

# **MONITORING PLAN FOR THE MONTARA WELL RELEASE, TIMOR SEA**

## **MONITORING STUDY S3 “ASSESSMENT OF FISH FOR THE PRESENCE OF OIL”**

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**By**

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## 1.0 BACKGROUND

An offshore oil well in the Timor Sea operated by PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEPAA) failed on 21 August 2009 with a consequent blowout of high pressurized oil, condensate and gas. This incident became known as the Montara Spill in the media. The release continued until 3rd November, 2009 when “well kill” was declared. There is some uncertainty regarding the rate of hydrocarbon leakage from the well head, but over the period of almost eleven weeks, the estimated average rate of discharge was 400 barrels of crude oil per day (Storrie, 2010).

The initial spill occurred in a key area (Zone B, Figure 1) of the Northern Demersal Scalefish Managed Fishery (NDSF). This fishery is managed by the Western Australian Department of Fisheries through Offshore Constitutional Settlement arrangements in place with the Commonwealth Government. Other offshore fisheries, such as the Mackerel Interim Managed Fishery, the Northern Shark Fishery also occur in the area, as well as offshore recreational species such as sailfish. However fishing effort for these species is low in these offshore waters compared with the NDSF fishery; hence this study concentrates on species targeted by the NDSF. The target species for this fishery are Goldband snapper (*Pristipomoides multidens*), Red emperor (*Lutjanus sebae*) and other premium value fish.

The West Australian Department of Fisheries (DoF) were contracted to undertake a sampling program to determine whether fish from the NDSF had been tainted with hydrocarbons from the Montara Spill as part of the initial environmental impact assessment.

## 2.0 STUDY OBJECTIVE

The study objective was to determine whether fish species targeted by the NDSF had been exposed to hydrocarbons and whether consumption of fish from the affected areas of the NDSF posed a health risk. This study was focused on consumer health issues; other studies address the wider issues of the effect of spilt oil on the fish populations and fish habitat.

Four key NDSF species were targeted, including:

- *Pristipomoides multidens* (Goldband snapper)
- *Lutjanus sebae* (Red emperor)

And two from the following list; to be selected according to the abundance of the species in the test catch:

- *Scomberomorus commerson* (Mackerel)
- *Lutjanus malabaricus* (Saddletail snapper)
- *Epinephelus multinotatus* (Rankin cod)
- *Epinephelus bleekeri* (Duskytail grouper)

- *Lethrinus nebulosus* (Spangled emperor)
- *Epinephelus areolatus* (Yellowspotted rockcod)

The study was undertaken on a chartered NDSF commercial vessel. Fishing was undertaken using standard commercial techniques within the impacted and un-impacted “control” areas.

### **3.0 SITE SELECTION**

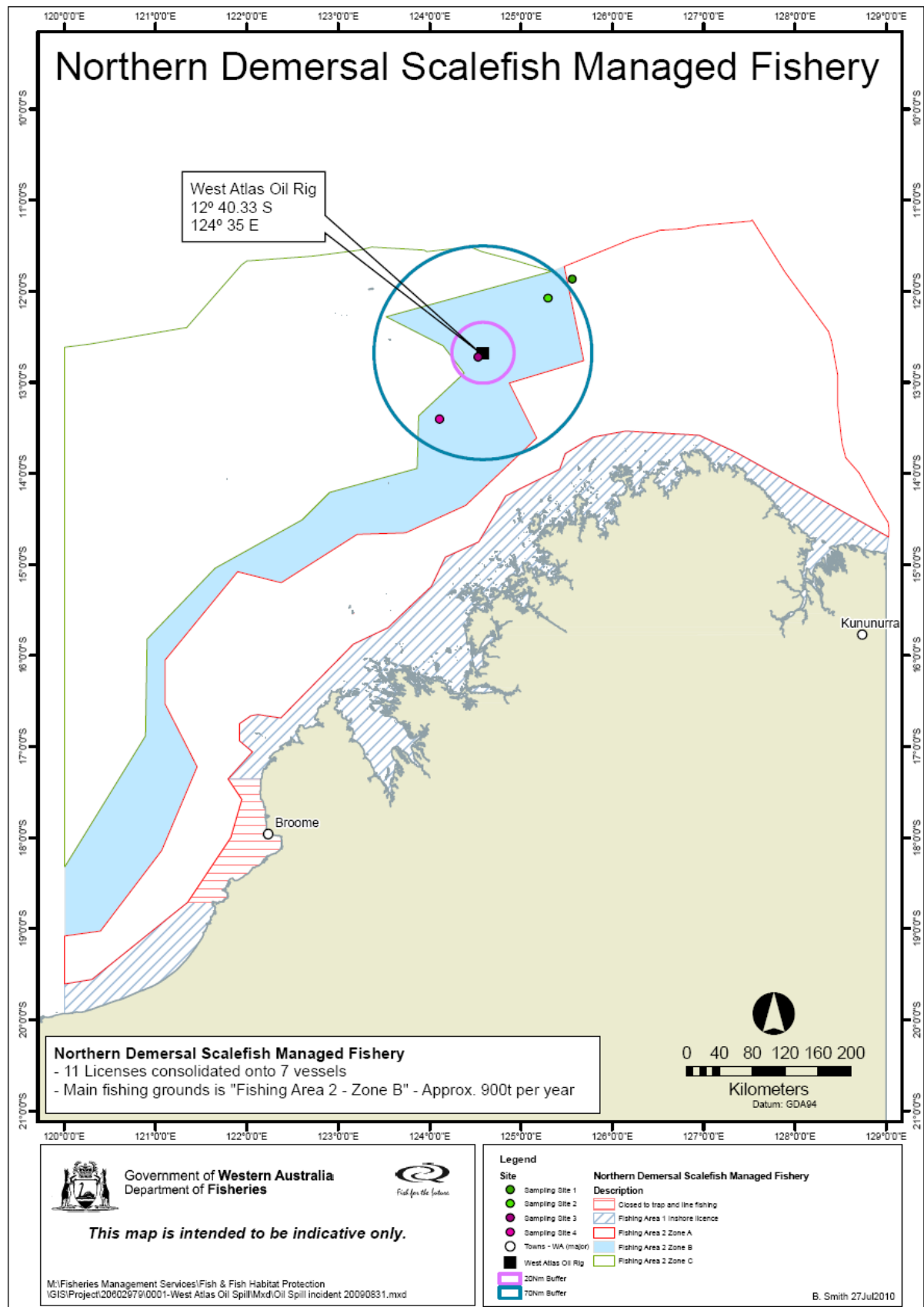
Site selection was based on information from the following sources:

- Situation reports from the Western Australian Department of Transport (DoT) during and after the spill.
- Satellite images purchased from Landgate by DoF.
- Information provided by PTTEP based on monitoring and modelled data.

Where possible, sites were chosen to replicate those sampled by Curtin University for Scientific Study S4A in their initial survey in November 2009. Consideration was also given to ensuring that the selected sites were areas where oil had been observed over the longest period and during the later period of the spill.

Unfortunately, in the period between surveys, Curtin University’s control (unaffected) sites had become contaminated with hydrocarbons and therefore it was not an option to use these sites as originally planned. The control sites for this study were identified using all available information including DoT situation reports, satellite images and modelled data provided by PTTEP.

Two sites were chosen from the affected area and two sites within the control area. All sites were in areas known to be commercially productive fishing grounds.



