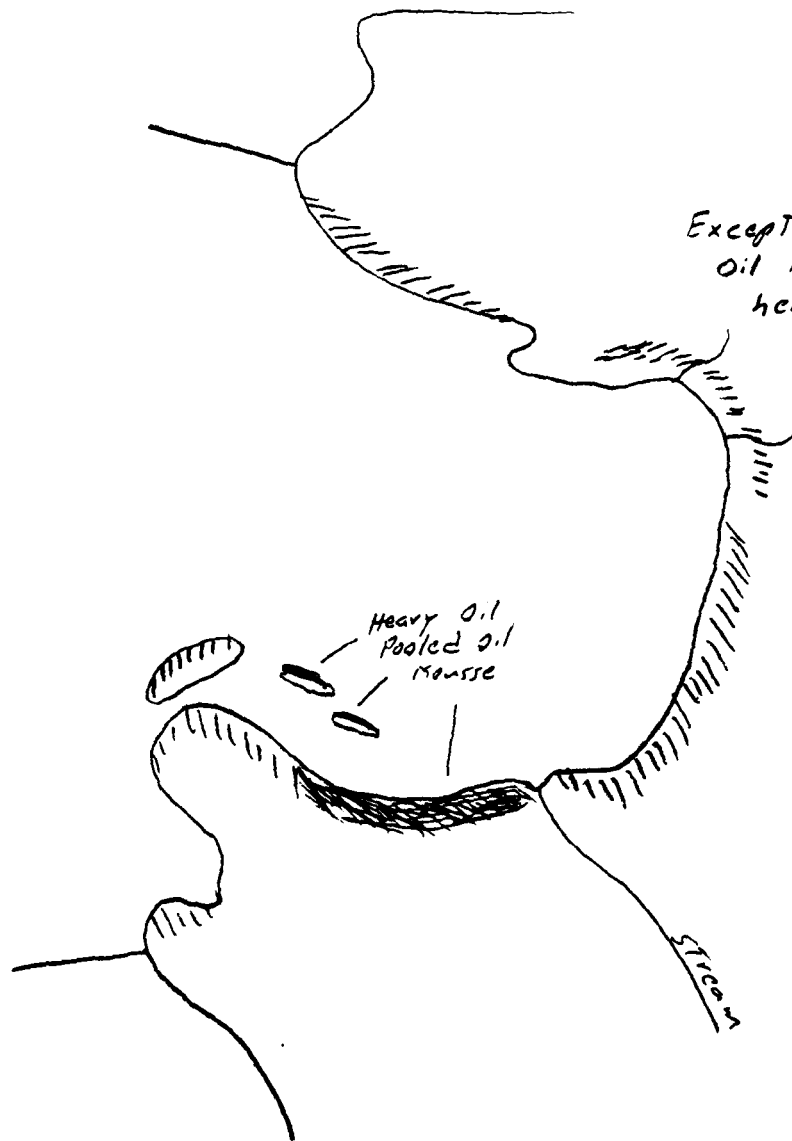
Date: 6/6/89

* Signature required to satisfy stipulations in Alaska DNR
land use permits for tide and submerged lands .

SHORELINE OIL EVALUATIONDate: 5/10/89 Time: 1900Observer: STO MarSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/Fog**LOCATION**LOCATION KN-Bay of Isles - Falls Cove SEGMENT NUMBER KN5LENGTH OF SHORELINE SEGMENT: 1000 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane**SHORELINE:**Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B40 % / C40 % / P20 % / G ___ % / S ___ % / M ___ % / R ___ %Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type Lags, Fucus**OIL**Degree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 60% Width of Band: 10-20 m mSporadic: Y/N % of Segment 60%Est. Oil Thickness where > 1cm: 10 cm Est. Oil Penetration: 2-10 cmPooled Oil: 10-20 % "Free" Oil: ±50 % Coated: H 60 % / M 40 % / L 30 %Fresh 60 % Mousse 15 % Tar Formation: ___ %Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L**Comments:**

Oiling and Beach/sediment Type is variable within segment.
Recommend cleaning only on areas with mousse and
pooled oil (see accompanying diagram). This area is
high to moderate angle rock/cobble/debris, about 20 m
wide by 40 m long on main beach, 10 m by 30 m
on outlying rocks. Recommend hot water under pressure, flooding.

Segment KN-5



Except as noted below
oil is moderate to
heavy, intermittent,
on rock outcrops
and in fucous,
bands 3-10 m
wide from
high to mid Tide
level.

ECOLOGICAL EVALUATION

LOCATION: Knight Is, Bay of Liles SITE: KN-5 (Falls Cove) OBSERVER: Stoker

LOCATION PREFIX: KN SEG. NO.: 5 LENGTH: 1000 (M)

DATE: 5/7/89 TIME (HHMM): 1700 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse Y/N None Y/N

Fucus Patchy, variable density from dense-sparse, high to low tide level.

Mytilus (Mussels): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)

Scattered patches, on rock & in cobble/gravel, variable density, some dying.

Balanus (Barnacles): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)

Density variable. Noted $\pm 20\%$ mortality (probably old, pre-spill).

Littorina

Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)

Variable density. May be some mortality.

Limpets: Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)

Variable density. Some mortality.

OTHER OBSERVATIONS: Amphipods common under rocks. Nucella common, variable density from heavy-sparse. Mortality observed Nucella, Mytilus, Limpets, Littor.

CLEANUP PRECAUTIONS: Recommend vigorous cleanup only of areas with mousse or pooled oil. Try and leave fucus holdfasts, mytilus.

MAMMALS: Otters X Harbor Seals _____ Sea Lions _____ Whales _____
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: Patches of emergent grass on low angle beach within cove.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Bay of Isles

Date May 7, 1989 Location Knight Island Site Falls Cove

Location Prefix KN Segment # 5 Length 1000m

Survey Method:

Air _____ (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) none Data Source _____

Oil conditions/beach visibility bad to moderate

Width of beach zone surveyed 5 m Tree fringe surveyed 1-15

Cultural resources observed in beach zone (AHRS code) HTI, possible RKS

Cultural resources observed in tree fringe (AHRS code) none

General observations justifying survey method and segment's site probability:

Shore Profile beaches have gentle slopes (10-15°), rocky coves ca 20°

Fresh Water Sources one small stream and one large stream

Sea Exposure view toward mouth of Bay of Isles (NE)

Access/Safety easy access onto the broad beaches, difficult climb

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # _____ Frames _____

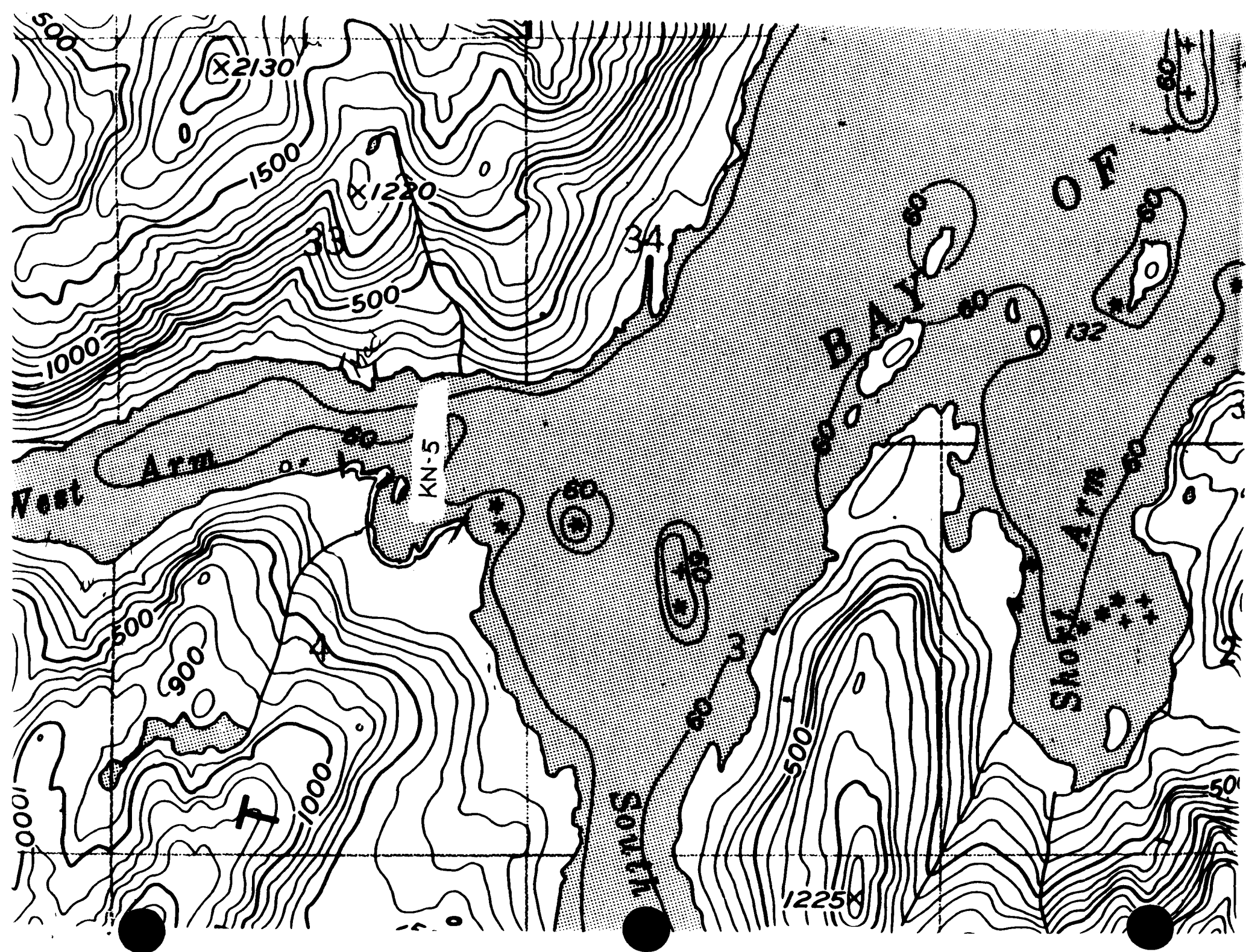
B/W Roll # SL-1 Frames 7-13

Observer(s) Ludwig

Time survey started 6:30 pm Time survey ended 9:30 pm

Cultural resource considerations/restraints:

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon archaeologist C. Mobley and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989

SHORELINE SEGMENT KN-7

LOCATION: (see enclosed map) Knight Island, Bay of Isles, west arm
narrows, south shore.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/8/89

Recommended Cleanup Activity(ies):

Warm water under pressure with cold water flushing and skimmers.
cleanup to follow tide level.

Priorities Considerations:

Heavy oil on rocks, trapped in fucus. Considerable free oil, pooled
oil, mousse. Oiled DEBRIS.

Ecological Constraints (from site survey):

Adjacent to probable spawning stream. Check with ADF&G.

IT IS A KNOWN, CATALOGUED ANADROMOUS FISH STREAM, IT SHOULD HAVE HIGH
PRIORITY FOR CLEANUP BY THE JULY WINDOW. PREVENT OIL SHEENS FROM
ENTERING STREAM MOUTH AND LAGOON, THROUGH USE OF SORBANT BOOMS.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during
cleanup, contact Exxon's Archeological Field Director and take
actions prescribed in the Operational Guidelines for Shoreline
Cleanup dated 4/21/89 as amended.

Douglas Reger
State Historic Preservation Officer *

ISCC Jaqueline Michael

EXXON: DA Hyman

FOSC: David Zandorff

Date: 5/16/89

6/5/89

Date: 6/5/89

Date: 6/6/89

* Signature required to satisfy stipulations in Alaska DNR
land use permits for tide and submerged lands .

SHORELINE OIL EVALUATIONDate: 5/8/89 Time: 1000Observer: StaherSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun Cloud/Rain/Snow/Fog**LOCATION**LOCATION Knight Is, W. Arm Narrows, N side SEGMENT NUMBER KN-7LENGTH OF SHORELINE SEGMENT: 300 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane**SHORELINE:**Shoreline Type: SPI/BEA/COV/ HLD/STRT Slope: LANG/ HANG /VERWave Exposure: High/ Med /LowSediment: B 50 % / C 40 % / P 10 % / G % / S % / M % / R %Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type alg, fecal**OIL**Degree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y % of Segment 250 Width of Band: ± 10 mSporadic: N % of Segment 50Est. Oil Thickness where > 1cm: 5 cm Est. Oil Penetration: To 10 cmPooled Oil: 15 % "Free" Oil: 30 % Coated: H 50 % / M 20 % / L %Fresh 20 % Mousse 15 % Tar Formation: %Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/**Comments:**

Heavy Oiling, pooled oil, mousse at or near point
in band ± 10 m wide, 50 m long. See accompanying
Diagram. Recommend cleaning of this area only,
using hot water under pressure, with flooding.

DOCUMENTATION:

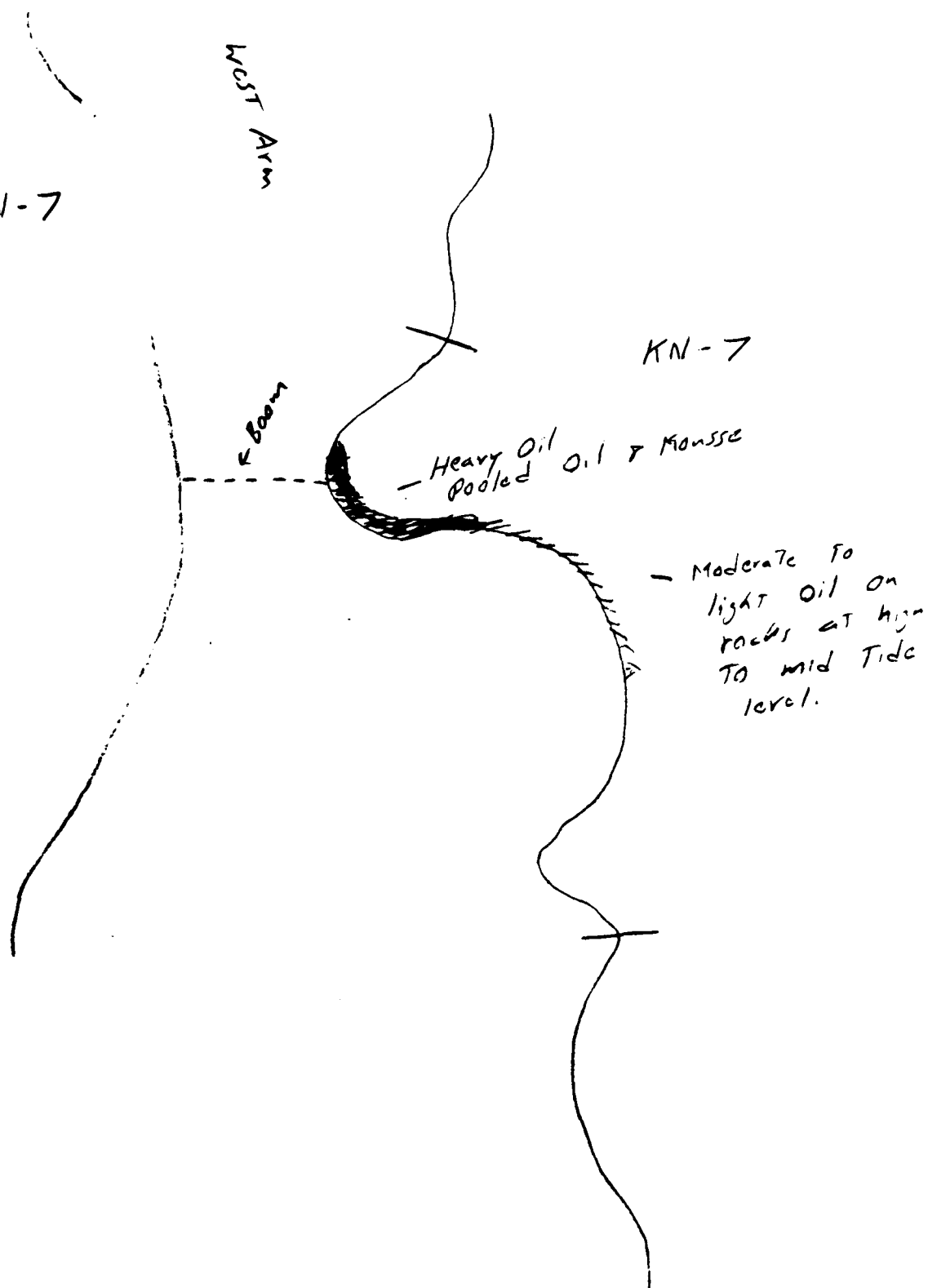
Map/Aerial photo marking segment boundaries _____

VTR: Y/N - Tape Number(s) _____

Photography: Y/N Roll Number(s) _____

Sample Numbers Collected: _____

Segment KN-7



ECOLOGICAL EVALUATION

LOCATION: Knight Is. Bay or Lake SITE: West Arm Narrows, N. side OBSERVER: Stoker

LOCATION PREFIX: KN SEG. NO.: KN-7 LENGTH: 300 (M)

DATE: 5/8/89 TIME (HHMM): 1900 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable density from high to low tide level.

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable density on rocks and in cobble.

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable distribution from high to low tide level, moderate to high density

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable distribution, sparse but common

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable distribution, sparse but common

OTHER OBSERVATIONS: Triglops, Ampipeds, Pagurus, Blennies all

common under rocks. Eelgrass (Zostera) subtidal in Arm.

CLEANUP PRECAUTIONS: Vigorous cleaning recommended only for vicinity of
POINT where mouse & pooled oil present.

MAMMALS: Otters X Harbor Seals _____ Sea Lions _____ Whales _____
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: Boom is marginally effective.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Bay of Isles

Date May 8, 1989 Location Knight Island Site West Arm

Location Prefix KN Segment # 7 Length 300

Survey Method:

Air _____ (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) 0 Data Source —

Oil conditions/beach visibility oiling is heavy at 1-3m above present tide level on peninsula

Width of beach zone surveyed 5m m Tree fringe surveyed 10m

Cultural resources observed in beach zone (AHRS code) 0

Cultural resources observed in tree fringe (AHRS code) 0

General observations justifying survey method and segment's site probability:

Shore Profile steep rocky headland with broad beach to east

Fresh Water Sources major salmon stream west of segment

Sea Exposure overlook West Arm of Bay of Isles

Access/Safety calm waters due to the narrowness of the West Arm

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # _____ Frames _____

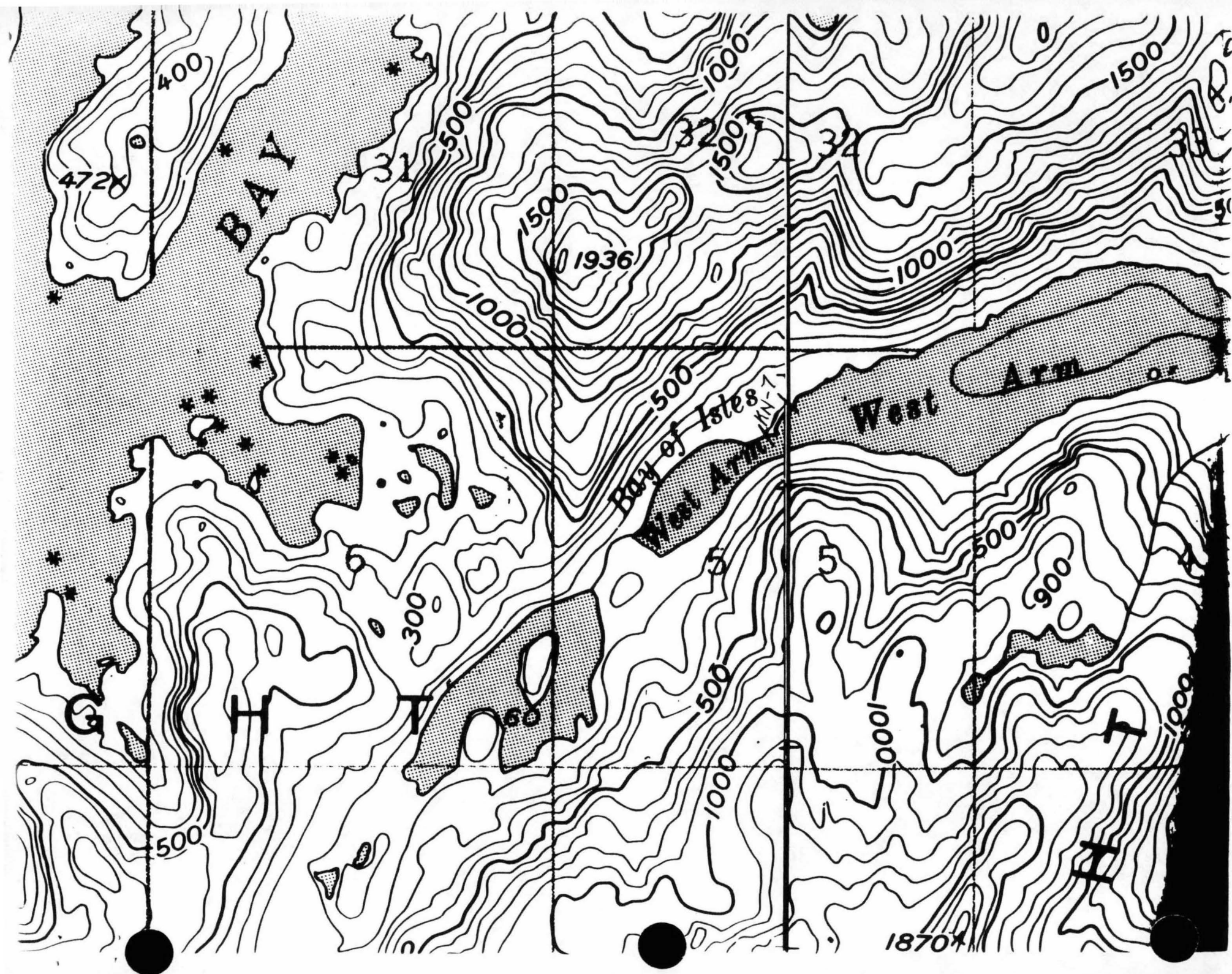
B/W Roll # SL-1 Frames 15

Observer(s) Ludwig

Time survey started 10:00 am Time survey ended 10:40 am

Cultural resource considerations/restraints:

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon archaeologist C. Moberg and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989

SHORELINE SEGMENT KN-8

LOCATION: (see enclosed map) Knight Island, Bay of Isles, west arm narrows, south shore.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/18/89

Recommended Cleanup Activity(ies):

Warm water under pressure, cold water flooding. Clean at waters edge following tide level, in concert with skimmers. Clean area with free oil, pooled oil, mousse.

Priorities Considerations:

Heavy oiling on rocks and fucus, pooled oil and mousse.

OILED DEBRIS.

Ecological Constraints (from site survey):

Adjacent to stream probably used as spawning habitat. Clean only areas with free oil, pooled oil, mousse. ~~Check with ADF&G.~~ IT IS A KNOWN, CATALOGED ANADROMOUS FISH STREAM. IT SHOULD HAVE HIGH PRIORITY FOR CLEANUP BY THE JULY WINDOW. PREVENT OIL SHEENS FROM ENTERING STREAM MOUTH AND LAGOON THROUGH USE OF SORBENT BOOM.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Angelo Rege
State Historic Preservation Officer *

ISCE Jacqueline Michel
EXXON: BA Rymay

FOSC: David Zander

Date: 5/16/89

6/5/89

Date: 6/5/89

Date: 6/6/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

SHORELINE OIL EVALUATIONDate: 5/8/89 / Time: 1045Observer: STOKERSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/FogLOCATIONLOCATION Knight Is, Bay of Islands, W. Arm Narrows, S. S. de SEGMENT NUMBER KN-8LENGTH OF SHORELINE SEGMENT: 500 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float PlaneSHORELINE:Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B 50 % / C 40 % / P 10 % / G % / S % / M % / R %Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logsOILDegree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 70 Width of Band: 1-10 m mSporadic: Y/N % of Segment 30Est. Oil Thickness where > 1cm: 5 cm Est. Oil Penetration: 10-5? cmPooled Oil: 25 % "Free" Oil: 50 % Coated: H 70 % / M 30 % / L %Fresh 50 % Mousse 25 % Tar Formation: %Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L

Comments:

Heavy Oiling, pooled oil, mousse in band ± 10 m wide, 150 m long inside boom. Oil outside boom light to moderate, coating on rocks which is drying, weathering, ± 1-2 m wide.

Recommend cleaning of Area with pooled oil & Mousse only, using HOT WATER under pressure, flooding, at mid Tide.

See Accompanying Diagram.

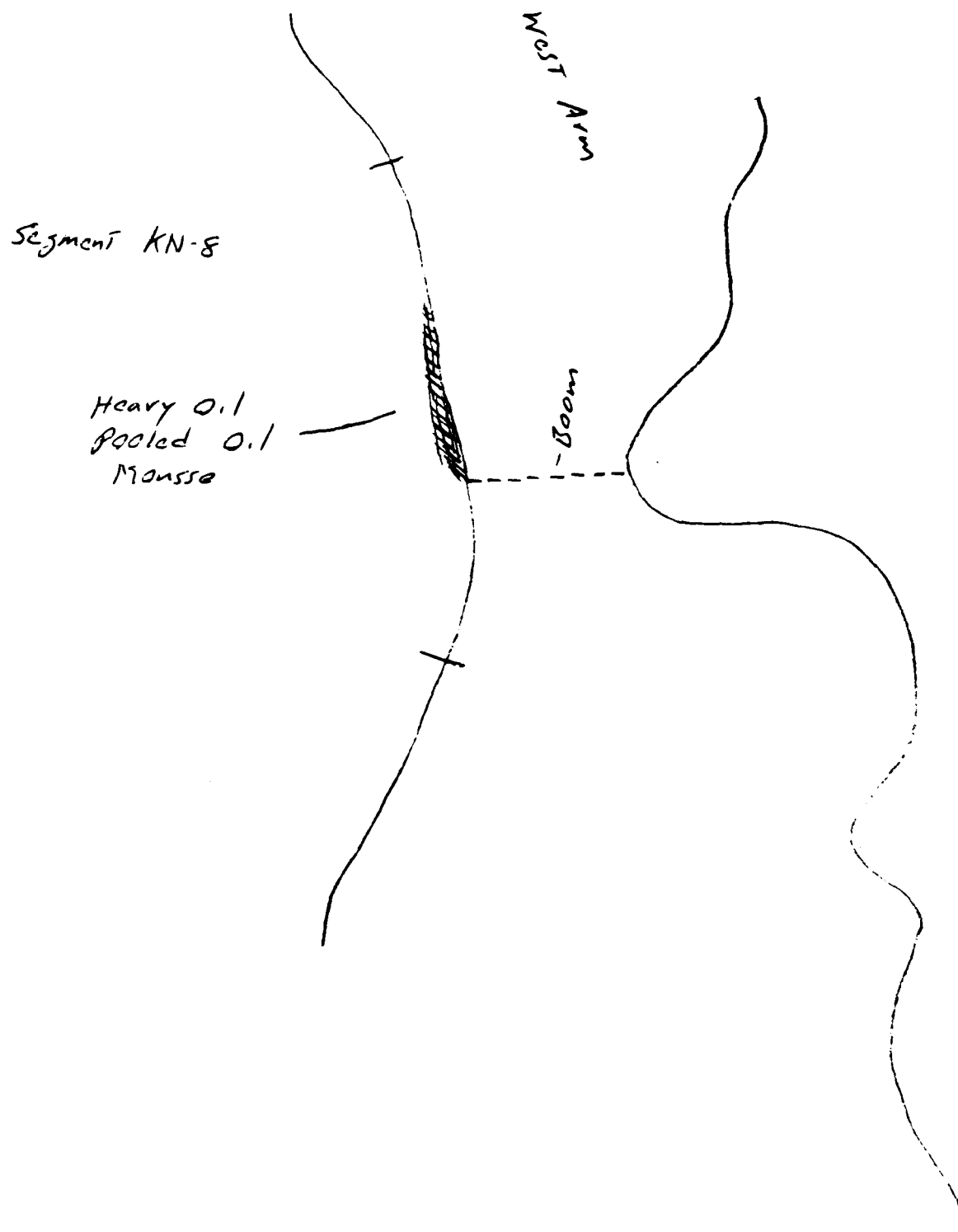
DOCUMENTATION:

Map/Aerial photo marking segment boundaries _____

VTR: Y/N - Tape Number(s) _____

Photography: Y/N Roll Number(s) _____

Sample Numbers Collected: _____



ECOLOGICAL EVALUATION

LOCATION: Knight Is Bay or Isles SITE: W. Arm Narrows S. side OBSERVER: Stoker

LOCATION PREFIX: KN SEG. NO.: KN-8 LENGTH: 500 (M)

DATE: 5/8/89 TIME (HHMM): 1045 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable distribution & density

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable density on rocks and in cobble.

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Dense, small individuals.

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Sparse but common.

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Sparse but common

OTHER OBSERVATIONS: Isopods & Amphipods under Rocks; Asteroides

Boletus subtidal in Arm & Narrows.

CLEANUP PRECAUTIONS: Cleanup Recommended only for zone with

pooled oil & manure (band ± 10 m x 150 m inside boom).

MAMMALS: Otters X Harbor Seals _____ Sea Lions _____ Whales _____
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Bay of Isles,

Date May 8, 1989 Location Knight Island Site West Arm

Location Prefix KN Segment # 8 Length 500 m

Survey Method:

Air _____ (A - indicate on map) Boat _____ (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) _____ Data Source _____

Oil conditions/beach visibility heavy oil 1-3m above present tide level

Width of beach zone surveyed 5 m Tree fringe surveyed 0-3

Cultural resources observed in beach zone (AHRS code) 0

Cultural resources observed in tree fringe (AHRS code) 0

General observations justifying survey method and segment's site probability:

Shore Profile NE end of segment: narrow beach, mostly boulders, 40° slope -- broadens & flattens towards end of West Arm.

Fresh Water Sources Small stream in segment, large stream west of segment

Sea Exposure West Arm of Bay of Isles

Access/Safety very protected area at end of West Arm

Probability of undiscovered sites in beach zone (circle one) 1 2 (3) 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # _____ Frames _____

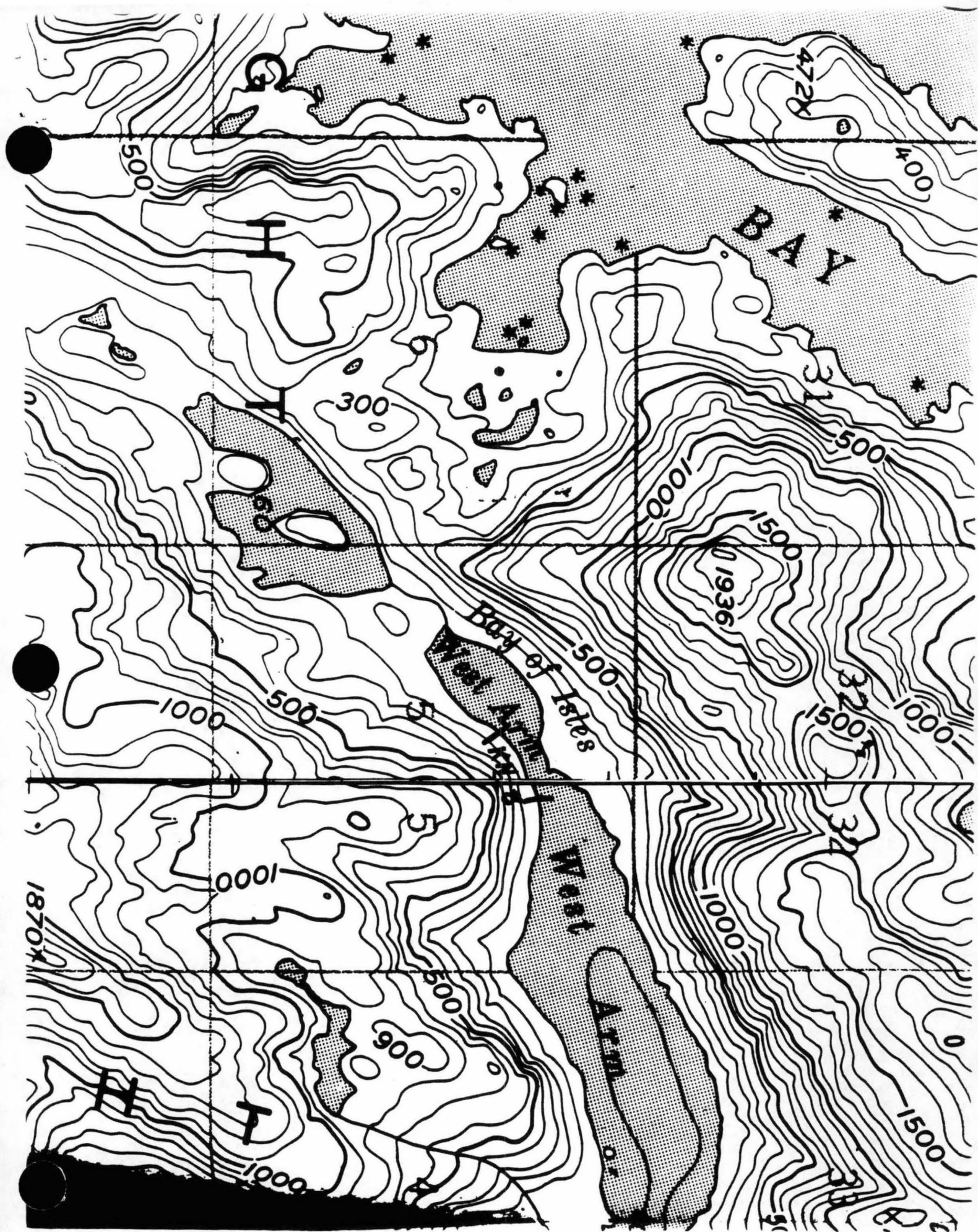
B/W Roll # _____ Frames _____

Observer(s) Ludwig

Time survey started 10:45 am Time survey ended 11:40 am

Cultural resource considerations/restraints:

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon Archaeologist C. Mobley and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989

SHORELINE SEGMENT KN-9

LOCATION: (see enclosed map) Knight Island, Bay of Isles, west arm
south side.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/18/89

Recommended Cleanup Activity(ies):

Warm water under pressure with cold water flooding at water's edge following tide level, in concert with skimmers. Clean only zones with free oil, pooled oil.

Priorities Considerations:

Areas of pooled oil, mousse. Oiled debris.

Ecological Constraints (from site survey):

Clean only zones with free oil, pooled oil, mousse. Retain fucus holdfasts. Place booms (sorbent) prior to cleaning this segment to protect sensitive stream mouth and lagoon to the west.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Dan Reger
State Historic Preservation Officer *

ISCE

EXXON:

FOSC:

Jaqueline Michael

BA Lyman

David J. Jannopoli

Date:

5/16/89

6/5/89

Date:

6/5/89

Date:

6/6/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

SHORELINE OIL EVALUATIONDate: 5/8/89 Time: 1200Observer: STOKERSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/FogLOCATIONLOCATION Knight Is, Bay 2r Islet, W. Arm, S. S. Id. SEGMENT NUMBER KN-9LENGTH OF SHORELINE SEGMENT: 500 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float PlaneSHORELINE:Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B40 % / C40 % / P20 % / G ___ % / S ___ % / M ___ % / R ___ %Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type LaysOILDegree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 40 Width of Band: 2-5 mSporadic: Y/N % of Segment 60Est. Oil Thickness where > 1cm: 10 cm Est. Oil Penetration: 10 5-10 cmPooled Oil: 25 % "Free" Oil: 50 % Coated: H 50 % / M 70 % / L ___ %Fresh 50 % Mousse 25 % Tar Formation: ___ %Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/

Comments:

Recommend vigorous cleaning with pressurized hot water &
flooding at mid tide. Cleaning only for zones or
pooled oil & mousse. See Accompanying Diagram.

DOCUMENTATION:

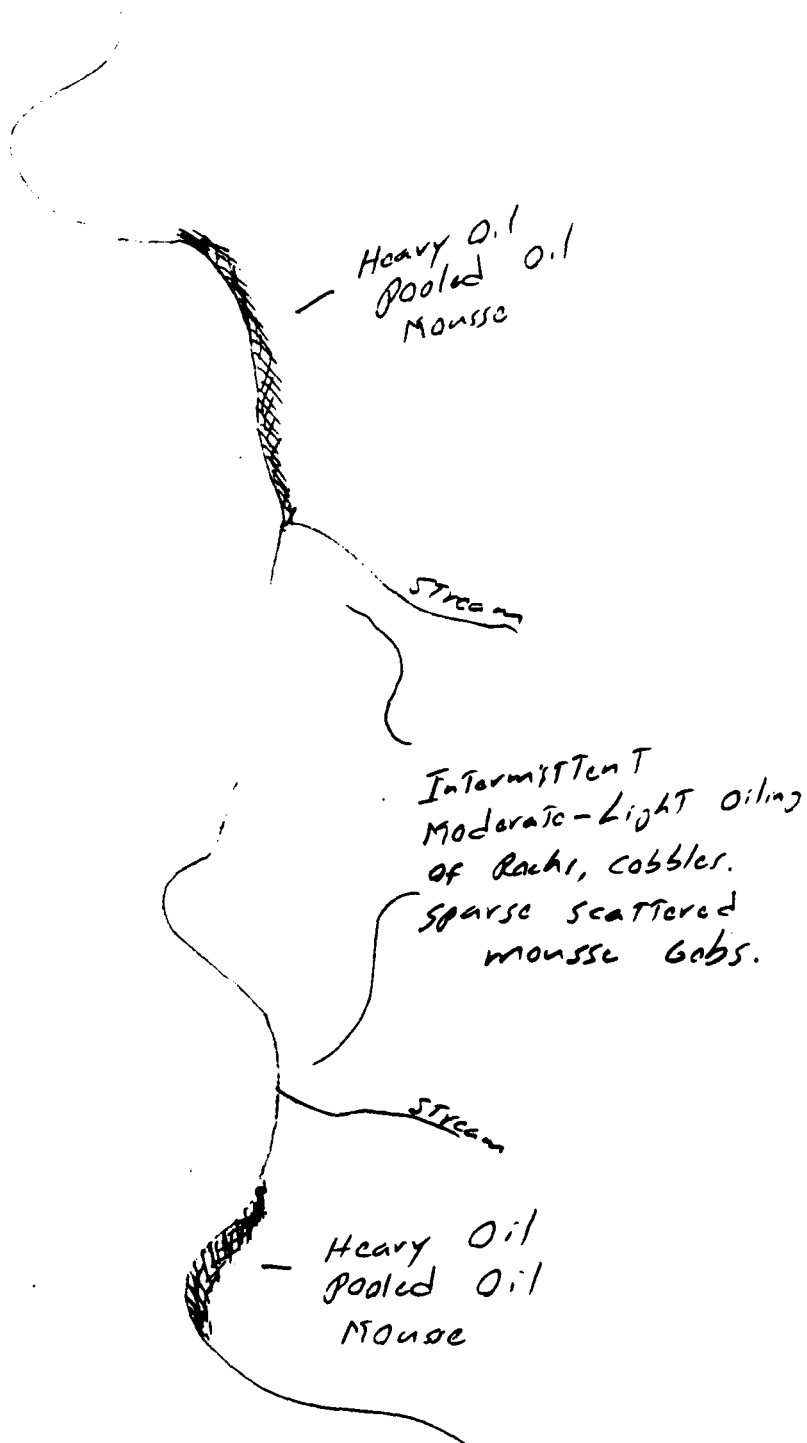
Map/Aerial photo marking segment boundaries _____

VTR: Y/N - Tape Number(s) _____

Photography: Y/N Roll Number(s) _____

Sample Numbers Collected: _____

KN-9



ECOLOGICAL EVALUATION

LOCATION: Kayak Is. Bay or Tidal SITE: West Arm, S. Side OBSERVER: STOKER

LOCATION PREFIX: KN SEG. NO.: KN-9 LENGTH: 500 (M)

DATE: 5/8/89 TIME (HHMM): 1200 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable distribution and density.

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable Distribution/Density on Rocks and in cobbles.

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Dense colonization, small individuals.

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable Distribution, sparse but common.

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable Distribution & Density; generally sparse but common.

OTHER OBSERVATIONS: Isopods & Amphipods under Rocks. No Pagurus found.

CLEANUP PRECAUTIONS: Cleanup Recommended Only for Zones of pooled oil and mousse. (Two Bands, About 5 M x 30 M & 2 M x 100 M)

MAMMALS: Otters _____ Harbor Seals _____ Sea Lions _____ Whales _____
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: Other than for zones with mousse & pooled oil, which is re-oiling this & other beaches, cleanup efforts would be marginally effective and would likely do more harm than good.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date May 2, 1989 Location Knight Island Site Bay of Islands: West Arm

Location Prefix KN Segment # 9 Length 500m

Survey Method:

Air _____ (A - indicate on map) Boat _____ (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) none Data Source —

Oil conditions/beach visibility _____

Width of beach zone surveyed 5 m Tree fringe surveyed 1-20

Cultural resources observed in beach zone (AHRS code) —

Cultural resources observed in tree fringe (AHRS code) CMT

General observations justifying survey method and segment's site probability:

Shore Profile 150, low energy beaches separated by headland

Fresh Water Sources streams on two of the beaches

Sea Exposure West Arm; north

Access/Safety protected West Arm access

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # _____ Frames _____

B/W Roll # SL-1 Frames 17

Observer(s) Ludwig

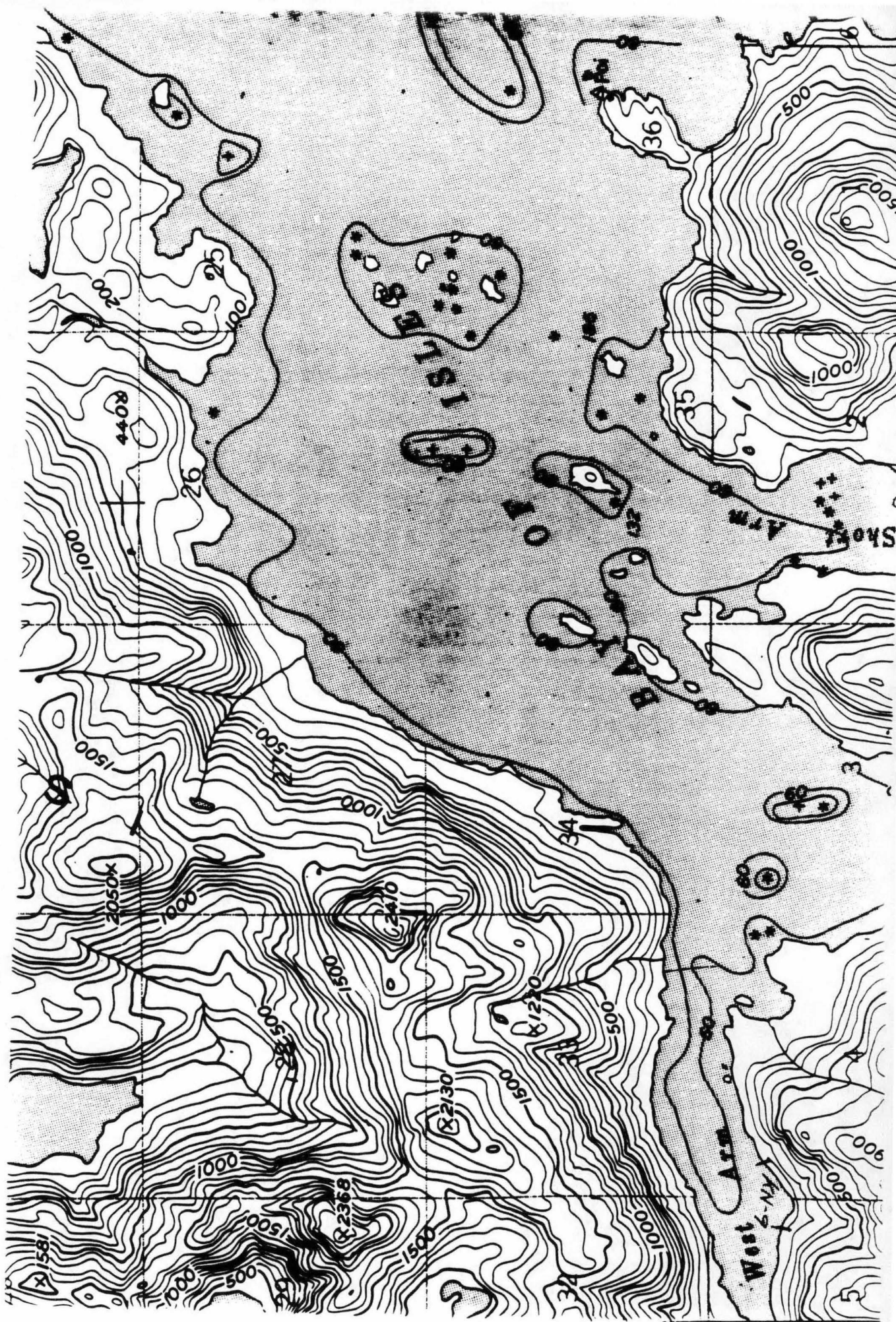
Time survey started 12:00 noon Time survey ended 1:00 pm

Cultural resource considerations/restraints:

Keep cleanup from going into forest.

If here to find undiscovered cultural materials are uncovered during cleanup contact Exxon archaeologist

Mobley and take actions prescribed in the Open Guidelines for Shoreline Cleanup dated 4/21/89 as amended.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989

SHORELINE SEGMENT KN-12

LOCATION: (see enclosed map) Knight Island, Bay of Isles, south
arm, NW shore.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/9/9

Recommended Cleanup Activity(ies):

Warm water under pressure, cold water flooding following tide level.

Clean only zones with heavy oil.

Priorities Considerations:

Heavy oil on rocks, trapped in fucus. Considerable free oil, pooled oil, mousse.

Ecological Constraints (from site survey):

Retain fucus holdfasts, mytilus beds. (SEE FOCUS ADVISORY FOR CLEANUP OF FOCUS).

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Douglas Reger
State Historic Preservation Officer *

ISCC

EXXON:

FOSC:

Date: 5/16/89

6/5/89

Date: 6/5/89

Date: 6/6/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

SHORELINE OIL EVALUATIONDate: 5/9/89 Time: 0915Observer: StokerSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun Cloud/Rain/Snow/Fog**LOCATION**LOCATION Knight Is, Bay of Isles, S. Arm SEGMENT NUMBER KN-12LENGTH OF SHORELINE SEGMENT: 1 200 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane**SHORELINE:**Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B50% / C50% / P___% / G___% / S___% / M___% / R___%Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs, fence**OIL**Degree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 100 Width of Band: 2-20 mSporadic: Y/N % of Segment _____Est. Oil Thickness where > 1cm: 5 cm Est. Oil Penetration: 10 + ? cmPooled Oil: 70% "Free" Oil: 70% Coated: H 50% / M 50% / L 20%

Fresh _____% Mousse _____% Tar Formation: _____%

Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/**Comments:**

Heavy, pooled oil in two separate zones as indicated in
accompanying diagram. Pooled free oil & mousse over 70% of
these zones. Recommend vigorous cleaning using hot water
and flooding of these zones only.
Oil weathering on rocks.

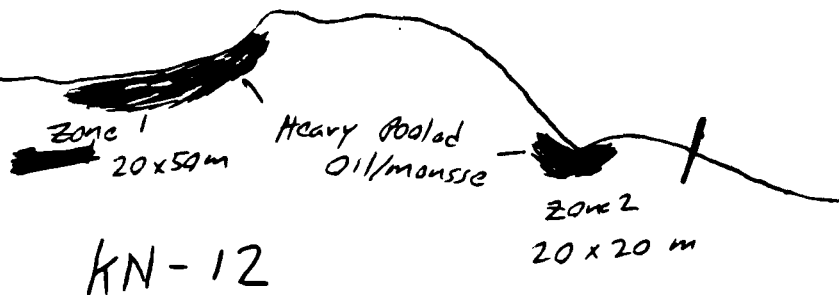
DOCUMENTATION:

Map/Aerial photo marking segment boundaries _____

VTR: Y/N Tape Number(s) _____

Photography: Y/N Roll Number(s) _____

Sample Numbers Collected: _____



ECOLOGICAL EVALUATION

LOCATION: Knights Is, Bay of Islands SITE: South Arm, W. side OBSERVER: STO MerLOCATION PREFIX: KN SEG. NO.: 12 LENGTH: ± 200 (M)DATE: 5/9/89 TIME (HHMM): 0915 TIDE HT.: _____ (M)OILED ZONE: Splash High Medium LowSUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NVariable density; heavy on rock headlands, sparse in coves on cobbles.Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NVariable distribution; generally sparseBalanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NVariable, patchy, dense to sparseLittorinaPatchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/Nvariable distribution, common but not dense.Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NVariable, common but not dense.OTHER OBSERVATIONS: Nucella common, Asteroridea common. Forsters
in subtidalCLEANUP PRECAUTIONS: Recommend vigorous cleanup of heavy, pooled oil
zones only. Try to retain fucus holdfasts and mytilus.MAMMALS: Otters _____ Harbor Seals X Sea Lions X Whales _____
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: Fanna sparse in heavily oiled zones (coves)
above mid-tide level.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Bay of Islands

Date May 9, 1989 Location King Island Site South Arm

Location Prefix KN Segment # 12 Length ±200

Survey Method:

Air _____ (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) None Data Source _____

Oil conditions/beach visibility heavy oiling in back of cove

Width of beach zone surveyed 5 m Tree fringe surveyed _____

Cultural resources observed in beach zone (AHRS code) 0

Cultural resources observed in tree fringe (AHRS code) 0

General observations justifying survey method and segment's site probability:

Shore Profile consists of a rocky section of coast and a low energy cove

Fresh Water Sources no streams within the segment

Sea Exposure located on the east shore of South Arm

Access/Safety easy access on to cobble beach

Probability of undiscovered sites in beach zone (circle one) 1 (2) 3 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # _____ Frames _____

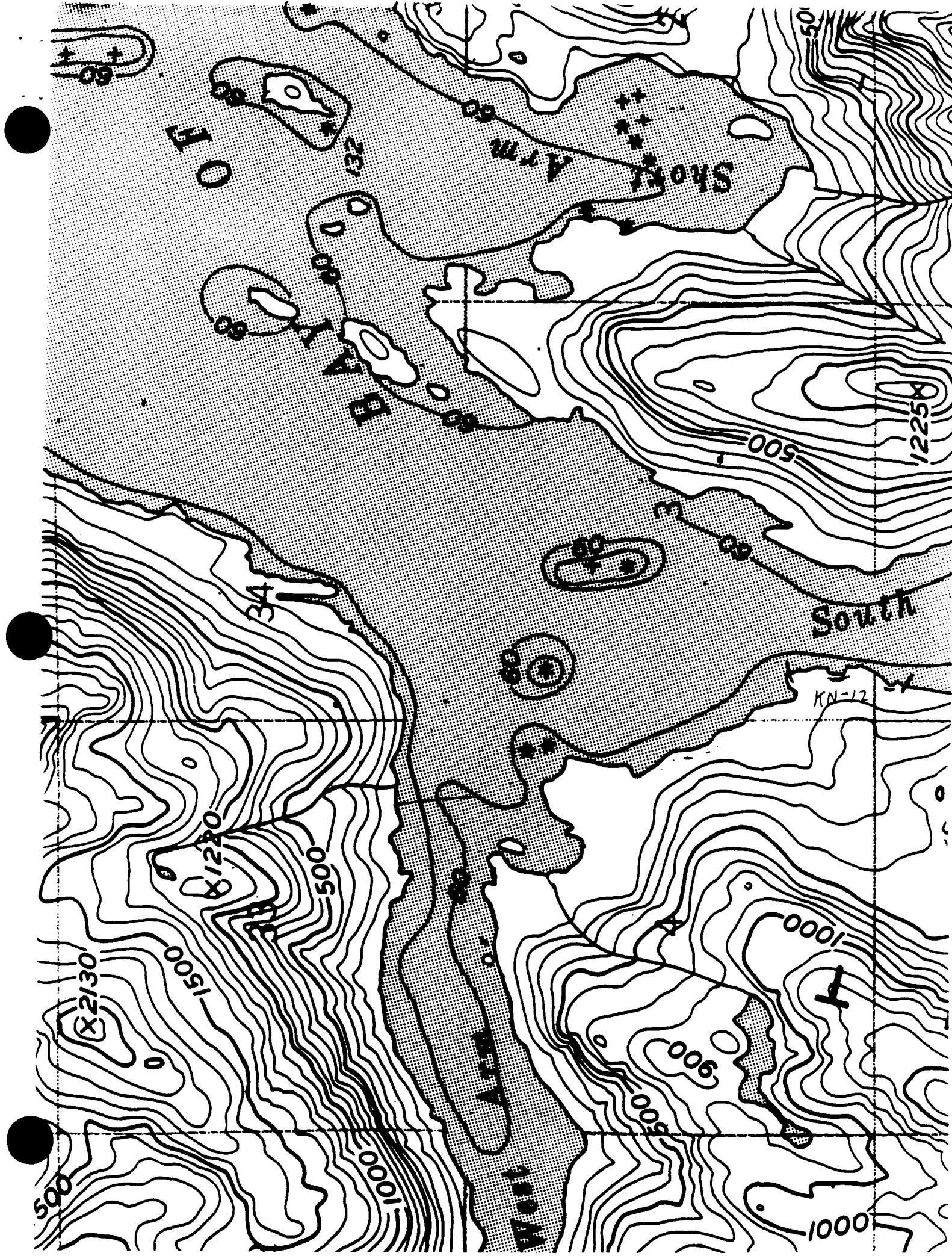
B/W Roll # SL-2 Frames 2

Observer(s) Ludwig

Time survey started 9:10am Time survey ended 9:45am

Cultural resource considerations/restraints:

If heretofore undiscovered cultural material are uncovered during cleanup, contact Exxon archaeologist C. Mobley and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989

SHORELINE SEGMENT KN-13

LOCATION: (see enclosed map) Knight Island, Bay of Isles, south arm, west shore.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/9/89

Recommended Cleanup Activity(ies):

No cleanup recommended. Zones with heavy oiling or free oil are small; cleanup would be marginally effective, probably would do more harm than good.

