Appendix 9. Oiled Marine Mammal Necropsy Form

F. 1. 7

Oiled Marine Mammal				Form completed by: Date: 3-26-11			
Gross Necropsy Report			Enforcemnent Officer:				
Spill Name: M< 252 & Mccordo				Strand/Capture location:			
Inimal Log#				Collecters Name:		, , , , , , , , , , , , , , , , , , , ,	
Level A Field # MCT2011023STag # L A-493				Intake date: 3-25~1\ Euthanasia		Euthanasia	
LEVELTATION				Death date:	• •	Time:	□yes
Species: Tuzzar truchs			Post mortem date:	7.26.11	Time:	12X ₀₀	
Sex: Fenale Age:							
Weight: kg. (estimate/actual)			Carcass_Classification: Frozen: □yes Kino				
		4(5)6 7 obese		(2- frest) 3	-fair (organs ir	ntact), 4-poor, 5- i	mummified
		Blubber dep		Photographs: 🔯			
Aeasurement		Bidbber dep		Radiographs:		i i	
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		0 0 4 4 CD FD		MICROBIOLOGY		SWABS: other	er
HYDROCARB				Lung 🗆			
bile	kidney	blubber/fat		Liver 🗆			
blood	musde	other:		other 🗆			
urine	lung , Intestine	•					
HISTOLOGY S							
			kidney	mammary gland	muscle	LYMPH NODES:	
ung	thyroid	ileum eelen	vreter	adrenal	gonad	colonic	gastric
rachea	tonsil	colon		skin	prostate	sublumbar	hepatic
neart	tongue	pancreas	urinary bladder	eye (L/R)	uterus	inguinal	mediastina!
aorta	esophagus	spleen	urethra	eye (L/K) fat-site:	vagina	axillary	submandibular
oulmonary artery	stomach	liver	blubber	IGISMC.	cervix	mesenteric	tracheobronchial
hymus	duodenum	gall bladder	bone marrow	uk ala ran-a	penis		
salivary gland other:	jejunum	brain	spinal cord	whole repro	beins		
Cause of dea	th (preliminar	y diagnosis):					
			Examiner's	signature:		Date:	
Examiner:			Laurinicio				