**Figure 1: Map of sampling locations with respect to the West Atlas drilling rig and Northern Demersal Scalefish Managed Fishery Zones.**

## **4.0 METHODS**

### **4.1 SAMPLING PROTOCOL**

For the four targeted species, twenty fish per species were collected within the oil-impacted area and the same number of samples from the unimpacted control area.

To avoid hydrocarbon contamination from other sources, fish samples were collected using the following protocol:

- Fish for analysis were placed on a clean oil-free surface for examination and dissection. These surfaces were cleaned with methanol prior to fish contact.
- All instruments were cleaned with detergent and water and then rinsed with methanol.
- Tissues for hydrocarbon analysis were placed in glass jars with Teflon-lined lids. A replicate sample was wrapped in methanol-treated aluminium foil, then placed in a zip lock plastic bag.
- The jars and plastic bags were labelled with all relevant information including: species, location, identification number and date.
- The sample number is related to a record containing species name, size, type of tissue, handling details, capture location, capture depth and all observations of health, presence of visible oil, etc.
- All samples were immediately placed in a freezer and transported frozen. The shipping container had a “chain of custody tag” attached. This ensured that samples could be tracked to ensure validity until they reached the analytical lab.

### **4.2 FIELD SAMPLING**

This sampling trip was undertaken from the 9-19<sup>th</sup> January 2010, departing from, and returning to, the Port of Darwin. A previous trip planned for late December was cancelled due to a cyclone.

Sampling was undertaken using baited demersal fish traps in a standard commercial manner. Fishing was undertaken in a depth range of 70-105 m, which is representative of the depth range targeted by commercial operators in the NDSF.

Upon capture all fish were identified, observed for any outwardly visible signs of abnormality or physical stress, and measured. The sex and reproductive stage was also recorded (Appendix 1). Approximately 100 g of muscle tissue was taken per sample for hydrocarbon analysis. The remaining muscle tissue was kept for later taste or olfactory testing analysis if required. Two gut samples per species from each site were kept for hydrocarbon analysis.

Water samples were collected at each site using a weighted 1 litre glass bottle which was suspended 1 metre below the sea surface. Each sample was collected from an area ahead of the vessel (i.e. not disturbed by the passage of the hull). Two 1 litre samples and one smaller 40 ml sample were collected from each site. One 1 litre sample was immediately frozen, while the other 1 litre and 40 ml sample were refrigerated.

Due to rough conditions at sea during this trip the samples collected at the affected sites (sites 3 and 4), were taken back to Darwin for processing at the Northern Territory (NT) Fisheries laboratory.

#### **4.2.1 Site 1 (11° 52.35 S, 125° 33.18 E)-Control site (11-12 January 2010)**

No surface films or sheens were observed at this site. Sampling commenced upon arrival at Site 1 on 11 January and continued until the required samples were collected and processed on 12 January.

There were no visible signs to suggest that the general health of all fish observed was anything but normal. Water samples were collected prior to departure to Site 2.

#### **4.2.2 Site 2 (12° 08.59 S, 124° 18.68 E)-Control site (12-13 January 2010)**

No surface films or sheens were observed at this site. Sampling commenced upon arrival at Site 2 on 12 January and continued until the required samples were collected and processed on 13 January.

There were no visible signs to suggest that the general health of all fish observed was anything but normal. Water samples were collected prior to departure to Site 3.

#### **4.2.3 Site 3 (12° 43.02 S, 124° 30.45 E)-Affected site (14-15 January 2010)**

Sampling at Site 3 began immediately upon arrival and was carried out in close proximity to the disabled rig. Visible surface sheens were evident throughout the area (Figure 2).

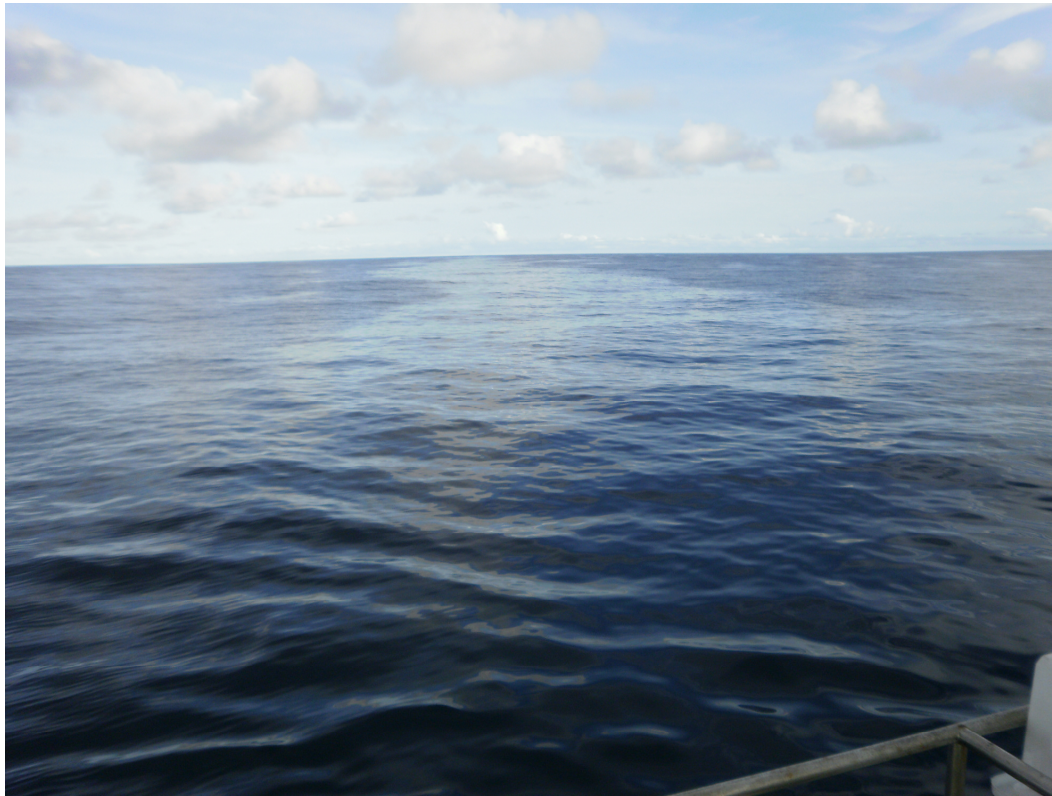
As this was an oil-impacted site, care was taken during trapping operations to ensure that no incidental contamination of samples occurred during hauling operations.

There were no visible signs to suggest the general health of all fish was anything but normal. Water samples were collected prior to departure to Site 4.

#### **4.2.4 Site 4 (13° 24.61 S, 124° 05.84 E) -Affected site (16-17 January 2010)**

Sampling was carried out in close proximity to Heywood Shoal. The conditions at this site were similar to those observed at Site 3, i.e. visible slicks of sheen were evident throughout the area and appeared to be identical to that observed for Site 3. Rough conditions were experienced at this site and the same precautions were taken as for site 3 to ensure that no incidental contamination of samples occurred during hauling.

Water samples were collected prior to departure for Darwin.