REASONS TO DETERMINE FEASIBILITY OF REMOVING free oil.

Priorities Considerations:

Oiling sporadic light to heavy. Small zones of free oil.

Ecological Constraints (from site survey):

Cleanup probably counterproductive. NEEDS REASSESSMENT.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Wanda Reger
State Historic Preservation Officer *

Date: 5/16/89

ISCC Jeanne Michel
EXXON: BA Ryan

6/5/89
Date: 6/5/89

FOSC: David J. Janssen

Date: 6/6/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

SHORELINE OIL EVALUATIONDate: 5/9/89 Time: 0950Observer: StokerSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/Fog**LOCATION**LOCATION Knights Is, Bay of Isles, S. ArmSEGMENT NUMBER KN-17LENGTH OF SHORELINE SEGMENT: ± 200 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane**SHORELINE:**Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B 50 % / C 50 % / P % / G % / S % / M % / R %Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs, fuel**OIL**Degree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 100 Width of Band: 1-10 mSporadic: Y/N % of Segment Est. Oil Thickness where > 1cm: 5 cm Est. Oil Penetration: cmPooled Oil: % "Free" Oil: % Coated: H % / M % / L %Fresh % Mousse % Tar Formation: %Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/**Comments:**

Oil sporadic, light to heavy. Weathering on rocks. Two small
zones (indicated on accompanying diagram) of heavy oil with
scattered pooled oil. Zones about 10x10 m each. Rest of
segment light oil, about 1-2 m band at high tide level.
Recommend no cleanup; would probably do more harm
than good.

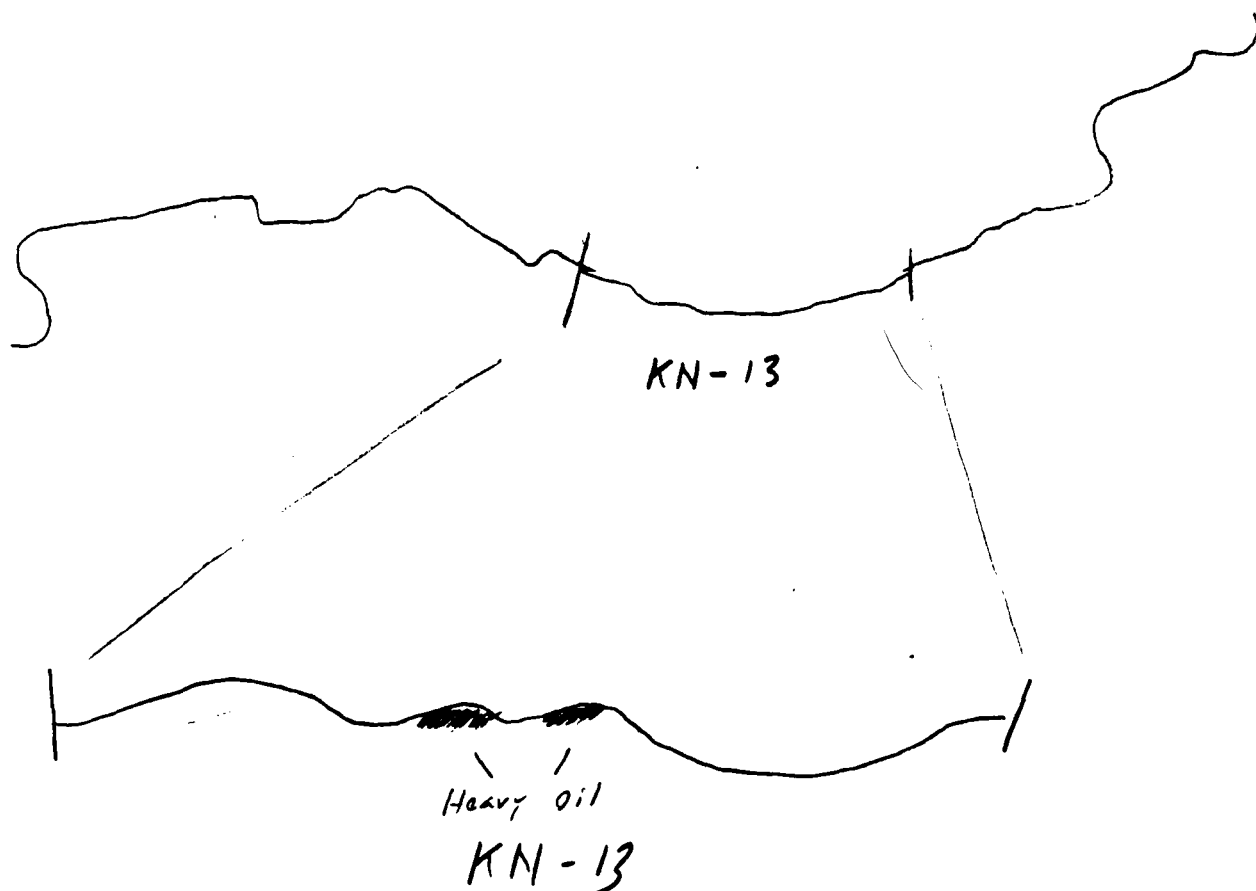
DOCUMENTATION:

Map/Aerial photo marking segment boundaries _____

VTR: Y/N Tape Number(s) _____

Photography: Y/N Roll Number(s) _____

Sample Numbers Collected: _____



ECOLOGICAL EVALUATION

LOCATION: Kalad Is, Bay of Lube SITE: South Arm, W. side OBSERVER: STOKER

LOCATION PREFIX: KN SEG. NO.: 13 LENGTH: ±200 (M)

DATE: 5/9/89 TIME (HHMM): 0950 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

variable density; heavy on rock headland, moderate on cobble.

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Patchy, sparse

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable distribution, generally dense to moderate.

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

variable, common but not dense.

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

variable, common but not dense.

OTHER OBSERVATIONS: Isolated clusters of small pagurus under rock.

Zostera subtidal. Actinoids, Tunicates, polychaetes under rocks.

CLEANUP PRECAUTIONS: No cleanup recommended. Efforts would likely

be counterproductive.

MAMMALS: Otters _____ Harbor Seals X Sea Lions X Whales _____
Other _____

BIRDS: gulls, Terns, Mergansers.

GENERAL OBSERVATIONS: Heavy prior mortality evident in balanus

colonies at this area. 70-90% mortality upper tide zone, 10-30% in lower.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Bay of Isles

Date May 9, 1989 Location Knight Island Site South Arm

Location Prefix KN Segment # 13 Length ±200

Survey Method:

Air _____ (A - indicate on map) Boat _____ (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) no Data Source —

Oil conditions/beach visibility heavy and moderate oiled areas

Width of beach zone surveyed 5 m Tree fringe surveyed _____

Cultural resources observed in beach zone (AHRS code) none

Cultural resources observed in tree fringe (AHRS code) none

General observations justifying survey method and segment's site probability:

Shore Profile 3 low-energy beaches separated by rocky headlands

Fresh Water Sources two small streams

Sea Exposure located on west shore of South Arm

Access/Safety easy access to beaches

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes no Collection yes no

Photos: Color Roll # _____ Frames _____

B/W Roll # SL-2 Frames 3

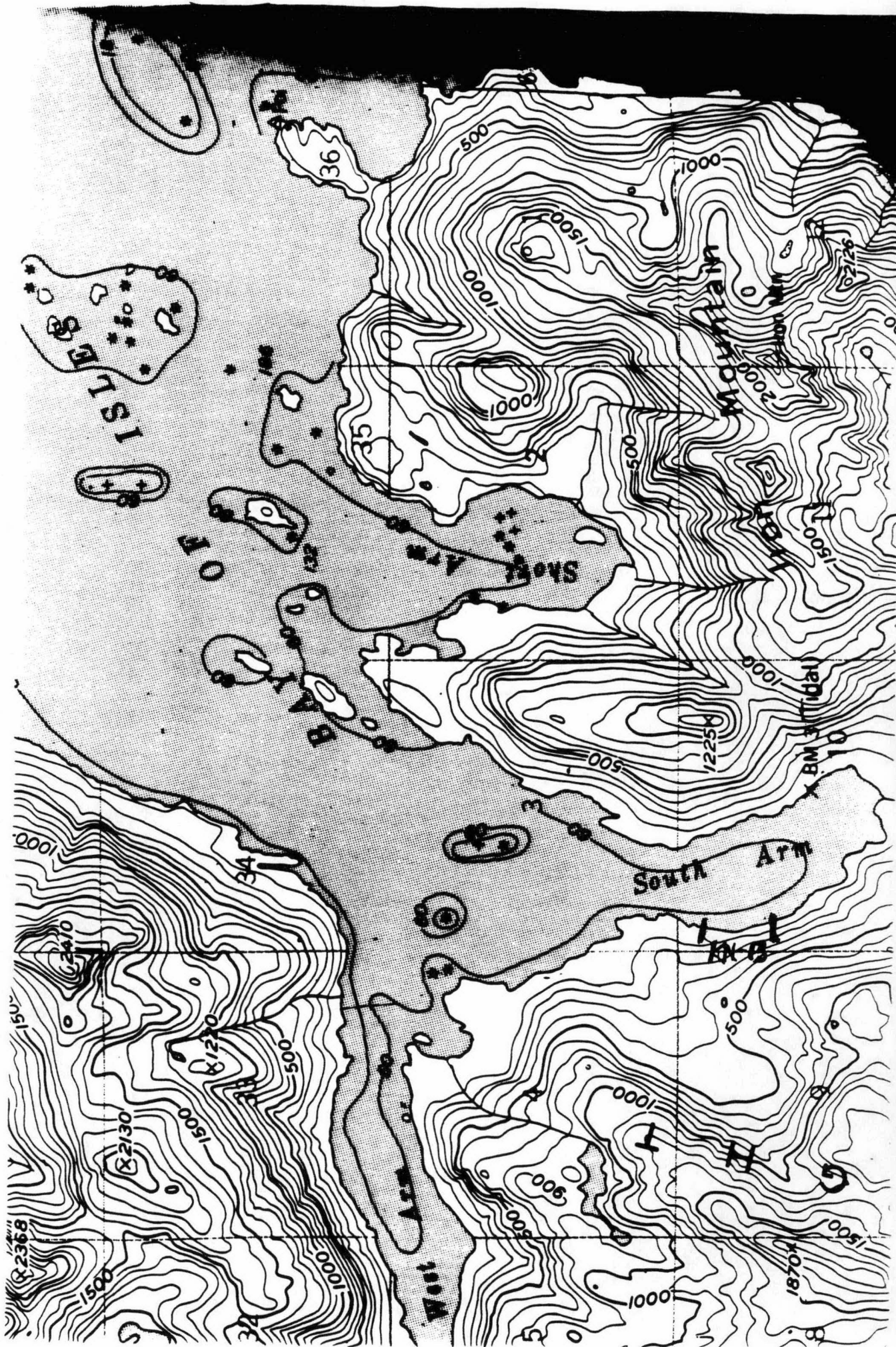
Observer(s) Ludwig

Time survey started 9:50 am Time survey ended 10:30 am

Cultural resource considerations/restraints:

If herefore, undiscovered cultural materials are uncovered during cleanup, contact Exxon archaeologist C. Mofley and take actions prescribed in the Operational

Guidelines for Shoreline Cleanup dated 4/21/89 as amended.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989 SHORELINE SEGMENT KN-14

LOCATION: (see enclosed map) Knight Island, Bay of Isles, south
arm, SW shore.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/19/89

Recommended Cleanup Activity(ies):

Warm water under pressure with cold water flooding following tide level. Clean only heavily oiled area.

Priorities Considerations:

Heavy oil on rocks but little free or pooled oil.

HIGH PRIORITY DUE TO PROXIMITY TO TADROWAS FISH STREAM.

Ecological Constraints (from site survey):

Retain fucus holdfasts. (SEE FUCUS ADVISORY.)

PREVENT MOVEMENT OF SITEEN TOWARDS MOUTH OF STREAM.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Douglas Rizer
State Historic Preservation Officer *

Date: 5/16/89

ISCC Jaime Michel
EXXON: HA myman

6/5/89
Date: 6/5/89

FOSC: David Zampieri

6/6/89
Date: 6/6/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

SHORELINE OIL EVALUATIONDate: 5/9/89 / Time: 1040Observer: StokerSurveyed From: Foot/Boat/Helio/PlaneWeather: Sup Cloud/Rain/Snow/Fog**LOCATION**LOCATION Knight Is, Bay of Isles, S ArmSEGMENT NUMBER KN-14LENGTH OF SHORELINE SEGMENT: ± 200 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane**SHORELINE:**Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B40% / C40% / P20% / G___% / S___% / M___% / R___%Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs, fence**OIL**Degree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 100 Width of Band: 5-10 m

Sporadic: Y/N % of Segment _____

Est. Oil Thickness where > 1cm: _____ cm Est. Oil Penetration: 5-10 cmPooled Oil: _____% "Free" Oil: _____% Coated: H 70% / M 50% / L _____%

Fresh _____% Mousse _____% Tar Formation: _____%

Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/**Comments:**

Zone of heavy oil-coated rocks/cobble about 5-10m wide
by 120 m. weathering. Recommend cleaning with hot water
& flooding, but lower than top priority.
See accompanying diagram.

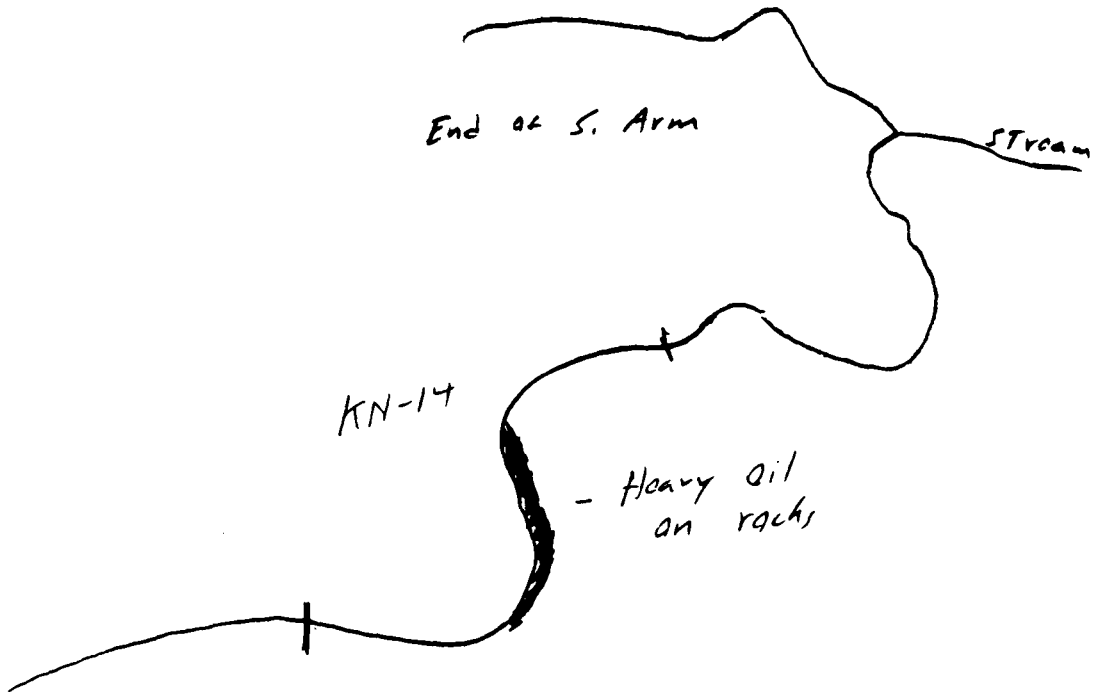
DOCUMENTATION:

Map/Aerial photo marking segment boundaries _____

VTR: Y/N Tape Number(s) _____

Photography: Y/N Roll Number(s) _____

Sample Numbers Collected: _____



ECOLOGICAL EVALUATION

LOCATION: Haystack Is, Bay of Isles SITE: S Arm, SW shore OBSERVER: STQMER

LOCATION PREFIX: HN SEG. NO.: 14 LENGTH: ± 200 (M)

DATE: 5/19/89 TIME (HHMM): 1040 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable, dense to moderate

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Generally sparse

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable, dense to moderate

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

common but not dense

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

common but not dense sparse

OTHER OBSERVATIONS: Actinoidae, blennies under rocks Pagurus

common, scattered clusters of small individuals.

CLEANUP PRECAUTIONS: Recommend priority 2 cleanup of heavily oiled zone.

Retain fucus holdfasts.

MAMMALS: Otters _____ Harbor Seals _____ Sea Lions _____ Whales _____
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: Heavy previous balanus mortality in mid to

upper tide zone.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Bay of Isles

Date May 9, 1989 Location Knigh Island Site South Arm
Location Prefix KN Segment # 14 Length ±200m

Survey Method:

Air _____ (A - indicate on map) Boat _____ (A - indicate on map)
Ground X (G - indicate on map)

Known cultural resources (AHRS #) 0 Data Source _____

Oil conditions/beach visibility moderate to heavy in patches

Width of beach zone surveyed 5 m Tree fringe surveyed 1-20m

Cultural resources observed in beach zone (AHRS code) 0

Cultural resources observed in tree fringe (AHRS code) 0

General observations justifying survey method and segment's site probability:

Shore Profile low energy beach with rocky upper beach

Fresh Water Sources 2 medium large streams and 1 small stream

Sea Exposure east shore of South Arm

Access/Safety protected area at end of South Arm

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # _____ Frames _____

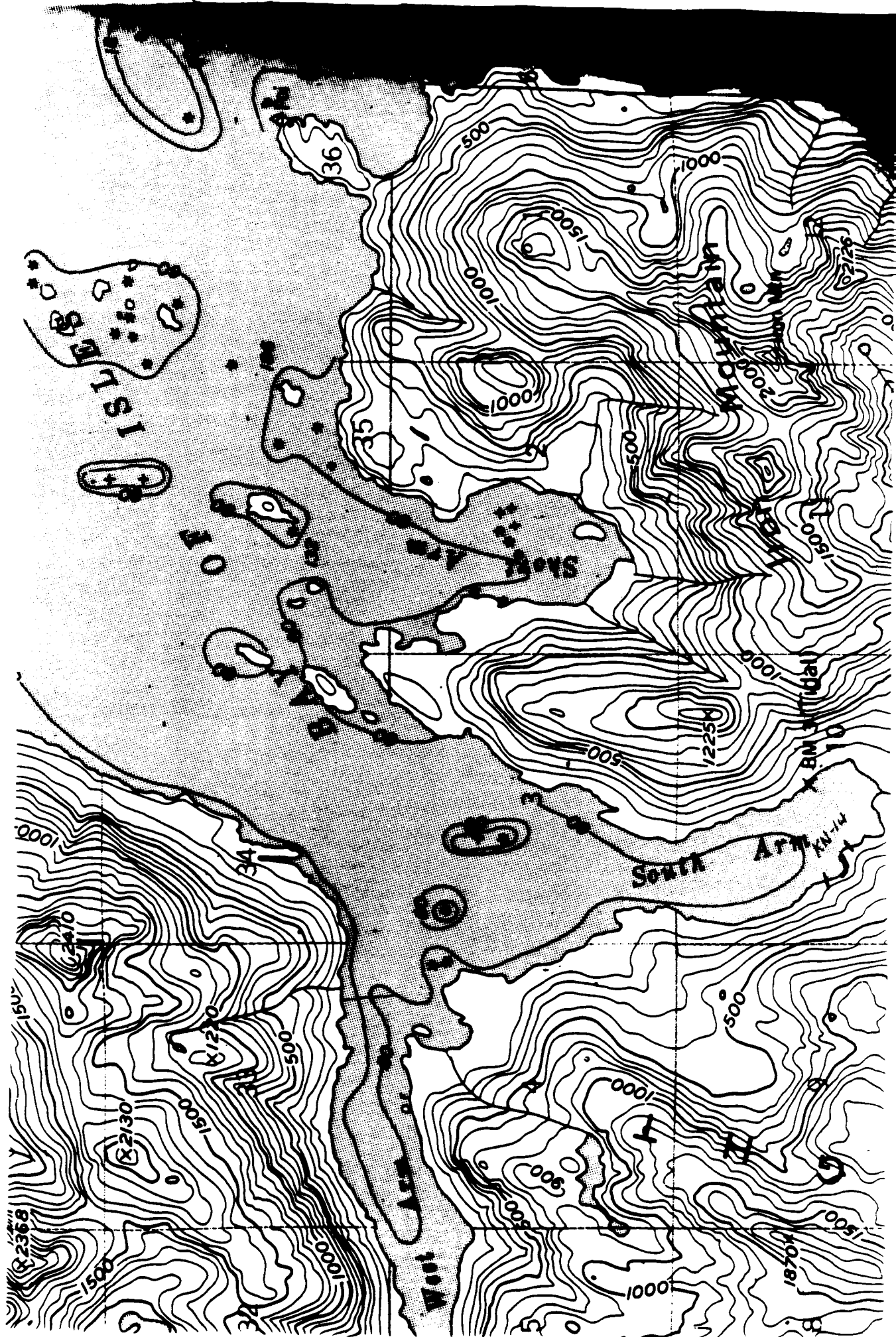
B/W Roll # SL-2 Frames 4

Observer(s) Ludwig

Time survey started 10:45 am Time survey ended 11:15 am

Cultural resource considerations/restraints:

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon archaeologist C. Mobley and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989

SHORELINE SEGMENT KN-15

LOCATION: (see enclosed map) Knight Island, Bay of Isles, south
arm, NE shore.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/9/89

Recommended Cleanup Activity(ies):

Warm water under pressure with cold water flooding following tide level. Clean only areas with heavy free oil or pooled oil.

Priorities Considerations:

Scattered zones of pooled oil, heavy free oil trapped in fucus.

Ecological Constraints (from site survey):

Retain fucus holdfasts and mytilus beds. Clean only areas with free oil, pooled oil. (SEE FUCUS ADVISORY).

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89, as amended.

Douglas Rege
State Historic Preservation Officer *

ISCC Josephine Michel
EXXON: BA [signature]
FOSC: [signature]

Date: 5/17/89 5/29/89

6/5/89
Date: 6/5/89

Date: 6/6/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

SHORELINE OIL EVALUATIONDate: 5/9/89 Time: 1130Observer: StglerSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/Fog**LOCATION**LOCATION Knight Is, Bay of Isles, S. ArmSEGMENT NUMBER KN-15LENGTH OF SHORELINE SEGMENT: 1500 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane**SHORELINE:**Shoreline Type: SPI/SEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B50% / C50% / P___% / G___% / S___% / M___% / R___%Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs, fucus**OIL**Degree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 30 Width of Band: 1-15 mSporadic: Y/N % of Segment 30Est. Oil Thickness where > 1cm: 5 cm Est. Oil Penetration: 5-10 cmPooled Oil: 10-50% "Free" Oil: 50% Coated: H30% / M30% / L___%Fresh _____% Mousse some% Tar Formation: _____%Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/**Comments:**

Heavy oiling of rocks and fucus and pooled oil/mousse in scattered zones of from 1x10 m to 10x20 m, separated by areas of light or no oil. See accompanying sketch.

Recommend hot water & flooding of heavily oiled zones with pooled oil only. Oil trapped in fucus, pooled in rocks.

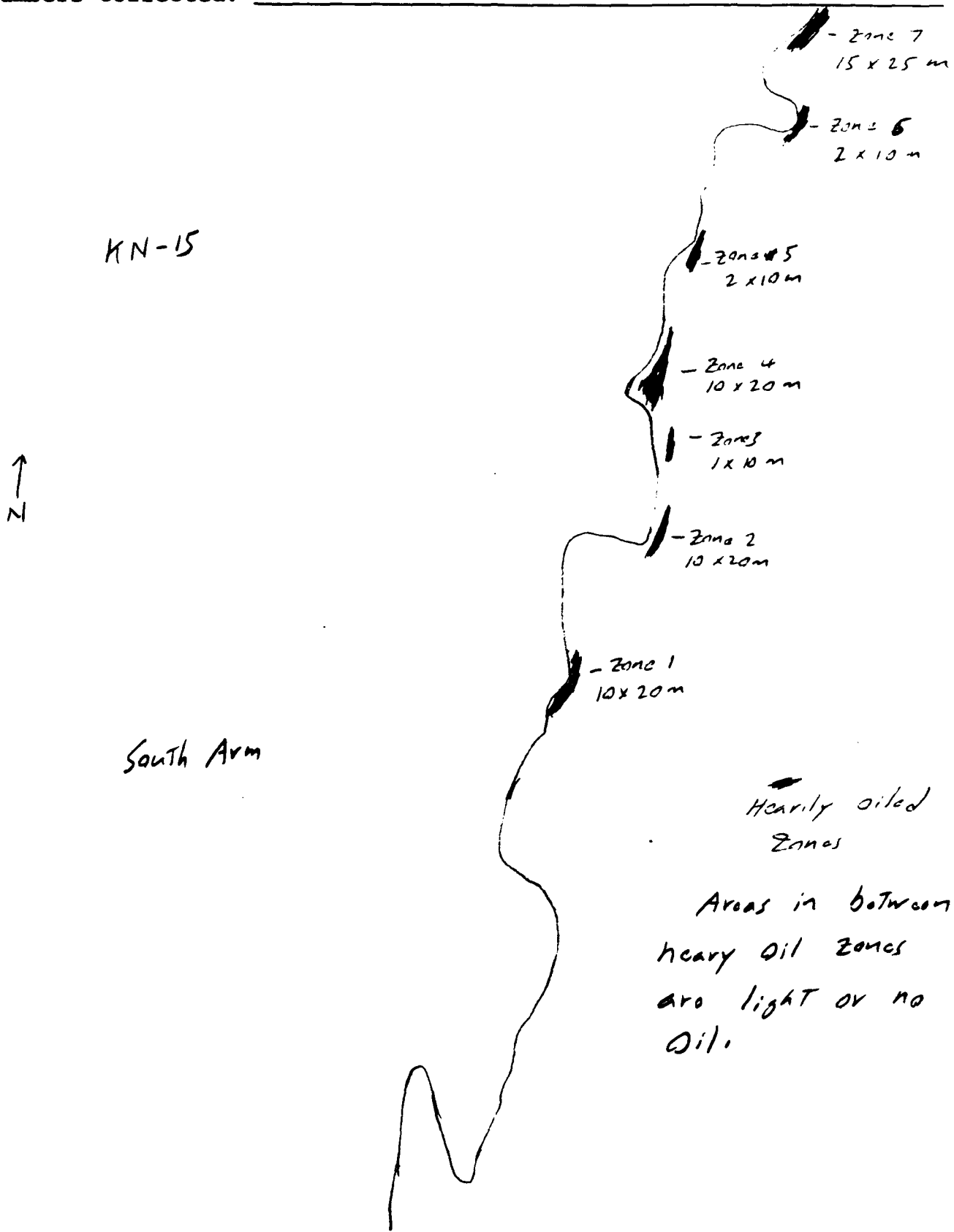
DOCUMENTATION:

Map/Aerial photo marking segment boundaries _____

VTR: Y/N Tape Number(s) _____

Photography: Y/N Roll Number(s) _____

Sample Numbers Collected: _____



ECOLOGICAL EVALUATION

LOCATION: Kauai Is. Bay or Is. SITE: S. Arm, NE shore OBSERVER: Stoker

LOCATION PREFIX: KN SEG. NO.: 15 LENGTH: ±1500 (M)

DATE: 5/9/89 TIME (HHMM): 1130 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
variable dense to moderate

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Variable, dense to sparse, very patchy

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Variable, patchy, dense to moderate

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
common but not dense.

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
few observed

OTHER OBSERVATIONS: Nucella common, dense in patches.

Scattered clusters of small Pagurus.

CLEANUP PRECAUTIONS: Recommend cleanup of heavily oiled zones which
have pooled oil/mousse. Retain fucus holdfasts & mytilus beds.

MAMMALS: Otters _____ Harbor Seals X Sea Lions _____ Whales _____
 Other _____

BIRDS: _____

GENERAL OBSERVATIONS: Need to clean up pooled oil, but to try and
clean weathered oil from rocks is probably counterproductive.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date May 9, 1989 Location Knight Island Site Bay of Isles South Shore
Location Prefix KN Segment # 15 Length 1500m

Survey Method:

Air _____ (A - indicate on map) Boat X (A - indicate on map)
Ground X (G - indicate on map)

Known cultural resources (AHRS #) none Data Source _____

Oil conditions/beach visibility heavy oil in patches

Width of beach zone surveyed 7 m Tree fringe surveyed 0-5

Cultural resources observed in beach zone (AHRS code) X

Cultural resources observed in tree fringe (AHRS code) X

General observations justifying survey method and segment's site probability:

Shore Profile mostly a exposed 30° rocky coast with small

Fresh Water Sources no stream and one waterfall

Sea Exposure South shore of Bay of Isles

Access/Safety Somewhat rough access except onto beach in Area B

Probability of undiscovered sites in beach zone (circle one) 1 (2) 3 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # _____ Frames _____

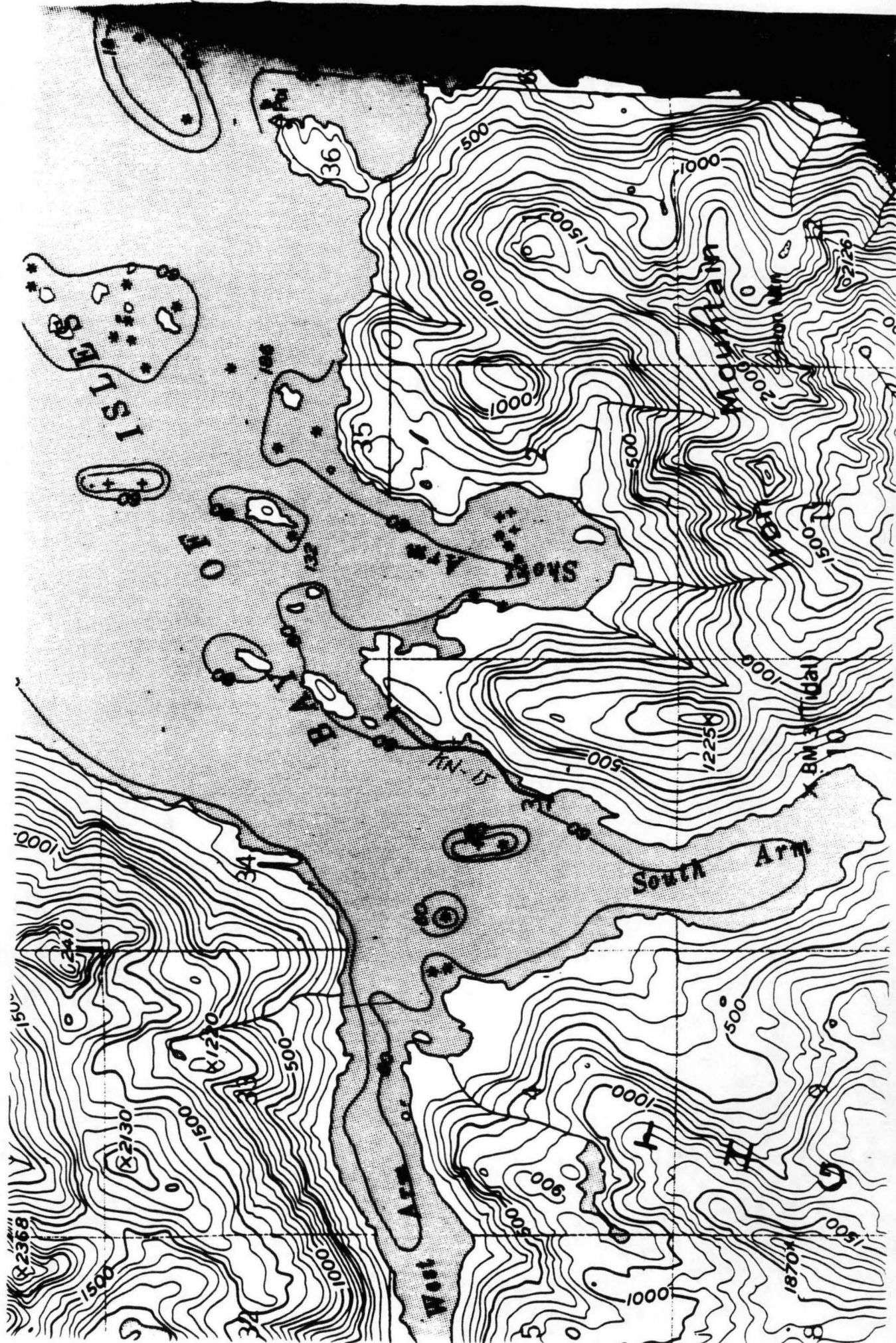
B/W Roll # SL-2 Frames 5-7

Observer(s) Ludwig

Time survey started 11:30 am Time survey ended 12:50 pm

Cultural resource considerations/restraints:

If heretofore undiscovered cultural materials are un-
covered during cleanup, contact Exxon archaeologist
C. Mobley and take actions prescribed in the
Operational Guidelines for Shoreline Cleanup
dated 4/21/89 as amended.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/29/89

SHORELINE SEGMENT KN-134

LOCATION: (see enclosed map) Bay of Isles - Knight Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/4/89

Recommended Cleanup Activity(ies): Manually remove as much pooled oil as possible prior to washing, remove oiled debris on high tide drift line, algae, plastics, wood. Use high pressure agitation with flooding on beach sediments, high pressure wash on rock slopes. Hot water use o.k. with constraints listed below.

Priorities Considerations: ~~2 streams located on beaches. Crews should avoid these streams and ADF&G personnel should be consulted as to impact on fisheries. Little oil impact on stream beds.~~ NOT AN APPROPRIATE FISH STREAM.

Ecological Constraints (from site survey): Recommend flooding and moderate to low pressure rinse at +2' to 0' tide level to remove mobile organisms moving into oiled areas. After rinse, high pressure and high temperature rinse o.k. from -2' tide to drift line. Do not work on beach below -3' tides. Remove oiled fucus manually.

Archeological Constraints (from site survey):

NO Restrict access to rock overhangs in the cliffs. If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Douglas R. Reger
State Historic Preservation Officer *

Date: 5/29/89

ISCC James Michael
EXXON: SAHymman

6/5/89
Date: 6/5/89

FOSC: David Zamboni

6/6/89
Date: 6/6/89

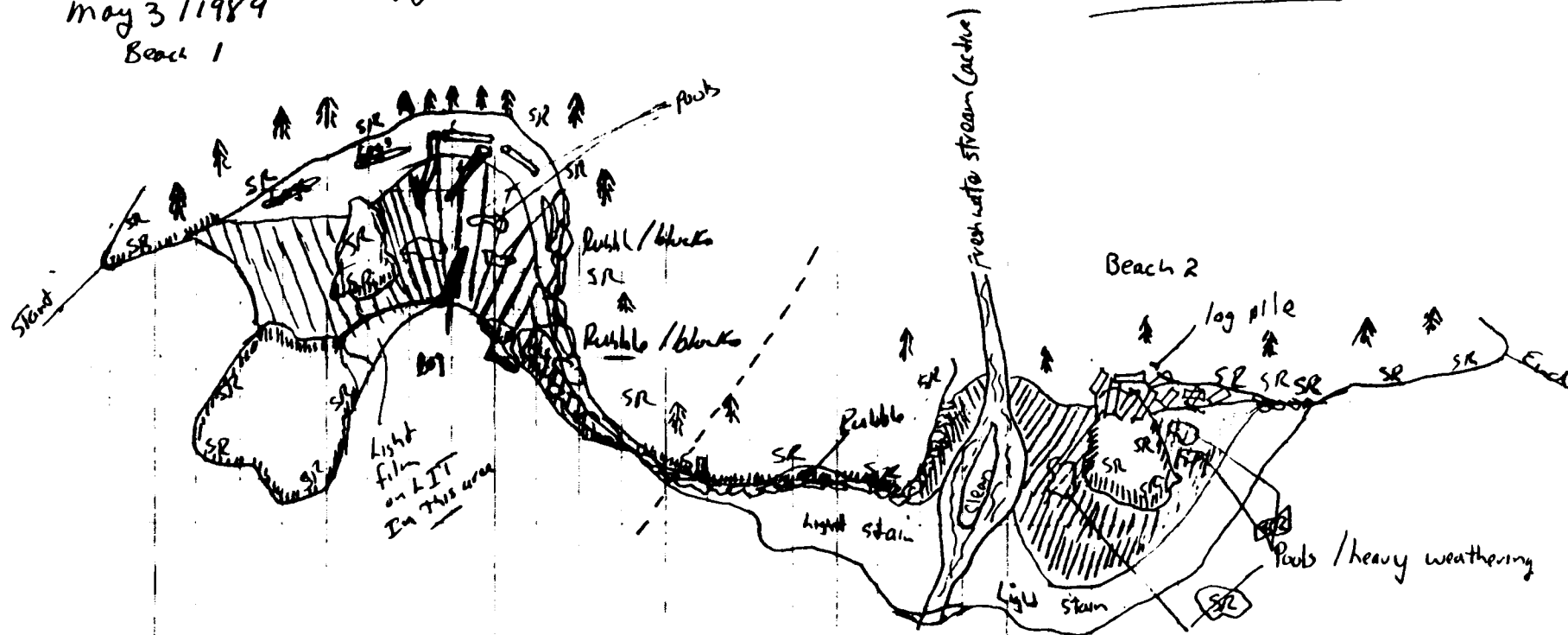
* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

SHORELINE OIL EVALUATIONDate: 5/3-4/89 Time: 20:00/06:45Observer: Reimer (Team 2)Surveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/Fog**LOCATION**LOCATION Knight Island
South Arm Bay of IslesSEGMENT NUMBER Kn-134LENGTH OF SHORELINE SEGMENT: 700 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane**SHORELINE:**Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B 15% / C 30% / P 30% / G % / S 5% / M % / R 20%Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs, algae, rocks**OIL**Degree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 100 Width of Band: 10-85 mSporadic: Y/N % of Segment Est. Oil Thickness where > 1cm: 1-5 cm Est. Oil Penetration: 3-10 cmPooled Oil: 10% "Free" Oil: 10% Coated: H 60% / M 15% / L 5%Fresh % Mousse 90% Tar Formation: 10%Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/**Comments:**

Considerable free and pooled oil on upper beach face and between rocks and boulders, /heaviest concentrations of oil are in the mid to upper intertidal zone. The oil is heavily weathered, pools are thick and sticky brown in color, much of the oil between rocks is hardening into a tar consistency. Beach material is angular or blocky, considerable slate material in pebble size range being cemented together, Area around major stream was lightest hit, possibly due to fresh water saturation of beach material.

KNIGHT ISLAND
 KN 134 Southarm Bay of Isles
 May 3 1989
 Beach 1

P.D. Reimer (Team 2)



Rock on Beach is blocky and angular
 Continuous Band of at 15 m
 Drift debris, logs, algae, rope, plastics lightly oiled
 Access ~~to~~ boat, see plain

ECOLOGICAL EVALUATION

LOCATION: Knight Isl. SITE: South ARM Bay of Isles OBSERVER: Amclur

LOCATION PREFIX: KN SEG. NO.: 134 LENGTH: 700 (M)

DATE: 89/05/04 TIME (HHMM): 0630 TIDE HT.: - .5 (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy ☒ Y/N Contin. Y/N Dense Y/N Sparse ☒ Y/N None Y/N

Present on rocky points, absent on Cobble beaches filamentous green algae & eel grass in lower zones on beaches & Diatoms

Mytilus (Mussels): Patchy ☒ Y/N Contin. Y/N Dense Y/N Sparse ☒ Y/N None Y/N

Balanus (Barnacles): Patchy ☒ Y/N Contin. Y/N Dense Y/N Sparse ☒ Y/N None Y/N

Littorina

Patchy ☒ Y/N Contin. Y/N Dense Y/N Sparse ☒ Y/N None Y/N

Limpets: Patchy ☒ Y/N Contin. Y/N Dense Y/N Sparse ☒ Y/N None Y/N

OTHER OBSERVATIONS: Large number of Sea stars and small urchins present at tideline (~.5m), less oil on rocky points. few live Clams in soft bottoms below oil line. Ribbon worms and Inkcap worms (most seem dead).

CLEANUP PRECAUTIONS: Moderate pressure wash to remove Shore crabs, Gurnets & earth tidepool fish, and Hot water ok from +1' (±1') tideline up to wrack line. Remove all oiled Fucus

MAMMALS: Otters _____ Harbor Seals _____ Sea Lions _____ Whales _____
Other _____

BIRDS: 2 eagles, few Oystercatchers

GENERAL OBSERVATIONS: Very little life ~~below~~ above Omeen Tideline.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 5/3/89 & 5/4/89 Location KNIGHT ISLAND Site SOUTH ARM BAY OF ISLES

Location Prefix KN Segment # 134 Length 700 M

Survey Method:

Air _____ (A - indicate on map) Boat B (X - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) NONE Data Source _____

Oil conditions/beach visibility MODERATE TO HEAVY OIL - POOLING OF BLACK OIL

Width of beach zone surveyed 5-10 m Tree fringe surveyed 10 M

Cultural resources observed in beach zone (AHRS code) NONE

Cultural resources observed in tree fringe (AHRS code) NONE

General observations justifying survey method and segment's site probability:

Shore Profile GENTLE SLOPE - LOW ENERGY BEACHES

Fresh Water Sources LARGE CREEK SOUTH END OF BEACH 2

Sea Exposure EAST TOWARDS ENTRANCE TO S. ARM BAY OF ISLES

Access/Safety EASY SHELTERED ACCESS - WELL PROTECTED BEACHES

Probability of undiscovered sites in beach zone (circle one) 1 (2) 3 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # _____ Frames _____

B/W Roll # SL-1 Frames 1

Observer(s) BETTS, LUDWIG

Time survey started 1950 Time survey ended 2100

Cultural resource considerations/restraints:

15M long, 5M DEEP ROCK OVERHANG AT END OF BEACH 1 - CLEAN UP CREWS SHOULD STAY OUT OF IT. IF HERE T.O.FORE UNDISCOVERED CULTURAL MATERIALS ARE UNCOVERED DURING CLEAN-UP NOTIFY EXXON ARCHEOLOGIST C. MORLEY IMMEDIATELY (835-7749)

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/29/89

SHORELINE SEGMENT KN-135

LOCATION: (see enclosed map) Knight Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/4/89

Recommended Cleanup Activity(ies): Manually remove as much pooled oil as possible prior to washing, including oiled debris on storm berm and seaweeds. High degrees of weathering may require scraping as vacuum equipment may not work. Use high pressure agitation with flooding on beaches, high pressure wash on rock, hot water ok with constraints below. Manual moving of large boulders may be necessary to get at tar forming in crevices.

Priorities Considerations: Concentrate on heavily oiled beach areas first.

Ecological Constraints (from site survey): Streams in survey area should be surveyed for anadromous fish. Herring reported in area but none observed (spawn or fish). Check for herring spawn prior to cleanup. High temperature and pressure ok above +1' tide zone. Mechanical removal of oiled fucus advised. Use moderate pressure in lower oiled zone (+2' to -3') to move mobile animal out, then high temperature and pressure ok.

NOT ANADROMOUS FISH STREAMS

NO Archeological Constraints (from site survey): Restrict access to rock overhangs in the cliff. If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

August R. Reger
State Historic Preservation Officer *

Date: 5/29/89

ISBC James L. Michael
EXXON: LA Ruffmay

6/5/89

Date: 6/5/89

FOSC: David J. Jorgensen

Date: 6/6/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

SHORELINE OIL EVALUATIONDate: 5/4/89 Time: 07:42Observer: Reimer (Team 2)Surveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/Fog**LOCATION**Knight IslandLOCATION South Arm Bay of IslesSEGMENT NUMBER Kn-135LENGTH OF SHORELINE SEGMENT: 700 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane**SHORELINE:**Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B 25% / C 25% / P 20% / G X% / S R% / M -% / R 28%Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs, rope, seaweed, plastic**OIL**Degree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 100 Width of Band: 30-60 m

Sporadic: Y/N % of Segment _____

Est. Oil Thickness where > 1cm: 1-4 cm Est. Oil Penetration: 3-15 cmPooled Oil: 10% "Free" Oil: 10% Coated: H 30% / M 30% / L 20%Fresh _____% Mousse 90% Tar Formation: 10%Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L**Comments:**

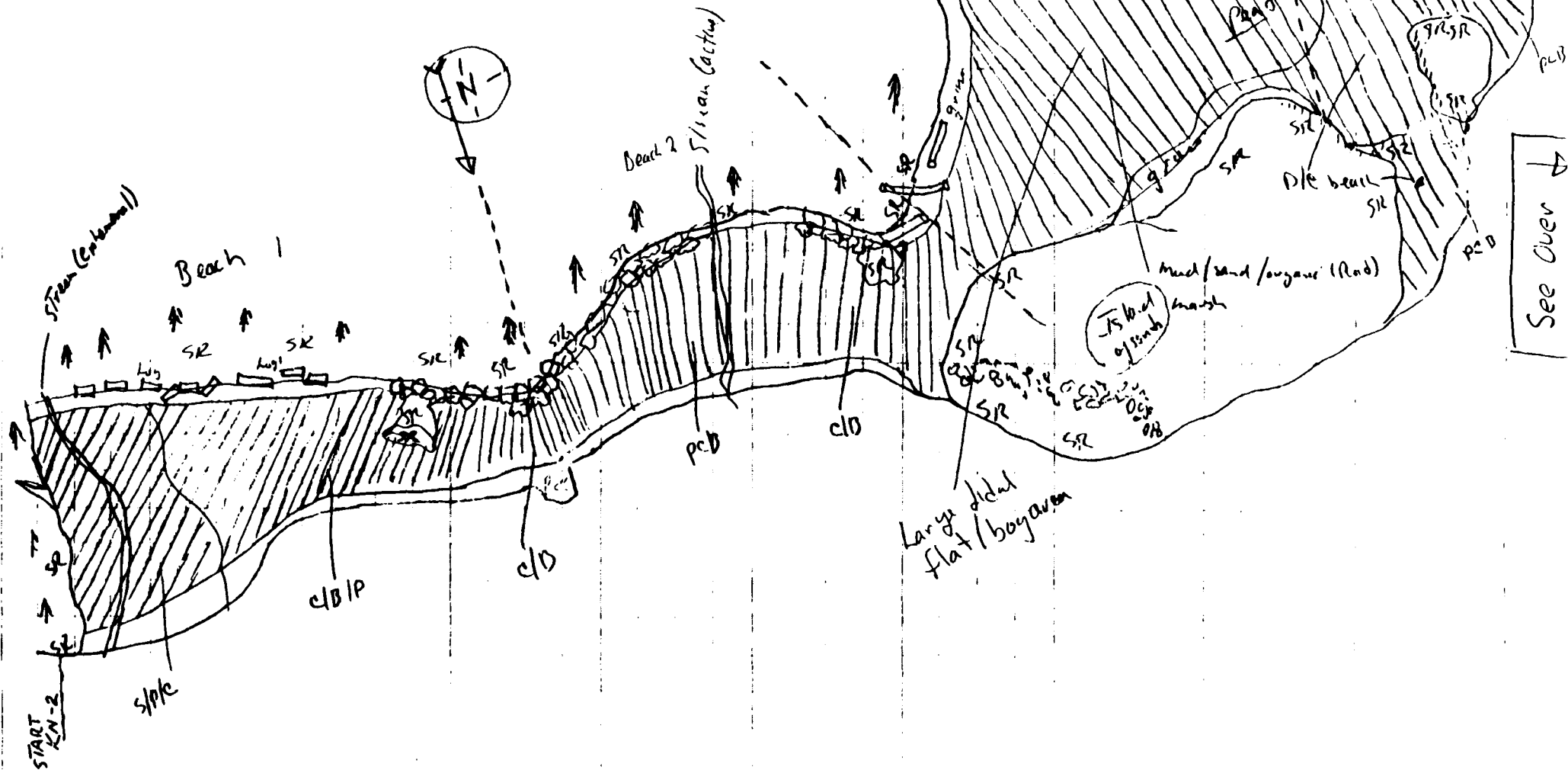
Considerable free and pooled oil in mid to upper intertidal zone. 1-4 cm mousse covering rocks and in crevices between cobbles and boulders. The oil is heavily weathered, brown and sticky. Tar balls found in lower intertidal zone with tar pavements forming in places. Other areas have varying degrees of coating. Lightest in low intertidal, increasing up the beach. Low angle, wider beaches are generally pebble/cobble/boulder, where narrow steep beaches are boulder/cobble.

KN- 135

MAY 4/1989

South arm Bay of Isles

P.D. Reimer



ECOLOGICAL EVALUATION

LOCATION: Knight Isl. SITE: South ARM Bay of Isles OBSERVER: Amdur
 LOCATION PREFIX: KN SEG. NO.: 125 LENGTH: 1200 700 (M)
 DATE: 89 105 104 TIME (HHMM): 0740 TIDE HT.: 2.75 (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy ☒ Y/N Contin. Y/N Dense Y/N Sparse ☒ Y/N None Y/N

eelgrass below tide zone

Mytilus (Mussels): Patchy ☒ Y/N Contin. Y/N Dense Y/N Sparse ☒ Y/N None Y/N

Balanus (Barnacles): Patchy ☒ Y/N Contin. Y/N Dense ☒ Y/N Sparse Y/N None Y/N

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None ☒ Y/N

Limpets: Patchy ☒ Y/N Contin. Y/N Dense Y/N Sparse ☒ Y/N None Y/N

OTHER OBSERVATIONS: Nesting eagles (2) Some mobile animals (hermit crabs, Tidepool fish) moving into lower oil zones. amphipods under rocks in lower zones. Remove all oiled fucus.

CLEANUP PRECAUTIONS: Moderate pressure at the lower zones to flush out live organisms (~ ± 0 to ± 2' tideline) then hot & high pressure OK.