Northern Gulf UME Sample Collection Checklist (Franklin County, FL to LA/TX Border) March 9, 2011								
Photographs (see page 2) and morphometrics should be collected for all animals								
Chain of custody procedures	should be followed for ALL samples,	photographs, and datasheets $LA-49$	الم					
If the animal is visibly oiled p	lease call 877-433-8299 immediately	Field # MCT-2010325 CAC	- 10					
**indicates priority sample		FIEID# 1 12 1 00 10 353 04 10	-O (
PAH/Chemistry:	PAH/Chemistry con't	Biotoxins: 7	26-11					
Code 2 & 3, 10-20g or 5 ml	Freeze -20, foil, dult side in	Freeze -20, codes 2-4, 1 m or 5q:	•					
Freeze -20, I-chem vial or foil		**Feces ***Unine (if enough after PAH) Nane preser						
├ ─ / '	All conditions: nated	Trope (if enough after PAH) hone preser	rt					
Blubber	· /	Liver						
Liver	**Tongue depressor (visibly oiled)	N CIACI						
Lung	CYP 1A:	Parasites (codes 2 - 4):						
Kidney		1						
Freeze -20, I-chem or glass vial:	Code 2 & 3, 1 cm thick section:	in 70% isopropyl alcohol Evternal Representative sample from						
<u>**Bile</u>	Freeze, cryovial, -80 if possible	each species and each						
Wring hone present	Skin+full-thick blubber section	Internal location						
✓ Whole blood	Formalin, 10:1 ratio							
√ Aqueous humor	Skin+full-thick blubber section	Life History (Codes 2 - 5):						
		Freeze, -20:						
	Viral: (K.)	√ **Teeth (4 or whole mandible)						
Code 2 and early 3: 2 sets - 1 in RNA late	er vial and 1 in cryovial, both frozen at -80	✓ **Skin (isotope)						
Code late 3 and 4 - 1 set of priority samp		**Stomach whole (prey, biotoxin, & PAH)						
**Brain #RNA-later V-80	Grossly affected Lymph nodes and	(see stomach instructions page 2)						
Lung assoc LN-V RNA later V-80	other grossly affected tissues (list):	in DMSO or frozen:						
	No RNA later available	√ **Skin (genetics)						
v =-	NU KNA later available	V Oran (geneaco)						
**Spleen \(\int \text{RNA later} \) -80		Bacterial Culture Swabs or tissues:						
**Adrenal gland FRNA later								
Kidney <u>√RNA later</u> <u>√</u> -80		Code 2 Ship to lab immediately on ice packs						
**Liver \(\infty \text{ BNA-later \(\sqrt{\sqrt{-80}} \)		U lung assoc. lymph node						
		V **Brain <u>V</u> Liver						
Histolo	gy (code 2 & 3): (1/4)	V Spleen V**Lung						
Histolo 10% neutral buffered formalin, 1		V Spleen V**Lung Other at vet's discretion:						
10% neutral buffered formalin, 1	0:1 formalin:tissue ratio							
10% neutral buffered formalin, 1 Samples fixed in formalin should	0:1 formalin:tissue ratio	Other at vet's discretion:						
10% neutral buffered formalin, 10 Samples fixed in formalin should **Lung	0:1 formalin:tissue ratio d be no more than 1 cm thick							
10% neutral buffered formalin, 10 Samples fixed in formalin should ***Lung **Trachea	0:1 formalin:tissue ratio d be no more than 1 cm thick **Liver **Kidney	Other at vet's discretion:						
10% neutral buffered formalin, 10% neutral buffered formalin should **Lung **Trachea **Heart (all 4 chambers)	0:1 formalin:tissue ratio d be no more than 1 cm thick **Liver **Kidney **Adrenal Gland	Other at vet's discretion: Live animals: Blood:						
10% neutral buffered formalin, 10 Samples fixed in formalin should ***Lung ***Trachea ***Heart (all 4 chambers) Aorta	0:1 formalin:tissue ratio d be no more than 1 cm thick **Liver **Kidney **Adrenal Gland Urinary bladder	Other at vet's discretion: Live animals: Blood: Collect the following and please see						
10% neutral buffered formalin, 10 Samples fixed in formalin should **Lung **Trachea **Heart (all 4 chambers) Aorta Pulmonary Artery	0:1 formalin:tissue ratio d be no more than 1 cm thick **Liver **Kidney **Adrenal Gland Urinary bladder Blubber	Collect the following and please see preparation information on page 2						
10% neutral buffered formalin, 10 Samples fixed in formalin should **Lung **Trachea **Heart (all 4 chambers) Aorta Pulmonary Artery Thymus	0:1 formalin:tissue ratio d be no more than 1 cm thick	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K₃EDTA						
10% neutral buffered formalin, 10 Samples fixed in formalin should **Lung **Trachea **Heart (all 4 chambers) Aorta Pulmonary Artery	0:1 formalin:tissue ratio d be no more than 1 cm thick	Collect the following and please see preparation information on page 2 1 - 3ml purple top K ₃ EDTA 5 - 10 ml red/gray tiger top SST tubes						
10% neutral buffered formalin, 10 Samples fixed in formalin should **Lung **Trachea **Heart (all 4 chambers) Aorta Pulmonary Artery Thymus	0:1 formalin:tissue ratio d be no more than 1 cm thick **Liver **Kidney **Adrenal Gland Urinary bladder Blubber Skin Muscle (specify location) Eye (DR) Lim Histol	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K ₃ EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube						
10% neutral buffered formalin, 10% neutral buffered formalin, 10% samples fixed in formalin should with the samples fixed in formalin should with the samples fixed in the sample	0:1 formalin:tissue ratio d be no more than 1 cm thick **Liver **Kidney **Adrenal Gland Urinary bladder Blubber Skin Muscle (specify location) Eye ÛR) Gonad	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K ₃ EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube Freeze -80 in Teflon for PAH:						