**Figure 2: Visible slicks on the surface at Site 3.**

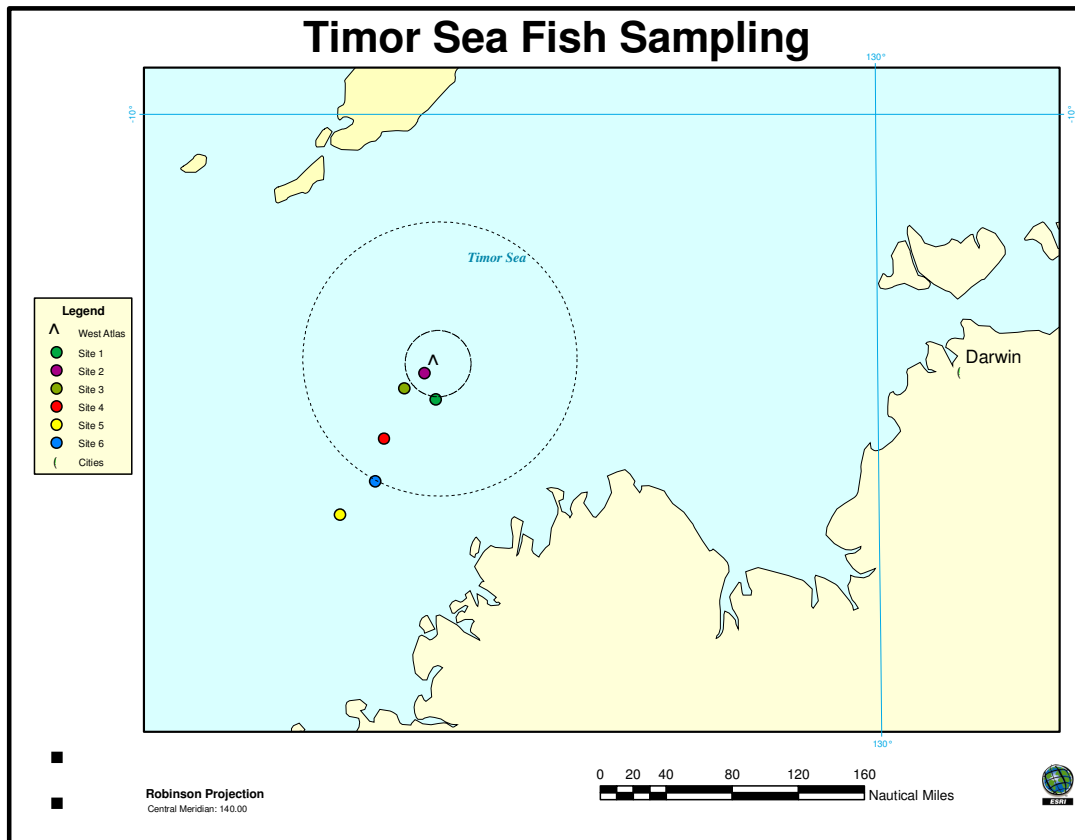
Due to rough sea conditions that were experienced for extended periods of the day while sampling sites 3 and 4, the decision was made not to undertake dissections at sea, but bring the samples back to Darwin for dissection at the NT Fisheries laboratory.

Upon retrieval of traps, whole fish samples were placed in holding containers filled with brine.

#### **4.3 ADDITIONAL SAMPLES COLLECTED BY CURTIN UNIVERSITY**

An additional 101 muscle samples and 95 gut samples were collected by Curtin University from 9-16 November 2009, during a sampling trip for monitoring study 4 A (Assessment of Effects on Timor Sea Fish) and were incorporated into this study. These samples were collected during a period when there was a quantity of visible hydrocarbons on the water surface. Sample sites are indicated in Figure 3. These samples were collected in an identical manner to those collected during the WA DoF Survey.





**Figure 3: Map showing the location of the West Atlas drilling rig and the Curtin University sampling sites. Concentric rings represent 20 and 80 NM from the platform. Sites 1, 2, 3 and 4 were designated as impacted sites and Sites 5 and 6 were designated as reference sites. (Source: Monitoring Study 4A Field Report Curtin University)**

#### 4.4 LABORATORY DISSECTIONS

Due to rough sea conditions all fish collected from Sites 3 and 4 were dissected at the NT Fisheries laboratory in Darwin upon completion of the trip.

The same procedure was followed as that undertaken at sea, where fish were measured and then examined for physical abnormalities or unusual characteristics prior to dissection.

During this procedure one Red emperor (*Lutjanus sebae*) from Site 4 gave off a strong “oily” odour. This observation was verified by other Fisheries staff present at the time. No noticeable odour was evident when handling this fish after capture at sea, however strong wind conditions and an open air environment would have made detection of an odour difficult compared with enclosed laboratory conditions. Results of hydrocarbon analysis and further discussion on this specimen can be found in section 5.1.

Fish samples were sent to the National Measurement Institute (NMI) laboratory in Brisbane.

#### 4.5 LABORATORY CHEMICAL ANALYSIS

Fish samples were defrosted and then prepared in a mechanical blender. Hydrocarbons were extracted with dichloromethane. Internal standards were added to extracts to track recovery. Extracts then had interfering lipids removed by gel permeation chromatography. Half of the extract was further cleaned by normal phase silica chromatography and analysed by selected ion monitoring (SIM) for polynuclear aromatic hydrocarbons (PAH) by gas chromatography mass spectrometry (GCMS). Samples were analysed for the standard EPA list of 16 priority pollutants. A high ratio of phenanthrene to pyrene in samples would indicate unburned oil content. In addition, the ratio of 1,3,6,7-tetramethyl naphthalene (TeMN) to dibenzothiophene has been found to be diagnostic for Montara crude oil (Liu et al., 2005).

A sample of NAPL (non-aqueous phase liquid) from an oil/water sample recovered by fishermen from one of the Montara oil slicks was given to WA Fisheries. This was sent to CSIRO Land and Water Laboratory (Floreath, WA) for analysis and comparison with results of Montara-1 crude oil analysed in 2003. After positive confirmation, this sample was sent to NMI as a reference sample. Confirmation of oil content in the samples was done using a scan for the ion  $m/z$  57 (Reddy and Quinn, 1999).

The other half of the extract was cleaned by acidified silica gel chromatography (Muijs and Jonker, 2009) and analysed for saturated hydrocarbons in the C10 to C36 range by flame ionization gas chromatography (GC).

Volatile hydrocarbons (C6 to C9) were analysed by purge and trap into a GCMS. An aliquot of methanol was added to a water filled Purge & Trap vial and analysed by Purge & Trap GC/MS. The method is suitable for the determination of BTEX and hydrocarbons in the TPH C<sub>6</sub> to C<sub>9</sub> range.

The Limit of Reporting was  $0.01 \text{ mg kg}^{-1}$  for most individual polynuclear aromatic hydrocarbons,  $0.5 \text{ mg kg}^{-1}$  for most BTEX compounds,  $25 \text{ mg kg}^{-1}$  for  $\text{C}_6\text{-C}_9$  total hydrocarbons,  $50 \text{ mg kg}^{-1}$  for  $\text{C}_{10}\text{-C}_{14}$  and  $100 \text{ mg kg}^{-1}$  for  $\text{C}_{15}\text{-C}_{28}$  and  $\text{C}_{29}\text{-C}_{36}$  total hydrocarbons. NMI are NATA accredited to analyse for PAHs in fish and biota at an LOR of  $0.01 - 0.02 \text{ mg/kg}$ . The analysis was done using GC/MS set to SIM/SCAN mode. All chromatograms were checked for trace PAHs down to the detection limit i.e. the LOR is  $0.01 \text{ mg/kg}$  which equates to approx  $0.003 \text{ mg/kg}$  detection limit. The GC/MS was also set up to analyse selected oil markers (tetramethyl naphthalenes and dibenzothiophene, SIM mode) which are good indicators for the particular oil. Markers in the oil sample supplied by CSIRO were easily detected verifying that the markers had not been affected greatly by photodegradation or biodegradation.