MAMMALS: Otters _____ Harbor Seals _____ Sea Lions _____ Whales _____
 Other _____

BIRDS: 2 Nesting eagles along segment

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date May 4, 1989 Location Knight Island Site South End of Bay

Location Prefix KN Segment # 135 Length 700m

Survey Method:

Air _____ (A - indicate on map) Boat 3 (A - indicate on map)

Ground _____ (G - indicate on map)

Known cultural resources (AHRS #) _____ Data Source _____

Oil conditions/beach visibility heavy with areas of moderate

Width of beach zone surveyed 2-30 m Tree fringe surveyed 0-7m

Cultural resources observed in beach zone (AHRS code) X

Cultural resources observed in tree fringe (AHRS code) CHT

General observations justifying survey method and segment's site probability:

Shore Profile lower beach 5-20° slope,

Fresh Water Sources 2 channels (on Beaches 1 & 2)

Sea Exposure on sand and, east exposure

Access/Safety easy boat access

Probability of undiscovered sites in beach zone (circle one) 1 2 (3) 4 5

Monitoring during cleanup needed yes (no) Collection yes/no (no)

Photos: Color Roll # _____ Frames _____

B/W Roll # SL-1 Frames 3, 4

Observer(s) Ludwig, 304-5

Time survey started 7:40 am Time survey ended 11:40 am

Cultural resource considerations/restraints:

CLEAN-UP CREWS SHOULD NOT BE ALLOWED

TO ENTER CAVES. IF HERETOFORE UNDISCOVERED CULTURAL MATERIALS ARE UNCOVERED DURING
CLEAN-UP NOTIFY EXXON ARCHAEOLOGIST C. MORLEY IMMEDIATELY (835-7749)

SHORELINE OIL EVALUATIONDate: 5/4/89 Time: 9:00Observer: Reimer (Team 2)Surveyed From: (Foot) Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/FogLOCATIONLOCATION South Arm Bay of IslesSEGMENT NUMBER Kn-136LENGTH OF SHORELINE SEGMENT: 200 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

(possible)

SHORELINE:Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VER

organic (peat)

Wave Exposure: High/Med/LowSediment: B 5 % / C 5 % / P 20 % / G X % / S 20 % / M 20 % / R 10 % / O 20 %Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type log, seaweed
Plastic, ropeOILDegree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 100 Width of Band: _____ m

Sporadic: Y/N % of Segment _____

Est. Oil Thickness where > 1cm: _____ cm Est. Oil Penetration: > 10 cmPooled Oil: _____ % "Free" Oil: _____ % Coated: H _____ % / M 100 % / L _____ %Fresh _____ % Mousse 100 % Tar Formation: _____ %Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L

Comments:

This area is unique in that it is a marsh/estuary which is entirely exposed @ low tide. The perimeter of the area is characterized by pebble/cobble beach or rock/boulder slopes, however the majority of the area is made up of sandy-muds with a high degree of organics. Oil has penetrated > 10 cm into peat deposits, large amounts of heavily oiled fucus and small sticks ring the area @ the high tide line, some grass beds extend into the intertidal and are oiled.

ECOLOGICAL EVALUATION

LOCATION: Knight Isl. SITE: South arm Bay of Isles OBSERVER: Amdur
 LOCATION PREFIX: KN SEG. NO.: 136 LENGTH: 200 (M)
 DATE: 89/05/04 TIME (HHMM): 08:20 TIDE HT.: - .3 (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Tidal mudflat. Soft Bottoms w/ clams and worms.
Ribbon worm & Eurytus seen dead. No or little life heavy Tur
Coat. Infa Benthic must be dead.

CLEANUP PRECAUTIONS: No Biological reason, but Soft Sediments
So High pressure may not be wise.

MAMMALS: Otters _____ Harbor Seals _____ Sea Lions _____ Whales _____
 Other _____

BIRDS: _____

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 5/4/89 Location KNIGHT ISLAND Site SOUTH ARM BAY OF ISLES

Location Prefix KN Segment # 136 Length _____

Survey Method:

Air _____ (A - indicate on map) Boat _____ (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) NONE Data Source _____

Oil conditions/beach visibility HEAVY BLACK OIL - POOLING

Width of beach zone surveyed 3m m Tree fringe surveyed 2m

Cultural resources observed in beach zone (AHRS code) NONE

Cultural resources observed in tree fringe (AHRS code) NONE

General observations justifying survey method and segment's site probability:

Shore Profile PROTECTED INLET - SALTWATER MARSH - FLOODED ONLY AT HIGH TIDE

Fresh Water Sources small stream entered estuary from SW

Sea Exposure NE exposure

Access/Safety EASY - NARROW ENTRANCE TO SHELTERED COVE AT HIGHEST TIDE.

Probability of undiscovered sites in beach zone (circle one) 1 (2) 3 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # _____ Frames _____

B/W Roll # SL-1 Frames 5

Observer(s) LUDWIG, BETTS

Time survey started 8:40 am Time survey ended 9:00 am

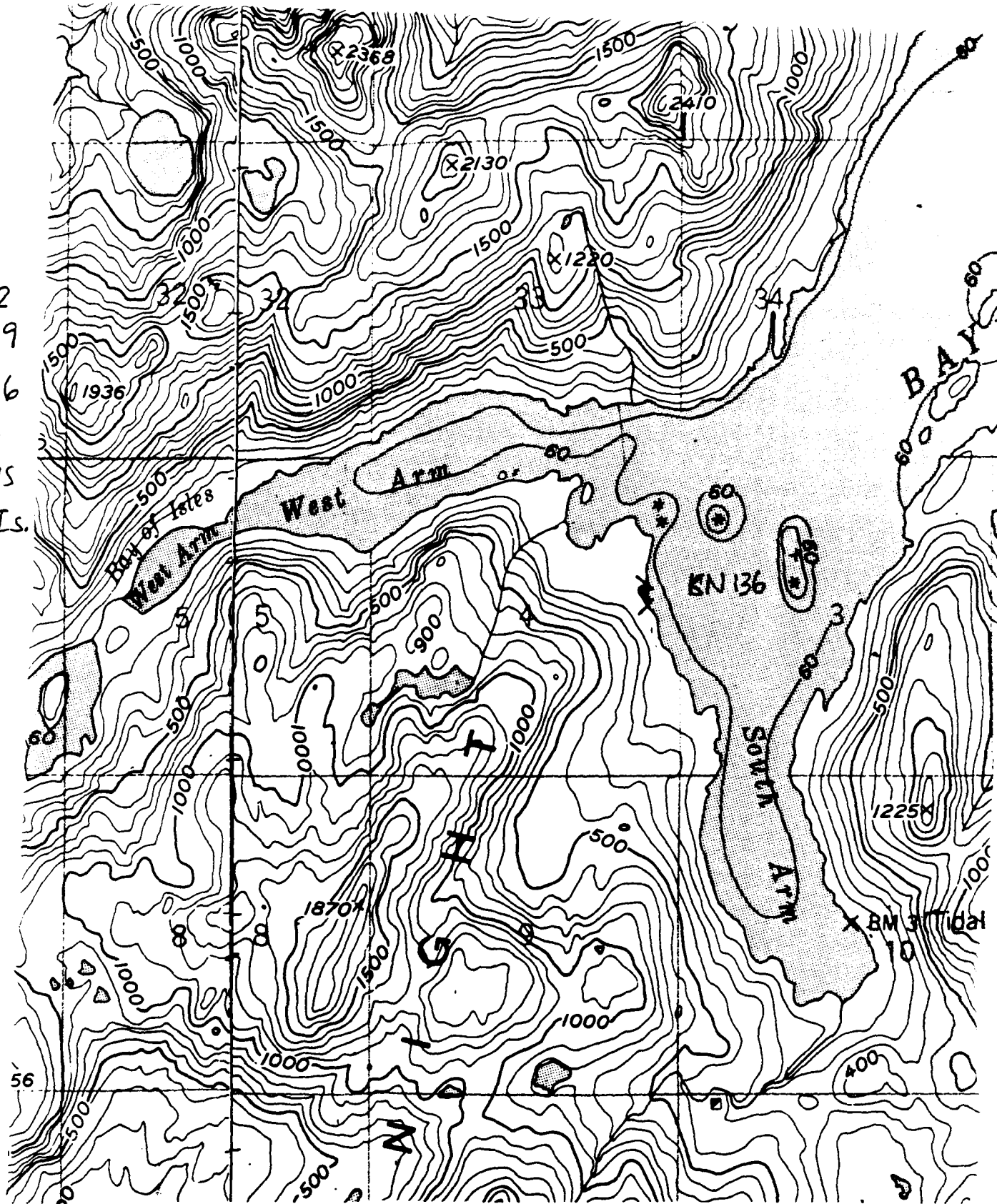
Cultural resource considerations/restraints:

LITTLE OR NO BEACH ABOVE HIGH TIDE LINE, VEGETATION AND TREES DOWN TO HIGH WATER MARK.

IF HERE TO FIRE UNDISCOVERED CULTURAL MATERIALS ARE UNCOVERED DURING CLEAN-UP

NOTIFY EXXON ARCHAEOLOGIST C. MOBLEY IMMEDIATELY (835-7749)

SCAT 2
5-4-89
KN-136
Bay of
Isles
Knight Is.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/30/89

SHORELINE SEGMENT KN-136

LOCATION: (see enclosed map) Knight Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 4/5/89

Recommended Cleanup Activity(ies): Remove as much debris as possible manually. Area is very muddy with high degree of organic sediments, however, the degree of oiling and penetration will need some method to resuspend deeply penetrated oil. ~~Therefore, low pressure flushing will probably be necessary with flooding if all oiled sediments cannot be removed.~~

MANUAL REMOVAL ONLY WITH EVERY SMALL TEAM WITH NO REMOVAL OF SEDIMENT.

Priorities Considerations: Access to this area is limited because of backshore nature of estuary. Flooding of the exposed shoreline only possible at low tides.

Ecological Constraints (from site survey): No constraints. I believe this area was quite productive prior to oiling. No infra benthic fauna seen alive. No plants. Temporary stream through flats. ~~Check stream (ADF&G).~~ Recommended appropriate method necessary to clean soft sediments. NOT AN ANADROMOUS STREAM.

Archeological Constraints (from site survey): If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Douglas R. Rege
State Historic Preservation Officer *

Date: 5/30/89

ISCC Jaymie Michel
EXXON: BA May

6/5/89

Date: 6/5/89

FOSC: David Zappala

Date: 6/6/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/29/89

SHORELINE SEGMENT KN-200

LOCATION: (see enclosed map) Knight Island, Bay of Isles,

Head of West Arm.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/22/89

Recommended Cleanup Activity(ies):

- Manually pick up oiled debris first.
- Vacuum and scoop up pooled and free/mousse second.
- At high tide use hot water, high pressure spray on rocks.
- Boom shoreline with absorbent boom and use sorbent pads to get oil out of water as soon as possible.

Priorities Considerations: .

Class 1 *HIGH PRIORITY BECAUSE IT IS A KNOWN, CATALOGED ANADROMOUS FISH STREAM.*

Ecological Constraints (from site survey): Probable salmon stream at head of bay should be confirmed in the ADF&G. If it is a salmon stream, no mechanical cleanup should occur during out migration of smolts or spawning of salmon; hot water cleanup must be limited to high tide and oil must not be washed into bay more quickly than it can be skimmed up. Oiled grasses should be cut manually and no mechanical washing occur where soil is present. (as indicated by grasses). *THE WINDOW FOR CLEANUP IS JUNE 5 to JULY 1. WITH CARE,*

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Daughes R. Rege
State Historic Preservation Officer *

USCC Jaqueline Michel
EXXON: SA Myra

FOSC: David Zenger

Date: 5/29/89

6/5/89
Date: 6/5/89

Date: 6/6/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

SHORELINE OIL EVALUATION

Date: 5/22/89 Time: 1030-1200

Observer: C. Dillon

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/F

LOCATION

LOCATION KNIGHT ISLAND

SEGMENT NUMBER KN-200

LENGTH OF SHORELINE SEGMENT: 200 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT

Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B 70% / C 25% / P 5% / G ___% / S ___% / M ___% / R ___%

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs/algae

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Area of Beach Impact: SU / SP / H / M / L

Continuous: Y/N % of Segment 60 Width of Band: 2-4 m

Sporadic: Y/N % of Segment 40

Est. Oil Thickness where > 1cm: 4-6 cm Est. Oil Penetration: > 2 cm

Pooled Oil: 10% "Free" Oil: 25% Coated: H 50% / M 15% / L ___%

Fresh 70% Mousse 30% Tar Formation: ___%

Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/

Comments:

Refer to diagram for details

(23) 5/22/89 1030-1200 Segment KN-200 clean logs algae woods

Head of West Arm of Bay of Isles,
Knight Island

$$K_N = 200 = 200 \text{ m}$$

clean algae woods

5/22/89 (24)

SEGMENT
KN-20

1200-1230

450m

0.65

wx: Cloudy / Sunny.

Survey: foot

Access: boat, helo, flt plane

Wave Exposure: low

Mostly dried tar
patches with
pebbles and algae

Focus covered ^{kw} with boulders and cobbles with pooled black oil with small amount of loose algae. Oil is vacuumable.

KNL 7

Pools and some free oil is vacuumable
absorbent boom

and Supra ITZ is sporadically covered with oiled algae and twigs/small logs. Continuous band 2-4 m wide on Boulder/cobbles/Pebbles of Upper ITZ - is heavily coated and splattered with mousse. A lot of free mousse patches between boulders up to 4cm deep. Some mousse pools up to 6 cm deep. No penetration.

Patches of moss
lightly oiled algae
and pebbles
between streams

15% b/60% c/25% r

570B/1570C

large moss patches

oiled twigs and small logs
oiled algae + grass

woods

KN-200

→ 8-NX →

5/19/92

ET Foks
HANG

1000

1943

<u>Etables</u>	<u>Pebbles</u>
----------------	----------------

KN-20

bles
bil

ECOLOGICAL EVALUATION

LOCATION: KNIGHT ISLAND SITE: BAY OF ISLES OBSERVER: MEYER

LOCATION PREFIX: KN SEG. NO.: 200 LENGTH: 200 (M)

DATE: 05/22/89 TIME (HHMM): 1030 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Patchy and sparse in LTZ with denser patches on Northern end of segment

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Mytilus throughout MTZ-LTZ gravel substrate at north end of segment

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Common on gravel and boulders MTZ/LTZ

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Segment is adjacent to stream probably used as salmon spawning area. Small patches of oil in grasses between gravel shore & upland.

CLEANUP PRECAUTIONS: Mechanical cleanup must not take place during outmigration of smolt or spawning of salmon. Hot water cleanup must be limited to high tide and oil not washed into Bay more quickly than it can be skimmed up. Oiled grasses should be cut, and no mechanical washing occur in the wetland area where soil is present.

MAMMALS: Otters _____ Harbor Seals _____ Sea Lions _____ Whales _____
Other _____

BIRDS: ♂ Green-winged Teal; Oystercatcher-1; Mew Gull-1; Raven-1; Bald Eagle-1

GENERAL OBSERVATIONS: Oiled eelgrass debris at supratidal line

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 5/24/89 Location Krugut Island Site _____

Location Prefix KN Segment # KN-200 Length 200m

Survey Method:

Air _____ (A - indicate on map) Boat _____ (A - indicate on map)

Ground ☒ (G - indicate on map)

Known cultural resources (AHRS #) None Data Source None

Oil conditions/beach visibility moderately oiled

Width of beach zone surveyed 2-4 m Tree fringe surveyed 0

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) None

General observations justifying survey method and segment's site probability:

Shore Profile steep heavy cobbles and boulders fields

Fresh Water Sources none

Sea Exposure protected

Access/Safety poor

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # _____ Frames _____

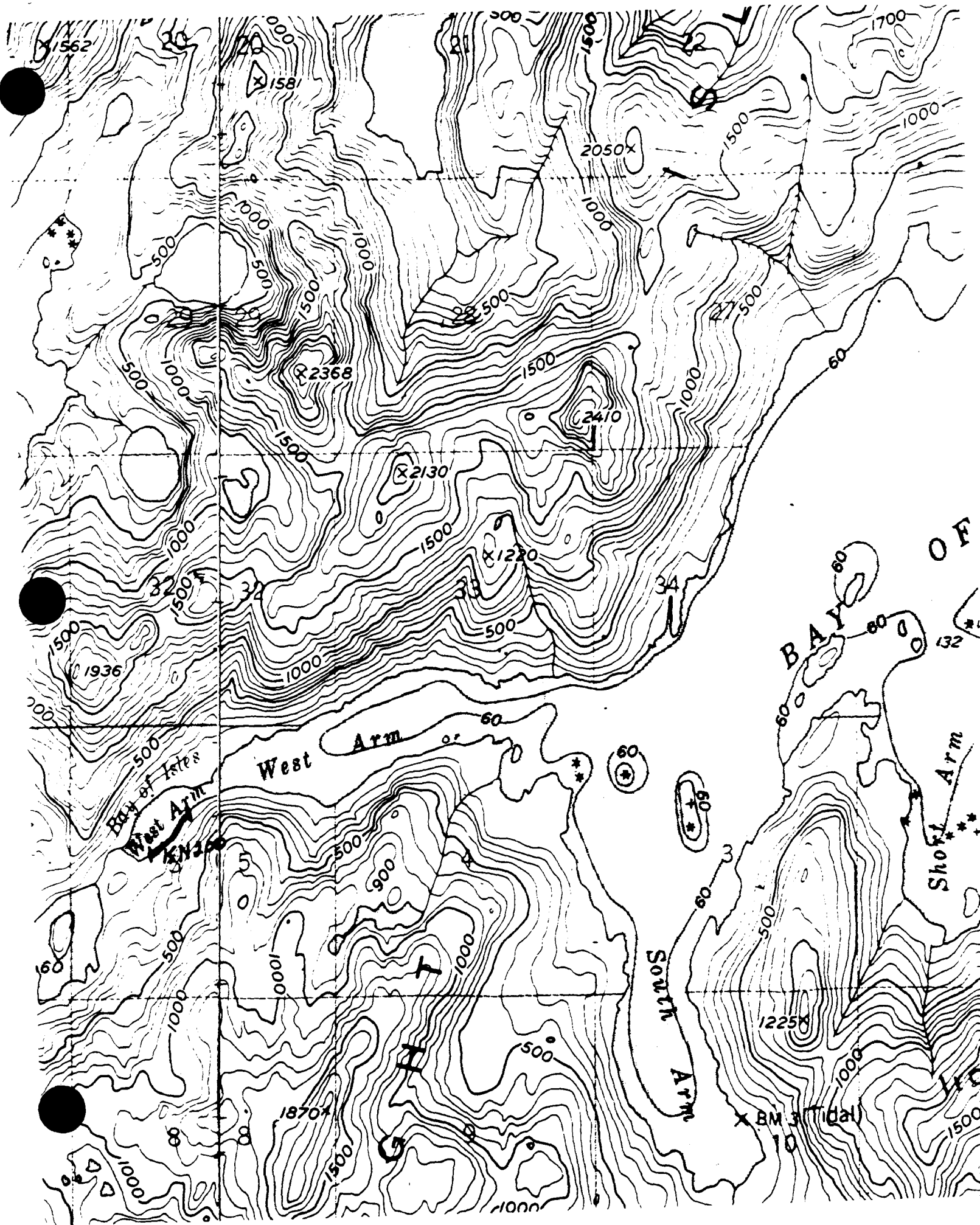
B/W Roll # _____ Frames _____

Observer(s) C. Wilson

Time survey started 1030 Time survey ended 1200 1100

Cultural resource considerations/restraints:

If heretofore undiscovered cultural resources are discovered during cleanup notify Exxon arch-aeologist, C. Mobley, immediately.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/29/89

SHORELINE SEGMENT KN-201

LOCATION: (see enclosed map) Knight Island, Bay of Isles

Head of West

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/22/89

Recommended Cleanup Activity(ies):

- Manually pick up oiled debris and scrap up patches of oiled sediments.

Priorities Considerations:

- Class 1.

Ecological Constraints (from site ^{know} survey): Manual removal of oiled gravel and debris in ^{catalogued} probably salmon stream flood plain at head of bay must take place before the stream swells in summer. Restrict number of people and access in stream area and adjacent grassy areas. Exercise care in the grassy area - cut oiled grasses by hand, scoop and shovel patches of oiled soil/gravel. Cleanup restricted to manual methods due to small amount of oil present combined with sensitivities of salmon and grasses/soil.

ANY REMOVAL OF GRAVEL WITHIN THE CHANNEL REQUIRES A PERMIT FROM ADFG. BOOMS SHOULD BE USED TO PREVENT SEDIMENTS FROM ENTERING THE LAGOON AND STREAM MOUTH. ~~REMOVED~~ JM

Archeological Constraints (from site survey): Avoid damage to oil boiler in the intertidal zone of the east portion of the segment. If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Douglas R. Peger
State Historic Preservation Officer *

ISCE Jaqueline Michael
EXXON: DA Pomeroy
FOSC: David J. Jansoff

Date: 5/29/89

6/5/89
Date: 6/5/89

Date: 6/6/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

SHORELINE OIL EVALUATION

Date: 5/22/89 Time: 1200-1230

Observer: C. DILLON

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fo

LOCATION

LOCATION KNIGHT ISLAND SEGMENT NUMBER KN-201

LENGTH OF SHORELINE SEGMENT: 450 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT

Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B 15% / C 60% / P 25% / G ___% / S ___% / M ___% / R ___%

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs/algae

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Area of Beach Impact: SU / SP / H / M / L

Continuous: Y/N % of Segment _____ Width of Band: _____ m

Sporadic: Y/N % of Segment 75

Est. Oil Thickness where > 1cm: 0-1 cm Est. Oil Penetration: 0 cm

Pooled Oil: ___% "Free" Oil: ___% Coated: H ___% / M 75% / L ___%

Fresh ___% Mousse ___% Tar Formation: 75%

Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L

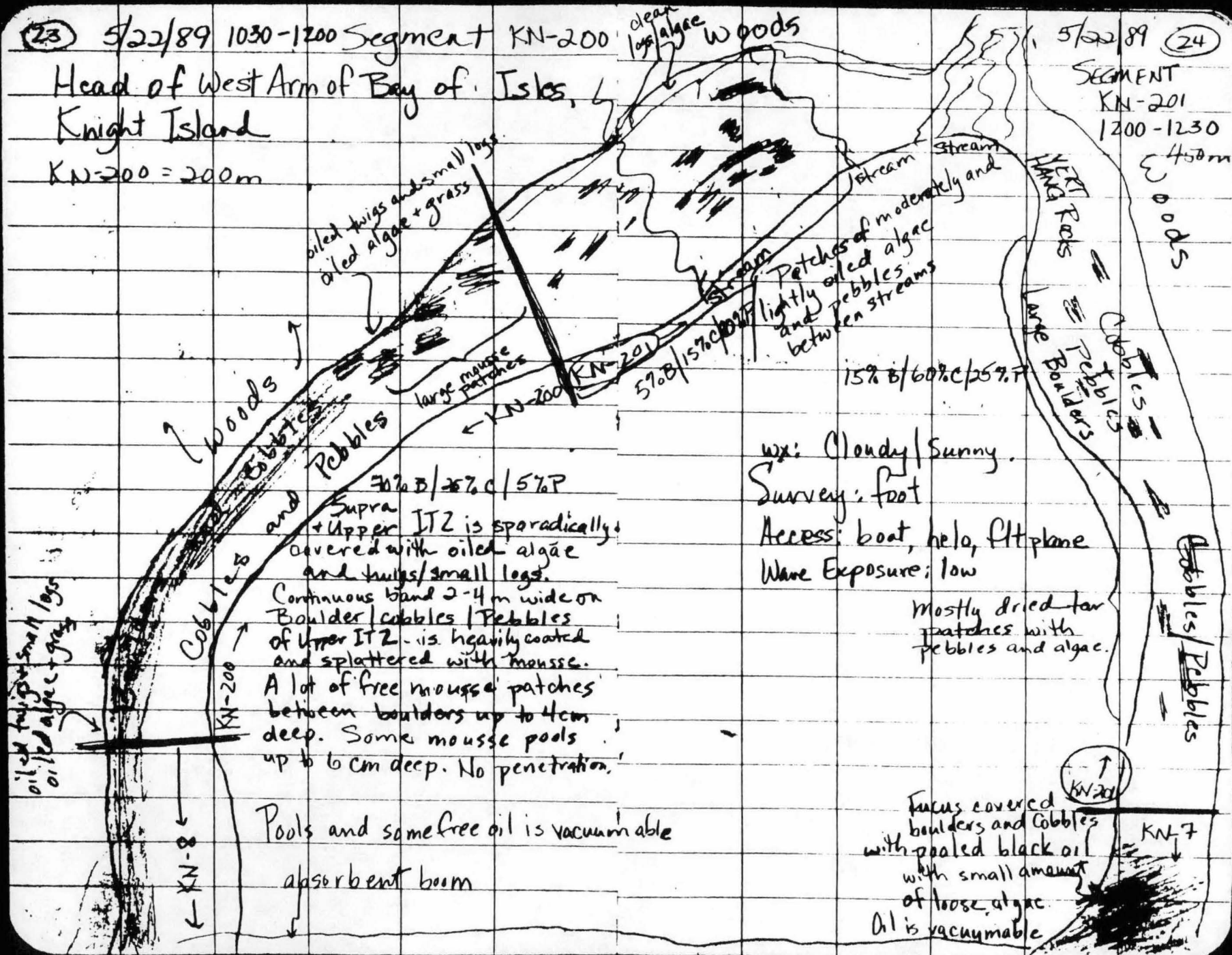
Comments:

Segment is unoiled except for a few small patches of tarry gravel. Refer to diagram for details. Also, some patches of oiled/moussed algae/grass, twigs.

(23) 5/22/89 1030-1200 Segment KN-200

Head of West Arm of Bay of Isks,
Knight Island

KN-200 = 200m



5/22/89 (24)

SEGMENT

KN-201

1200-1230

450m

Woods

Cobbles

Pebbles

Boulders

Supra + Upper ITZ

is sporadically

covered with oiled

algae and twigs/

small logs.

Continuous band

2-4 m wide on

Boulder/Cobbles/

Pebbles of Upper

ITZ - is heavily

coated and splat-

tered with mousse.

A lot of free mousse

patches between

boulders up to 4cm

deep. Some mousse

pools up to 6cm

deep. No penetra-

tion.

Pools and some free

oil is vacuumable

absorbent boom

wx: Cloudy/Sunny.

Survey: foot

Access: boat, helo,

flt plane

Wave Exposure: low

Mostly dried tan

patches with

pebbles and algae.

Fucus covered

boulders and cobbles

with pooled black oil

with small amount

of loose algae.

Oil is vacuumable

ECOLOGICAL EVALUATION

LOCATION: KNIGHT ISLAND SITE: BAY OF ISLES OBSERVER: MEYER
LOCATION PREFIX: KN SEG. NO.: 201 LENGTH: 450 (M)
DATE: 05/22/89 TIME (HHMM): 1145 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Probable salmon stream at head of bay free of oil although some small patches of oil are in gravel of its floodplain.

CLEANUP PRECAUTIONS: Manual removal of oiled gravel and debris in stream floodplain must take place before the stream swells in summer. Restrict number of people and access in area of salmon stream. No mechanical cleanup recommended.

MAMMALS: Otters _____ Harbor Seals _____ Sea Lions _____ Whales _____
Other _____

BIRDS: ♀♂ Green-winged Teal; Oystercatcher -1; Herring Gull -1; Raven -1; Bald Eagle -1

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 5/24/89 Location Knight Island Site _____

Location Prefix KN Segment # KN-201 Length 450m

Survey Method:

Air _____ (A - indicate on map) Boat _____ (A - indicate on map)

Ground ✓ (G - indicate on map)

Known cultural resources (AHRS #) None Data Source None

Oil conditions/beach visibility light and patchy

Width of beach zone surveyed 2-10m Tree fringe surveyed 0-10m

Cultural resources observed in beach zone (AHRS code) HTI

Cultural resources observed in tree fringe (AHRS code) _____

General observations justifying survey method and segment's site probability:

Shore Profile beach at head moderately sloped, cobble / gravel, rest of segment steep wall face and cobble fields

Fresh Water Sources one large and two small streams

Sea Exposure protected

Access/Safety good to beach, poor to rock face & cobble fields

Probability of undiscovered sites in beach zone (circle one) 1 2 (3) 4 5

On the beach, itself.

Monitoring during cleanup needed yes/(no) Collection yes/(no)

Photos: Color Roll # _____ Frames _____

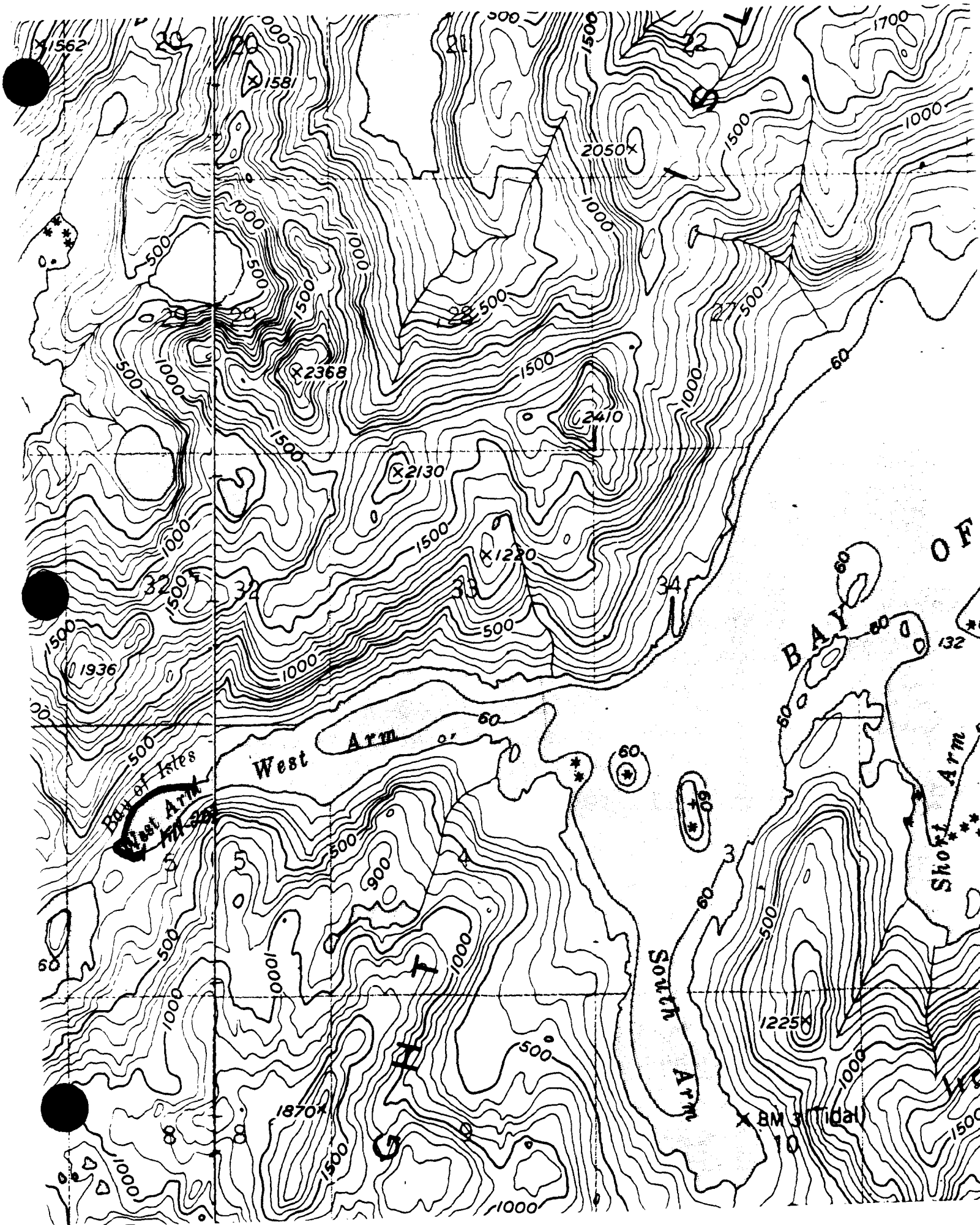
B/W Roll # CW8 Frames 18-20

Observer(s) C. Wilson

Time survey started 1205 1105 Time survey ended 1230

Cultural resource considerations/restraints:

If hastyre undiscovered cultural resources are discovered during cleanup notify Byron arch-aeologist, C. Mobley, immediately.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/29/89

SHORELINE SEGMENT KN-202

LOCATION: (see enclosed map) Knight Island, Bay of Isles

West Arm (southern between KN-8 and KN-9)

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/22/89

Recommended Cleanup Activity(ies):

- Remove light oil band from rock face wall and boulder slopes with appropriate method.

Priorities Considerations:

- Class 4A

Ecological Constraints (from site survey):

- Avoid hot water on living organisms; avoid directing high pressure at living organisms as much as possible.

PLACE BOOM IN WESTERN REEF PRIOR TO CLEANUP TO PREVENT SHELL FROM ENTERING LAGOON AND STREAM MOUTH.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Douglas R. Reger
State Historic Preservation Officer *

Date: 5/29/89

ISCC Jaqueline Michael
EXXON: RA [signature]

6/5/89

Date: 6/5/89

FOSC: David Zamborini

Date: 6/6/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

SHORELINE OIL EVALUATION

Date: 5/22/89 Time: 1830-1845

Observer: C. DILLON

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fc

LOCATION

LOCATION KNIGHT ISLAND

SEGMENT NUMBER KN-202

LENGTH OF SHORELINE SEGMENT: 200 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT

Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B 55% / C 30% / P ___% / G ___% / S ___% / M ___% / R 15%

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Area of Beach Impact: SU / SP H / M / L

Continuous: Y/N % of Segment ___ Width of Band: < 1 m

Sporadic: Y/N % of Segment 25

Est. Oil Thickness where > 1cm: 0 cm Est. Oil Penetration: 0 cm

Pooled Oil: 0% "Free" Oil: 0% Coated: H ___% / M ___% / L 25% (dry sta.)

Fresh 0% Mousse 0% Tar Formation: 0%

Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/

Comments:

Segment consists of steep boulder slopes and high angle rocky headlands. Oiling is absent to very light banding, < 1m wide, in a few patchy spots on the upper ITZ. Oil is baked dry and appears as a thin stain.

Segment lies between KN-8 and KN-9 which were evaluated by another SCAT Team around 5 or 6 May 89.

ECOLOGICAL EVALUATION

LOCATION: KNIGHT ISLAND SITE: KN-202 OBSERVER: MEYER
LOCATION PREFIX: KN SEG. NO.: 202 LENGTH: 200 (M)

DATE: 05 / 22 / 89 TIME (HMM): 1830 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobbles Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/

Monthly oil-free

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Jellyfish abundant in water.

CLEANUP PRECAUTIONS: Avoid hot water on living organisms; avoid directing high pressure at living organisms as much as possible.

MAMMALS: Otters 1 Harbor Seals _____ Sea Lions _____ Whales _____
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: Very light oil - patchy, <1 m stain on rock faces when present

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 4/24 Location Knight Island Site _____

Location Prefix KN Segment # KN-202 Length 200 m

Survey Method:

Air _____ (A - indicate on map) Boat ☒ (A - indicate on map)

Ground _____ (G - indicate on map)

Known cultural resources (AHRS #) None Data Source None

Oil conditions/beach visibility little if any oil

Width of beach zone surveyed 0 m Tree fringe surveyed 0

Cultural resources observed in beach zone (AHRS code) _____

Cultural resources observed in tree fringe (AHRS code) _____

General observations justifying survey method and segment's site probability:

Shore Profile 5 Top cobble and boulder fields

Fresh Water Sources none

Sea Exposure protected

Access/Safety poor

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # _____ Frames _____

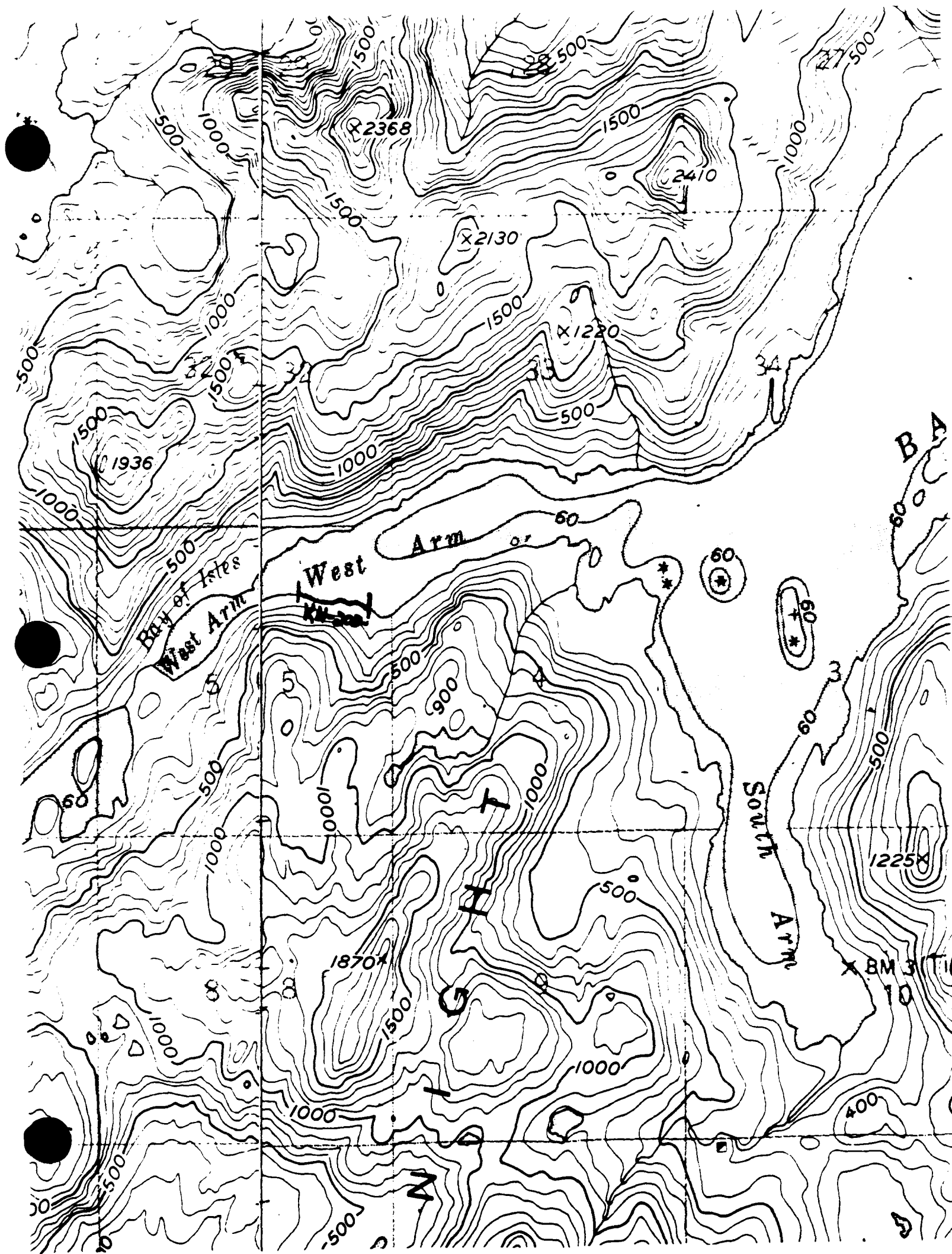
B/W Roll # _____ Frames _____

Observer(s) C. Wilson

Time survey started ~~1230~~ 1830 Time survey ended ~~1245~~ 1845

Cultural resource considerations/restraints:

If hereafter undiscovered cultural resources are identified during cleanup notify Exxon archaeologist, C. Mobley, immediately



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/29/89

SHORELINE SEGMENT KN-203

LOCATION: (see enclosed map) Knight Island, Bay of Isles,
West Arm

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/22/89

Recommended Cleanup Activity(ies):

- Manually collect oiled debris.
- Vacuum or scoop up mousse pools.
- Hot water, medium pressure flushing on rock surfaces and crevices.
- Hot water, high pressure on rocks in neck of West Arm.

Priorities Considerations:

- Class 2A: heavy oil.

Ecological Constraints (from site survey):

- Protect lower tidal zone during mechanical cleanup. Do not use hoses in oiled areas where grasses/soil is present. Avoid hot water on living organisms; avoid directly high pressure at living organisms as much as possible.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Douglas R. Regier
State Historic Preservation Officer *

ISCA

EXXON:

FOSC:

Jaqueline Michel
GAuffman
David Jaurayhi

Date: 5/29/89

6/5/89
Date: 6/5/89

Date: 6/6/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

SHORELINE OIL EVALUATION

Date: 5/22/89 Time: 1900-

Observer: C. Dillon

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fo

LOCATION

LOCATION KNIGHT ISLAND

SEGMENT NUMBER KN-203

LENGTH OF SHORELINE SEGMENT: 800 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT ^{Small ISLANDS} Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B 35 % / C 10 % / P % / G % / S % / M % / R 55 %

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Area of Beach Impact: SU / SP / H / M / L

Continuous: Y/N % of Segment Width of Band: m

Sporadic: Y/N % of Segment 40

Est. Oil Thickness where > 1cm: 4-6 cm Est. Oil Penetration: <1 cm

Pooled Oil: <5 % "Free" Oil: <1 % Coated: H 10 % / M % / L 30 %

Fresh 35 % Mousse 50 % Tar Formation: 15 %

Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L

Comments:

This is a general segment evaluation sheet. Most of the segment is unoiled and a large amount is lightly oiled. There are two (2) sections of the segment that are heavily oiled. They are evaluated separately on the two following Shoreline oil Evaluation forms.

SHORELINE OIL EVALUATION

Date: 5/22/89 Time: 1900-

Observer: C. Dillon

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

LOCATION KNIGHT ISLAND SEGMENT NUMBER KN-203

LENGTH OF SHORELINE ^{SECTION} SEGMENT: 100 m (small section of segment)

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT

Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B 40 % / C 30 % / P 15 % / G % / S % / M % / R 15 %

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs/twigs
algae

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Area of Beach Impact: SU / SP / H / M / L

Continuous: Y/N % of Segment Width of Band: m

Sporadic: Y/N % of ^{Section} Segment 30

Est. Oil Thickness where > 1cm: 4-6 cm Est. Oil Penetration: < 1 cm

Pooled Oil: 60 % "Free" Oil: % Coated: H 40 % / M % / L %

Fresh % Mousse 60 % Tar Formation: 40 %

Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L

Comments:

Oiling of this section of KN-203 is in the form of several large mousse pools, 4-6 cm deep, contained among tar coated boulders and cobbles. Some algae/twigs are trapped in the oiled and pooled crevices between the rocks.

Refer to attached diagram.

SHORELINE OIL EVALUATION

Date: 5/22/89 Time: 1900-

Observer: C. Dillon

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fc

LOCATION

LOCATION KNIGHT ISLAND

SEGMENT NUMBER KN-203

LENGTH OF SHORELINE ^{Section} SEGMENT: 75 m (Consists of 3 large rocks in neck of West Arm)

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT ^{Rocks surrounded by water}

Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B 20% / C % / P % / G % / S % / M % / R 80%

Drift Debris on ^{Rocks} Beach: Yes/No Supra/Upper/Mid/Lower Type

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Area of Beach Impact: SU / SP / H / M / L

Continuous: Y/N % of ^{Section} Segment 100 Width of Band: 1-3 m

Sporadic: Y/N % of Segment

Est. Oil Thickness where > 1cm: <1 cm Est. Oil Penetration: cm

Pooled Oil: % "Free" Oil: % Coated: H % / M % / L %

Fresh % Mousse 40% Tar Formation: 60%

Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L See Comm

Comments:

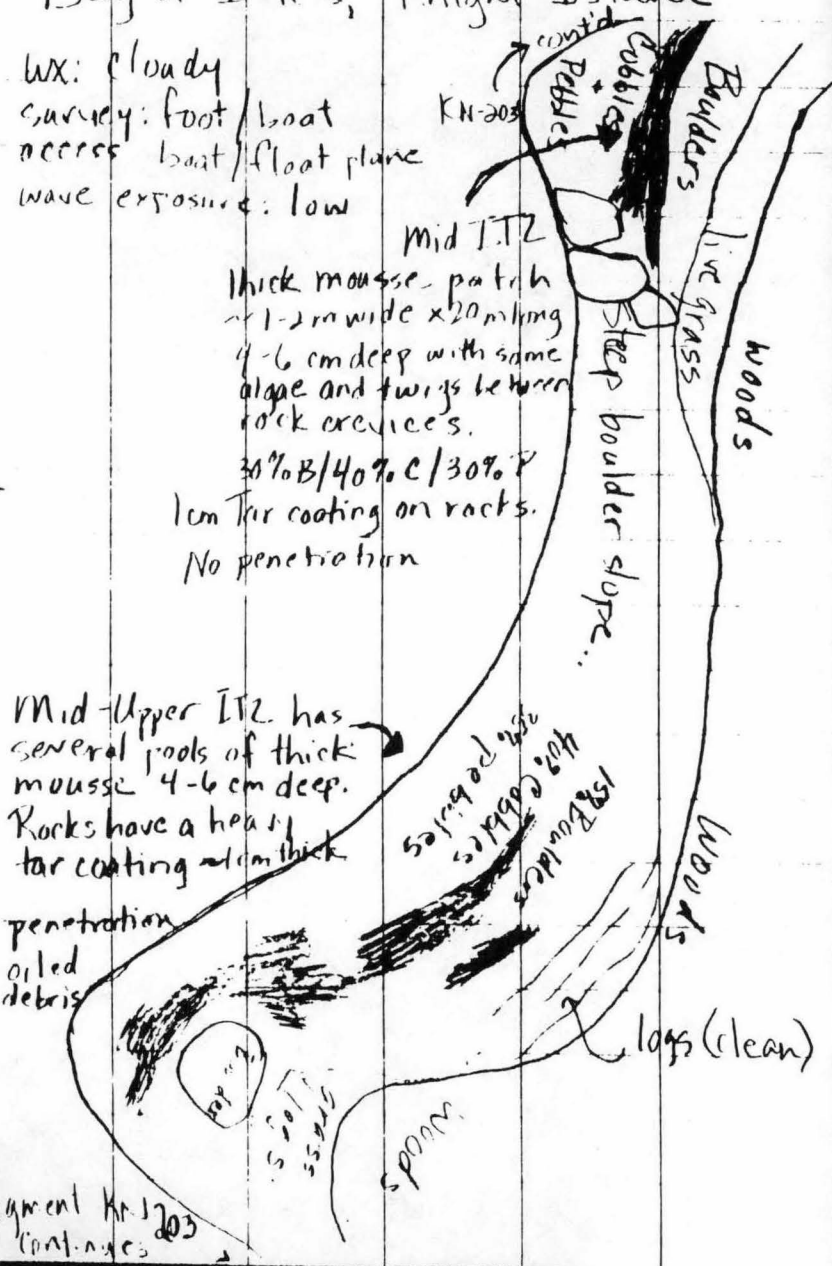
This section of KN-203 contains 3 large rocks in the neck of West Arm. Rocks are vertical faces and some steep boulder slopes, as well as low angle sloping rocks at low tide water line. Oil band is at mid to high tide level and extends completely around the rocks. See attached description. A small patch of oiled branches lies beneath a tree (fallen) on the upper ITZ of the adjacent south bank.

200 m
 p. boulder
 by headland
 light banding
 son U.T.Z.
 netration
 baked dry
 up recommend.

8 and KN-9
 another Team.

5/22/89 1900-1945 KN-203
 Bay of Isles, Knight Island

WX: cloudy
 survey: foot/boat
 access: boat/floating plane
 wave exposure: low



(26)

3 rocks in the neck of West Arm are heavily coated with a 1-3 m wide band of black tarry and dried oil.
 2 Rocks are vertical, steep boulders and some low angle sloping rocks. Mostly covered with fucus and some barnacles which are holding a lot of oil.
 All band is at the mid-high tide levels, and extends completely around both rocks.

The larger rock is ~ 50m around
 The smaller rock is ~ 25m around.

(3rd rock) There is a smaller, lower rock further inside the arm (about 25 m) that is also oiled on the eastern side.

A small patch of oiled debris (branches) lies beneath a fallen tree on the adjacent South bank.

End Segment KN-203 at 2000.

TOTAL LENGTH = 800m for entire segment

ECOLOGICAL EVALUATION

LOCATION: KNIGHT ISLAND SITE: BAY OF ISLES OBSERVER: MEYER
 LOCATION PREFIX: KN SEG. NO.: 203 LENGTH: 800 (M)
 DATE: 05/22/89 TIME (HHMM): 1900 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse Y/N None Y/N

Rock Islands - Fucus @ mid tide heavily oiled, clean & healthy at low tidal area. Beaches 1 & 2 unoiled & healthy

Mytilus (Mussels): Patchy (Y/N) Contin. Y/N Dense (Y/N) Sparse Y/N None Y/N

Beaches 1 & 2 - mytilus patchy in LTZ, unoiled

Balanus (Barnacles): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse Y/N None Y/N

Buds #1 & 2 - dense balanus in MTZ, unoiled

Littorina

Patchy (Y/N) Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Beaches #1 & 2 - Morm snails abundant MTZ & LTZ, Littorina common LTZ

Limpets: Patchy (Y/N) Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Beaches #1 & 2 - Limpets common in LTZ

OTHER OBSERVATIONS: lower tidal zone has fair amount of live biota. Small fish in Subtidal pools.

CLEANUP PRECAUTIONS: DO NOT USE HOSES IN AREAS OF GRASS/SOIL. LTZ FAIRLY RICH IN

BIOTA - PROTECT DURING CLEANUP ACTIVITIES. Restrict rock island cleanup so LTZ is not impacted.