10% neutral buffered formalin, 10 Samples fixed in formalin should **Lung **Trachea **Heart (all 4 chambers) Aorta Pulmonary Artery Thymus **Thyroid **Thyroid **Laryngeal Assoc. Lymph. Tissue	0:1 formalin:tissue ratio d be no more than 1 cm thick **Liver **Kidney **Adrenal Gland Urinary bladder Blubber Skin Muscle (specify location) Eye (DR) Lim Histol	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K₃EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube Freeze -80 in Teflon for PAH: Whole blood						
10% neutral buffered formalin, 10% neutral buffered formalin, 10% samples fixed in formalin should with the sh	0:1 formalin:tissue ratio d be no more than 1 cm thick **Liver **Kidney **Adrenal Gland Urinary bladder Blubber Skin Muscle (specify location) Eye ÛR) Gonad	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K₃EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube Freeze -80 in Teflon for PAH: Whole blood Swab:						
10% neutral buffered formalin, 10 Samples fixed in formalin should **Lung **Trachea **Heart (all 4 chambers) Aorta Pulmonary Artery Thymus **Thyroid **Laryngeal Assoc. Lymph. Tissue Pharynx Tongue	0:1 formalin:tissue ratio d be no more than 1 cm thick **Liver **Kidney **Adrenal Gland Urinary bladder Blubber Skin Muscle (specify location) Eye UR) Gonad Marmmary-Gland	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K ₃ EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube Freeze -80 in Teflon for PAH: Whole blood Swab: in viral transport media						
10% neutral buffered formalin, 10 Samples fixed in formalin should **Lung **Trachea **Heart (all 4 chambers) Aorta Pulmonary Artery Thymus **Thyroid **Laryngeal Assoc. Lymph. Tissue Pharynx Tongue Esophagus	0:1 formalin:tissue ratio d be no more than 1 cm thick	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K₃EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube Freeze -80 in Teflon for PAH: Whole blood Swab:						
10% neutral buffered formalin, 10 Samples fixed In formalin should **Lung **Trachea **Heart (all 4 chambers) Aorta Pulmonary Artery Thymus **Thyroid **Thyroid **Laryngeal Assoc. Lymph. Tissue Pharynx Tongue Esophagus Small Intestine (proximal, mid, distal)	0:1 formalin:tissue ratio d be no more than 1 cm thick	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K ₃ EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube Freeze -80 in Teflon for PAH: Whole blood Swab: in viral transport media						
10% neutral buffered formalin, 10 Samples fixed in formalin should **Lung **Trachea **Heart (all 4 chambers)	0:1 formalin:tissue ratio d be no more than 1 cm thick	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K ₃ EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube Freeze -80 in Teflon for PAH: Whole blood Swab: in viral transport media Blowhole Swab (ship immediately on ice packs if possible, if not, freeze at -80)						
10% neutral buffered formalin, 10 Samples fixed In formalin should **Lung **Trachea **Heart (all 4 chambers)	0:1 formalin:tissue ratio d be no more than 1 cm thick	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K ₃ EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube Freeze -80 in Teflon for PAH: Whole blood Swab: in viral transport media Blowhole Swab (ship immediately on ice						
10% neutral buffered formalin, 10 Samples fixed in formalin should **Lung **Trachea **Heart (all 4 chambers) Aorta Pulmonary Artery Thymus **Thyroid **Laryngeal Assoc. Lymph. Tissue Pharynx Tongue Esophagus Small Intestine (proximal, mid, distal) Colon Pancreas **Spleen Spinal Cord (specify location)	0:1 formalin:tissue ratio d be no more than 1 cm thick	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K ₃ EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube Freeze -80 in Teflon for PAH: Whole blood Swab: in viral transport media Blowhole Swab (ship immediately on ice packs if possible, if not, freeze at -80)						
10% neutral buffered formalin, 10 Samples fixed in formalin should **Lung **Trachea **Heart (all 4 chambers) Aorta Pulmonary Artery Thymus **Thyroid **Laryngeal Assoc. Lymph. Tissue Pharynx Tongue Esophagus Small Intestine (proximal, mid, distal) Colon Pancreas **Spleen Spinal Cord (specify location)	O:1 formalin:tissue ratio d be no more than 1 cm thick	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K ₃ EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube Freeze -80 in Teflon for PAH: Whole blood Swab: in viral transport media Blowhole Swab (ship immediately on ice packs if possible. If not, freeze at -80) Tursiops <115 cm (see also pg 2): Code 2/early 3 or visibly oiled: necropsy ASAP by netwok vet						