## **5.0 RESULTS**

### **5.1 ANALYSIS**

Results of analysis of volatile (BTEX) and semi-volatile aromatic hydrocarbons (PAH) and total petroleum hydrocarbons (TPH) are given in the summary tables in Appendix 4. The data are arranged in order of the laboratory acquisition number and sorted according to the sampling sites from the DoF and Curtin University field trips. The fleshy muscle samples and the analysis of the guts of selected fish are presented separately for the sites of each sampling trip.

Examination of the data provided for fish flesh showed no petroleum hydrocarbons above the detection limits for BTEX, PAH or TPH (Appendix 4). The oil biomarkers tetramethyl naphthalene and dibenzothiophene did not show detectable levels in the fish flesh (Appendix 4).

Two samples of fish guts from Site 4 (Curtin University and DoF Site 4 were the same) and 1 fish tissue sample from Site 2 showed detectable levels of total petroleum hydrocarbons (Appendix 4). These samples are discussed below.

#### **6656:**

This gut sample had TPH concentrations in the  $\text{C}_{15}\text{-C}_{28}$  region. The profile could not be matched to a crude oil profile. The hydrocarbons detected were judged to be biogenic in origin.

#### **W10/006655:**

This gut contents sample (sample site 4, fish no 92, Rainbow runner) did not have reportable levels of TPH but displayed an FID chromatographic profile that indicated trace petroleum hydrocarbons. Insufficient sample was provided for a repeat analysis so confirmation was not possible. Oil markers were not determined since the sample was tested for TPH only and the TPH preparation procedure degrades PAH oil markers. This sample was collected by Curtin University on 12<sup>th</sup> November 2009, shortly after "well kill". This species inhabits coastal waters and offshore reefs and feed on invertebrates (larger crustaceans of the zooplankton) and small fishes.

**W10/06542:**

This tissue sample had TPH concentrations in the C<sub>15</sub>-C<sub>28</sub> region. The profile could not be matched to a crude oil profile. The hydrocarbons detected were judged to be biogenic in origin.

Sample W10/002252 which gave off a strong “oily” odour during dissection in the lab, showed no detectable levels of petroleum hydrocarbons in either the gut or tissue (Appendix 4). Therefore it is concluded that this strong odour was probably limited to the skin of the fish as it swam through contaminated water. This species came from site 4 which was an affected site in close proximity to Heywood shoal which showed visible sheen.

Water samples (Appendix 1) showed no petroleum hydrocarbons above detectable levels.

## **6.0 DISCUSSION AND CONCLUSION**

The fish analysed in this study were demersal and pelagic species collected during sampling trips in November 2009 and January 2010. Both sampling trips occurred after the oil leak had stopped, although the samples obtained by Curtin University were only a few days after the ‘well kill’, whereas the WA Department of Fisheries trip was not possible until two months after “well kill”. A cyclone event occurred in late December and probably assisted in breaking up the remaining surface oil in the area.

Studies by Burns et al., 2001, 2004 on the Australian North West Shelf and in the Gulf of Papua have demonstrated rapid transport of petroleum hydrocarbons through the oceanic water column to the sediments. This rapid degradation is often mediated by hydrocarbon-degrading microbes, which in turn are a food source for zooplankton. Therefore some oil is likely to have settled to the sea bed in the faecal pellets from zooplankton. Conover (1971) estimated zooplankton settled about 20% of the Bunker C oil into the coastal sediments, spilled from the Tanker “Arrow” near Chedabucto Bay in Canada.

A detailed study around the area of the Montara platform in 2005 measured hydrocarbon fluxes in sediment traps of oil PAHs through the stations at the shelf break of 500 m at a rate of 1,000 ng m<sup>-2</sup>d<sup>-1</sup> increasing to a rate of 6,300 ng m<sup>-2</sup> d<sup>-1</sup> at the 90 m station near the platform (Burns et al., 2010). These measured fluxes were from the natural oil seeps and the ordinary activities of the oil industry. With the volume of oil on the sea surface due to the well blow-out, it would be expected that the flux rates would be orders of magnitude higher.

It has been known for many years that fish have inducible enzyme systems for clearing their tissues of petroleum hydrocarbons (Burns, 1976 and many others since). A study around the Harriet A production platform, that was discharging produced formation water with known oil content, showed that fish living nearby had significant levels of hydrocarbon degrading enzymes (Codi-King et al., 2005). Hydrocarbon degrading bacteria have also been found in the liver and bile of fish

from the North West Shelf (Johnson, 2001; Codi-King et al, 2005). These studies on the ability of fish to degrade oil, could account for the fact that none of the fish in this study had petroleum hydrocarbons in their tissue above the analytical detection limits.

The Australia New Zealand Food Standards Code does not specify maximum level limits for any compounds found in petroleum. Standard 1.4.1 of the Code sets out the maximum levels (MLs) of specified metal and non-metal contaminants and natural toxicants in nominated foods. As a general principle, regardless of whether or not an ML exists, the levels of contaminants and natural toxicants in all foods should be kept As Low As Reasonably Achievable (the ALARA principle). The Code does not base its maximum levels on concentrations found after a disaster, such as an oil spill, but rather on a risk assessment based on normal environmental levels.

In 2004, Food Standards of Australia New Zealand conducted a “Survey of polycyclic aromatic hydrocarbons (PAH) in Australian Foods: Dietary Exposure Assessment and Risk Characterization.” In this survey they collected and analysed a variety of common foods for their PAH content. Appendix 5 contains 3 tables from this report. The first, labelled Table 2 reports the concentrations of PAH found in a selection of common Australian food items. The second table provides a global context, by comparing benzo[a] pyrene concentrations (as a measure of PAH levels) in common foods from five countries. These analyses show that there is some measurable exposure of consumers to these compounds, but the report demonstrates that these levels posed no significant risk to consumers.

In 2002, The US National Oceanic and Atmospheric Administration published a report “Managing seafood safety after an oil spill” (Yender, et al., 2002). Some relevant data has been reproduced in Appendix 6. Their Table II-7 lists the tissue concentrations of PAHs ( $\mu\text{g kg}^{-1}$ ) and their persistence in various marine organisms analysed after several ship grounding oil spills. The various fish analysed contained from a low of 1.3 to a high of 14,000  $\mu\text{g kg}^{-1}$ . The results from this Montara study would fit into this summary as  $<10 \mu\text{g kg}^{-1}$ . This is at the low end of the summarized range and within the environmental background levels found at some areas in other countries.

In summary, it is concluded that the fish species from these two sampling trips would probably have been safe to eat as no detectable petroleum hydrocarbons were found in the fish muscle samples. However these samples were not taken while the while the oil was flowing; the Curtin University field trip was almost one week post “well kill” and DoF field trip two months, after capping of the leak). Therefore these results only relate to the sampling period and can not be extrapolated directly to the period when oil was actively flowing.

As a precautionary measure to ensure consumer safety the Department of Fisheries advised the commercial fishing fleet to avoid fishing in oil-affected waters and it is the Department’s understanding that commercial fishers voluntarily undertook fishing operations outside this affected areas.

This study was focused on consumer health issues and does not relate to other physiological or ecological impacts the oil may have had on the fish or on the

broader marine ecosystem, or possible tainting. These are addressed in other studies.