MAMMALS: Otters _____ Harbor Seals _____ Sea Lions _____ Whales _____
 Other _____

BIRDS: Raven-1; Arctic Tern-1; Oystercatcher-1

GENERAL OBSERVATIONS: Rock islands in segment surveyed only by boat, heavily oiled; only Fucus and Barnacles.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 5/24/89 Location Knight Island Site _____

Location Prefix KN Segment # KN-203 Length 800m

Survey Method:

Air _____ (A - indicate on map) Boat — (A - indicate on map)

Ground — (G - indicate on map)

Known cultural resources (AHRS #) None Data Source None

Oil conditions/beach visibility lightly oiled

Width of beach zone surveyed 0-3 m Tree fringe surveyed 0-10

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) None

General observations justifying survey method and segment's site probability:

Shore Profile beaches are relatively flat and broad

Fresh Water Sources none

Sea Exposure protected

Access/Safety good

Probability of undiscovered sites in beach zone (circle one) 1 (2) 3 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # _____ Frames _____

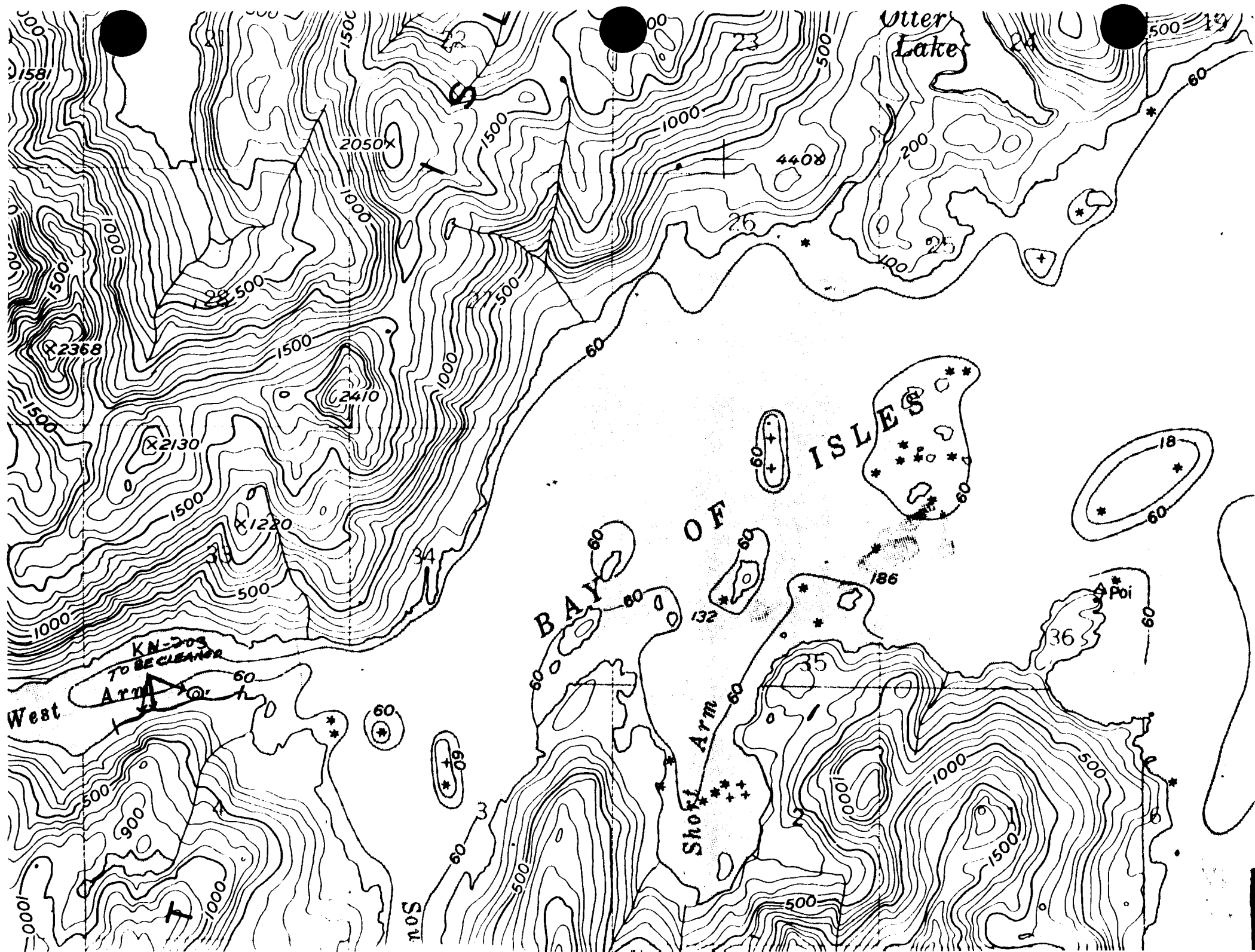
B/W Roll # _____ Frames _____

Observer(s) C. Wilson

Time survey started 1845 Time survey ended 1910 2000

Cultural resource considerations/restraints:

If heretofore undiscovered cultural resources are
uncovered during cleanup contact Byron archaeologist,
C. Mobley, immediately



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/29/89

SHORELINE SEGMENT KN-204

LOCATION: (see enclosed map) Knight Island, Bay of Isles,
South Arm

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/22/89

Recommended Cleanup Activity(ies):

- Manually remove dried, thin stain on steep boulder slopes.
- Flood/flush beach section with low pressure, warm to hot water to prevent penetrating clean substrate.

Priorities Considerations:

Class 4A

Ecological Constraints (from site survey):

KNOWN, CATALOGED

Mechanical cleanup adjacent to Salmon Stream must be restricted to window when smolts and spawning salmon are not present. All oil freed by cleanup must be removed from water, ^{AND RETURN FROM OUTSIDE} OR else cleanup is not recommended. Three eagles nests are known in the area of the bay. Adult seals are present in area but no pups were observed. Littorina on Beach #1 oiled segment could be gently washed or manually removed from affected area prior to cleanup routine. Cleanup window is 6/5/89 to 7/1/89. ^{STREAM MOUTH}

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Angelo R. Righi
State Historic Preservation Officer *

Date: 5/29/89

ISCC Jaqueline Michael
EXXON: DA [unclear]

6/5/89
Date: 6/5/89

FOSC: David Zarnoffi

Date: 6/6/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

Beach 1
(29) KN-204 Continued (end of segment)

End of KN-204  end of beach

mostly cloudy
survey foot
access boat/helicopter
barge/ship

wave exp: low

150 m

10 m

No debris on beach

Light to moderate
surface coating
on lower to upper
ITZ. Oil is dried.
No pools or free oil
no penetration.

30% Cobbles
30% Pebbles

Light coatings
on lower and upper
ITZ. Oil is dried.
No free or pooled
No penetration.
In ITZ is clean.

70% Cobbles
30% Pebbles

No oiled debris

Pebbles and Sand (clean)

Woods

Woods

N
↓

ECOLOGICAL EVALUATION

LOCATION: KNIGHT ISLAND SITE: Bay of Isles OBSERVER: MEYER
 LOCATION PREFIX: KN SEG. NO.: 204 LENGTH: 850 (M)
 DATE: 05 / 22 / 89 TIME (HHMM): 2015 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Unmiled; mostly in mid-tidal zone

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina in MTZ and LTZ; some Littorina in oiled area of Beach #1

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Not much biota below oiled area other than Littorina on Beach #1

CLEANUP PRECAUTIONS: Low pressure hose prior to cleanup to ^{gently} flush Littorina out of cleanup area.

MAMMALS: Otters _____ Harbor Seals 3 Sea Lions _____ Whales _____
 Other _____

BIRDS: Black-legged Kittiwakes - 17 Arctic Tern - 1

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 5/24/89 Location Knight Island Site _____

Location Prefix KN Segment # KN-204 Length 850

Survey Method:

Air _____ (A - indicate on map) Boat ✓ (A - indicate on map)

Ground ✓ (G - indicate on map)

Known cultural resources (AHRS #) None Data Source None

Oil conditions/beach visibility light

Width of beach zone surveyed 0-3 m Tree fringe surveyed 0-10m

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) None

General observations justifying survey method and segment's site probability:

Shore Profile Except for beach profile, moderate to steep, rugged, heavily vegetated uplands on beach but steep, rugged, heavily vegetated uplands

Fresh Water Sources none

Sea Exposure protected

Access/Safety good on beach

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes no Collection yes no

Photos: Color Roll # _____ Frames _____

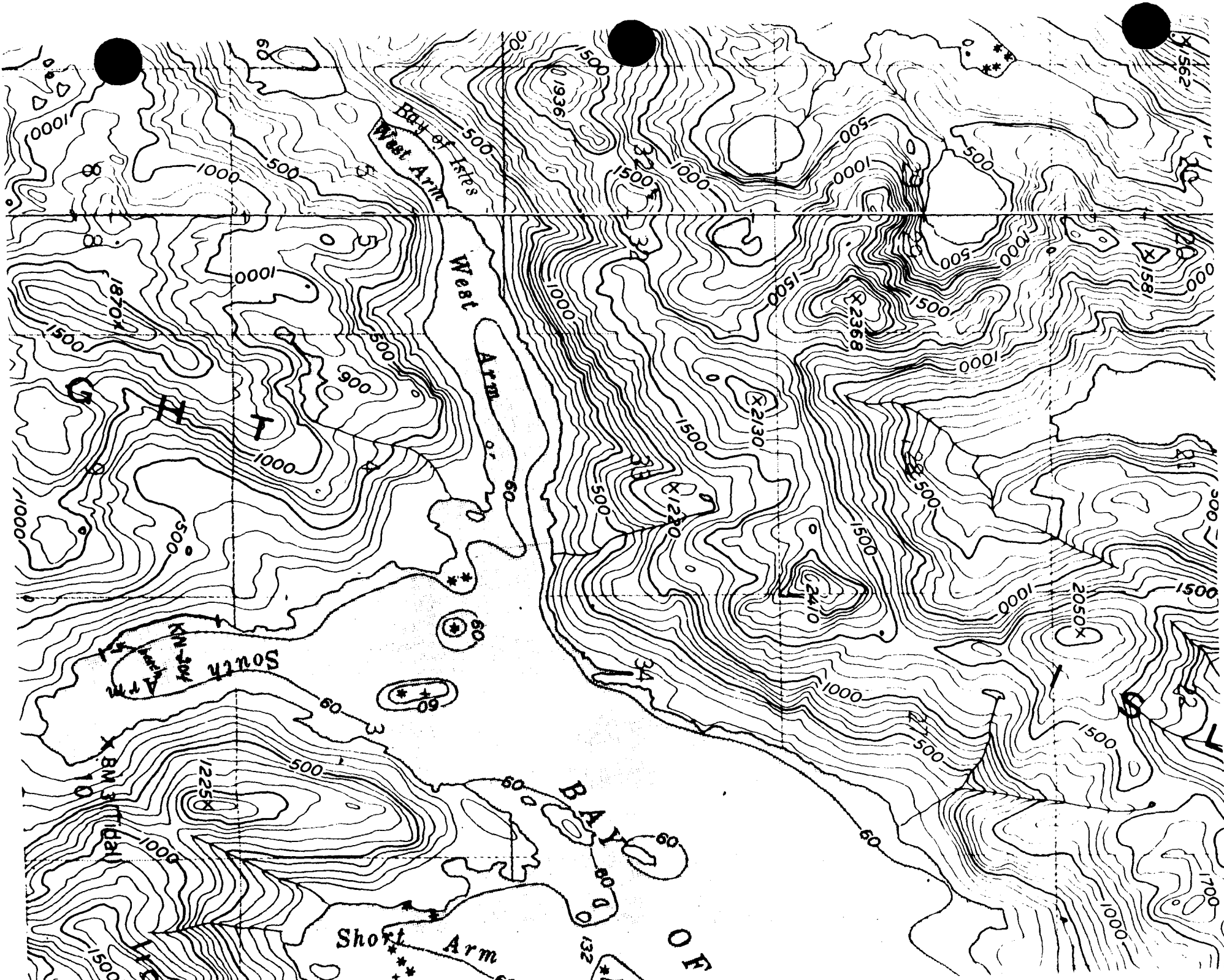
B/W Roll # _____ Frames _____

Observer(s) C. Mobley

Time survey started 2000 Time survey ended 2100

Cultural resource considerations/restraints:

If heretofore undiscovered cultural resources are uncovered during cleanup contact Epur archaeologist C. Mobley, immediately



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/29/89

SHORELINE SEGMENT KN-205

LOCATION: (see enclosed map) Knight Island-Bay of Isles

South Arm

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/22/89

Recommended Cleanup Activity(ies):

- Vacuum or scoop up pooled and free oil.
- Manually collect oiled algae and oiled grass.
- Manually collect and remove oiled sediment patches.
- Dried oil band on west shoreline may not be recoverable/removable.

Priorities Considerations:

Class 1

Ecological Constraints (from site survey): All craft stay 50 yards away from orange buoys in southern part of segment marking suspended live salmon boxes. Manual removal of oiled gravel, * grasses and debris in salmon stream floodplain at head of bay must take place before the stream swells in summer. Restrict number of people and access in stream areas and adjacent grassy areas; cut oiled grasses by hand. Three eagle nests are identified in the area of the bay. Adult seals are present in area, but no pups seen. Alert security that a young male, black bear was frequenting the area in late May.

* REMOVAL OF GRAVEL FROM STREAM CHANNEL WILL REQUIRE PERMIT FROM ADFG.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Douglas R. Reger
State Historic Preservation Officer *

ISCC Jaqueline Michel
EXXON: NA

FOSC: David J. Thompson

Date: 5/29/89

6/5/89
Date: 6/5/89

Date: 6/6/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

SHORELINE OIL EVALUATION

Date: 5/22/89 Time: 2100-2230

Observer: C. Dillon

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fo

LOCATION

LOCATION KNIGHT ISLAND

SEGMENT NUMBER KN-205

LENGTH OF SHORELINE SEGMENT: 3600 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT

Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B 10 % / C 45 % / P 45 % / G ___ % / S ___ % / M ___ % / R ___ %

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type algae

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Area of Beach Impact: SU / SP / H / M / L

Continuous: Y/N % of Segment 10 Width of Band: 1 m

Sporadic: Y/N % of Segment 5

Est. Oil Thickness where > 1cm: 24 cm Est. Oil Penetration: <2 cm

Pooled Oil: 5 % "Free" Oil: <5 % Coated: H 10 % / M 5 % / L 75 %

Fresh ^{pools/free/heavy coating} 25 % Mousse ___ % Tar Formation: 75 % (baked dry)

Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L algae str

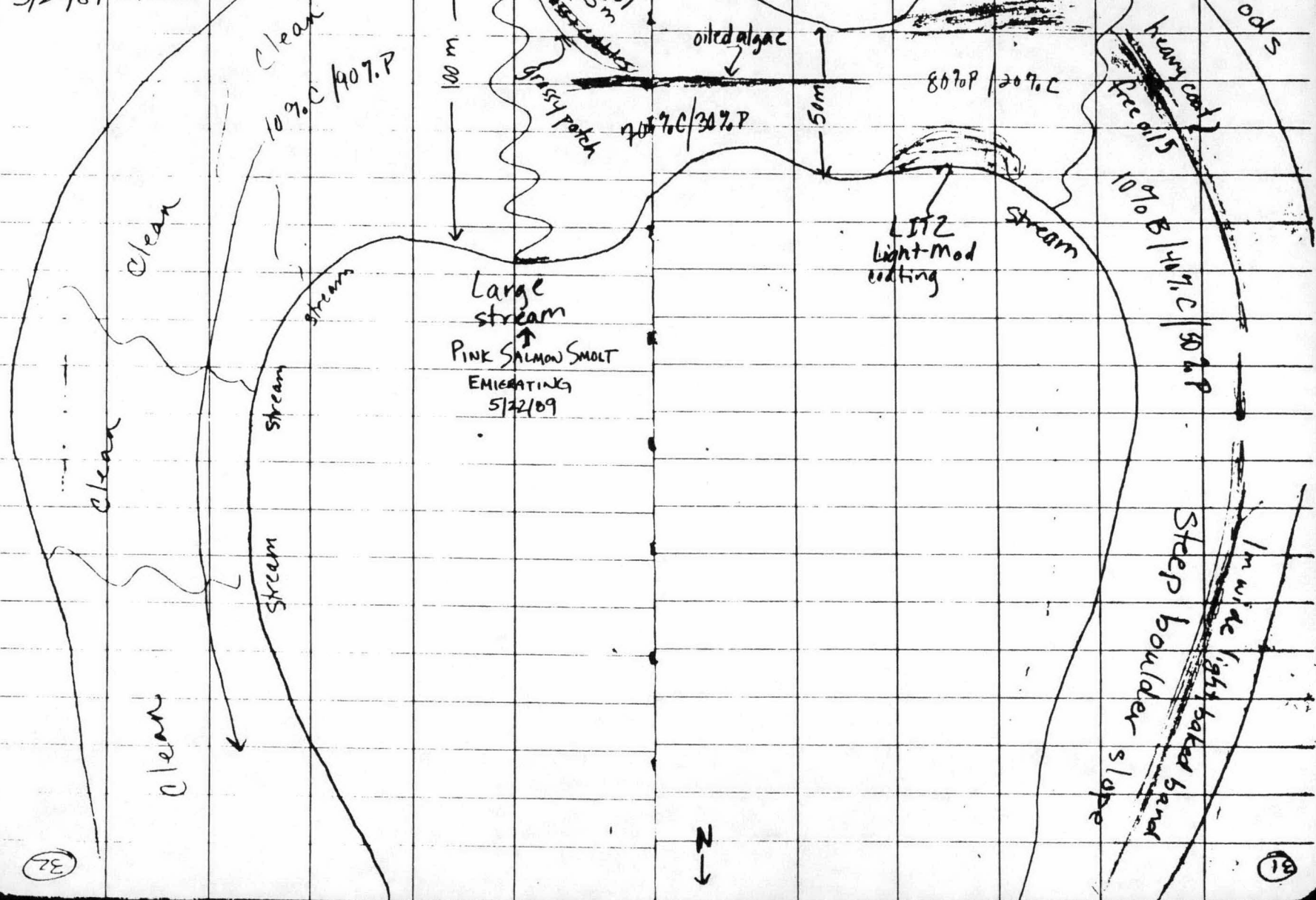
Comments:

See diagram for details. Eastern shoreline of South Arm is unoiled.

0100 Segment KN-205 Total length 3600 m (30)

1. Steep boulder slopes with several low + high sloping beaches of B/C/P sediments
2. Boulder slopes and vert/hang rock faces have a 1m wide light, sporadic band.
3. Beaches have a 1-3 m wide band of light to moderately coated old and dried (sun baked) oil. <5% free oil/no pools 1-2 cm deep, <2 cm penetration.
4. Just below the UITZ oil band is a strand line of lightly moussed algae.
20% B / 30% C / 50% P
5. Middle ITZ is uncoiled. 20% C / 80% P
6. Lower ITZ has sporadic patches of light to moderately coated sediments.
No pools, no free oil, no penetration
20% C / 80% P
7. WX: ptly cloudy
Survey: foot
Access: boat / helo / 114 plane / large
Wave Exp: low

Segment KN-205
Head of South Arm
5/22/89 2100-2230



ECOLOGICAL EVALUATION

LOCATION: KNIGHT ISLAND SITE: KN-205 OBSERVER: MEYER
 LOCATION PREFIX: KN SEG. NO.: 205 LENGTH: 3600 (M)

DATE: 05/22/89 TIME (HHMM): 2100 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Fisheries consultants in area smelting 1000 pink salmon/day at stream at head of bay. Reported young male black bear frequenting area. 3 Eagle Nests in Cove area.

CLEANUP PRECAUTIONS: Thick moss by both streams must be removed manually before streams swell in summer. Only manual removal of oil in grassy areas/soil.

MAMMALS: Otters _____ Harbor Seals 5 Sea Lions _____ Whales _____
 Other _____

BIRDS: Marbled Murrelets - 6; Black-legged Kittiwakes - 17; Arctic Terns - 3; Eagle - 1

GENERAL OBSERVATIONS: Oil Sheen on water. Salmon stream at head of bay. Lots of mossed debris that must be manually removed and kept out of Salmon stream area.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 5/24/89 Location Knigut Island Site _____

Location Prefix KN Segment # KN-205 Length 3600
1200m

Survey Method:

Air _____ (A - indicate on map) Boat ✓ (A - indicate on map)

Ground ✓ (G - indicate on map)

Known cultural resources (AHRS #) None Data Source None

Oil conditions/beach visibility mostly light + sporadic except one headland which was heavy

Width of beach zone surveyed 0-20m Tree fringe surveyed 10

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) None

General observations justifying survey method and segment's site probability:

Shore Profile Beach at the head of the bay is flat + smooth. The remainder of the segment is steep wall face + boulder fields

Fresh Water Sources One major salmon stream

Sea Exposure protected

Access/Safety beach is good; the rest is poor

Probability of undiscovered sites in beach zone (circle one) ① 2 ③ 4 5

The potential of the beach is 3 the rest is 1.

Monitoring during cleanup needed yes/no no Collection yes/no

Photos: Color Roll # _____ Frames _____

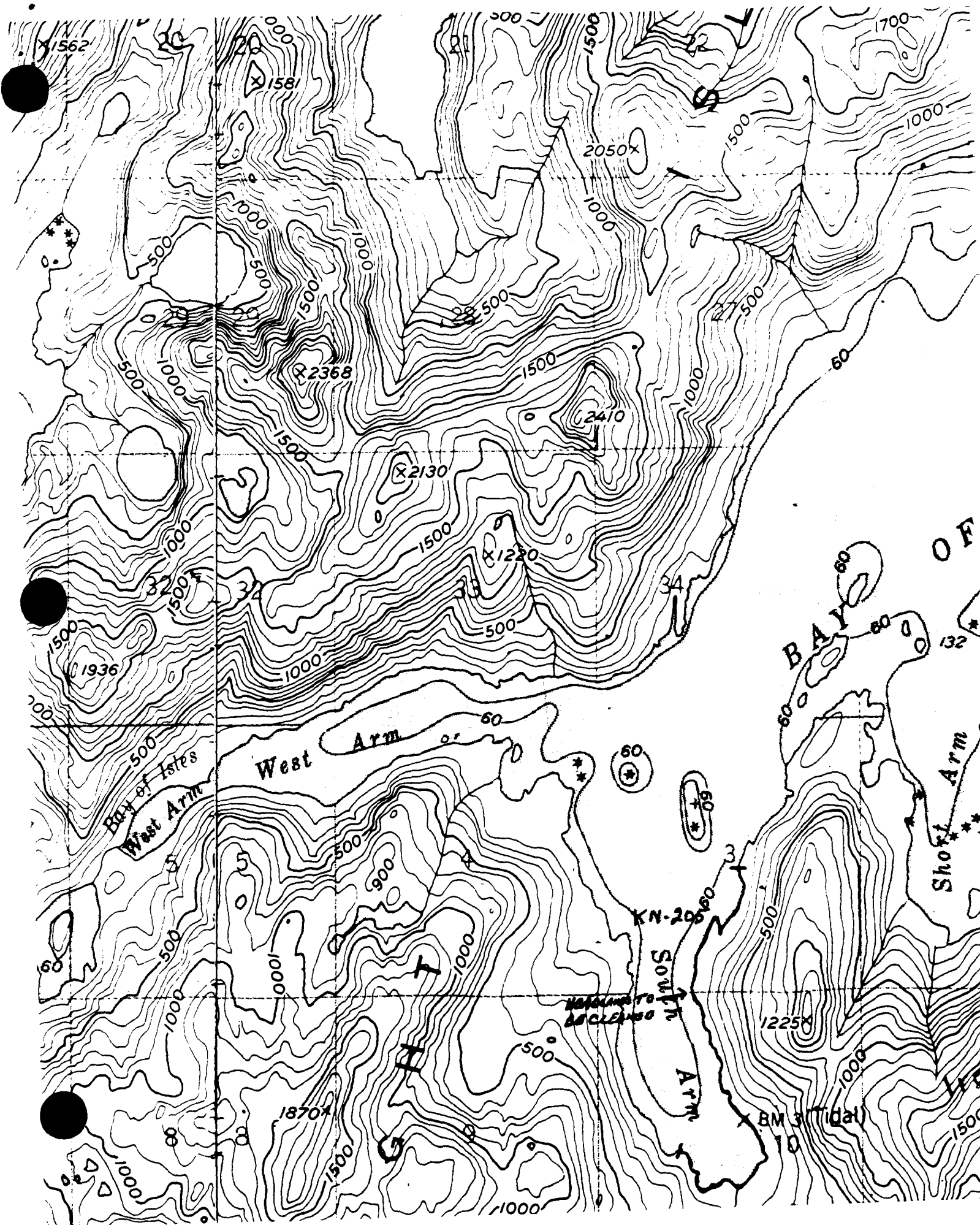
B/W Roll # _____ Frames _____

Observer(s) C. Wilson

Time survey started 2100 Time survey ended 2230

Cultural resource considerations/restraints:

If heretofore undiscovered cultural resources are uncovered during cleanup contact Egon archaeologist, C. Mobley, immediately.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/29/89

SHORELINE SEGMENT KN-208

LOCATION: (see enclosed map) Knight Island-Bay of Isles

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/23/89

Recommended Cleanup Activity(ies):

^{AT THIS TIME}
Cleanup not recommended. Oil occurs in very few, small areas as a stain only and is not recoverable.

Priorities Considerations:

Ecological Constraints (from site survey):

No ecological constraints are necessary, because no cleanup is recommended.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Douglas R. Dege
State Historic Preservation Officer *

Date: 5/29/89

ISCC James Michael
EXXON: SAmpman

6/5/89.
Date: 6/5/89

FOSC: David Zampini

Date: 6/6/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

SHORELINE OIL EVALUATION

Date: 5/23/89 Time: 1215-1230

Observer: C. Dillon

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fo

LOCATION

LOCATION KNIGHT ISLAND

SEGMENT NUMBER KR-208

LENGTH OF SHORELINE SEGMENT: 1700 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT

Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B 5% / C 20% / P ___% / G ___% / S ___% / M ___% / R 5%

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Area of Beach Impact: SU / SP / H / M / L

Continuous: Y/N % of Segment _____ Width of Band: _____ m

Sporadic: Y/N % of Segment 20

Est. Oil Thickness where > 1cm: 0 cm Est. Oil Penetration: 0 cm

Pooled Oil: 0% "Free" Oil: 0% Coated: H 0% / M 0% / L 100%

Fresh 0% Mousse 0% Tar Formation: 100% Sunba
stair

Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/

Comments:

Segment is all steep boulder/cobble slope with some low-lying rock face. Oiling is confined to the Upper ITZ. It is sporadic, varying from unoiled to a very light, discontinuous or patchy band <1m wide. The oil bands are thin, baked dry stain.

ECOLOGICAL EVALUATION

LOCATION: KNIGHT ISLAND SITE: KN-208 OBSERVER: MEYER
LOCATION PREFIX: KN SEG. NO.: 208 LENGTH: 1700 (M)

DATE: 05 / 27 / 89 TIME (HHMM): 1215 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

No oiling

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

No oiling

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

No oiling

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

No oiling

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Segment done by boat with binoculars

OTHER OBSERVATIONS: Entire segment has no oil or patchy band less than
1 meter of light stain

CLEANUP PRECAUTIONS: _____

MAMMALS: Otters 1 Harbor Seals _____ Sea Lions _____ Whales _____
other _____

BIRDS: Bald Eagle - 1

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 5/24/89 Location Hughes Island Site _____

Location Prefix KN Segment # KN-208 Length 1700m

Survey Method:

Air _____ (A - indicate on map) Boat ☒ (A - indicate on map)

Ground _____ (G - indicate on map)

Known cultural resources (AHRS #) None Data Source None

Oil conditions/beach visibility light

Width of beach zone surveyed _____ 0 m Tree fringe surveyed 0

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) None

General observations justifying survey method and segment's site probability:

Shore Profile steep wall face and cobble/ boulder fields

Fresh Water Sources none

Sea Exposure protected

Access/Safety poor

Probability of undiscovered sites in beach zone (circle one) (1) 2 3 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # _____ Frames _____

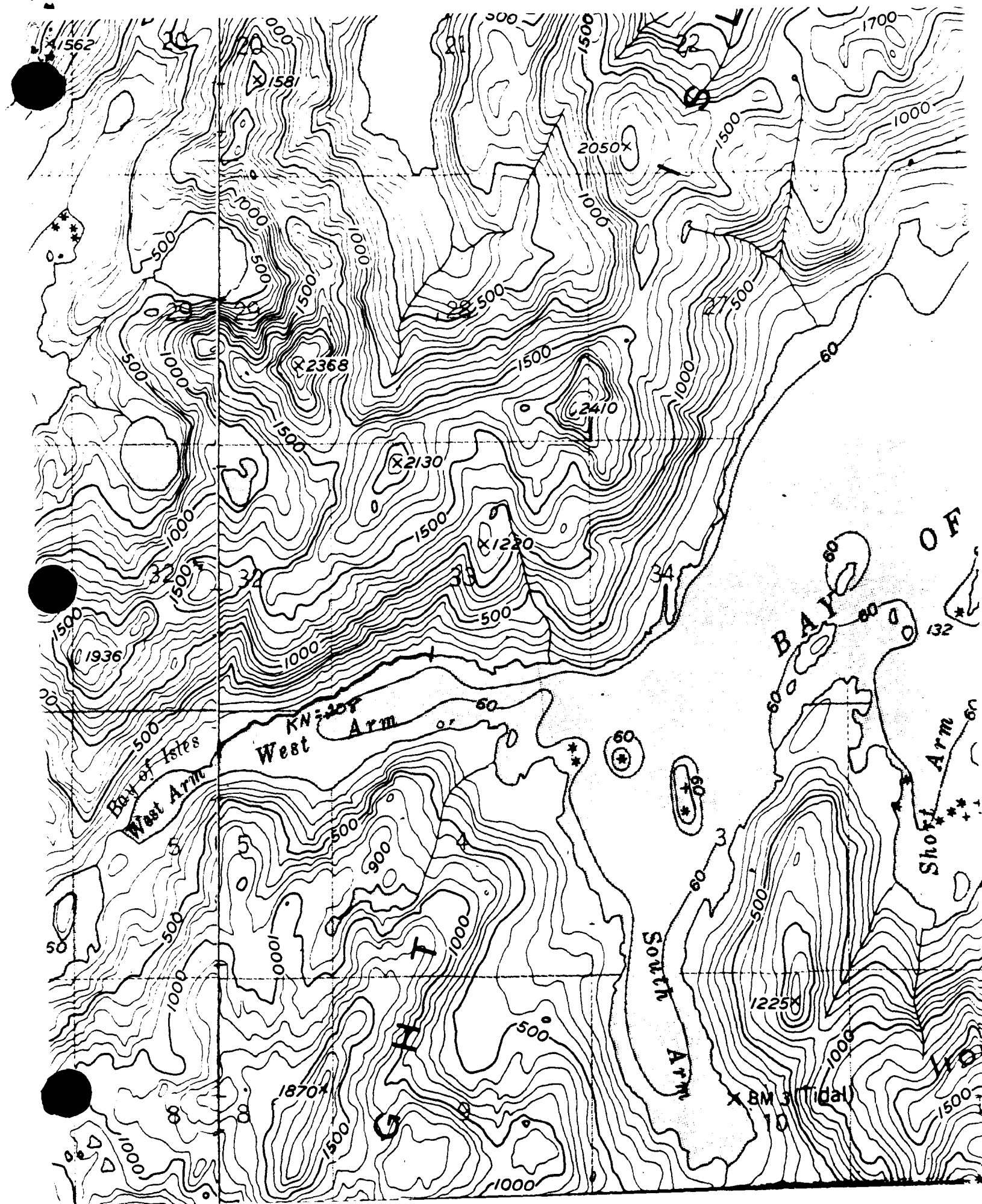
B/W Roll # _____ Frames _____

Observer(s) C. Wilson

Time survey started 1215 Time survey ended 1230

Cultural resource considerations/restraints:

If heretofore undiscovered cultural material is uncovered during cleanup notify Exxon archaeologist, C. Mobley, immediately.



SEG RM-4 INSPECTION # 1

SEGMENT

DATE 8-23-89

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

- ☒ Hot water wash
☐ Warm water wash
☐ Water deluge

- ☐ Mechanical
☐ Non-mechanical
☐ Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments

211 complete. Ready for Demobilization and deployment to new segment.

Signature

[Signature]

Date: 8/23/89 Time: 12:01

Printed Name

Richard E. Adams

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Subsurface Oil

ADEC
3
47
20
15
15

Percent
USCG

55
50
30
0
15

Degree of Oiling

Heavy
Medium
Light
Very Light
None

100 %

ADEC

☒ Yes

☐ No

USCG

☒ Yes

☐ No

Comments

ADEC - Subsurface oil light in most places with the exception of the area near the marsh. Area of marsh is saturated and sheen is evident in much of the area.

Reassessment

ADEC

☒

Yes - necessary

☐

No - not necessary unless re-oiled

USCG

☒

ADEC rep

Area is scheduled for further treatment by bioremediation

Comments Area had been heavily impacted. Heavy oil remains in marsh area & sheen

adjacent to marsh area. Area of the marsh was apparently restricted from cleaning by recommendation of the RPT team. Most of oil in marsh area is very wet there.

Signature

[Signature]

Date: 8/23/89 Time: 13:12

Printed Name

Joseph S. Sautner

FOSC rep

Demobilization approved/disapproved

Comments

Heavy oil remains in marsh area and near

extensive to the point of treatment

Signature

[Signature]

Date: 8/23/89 Time: 13:10

Printed Name

Paul J. Currey

SENT BY REG. REGULATE WHEN-220 7-730000 2-10-11
INSPECTION # KN 8
DATE 7/25/89

SEGMENT
INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

☐ Hot water wash
☒ Warm water wash
☐ Water deluge

☐ Mechanical
☒ Non-mechanical more wye
☐ Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments sh complete. Ready for Demobilization and also permit to new segment

Signature R.E. Adams

Date: 7/25/89 Time: 16:17

Printed Name R.E. ADAMS

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Subsurface Oil

Percent Degree of Oiling

☐ Yes ☒ No

0 Heavy
0 Medium
10 Light
4 Very Light
90 None

100 %

Comments _____

Reassessment

☒ Yes - necessary

☐ No - not necessary unless re-oiled

ADEC rep

Comments NO ADEC INSPECTOR PROVIDED

Signature _____

Date: / / Time: _____

Printed Name _____

FOSC rep

Demobilization approved/disapproved

Comments NO CROSS CONTAMINATION

Signature Paul Gray Cur

Date: 7/25/89 Time: 1634

Printed Name Paul Gray Cur

4/17/89
JSD

TREATMENT MANUAL, 6/15/89

SEG RN-9 INSPECTION # 1

SEGMENT

DATE 16 July 89

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment



Hot water wash



Mechanical



Warm water wash

Non-mechanical Oil squee, Hand squee

Water deluge



Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Check for 5 to 10 days for resid.Remove with low power as neededSignature R. P. AdamsDate: 7/16/89 Time: 20:11Printed Name Richard P. Adams

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Percent Degree of Oiling

Subsurface Oil

☐ Yes☒ No0

Heavy

5-15%

Medium

10-35%

Light

35-65%

Very Light

85-95%

None

100 %

Comments

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep Comments Gross contamination removed.Signature Douglas H. DasherDate: 7/16/89 Time: 2020Printed Name Douglas H. Dasher, EETC, ADEC

FOSC rep

Demobilization approved/disapprovedComments NO GROSS CONTAMINATIONSignature [Signature]Date: 7/16/89 Time: 2020

SEG RX-12 INSPECTION # 1
DATE 7-19-89SEGMENT
INSPECTION RECORD7/20/89
88d

Shoreline Treatment Process(es) Completed for this Segment

☐
☐
☐Hot water wash
Warm water wash
Water deluge☐
☒
☐Mechanical
Non-mechanical Hand Clean
Other _____

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Is complete. Ready for Demobilization
and deployment to new segment
Signature R. E. Adams Date: 7/19/89 Time: 13:39
Printed Name RICHARD E. ADAMS

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Percent Degree of Oiling

0 Heavy
0 Medium
1.5 Light
0 Very Light
98.5 None

100 %

Subsurface Oil

☐ Yes ☒ NoComments _____

Reassessment

☒

Yes - necessary

☐

No - not necessary unless re-oiled

ADEC rep

Comments oiled debris removedSignature Douglas H. Dasher Date: 7/19/89 Time: 1340Printed Name Douglas H. Dasher, F.E.III, ADEC

FOSC rep

Demobilization approved / disapprovedComments No GROSS CONTAMINATIONSignature Paul R. Key Date: 7/19/89 Time: 1340Printed Name Paul R. Key

SEG RN-13 INSPECTION # 1

SEGMENT

7/20/89

DATE 7-19-89

INSPECTION RECORD

BHD

Shoreline Treatment Process(es) Completed for this Segment

☐

Hot water wash

☐

Mechanical

☐

Warm water wash

☒

Non-mechanical

Hand Clean☐

Water deluge

☐

Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments

Job complete. Ready for Demobilization and deployment to new segment.

Signature

R. AdamsDate: 7/19/89 Time: 13:40

Printed Name

RICHARD E. ADAMS

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Subsurface Oil

Percent

Degree of Oiling

☐

Yes

☒

No

0

Heavy

Comments

10

Medium

10

Light

0

Very Light

90

None

100 %

Reassessment

☒

Yes - necessary

☐

No - not necessary unless re-oiled

ADEC rep

Comments

Gross heavy surface oil removed.

Signature

Douglas H. DasherDate: 7/19/89 Time: 1345

Printed Name

Douglas H. Dasher, EEIII, ADEC

FOSC rep

Demobilization approved/disapproved

Comments

NO GROSS CONTAMINATION

Signature

Paul R. McCoyDate: 7/19/89 Time: 1344

Printed Name

Paul R. McCoy

SEG RN-14 INSPECTION # 1
DATE 7-19-89

SEGMENT
INSPECTION RECORD

TREATMENT MANUAL, 6/15/89

7/20/89
53d

Shoreline Treatment Process(es) Completed for this Segment

☐ Hot water wash	☐ Mechanical
☐ Warm water wash	☒ Non-mechanical <u>Hand Clean</u>
☐ Water deluge	☐ Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Job complete. Ready for Demobilization and deployment to new segment.
Signature [Signature] Date: 7/19/89 Time: 13:49
Printed Name RICHARD E. ADAMS

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil		Subsurface Oil
Percent	Degree of Oiling	☒ Yes ☐ No
<u>4</u>	Heavy	Comments <u>no light oil seen</u> <u>Areas</u>
<u>10</u>	Medium	
<u>30</u>	Light	
<u>4</u>	Very Light	
<u>0 to 60</u>	None	

100 %

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep

Comments Gross heavy surface oil removed.
Signature [Signature] Date: 7/19/89 Time: 1350
Printed Name Douglas H. Dasher, E.E.T.I., ADEC

FOSC rep

Comments Demobilization approved/disapproved
no Gross contamination

Signature [Signature] Date: 7/19/89 Time: 1453
Printed Name Patricia L. Woz

TREATMENT MANUAL, 6/15/89

SEG LN-15 INSPECTION # 1

SEGMENT

DATE 25 Jun 89

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

☐

Hot water wash

☐

Mechanical

☒

Warm water wash

☒Non-mechanical Hand Wipe☒

Water deluge

☐

Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments

Signature

James J. FletcherDate: 6/25/89 Time: 1:45 PM

Printed Name

JAMES L. FLETCHER

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Subsurface Oil

Percent Degree of Oiling

☐

Yes

☒

No

5
20
75

Heavy

Medium

Light

Very Light

None

100 %

Comments

Reassessment

☒

Yes - necessary

☐

No - not necessary unless re-oiled

ADEC rep

Comments Selectively removed (cut at rock surface) bands of contaminated paper and place same bands in separate medium sized. Reassessing moving to lower

Signature

Douglas R. ThompsonDate: 6/25/89 Time: 1:34 PM

Printed Name

Douglas R. Thompson, Fairport, ADEC

FOSC rep

Demobilization approved/disapproved

Comments

Reassess to oil 5 and 65 placed around

Signature

James J. FletcherDate: 6/25/89 Time: 1:50 PM

Printed Name

JAMES J. FLETCHER

COPY: EXXON ADEC FOSC ISCC

SEG RN-134 INSPECTION # 1
DATE 7-19-89SEGMENT
INSPECTION RECORD7/20/89
JSD

Shoreline Treatment Process(es) Completed for this Segment

☐ Hot water wash
☐ Warm water wash
☐ Water deluge

☐ Mechanical
☒ Non-mechanical Hand Clean
☐ Other

Exxon

Treatment as Indicated above has been completed. Request demobilization from this segment.

Comments

Job complete. Ready for Demobilization and deployment to new segment.

Signature

R. E. AdamsDate: 7/19/89 Time: 1329

Printed Name

RICHARD E. ADAMS

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Percent Degree of Oiling

<u>0</u>	Heavy
<u>45</u>	Medium
<u>15</u>	Light
<u>0</u>	Very Light
<u>60</u>	None

100 %

Subsurface Oil

☒ Yes ☐ NoComments LIGHT IN COASTAL STRAND AREA

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep

Comments

Given heavy surface oil removed

Signature

Douglas H. DasherDate: 7/19/89 Time: 1330

Printed Name

Douglas H. Dasher, FETI, ADEC

FOSC rep

Demobilization approved/disapproved

Comments

ED Green commented: heavy mix oil on surface. MADE APPROXIMATELY 1/2 IN. UNUSABLE AND SAID IN ATTEMPT TO WASH *

Signature

Ed GreenDate: 7/19/89 Time: 1335

Printed Name

Ed Green, FOSC

* WOULD BE INSIGNIFICANT.

COPY: EXXON ADEC FOSC ISCC

SEG RY-135 INSPECTION # 1
DATE 7-19-89SEGMENT
INSPECTION RECORD7/20/89
gjd

Shoreline Treatment Process(es) Completed for this Segment

☐ Hot water wash	☐ Mechanical
☐ Warm water wash	☒ Non-mechanical <u>Hand Clean</u>
☐ Water deluge	☐ Other _____

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Job complete. Ready for Demobilization and deployment to new segment.

Signature [Signature] Date: 7/19/89 Time: 13:27

Printed Name RICHARD E. ADAMS

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil		Subsurface Oil
Percent	Degree of Oiling	☐ Yes ☒ No
<u>0</u>	Heavy	Comments _____ _____ _____ _____ _____
<u>0</u>	Medium	
<u>5</u>	Light	
<u>0</u>	Very Light	
<u>0</u>	None	
100 %		

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep

Comments Given heavy surface oil removed.

Signature [Signature] Date: 7/19/89 Time: 1328

Printed Name Douglas H. Dasher, EE III, ADEC

FOSC rep

Demobilization approved/disapproved

Comments no gross contamination.

Signature [Signature] Date: 7/19/89 Time: 1334

Printed Name Tae [Signature] Coo

SEG RN-136 INSPECTION # 1
DATE 7-19-89SEGMENT
INSPECTION RECORD7/20/89
534

Shoreline Treatment Process(es) Completed for this Segment

☐ Hot water wash	☐ Mechanical
☐ Warm water wash	☒ Non-mechanical <u>Hand Clean</u>
☐ Water deluge	☐ Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Is complete. Ready for Demobilization.and deployment to new segment.Signature R. E. AdamsDate: 7/19/89 Time: 13:24Printed Name RICHARD E. ADAMS

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Subsurface Oil

Percent Degree of Oiling

☐ Yes ☒ No

<u>0</u>	Heavy
<u>4</u>	Medium
<u>2</u>	Light
<u>4</u>	Very Light
<u>98</u>	None

100 %

Comments _____

Reassessment

☒ Yes - necessary☐ No - not necessary unless re-oiled

ADEC rep

Comments Gross heavy surface oil removed.Signature Douglas H. Dashen Date: 7/19/89 Time: 1325Printed Name Douglas H. Dashen, E.E.III, ADEC

FOSC rep

Demobilization approved/disapprovedComments NO GROSS CONTAMINATIONSignature [Signature] Date: 7/19/89 Time: 1325Printed Name Paul Puckey, Esq.

TREATMENT NUMBER

K-260

SEGMENT

DATE 7-27-89

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment



Hot water wash



Mechanical



Warm water wash



Non-mechanical



Water deluge



Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments

26 complete. Ready for Demobilization and deployment to new segment.

Signature

R.E. Adams

Date: 7/27/89 Time: 17139

Printed Name

R.E. Adams

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Subsurface Oil

Percent Degree of Oiling



Yes



No

Heavy

25%

Medium

15%

Light

10%

Very Light

5%

None

100 %

Comments GRAVEL AREAS HAVE

PATCHES OF MODERATE SURFACE

OIL

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep

BASE REP LEWIS SHAW (EF02-JAL013) MADE FOLLOWING STATEMENT
"SUBSTANTIAL MOBILE OIL ON + BETWEEN ROCKS, MOSTLY UPPER INTERMEDIATE
FOUL. POTENTIAL THREAT TO ADJACENT STREAM & HILL & W. ARM. COAST
Comments RE REMOVAL OF EXCESSIVE STREAM MOUTH BOOM."

Signature

Date: / / Time:

Printed Name

FOSC rep

Demobilization approved/disapproved

Comments MUST PLACE SNARE (BOOM) ALONG MID OILED AREAS IDENTIFIED &

INSTRUCTION 1 MAINTAIN AS NECESSARY - ADEC MAY RECOMMEND BOOM PLACEMENT

Signature

William D. Harrison

Date: 7/27/89 Time: 1810

WILLIAM D. HARRISON LT USCG

TO PROTECT
ADJACENT
STREAM &

SEG KU-201 INSPECTION # 1DATE 7 Jan 89

SEGMENT

INSPECTION RECORD

ENTERED
BY JAN
7/11/89

Shoreline Treatment Process(es) Completed for this Segment

☐
☐
☐

Hot water wash
 Warm water wash
 Water deluge

☐
☒
☐

Mechanical
 Non-mechanical CUTTING AND WIPING
 Other _____

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments _____

Signature

James L. Fletcher

Date:

7/17/89

Time:

4:30 P.M.

Printed Name

JAMES L. FLETCHER

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Percent

Degree of Oiling

Subsurface Oil

☐

Yes

☒

No

4
5
10
0
85

Heavy
 Medium
 Light
 Very Light
 None

Comments _____

100 %

Reassessment

☒

Yes - necessary

☐

No - not necessary unless re-oiled

ADEC rep

Comments

The two island spots discussed with Jim
Fletcher need to be removed by hand shovel and bagged.
No objection to demobilization after doing this.

Signature

Douglas H. Dasher

Date:

7/17/89

Time:

1635

Printed Name

DOUGLAS H. DASHER

FOSC rep

Demobilization

approved / disapproved

Comments

no mobile w.

Signature

[Signature]

Date:

7/17/89

Time:

1635

Printed Name

Paul [Signature] [Signature]

COPY: EXXON ADEC FOSC ISCC

7/17/89
JSD

TREATMENT MANUAL, 6/15/89

SEG RH-202 INSPECTION # 1DATE 16 July 89SEGMENT
INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment



Hot water wash



Warm water wash



Water deluge



Mechanical

Non-mechanical Oil removal, Hand wipe.

Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments

Check for 5 to 10 days for sealRemove with pump as needed

Signature

R. E. AdamsDate: 7/18/89 Time: 2011

Printed Name

Richard E. Adams

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Subsurface Oil

Percent Degree of Oiling



Yes



No

0

Heavy

1.5

Medium

0

Light

0

Very Light

98.5

None

100 %

Comments

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep

Comments

Gross contamination removed.

Signature

Douglas H. FisherDate: 7/16/89 Time: 2025

Printed Name

FOSC rep

Comments

Demobilization approved/disapproved

Signature

R. E. AdamsDate: 7/16/89 Time: 2025

Shoreline Treatment Process(es) Completed for this Segment

☐ Hot water wash ☐ Mechanical
☐ Warm water wash ☒ Non-mechanical Hand clean
☐ Water deluge ☐ Other _____

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Job complete. Ready for Demobilization and deployment to new segment.

Signature R. E. Adams Date: 7/19/89 Time: 13:19

Printed Name RICHARD E. ADAMS

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil		Subsurface Oil
Percent	Degree of Oiling	☐ Yes ☒ No
<u>0</u>	Heavy	Comments _____ _____ _____ _____ _____
<u>2</u>	Medium	
<u>10</u>	Light	
<u>8</u>	Very Light	
<u>88</u>	None	
100 %		

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep

Comments Gross heavy oil removed.

Signature Douglas H. Dasher Date: 7/19/89 Time: 1320

Printed Name Douglas H. Dasher, EETII, ADEC

FOSC rep

Demobilization approved/disapproved

Comments no gross contamination.

Signature [Signature] Date: 7/19/89 Time: 1320

Printed Name Paul R. Fisher CWCZ

SEG RV-204 INSPECTION # 1
DATE 7-19-89SEGMENT
INSPECTION RECORD7/20/89
SH

Shoreline Treatment Process(es) Completed for this Segment

☐ Hot water wash	☐ Mechanical
☐ Warm water wash	☒ Non-mechanical <u>Hand Clean</u>
☐ Water deluge	☐ Other _____

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Job complete. Ready for Demobilization and deployment to new segment

Signature [Signature] Date: 7/19/89 Time: 13:45

Printed Name RICHARD E. ADAMS

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil
Percent Degree of Oiling

Subsurface Oil

☐ Yes ☒ No

<u>0</u>	Heavy
<u>10</u>	Medium
<u>20</u>	Light
<u>30</u>	Very Light
<u>70</u>	None

100 %

Comments _____

Reassessment

☒ Yes - necessary

☐ No - not necessary unless re-oiled

ADEC rep

Comments Green heavy surface oil removed.

Signature [Signature] Date: 7/19/89 Time: 1347

Printed Name Douglas H. Dasher, F.E.T.L., ADEC

FOSC rep

Demobilization approved / disapproved

Comments NO GROSS CONTAMINATION

Signature [Signature] Date: 7/19/89 Time: 1345

Printed Name Paul Pitney Cur2

COPY: EXXON ADEC FOSC ISCC

SEG KN-205

TREATMENT MANUAL, 6/3/89

INSPECTION # 1DATE 23 JUN 89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

☐ Hot water wash	☐ Mechanical
☒ Warm water wash	☒ Non-mechanical <u>o.l. SWABES</u>
☒ Water deluge	☐ Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments

Signature

James L. FletcherDate: 6/23/89 Time: 1400

Printed Name

JAMES L. Fletcher

Existing Shoreline Condition As Visually Evaluated by ADEC and USCG

Surface Oil

Percent

100	75	50	25	0
☐	☐	☐	☐	☒
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐

90% none 10% LIGHT OIL
See comment 100%

Degree of Oiling

Heavy
 Medium
 Light
 Very Light
 None

Subsurface Oil

Percent

100	75	50	25	0
☐	☐	☐	☐	☒
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐

100 %

Reassessment

☐ Yes - necessary☒

No - not necessary unless re-oiled

ADEC rep

Comments

Heavy Contamination Removed. Demobilization
passes for oil at 6/23/89 date. It is necessary
to remove remaining oil to heavy Contamination

Signature

Denny R. TimmonsDate: 6/23/89 Time: 1400

Printed Name

Denny R. Timmons, Env. Engr., ADEC

FOSC rep

Demobilization approved / disapproved

Comments

Mobile oil removed. Form DATED 6/3/89
was only copy AVAILABLE A TIME OF inspection.