10% neutral buffered formalin, 10 Samples fixed In formalin should **Lung **Trachea **Heart (all 4 chambers) Aorta Pulmonary Artery Thymus **Thyroid **Laryngeal Assoc. Lymph. Tissue Pharynx Tongue Esophagus Small Intestine (proximal, mid, distal) Colon Pancreas **Spleen Spinal Cord (specify location) **Brain (cerebrum, **0	0:1 formalin:tissue ratio d be no more than 1 cm thick	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K ₃ EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube Freeze -80 in Teflon for PAH: Whole blood Swab: in viral transport media Blowhole Swab (ship immediately on ice packs if possible. If not, freeze at -80) Tursiops <115 cm (see also pg 2): Code 2/early 3 or visibly oiled: necropsy ASAP by netwok vet **Radiograph (before necropsy -						
10% neutral buffered formalin, 10 Samples fixed in formalin should a "*Lung	O:1 formalin:tissue ratio d be no more than 1 cm thick	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K ₃ EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube Freeze -80 in Teflon for PAH: Whole blood Swab: in viral transport media Blowhole Swab (ship immediately on ice packs if possible. If not, freeze at -80) Tursiops <115 cm (see also pg 2): Code 2/early 3 or visibly oiled: necropsy ASAP by netwok vet **Radiograph (before necropsy - dorso-ventral view skull & body)						
10% neutral buffered formalin, 10 Samples fixed in formalin should a "*Lung	O:1 formalin:tissue ratio d be no more than 1 cm thick	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K ₃ EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube Freeze -80 in Teflon for PAH: Whole blood Swab: in viral transport media Blowhole Swab (ship immediately on ice packs if possible, if not, freeze at -80) Tursiops <115 cm (see also pg 2): Code 2/early 3 or visibly oiled: necropsy ASAP by netwok vet "Radiograph (before necropsy - dorso-ventral view skull & body) "*Fetus/neonate datasheet						
10% neutral buffered formalin, 10 Samples fixed in formalin should a "*Lung	O:1 formalin:tissue ratio d be no more than 1 cm thick	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K ₃ EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube Freeze -80 in Teflon for PAH: Whole blood Swab: in viral transport media Blowhole Swab (ship immediately on ice packs if possible. If not, freeze at -80) Tursiops <115 cm (see also pg 2): Code 2/early 3 or visibly oiled: necropsy ASAP by netwok vet **Radiograph (before necropsy - dorso-ventral view skull & body) **Fetus/neonate datasheet **Skull and skeleton, freeze intact						
10% neutral buffered formalin, 10 Samples fixed in formalin should **Lung **Trachea **Heart (all 4 chambers) Aorta Pulmonary Artery Thymus **Thyroid **Laryngeal Assoc. Lymph. Tissue Pharynx Tongue Esophagus Small Intestine (proximal, mid, distal) Colon Pancreas **Spleen Spinal Cord (specify location) **Brain (cerebrum, cerebeilum, stem, pituitary) Pregnant or postpo	O:1 formalin:tissue ratio d be no more than 1 cm thick	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K ₃ EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube Freeze -80 in Teflon for PAH: Whole blood Swab: in viral transport media Blowhole Swab (ship immediately on ice packs if possible. If not, freeze at -80) Tursiops <115 cm (see also pg 2): Code 2/early 3 or visibly oiled: necropsy ASAP by netwok vet "Radiograph (before necropsy dorso-ventral view skull & body) **Fetus/neonate datasheet **Skull and skeleton, freeze intact **Umbilical stump & body wall (formalin)						
10% neutral buffered formalin, 10 Samples fixed In formalin should **Lung **Trachea **Heart (all 4 chambers) Aorta Pulmonary Artery Thymus **Thyroid **Laryngeal Assoc. Lymph. Tissue Pharynx Tongue Esophagus Small Intestine (proximal, mid, distal) Colon Pancreas **Spleen Spinal Cord (specify location) **Brain (cerebrum, cerebellum, stem, pituitary) **Trachea Pregnant or postp. Uterine horn:	O:1 formalin:tissue ratio d be no more than 1 cm thick	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K ₃ EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube Freeze -80 in Teflon for PAH: Whole blood Swab: in viral transport media Blowhole Swab (ship immediately on ice packs if possible. If not, freeze at -80) Tursiops <115 cm (see also pg 2): Code 2/early 3 or visibly oiled: necropsy ASAP by netwok vet **Radiograph (before necropsy - dorso-ventral view skull & body) **Fetus/neonate datasheet **Skull and skeleton, freeze intact						
10% neutral buffered formalin, 10 Samples fixed In formalin should **Lung **Trachea **Heart (all 4 chambers) Aorta Pulmonary Artery Thymus **Thyroid **Laryngeal Assoc. Lymph. Tissue Pharynx Tongue Esophagus Small Intestine (proximal, mid, distal) Colon Pancreas **Spleen Spinal Cord (specify location) **Brain (cerebrum, cerebellum, stem, pituitary) **Placenta: Culture swab **Placenta: Culture swab	O:1 formalin:tissue ratio d be no more than 1 cm thick	Live animals: Blood: Collect the following and please see preparation information on page 2 1 - 3ml purple top K ₃ EDTA 5 - 10 ml red/gray tiger top SST tubes 1 red top tube Freeze -80 in Teflon for PAH: Whole blood Swab: in viral transport media Blowhole Swab (ship immediately on ice packs if possible. If not, freeze at -80) Tursiops <115 cm (see also pg 2): Code 2/early 3 or visibly oiled: necropsy ASAP by netwok vet "Radiograph (before necropsy dorso-ventral view skull & body) **Fetus/neonate datasheet **Skull and skeleton, freeze intact **Umbilical stump & body wall (formalin)						