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## **9.0 APPENDICES**

Appendix 1: Department of Fisheries Water Sample Results

Appendix 2: Department of Fisheries Sample Site Collection Data

Appendix 3: Curtin University Sample Site Collection Data

Appendix 4: Results for Analyses of Petroleum Hydrocarbons in Fish Flesh and Guts

Appendix 5: Selected tables from “Survey of polycyclic aromatic hydrocarbons (PAH) in Australian Foods: Dietary Exposure Assessment and Risk Characterisation.”

Appendix 6: Extract from “Managing seafood safety after an oil spill”



		Poly aromatic hydrocarbons															BTEX					Total Petroleum Hydrocarbons						
SIT	DATE	Napt		Ace	Acena	Fluor	Phena	Anthra	Fluora	Pyren	Benz(a	Chrys	Benzo	Benzo	Indeno	Dibenz	Benzo	Total	Benze	Toluen	Ethylb	Xylene	Total	TPH	TPH	TPH	TPH	Tota
		hale	napt	pt	ene	ene	threne	cene	thenee	acene	ene	(b+k)fl	(a)pyr	(1,2,3, (a,h)an	(g,h,i) perylene	PAH's (as above)	ne	e	enzen	e	BTEX	C6 - C9	C10 - C14	C15 - C28	C29 - C36	TPH		
No.	Method	WL207	WL207	WL207	WL207	WL207	WL207	WL207	WL207	WL207	WL207	WL207	WL207	WL207	WL207	WL207	WL207	WL244	WL244	WL244	WL244	WL44	WL244	WL203	WL203	WL203	WL203	WL203
		07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07
4	1/1/10	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.16	<1.0	<1.0	<1.0	<2.0	<5.0	<25	<25	<100	<10	<25	
2	13/1/10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.16	<1.0	<1.0	<1.0	<2.0	<5.0	<25	<25	<100	<10	<25		
3	15/1/10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.16	<1.0	<1.0	<1.0	<2.0	<5.0	<25	<25	<100	<10	<25		
4	16/1/10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.16	<1.0	<1.0	<1.0	<2.0	<5.0	<25	<25	<100	<10	<25		

## Appendix 2: Department of Fisheries Sample Site Collection Data

Date	Analysis No.	Species	Sample ID	FL (mm)	Sex	Stage	Tissue type	Preservation method	Comments
<i>Site 1 Unaffected Area, Depth 85-90m, Coordinates Lat: 11°52.35 S Long: 125°33.18 E</i>									
11/01/2010	W10/002041	<i>Lutjanus sebae</i>	RE Site 1 01	420	F	4	Flesh	Frozen	
11/01/2010	W10/002042	<i>Lutjanus sebae</i>	RE Site 1 02	479	F	4	Flesh	Frozen	
11/01/2010	W10/002043	<i>Lutjanus sebae</i>	RE Site 1 03	398	F	4	Flesh	Frozen	Gut samples
11/01/2010	W10/002044	<i>Lutjanus sebae</i>	RE Site 1 04	485	F	5	Flesh	Frozen	W10/002343
11/01/2010	W10/002045	<i>Lutjanus sebae</i>	RE Site 1 05	592	M	8	Flesh	Frozen	W10/002344
11/01/2010	W10/002046	<i>Lutjanus sebae</i>	RE Site 1 06	580	M	8	Flesh	Frozen	
11/01/2010	W10/002047	<i>Lutjanus sebae</i>	RE Site 1 07	586	M	8	Flesh	Frozen	
11/01/2010	W10/002048	<i>Lutjanus sebae</i>	RE Site 1 08	515	F	4	Flesh	Frozen	
11/01/2010	W10/002049	<i>Lutjanus sebae</i>	RE Site 1 09	444	M	8	Flesh	Frozen	
11/01/2010	W10/002050	<i>Lutjanus sebae</i>	RE Site 1 10	588	M	8	Flesh	Frozen	
11/01/2010	W10/002051	<i>Lutjanus sebae</i>	RE Site 1 11	456	F	6	Flesh	Frozen	
11/01/2010	W10/002052	<i>Lutjanus sebae</i>	RE Site 1 12	460	F	6	Flesh	Frozen	
11/01/2010	W10/002053	<i>Lutjanus sebae</i>	RE Site 1 13	545	M	8	Flesh	Frozen	
11/01/2010	W10/002054	<i>Lutjanus sebae</i>	RE Site 1 14	445	F	6	Flesh	Frozen	
11/01/2010	W10/002055	<i>Lutjanus sebae</i>	RE Site 1 15	445	F	6	Flesh	Frozen	
11/01/2010	W10/002056	<i>Lutjanus sebae</i>	RE Site 1 16	420	F	5	Flesh	Frozen	
11/01/2010	W10/002057	<i>Lutjanus sebae</i>	RE Site 1 17	500	F	6	Flesh	Frozen	
11/01/2010	W10/002058	<i>Lutjanus sebae</i>	RE Site 1 18	470	F	5	Flesh	Frozen	
11/01/2010	W10/002059	<i>Lutjanus sebae</i>	RE Site 1 19	450	F	6	Flesh	Frozen	
11/01/2010	W10/002060	<i>Lutjanus sebae</i>	RE Site 1 20	465	F	6	Flesh	Frozen	
11/01/2010	W10/002001	<i>Lutjanus malabaricus</i>	SP Site 1 01	433	M	8	Flesh	Frozen	
11/01/2010	W10/002002	<i>Lutjanus malabaricus</i>	SP Site 1 02	492	F	8	Flesh	Frozen	
11/01/2010	W10/002003	<i>Lutjanus malabaricus</i>	SP Site 1 03	415	F	5	Flesh	Frozen	Gut samples
11/01/2010	W10/002004	<i>Lutjanus malabaricus</i>	SP Site 1 04	517	F	5	Flesh	Frozen	W10/002339
11/01/2010	W10/002005	<i>Lutjanus malabaricus</i>	SP Site 1 05	467	F	4	Flesh	Frozen	W10/002339
11/01/2010	W10/002006	<i>Lutjanus malabaricus</i>	SP Site 1 06	474	M	8	Flesh	Frozen	
11/01/2010	W10/002007	<i>Lutjanus malabaricus</i>	SP Site 1 07	530	F	5	Flesh	Frozen	
11/01/2010	W10/002008	<i>Lutjanus malabaricus</i>	SP Site 1 08	466	F	4	Flesh	Frozen	
11/01/2010	W10/002009	<i>Lutjanus malabaricus</i>	SP Site 1 09	585	M	8	Flesh	Frozen	
11/01/2010	W10/002010	<i>Lutjanus malabaricus</i>	SP Site 1 10	440	F	8	Flesh	Frozen	