Signature

Paul R. RicheyDate: 6/23/89 Time: 1400

Printed Name

Paul Richey, Env. Engr., ADEC

REG KN-208 INSPECTION # 1

SEGMENT

DATE 7/25/87

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment



Hot water wash



Mechanical



Warm water wash

Non-mechanical shoreline

Water deluge



Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments

2 b complete. Ready for Demobilization and deployment to new segment

Signature

RE AdamsDate: 7/25/87 Time: 16:17

Printed Name

RE Adams

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Subsurface Oil

Percent

Degree of Oiling



Yes



No

0

Heavy

2

Medium

5

Light

6

Very Light

93

None

100 %

Comments medium in A20 x 20 yds. AUA

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep

Comments

AD ADEC INSPECTION PROVIDED

Signature

Date: 7/25/87 Time: 16:30

Printed Name

FOSC rep

Demobilization approved/disapproved

Comments

NO OILS CONTAMINATION

Signature

Paul W. CurryDate: 7/25/87 Time: 16:30

Printed Name

Paul W. Curry

Sent to TR + OR

5/22/89
by 5/23/89

(version 5/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): KNIGHT ISLAND - BAY OF ISLES

NORTH BLOCK

Includes Shoreline Segments: KN-6, KN-10, KN-18, KN-19, KN-20,

KN-21

Submitted :

John A. May
(for Exxon)

Date: 5/21/89

FOSC Approval:

C. E. Robb

Date: 5/25/89

ISCC Representative:

John A. May 5/24/89

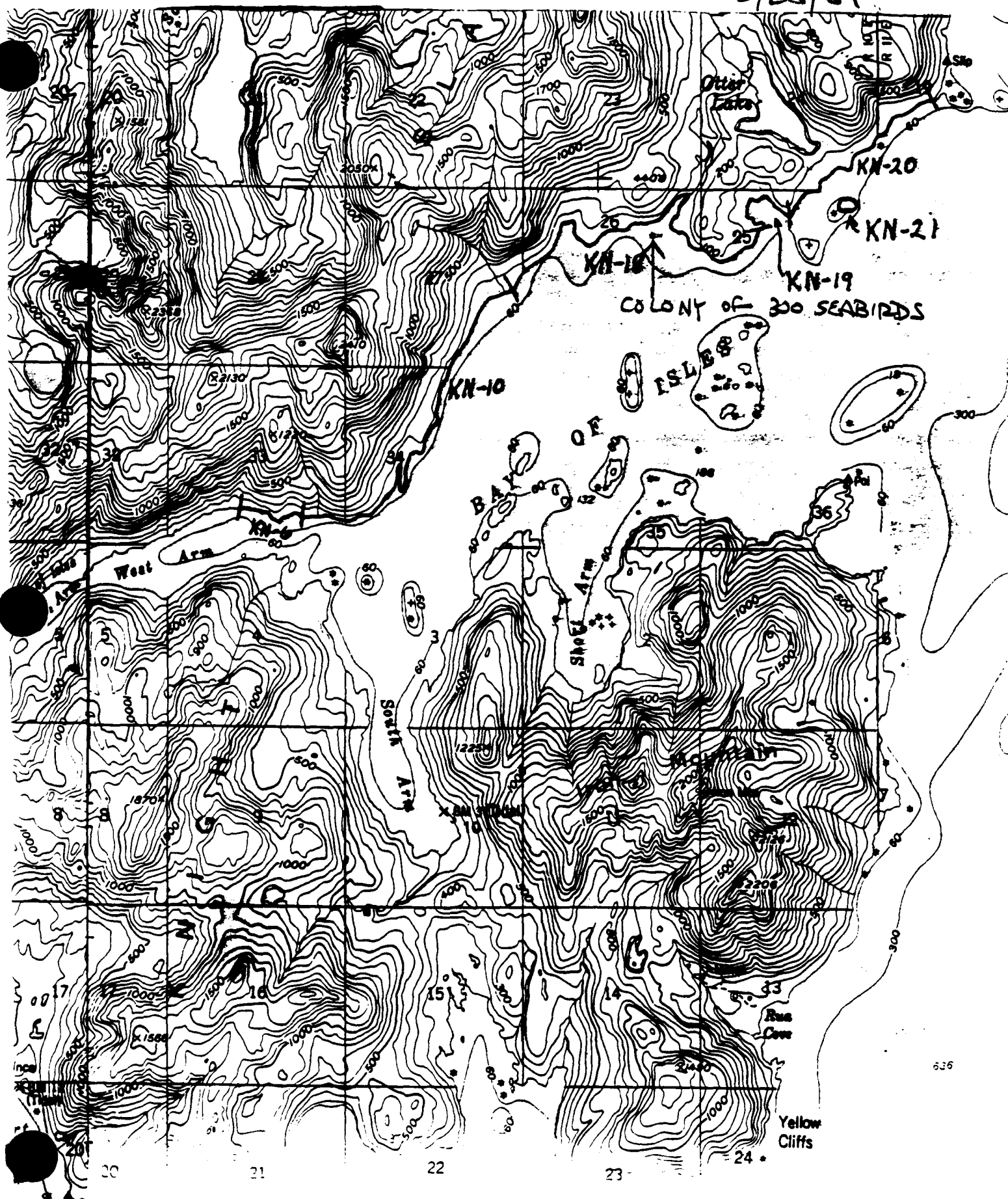
The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative has the authority to approve on-site modifications. The Field Resource Team should be consulted if these actions do not fit within the Ecological Constraints of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:

Exxon Shoreline Coordinator
Exxon Shoreline Supervisor
Exxon SCAT file

FOSC
CDFU
NOAA
EPA
USDA (FS)
USFW
A.DEC
A.FG
A.DNR
CAC
PWSCA
USFS
SHPO

5/28/89



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989

SHORELINE SEGMENT KN-6

LOCATION: (see enclosed map) Knight Island, Bay of Isles, West
arm, NE shore.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/18/89

Recommended Cleanup Activity(ies):

Recommend no cleanup. Oil is patchy, light to moderate on rocks.
Little or no free oil.

Priorities Considerations:

Little free oil.

Ecological Constraints (from site survey):

Cleanup would probably be biologically counterproductive.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Douglas Regan
State Historic Preservation Officer *

Date: 5/16/89

EXXON: [Signature]

Date: 5/24/89

FOSC: [Signature]

Date: 5/25/89

NO Cleanup recommendation reserved pending inspection by FOSC or representatives.
* Signature required to satisfy stipulations in Alaska DNR
land use permits for tide and submerged lands .

SHORELINE OIL EVALUATIONDate: 5/8/89 Time: 0830Observer: StokerSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/FogLOCATIONLOCATION Knight Is, Bay at Isles, w Arm SEGMENT NUMBER KN-6LENGTH OF SHORELINE SEGMENT: 500 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float PlaneSHORELINE:Shoreline Type: SPI BEA COV HLD STRTSlope: LANG/HANG/VERWave Exposure: High Med/LowSediment: B 40% / C 40% / P 20% / G ___% / S ___% / M ___% / R ___%Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs, fucusOILDegree of Oiling: Heavy Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 100 Width of Band: 1-5 mSporadic: Y/N % of Segment _____Est. Oil Thickness where > 1cm: _____ cm Est. Oil Penetration: variable cmPooled Oil: _____% "Free" Oil: _____% Coated: H 50% / M 30% / L _____%Fresh 50% Mousse _____% Tar Formation: _____%Drift Debris Oiled? Yes No Supra/Upper/Mid/Lower Amount: H/M/L/

Comments:

Rocks & cobbles in high-mid Tide zone oil coated, oil is
dry, weathered. Light oil Trapped in fucus. Little free oil,
sparsely scattered blobs or masses. Cleaning would probably
do little good and considerable harm. Recommend
NO Cleaning.

ECOLOGICAL EVALUATION

LOCATION: Knight Is, Bay of Tides SITE: West Arm, Entrance OBSERVER: STOKER

LOCATION PREFIX: KN SEG. NO.: KN-6 LENGTH: 500 (M)

DATE: 5/8/89 TIME (HHMM): 0830 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Continuous, Density variable 50-70%

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable density, generally low.

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable density, most small to medium size (15 mm), ± 70% pre-spill de.

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable density, common but not dense.

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable density, common but not dense.

OTHER OBSERVATIONS: Pagurus - common; Nucella - common; Amphipod -

common. Also salpeter, nudibranchs (Lysoria?), Jellyfish, Anemones.

No observed mortality.

CLEANUP PRECAUTIONS: Recommend No Cleanup.

MAMMALS: Otters _____ Harbor Seals _____ Sea Lions _____ Whales _____
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: Cleanup impact probably worse than it

left alone. Cleanup would probably be futile at any rate.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Bay of Islands

Date May 8, 1989 Location Knight Island Site West Arm

Location Prefix KN Segment # 6 Length 500

Survey Method:

Air _____ (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) Ø Data Source N/A

Oil conditions/beach visibility light to medium (most in a 2m wide band across beach)

Width of beach zone surveyed 5 m Tree fringe surveyed 1-15

Cultural resources observed in beach zone (AHRS code) Ø

Cultural resources observed in tree fringe (AHRS code) Ø

General observations justifying survey method and segment's site probability:

More Profile beaches--15°; headlands--25°

Fresh Water Sources Stream in west end of segment

Sea Exposure view of the intersection of South Arm & West Arm (SE)

Access/Safety sheltered area because of narrowness of West Arm

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes no Collection yes no

Photos: Color Roll # _____ Frames _____

B/W Roll # SL-1 Frames 14

Observer(s) Ludwig

Time survey started 8:30am Time survey ended 9:30am

Cultural resource considerations/restraints:

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon archaeologist Mobley and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989

SHORELINE SEGMENT KN-10

LOCATION: (see enclosed map) Knight Island, Bay of Isles, NW shore

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/18/89

Recommended Cleanup Activity(ies):

No cleanup recommended. Oiling is intermittent, with heavy oiling only in one small locale. No free oil or pooled oil.

6/1 RAT recommended no cleaning

Priorities Considerations:
Little free oil.

Ecological Constraints (from site survey):
Cleanup would likely be counterproductive.

Archeological Constraints (from site survey):
If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Angela Rye
State Historic Preservation Officer *

Date: 5/16/89

EXXON: *Abel*

Date: 5/24/89

FOSC: *C.S. Robbins*

Date: 5/25/89

No cleanup recommendation reserved pending inspection by FOSC or representative.
* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

SHORELINE OIL EVALUATIONDate: 5/8/89 / Time: 2020Observer: STQMerSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/Fog**LOCATION**LOCATION Knight Is, Bay or Isles, NW shore SEGMENT NUMBER KN-10LENGTH OF SHORELINE SEGMENT: 13500 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane**SHORELINE:**Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B 70 % / C 20 % / P 5 % / G 5 % / S % / M % / R %Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs, fucus**OIL**Degree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 70 Width of Band: 1-10 mSporadic: Y/N % of Segment 70Est. Oil Thickness where > 1cm: cm Est. Oil Penetration: cmPooled Oil: % "Free" Oil: % Coated: H 70 % / M 50 % / L %Fresh % Mousse small % Tar Formation: %Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/**Comments:**

Steep to vertical rock shore with small pocket coves of
Rock/cobble/Gravel. Only heavy oil observed in small
cove as diagramed. Cleaning efforts would probably be
minimally effective, probably counterproductive.

DOCUMENTATION:

Map/Aerial photo marking segment boundaries _____

VTR: Y/N Tape Number(s) _____

Photography: Y/N Roll Number(s) _____

Sample Numbers Collected: _____

IN
SECTION 34- core with heavy oil on rocks,
some mousse patches

10m x 10m

ECOLOGICAL EVALUATION

LOCATION: Knight Is, Bay of Isles SITE: NW Shore OBSERVER: STOKERLOCATION PREFIX: KN SEG. NO.: 10 LENGTH: 3500 (M)DATE: 5/8/89 TIME (HHMM): 2020 TIDE HT.: _____ (M)OILED ZONE: Splash High Medium LowSUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)Continuous except for small coral. Variable density.Mytilus (Mussels): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)Continuous patchy except for small coral. Variable density.Balanus (Barnacles): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)Continuous patchy except for small coral. Variable density.LittorinaPatchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)Mainly continuous. Variable distribution & density.Limpets: Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)Mainly continuous. Variable distribution & density.OTHER OBSERVATIONS: Harbor Seals, ~~are~~ normal behaviorCLEANUP PRECAUTIONS: Probably no cleanup needed. Efforts would be marginally effective, probably do more harm than good.MAMMALS: Otters _____ Harbor Seals X Sea Lions _____ Whales _____
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

May 8, 1989 CULTURAL RESOURCE EVALUATION Bay of Isles
Date May 11, 1989 Location Knicht Island Site NW Shore
Location Prefix KN Segment # 10 Length ± 3,500

Survey Method:

Air _____ (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) SEW-074 Data Source CPSU ^{de la Cour}

Oil conditions/beach visibility heavy in one core, lighter toward east

Width of beach zone surveyed 5 m Tree fringe surveyed 1-3 m

Cultural resources observed in beach zone (AHRS code) Ø

Cultural resources observed in tree fringe (AHRS code) CMTs

General observations justifying survey method and segment's site probability:

Core Profile ranges from steep cliffs, rocky cores and broad gravel beach

Fresh Water Sources several streams

Sea Exposure South exposure to Bay of Isles (near mouth)

Access/Safety rough landing except at gravel beaches

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # _____ Frames _____

B/W Roll # SL-1 Frames 18
SL-2 14-18

Observer(s) Ludwig

Time survey started 1930 Time survey ended 2030
1645 1745

Cultural resource considerations/restraints:

Oil is absent in the area where the AHRS site is located, therefore that area should be avoided.

heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon archaeologist C. Mobley and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/8

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/23/89 SHORELINE SEGMENT KN-18

LOCATION: (see enclosed map) Knight Island, Bay of Isles,
Northeast Shore

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/11/89

Recommended Cleanup Activity(ies): Cleanup may be appropriate if the majority of the oil can be removed and damage to the intertidal community can be minimized. Flooding/flushing with warm to hot (up to 140 F) water may enhance greater recovery of oil. Clean only after clean areas of intertidal zone are covered by tide. Cleanup of KN-18 is to be conducted after cleanup of KN-19 and KN-20.

Priorities Considerations:

Little free oil.

Ecological Constraints (from site survey):

If hot water is used, it should not be allowed to come in contact with lower and middle intertidal zone. Remove as much oil as possible in a single effort. *Advanced Fish stream present.*

Archeological Constraints (from site survey):

Additional archaeological reconnaissance is expected prior to cleanup. If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Charles E. Adams
State Historic Preservation Officer *

Date: May 24, 1989

EXXON: Bob

Date: 5/24/89

FOSC: C. E. Robbins

Date: 5/25/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

SHORELINE OIL EVALUATIONDate: 5/11/89 / Time: 15:15Observer: STOKERSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/FogLOCATIONLOCATION Knight Is Bay or Lkr, NE Shore SEGMENT NUMBER KN-18LENGTH OF SHORELINE SEGMENT: ± 4,000 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float PlaneSHORELINE:Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B 70% / C 20% / P 10% / G ___% / S ___% / M ___% / R ___%Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type Logs, FucusOILDegree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 80 Width of Band: 1-10 mSporadic: Y/N % of Segment 80Est. Oil Thickness where > 1cm: ___ cm Est. Oil Penetration: 0-10+ cmPooled Oil: 0% "Free" Oil: 5% Coated: H 80% / M 20% / L 0%Fresh 80% Mousse 0% Tar Formation: 0%Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/Comments: (surveyed 4/17/89)
Contained original KN-42, with same oil qualities, so KN-42 was
struck from existence & incorporated into KN-18.

Heavy oil coating on rocks/cobble at High-Upper Mid Tide
at two locations is indicated on accompanying map.
Rest of segment is light to moderately oiled, with no apparent
oil in place. Cleaning or heavily oiled areas would probably
only drive oil down into rocks and would cause more damage
to biota than it would cure. No pooled free oil or mousse present.
Heavily oiled areas about 10x10m and 10x50m in area.

ECOLOGICAL EVALUATION

LOCATION: Knight Is. Bay of Elys SITE: NE. shore OBSERVER: Stoher

LOCATION PREFIX: KN SEG. NO.: 18 LENGTH: 14,000 (M)

DATE: 5 / 11 / 89 TIME (HHMM): 15:15 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

variable Distribution and density from high to low Tide level.

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Extremely patchy and variable Distribution and density.

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable Distribution and density

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Extremely variable Distribution and density

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable Distribution and density.

OTHER OBSERVATIONS: Very dense populations of Nucella in isolated patches,
usually on steep rock faces both oiled & unoiled. Dense patches of very small
Mytilus High to Mid Tide.

CLEANUP PRECAUTIONS: Cleanup would probably be futile, would only
destroy biota present and drive all down into rocks.

MAMMALS: Otters _____ Harbor Seals X Sea Lions _____ Whales _____
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date May 11, 1989 Location Knight Island Site NE shore Isles Bay of
Location Prefix KN Segment # 18 Length ±4000

Survey Method:

Air _____ (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) SEW-074 Data Source de Laguna CPSU

Oil conditions/beach visibility areas with heavy oiling up to 2.5m above present tide

Width of beach zone surveyed 5 m Tree fringe surveyed 0-15m

Cultural resources observed in beach zone (AHRS code) none

Cultural resources observed in tree fringe (AHRS code) none

General observations justifying survey method and segment's site probability:

Shore Profile steep headlands and rocky coves and beaches

Fresh Water Sources one major stream and several small streams

Sea Exposure along north shore of main channel of Bay of Isles

Access/Safety good access in large coves

Probability of undiscovered sites in beach zone (circle one) 1 2 (3) 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # _____ Frames _____

B/W Roll # SL-2 Frames 11

Observer(s) Ludwig

Time survey started 1530 Time survey ended 1550

Cultural resource considerations/restraints:

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon archaeologist C. Mobley & take actions presented in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/23/89

SHORELINE SEGMENT KN-19

LOCATION: (see enclosed map) KNIGHT ISLAND, Bay of Isles,

Northeast Shore

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/12/89

Recommended Cleanup Activity(ies): Cleanup may be appropriate if the majority of the oil can be removed and damage to the intertidal community can be minimized. Flooding/flushing with warm to hot (up to 140 F) water may enhance greater recovery of oil. Clean only after clean areas of intertidal zone are covered by tide. If possible, cleanup of KN-19 should be conducted concurrently with KN-20 and before KN-18.

Priorities Considerations:

Heavy oil on rocks and in fucus. Some free oil and mousse.

Ecological Constraints (from site survey): If hot water is used, it should not be allowed to come in contact with lower and middle intertidal zone. Remove as much oil as possible in a single effort. Oiled fucus may be removed.

Archeological Constraints (from site survey):

Archaeological monitor required during cleanup. Archaeological monitor is expected to conduct additional reconnaissance of Segment KN-18.

Charles E. Palmer
State Historic Preservation Officer *

Date: May 24, 1989

EXXON: Beal

Date: 5/24/89

FOSC: C. E. Palmer

Date: 5/25/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

SHORELINE OIL EVALUATIONDate: 5/12/89 / Time: 10.00Observer: STakerSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/Fog**LOCATION**LOCATION Knight Is, Bay of Isles, NE Shore SEGMENT NUMBER KN-19LENGTH OF SHORELINE SEGMENT: 800 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane**SHORELINE:**Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B 70% / C 20% / P 10% / G ___% / S ___% / M ___% / R ___%Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs, fucus**OIL**Degree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 80 Width of Band: 5-10 mSporadic: Y/N % of Segment 80Est. Oil Thickness where > 1cm: ___ cm Est. Oil Penetration: 5-10 cmPooled Oil: 0% "Free" Oil: 100% Coated: H 80% / M 60% / L 0%Fresh 80% Mousse 1% Tar Formation: 0%Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/**Comments:**

About ⁴⁰⁰ ~~300~~ m of core badly oiled (see accompanying map and sketch). Heavy, fresh oil on high energy beach/cobble beach. Some oil trapped in fucus. Scattered small blobs of mousse. Recommend hot water cleanup of heavily oiled zone at water's edge, following ~~low~~ rise and fall of tide.

DOCUMENTATION:

Map/Aerial photo marking segment boundaries _____

VTR: Y/N Tape Number(s) _____

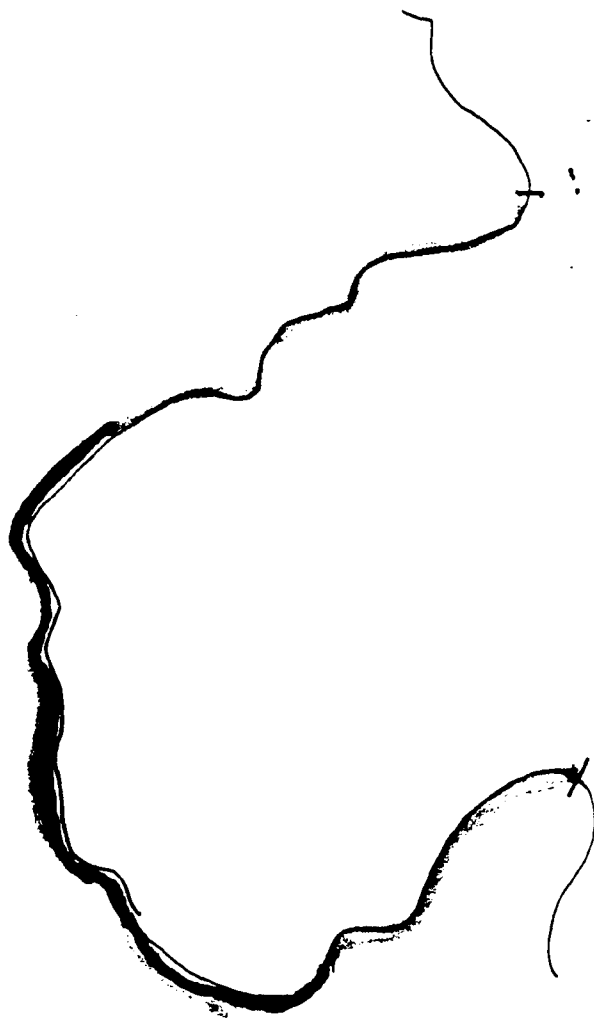
Photography: Y/N Roll Number(s) _____

Sample Numbers Collected: _____

KN-19

Segment - —

Heavily Oiled - —



ECOLOGICAL EVALUATION

LOCATION: Knight Is. Bay of Lks SITE: NE shore, cave OBSERVER: STOKERLOCATION PREFIX: KN SEG. NO.: KN-19 LENGTH: 800 m (M)DATE: 5/12/89 TIME (HHMM): 10.00 TIDE HT.: _____ (M)OILED ZONE: Splash High Medium LowSUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)Density variableMytilus (Mussels): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)Distribution and density extremely variable.Balanus (Barnacles): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)Variable distribution and density.

Littorina

Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)variableLimpets: Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)common but not dense.OTHER OBSERVATIONS: common occurrence and ~~low~~ patchy high
density of Nucella.CLEANUP PRECAUTIONS: Recommend cleanup of heavily oiled zone followingTide level. Biota generally sparse in oiled zone. Leave fucus holdfasts
and mytilus beds.MAMMALS: Otters _____ Harbor Seals _____ Sea Lions _____ Whales _____
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: Biota sparse on high energy Rock/cobble
beach, which is most heavily oiled.

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/23/89

SHORELINE SEGMENT KN-20

LOCATION: (see enclosed map) Knight Island, Bay of Isles

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/12/89

Recommended Cleanup Activity(ies): Cleanup may be appropriate if the majority of the oil can be removed and damage to the intertidal community can be minimized. Flooding/flushing with warm to hot (up to 140 F) water may enhance greater recovery of oil. Clean only after clean areas of intertidal zone are covered by tide. If possible cleanup KN-20 should be conducted concurrently with KN-19 and before KN-18.

Priorities Considerations:

Little free oil.

Ecological Constraints (from site survey): If hot water is used, it should not be allowed to come in contact with lower and middle intertidal zone. Remove as much oil as possible in a single effort. Avoid use of high pressure if possible.

Archeological Constraints (from site survey):

Archaeological monitor required during cleanup of middle 1/3 of segment. Archaeological monitor is also expected to conduct additional reconnaissance of segment KN-18.

Charles E. Jones
State Historic Preservation Officer *

Date: May 24, 1989

EXXON: Paul

Date: 5/24/89

FOSC: C. S. Nelson

Date: 5/25/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

SHORELINE OIL EVALUATIONDate: 5/12/89 Time: 10:50Observer: STOKERSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/FogLOCATIONLOCATION Knights Is. Bay at Isles, NE shore SEGMENT NUMBER KN-20LENGTH OF SHORELINE SEGMENT: ± 2,000 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float PlaneSHORELINE:Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B 75 % / C 20 % / P 5 % / G % / S % / M % / R %Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logsOILDegree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 50 Width of Band: variable 1-15 mSporadic: Y/N % of Segment 50Est. Oil Thickness where > 1cm: cm Est. Oil Penetration: cmPooled Oil: 0 % "Free" Oil: 0 % Coated: H 30 % / M 20 % / L 0 %Fresh 50 % Mousse 0 % Tar Formation: 0 %Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/

Comments:

Rock faces with several small pocket cover of low to moderate
slope, high energy, cobble/rock beaches. Width of oil band
1-3 m on rock faces, to 15 m. in coves. Oil is weathering,
NOT heavy nor mobile enough to recommend clean-up.
Contained original KN-25 (surveyed 4/17/89), with same oil qualities,
so KN-25 was struck from existence and incorporated into KN-20.

ECOLOGICAL EVALUATION

LOCATION: Night Is. Bay or Isles SITE: NE Shore OBSERVER: Stoker

LOCATION PREFIX: KN SEG. NO.: 20 LENGTH: ± 2,000 (M)

DATE: 5/12/89 TIME (HHMM): 10:50 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable; Generally sparse on high energy Rock/cobble beaches in coves.

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable; Generally sparse in coves on high energy Rock/cobble beaches.

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable, as for fucus and Mytilus.

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable distribution and density.

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Common but not dense. Variable distribution and density.

OTHER OBSERVATIONS: Nucella common, patchy in distribution.

Amphipods common under rocks.

CLEANUP PRECAUTIONS: No cleanup recommended.

MAMMALS: Otters _____ Harbor Seals _____ Sea Lions _____ Whales _____
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: Biota generally high density on steep rock faces, low density on high-energy cobble/rock beaches in coves.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date May 12, 1989 Location Knight Island Site NE shore of Bay ~ 1/2 S
Location Prefix KID Segment # 20 Length ± 2000

Survey Method:

Air _____ (A - indicate on map) Boat X (A - indicate on map)
Ground X (G - indicate on map)

Known cultural resources (AHRS #) none Data Source —

Oil conditions/beach visibility moderate to heavy in sections

Width of beach zone surveyed 5 m Tree fringe surveyed 1-20m

Cultural resources observed in beach zone (AHRS code) none

Cultural resources observed in tree fringe (AHRS code) 3 CRT's, 1002, 1003, 1004

General observations justifying survey method and segment's site probability:

Shore Profile steep cliffs, rocky headlands and rocky beaches

Fresh Water Sources Small streams,

Sea Exposure near mouth of Bay of Islands on NW shore

Access/Safety generally difficult access except on beaches in calm weather

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed (yes/no) Collection yes/no

Photos: Color Roll # _____ Frames _____

B/W Roll # SL-3 Frames 5, 6, 7

Observer(s) Ludwig

Time survey started 1050 Time survey ended 1150

Cultural resource considerations/restraints:

If hereafter undiscovered cultural materials are uncovered during cleanup, contact Exxon archeologists - C. Mobley and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989

SHORELINE SEGMENT KN-21

LOCATION: (see enclosed map) Knight Island, Bay of Isles, NE
Island.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/12/89

Recommended Cleanup Activity(ies):

No cleanup recommended. Oil is intermittent, light and weathering.

6/1 RAT recommend no clearing

Priorities Considerations:
Little or no free oil.

Ecological Constraints (from site survey):
Cleanup would be ineffective and counterproductive.

Archeological Constraints (from site survey):
If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Douglas R. Reger
State Historic Preservation Officer *

Date: 5/17/89

EXXON: _____

Date: _____

FOSC: _____

Date: _____

* Signature required to satisfy stipulations in Alaska DNR
land use permits for tide and submerged lands .

SHORELINE OIL EVALUATIONDate: 5/12/89 / Time: 12:20Observer: STOKERSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/Fog**LOCATION**LOCATION Knight Is, Bay of Finks, NE IslandSEGMENT NUMBER KN-21LENGTH OF SHORELINE SEGMENT: ± 500 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane**SHORELINE:**Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B/00% / C___% / P___% / G___% / S___% / M___% / R___%Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type _____**OIL**Degree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 65 Width of Band: 2-3 mSporadic: Y/N % of Segment 65

Est. Oil Thickness where > 1cm: _____ cm Est. Oil Penetration: _____ cm

Pooled Oil: 0 % "Free" Oil: 0 % Coated: H 50 % / M 20 % / L 0 %Fresh 50 % Mousse 0 % Tar Formation: 0 %Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/**Comments:**Steep rock faces. Lightly oiled, weathering.No cleanup recommended.

ECOLOGICAL EVALUATION

LOCATION: Knight Is Bay at Isls SITE: N.E. Island OBSERVER: Stoker

LOCATION PREFIX: KN SEG. NO.: 21 LENGTH: ± 500 (M)

DATE: 5 / 12 / 89 TIME (HHMM): 12:20 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable, generally dense

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Patchy and variable; generally more on outer shore.

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Generally dense

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Observation not possible, probably continuous and dense.

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Observation not possible, probably continuous and common.

OTHER OBSERVATIONS: Nucella common, patchy.

CLEANUP PRECAUTIONS: No cleanup recommended

MAMMALS: Otters _____ Harbor Seals _____ Sea Lions _____ Whales _____
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date May 12, 1989 Location Knights Island Site Island in Bay

Location Prefix KN Segment # 21 Length ±500m

Survey Method:

Air _____ (A - indicate on map) Boat X (A - indicate on map)

Ground _____ (G - indicate on map)

Known cultural resources (AHRS #) none Data Source _____

Oil conditions/beach visibility heavy to moderate brown 1-3m above

Width of beach zone surveyed _____ m Tree fringe surveyed _____

Cultural resources observed in beach zone (AHRS code) none

Cultural resources observed in tree fringe (AHRS code) none

General observations justifying survey method and segment's site probability:

Shore Profile 45° cliffs -- 15m wide area of tidepools at east end

Fresh Water Sources none

Sea Exposure mouth of Bay of Isles

Access/Safety difficult

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes/no no Collection yes/no no

Photos: Color Roll # _____ Frames _____

B/W Roll # SL-3 Frames 9

Observer(s) Ludwig

Time survey started 1215 Time survey ended 1255

Cultural resource considerations/restraints:

It has to be understood that cultural resources are considered during the project. Even archaeologist, C. Mobley and other who are present in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

SEG RV-7 INSPECTION # L

SEGMENT

DATE 7/27/89

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment



Hot water wash



Mechanical



Warm water wash

Non-mechanical Snare 2 1/2"

Water deluge



Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments 2 hrs complete. Ready for Demobilization and deployment to new segment

Signature

R.E. AdamsDate: 7/27/89 Time: 17:38

Printed Name

R.E. Adams

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Subsurface Oil

Percent Degree of Oiling



Yes



No

5%

Heavy

5%

Medium

10%

Light

5%

Very Light

60%

None

100 %

Comments SEVERAL POUNDS OF SOIL WHICH HAD MEDIUM OILING ALSO HAD SOME SUBSURFACE OIL.

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep

100 REP LEVIN SHAW (9000 F02-00007) AND FOLLOWING STATEMENT
"SUBSTANTIAL MOBILE OIL REMAINING IN 2 X 3 STREAM, ESPECIALLY IN THE AREA IN W. & MOBILE PATENTS 0.1 M² → 1.0 M² IN 6000/0000. POTENTIAL

CAUSE FOR ANAEROBIC STRENGTH AT 1100 UP W. AIR, CONCENTRATED MINERAL
FROM 0 W. & 1.0 M² IN 6000/0000. POTENTIAL

Signature

Date: 1/1 Time:

Printed Name

THOMAS D. HARRISON

FOSC rep

Demobilization approved/disapproved

Comments MAJORITY OF SEGMENT HAD FEW SCATTERED OIL PATCHES - SOME SHEDDING, WILL OCCUR FOR AREA WHERE SUBSURFACE EXISTS - S

Signature

THOMAS D. HARRISONDate: 7/27/89 Time: 1745 00

Printed Name

THOMAS D. HARRISON

K/18
SEG 18 INSPECTION # 1

SEGMENT

DATE _____

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

☐

Hot water wash

☐

Mechanical _____

☐

Warm water wash

☐

Non-mechanical _____

☐

Water deluge

☒Other HAND WASH

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments

is complete. Ready for Demobilization and deployment to new segment.

Signature

David BellowDate: 8/1/89 Time: 15:10

Printed Name

David Bellow

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Percent Degree of Oiling

Heavy

Medium

2

Light

3

Very Light

9.5

None

100%

Subsurface Oil

☐

Yes

☒

No

Comments

chiff face

Reassessment

☒

Yes - necessary

☐

No - not necessary unless re-oiled

ADEC rep

Comments

Not Available

Signature

Date: 1/1 Time: _____

Printed Name

FOSC rep

Demobilization approved/disapproved

Comments

Signature

P. B. BellowDate: 8/1/89 Time: _____

TREATMENT MANUAL 6/15/89

SEG 19 INSPECTION # 1

SEGMENT

DATE _____

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

☒ Hot water wash ☐ Mechanical _____
☐ Warm water wash ☐ Non-mechanical _____
☐ Water deluge ☒ Other hand wipe

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments sh complete. Ready for Demobilization and deployment to new segment

Signature David Bellow

Date: 8/3/89 Time: 14:20

Printed Name David Bellow

Existing Shoreline Condition As Visually Determined by USCG

CAME

Surface Oil

Subsurface Oil

OPS

Percent Degree of Oiling

☒ Yes ☐ No

WAK

Heavy

Comments Cobble gravel sand 7/8 cleaning

EWS

2

Medium

5

Light

3

Very Light

91

None

100 %

Reassessment

☒

Yes - necessary

☐

No - not necessary unless re-oiled

ADEC rep

Comments

Not available

Signature

Date: / / Time:

Printed Name

FOSC rep

Demobilization approved/disapproved

Comments

SAME IN 9/1/89

Signature

Date: 8/3/89 Time: 14:20

Printed Name

P.L. BIEDENDENDER

TREATMENT MANUAL, 6/15/89

SEG 20 INSPECTION # 1

SEGMENT

DATE _____

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

☐
☐
☐

Hot water wash

Warm water wash

Water deluge

☐
☐
☒

Mechanical _____

Non-mechanical _____

Other Hand Wipe

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments 2k complete. Ready for Demobilization and deployment to new segment.

Signature David BellowDate: 8/1/89 Time: 15:10Printed Name David Bellow

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Percent Degree of Oiling

3
2
95

Heavy

Medium

Light

Very Light

None

100%

Subsurface Oil



Yes



No

Comments Very light on rubble area.

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep

Comments Not available

Signature _____

Date: 1/1 Time: _____

XV 21
SEG 21 INSPECTION # 1
DATE _____

TREATMENT MANUAL, 6/15/89

SEGMENT
INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

☐ Hot water wash
☐ Warm water wash
☐ Water deluge
☐ Mechanical
☐ Non-mechanical
☒ Other Hand Wipe

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Is complete. Ready for Demobilization and deployment to new segment
Signature David Bellow Date: 8/1/89 Time: 15:10
Printed Name David Bellow

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil
Percent Degree of Oiling

2%
98
100 %
Heavy
Medium
Light
Very Light
None

Subsurface Oil
☐ Yes ☒ No
Comments Off/face

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep

Comments Spot available
Signature _____ Date: / / Time: _____
Printed Name _____

FOSC rep

Demobilization approved/disapproved
Comments _____

Signature P. B. Bellow Date: 8/1/89 Time: 15:10

(version 5/13/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): KNIGHT ISLAND - BAY OF ISLES

SOUTH BLOCK

Includes Shoreline Segments: KN-11, KN-16, KN-17, KN-22, KN-23,
KN-24, KN-26, KN-206, KN-207

Submitted :

Date: 5/30/89

ISCC RECOMMENDATION

(for Exxon)

FOSC Approval:

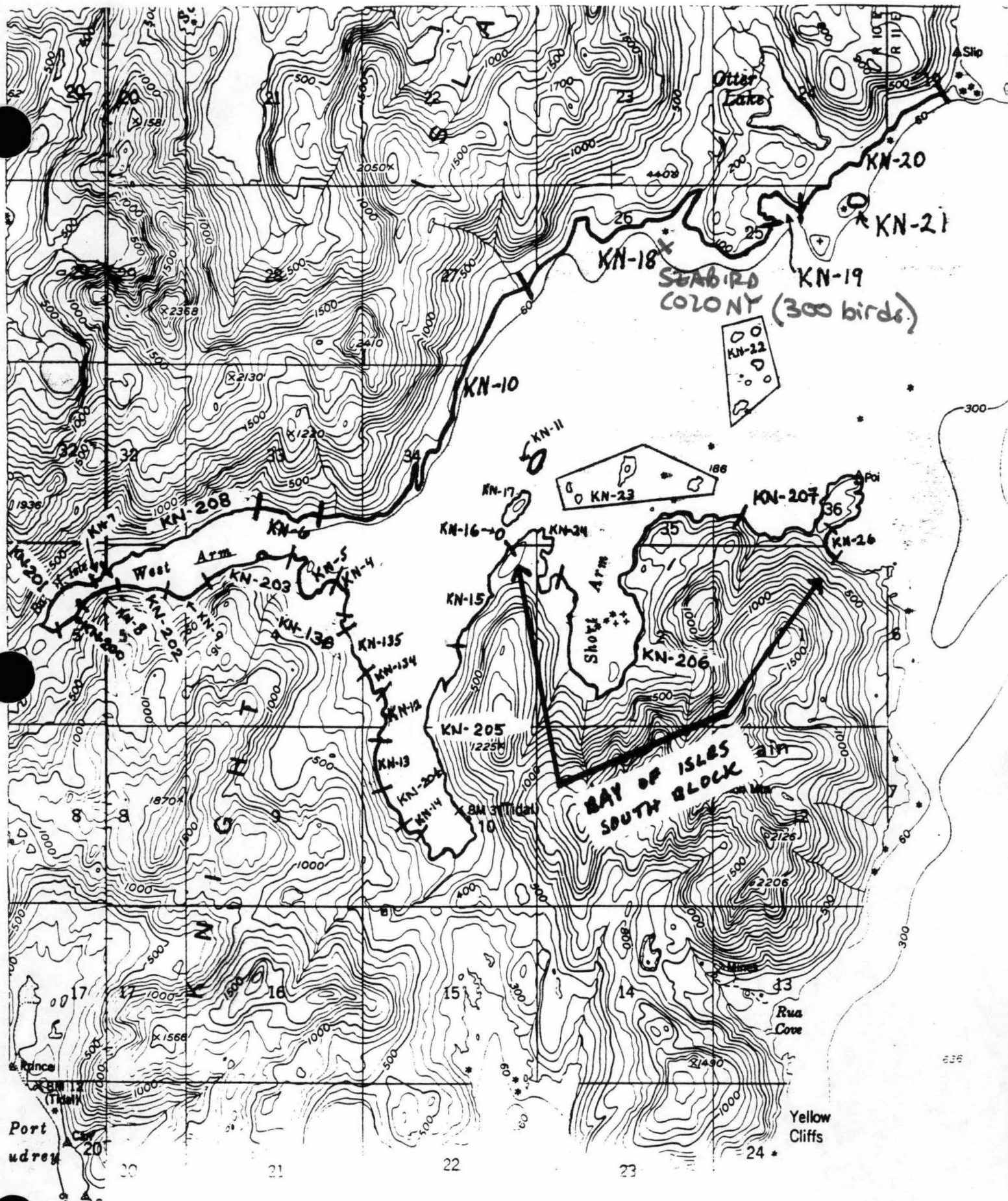
Date: 6/3/89

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative has the authority to approve on-site modifications. The Field Resource Team should be consulted if these actions do not fit within the Ecological Constraints of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:

Exxon Shoreline Coordinator
Exxon Shoreline Supervisor
Exxon SCAT file

FOSC
CDFU
NOAA
EPA
USDA (FS)
USFW
A.DEC
A.FG
A.DNR
CAC
PWSCA
USFS
SHPO



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989

SHORELINE SEGMENT KN-11

LOCATION: (see enclosed map) Knight Island, Bay of Isles, Island
NE of south arm.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/18/89

Recommended Cleanup Activity(ies):

Recommend ~~no~~ cleanup. Segment would make good site for recovery monitoring study. ~~Cleanup would be ecologically destructive, probably would be marginally effective.~~ *JW*

THIS SITE SHOULD BE TREATED USING APPROPRIATE METHODS AS AGREED UPON BY EXXON SCAT, SCOT, RAT. *MS*

Priorities Considerations:

Rich intertidal biota. Might retain without cleanup as study site.

Ecological Constraints (from site survey):

Abundant intertidal biota, ~~Check with ADP&G about use by pinnipeds and birds.~~ *DONE.* *WHICH SHOULD BE PROTECTED.*

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

David R. Hager
State Historic Preservation Officer *

ISCC *James H. Hager*

EXXON: *John D. Dwyer*

FOSC: *J. S. Robbins*

Date: 5/16/89

6/3/89

Date: 6/3/89

Date: 6/3/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

SHORELINE OIL EVALUATIONDate: 5/8/89 / Time: 2055Observer: StoherSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/Fog**LOCATION**LOCATION Knight Is, Bay of Isles,SEGMENT NUMBER KN -11LENGTH OF SHORELINE SEGMENT: ±500 mACCESS: Foot/Vehicle/~~Boat~~/Barge/Helio/Float Plane**SHORELINE:**Shoreline Type: SPI/BEA/COV/HLD STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B80% / C20% / P__% / G__% / S__% / M__% / R__%Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type Logs, Fucus**OIL**Degree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 100 Width of Band: 1-15 mSporadic: Y/N % of Segment _____

Est. Oil Thickness where > 1cm: _____ cm Est. Oil Penetration: _____ cm

Pooled Oil: _____% "Free" Oil: _____% Coated: H100% / M30% / L20%

Fresh _____% Mousse _____% Tar Formation: _____%

Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/**Comments:**

Segment includes entire Island. Oiling variable as shown on
included diagram. Heaviest oil south & southeast shore, moderate
west shore, light north & east shore. Oil weathered on rocks.
Cleaning would probably be marginally effective, possibly counterproductive.
would make good intertidal monitoring site for recovery study.

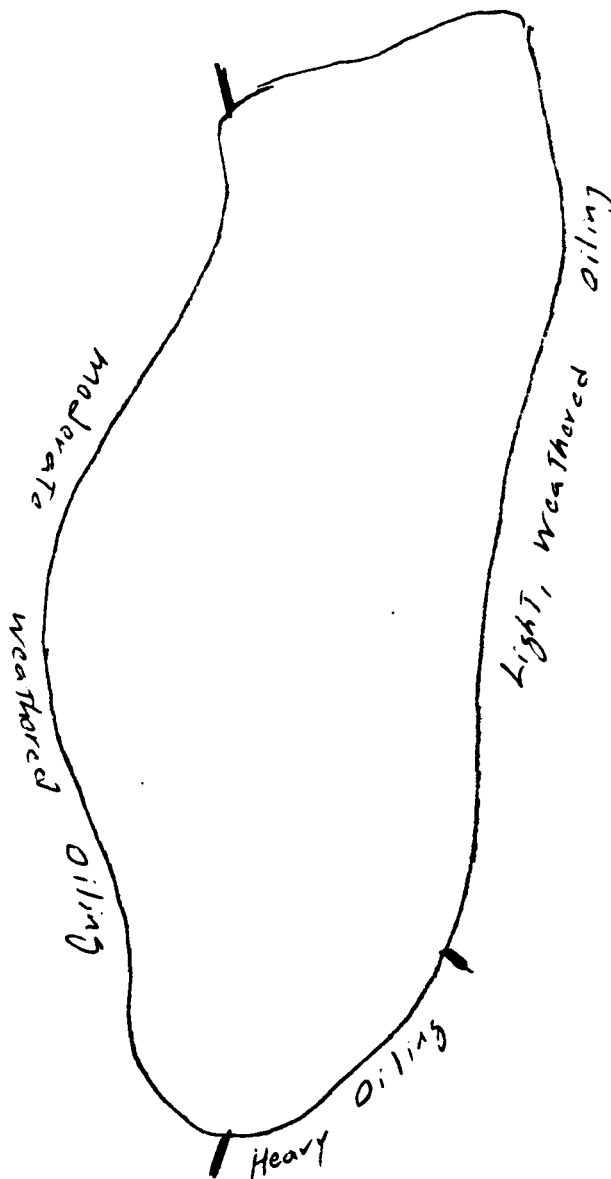
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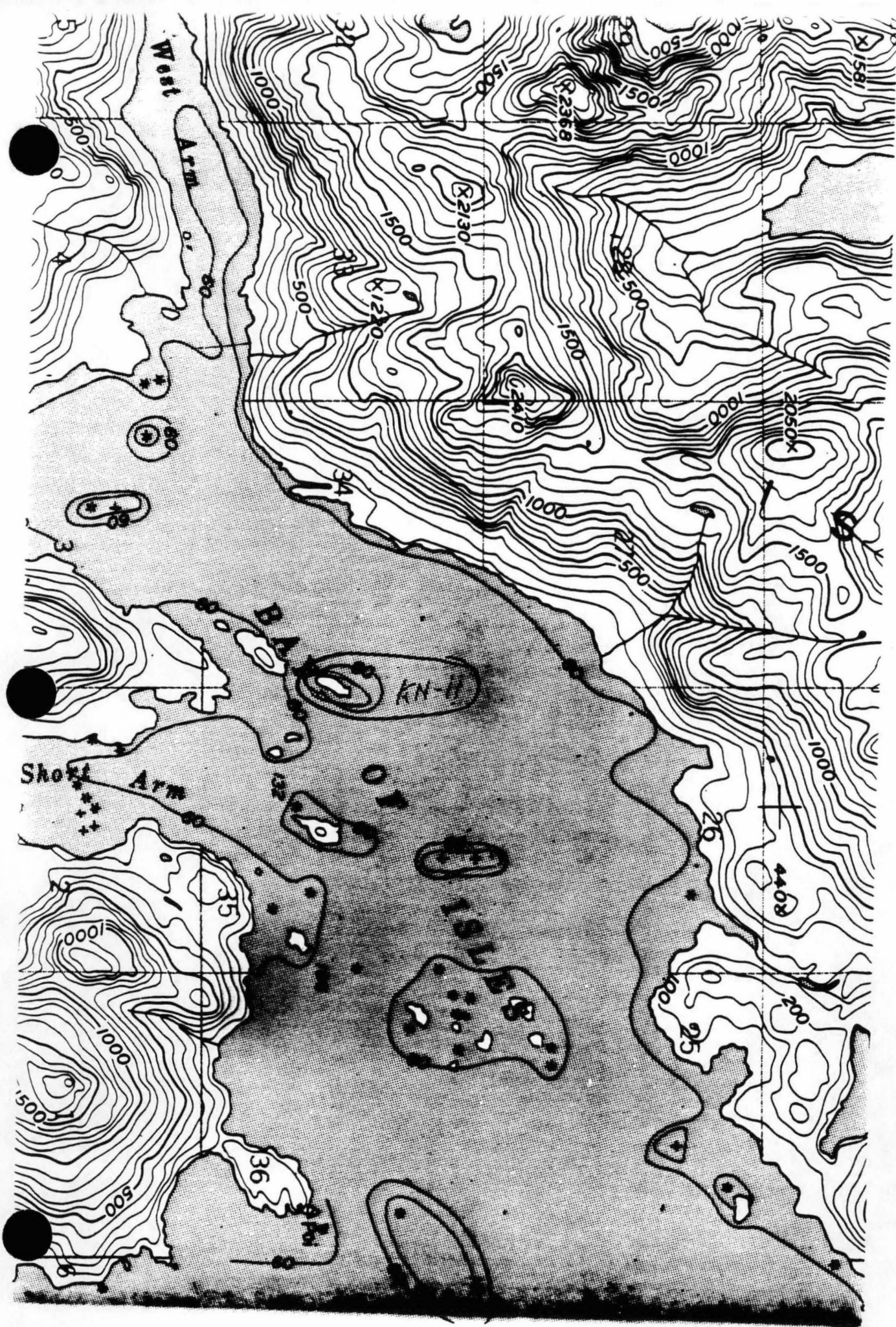
Map/Aerial photo marking segment boundaries _____

VTR: Y/N Tape Number(s) _____

Photography: Y/N Roll Number(s) _____

Sample Numbers Collected: _____





ECOLOGICAL EVALUATION

LOCATION: Knights Is. Bay or Lks SITE: Island in Bay OBSERVER: STOKERLOCATION PREFIX: KN SEG. NO.: 11 LENGTH: ±500 (M)DATE: 5/8/89 TIME (HHMM): 2055 TIDE HT.: _____ (M)OILED ZONE: Splash High Medium LowSUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NMytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NDensity variable, heavier on south & east.Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NDensity variable, heavy to sparseLittorinaPatchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NDensity variableLimpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NDensity variable.

OTHER OBSERVATIONS: _____

CLEANUP PRECAUTIONS: Cleaning would be marginally effective, possibly
counterproductive.MAMMALS: Otters _____ Harbor Seals _____ Sea Lions _____ Whales _____
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: Southeast shore, heavily oiled for length of
about 100 m, would make good monitoring site for recovery
study.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date May 8, 1989 Location Knight Island Site Island in Bay of Isles

Location Prefix KN Segment # 11 Length ±500

Survey Method:

Air _____ (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) — Data Source —

Oil conditions/beach visibility heavy oil up to 3m above present tide line

Width of beach zone surveyed 5 m Tree fringe surveyed 1-12

Cultural resources observed in beach zone (AHRS code) 0

Cultural resources observed in tree fringe (AHRS code) 0

General observations justifying survey method and segment's site probability:

Shore Profile steep cliffs, rocky coves -- high energy shoreline

Fresh Water Sources none

Sea Exposure close to mouth of Bay of Isles

Access/Safety difficult access except in coves

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # _____ Frames _____

B/W Roll # SL-1 Frames 19

Observer(s) Ludwig

Time survey started 8:50 pm Time survey ended 9:30 pm

Cultural resource considerations/restraints:

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon archaeologist C. Mobley and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989

SHORELINE SEGMENT KN-16

LOCATION: (see enclosed map) Knight Island, Bay of Isles, Island
NE of south arm.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/9/89

Recommended Cleanup Activity(ies):

Warm water under pressure with cold water flushing. Cleanup at water's edge following tide level, DURING RISING TIDE.

Priorities Considerations:

Considerable free, pooled oil and mousse.

Ecological Constraints (from site survey):

Check with ADF&G about pinniped and bird use. DONE.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Douglas Reger
State Historic Preservation Officer *

13cc

EXXON:

FOSC:

Date:

6/3/89

Date:

Date:

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

SHORELINE OIL EVALUATIONDate: 5/9/89 / Time: 1300Observer: STOKERSurveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fog

LOCATIONLOCATION Knight Is, Bay of Isles Island SEGMENT NUMBER MN-16LENGTH OF SHORELINE SEGMENT: ± 120 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float PlaneSHORELINE:Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B 90% / C 10% / P ___% / G ___% / S ___% / M ___% / R ___%Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type LogsOILDegree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 100 Width of Band: 3-20 m

Sporadic: Y/N % of Segment _____

Est. Oil Thickness where > 1cm: 5 cm Est. Oil Penetration: 5-10 cmPooled Oil: 20% "Free" Oil: 75% Coated: H 90% / M 70% / L 50%Fresh 75% Mousse 20% Tar Formation: _____%Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/

Comments:

Entire coast of Island heavily oiled. Lots of free oil and
pooled oil/mousse.Recommend vigorous high priority cleaning with hot
water and floodingSee accompanying sketch for relative degree of badness.