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Other Samples Collected:								
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Standardized external photographs - As feasible, please collect the following from all animals:

Whole body: left side, right side, dorsal, ventral Close ups: Dorsal fin, head, genitals Neonate add: umbilicus, tongue/mouth

Tursiops <115 cm additionl details:

Code 2 OR early code 3 OR visibly oiled - any condition: These animals should be necropsied as soon as possible by a stranding netwrok veterinarian. If your vet is unavailable, call the stranding pager and we will help find you an alternative. Please collect dorso-ventral view radiographs of the skull & body before necropsy. Please save the entire skull and skeleton. When collecting the urinary bladder for histo be sure to collect it whole or collect the tip and include the urachus.

Late code 3 - 5 (no visible oil): These should be frozen whole. Please collect your external PAH swabs at the stranding site. Please take external photographs and the genetics skin sample in DMSO before freezing. If time allows, please score the external neonate charactaristics from the neonatal characters data sheet

Blood preparation instructions - Blood from live animals:

The following blood tubes are for CBC, serum chemistry and serum electrophoresis:

Send 1st samples from intake or beach to Cornell and a pre-release sample to Cornell, other diagnostics may be done locally Send on ice packs the night of collection, if not possible, send the next morning:

- 1 3ml purple top K3EDTA refrigerate, send whole on ice packs
- 1 10 ml red/gray tiger top SST tube spin and refrigerate, send on ice packs

The following blood tubes are for hormones and can be shipped to cornell in batches:

(hormones include: cortisol, progesterone, testosterone, aldosterone and thyroid hormones - total T4, free T4 and total T3) 2 - 10 ml red/gray tiger top SST tubes - spin and remove the serum from both into a 5 ml cryovial, freeze at -80, ship on dry ice

Serum for archive:

1 - 10 ml red/gray tiger top SST tube - spin, remove serum into a cryovial and archive at -80

Serum for biotoxin:

1 - 10 ml red/gray tiger top SST tube - spin, remove serum into a cryovial, freeze at -20 until shipment on dry ide

Buffy coat (if possible):

1 red top tube, spin, carefully remove buffy coat into a cryovial and freeze at -80

Blood preparation instructions - Blood from dead animals:

Tursiops calves <115 cm - code 2 : Use red/gray tiger top SST tubes, collect as much blood as possible from a heart stick spin, remove serum into a cryovial, freeze at -20 for future shipment, will be used for electrophoresis

Code 2 or 3 - please collect whole blood in an i-chem or glass vial and freeze at -20 for PAH

Stomach special instructions:

Tie off the stomach at both ends. Remove whole stomach and freeze in plastic. Do not open it! A person will be identified who will receive the stomachs, examine them for internal lesions, collect histology samples of lesions as needed, identify the prey and subsample for biotoxins

PAH/Chemistry:

If you have questions regarding collection methodology, please see attached Appendicies 6 & 7 from the Marine Mammal Oil Spill Response Guidelines