Date	Analysis No.	Species	Sample ID	FL (mm)	Sex	Stage	Tissue type	Preservation method	Comments
11/01/2010	W10/002011	<i>Lutjanus malabaricus</i>	SP Site 1 11	370	M	2	Flesh	Frozen	
11/01/2010	W10/002012	<i>Lutjanus malabaricus</i>	SP Site 1 12	543	M	8	Flesh	Frozen	
11/01/2010	W10/002013	<i>Lutjanus malabaricus</i>	SP Site 1 13	476	F	7	Flesh	Frozen	
11/01/2010	W10/002014	<i>Lutjanus malabaricus</i>	SP Site 1 14	472	M	8	Flesh	Frozen	
11/01/2010	W10/002015	<i>Lutjanus malabaricus</i>	SP Site 1 15	580	M	8	Flesh	Frozen	
11/01/2010	W10/002016	<i>Lutjanus malabaricus</i>	SP Site 1 16	447	M	8	Flesh	Frozen	
11/01/2010	W10/002017	<i>Lutjanus malabaricus</i>	SP Site 1 17	516	F	4	Flesh	Frozen	
11/01/2010	W10/002018	<i>Lutjanus malabaricus</i>	SP Site 1 18	508	F	7	Flesh	Frozen	
11/01/2010	W10/002019	<i>Lutjanus malabaricus</i>	SP Site 1 19	477	M	8	Flesh	Frozen	
11/01/2010	W10/002020	<i>Lutjanus malabaricus</i>	SP Site 1 20	487	F	5	Flesh	Frozen	
12/01/2010	W10/002021	<i>Pristipomoides multidens</i>	GB Site 1 01	524	M	8	Flesh	Frozen	
12/01/2010	W10/002022	<i>Pristipomoides multidens</i>	GB Site 1 02	404	F	2	Flesh	Frozen	
12/01/2010	W10/002023	<i>Pristipomoides multidens</i>	GB Site 1 03	491	M	8	Flesh	Frozen	Gut sample
12/01/2010	W10/002024	<i>Pristipomoides multidens</i>	GB Site 1 04	542	M	8	Flesh	Frozen	W10/002337
12/01/2010	W10/002025	<i>Pristipomoides multidens</i>	GB Site 1 05	391	M	2	Flesh	Frozen	Gut sample
12/01/2010	W10/002026	<i>Pristipomoides multidens</i>	GB Site 1 06	552	M	8	Flesh	Frozen	W10/002338
12/01/2010	W10/002027	<i>Pristipomoides multidens</i>	GB Site 1 07	422	M	3	Flesh	Frozen	
12/01/2010	W10/002028	<i>Pristipomoides multidens</i>	GB Site 1 08	525	M	8	Flesh	Frozen	
12/01/2010	W10/002029	<i>Pristipomoides multidens</i>	GB Site 1 09	450	F	8	Flesh	Frozen	
12/01/2010	W10/002030	<i>Pristipomoides multidens</i>	GB Site 1 10	527	F	5	Flesh	Frozen	
12/01/2010	W10/002031	<i>Pristipomoides multidens</i>	GB Site 1 11	392	M	3	Flesh	Frozen	
12/01/2010	W10/002032	<i>Pristipomoides multidens</i>	GB Site 1 12	550	M	8	Flesh	Frozen	
12/01/2010	W10/002033	<i>Pristipomoides multidens</i>	GB Site 1 13	533	M	8	Flesh	Frozen	
12/01/2010	W10/002034	<i>Pristipomoides multidens</i>	GB Site 1 14	460	M	8	Flesh	Frozen	
12/01/2010	W10/002035	<i>Pristipomoides multidens</i>	GB Site 1 15	499	F	8	Flesh	Frozen	
12/01/2010	W10/002036	<i>Pristipomoides multidens</i>	GB Site 1 16	365	F	3	Flesh	Frozen	
12/01/2010	W10/002037	<i>Pristipomoides multidens</i>	GB Site 1 17	394	M	3	Flesh	Frozen	
12/01/2010	W10/002038	<i>Pristipomoides multidens</i>	GB Site 1 18	476	F	8	Flesh	Frozen	
12/01/2010	W10/002039	<i>Pristipomoides multidens</i>	GB Site 1 19	495	M	8	Flesh	Frozen	
12/01/2010	W10/002040	<i>Pristipomoides multidens</i>	GB Site 1 20	441	F	8	Flesh	Frozen	
12/01/2010	W10/002061	<i>Epinephelus areolatus</i>	SC Site 1 01	273	F	4	Flesh	Frozen	
12/01/2010	W10/002062	<i>Epinephelus areolatus</i>	SC Site 1 02	341	F	8	Flesh	Frozen	
12/01/2010	W10/002063	<i>Epinephelus areolatus</i>	SC Site 1 03	316	F	8	Flesh	Frozen	
12/01/2010	W10/002064	<i>Epinephelus areolatus</i>	SC Site 1 04	315	F	8	Flesh	Frozen	
12/01/2010	W10/002065	<i>Epinephelus areolatus</i>	SC Site 1 05	286	F	8	Flesh	Frozen	Gut samples

Date	Analysis No.	Species	Sample ID	FL (mm)	Sex	Stage	Tissue type	Preservation method	Comments
12/01/2010	W10/002066	<i>Epinephelus areolatus</i>	SC Site 1 06	275	F	5	Flesh	Frozen	W10/002341
12/01/2010	W10/002067	<i>Epinephelus areolatus</i>	SC Site 1 07	325	F	8	Flesh	Frozen	W10/002342
12/01/2010	W10/002068	<i>Epinephelus areolatus</i>	SC Site 1 08	300	F	8	Flesh	Frozen	
12/01/2010	W10/002069	<i>Epinephelus areolatus</i>	SC Site 1 09	284	F	5	Flesh	Frozen	
12/01/2010	W10/002070	<i>Epinephelus areolatus</i>	SC Site 1 10	297	F	8	Flesh	Frozen	
12/01/2010	W10/002071	<i>Epinephelus areolatus</i>	SC Site 1 11	284	F	8	Flesh	Frozen	
12/01/2010	W10/002072	<i>Epinephelus areolatus</i>	SC Site 1 12	294	F	8	Flesh	Frozen	
12/01/2010	W10/002073	<i>Epinephelus areolatus</i>	SC Site 1 13	304	F	8	Flesh	Frozen	
12/01/2010	W10/002074	<i>Epinephelus areolatus</i>	SC Site 1 14	303	F	8	Flesh	Frozen	
12/01/2010	W10/002075	<i>Epinephelus areolatus</i>	SC Site 1 15	292	F	8	Flesh	Frozen	
12/01/2010	W10/002076	<i>Epinephelus areolatus</i>	SC Site 1 16	314	F	8	Flesh	Frozen	
12/01/2010	W10/002077	<i>Epinephelus areolatus</i>	SC Site 1 17	306	F	8	Flesh	Frozen	
12/01/2010	W10/002078	<i>Epinephelus areolatus</i>	SC Site 1 18	271	F	6	Flesh	Frozen	
12/01/2010	W10/002079	<i>Epinephelus areolatus</i>	SC Site 1 19	301	F	8	Flesh	Frozen	
12/01/2010	W10/002080	<i>Epinephelus areolatus</i>	SC Site 1 20	282	F	8	Flesh	Frozen	
<i>Site 2 Unaffected Area, Depth 85-90m, Coordinates Lat: 12°08.59 S Long: 124°18.68 E</i>									
12/01/2010	W10/002101	<i>Pristipomoides multidens</i>	GB Site 2 01	513	M	8	Flesh	Frozen	
12/01/2010	W10/002102	<i>Pristipomoides multidens</i>	GB Site 2 02	468	M	8	Flesh	Frozen	
12/01/2010	W10/002103	<i>Pristipomoides multidens</i>	GB Site 2 03	511	M	8	Flesh	Frozen	
12/01/2010	W10/002104	<i>Pristipomoides multidens</i>	GB Site 2 04	506	F	8	Flesh	Frozen	
12/01/2010	W10/002105	<i>Pristipomoides multidens</i>	GB Site 2 05	569	M	8	Flesh	Frozen	Gut samples
12/01/2010	W10/002106	<i>Pristipomoides multidens</i>	GB Site 2 06	535	F	4	Flesh	Frozen	W10/002345
12/01/2010	W10/002107	<i>Pristipomoides multidens</i>	GB Site 2 07	410	M	8	Flesh	Frozen	W10/002346
12/01/2010	W10/002108	<i>Pristipomoides multidens</i>	GB Site 2 08	486	M	8	Flesh	Frozen	
12/01/2010	W10/002109	<i>Pristipomoides multidens</i>	GB Site 2 09	383	F	8	Flesh	Frozen	
12/01/2010	W10/002110	<i>Pristipomoides multidens</i>	GB Site 2 10	422	M	8	Flesh	Frozen	
12/01/2010	W10/002111	<i>Pristipomoides multidens</i>	GB Site 2 11	550	M	8	Flesh	Frozen	
12/01/2010	W10/002112	<i>Pristipomoides multidens</i>	GB Site 2 12	462	F	4	Flesh	Frozen	
12/01/2010	W10/002113	<i>Pristipomoides multidens</i>	GB Site 2 13	488	M	8	Flesh	Frozen	
12/01/2010	W10/002114	<i>Pristipomoides multidens</i>	GB Site 2 14	530	M	8	Flesh	Frozen	
12/01/2010	W10/002115	<i>Pristipomoides multidens</i>	GB Site 2 15	550	M	8	Flesh	Frozen	
12/01/2010	W10/002116	<i>Pristipomoides multidens</i>	GB Site 2 16	486	F	8	Flesh	Frozen	
12/01/2010	W10/002117	<i>Pristipomoides multidens</i>	GB Site 2 17	493	F	8	Flesh	Frozen	
12/01/2010	W10/002118	<i>Pristipomoides multidens</i>	GB Site 2 18	476	F	8	Flesh	Frozen	