DOCUMENTATION:

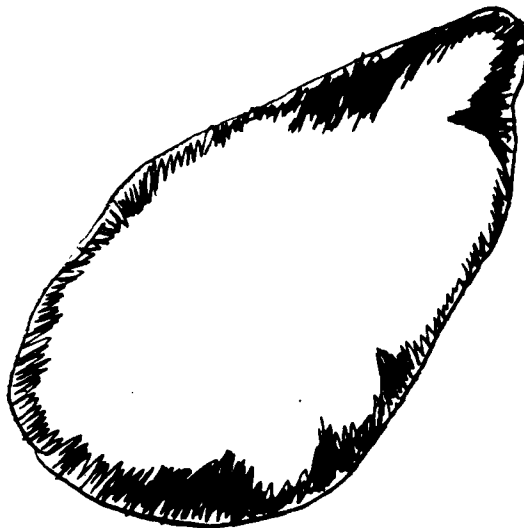
Map/Aerial photo marking segment boundaries _____

VTR: Y/N Tape Number(s) _____

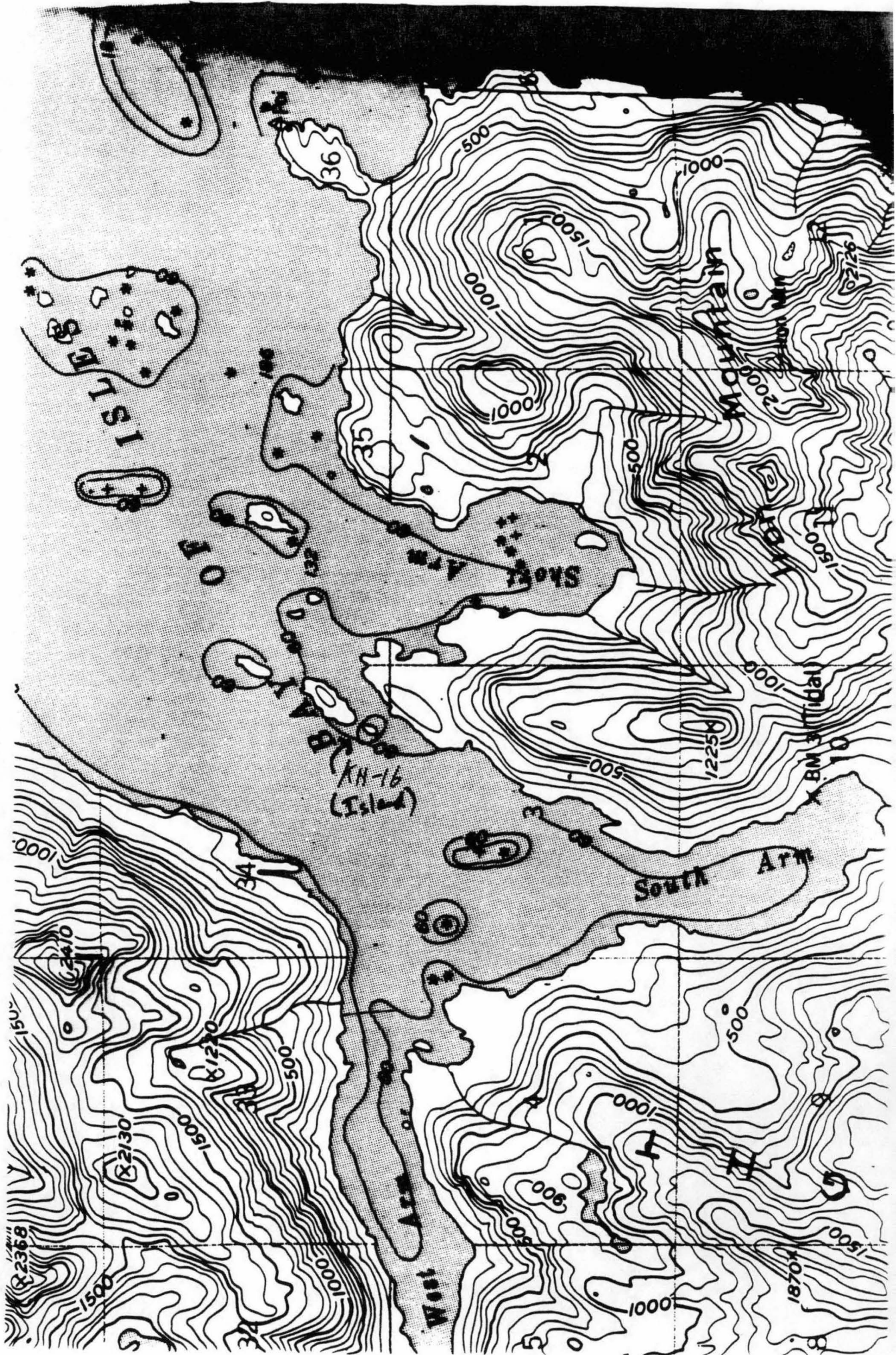
Photography: Y/N Roll Number(s) _____

Sample Numbers Collected: _____

N
↑



Heavy, pooled oil



ECOLOGICAL EVALUATION

LOCATION: Knight Is. Bay of Isles SITE: small island nearest S. Arm OBSERVER: STOACR

LOCATION PREFIX: KN SEG. NO.: KN-16 LENGTH: ±120 (M)

DATE: 5/9/89 TIME (HHMM): 1300 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Generally heavy cover, lots of trapped oil.

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Patchy, sparse, generally dense

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable, dense to moderate

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

few observed

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

common but not dense

OTHER OBSERVATIONS: Nucella very common, Littoridina common,

Pagurus common; Sea Otter scat present; Old Tern nests.

CLEANUP PRECAUTIONS: Recommend vigorous high priority cleanup.

Retain fence holdfasts and mytilus beds.

MAMMALS: Otters _____ Harbor Seals X Sea Lions _____ Whales _____
Other _____

BIRDS: Old Tern nests.

GENERAL OBSERVATIONS: It's a mess.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date May 9, 1989 Location Knight Island Site Island in Bay of Isles

Location Prefix KN Segment # 10 Length ±120 m

Survey Method:

Air _____ (A - indicate on map) Boat _____ (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) none Data Source —

Oil conditions/beach visibility heavy oiling up to 3m above present tide line

Width of beach zone surveyed 10 m Tree fringe surveyed no trees

Cultural resources observed in beach zone (AHRS code) 0

Cultural resources observed in tree fringe (AHRS code) NA

General observations justifying survey method and segment's site probability:

Shore Profile rocky island with steep coasts and small rocky cove

Fresh Water Sources none

Sea Exposure located near mouth of Bay of Isles

Access/Safety difficult access except in calm weather

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # _____ Frames _____

B/W Roll # SL-2 Frames 8, 10

Observer(s) Ludwig

Time survey started 1:00pm Time survey ended 1:30

Cultural resource considerations/restraints:

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon archaeologist C. Mobley and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989

SHORELINE SEGMENT KN-17

LOCATION: (see enclosed map) Knight Island, Bay of Isles. Largest Island NE or South arm.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/9/89

Recommended Cleanup Activity(ies):

Warm water, moderate pressure, at water's edge following tide level. Cleanup will have to be from vessel.

Priorities Considerations:

Heavy oil trapped in fucus on steep rock faces.

Ecological Constraints (from site survey):

Retain fucus holdfasts. Clean only areas with obvious heavy, free oil. Check with ADF&G about pinniped, bird use. → DOVE.

THIS AREA HAS HIGH PRIORITY FOR CLEANUP AS A ~~MAJOR~~ ^{SEAL} HAVEN, USED BY FEMALES AND PUPS. THUS THE FUCUS SHOULD BE THOROUGHLY CLEANED.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Donald Reger

State Historic Preservation Officer *

ISCE

EXXON:

FOSC:

Date: 5/17/89 5/29/89

6/3/89

Date: 6/3/89

Date: 6/3/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

SHORELINE OIL EVALUATION

Date: 5/9/89 / Time: 1335

Observer: Stoker

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

LOCATION Knight Is. Bay or Isles Island

SEGMENT NUMBER KN-17

LENGTH OF SHORELINE SEGMENT: 1000 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT

Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B 90% / C 10% / P ___% / G ___% / S ___% / M ___% / R ___%

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type Logs

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Area of Beach Impact: SU / SP H / M L

Continuous: Y/N % of Segment 70 Width of Band: 1-10 m

Sporadic: Y/N % of Segment 70

Est. Oil Thickness where > 1cm: ___ cm Est. Oil Penetration: ___ cm

Pooled Oil: ___% "Free" Oil: ___% Coated: H 70% / M 50% / L ___%

Fresh ___% Mousse ___% Tar Formation: ___%

Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/

Comments:

Degree of oiling variable. See accompanying sketch.
Segment includes entire island.
Heavy oil trapped in fence. Weathering on rocks.
Recommend cleanup of heavy oil areas as is possible.
Will have to be from boat.

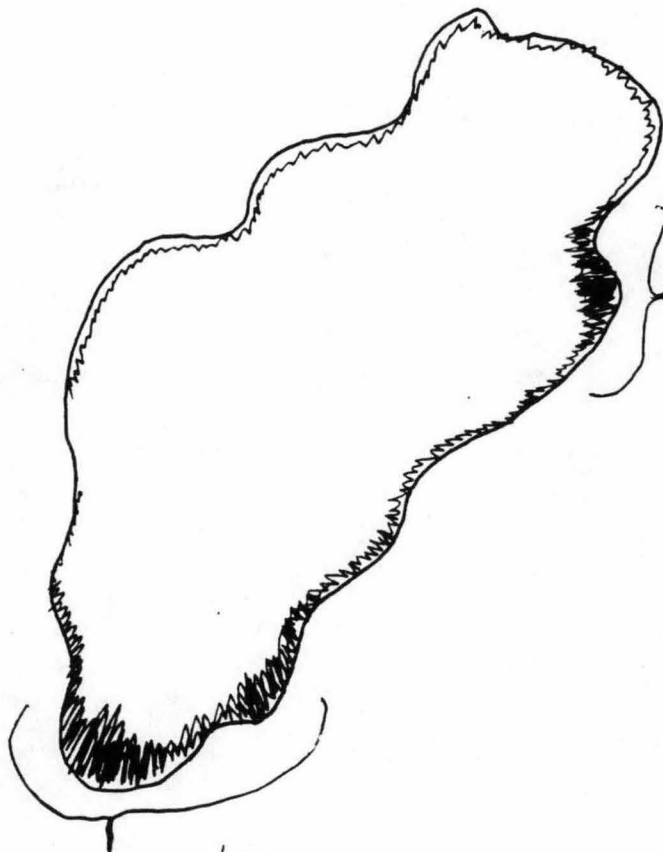
DOCUMENTATION:

Map/Aerial photo marking segment boundaries _____

VTR: Y/N Tape Number(s) _____

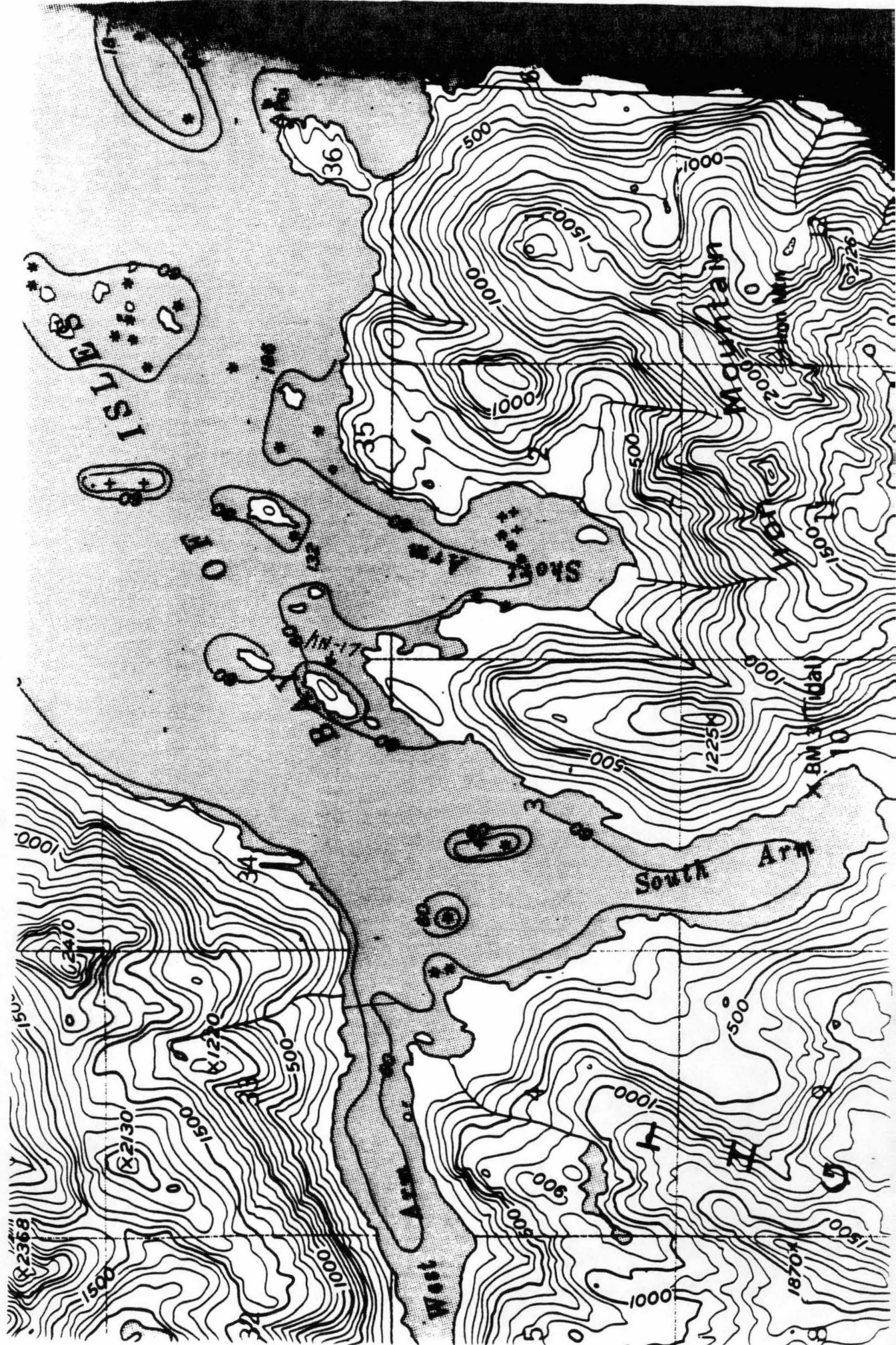
Photography: Y/N Roll Number(s) _____

Sample Numbers Collected: _____



Heavy oiling
Oil Trapped in fucus
± 10 m wide

Heavy oiling
Oil Trapped in fucus
Scattered mousse blobs
± 10 m wide



ECOLOGICAL EVALUATION

LOCATION: Naught Is. Bay of Lky SITE: Large Island near S. Arm OBSERVER: STANOR

LOCATION PREFIX: KN SEG. NO.: 17 LENGTH: 11000 (M)

DATE: 5/9/89 TIME (HHMM): 1335 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Appears to be patchy, relatively sparse distribution in areas with

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Generally dense, with trapped oil in some zones.

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Common but not dense

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Common but not dense

OTHER OBSERVATIONS: Pagurus, Acteroidea, Nucella common

CLEANUP PRECAUTIONS: Recommend cleaning as possible of heavily oiled areas. Retain fucus holdfasts.

MAMMALS: Otters _____ Harbor Seals X Sea Lions _____ Whales _____
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date May 9, 1989 Location Knight Island Site Island in Bay of Isles

Location Prefix KN Segment # 17 Length 1000m

Survey Method:

Air _____ (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) none Data Source _____

Oil conditions/beach visibility heavy oil up to 3m above present water level

Width of beach zone surveyed 5 m Tree fringe surveyed 0-10

Cultural resources observed in beach zone (AHRS code) none

Cultural resources observed in tree fringe (AHRS code) none

General observations justifying survey method and segment's site probability:

Shore Profile steep cliffs and rocky coves

Fresh Water Sources none

Sea Exposure near mouth of Bay of Isles

Access/Safety difficult access except in calm weather

Probability of undiscovered sites in beach zone (circle one) 1 (2) 3 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # _____ Frames _____

B/W Roll # SL-2 Frames 9

Observer(s) Ludwig

Time survey started 1:40 pm Time survey ended 2:15 pm

Cultural resource considerations/restraints:

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon archaeologist C. Mobley and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989

SHORELINE SEGMENT KN-22

LOCATION: (see enclosed map) Knight Island, Bay of Isles, Entrance
Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/12/89

Recommended Cleanup Activity(ies):

Tentatively recommend warm water under pressure with cold water flushing and skimming, following tide level. Clean only heavily oiled zones as indicated.

NO CLEANUP RECOMMENDED, AT THIS TIME.

Priorities Considerations:

Heavy, free oil on rocks and in fucus. Some pooled oil and mousse.

Ecological Constraints (from site survey):

Check with ADF&G. Islands used as nest sites for gulls, kittiwakes, probably cormorants. Used as pinniped haulouts. If cleanup is to proceed, avoid disturbance of island above oiled zone.

THIS HAULOUT IS THE MOST REGULARLY USED IN THE BAY OF ISLES, AND THE HAULOUT AREAS ARE NOT SIGNIFICANTLY OILED.

ALL CLEANUP ACTIVITIES IN BAY OF ISLES SHOULD MAINTAIN A 500 FT BUFFER
Archeological Constraints (from site survey): AROUND THE HAULOUTS.
If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Angelo Reger
State Historic Preservation Officer *

ISCC James H. Hunsaker
EXXON: John D. Dwyer

FOSC: _____

Date: 5/17/89 5/29/89

6/2/89

Date: 6/3/89

Date: 6/3/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

REVISED

*Ocean
Ranger*

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989

SHORELINE SEGMENT KN-22

LOCATION: (see enclosed map) Knight Island, Bay of Isles, Entrance Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/12/89

Recommended Cleanup Activity(ies):

Tentatively recommend warm water under pressure with cold water flushing and skimming, following tide level. Clean only heavily oiled zones as indicated.

NO CLEANUP RECOMMENDED, AT THIS TIME.

Priorities Considerations:

Heavy, free oil on rocks and in fucus. Some pooled oil and mousse.

Ecological Constraints (from site survey):

Check with ADF&G. Islands used as nest sites for gulls, kittiwakes, probably cormorants. Used as pinniped haulouts. If cleanup is to proceed, avoid disturbance of island above oiled zone.

THIS HAULOUT IS THE MOST REGULARLY USED IN THE BAY OF ISLES, AND THE HAULOUT AREAS ARE NOT SIGNIFICANTLY OILED.

* * ALL CLEANUP ACTIVITIES IN BAY OF ISLES SHOULD MAINTAIN A 500 FT BUFFER
Archeological Constraints (from site survey): AROUND THE HAULOUTS.
If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Angelo Rege
State Historic Preservation Officer *

ISCC James H. H. H.

EXXON: John D. D.

FOSC: C. S. Noblin

Date: 5/17/89 5/29/89

6/2/89

Date: 6/3/89

Date: 6/3/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

* * NOTE REVISION! 6/6/89

- REVISED -

SHORELINE OIL EVALUATIONDate: 5/12/89 / Time: 12:35Observer: STOKERSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/FogLOCATIONLOCATION Knight Is, Bay of Isles, Entrance Islands SEGMENT NUMBER KN-22LENGTH OF SHORELINE SEGMENT: ± 1500 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float PlaneSHORELINE:Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B10% / C10% / P0% / G0% / S0% / M0% / R0%Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type LogsOILDegree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 60 Width of Band: Variable 2-3+ mSporadic: Y/N % of Segment 60Est. Oil Thickness where > 1cm: _____ cm Est. Oil Penetration: 5-10 cmPooled Oil: 0% "Free" Oil: 20% Coated: H40% / M20% / L0%Fresh 40% Mousse 5% Tar Formation: 0%Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/

Comments:

Zones of heavy oil on Bay side of 3 of the 6 Islands in this segment
(See Accompanying map and sketch). Worst oil is on Island #2, where a
Rock/cobble cove, fairly low angle, is heavily impacted. Cove is about
20 x 50 m (± 1/3 of Island). Some free oil, scattered mousse glob. If
cleaning is to be done it should be at water's edge following tide level,
with minimal disturbance of the island as a whole.

DOCUMENTATION:

Map/Aerial photo marking segment boundaries _____

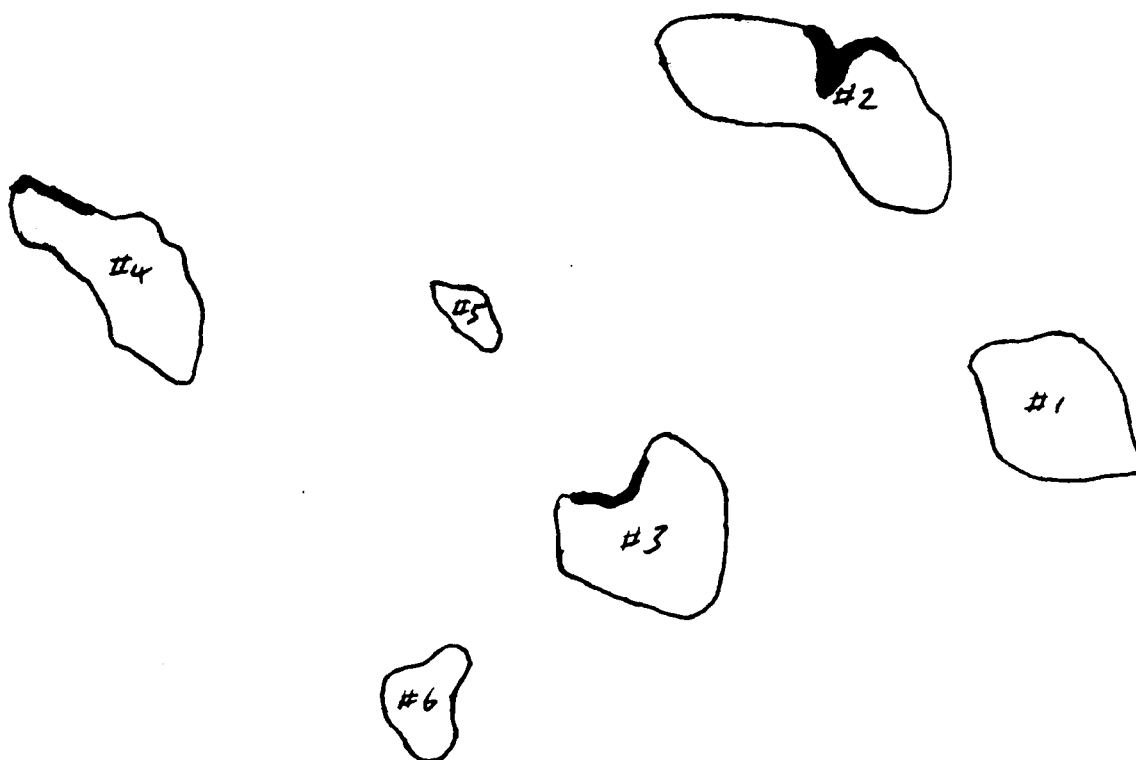
VTR: Y/N Tape Number(s) _____

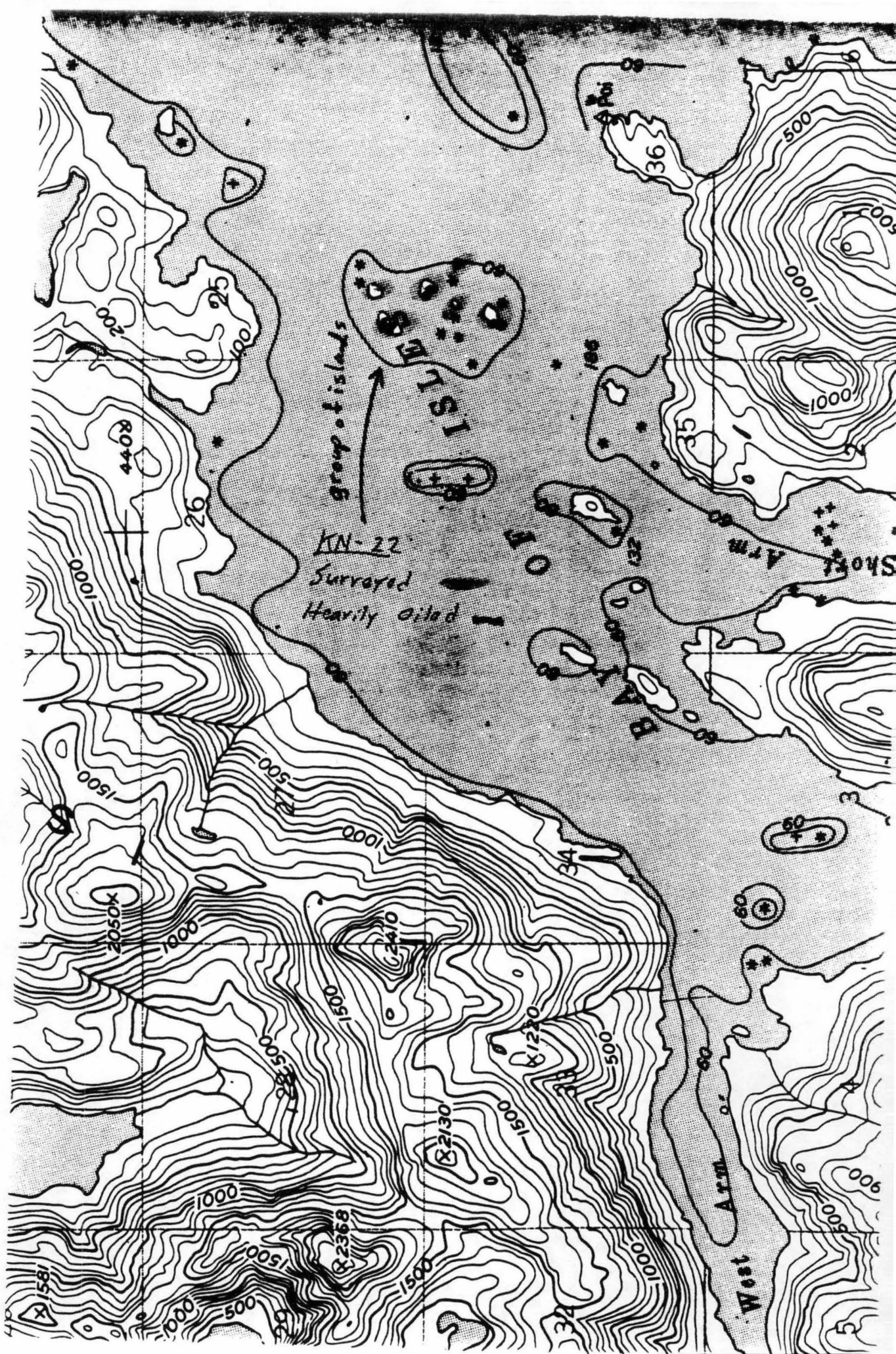
Photography: Y/N Roll Number(s) _____

Sample Numbers Collected: _____

Segment Surveyed —

Heavily oiled —





ECOLOGICAL EVALUATION

LOCATION: Knight Is. Bay of Isles SITE: Entrance Islands OBSERVER: STOKER

LOCATION PREFIX: KN SEG. NO.: 22 LENGTH: ±1500 (M)

DATE: 5/12/89 TIME (HHMM): 12:35 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)

variable distribution and density

Mytilus (Mussels): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)

very patchy and variable distribution and density.

Balanus (Barnacles): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)

Generally dense distribution

Littorina

Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)

variable distribution and density. common but not relatively dense.

Limpets: Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)

variable; common but not dense.

OTHER OBSERVATIONS: Acteocina (several sp) common.

CLEANUP PRECAUTIONS: If cleanup is to proceed it should be with care, at

water's edge following tide level. Leave fucus holdfasts, Mytilus beds.

No disturbance of areas above oiled zone.

MAMMALS: Otters X Harbor Seals X Sea Lions _____ Whales _____
Other _____

BIRDS: Gulls & probably cormorants nest on Island #2, Kittiwakes on #3.

GENERAL OBSERVATIONS: cleanup might do more harm than good, especially
in the case of nesting birds.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date May 12, 1989 Location Island in the Bay of Isles
Location Prefix KN Segment # 22 Length ±1500

Survey Method:

Air _____ (A - indicate on map) Boat X (A - indicate on map)
Ground X (G - indicate on map)

Known cultural resources (AHRS #) none Data Source _____

Oil conditions/beach visibility moderate - broken 1-3 m above low tide

Width of beach zone surveyed 10 m Tree fringe surveyed _____

Cultural resources observed in beach zone (AHRS code) none

Cultural resources observed in tree fringe (AHRS code) none

General observations justifying survey method and segment's site probability:

Shore Profile Small islands with 30-45° slopes and small rocky areas

Fresh Water Sources none

Sea Exposure mouth of Bay of Isles

Access/Safety difficult

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # _____ Frames _____

B/W Roll # SL-3 Frames 10-13

Observer(s) Ludwig

Time survey started 1230 Time survey ended 1325

Cultural resource considerations/restraints:

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon archaeologist C. Mobley and take action prescribed in the Operational Guidelines for Shoreline Cleanup, dated 7/2/89 as amended.

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989 SHORELINE SEGMENT KN-23

LOCATION: (see enclosed map) Knight Island, Bay of Isles,
Islands north of short arm.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/12/89

Recommended Cleanup Activity(ies):

Tentative recommendation for cleanup using warm water under pressure with cold water flushing and skimming, following tide level. Clean only heavily oiled zones, as indicated.

Priorities Considerations:

Heavy oil on rocks and trapped in fucus. No pooled oil or mousse.

Ecological Constraints (from site survey):

Check with ADF&G. Islands may be used as pinniped haulouts and as bird nesting habitat. If islands are to be cleaned, limit disturbance or habitat above oiled zones.

THIS AREA HAS HIGH PRIORITY FOR CLEANUP, BECAUSE IT IS USED AS A HAULOUT BY FRAMES AND PUPS, THUS THE FUCUS SHOULD BE THOROUGHLY CLEANED.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Wendell Reger
State Historic Preservation Officer *

Date: 5/17/89 5/29/89

ISCC James Michael
EXXON: John D. Jones

6/3/89

Date: 6/3/89

FOSC: CS Dobbin

Date: 6/3/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

SHORELINE OIL EVALUATIONDate: 5/12/89 / Time: 13:35Observer: StokerSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/FogLOCATIONLOCATION Knight Is, Bay of Isles, South Islands SEGMENT NUMBER KN-23LENGTH OF SHORELINE SEGMENT: ±1500 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float PlaneSHORELINE:Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B 10% / C 10% / P 0% / G 0% / S 0% / M 0% / R 0%Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type LogsOILDegree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 80 Width of Band: 1-10 mSporadic: Y/N % of Segment 80Est. Oil Thickness where > 1cm: _____ cm Est. Oil Penetration: ±5 cmPooled Oil: 0% "Free" Oil: 0% Coated: H 80% / M 30% / L 0%Fresh 80% Mousse 0% Tar Formation: 0%Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/

Comments:

Generally Light to Moderate Oiling, on East shore, Moderate to Heavy on West and/or Southwest. Heavy Oil Band on SW shore Island #1 (See accompanying Map & Sketch), about 10 x 30 m. Heavy oil on SW spit of Island #2 about 5 to 10 m by 100 m. Oil on rocks and trapped in furcns. If cleanup is to proceed it should be at water's edge following Tide level.

DOCUMENTATION:

Map/Aerial photo marking segment boundaries _____

VTR: Y/N Tape Number(s) _____

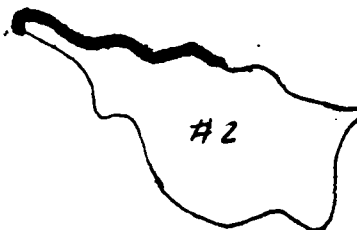
Photography: Y/N Roll Number(s) _____

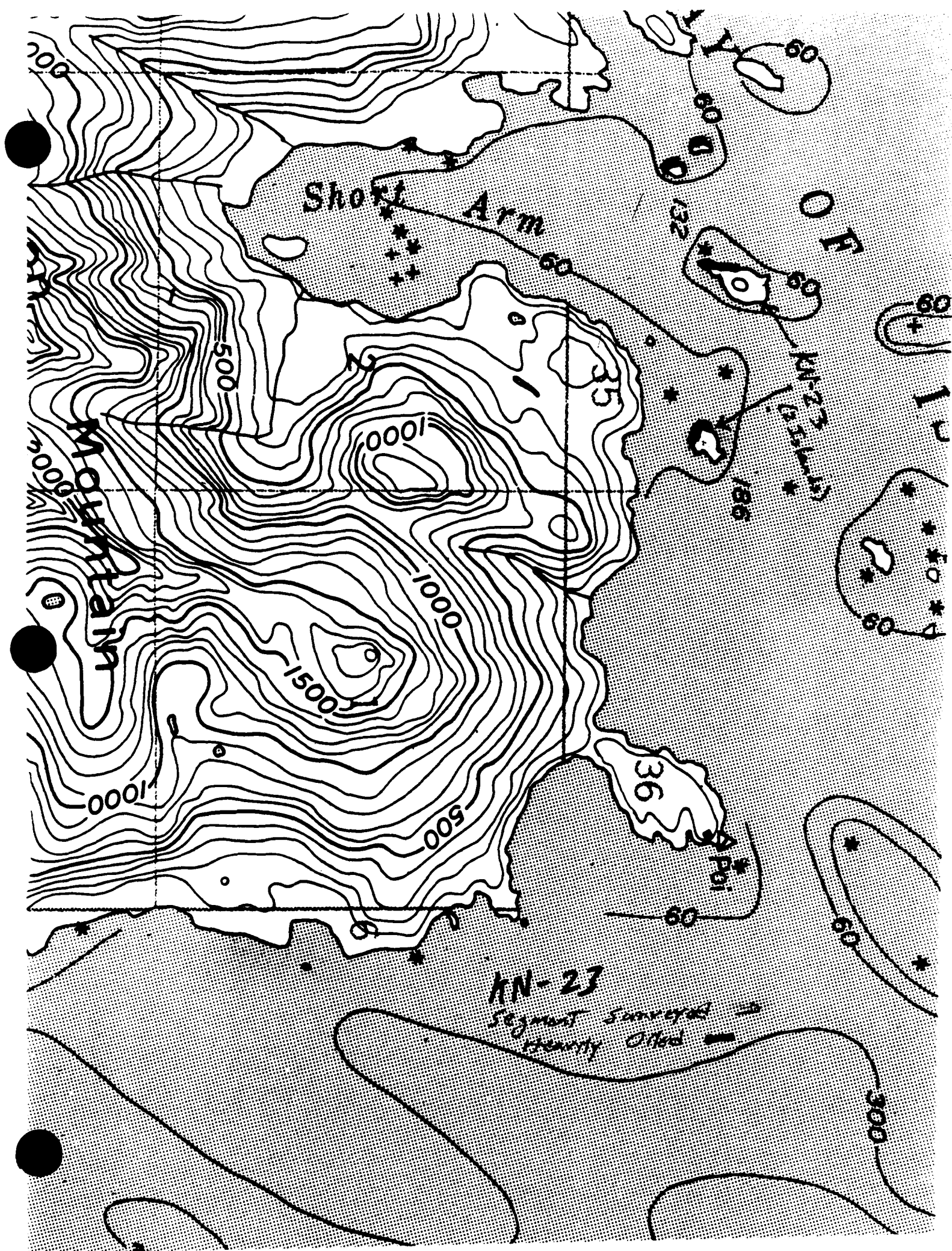
Sample Numbers Collected: _____

KN-23.

Segment Surveyed —

Heavily Oiled —





.. ECOLOGICAL EVALUATION

LOCATION: Knight Is, Bay of Islands SITE: South Island OBSERVER: Stoker

LOCATION PREFIX: KN SEG. NO.: 23 LENGTH: ±1500 (M)

DATE: 5/12/89 TIME (HHMM): 13:35 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable, Generally Dense

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Extremely Patchy & Variable.

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

variable

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Variable Distribution & Density. Common but not Dense in relative Terms

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

variable, common but not Dense.

OTHER OBSERVATIONS: Nucella common, sometimes Dense Patches. Asteroides
common (several sp), Pagurus common.

CLEANUP PRECAUTIONS: cleanup would be doubtfully effective, might harm more
than help. If it is to proceed, should be done at water's edge following
Tide level, with minimal disturbance above & outside of oiled zone.

MAMMALS: Otters X Harbor Seals X Sea Lions X Whales _____
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date May 12, 1989 Location Knights Island Site Island in Bay of Isles

Location Prefix KN Segment # 23 Length ±1500

Survey Method:

Air _____ (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) none Data Source none

Oil conditions/beach visibility heavy oil below 143m above tide line

Width of beach zone surveyed 15 m Tree fringe surveyed 0

Cultural resources observed in beach zone (AHRS code) none

Cultural resources observed in tree fringe (AHRS code) none

General observations justifying survey method and segment's site probability:

Shore Profile 20-45° cliffs and areas of tidepools

Fresh Water Sources none

Sea Exposure main channel of Bay of Isles

Access/Safety difficult

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # _____ Frames _____

B/W Roll # SL-3 Frames 14

Observer(s) Ludwig

Time survey started 9335 Time survey ended 1450

Cultural resource considerations/restraints:

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon archeologists, C. Mobley and take actions prescribed in the "Operational Guidelines for Shoreline Cleanup" dated 4/21/89 as amended.

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 16, 1989

SHORELINE SEGMENT KN-24

LOCATION: (see enclosed map) Knight Island, Bay of Isles, short arm
NW shore of headland.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/12/89

Recommended Cleanup Activity(ies):

Warm water under pressure with cold water flushing, skimming, following tide level. Clean ~~only~~ heavily oiled zone with free oil, pooled oil or mousse.

Priorities Considerations:

Heavy oiling on rocks and fucus. Considerable pooled oil and mousse.

Ecological Constraints (from site survey):

Clean ~~only~~ heavily oiled zones. Biota is generally sparse in heavily oiled areas. Check with ADF&G about streams. They do not appear to be likely spawning habitat. IT IS NOT A DOCUMENTED ANADROMOUS STREAM.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Douglas Reger
State Historic Preservation Officer *

Date: 5/17/89 5/29/89

ISCC [Signature]
EXXON: [Signature]

6/3/89
Date: 6/3/89

FOSC: [Signature]

Date: 6/3/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

SHORELINE OIL EVALUATIONDate: 5/12/89 Time: 15:10Observer: STOKERSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/FogLOCATIONLOCATION Knight Is. Bay or Laker, NW Shore of Tortuga SEGMENT NUMBER KN-24LENGTH OF SHORELINE SEGMENT: ± 1500 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float PlaneSHORELINE:Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B 80 % / C 20 % / P 0 % / G 0 % / S 0 % / M 0 % / R 0 %Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs, JunkOILDegree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 100 Width of Band: variable 1-5 + mSporadic: Y/N % of Segment _____Est. Oil Thickness where > 1cm: 5 cm Est. Oil Penetration: 10 + cmPooled Oil: 25 % "Free" Oil: 30 % Coated: H 70 % / M 50 % / L 10 %Fresh 70 % Mousse 5 % Tar Formation: 0 %Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/

Comments:

Heaviest impact in 3 coves on East side of headland (See accompanying map and sketch). Coves are numbered 1, 2, 3. Zone of heavy oil in cove #1 about 20 x 30 m, about 10 to 20 by 120 m in cove #2, about 3 to 10 by 150 m in cove #3. Pooled oil & mousse heaviest in 1 & 3. Oil floating off of beaches. Recommend vigorous cleanup of indicated areas; cleanup to proceed at water's edge following tide level in concert with skimmers.

YPE

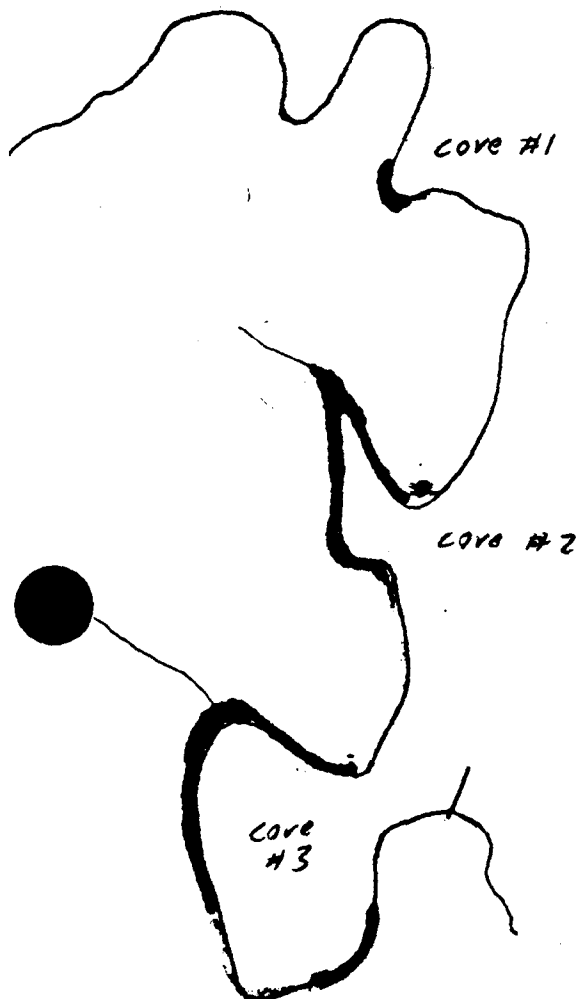
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Working segment boundaries _____

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Roll Number(s) _____

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(at least one.)

ECOLOGICAL EVALUATION

LOCATION: Knight Is. Bay or Islet SITE: NW Shore OBSERVER: STOKER

LOCATION PREFIX: KN SEG. NO.: 24 LENGTH: ± 1500 (M)

DATE: 5 / 12 / 89 TIME (HHMM): 15:10 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)

Variable - Moderate to Dense on rocky shores & points, Sparse on cobble beaches.

Mytilus (Mussels): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)

Very Patchy & variable - Generally sparse on cobble beaches.

Balanus (Barnacles): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)

Variable distribution and density

Littorina

Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)

Variable distribution; everywhere common.

Limpets: Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)

Variable density - present in all locations, usually common but not dense.

OTHER OBSERVATIONS: Nucella common, dense in patches. Eastern in

cores low to subtidal. Streams entering cores 2 & 3 are unlikely spawning habitat.

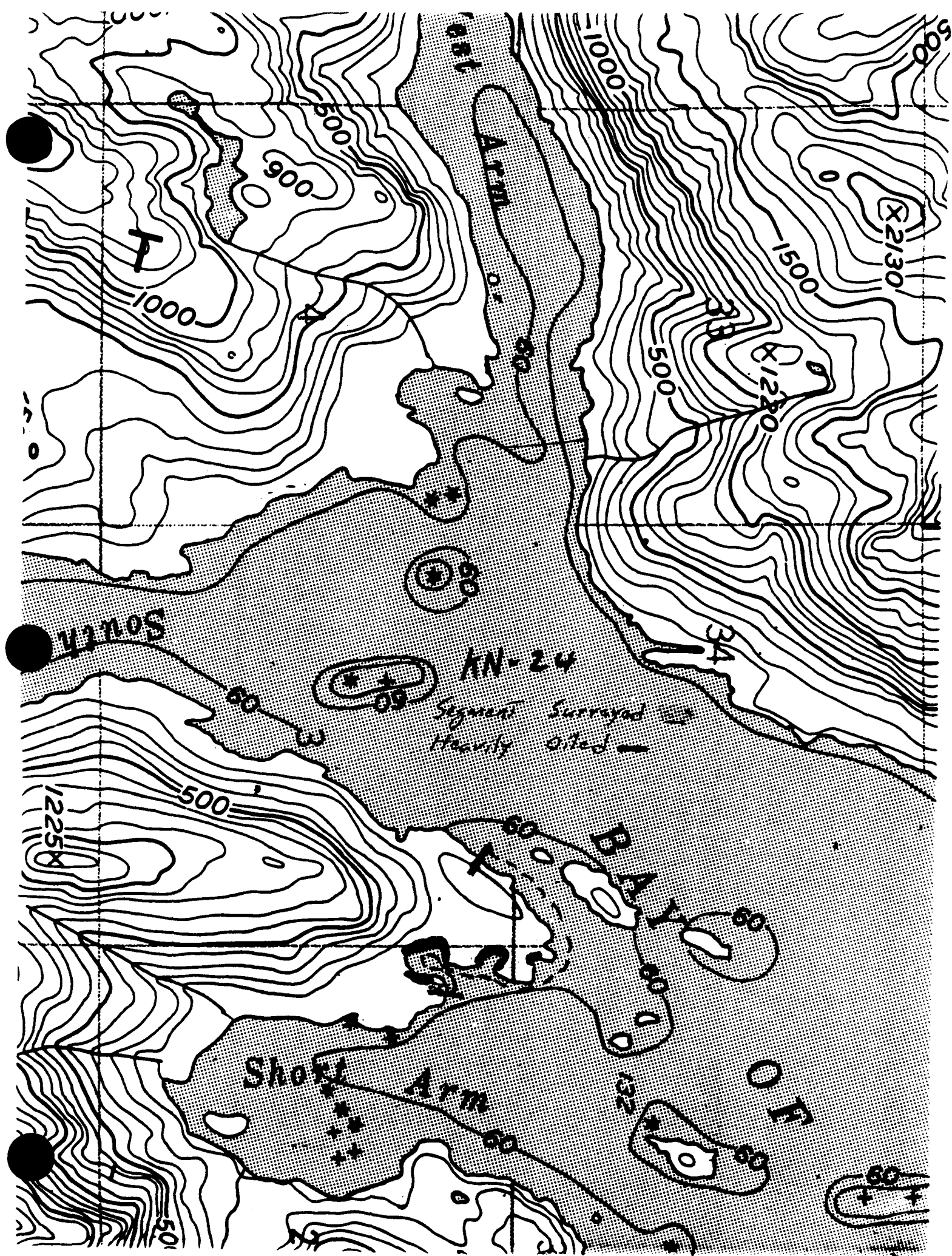
CLEANUP PRECAUTIONS: Recommend cleanup at water's edge following Tide level in concert with skimmers. Leave fucus holdfasts. Minimal disturbance of areas outside oiled zones.

MAMMALS: Otters X Harbor Seals X Sea Lions X Whales _____
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: Biota in heavily oiled zones is generally

sparse except for fucus on rock outcrops.



(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Bay of Isles

Date May 12, 1989 Location Knight Island Site Short Arm - NW shore

Location Prefix KN 24 Segment # 24 Length ±1500

Survey Method:

Air _____ (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) none Data Source —

Oil conditions/beach visibility heavy oil in sections, betw 14 3m above ^{low} tide lev

Width of beach zone surveyed 5 m Tree fringe surveyed 15

Cultural resources observed in beach zone (AHRS code) none

Cultural resources observed in tree fringe (AHRS code) none

General observations justifying survey method and segment's site probability:

Shore Profile consists of steep headlands and 3 beaches

Fresh Water Sources no fresh water source within segment

Sea Exposure South shore of Bay of Isles

Access/Safety relative easy access to large bay

Probability of undiscovered sites in beach zone (circle one) 1 (2) 3 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # _____ Frames _____

B/W Roll # SL-3 Frames 17, 18

Observer(s) Ludwig

Time survey started 1510 Time survey ended 1715

Cultural resource considerations/restraints:

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon archaeologist C. Mobley immediately (835-7749).

(version 4/29/89)

SHORELINE CLEANUP PROGRAM

DATE 5/21/89

SHORELINE SEGMENT KN-26

LOCATION: (see enclosed map) Knight Island - Bay of Isles
outside southeast point

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 4/17/89

Recommended Cleanup Activity(ies):

Flood and flush with warm water (up to 140°F)

Priorities Considerations:

Heavy oiling.

Ecological Constraints (from site survey):

None on cobble, boulder beaches. ~~Use minimal force on~~
~~bedrock.~~ NA.

Archeological Constraints (from site survey):

No access to upland areas. If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Andrew R. Reger
State Historic Preservation Officer *

ISCC

EXXON:

FOSC:

Date: 5/29/89

6/2/89

Date: 6/3/89

Date: 6/3/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

11/05/89
SHORELINE OIL EVALUATION

KN-26
[revised 11 Apr 89]

Date: 4 / 17 / 89

Observer: Hardin

Time: 10 h 05 m

Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

LOCATION Knight Island

SITE Outside S.E. point Bay of Isles

LOCATION PREFIX KN

LOCATION SUFFIX 20

LATITUDE: 6 d m s LONGITUDE: 147 d m s

LENGTH OF SHORELINE SEGMENT: 5 m

ACCESS: Foot/VEHICLE/BOat/BARGE/HELIO/FloaT Plane

SHORELINE

SHORELINE CHARACTER:

Open Coast Y

Sheltered Coast

Rock Y/N

VERTICAL/High Angle/Low Angle

Sediment Y/N

BEach/SPit/COVE

SEDIMENT TYPE: B / C / P / G / S / M / R

OIL

LOCATION OF OIL: SU / SP / H / M / L

CONTINUOUS: Y/N WIDTH OF CONTINUOUS BAND: 10 m

PATCHY: 10 / 20 / 30 / 40 / 50 / 60 / 70 / 80 / 90 % coverage

EST. OIL THICKNESS: 2 cm EST. OIL PENETRATION: 2.5 cm

POOLED OIL: Y/N

"FREE" OIL: Y/N

WEATHERED: Y/N

DOCUMENTATION

VTR: Y/N Tape Number(s)

PHOTOGRAPHY: Y/N Roll Number(s) 2/12

SAMPLE NUMBERS COLLECTED:

ECOLOGICAL EVALUATION

LOCATION Knight Island SITE Outside S.E. point Bay of Isles OBSERVER Hardin
 DATE 4 / 17 / 1989 TIME (HHMM) 1005 TIDE HT. (m) 3

OILED ZONE: SPLASH HIGH MED LOW
 SUBSTRATUM: ROCKS BOULDER COBBLE GRAVEL SAND MUD

LIVE BIOTA / DENSITY (#/m² or %cover-algae):

Fucus _____ Mytilus _____ Balanus _____ Littorina _____
 Nucella _____ Pagurus _____ Limpets _____ Halosaccion _____
 Gelidium _____ Other _____

Oil Damaged Biota No biota observed

Clean-up Precautions None

OILED ZONE: SPLASH HIGH MED LOW
 SUBSTRATUM: ROCKS BOULDER COBBLE GRAVEL SAND MUD

LIVE BIOTA / DENSITY (#/m² or %cover-algae):

Fucus _____ Mytilus _____ Balanus 12,500 Littorina 3,500
 Nucella _____ Pagurus _____ Limpets _____ Halosaccion _____
 Gelidium 10% Other _____

Oil Damaged Biota _____

Clean-up Precautions No precautions needed - oiling/boiling water
beaches the shoreline is clean

MAMMALS (#): OTTERS 1 HARBOR _____ DALL _____ OTHER _____
 OTHER _____

BIRDS: None observed

GENERAL OBSERVATIONS: Most oil (mostly) concentrated in water
and at low tide, it is not on shore

CULTURAL RESOURCE EVALUATION FOR OILED SHORELINE

Date 4-17-89 Location Knight Island Site outside of the SE point of Bay of Isles

Location Prefix KN ~~Location Suffix~~ Segment # 26 Length 500 m

Survey Method: Air (A - indicate on map) justify

Ground ☒ (G - indicate on map) justify Known Cultural Resource

Known cultural resources (AHRS code) Data source

Oil conditions/beach visibility Light to Heavy AT NW END

Width of beach zone surveyed 5 - 20 m Tree fringe surveyed up to 100 m

Cultural resources observed in beach zone (AHRS code) NONE

Cultural resources observed in tree fringe (AHRS code) CMT

General observations on segment's site probability:

Shore morphology CLIFFS ABOVE A steeply sloping beach, except for a c. 60m wide flat upland toward the North end of the segment

Fresh water sources One stream flowing down cliff face

Exposure to the Northeast

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during clean-up needed yes no

Photos: Color Roll # CW-2 Frames 1, 2, 3

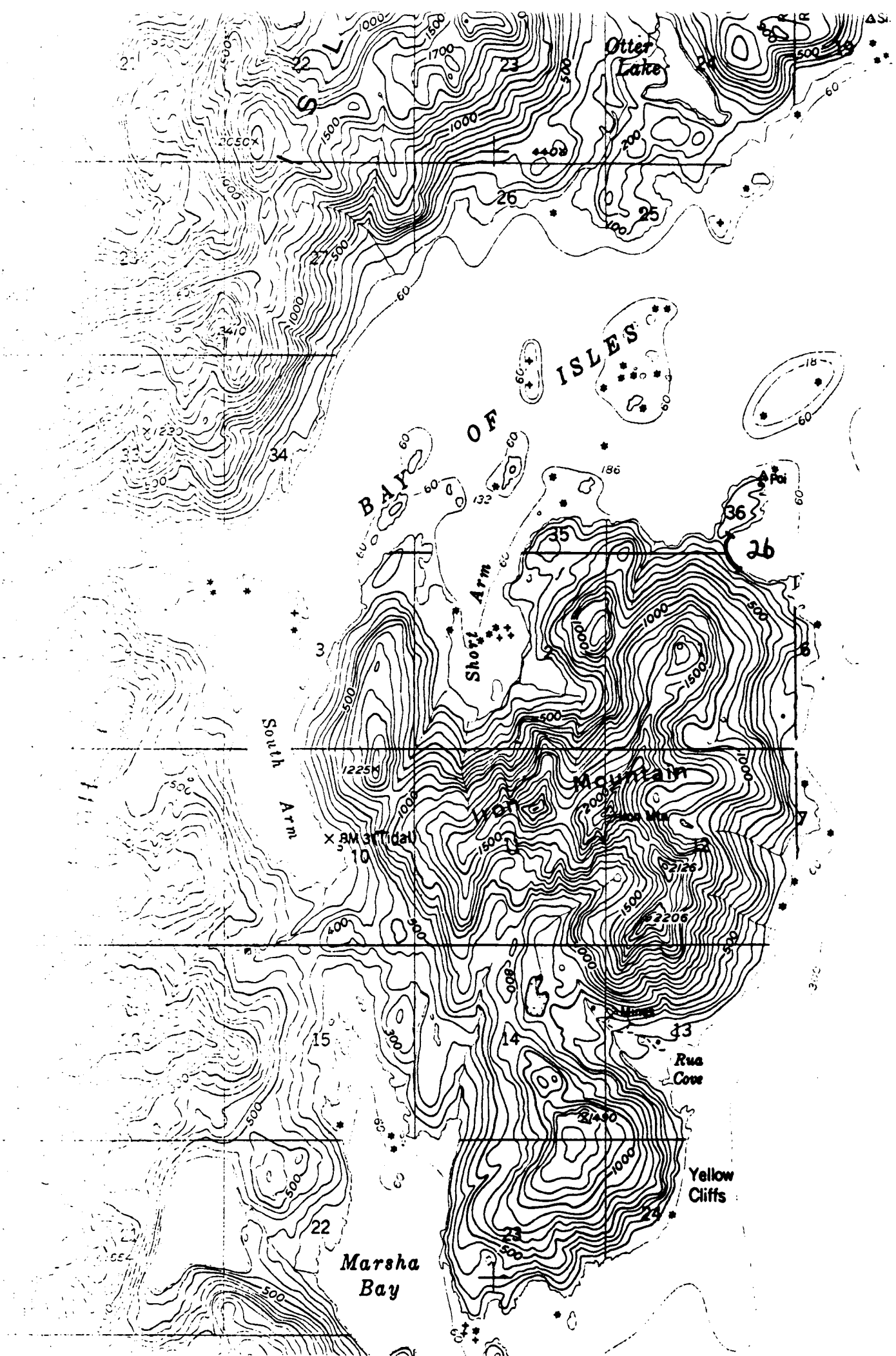
B/W Roll # Frames

Observer(s) Mike Varborough

Time survey started 10:05 AM Time survey ended 11:15 PM

Cultural resource considerations/restraints :

NO ACCESS TO THE ONE UPLAND AREA. IF HERETOFORE
UNDISCOVERED CULTURAL REMAINS ARE UNCOVERED, CONTACT
EXXON ARCHEOLOGIST C MOBLEY IMMEDIATELY



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/29/89

SHORELINE SEGMENT KN-206

LOCATION: (see enclosed map) Knight Island-Bay of Isles

Short Arm

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/24/89

Recommended Cleanup Activity(ies):

- Manually scoop or soak up free oil. (East headland)
- Warm water, high pressure (cold flood above upper intertidal zone) on oiled boulders/cobbles
- Oil bands on west and east bank headlands consist of dried stain-non recoverable and difficult access.

Priorities Considerations:

Class 2A

Ecological Constraints (from site survey): Protect rich material biota on east headland during mechanical cleanup of central area. Due to lack of suitable drainage, restrict cleanup on either side to manual means. Use sorbants on rockfaces, remove oiled fucus^{SEE} leaving holdfasts intact, etc. Severely limit access over moss^{ADVISORY} covered boulders on the west side of headland.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Douglas R. Rege
State Historic Preservation Officer *

ISCC Joseph H. Higley
EXXON: John D. Dwyer

FOSC: C. S. Noble

Date: 5/29/89

6/3/89

Date: 6/3/89

Date: 6/3/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

SHORELINE OIL EVALUATION

Date: 5/23/89 Time: 0800-1000

Observer: C. Dillon

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fo

LOCATION

LOCATION KNIGHT ISLAND

SEGMENT NUMBER KN-206

LENGTH OF SHORELINE SEGMENT: 4800 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT

Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B20% / C20% / P10% / G___% / S___% / M___% / R50%

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs/algae

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Area of Beach Impact: SU / SP / H / M / L

Continuous: Y/N % of Segment _____ Width of Band: _____ m

Sporadic: Y/N % of Segment 5

Est. Oil Thickness where > 1cm: 2-6 cm Est. Oil Penetration: <2 cm

Pooled Oil: _____% "Free" Oil: 25% Coated: H50% / M___% / L25%

Fresh 75% Mousse _____% Tar Formation: 25% (light-dried stain)

Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/

Comments:

Segment is unoiled except for two (2) small areas at the east and west headlands at the mouth of Short Arm. The west headland has a 1m wide by 20m long light, dry stain at the Upper ITZ. The east headland has a 15m long by 8m wide section of heavy and free oil and a 1-2m wide oil band on the adjacent headland rocks. Refer to diagram for details.

ECOLOGICAL EVALUATION

LOCATION: KNIGHT ISLAND SITE: KN-206 OBSERVER: MEYER
 LOCATION PREFIX: KN SEG. NO.: 206 LENGTH: 4800 (M)
 DATE: 05/23/89 TIME (HHMM): 0800 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

East & West headlands dense with fucus; East headland has large quantity of heavily oiled fucus

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

No mussels noted on west headland; patchy on east headland

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Dense on west headland, some oiled; East headland also has dense Barnacles in oiled zone.

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

East headland has Littorina 'nurseries' at LTZ: several 9"x9" areas with 50 adults and 1000+ tiny Littorina. Littorina also throughout oiled Bangle area on vertical rock faces.

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

East headlands

OTHER OBSERVATIONS: Lower tidal zone and subtidal extremely rich with biota: starfish, dense fucus and several other seaweed sp., small fish, worms, shells.

Western end of east headlands has several huge boulders with moss blanketing their tops.

CLEANUP PRECAUTIONS: CLEANUP MUST BE CAREFUL AND CONTROLLED ON EAST HEADLAND. Protect rich intertidal biota. Use mechanical cleanup only in central flat area w/ free oil. On either side use sorbents on rockface and adjacent cobble; cut fucus leaving bald patches (due to lack of suitable drainage path.) Severely limit access over moss covered rocks to the west - perhaps only 2-3 people there to mop, and cut fucus.

MAMMALS: Otters 6 Harbor Seals 13+ Sea Lions _____ Whales _____
 Other _____

BIRDS: Mew Gulls - 2 Marbled Murrelets - 6

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 5/24/89 Location Knight Island Site _____

Location Prefix KN Segment # KN-206 Length 4800m

Survey Method:

Air _____ (A - indicate on map) Boat ✓ (A - indicate on map)

Ground ✓ (G - indicate on map)

Known cultural resources (AHRS #) none Data Source none

Oil conditions/beach visibility mostly clear just with thin oiled headlands

Width of beach zone surveyed 0-15m Tree fringe surveyed 0-10

Cultural resources observed in beach zone (AHRS code) SHP

Cultural resources observed in tree fringe (AHRS code) none

General observations justifying survey method and segment's site probability:

Shore Profile Flat, broad gravel beach at head; steep in steep wall face and cobble / boulder fields.

Fresh Water Sources one stream

Sea Exposure protected

Access/Safety good on beach - poor elsewhere
3 on beach & 1 elsewhere

Probability of undiscovered sites in beach zone (circle one) ① 2 ③ 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # _____ Frames _____

B/W Roll # CW 8 Frames 24
CW 9 2-7

Observer(s) C. Wilson

Time survey started _____ Time survey ended _____

Cultural resource considerations/restraints:

If heretofore undiscovered cultural material is uncovered during cleanup notify Exxon archaeologist, C. Mobley, immediately.

(33) 5/23/89 0800-1000 Segment KN-206

VERT/HANG and steep boulder slopes. There is a light oil band < 1 m wide and < 20 m long at the Δ ITZ line between the rocks indicated on the map. Band is sporadic and not feasible/advisable for cleanup. Too much living biota would be affected.

The East bank headlands at the mouth of Short Arm has a heavy coating with several patches of thick, tree oil ~ 2-bcm deep (10/28/58/5/50)

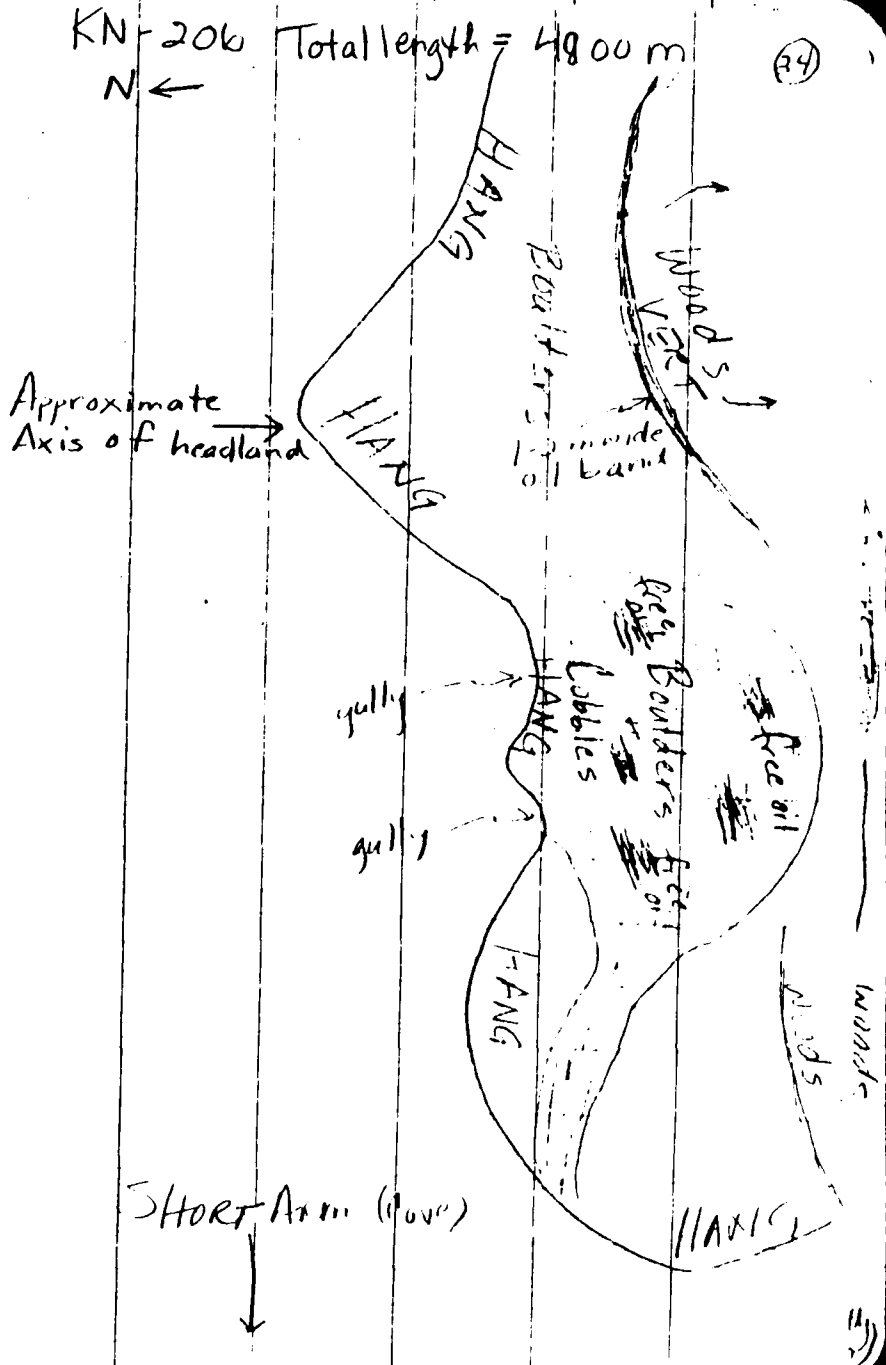
The oiled area is about $15\text{m} \times 8\text{m}$,
and lies on top of the hard land rocks.
Access is possible for cleaning at
high tide only.

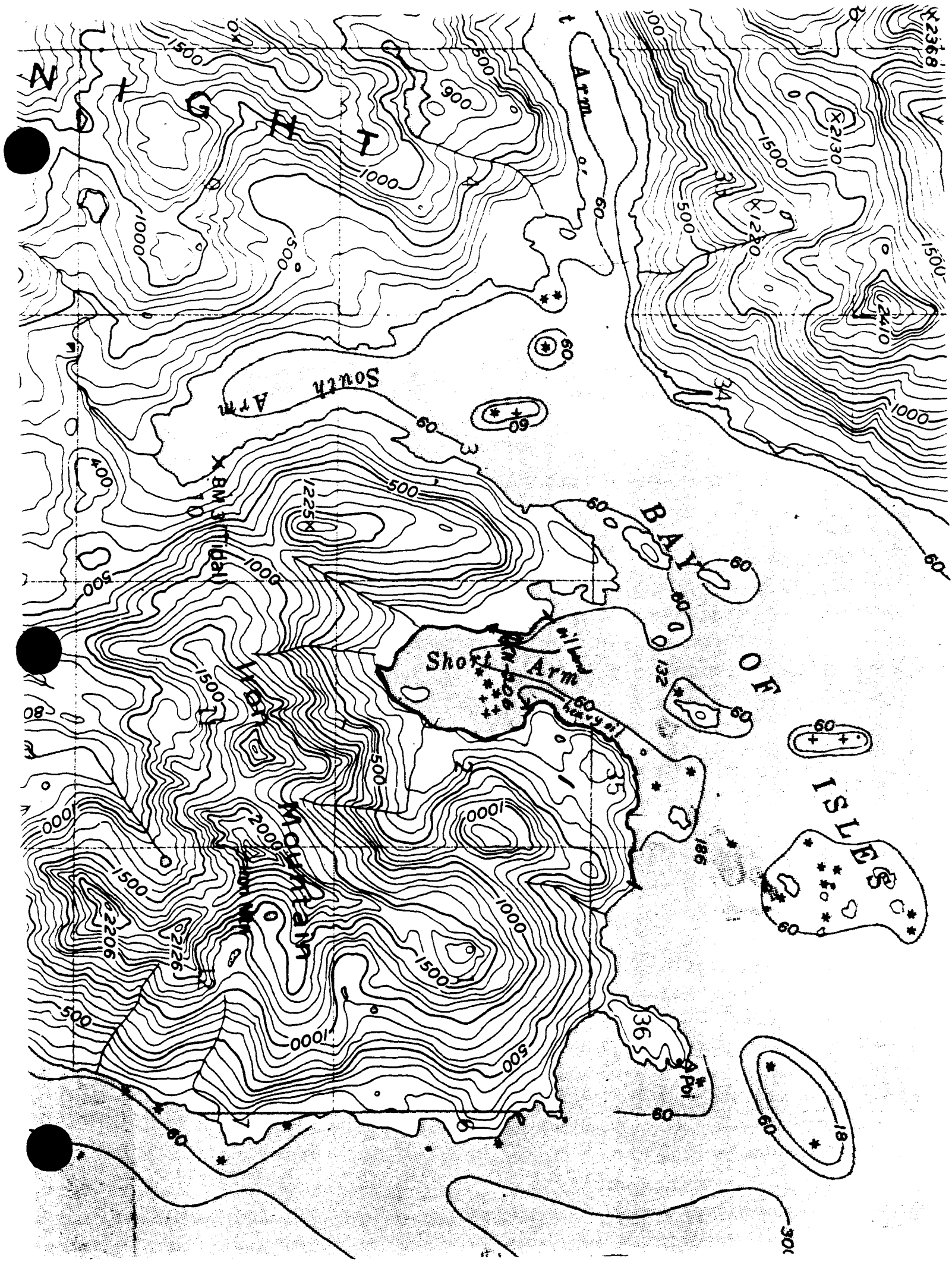
wx: Rain / Cloudy

Survey: foot / boat

Address; boat/barge/floating plane
where exp. done

KN-206 Total length = 4800 m
N ←





(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/29/89

SHORELINE SEGMENT KN-207

LOCATION: (see enclosed map) Knight Island-Bay of Isles
Southeast tip

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/23/89

Recommended Cleanup Activity(ies):

- Remove oiled debris from beaches #1 and #2 manually.
- Vacuum or scoop, or soak up free and pooled oil.
- Hot water, high pressure flushing on boulders/cobbles. Low pressure on pebbles/sand (beach #2)
- Straight cliffs and headlands oil band is a high energy wave area and treacherous access. Will self-clean.

Priorities Considerations:

- Beaches #1 & 2: 2A

Ecological Constraints (from site survey):

- Do not clean high-medium tidal areas when tide is low.

Archeological Constraints (from site survey):

Restrict access to historic structure in the uplands. If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Douglas R. Peger
State Historic Preservation Officer *
ISCC James L. Peger
EXXON: John D. Peger
FOSC: C. S. Robbins

Date: 5/29/89
6/3/89
Date: 6/3/89
Date: 6/3/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

SHORELINE OIL EVALUATION

Date: 5/23/89 Time: 1000-1200

Observer: C. Dillon

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

LOCATION KNIGHT ISLAND SEGMENT NUMBER KN-207

LENGTH OF SHORELINE SEGMENT: 1800 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B 5 % / C 24 % / P 20 % / G % / S 1 % / M % / R 50 %

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs/alga

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Area of Beach Impact: SU / SP / H / M / L

Continuous: Y/N % of Segment 80 Width of Band: 1-2 m

Sporadic: Y/N % of Segment

Est. Oil Thickness where > 1cm: 4-6 cm Est. Oil Penetration: >15 cm

Pooled Oil: 45 % "Free" Oil: 45 % Coated: H 10 % / M 5 % / L 70 %

Fresh 5 % Mousse 15 % Tar Formation: 80 % (baked oil band)

Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L

Comments:

Majority of segment is headlands and vertical or high angle cliffs and face rock with a continuous band of light, dried stained 1-2 m wide.

2 beaches in the segment are heavily oiled. They are evaluated separately on the following forms and detailed in attached diagrams.

SHORELINE OIL EVALUATION

Date: 5/23/89 Time: 1000-1045

Observer: C. Dillon

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fo

LOCATION

LOCATION KNIGHT Island

SEGMENT NUMBER KN-207 (Beach)

LENGTH OF SHORELINE SEGMENT: 150 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT

Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B 25 % / C 45 % / P 30 % / G ___ % / S ___ % / M ___ % / R ___ %

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs/algae

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Area of Beach Impact: SU / SP / H / M / L

Continuous: Y/N % of beach 90 Width of Band: 5-10 m

Sporadic: Y/N % of Segment _____

Est. Oil Thickness where > 1cm: 4-6 cm Est. Oil Penetration: > 10 cm

Pooled Oil: 5 % "Free" Oil: < 5 % Coated: H 70 % / M 20 % / L ___ %

Fresh 40 % Mousse 40 % Tar Formation: 20 % weather. coating

Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L algae

Comments:

See diagram for details. Area around stream
is clear. Lower ITZ is unoiled.

SHORELINE OIL EVALUATION

Date: 5/23/89 Time: 1045-1145

Observer: C. Dillon

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

LOCATION KNIGHT ISLAND SEGMENT NUMBER KW-207 (Beach 2)

LENGTH OF SHORELINE SEGMENT: 150 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT

Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B 20 % / C 40 % / P 35 % / G % / S 5 % / M % / R %

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Area of Beach Impact: SU / SP / H / M / L

Continuous: Y/N % of Beach 100 Width of Band: 175 m

Sporadic: Y/N % of Segment

Est. Oil Thickness where > 1cm: <1 cm Est. Oil Penetration: >15 cm

Pooled Oil: 0 % "Free" Oil: 0 % Coated: H 90 % / M % / L 10 %

Fresh 100 % Mousse 0 % Tar Formation: 0 %

Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L 100 ^{3 small}

Comments:

Lower ITZ is lightly coated with up to 4 cm penetration.
Mid and Upper ITZ is heavily coated with 10-15 cm
penetration (or more) on smaller sediments (including sand)
See diagram for details.

ECOLOGICAL EVALUATION

LOCATION: KNIGHT ISLAND SITE: KN-207 OBSERVER: MEYER

LOCATION PREFIX: KN SEG. NO.: 207 LENGTH: 1800 (M)

DATE: 05 / 23 / 89 TIME (HHMM): 1000 TIDE HT.: _____ (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Beach #2 - Fucus sparse in oiled zone, patchy + continuous in LTZ + healthy

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Beach #1 - Mytilus dense/patchy in mid to low tidal zone Beach #2 - no mussel

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Abundant in mid/low tidal zone beach #1; Beach #2, dense in oiled zone

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Beach #1: Littorina patchy + dense in LTZ; moon snails abundant in MTZ/LTZ; Beach #2 Littorina sparse, more abundant on east boundary

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Beach #1 - stream not a salmon stream (20' vertical drop)

CLEANUP PRECAUTIONS: Beach #2 Oiled zone treacherous at both ends (east + west)

MAMMALS: Otters _____ Harbor Seals _____ Sea Lions _____ Whales _____
Other _____

BIRDS: Common Merganser - 1

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 5/24/89 Location Knight Island Site _____

Location Prefix KN Segment # KN-207 Length 1800 m

Survey Method:

Air _____ (A - indicate on map) Boat ☒ _____ (A - indicate on map)

Ground ☒ _____ (G - indicate on map)

Known cultural resources (AHRS #) SEW-046 Data Source AHRS

Oil conditions/beach visibility light to moderate

Width of beach zone surveyed 0-10m Tree fringe surveyed 0-10m

Cultural resources observed in beach zone (AHRS code) _____

Cultural resources observed ^{ON CLIFF} ~~in tree fringe~~ (AHRS code) CRN

General observations justifying survey method and segment's site probability:

Shore Profile Beaches are moderately sloped, but colibled/boulders remain in steep wall face & boulder field.

Fresh Water Sources none

Sea Exposure open to north-northeast

Access/Safety poor

Probability of undiscovered sites in beach zone (circle one) 1 (2) 3 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # _____ Frames _____

B/W Roll # _____ Frames _____

Observer(s) C. Wilson

Time survey started 1000 Time survey ended 1200

Cultural resource considerations/restraints:

If cleanup occurs in area of CRN, access should be restricted.
If hasty undiscovered cultural resources are uncovered
during cleanup contact Epou archaeologist, C. Mobley,
immediately.

5/23/89 1000-1200 Segment KN-207

TOTAL
LENGTH
1800 m

VERT

Beach 1

N

wx: Plain
Survey: foot
Access: boat/barge/flat plane
Wave exp: Med/high
Mid-Upper ITZ oiled,
25% B/45% C/30% P

Heavy-Moderate Coating
Continuous on Beach,
5-10 m wide X 150 m long
> 10 cm penetration
in smaller sediments.
No pools/No free oil
on West side of beach.
Logs on S ITZ are clean

Very small amount of
oiled algae on M ITZ

Sediments in vicinity
of the stream are
clean.

Boulder area on
east side of beach
has more wild
coating and
some free
mousse

LARGE BOULDERS

large stream

VERT/HANG

logs (clean)

Beach 2 KN-207

Foot surveys Cloudy
access: boat/helicopter
float plane
wave exp: med/high

LANA

Woods

Woods

steep
Boulder Slope

150 m wide
cobbles

Lower ITZ

10% cobbles
and pebbles

10% cobbles
and pebbles

10% cobbles
and pebbles

10% cobbles
and pebbles

Upper ITZ is very small
sediments heavy coating, > 15 cm
penetration.
Middle ITZ is pebbles/cobbles
with heavy coating, < 10 cm penetration.
Lower ITZ pebbles/cobbles light med.
coating < 4 cm penetration

Oil covers entire beach and is a
1-2 m wide band around diked.

Beach is 150 m X 75 m wide

No pooled/free oil. No mouse or fox

Only 3 small oiled
logs on U ITZ

10% cobbles
and pebbles

10% cobbles
and pebbles

10% cobbles
and pebbles

10% cobbles
and pebbles

10% cobbles
and pebbles

10% cobbles
and pebbles

10% cobbles
and pebbles

HANG

Boulders

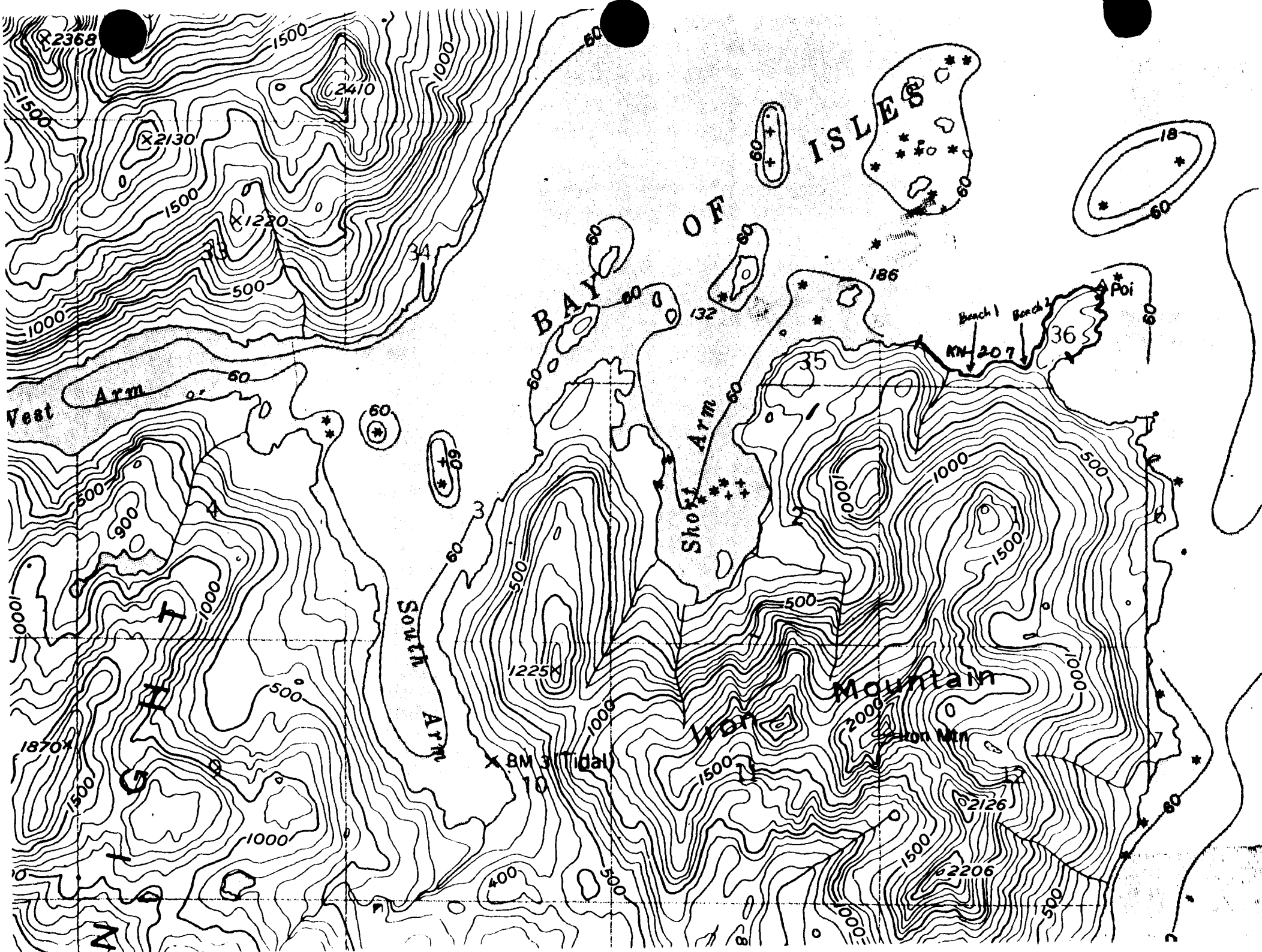
rocks

+ woods

wood

WOODS

WOODS



TREATMENT MANUAL, 6/15/89

SEG KN-11 INSPECTION # 1

SEGMENT

DATE 12 July 89

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment



Hot water wash



Mechanical



Warm water wash

Non-mechanical oil skimmer, 1100 wiper

Water deluge



Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments

Check for 5 to 10 days for re-oil.Remove any oil response as needed

Signature

Richard E. AdamsDate: 7/12/89 Time: 13:09

Printed Name

Richard E. Adams

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Percent Degree of Oiling

0

Heavy

30

Medium

60

Light

9

Very Light

10

None

100 %

Subsurface Oil



Yes



No

Comments no visible subsurface
oil in core zone (3000).

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep

Comments

Grass surface contamination removed.
Cobbles in subsurface contain medium and some heavy oil.
Will be more productive to move on with considering current treatment.

Signature

Douglas H. DasherDate: 7/12/89 Time: 1320

Printed Name

DOUGLAS H. DASHER, EE III, ADEC

FOSC rep

Demobilization approved/disapproved

Comments

Exxon contamination removed

Signature

Richard E. AdamsDate: 7/12/89 Time: 1500

Printed Name

Richard E. Adams

TREATMENT MANUAL, 6/15/89

SEG LP-16 INSPECTION # 1
DATE 7/12/89SEGMENT
INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

☒ Hot water wash	☐ Mechanical
☐ Warm water wash	☒ Non-mechanical <u>oil swabs</u>
☒ Water deluge	☐ Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Check for 5 to 10 days for repair
Remove with gun, some as needed
 Signature R. E. Adams Date: 7/12/89 Time: 18:10
 Printed Name Richard E. Adams

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil	
Percent	Degree of Oiling
<u>1</u>	Heavy
<u>42.5</u>	Medium
<u>56.5</u>	Light
<u>0</u>	Very Light
<u>0</u>	None

100 %

Subsurface Oil

☒ Yes ☐ No

Comments no more oil in
low tide and in grass
roots

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments Grass surface contamination removed
Subsurface has medium and heavy oil in cobbles
will be problematic to move on, considering current treatment system
 Signature Douglas H. Dasher Date: 7/12/89 Time: 1330
 Printed Name Douglas H. Dasher EE III, ADEC

FOCC rep

Demobilization approved/disapproved

Comments no more oil in
low tide and in grass
roots
 Signature Douglas H. Dasher Date: 7/12/89 Time: 1330
 Printed Name Douglas H. Dasher EE III, ADEC

SEG KN-17

TREATMENT MANUAL, 6/3/89

INSPECTION # 1DATE 6/15/89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment



Hot water wash



Mechanical



Warm water wash



Non-mechanical



Water deluge



Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments

THIS SEGMENT IS ENVIRONMENTALLY CLEAN

Signature

JC KnightDate: 6/15/89 Time: 19:50

Printed Name

JE KNIGHT

Existing Shoreline Condition As Visually Evaluated by ADEC and USCG

Surface Oil



Heavily oiled



Medium oiled



Lightly oiled



Very lightly oiled



No oil



No surface oil and no subsurface oil

Subsurface Oil



Heavily oiled



Medium oiled



Lightly oiled



Very lightly oiled



No oil

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep

Comments ADEC REP UNAVAILABLE, HOWEVER, WITNESSED TREATMENTon 6/16/89

Signature

Date: / / Time:

Printed Name

FOSC rep

Demobilization approved/disapproved

Comments SOME PATCHES OF STAIN, HOWEVER, MIGRATION VERY UNLIKELY.

Signature

Thomas D. HarrisonDate: 6/18/89 Time: 1852

Printed Name

THOMAS D. HARRISON LT USCG

COPY: EXXON ADEC FOSC ISCC

FOSC 6/4/89

SEG KN-23 INSPECTION # 1

SEGMENT

DATE 4 July 89

INSPECTION RECORD

✓ J.A.M.
7/12/89

Shoreline Treatment Process(es) Completed for this Segment

☐ Hot water wash	☐ Mechanical
☐ Warm water wash	☐ Non-mechanical
☐ Water deluge	☐ Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments ENVIRONMENTALLY CLEANSignature James L. Fletcher Date: 7/14/89 Time: 11:25 A.M.Printed Name JAMES L Fletcher

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Percent Degree of Oiling

Subsurface Oil

☐ Yes ☒ No

<u>0</u>	Heavy
<u>1</u>	Medium
<u>3</u>	Light
<u>2</u>	Very Light
<u>96</u>	None

100 %

Comments _____

Reassessment

☐ Yes - necessary ☒ No - not necessary unless re-oiled

ADEC rep Comments Gross contamination removed. Very little medium oil found. Four islands had light or very light oil in slack bands. Recommend moving to heavily oiled segment.

Signature Denny E. Tammis Date: 7/14/89 Time: 1125

Printed Name Denny E. Tammis, EMU Ery, ADEC

FOSC rep Demobilization approved/disapprovedComments No subs. oilSignature [Signature] Date: 7/14/89 Time: 1126

Printed Name _____

COPY: EXXON ADEC FOSC ISCC

SEG 24 INSPECTION # 2

SEGMENT

DATE _____

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment



Hot water wash



Mechanical _____



Warm water wash



Non-mechanical _____



Water deluge

Other HAND WIPE

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments

is complete. Ready for Demobilization and deployment to new segment.

Signature

David BellorDate: 8/1/89 Time: 15:10

Printed Name

David Bellor

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Subsurface Oil

Percent

Degree of Oiling



Yes



No

5
15
5
75

Heavy

Medium

Light

Very Light

None

100.0%

Comments

Cable/Gravel
area

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep

Comments

Not available

Signature

Date: / / Time: /

Printed Name

FOSC rep

Demobilization approved/disapproved

Comments

Signature

P. BudenkerDate: 8/1/89 Time: 15:10

Printed Name

D. C. BUDENKER

KN-26

9/7/89

SHORELINE TREATMENT RECORD

Shoreline Treatment Process(es) Completed for this Segment



Hot water wash



Mechanical



Warm water wash



Non-mechanical



Water deluge



Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Treatment of Segment KN-26 is complete and ready for demobilization to next segment.

Signature Steve E. Ramsower Date: 9/7/89 Time: 1340

Printed Name Steve E. Ramsower TF2 Commander

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Percent Degree of Oiling

<u>2</u>	Heavy
<u>35</u>	Medium
<u>25</u>	Light
<u>0</u>	Very Light
<u>38</u>	None
100 %	

Existing Shoreline Condition As Visually Determined by ADEC

Surface Oil

Percent Degree of Oiling

<u>12</u>	Heavy
<u>35</u>	Medium
<u>38</u>	Light
	Very Light
<u>15</u>	None
100 %	

Subsurface Oil



Yes



No

COMMENT BELOW

Reassessment



Yes - necessary



No - not necessary unless re-oiled

Subsurface Oil



Yes



No

COMMENT BELOW

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep

Comments Cannot recommend demobilization. Heavy oil remains along with heaps oily debris. Significant amounts of oil on the surface & subsurface that keeps the air

Signature Dale W. Gardner

Date: 9/7/89 Time: 13:50

Printed Name DALE GARDNER, ADEC INSPECTOR

FOSC rep

Demobilization approved/disapproved

Comments Amount moderate and heavy oil remains in North Cove.

Signature Paul Anthony Lewis

Date: 9/7/89 Time: 1345

Printed Name Paul Anthony Lewis

COPY: EXXON ADEC FOSC ISCC

Gross Removal completed. Anticypate Re-visit from OUTSIDE SOURCE

(version 5/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): Mew Cove Block

Includes Shoreline Segments: KN-25

Submitted : *[Signature]* Date: 7/17/89
(for Exxon)

ISCC Approval: *Sharon K. Christopherson* Date: 7/21/89

FOSC Approval: *[Signature]* Date: 7/21/89

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative has the authority to approve on-site modifications. The Field Resource Team should be consulted if these actions do not fit within the Ecological Constraints of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:

Exxon Shoreline Coordinator
Exxon Shoreline Supervisor
Exxon SCAT file

FOSC
CDFU
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EPA
USDA (FS)
USFW
A.DEC
A.FG
A.DNR
CAC
PWSCA
USFS
SHPO

ACA
7/21

Sphinx
Island

7/20/89
USFWS



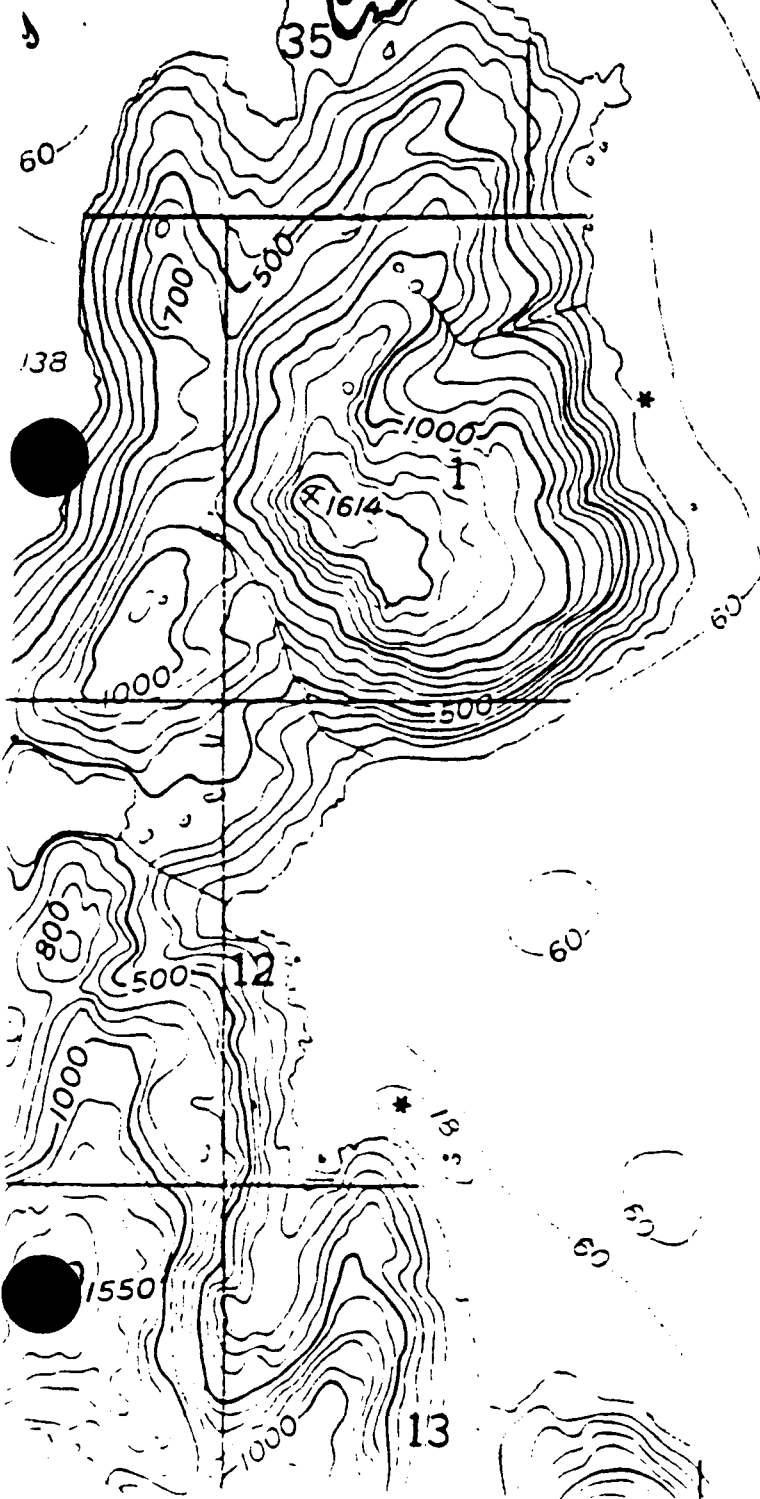
Passage
New Cove

KN-25

480

NO ACTIVE
BALD EAGLE NESTS
IN THIS AREA
AT THIS TIME
MEW COVE BLOCK

KN-25



228

300

300

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/15/89

SHORELINE SEGMENT KN-25

LOCATION: (see enclosed map) Mew Cove, northern tip of Knight
Island, PWS

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/8/89

Recommended Cleanup Activity(ies):

- No cleanup recommended at this time (subject to FOSC reassessment at a later date).
- The beach has sufficient wave exposure to clean the existing light oil.
- Remove garbage bags from inner cove (see below).

Priorities Considerations:

Class 4: light oil

Class B: resources absent

Ecological Constraints (from site survey):

Remove bags of oily waste and domestic garbage. These bags have been disturbed by bears.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.



State Historic Preservation Officer *

Date: July 18, 89

ISCC: Sharon K. Christopher

Date: 7/21/89

EXXON: L. J. Miller

Date: 8907-21

FOSC: C. S. N. Miller

Date: 7/21/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

SHORELINE OIL EVALUATIONDate: 8 July / Time: 0903 - 0955 hrObserver: MannSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/Fo**LOCATION**LOCATION New Cove, North tip of Knight Island SEGMENT NUMBER KN 25LENGTH OF SHORELINE SEGMENT: 1.6 K mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane**SHORELINE:**Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B 8 % / C 2 % / P 4 % / G 0 % / S 0 % / M 0 % / R 90 %Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type Seaweed
+ wood**OIL**Degree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 80 Width of Band: 1-2 mSporadic: Y/N % of Segment 20Est. Oil Thickness where > 1cm: NA cm Est. Oil Penetration: NA cmPooled Oil: 0 % "Free" Oil: 0 % Coated: H 10 % / M 80 % / L 10 %Fresh 0 % Mousse 0 % Tar Formation: 100 %Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L**Comments:**

Shorelines in New Cove are cliffs with a few, intervening pocket beaches. Oil contamination is light. A pile of 6 trash bags containing oily waste and domestic (food) garbage are lying in the supratidal zone of the inner cove. A bear has disturbed them.

ECOLOGICAL EVALUATION

LOCATION: KNIGHT ISLAND SITE: Mew Cove OBSERVER: MEYER

LOCATION PREFIX: KN SEG. NO.: 25 LENGTH: 1.6 KM (M)

DATE: 07/08/89 TIME (HHMM): 0900 TIDE HT.: +2.0 FT (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy ☒ Y/N Contin. ☒ Y/N Dense ☒ Y/N Sparse ☒ Y/N None ☒ Y/N

Patches of fucus band oiled for top foot or so

Mytilus (Mussels): Patchy ☒ Y/N Contin. Y/N Dense ☒ Y/N Sparse ☒ Y/N None Y/N

Pockets of mussels small. Site B, many dead w/ hole in open shell.

Balanus (Barnacles): Patchy Y/N Contin. ☒ Y/N Dense Y/N Sparse Y/N None Y/N

Littorina

Patchy ☒ Y/N Contin. Y/N Dense ☒ Y/N Sparse Y/N None Y/N

Young Littorina throughout barnacles on boulders and patchy in headrock fucus. Nucella common in patches on barnacles particularly on rock faces, sometimes in oiled zone.

Limpets: Patchy ☒ Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Site B abundant hermit crab + crab, eelgrass + sculpin in subtidal - very protected
Pycnoperca, Dermasteria, Pisaster along rock face.

CLEANUP PRECAUTIONS: No precautions - cleanup is well underway naturally
in this high energy, lightly oiled segment.

MAMMALS: Otters _____ Harbor Seals _____ Sea Lions _____ Whales _____
Other _____

BIRDS: Belted Kingfisher - 1; Black Legged Kittiwake - 3

GENERAL OBSERVATIONS: Island: Pycnoperca, Pisaster, Dermasteria present, pockets of nucella
on oiled barnacles, top foot of fucus often oiled.

CULTURAL RESOURCE EVALUATION

Date 8 July 1989 Location KNIGHT ISLAND Site _____
Location Prefix KN Segment # KN-25 Length 1.6 KM
(New-Cure)
Survey Method:
Air _____ (A - indicate on map) Boat ✓ (A - indicate on map)
Ground _____ (G - indicate on map)
Known cultural resources (AHRS #) None Data Source —
Oil conditions/beach visibility light oil
Width of beach zone surveyed 0-100 m Tree fringe surveyed Up to 10 m
Cultural resources observed in beach zone (AHRS code) None
Cultural resources observed in tree fringe (AHRS code) None
General observations justifying survey method and segment's site probability:
Shore Profile steep north facing - Alder, spruce mix - beach comprised of
gravel, pebbles, and boulders - no fresh water seen.
Fresh Water Sources None
Sea Exposure Protected on the east and west
Access/Safety None
Probability of undiscovered sites in beach zone (circle one) 1 (2) 3 4 5
Monitoring during cleanup needed yes (no) Collection yes (no)
Photos: Color Roll # None Frames —
B/W Roll # None Frames —
Observer(s) Ty L. DILLIPLANE
Time survey started 0903 hrs Time survey ended 0955 hrs

Cultural resource considerations/restraints:

Should heretofore undiscovered cultural resources be found
during any clean-up activities, please notify the Exxon
Archaeological Director, Dr. C. Mahley, immediately.

X710

Disk Island

500



Key to pocket beaches

a: pebble/cobble
rare mousse
patties

b: cobble/boulder
occasional mou.
patties

c: pebble/cobble,
diffuse oil bands
to 6m wide,
mostly eroded
off rocks

Passage

New

0.5-1m
discontinuous
oil band on
cliffs



boulder

oil garbage
here

cliff

TREATMENT NO. 1, 6/15/89

SEG KN-25 INSPECTION # 1
DATE 7/31/89

SEGMENT
INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

☒ Hot water wash	☒ Mechanical
☐ Warm water wash	☒ Non-mechanical
☒ Water deluge	☐ Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Treatment of segment KN-25 is complete
and ready for demobilization to next segment.

Signature Steve E. Pomeroy Date: 7/31/89 Time: 1430

Printed Name Steve E. Pomeroy TF-2 leader

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil		Subsurface Oil
Percent	Degree of Oiling	☒ Yes ☐ No
<u>2%</u>	Heavy	Comments <u>PRESENT WHERE CORRECT/</u> <u>GRAVEL BEACHES LIMITED TO LIMITED</u> <u>EXTENT</u>
<u>10%</u>	Medium	
<u>15%</u>	Light	
<u>33%</u>	Very Light	
<u>100%</u>	None	

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments NOT PRESENT - NOTIFIED BY INSPECTION

Signature _____ Date: / / Time: _____
Printed Name _____

FOSC rep

Demobilization approved/disapproved

Comments NO HAVY, I VERY MILD MEDIUM OIL PRESENT.

SOME SIGNIFICANT HOWEVER NO GROSS CONTAMINATION.
Signature James D. Pomeroy Date: 7/31/89 Time: 1432

OK'd 5/15/89

(version 5/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): Louis Bay Block

Includes Shoreline Segments: KN-101, KN-102, KN-103, KN-104,
KN-105, KN-106, KN-107,

Submitted :

[Signature]
(for Exxon)

Date:

5/9/89

FOSC Approval:

[Signature]

Date:

5/16/89

Endorsed by ISCC 5-15-89 Jan E. K. COR, NOAA
The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative has the authority to approve on-site modifications. The Field Resource Team should be consulted if these actions do not fit within the Ecological Constraints of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:

Exxon Shoreline Coordinator
Exxon Shoreline Supervisor
Exxon SCAT file

FOSC
CDFU
NOAA
EPA
USDA (FS)
USFW
A. DEC
A. FG
A. DNR
CAC
PWSCA
USFS

Note: Need to include Anadromous Stream

Advisory "guide"

LEK

Done E.P.A.

2 380 000
FEET

756

780

HERRING
BAY

Herring Pt

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55

56

57

Knight Island

Kuloi

Passage

Disk Island 26

Disk Island

Lower

Passage

Louis Bay

126

138

150

162

174

186

198

210

222

234

246

258

270

282

294

Otter Lake

132

144

156

168

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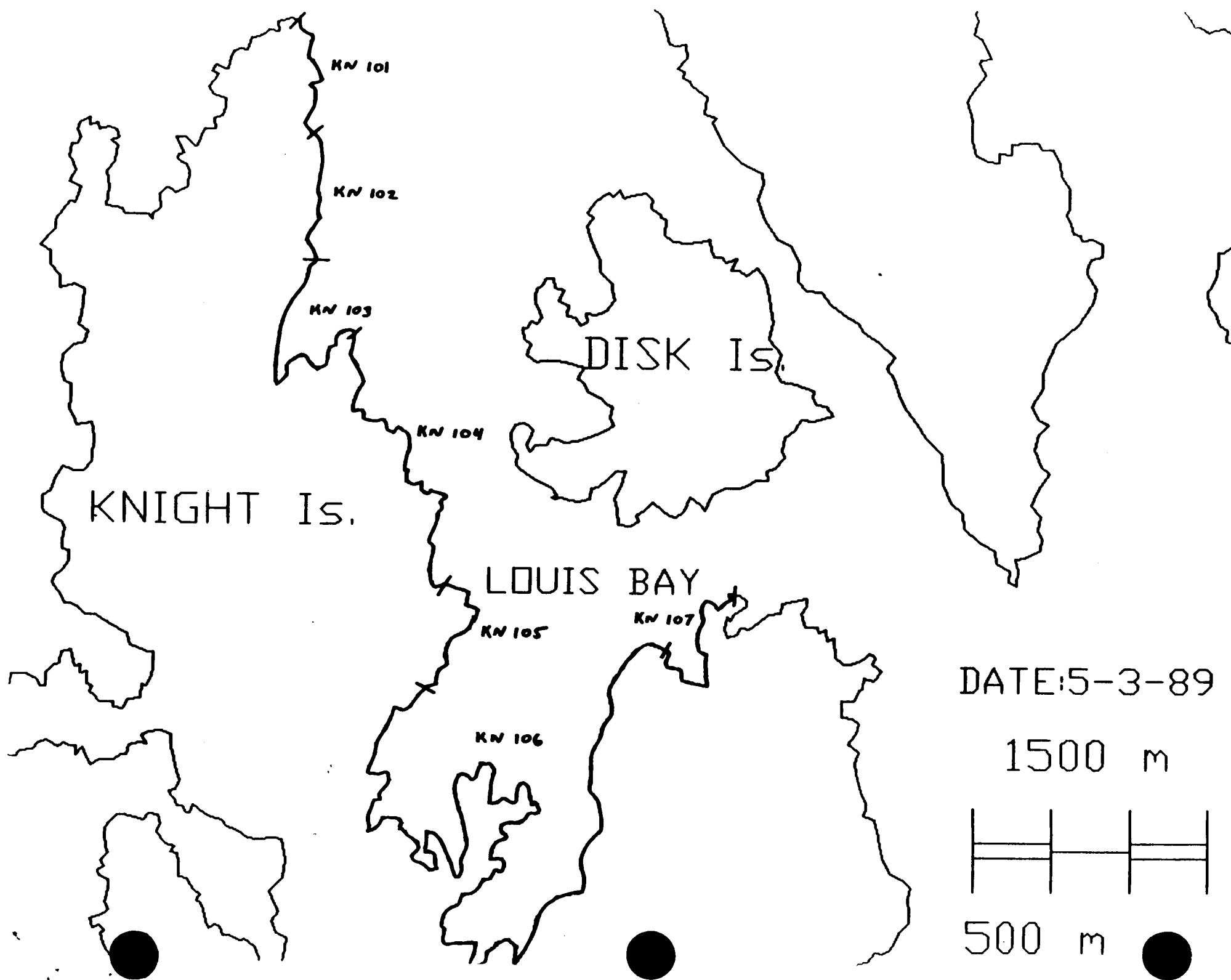
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(version 5/02/89)

Louis Bay Area

SHORELINE CLEANUP PROGRAM

DATE May 6, 1989

SHORELINE SEGMENT KN-101

LOCATION: (see enclosed map) Knight Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 4/29/89

Recommended Cleanup Activity(ies):

High pressure, cold water washing on rocky beaches with healthy organisms in lower ITZ.

Priorities Considerations:
Try to clean at ebbing tide.

Ecological Constraints (from site survey):

Avoid small streams, clean at high tide if possible. *AVOID STREAMS AND BANKS OF STREAMS UNLESS AUTHORIZED BY THE R.A.T. BIOLOGIST ON A SITE-BY-SITE BASIS.*

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

3
Charles E. Adams
State Historic Preservation Officer *

Date: May 6, 1989

EXXON: [Signature]

Date: 5/9/89

FOSC: [Signature]

Date: 5/16/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

SHORELINE OIL EVALUATION

[revised 17 Apr 89]

Date: 4 / 29 / 89

Observer: C. Dillon

Time: 13 h 45 m

Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

LOCATION KNIGHT ISLAND

SITE PASSAGE PT.