Date	Analysis No.	Species	Sample ID	FL (mm)	Sex	Stage	Tissue type	Preservation method	Comments
12/01/2010	W10/002119	<i>Pristipomoides multidentis</i>	GB Site 2 19	455	F	8	Flesh	Frozen	
12/01/2010	W10/002120	<i>Pristipomoides multidentis</i>	GB Site 2 20	473	F	4	Flesh	Frozen	
12/01/2010	W10/002081	<i>Lutjanus malabaricus</i>	SP Site 2 01	479	M	8	Flesh	Frozen	W10/002347
12/01/2010	W10/002082	<i>Lutjanus malabaricus</i>	SP Site 2 02	535	F	4	Flesh	Frozen	W10/002348
12/01/2010	W10/002083	<i>Lutjanus malabaricus</i>	SP Site 2 03	572	F	8	Flesh	Frozen	
12/01/2010	W10/002084	<i>Lutjanus malabaricus</i>	SP Site 2 04	505	M	8	Flesh	Frozen	
12/01/2010	W10/002085	<i>Lutjanus malabaricus</i>	SP Site 2 05	472	F	5	Flesh	Frozen	
12/01/2010	W10/002086	<i>Lutjanus malabaricus</i>	SP Site 2 06	466	F	6	Flesh	Frozen	
12/01/2010	W10/002087	<i>Lutjanus malabaricus</i>	SP Site 2 07	532	M	8	Flesh	Frozen	
12/01/2010	W10/002088	<i>Lutjanus malabaricus</i>	SP Site 2 08	415	F	8	Flesh	Frozen	
12/01/2010	W10/002089	<i>Lutjanus malabaricus</i>	SP Site 2 09	475	M	8	Flesh	Frozen	
12/01/2010	W10/002090	<i>Lutjanus malabaricus</i>	SP Site 2 10	460	F	5	Flesh	Frozen	
13/01/2010	W10/002091	<i>Lutjanus malabaricus</i>	SP Site 2 11	585	M	8	Flesh	Frozen	
13/01/2010	W10/002092	<i>Lutjanus malabaricus</i>	SP Site 2 12	500	F	8	Flesh	Frozen	
13/01/2010	W10/002093	<i>Lutjanus malabaricus</i>	SP Site 2 13	483	F	5	Flesh	Frozen	
13/01/2010	W10/002094	<i>Lutjanus malabaricus</i>	SP Site 2 14	562	M	8	Flesh	Frozen	
13/01/2010	W10/002095	<i>Lutjanus malabaricus</i>	SP Site 2 15	449	F	4	Flesh	Frozen	
13/01/2010	W10/002096	<i>Lutjanus malabaricus</i>	SP Site 2 16	459	F	5	Flesh	Frozen	
13/01/2010	W10/002097	<i>Lutjanus malabaricus</i>	SP Site 2 17	462	M	8	Flesh	Frozen	
13/01/2010	W10/002098	<i>Lutjanus malabaricus</i>	SP Site 2 18	510	F	8	Flesh	Frozen	
13/01/2010	W10/002099	<i>Lutjanus malabaricus</i>	SP Site 2 19	445	F	5	Flesh	Frozen	
13/01/2010	W10/002100	<i>Lutjanus malabaricus</i>	SP Site 2 20	466	F	5	Flesh	Frozen	
13/01/2010	W10/002121	<i>Lutjanus sebae</i>	RE Site 2 01	436	F	5	Flesh	Frozen	
13/01/2010	W10/002122	<i>Lutjanus sebae</i>	RE Site 2 02	477	F	5	Flesh	Frozen	
13/01/2010	W10/002123	<i>Lutjanus sebae</i>	RE Site 2 03	457	F	5	Flesh	Frozen	
13/01/2010	W10/002124	<i>Lutjanus sebae</i>	RE Site 2 04	387	F	8	Flesh	Frozen	Gut samples
13/01/2010	W10/002125	<i>Lutjanus sebae</i>	RE Site 2 05	496	M	8	Flesh	Frozen	W10/002323
13/01/2010	W10/002126	<i>Lutjanus sebae</i>	RE Site 2 06	365	M	8	Flesh	Frozen	W10/002324
13/01/2010	W10/002127	<i>Lutjanus sebae</i>	RE Site 2 07	426	M	8	Flesh	Frozen	
13/01/2010	W10/002128	<i>Lutjanus sebae</i>	RE Site 2 08	442	F	5	Flesh	Frozen	
13/01/2010	W10/002129	<i>Lutjanus sebae</i>	RE Site 2 09	440	F	5	Flesh	Frozen	
13/01/2010	W10/002130	<i>Lutjanus sebae</i>	RE Site 2 10	452	F	6	Flesh	Frozen	
13/01/2010	W10/002131	<i>Lutjanus sebae</i>	RE Site 2 11	488	M	8	Flesh	Frozen	
13/01/2010	W10/002132	<i>Lutjanus sebae</i>	RE Site 2 12	452	F	5	Flesh	Frozen	
13/01/2010	W10/002133	<i>Lutjanus sebae</i>	RE Site 2 13	428	F	5	Flesh	Frozen	