LOCATION PREFIX KN

SEGMENT NUMBER KN-101

LATITUDE: 6 d m s

LONGITUDE: 147 d m s

LENGTH OF SHORELINE SEGMENT: 650 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

SHORELINE CHARACTER:

Beach/SPit/Cove/ /

Wave Exposure: High/Med/Low

Rock Y/N 80 Vertical/High Angle/Low Angle

Sediment Y/N 20 Types: B / C / P / G / S / M / R

Strand Line Y/N Algae/Debris/Logs

OIL

LOCATION OF OIL: SU / SP / H / M / L M/L - on Southernmost beach

CONTINUOUS: Y/N WIDTH OF BAND: 3-8 m % of Segment 90

PATCHY: 10/20/30/40/50/60/70/80/90% coverage % of Segment

EST. OIL THICKNESS: <.5 cm EST. OIL PENETRATION: Surface cm

POOLED OIL: Y/N "FREE" OIL: Y/N WEATHERED: Y/N

STRAND LINE CLEAN OILED

SUMMARY OILING: Amount High/Med/Low Coverage Extensive/Moderate/Light

COMMENTS: See diagram for details. Majority of segment is a Vertical/high rock face. Report focuses mainly on 2 beach areas at South extent of segment. Rock face only has a light band of oil at high tide level and C:\WP\DATA\SHOREVAL.1 is not feasible for cleanup.

ECOLOGICAL EVALUATION

LOCATION: Knight IS. SITE: Passage Pt OBSERVER: SMBC

LOCATION PREFIX: KN SEG. NO.: 101 LENGTH: 450 650 (M)

DATE: 4/29/89 TIME (HHMM): 1350 TIDE HT.: +1 (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Fucus at waterline is healthy

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

None seen

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

None seen

OTHER OBSERVATIONS: Sleep rocky beach - mussels high in ITZ
lower ITZ clean - healthy Fucus - Sea anemone seen in
Subtidal.

CLEANUP PRECAUTIONS: Avoid small streams, clean at high
tide; if possible, avoid clean lower ITZ

MAMMALS: Otters None Harbor Seals _____ Sea Lions _____ Whales _____
Other _____

BIRDS: None

GENERAL OBSERVATIONS: moderate oiling, bathtub ring on cliffs
Separating beaches

(version of 4/25/89)

CULTURAL RESOURCE EVALUATION FOR OILED SHORELINE

Date 4/29/89 Location KNIGHT ISLAND Site Passage Point

Location Prefix KN Segment # KN101 Length 50

Survey Method:

Air _____ (A - indicate on map) Boat ✓ (A - indicate on map)

Ground _____ (G - indicate on map)

Known cultural resources (AHRS #) None Data Source None

Oil conditions/beach visibility mostly moderate

Width of beach zone surveyed None m Tree fringe surveyed None

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) None

General observations justifying survey method and segment's site probability:

Shore Profile most of segment was sheer cliff. Two small very rocky, steep beaches are also present

Fresh Water Sources none

Sea Exposure east

Access/Safety difficult at high tide

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # CW5 Frames 1,2

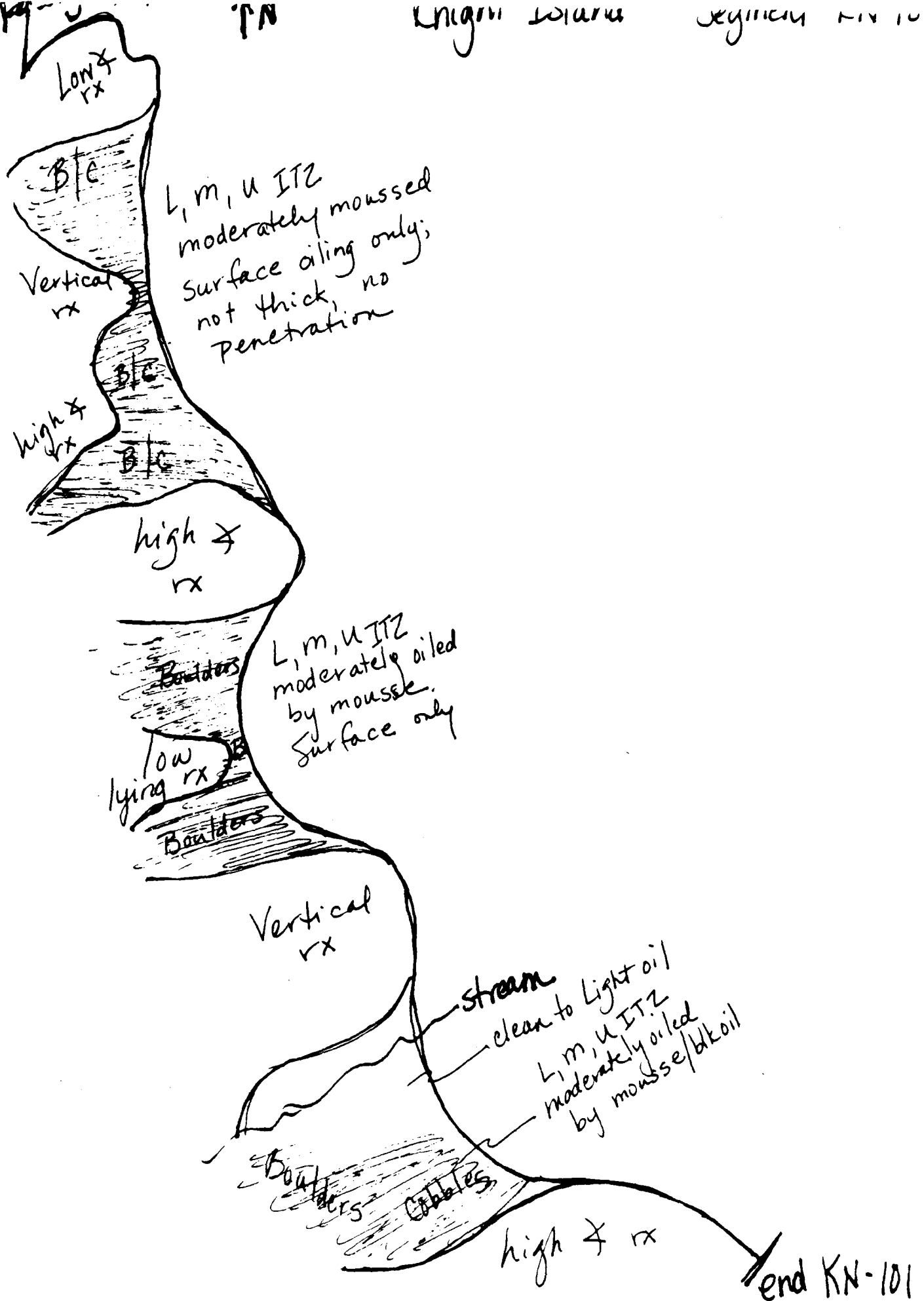
B/W Roll # _____ Frames _____

Observer(s) C. Wilson

Time survey started _____ 1350 Time survey ended 1410

Cultural resource considerations/restraints:

if heretofore undiscovered cultural resources are uncovered during cleanup contact Exxon archaeologist, C. Hobbs, immediately.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 6, 1989

SHORELINE SEGMENT KN-102

LOCATION: (see enclosed map) Knight Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 4/29/89

Recommended Cleanup Activity(ies):

Low pressure hot water for first wash since beaches are more pebbly and finer grained.

Continue with low pressure high volume cold rinse.

Priorities Considerations:

May try hot water, high pressure in areas of coarser sediments (upper intertidal zone).

Ecological Constraints (from site survey):

None-organisms in oiled zone are already dead. Oiling occurs to the water line (at low tide).

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Charles E. Holmes
State Historic Preservation Officer *

Date: May 6, 1989

EXXON: J. J. [Signature]

Date: 5/9/89

FOSC: C. E. [Signature]

Date: 5/16/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

[revised 17 Apr 89]

SHORELINE OIL EVALUATION

Date: 4 / 29 / 89

Observer: C. Dilloz

Time: 14 h 15 m

Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

LOCATION Knight Island

SITE West 1 (one)

LOCATION PREFIX KN

SEGMENT NUMBER KN-102

LATITUDE: 6 d m s

LONGITUDE: 147 d m s

LENGTH OF SHORELINE SEGMENT: 650 m

ACCESS: Foot/Vehicle/BOat/Barge/HELio/Float Plane

SHORELINE:

SHORELINE CHARACTER:

BEach/SPit/Cove/ /

Wave Exposure: High/Med/Low

Rock Y/N % 90 Vertical/High Angle/Low Angle

Sediment Y/N % 10 Types: B / C / P / G / S / M / R

Strand Line Y/N Algae/Debris/Logs

OIL

LOCATION OF OIL: SU / SP / H / M / L

CONTINUOUS: Y/N WIDTH OF BAND: m % of Segment

PATCHY: 10/20/30/40/50/60/70/80/90% coverage % of Segment 10 (only beach at 5'm 20m of segment)

EST. OIL THICKNESS: 4.25-4 cm EST. OIL PENETRATION: < 2 cm

POOLED OIL: Y/N "FREE" OIL: Y/N WEATHERED: Y/N

STRAND LINE CLEAN/OILED

SUMMARY OILING: Amount High/Med/Low
Coverage Extensive/Moderate/Light

COMMENTS: Segment starts at N. extent with approx 600m of rockface and steep boulder shoreline which is not feasible for cleaning and is only lightly oiled. The 20m beach at the Southernmost extent of the segment C:\WP\DATA\SHOREVAL.1 is moderately to heavily oiled and is the focal point of this report.

ECOLOGICAL EVALUATION

LOCATION: Knight Is SITE: West One OBSERVER: SMBLOCATION PREFIX: KN SEG. NO.: 102 LENGTH: 650 (M)DATE: 4/29/89 TIME (HHMM): 1430 TIDE HT.: -1 -0 (M)OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy (Y/N) Contin. Y/N Dense (Y/N) Sparse Y/N None Y/NDead in oiled zoneMytilus (Mussels): Patchy (Y/N) Contin. Y/N Dense Y/N Sparse (Y/N) None Y/NThese under rocks are dead - gappingBalanus (Barnacles): Patchy (Y/N) Contin. Y/N Dense Y/N Sparse (Y/N) None Y/NSeveral patches coveredLittorinaPatchy (Y/N) Contin. Y/N Dense Y/N Sparse (Y/N) None Y/NOne seen alive in oiled zoneLimpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None (Y/N)None observedOTHER OBSERVATIONS: mousse in water - bathtub ring on
rock faces before and after beachCLEANUP PRECAUTIONS: None - oiling to water at small
beach; organisms in oiled zone are already deadMAMMALS: Otters Harbor Seals Sea Lions Whales
Other NoneBIRDS: NoneGENERAL OBSERVATIONS: Possibility of "weeping" due
to mousse concentrations - clean

(version of 4/25/89)

CULTURAL RESOURCE EVALUATION FOR OILED SHORELINE

Date 4/29/89 Location Knight Island Site West One

Location Prefix KN Segment # KN02 Length 650m

Survey Method:

Air _____ (A - indicate on map) Boat ✓ (A - indicate on map)

Ground ✓ (G - indicate on map)

Known cultural resources (AHRS #) None Data Source None

Oil conditions/beach visibility moderate to heavy

Width of beach zone surveyed 2-5 m Tree fringe surveyed _____

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) CMT

General observations justifying survey method and segment's site probability:

Shore Profile Mostly steep wall face surrounded by beach brush with moderate slope and exposed rock some surveyed on ground

Fresh Water Sources one

Sea Exposure East moderate exposure

Access/Safety to beach good except at high tide

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # CW5 Frames 3

B/W Roll # _____ Frames _____

Observer(s) C. Mobley

Time survey started 1420 Time survey ended 1450

Cultural resource considerations/restraints:

If hereafter unidentified undiscovered cultural resources are uncovered during excavation notify Exxon archaeologist, C. Mobley immediately.

START HERE
↑
N

KNIGHT ISLAND

KN-102

Steep boulder slopes

moussed up to 4cm thick

light oil on LITZ

moderate oiling

Stream

Sloping boulders ~ 600m to
Beach is ~ 20m long

Boulders

Pebbles

gravel

Pebbles

gravel

moderate-heavy black oil

Gravel penetration up to 2cm
Surface oil up to 4cm thick

moderate-heavy mouse

strand
line

logs
(not oiled)

Pebbles
gravel

Cobbles
pebbles

Low
Lying
rocks

en
th

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 6, 1989

SHORELINE SEGMENT KN-103

LOCATION: (see enclosed map) Knight Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 4/29/89

Recommended Cleanup Activity(ies):

High pressure, hot water on rocky areas with dead vegetation.

Low pressure, high volume cold water in vicinity of large fresh water stream so as not to contaminate stream sediments.

Priorities Considerations:

Do not venture into clean areas near fresh water streams. Do not force oil into stream sediments.

Ecological Constraints (from site survey):

Do not clean past the first stream on the west side of the bay. The clean area extends to the large stream in the south of the bay. Cleaning should continue on the rocky beaches past this large stream.

*AWAY FROM STREAM
NOT IN OIL*
R.A.T. BIOLOGIST AUTHORIZES CLEANUP ACTIVITIES ON A SITE-BY-SITE BASIS.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Charles E. Holman
State Historic Preservation Officer *

Date: May 6, 1989

EXXON: [Signature]

Date: 5/9/89

FOSC: [Signature]

Date: 5/16/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

[revised 17 Apr 89]

SHORELINE OIL EVALUATION

Date: 4 / 29 / 89
Time: 14 h 55 m

Observer: C. Dillon
Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

LOCATION Knight Island
LOCATION PREFIX KN

SITE West Bay
SEGMENT NUMBER KN-103

LATITUDE: 6 ___ d ___ m ___ s

LONGITUDE: 147 d ___ m ___ s

LENGTH OF SHORELINE SEGMENT: 1700 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

SHORELINE CHARACTER: shallow

Beach/SPit/Cove ___/___

Wave Exposure: High/Med/Low

Rock (Y/N) 5 VERTICAL/High Angle/Low Angle

SEDIMENT (Y/N) 95 Types: B / C / P / G / S / M / R

Strand Line (Y/N) Algae/Debris/Logs

OIL

LOCATION OF OIL: SU / SP / H / M / L

CONTINUOUS: (Y/N) WIDTH OF BAND: 3-10 m % of Segment 55 70 ced

PATCHY: 10/20/30/40/50/60/70/80/90% coverage % of Segment 30

EST. OIL THICKNESS: 4.25-1 cm EST. OIL PENETRATION: 0-1 cm

POOLED OIL: (Y/N) "FREE" OIL: (Y/N) WEATHERED: (Y/N)

STRAND LINE CLEAN OILED

SUMMARY OILING: Amount High/Med/Low
Coverage Extensive/Moderate/Light

COMMENTS: Head of shallow cove is clean. Moderate to heavy oiling is on outer reaches of cove only. See diagram for details.

ECOLOGICAL EVALUATION

LOCATION: Knight SITE: West Bay OBSERVER: SmB
 LOCATION PREFIX: KN SEG. NO.: 103 LENGTH: 1700 (M)
 DATE: 4/29/89 TIME (HHMM): 1455 ~~1410~~ TIDE HT.: -1 to 0 (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy (Y/N) Contin. Y/N Dense (Y/N) Sparse Y/N None Y/N

Dense on rocks, healthy in lower ITZ, dead in ~~low~~ oiled zone

Mytilus (Mussels): Patchy (Y/N) Contin. Y/N Dense (Y/N) Sparse Y/N None Y/N

Mytilus on rocks upper ITZ is coated 10-15% gapping

Balanus (Barnacles): Patchy (Y/N) Contin. Y/N Dense (Y/N) Sparse Y/N None Y/N

coated, several touched - did not respond

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse (Y/N) None Y/N

Alive in oiled zone

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse (Y/N) None Y/N

Alive in oiled zone

OTHER OBSERVATIONS: Red algae, Ulva, healthy in lower ITZ

Black, sticky oil in upper ITZ south shore and west shore
South shore also has weathered mussel

CLEANUP PRECAUTIONS: Clean upper ITZ to first stream only area

Past this stream is clean to lightly oiled. Oiling resumes
on south shore past large stream DO NOT disturb this stream.

MAMMALS: Otters Harbor Seals Sea Lions Whales
 Other None

BIRDS: Shorebirds feeding in clean zone

GENERAL OBSERVATIONS: The streams in the SW area of the

Bay have cleaned this region. Heaviest oil is at the
beginning of the segment (NW) and end of the segment
(SE) clean only these areas.

(version of 4/25/89)

CULTURAL RESOURCE EVALUATION FOR OILED SHORELINE

Date 4/29/89 Location Knight Island Site West bay

Location Prefix KN Segment # KN103 Length 1700 m

Survey Method:

Air _____ (A - indicate on map) Boat _____ (A - indicate on map)

Ground ✓ (G - indicate on map)

Known cultural resources (AHRS #) SEW 236 Data Source AHRS files

Oil conditions/beach visibility none moderate but mostly light

Width of beach zone surveyed 2-7 m Tree fringe surveyed 20m

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) HNT

General observations justifying survey method and segment's site probability:

Shore Profile broad, mostly flat beach

Fresh Water Sources seven streams

Sea Exposure east - protected

Access/Safety excellent

Probability of undiscovered sites in beach zone (circle one) 1 2 (3) 4 5

Monitoring during cleanup needed yes/(no) Collection yes/(no)

Photos: Color Roll # CW-5 Frames 4, 5, 6, 7, 8, 9

B/W Roll # _____ Frames _____

Observer(s) C. Wilson

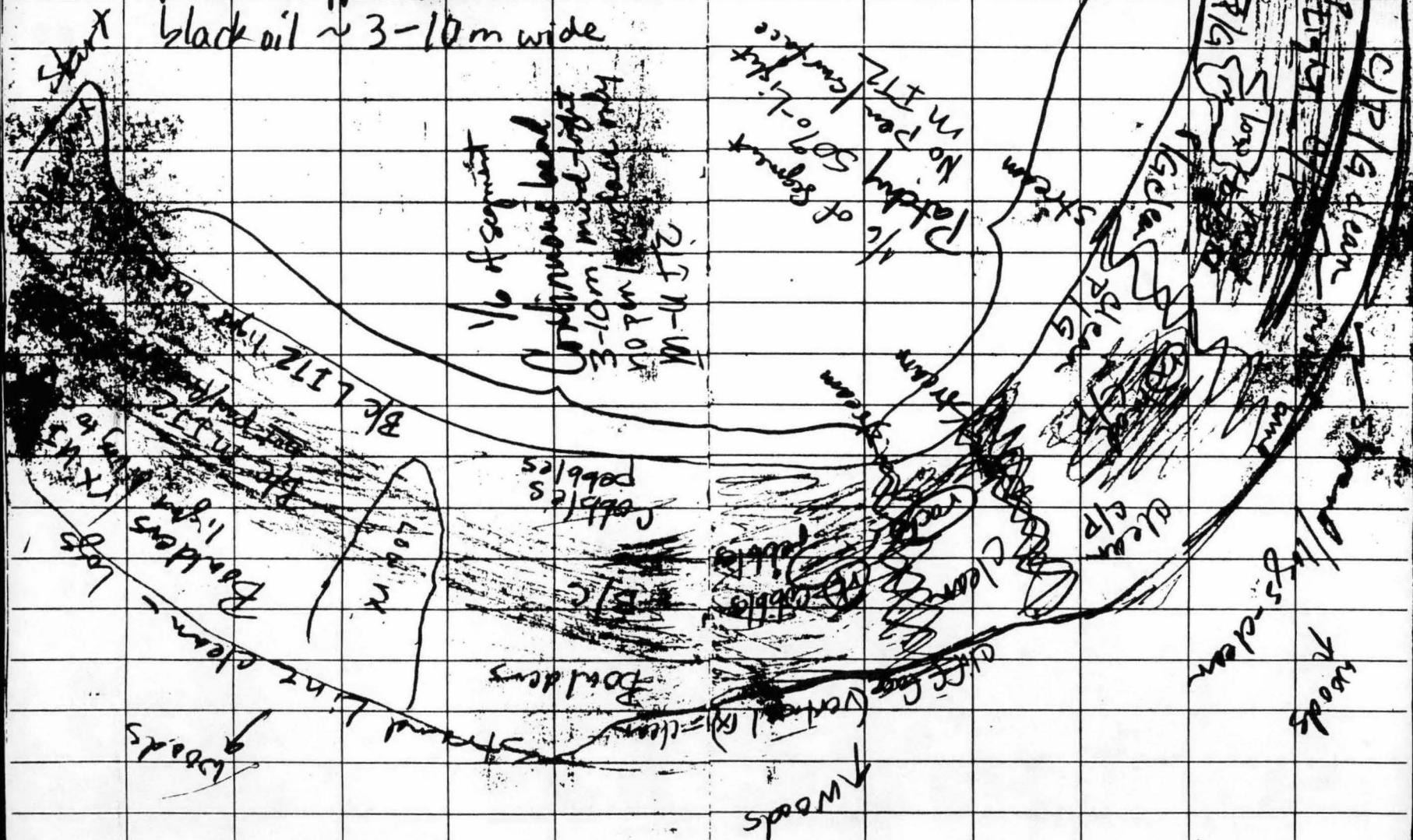
Time survey started 1455 Time survey ended 1620

Cultural resource considerations/restraints:

If heretofore undiscovered or unidentified cultural materials are recovered during summer cleanup notify Byron archaeologist, C. Hobbs, immediately.

1455 Segment K103 Beach
photo: roll K11 / 25-31 exposure #

Mid to Upper ITZ band of
black oil ~ 3-10 m wide



2nd 1/3 of Sept 403 roll 1/32-34

Cobbles/g/s
clean

Low
Gravel
clean s med o/s
s/m

stream
p/g

stream
Peb/gravel

Rocks

P/gravel
(x)

Peb
gravel

P/g
Peb
cobbles

Rock face

Boulders

P/g
clean s

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 6, 1989

SHORELINE SEGMENT KN-104

LOCATION: (see enclosed map) Knight Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 4/29/89

Recommended Cleanup Activity(ies):

Use hot water, high pressure water on rocky, coarse grained beaches.

Use hot water, low pressure on finer areas.

Vacuum free oil on beach before rinsing.

Priorities Considerations:

Clean on ebbing tide if using hot water. Use cold water if at low tide and healthy organisms are exposed.

Ecological Constraints (from site survey):

Avoid streams and lower ITZ clean areas. *AVOID STREAMS AND BANKS OF STREAMS UNLESS THE BIOLOGIST FROM THE R.A.T.*

AUTHORIZES CLEANUP ACTIVITIES ON A SITE-BY-SITE BASIS.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Charles E. Holmes
State Historic Preservation Officer *

Date: *May 6, 1989*

EXXON: *J. L. Henry*

Date: *5/6/89*

FOSC: *Q. E. Allen*

Date: *5/14/89*

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

SHORELINE OIL EVALUATION

[revised 17 Apr 89]

Date: 4 / 29 / 89

Observer: C. Dillon

Time: 16 h 25 m

Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

LOCATION Knight Island

SITE West Two (2)

LOCATION PREFIX KN

SEGMENT NUMBER KN-104

LATITUDE: 6 d m s

LONGITUDE: 147 d m s

LENGTH OF SHORELINE SEGMENT: 1725 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

SHORELINE CHARACTER:

Beach SPit/Cove/ /

Wave Exposure: High/Med/Low

Rock Y/N % 75 Vertical/High Angle Low Angle

Sediment Y/N % 25 Types: B / C / P / G / S / M / R

Strand Line Y/N Algae/Debris/Logs

OIL

LOCATION OF OIL: SU / SP / H / M / L mostly Middle to Upper I

CONTINUOUS: Y/N WIDTH OF BAND: See Comments % of Segment

PATCHY: 10/20/30/40/50/60/70/80/90% coverage % of Segment

EST. OIL THICKNESS: 0-2 cm EST. OIL PENETRATION: <2 cm

POOLED OIL: Y/N "FREE" OIL: Y/N WEATHERED: Y/N

STRAND LINE CLEAN/OILED

SUMMARY OILING: Amount High/Med/Low Coverage Extensive/Moderate/Light } prefers to beach areas only.

COMMENTS: Segment is a series of vertical/high & face rock alternating with beaches (4 beaches total). Face rock is only a light oil band whereas beaches vary in degree of oiling.

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See diagram for details. This report focuses mainly on the beach areas.

ECOLOGICAL EVALUATION

LOCATION: Knight Is. SITE: West Two OBSERVER: SMBLOCATION PREFIX: KN SEG. NO.: 104 LENGTH: ~~1750~~ 1725 (M)DATE: 4/29/89 TIME (HHMM): 1625 TIDE HT.: 1-2 (M)OILED ZONE: Splash High Medium LowSUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NDead in oiled zone Dense in some areas sparse in othersMytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NGaping (10%) others closedBalanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NClosedLittorinaPatchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NNone observedLimpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NNone observedOTHER OBSERVATIONS: Stream areas are clean - Bathing ring on
rock faces separating beachesCLEANUP PRECAUTIONS: Avoid Streams, ~~be~~ and any clean
areas in lower ITZMAMMALS: Otters None Harbor Seals None Sea Lions None Whales None
Other NoneBIRDS: RavenGENERAL OBSERVATIONS: Beaches are relatively small and separated
by rock faces with bathing ring.

(version of 4/25/89)

CULTURAL RESOURCE EVALUATION FOR OILED SHORELINE

Date 4/29/89 Location King Island Site West Two

Location Prefix KN Segment # KN/04 Length 17.25

Survey Method:

Air _____ (A - indicate on map) Boat ✓ (A - indicate on map)

Ground ✓ (G - indicate on map)

Known cultural resources (AHRS #) None Data Source None

Oil conditions/beach visibility medium to heavy

Width of beach zone surveyed 2 m Tree fringe surveyed 10m

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) None

General observations justifying survey method and segment's site probability:

Shore Profile 5 top wall faces except for beach with moderate slope and beaches two & three with steep slopes and uplands

Fresh Water Sources None

Sea Exposure east / moderate

Access/Safety _____

Probability of undiscovered sites in beach zone (circle one) 1 (2) 3 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # CW Frames 19/11

B/W Roll # _____ Frames _____

Observer(s) _____

Time survey started 1705 16.25 Time survey ended _____

Cultural resource considerations/restraints:

If heretofore undiscovered cultural material is identified during cleanup notify Exxon archaeological, E Mobley, immediately.

IN 1961 1961 1961 1961



Beach 1

M, U ITZ moderate-heavy black oil
2 cm thick on surface, < 2 cm penetration

stream ← clean sediments around stream
mousse up to 2 cm thick

stretch of vertical face rock
and steep boulder slopes

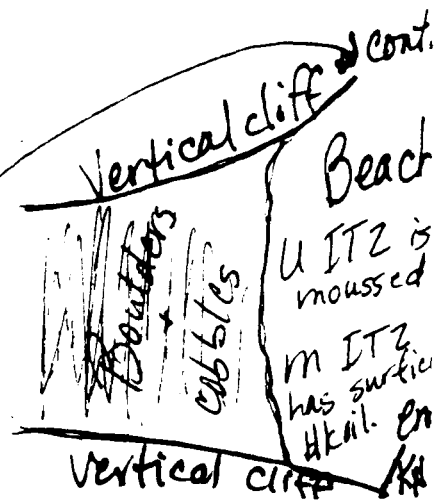
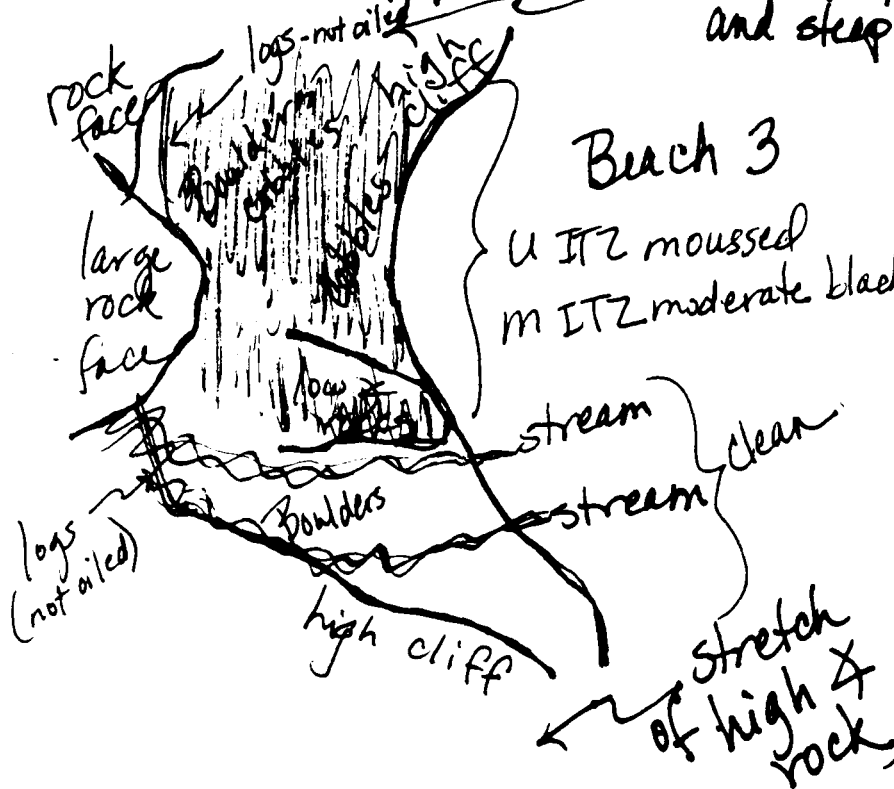
Beach 2

L, M, U ITZ moderate-heavy black oil
up to 2 cm thick on surface but
< 2 cm penetration

stretch of vertical face rock
and steep boulder slopes

Beach 3

U ITZ moussed
M ITZ moderate black oil



Beach

U ITZ is
moussed
M ITZ
has surfic
Hkil. En
Ka

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 6, 1989

SHORELINE SEGMENT KN-105

LOCATION: (see enclosed map) Knight Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 4/29/89

Recommended Cleanup Activity(ies):

Hot water flushing on moderately oiled areas, high pressure if coarse grained.

Priorities Considerations:

Do not use hot water in vicinity of streams where healthy vegetation is found.

Ecological Constraints (from site survey):

Avoid stream areas that appear to be clean. *AVOID STREAMS*

AND BANKS OF STREAMS UNLESS THE R.A.T. BIOLOGIST AUTHORIZES CLEANUP ACTIVITIES ON A SITE-BY-SITE BASIS

Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Charles E. Hanna

State Historic Preservation Officer *

Date: May 6, '89

J. Henry
EXXON: _____

Date: 5/9/89

ES. Dolbin
FOSC: _____

Date: 5/16/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

[revised 17 Apr 89]

SHORELINE OIL EVALUATION

Date: 4 / 29 / 89

Observer: C. Dillon

Time: 17 h 00 m

Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

LOCATION Knight Island

SITE West Three (3)

LOCATION PREFIX KN

SEGMENT NUMBER KN-105

LATITUDE: 6 d m s

LONGITUDE: 147 d m s

LENGTH OF SHORELINE SEGMENT: 1150 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

SHORELINE CHARACTER:

Beach/SPit/Cove/ /

Wave Exposure: High/Med/Low

Rock Y/N : 75 Vertical/High Angle/Low Angle and steep boulder slopes

Sediment Y/N : 25 Types: B / C / P / G S / M / R

Strand Line Y/N Algae/Debris/Logs

OIL

LOCATION OF OIL: SU / SP H / M / L

CONTINUOUS: Y/N WIDTH OF BAND: See Comments m % of Segment

PATCHY: 10/20/30/40/50/60/70/80/90% coverage % of Segment

EST. OIL THICKNESS: 0-1 cm EST. OIL PENETRATION: Surface only cm

POOLED OIL: Y/N "FREE" OIL: Y/N WEATHERED: Y/N

STRAND LINE CLEAN/OILED N/A only on part of first beach.

SUMMARY OILING: Amount High/Med/Low Coverage Extensive/Moderate/Light } refers to beach areas only.

COMMENTS: Majority of segment is vertical, high face rock and steep boulder slopes with 3 beaches in between. The rock face has a light band of oil at the high tide line which is not feasible for cleanup. This report concentrates on the beach areas only. See diagram for details.

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ECOLOGICAL EVALUATION

LOCATION: Knight Is. SITE: West Three OBSERVER: SM BamLOCATION PREFIX: KN SEG. NO.: 105 LENGTH: 1150 (M)DATE: 4/29/89 TIME (HHMM): 1700 TIDE HT.: +2-2 1/2 (M)OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTAFucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NDead in oiled zone OK in lower ITZMytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NDead (20% trapping) in oiled zoneBalanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NSome covered - ? DeadLittorinaPatchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NNone seenLimpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NNone seenOTHER OBSERVATIONS: This segment consists of 3 small beaches
separated by rock faces with bathtubbingCLEANUP PRECAUTIONS: Stream on first beach has successfully cleaned
that area. Avoid stream and lower ITZMAMMALS: Otters Harbor Seals Sea Lions Whales
Other NoneBIRDS: NoneGENERAL OBSERVATIONS: Variable oil conditions, generally
moderate - not expected to be a moiling problem.

(version of 4/25/89)

CULTURAL RESOURCE EVALUATION FOR OILED SHORELINE

Date 4/29/89 Location Kinglet Island Site West Three

Location Prefix KN Segment # KN105 Length 1150

Survey Method:

Air _____ (A - indicate on map) Boat ✓ (A - indicate on map)

Ground _____ (G - indicate on map)

Known cultural resources (AHRS #) None Data Source None

Oil conditions/beach visibility _____

Width of beach zone surveyed None m Tree fringe surveyed None

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) None

General observations justifying survey method and segment's site probability:

Shore Profile beaches are steep and heavily cobbled

Fresh Water Sources None

Sea Exposure East/moderate

Access/Safety fair except at high tide

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes no Collection yes no

Photos: Color Roll # 600 Frames _____

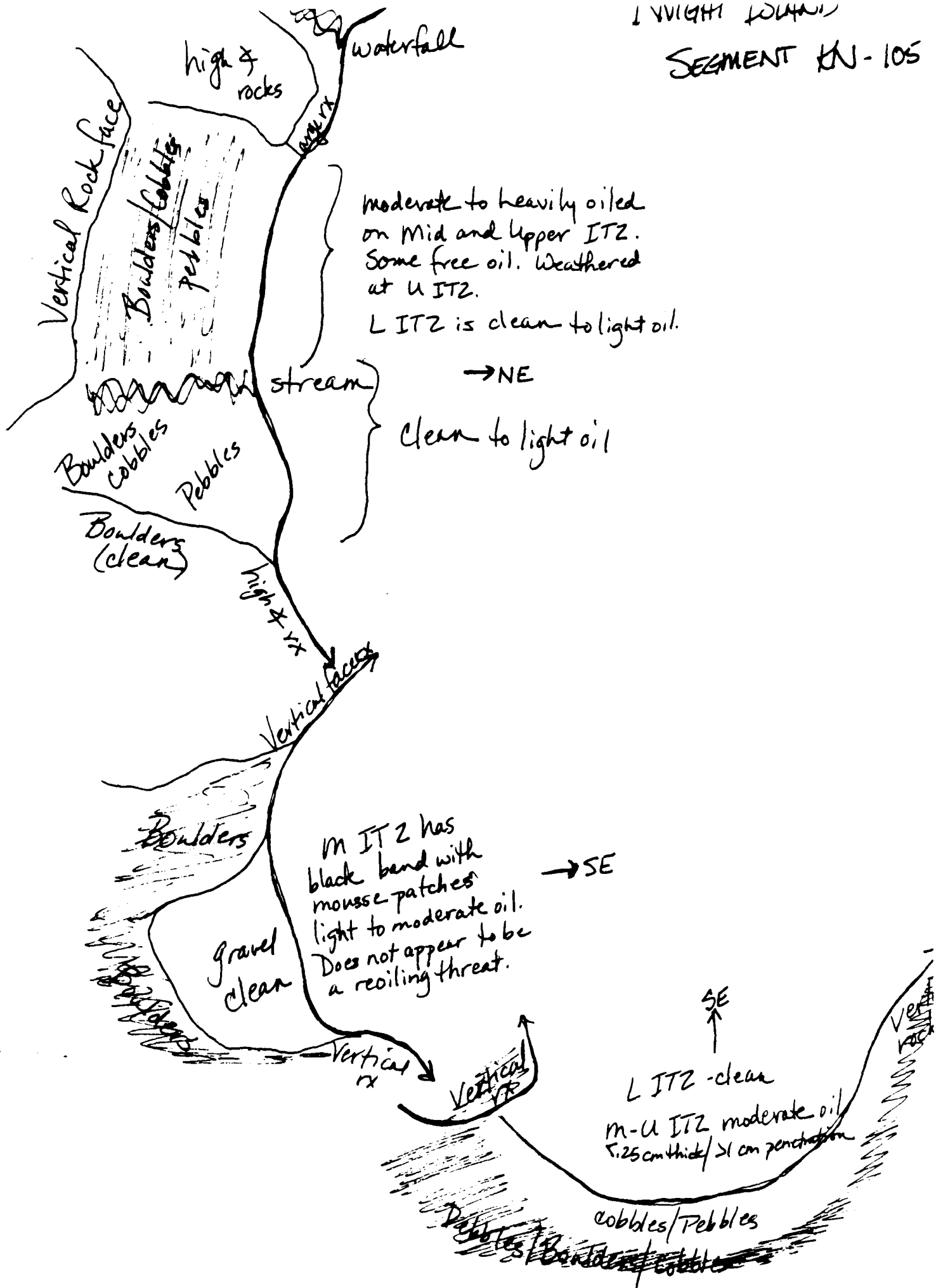
B/W Roll # _____ Frames _____

Observer(s) C. Wilson

Time survey started 1700 Time survey ended 1805

Cultural resource considerations/restraints:

If further undiscovered cultural resources are identified during cleanup notify Brian archaeologist, C. Mobley immediately.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 6, 1989

SHORELINE SEGMENT KN-106

LOCATION: (see enclosed map) Knight Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 4/29/89

Recommended Cleanup Activity(ies):
None recommended.

Priorities Considerations: '
None

Ecological Constraints (from site survey):
No constraints since clean-up is not recommended and an ecological evaluation form is not included. Should this "no further action" recommendation change, ecological re-evaluation should occur.

Archeological Constraints (from site survey):
If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Charles E. Homan
State Historic Preservation Officer *

Date: May 6, '89

EXXON: [Signature]

Date: 5/9/89

FOSC: [Signature]

Date: 5/16/89

* Signature required to satisfy stipulations in Alaska DNR
land use permits for tide and submerged lands .

[revised 17 Apr 89]

SHORELINE OIL EVALUATION

Date: 4 / 29 / 89

Observer: C. Dillon

Time: 17 h 30 m

Weather: Sun/ Cloud / Rain / Snow / Fog

LOCATION

LOCATION Knight Island

SITE Louis Bay Southeast

LOCATION PREFIX KN

SEGMENT NUMBER KN-106

LATITUDE: 6 d m s

LONGITUDE: 147 d m s

LENGTH OF SHORELINE SEGMENT: 7225 m

ACCESS: Foot / Vehicle / Boat / Barge / Helio / Float Plane

SHORELINE:

SHORELINE CHARACTER:

BEach / SPit / Cove / /

Wave Exposure: High / Med / Low

Rock (Y/N) % 90 Vertical/High Angle / Low Angle

Sediment (Y/N) % 10 Types: B / C / P / G / S / M / R

Strand Line (Y/N) Algae / Debris / Logs

OIL

LOCATION OF OIL: SU / SP / H / M / L None

CONTINUOUS: Y/N WIDTH OF BAND: m % of Segment

PATCHY: 10/20/30/40/50/60/70/80/90% coverage % of Segment

EST. OIL THICKNESS: cm EST. OIL PENETRATION: cm

POOLED OIL: Y/N "FREE" OIL: Y/N WEATHERED: Y/N

STRAND LINE CLEAN/OILED

SUMMARY OILING: Amount High/Med/Low
Coverage Extensive/Moderate/Light

COMMENTS: Segment consists of mostly vertical/high angle
face rock with a few small beaches. Most of
segment is clean or has only a small band of
light oil around the high tide level

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Photos taken on roll KN-2 exposures
23 to end

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 4-29-89 Location Knight Island Site Louis Bay SE

Location Prefix KN Segment # 106 Length 7225

Survey Method:

Air ✓ (A - indicate on map) Boat ✓ (A - indicate on map)

Ground (G - indicate on map)

Known cultural resources (AHRS #) SEW 337 Data Source ANAS Files

Oil conditions/beach visibility NO oil little oil

Width of beach zone surveyed m Tree fringe surveyed

Cultural resources observed in beach zone (AHRS code)

Cultural resources observed in tree fringe (AHRS code)

General observations justifying survey method and segment's site probability:

Shore Profile

Fresh Water Sources

Sea Exposure

Access/Safety

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 5

Monitoring during cleanup needed yes/no Collection yes/no

Photos: Color Roll # Frames

B/W Roll # Frames

Observer(s) CURT Wilson

Time survey started Time survey ended

Cultural resource considerations/restraints:

Cultural Resource Evaluation NOT completed. Cleanup NOT
recommended. NO constraints recommended IF cleanup
does NOT occur. IF cleanup occurs constraints
should be reconsidered.

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE May 6, 1989

SHORELINE SEGMENT KN-107

LOCATION: (see enclosed map) Knight Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 4/30/89

Recommended Cleanup Activity(ies):

Hot water, high pressure wash on rocky area at Beach 2.

Priorities Considerations:

Remove heavy oil due to re-oiling possibilities.

Ecological Constraints (from site survey):

Avoid streams and any zones of healthy looking (golden) FUCUS.

*AVOID STREAMS AND BANKS OF STREAMS UNLESS THE
R.A.T. BIOLOGIST AUTHORIZES CLEANUP ACTIVITIES ON
A CASE BY CASE BASIS*
Archeological Constraints (from site survey):

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Charles E. Johnson
State Historic Preservation Officer *

Date: May 6, 1989

EXXON: *John Henry*

Date: _____

FOSC: *W. S. [Signature]*

Date: 5/16/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands .

[revised 17 Apr 89]

SHORELINE OIL EVALUATION

Date: 4 / 30 / 89

Observer: C. Dillon

Time: 88 h 55 m

Weather: Sun / Cloud / Rain / Snow / Fog

LOCATION

LOCATION Knight Island

SITE East Point

LOCATION PREFIX KN

SEGMENT NUMBER KN-107

LATITUDE: 6 ___ d ___ m ___ s

LONGITUDE: 147 d ___ m ___ s

LENGTH OF SHORELINE SEGMENT: 650 m

ACCESS: Foot / Vehicle / Boat / Barge / Helio / Float Plane

SHORELINE:

SHORELINE CHARACTER:

Beach / SPit / Cove / ___ / ___

Wave Exposure: High / Med / Low

Rock Y/N % 85 Vertical / High Angle / Low Angle

SEdiment Y/N % 15 Types: B / C / P / G / S / M / R

Strand Line Y/N Algae / Debris / Logs

OIL

LOCATION OF OIL: SU / SP / H / M / L

CONTINUOUS: Y/N WIDTH OF BAND: ___ m % of Segment ___

PATCHY: 10/20/30/40/50/60/70/80/90% coverage % of Segment 15

EST. OIL THICKNESS: thin coating cm EST. OIL PENETRATION: None cm

POOLED OIL: Y/N "FREE" OIL: Y/N WEATHERED: Y/N

STRAND LINE CLEAN / OILED

Box S. most beach

SUMMARY OILING: Amount High / Med / Low
Coverage Extensive / Moderate / Light

COMMENTS: Boulders at South end of second beach are moderately oiled. Other beach areas are clean or lightly oiled.

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ECOLOGICAL EVALUATION

LOCATION: Knight Is. SITE: East Point OBSERVER: SmB

LOCATION PREFIX: KN SEG. NO.: 107 LENGTH: 650m (M)

DATE: 4/30/89 TIME (HHMM): 0815 TIDE HT.: +3 (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

dense in some areas sparse in others Areas of water line

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

May be ~~sparse~~ denser in subtidal since wearing high tide

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Same comment as ~~some~~ Mytilus

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

none observed

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

none observed

OTHER OBSERVATIONS: Area of water line First Beach
has bifurcating stream that has cleaned the beach
well

CLEANUP PRECAUTIONS: Avoid streams and any zones
of healthy-looking fucus

MAMMALS: Otters Harbor Seals Sea Lions Whales
Other None

BIRDS: None

GENERAL OBSERVATIONS: These beaches are ^{light to} moderately oiled.
~~Rocks~~ ^{Boulders} may cause some re-oiling esp. those near
the end of beach 2

(version of 4/25/89)

CULTURAL RESOURCE EVALUATION FOR OILED SHORELINE

Date 4/30/89 Location Knights Island Site East Range Point

Location Prefix KN107 Segment # KN107 Length 650m

Survey Method:

Air _____ (A - indicate on map) Boat _____ (A - indicate on map)

Ground ✓ (G - indicate on map)

Known cultural resources (AHRS #) None Data Source None

Oil conditions/beach visibility Beach 1 clean, Beach 2 light/moderate, Beach 3 moderate

Width of beach zone surveyed _____ m Tree fringe surveyed 10m

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) None

General observations justifying survey method and segment's site probability:

Shore Profile moderate sloped beaches of mostly gravel, uplands
Beach #3 steep beach 2 flat

Fresh Water Sources two small streams

Sea Exposure open to north

Access/Safety good

Probability of undiscovered sites in beach zone (circle one) 1 2 (3) 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # CW-5 Frames 26, 27, 28

B/W Roll # _____ Frames _____

Observer(s) C. Wilson

Time survey started 0815 Time survey ended 0905

Cultural resource considerations/restraints:

If hasty undiscovered cultural materials are
uncovered during cleanup notify Exxon archaeologist
C. Moley, immediately.

0810 4/30/89 East Pt. Sag KN-107

70 m of beach 50 m of rock reef

Access: boat, float plane.

Wave exp. med/lon

beach/cove

Continuous : 90%

3-6 m Continuous 90%

$R = \text{Vert} / \text{high} \times 100\%$

$S = B|C|P|G \quad _ \%$

Not pod/free/wx

KNIGHT ISLAND - LOWER PASSAGE (E. END)

Continues to point with vert. rock face (and steep boulder slope). 225 m

logs/clean

Beach
3
6m

mod. w/ M, U ITZ
4.25 cm / no penetration
not a recoiling problem

more
vert. base/sto.
x end of P
END KN-10x

650 m total

Beach 1
35m

$\uparrow N$

TREATMENT MANUAL, 6/15/89

SEG KN-101 INSPECTION # 1

SEGMENT

DATE 7/27/89

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment



Hot water wash



Mechanical



Warm water wash



Non-mechanical



Water deluge



Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Treatment of Segment KN-101 is complete and ready for demobilization to next segment.

Signature

Steve E. RamsowerDate: 7/27/89 Time: 1610

Printed Name

Steve E. RamsowerRF-2 Commander

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Subsurface Oil

Percent Degree of Oiling



Yes



No

0

Heavy

40%

Medium

45%

Light

25

Very Light

20

None

100 %

Comments

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep

Comments

No inspector provided

Signature

Date: / / Time:

Printed Name

FOSC rep

Demobilization approved/disapproved

Comments

No Gross Contamination7/27/8917-01Time: 1610

TREATMENT MANUAL, 6/15/89

SEG KN-102 INSPECTION # 1DATE 7/25/89SEGMENT
INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment



Hot water wash



Mechanical



Warm water wash



Non-mechanical



Water deluge



Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Treatment of segment KN-102 is complete and ready for demobilization to next segment.Signature Steve E. RamsauerDate: 7/25/89 Time: 1215Printed Name Steve E. Ramsauer TF-2 commander

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Subsurface Oil

Percent Degree of Oiling

☒ Yes☐ No1

Heavy

12

Medium

30

Light

35

Very Light

22

None

100 %

Comments light in beach area

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep Comments NONE provided

Signature

Date: / / Time:

Printed Name

FOSC rep

Demobilization approved/disapprovedComments No Gross ContaminationDate: 7/25/89 Time: 1221 hrs.

TREATMENT MANUAL, 6/15/89

SEG KN-103 INSPECTION # 1

SEGMENT

DATE 7/27/89

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment



Hot water wash



Mechanical



Warm water wash



Non-mechanical



Water deluge



Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Treatment of Segment KN-103 is complete and ready for demobilization to next segment.Signature Steve E. Ramsauer Date: 7/27/89 Time: 1615Printed Name Steve E. Ramsauer TF-2 commander

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Subsurface Oil

Percent Degree of Oiling

☐ Yes☒ No0

Heavy

5

Medium

20

Light

20

Very Light

55

None

100 %

Comments

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep Comments No inspection provided

Signature

Date: / / Time:

Printed Name

FOSC rep

Demobilization approved/disapprovedComments No Gross ContaminationA. M. 10-20Date: 7/27/89 Time: 161

SEG KW-104 INSPECTION # 1DATE 7/31/89SEGMENT
INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment



Hot water wash



Mechanical



Warm water wash



Non-mechanical



Water deluge



Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Treatment of segment KW-104 is complete
and ready for demobilization to next segment.Signature Steve E. Ramsower Date: 7/31/ Time: 1420Printed Name Steve E. Ramsower TF-2 Leader

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Subsurface Oil

Percent Degree of Oiling



Yes



No

_____	Heavy
<u>10%</u>	Medium
<u>25%</u>	Light
<u>20%</u>	Very Light
<u>45%</u>	None

100 %

Comments oil slick along upper
tidal in part of the gravel
coarse beach areas. Partly
@ other locations.

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep Comments not present - notified of inspection (initials)

Signature

Date: / / Time:

Printed Name

FOSC rep

Demobilization approved/disapprovedComments Approved for demobilization to next segment.Signature Steve E. RamsowerDate: 7/31/89 Time: 1428

SEG KW-105 INSPECTION # 1

SEGMENT

DATE 7/27/89

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment



Hot water wash



Mechanical



Warm water wash



Non-mechanical



Water deluge



Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Treatment of segment KW-105 is complete
and ready for demobilization to next segment.

Signature Steve E. Ramsauer Date: 7/27/89 Time: 1615

Printed Name Steve E. Ramsauer

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Percent Degree of Oiling

0

Heavy

5

Medium

20

Light

25

Very Light

50

None

100 %

Subsurface Oil



Yes



No

Comments

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep Comments No inspector provided

Signature

Date: / / Time:

Printed Name

FOSC rep

Demobilization approved/disapproved

Comments No Gross Contamination

Date: 7/27/89 Time: 1625

TREATMENT MANUAL, 6/15/89

SEG KW-106 INSPECTION # 1

SEGMENT

DATE 7/24/89

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment



Hot water wash



Mechanical



Warm water wash



Non-mechanical



Water deluge



Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Treatment of segment KW-106 is complete and ready for demobilization to next segment.Signature Steve E. Ramsauer Date: 7/24/89 Time: 1848Printed Name Steve E. Ramsauer TF-2 Commander

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Subsurface Oil

Percent Degree of Oiling



Yes



No

0

Heavy

Comments

2

Medium

1.5

Light

0

Very Light

98.5

None

100 %

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep Comments NO ADEC INSPECTION PROVIDED

Signature

Date: / / Time:

Printed Name

FOSC rep

Demobilization approved/disapproved

Comments

NO GROSS CONTAMINATION

SEG KN-107 INSPECTION # 1DATE 7/31/89SEGMENT
INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment



Hot water wash



Mechanical



Warm water wash



Non-mechanical



Water deluge



Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments Treatment of segment KN-107 is complete and ready for demobilization to next segment.Signature Steve E. RamsauerDate: 7/31/ Time: 1430Printed Name Steve E. Ramsauer TF-2 leader

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Percent Degree of Oiling

_____	Heavy
<u>5%</u>	Medium
<u>15%</u>	Light
<u>10%</u>	Very Light
<u>70%</u>	None

100 %

Subsurface Oil



Yes



No

Comments Pockets of MediumSUBSURFACE oil present.

Reassessment



Yes - necessary



No - not necessary unless re-oiled

ADEC rep

Comments Notified but not present.SignatureDate: / / Time:Printed Name

FOSC rep

Demobilization approved/disapprovedComments Some areas will continue to give off odors.SignatureDate: 7/31/89 Time: 1434

ISLL 8/28/84

8/28

NEED TO RECONCILE BOUNDARIES OF KN-132 AND KN-301

KN301 will go to the
northward border of
KN132