Date	Analysis No.	Species	Sample ID	FL (mm)	Sex	Stage	Tissue type	Preservation method	Comments
13/01/2010	W10/002134	<i>Lutjanus sebae</i>	RE Site 2 14	472	F	5	Flesh	Frozen	
13/01/2010	W10/002135	<i>Lutjanus sebae</i>	RE Site 2 15	481	F	5	Flesh	Frozen	
13/01/2010	W10/002136	<i>Lutjanus sebae</i>	RE Site 2 16	436	M	8	Flesh	Frozen	
13/01/2010	W10/002137	<i>Lutjanus sebae</i>	RE Site 2 17	401	F	5	Flesh	Frozen	
13/01/2010	W10/002138	<i>Lutjanus sebae</i>	RE Site 2 18	356	M	3	Flesh	Frozen	
13/01/2010	W10/002139	<i>Lutjanus sebae</i>	RE Site 2 19	425	F	6	Flesh	Frozen	
13/01/2010	W10/002140	<i>Lutjanus sebae</i>	RE Site 2 20	364	F	2	Flesh	Frozen	
13/01/2010	W10/002161	<i>Epinephelus areolatus</i>	SC Site 2 01	373	F	8	Flesh	Frozen	
13/01/2010	W10/002162	<i>Epinephelus areolatus</i>	SC Site 2 02	340	F	8	Flesh	Frozen	
13/01/2010	W10/002163	<i>Epinephelus areolatus</i>	SC Site 2 03	326	F	8	Flesh	Frozen	gut samples
13/01/2010	W10/002164	<i>Epinephelus areolatus</i>	SC Site 2 04	336	F	8	Flesh	Frozen	W10/02325
13/01/2010	W10/002165	<i>Epinephelus areolatus</i>	SC Site 2 05	335	F	8	Flesh	Frozen	W10/02326
13/01/2010	W10/002166	<i>Epinephelus areolatus</i>	SC Site 2 06	316	F	8	Flesh	Frozen	
13/01/2010	W10/002167	<i>Epinephelus areolatus</i>	SC Site 2 07	317	F	8	Flesh	Frozen	
13/01/2010	W10/002168	<i>Epinephelus areolatus</i>	SC Site 2 08	335	F	8	Flesh	Frozen	
13/01/2010	W10/002169	<i>Epinephelus areolatus</i>	SC Site 2 09	306	F	8	Flesh	Frozen	
13/01/2010	W10/002170	<i>Epinephelus areolatus</i>	SC Site 2 10	280	F	8	Flesh	Frozen	
13/01/2010	W10/002171	<i>Epinephelus areolatus</i>	SC Site 2 11	303	F	5	Flesh	Frozen	
13/01/2010	W10/002172	<i>Epinephelus areolatus</i>	SC Site 2 12	280	F	8	Flesh	Frozen	
13/01/2010	W10/002173	<i>Epinephelus areolatus</i>	SC Site 2 13	305	F	4	Flesh	Frozen	
13/01/2010	W10/002174	<i>Epinephelus areolatus</i>	SC Site 2 14	317	F	8	Flesh	Frozen	
13/01/2010	W10/002175	<i>Epinephelus areolatus</i>	SC Site 2 15	348	F	8	Flesh	Frozen	
13/01/2010	W10/002176	<i>Epinephelus areolatus</i>	SC Site 2 16	351	F	8	Flesh	Frozen	
13/01/2010	W10/002177	<i>Epinephelus areolatus</i>	SC Site 2 17	338	F	8	Flesh	Frozen	
13/01/2010	W10/002178	<i>Epinephelus areolatus</i>	SC Site 2 18	303	F	4	Flesh	Frozen	
13/01/2010	W10/002179	<i>Epinephelus areolatus</i>	SC Site 2 19	315	F	8	Flesh	Frozen	
13/01/2010	W10/002180	<i>Epinephelus areolatus</i>	SC Site 2 20	318	F	4	Flesh	Frozen	
<b>Site 3 Affected Area, Depth 70-90m, Coordinates Lat: 12°43.02 S Long: 124°30.45 E</b>									
15/01/2010	W10/002201	<i>Pristipomoides multidens</i>	GB Site 3 01	358	M	3	Flesh	Frozen	
15/01/2010	W10/002202	<i>Pristipomoides multidens</i>	GB Site 3 02	414	F	3	Flesh	Frozen	gut samples
15/01/2010	W10/002203	<i>Pristipomoides multidens</i>	GB Site 3 03	515	F	8	Flesh	Frozen	W10/002327
15/01/2010	W10/002204	<i>Pristipomoides multidens</i>	GB Site 3 04	418	M	8	Flesh	Frozen	W10/002327
15/01/2010	W10/002205	<i>Pristipomoides multidens</i>	GB Site 3 05	560	F	8	Flesh	Frozen	

Date	Analysis No.	Species	Sample ID	FL (mm)	Sex	Stage	Tissue type	Preservation method	Comments
15/01/2010	W10/002206	<i>Pristipomoides multidens</i>	GB Site 3 06	409	F	3	Flesh	Frozen	
15/01/2010	W10/002207	<i>Pristipomoides multidens</i>	GB Site 3 07	410	M	8	Flesh	Frozen	
15/01/2010	W10/002208	<i>Pristipomoides multidens</i>	GB Site 3 08	417	M	8	Flesh	Frozen	
15/01/2010	W10/002209	<i>Pristipomoides multidens</i>	GB Site 3 09	590	M	8	Flesh	Frozen	
15/01/2010	W10/002210	<i>Pristipomoides multidens</i>	GB Site 3 10	551	F	5	Flesh	Frozen	
15/01/2010	W10/002211	<i>Pristipomoides multidens</i>	GB Site 3 11	446	F	8	Flesh	Frozen	
15/01/2010	W10/002212	<i>Pristipomoides multidens</i>	GB Site 3 12	448	M	8	Flesh	Frozen	
15/01/2010	W10/002213	<i>Pristipomoides multidens</i>	GB Site 3 13	470	M	8	Flesh	Frozen	
15/01/2010	W10/002214	<i>Pristipomoides multidens</i>	GB Site 3 14	474	M	8	Flesh	Frozen	
15/01/2010	W10/002215	<i>Pristipomoides multidens</i>	GB Site 3 15	553	F	4	Flesh	Frozen	
15/01/2010	W10/002216	<i>Pristipomoides multidens</i>	GB Site 3 16	330	M	2	Flesh	Frozen	
15/01/2010	W10/002217	<i>Pristipomoides multidens</i>	GB Site 3 17	528	M	8	Flesh	Frozen	
15/01/2010	W10/002218	<i>Pristipomoides multidens</i>	GB Site 3 18	433	M	8	Flesh	Frozen	
15/01/2010	W10/002219	<i>Pristipomoides multidens</i>	GB Site 3 19	436	M	8	Flesh	Frozen	
15/01/2010	W10/002220	<i>Pristipomoides multidens</i>	GB Site 3 20	451	F	8	Flesh	Frozen	
15/01/2010	W10/002141	<i>Lutjanus malabaricus</i>	SP Site 3 01	464	F	8	Flesh	Frozen	
15/01/2010	W10/002142	<i>Lutjanus malabaricus</i>	SP Site 3 02	443	M	8	Flesh	Frozen	
15/01/2010	W10/002143	<i>Lutjanus malabaricus</i>	SP Site 3 03	583	M	8	Flesh	Frozen	gut samples
15/01/2010	W10/002144	<i>Lutjanus malabaricus</i>	SP Site 3 04	491	F	4	Flesh	Frozen	W10/002317
15/01/2010	W10/002145	<i>Lutjanus malabaricus</i>	SP Site 3 05	476	M	8	Flesh	Frozen	W10/002317
15/01/2010	W10/002146	<i>Lutjanus malabaricus</i>	SP Site 3 06	521	M	8	Flesh	Frozen	
15/01/2010	W10/002147	<i>Lutjanus malabaricus</i>	SP Site 3 07	524	M	8	Flesh	Frozen	
15/01/2010	W10/002148	<i>Lutjanus malabaricus</i>	SP Site 3 08	546	M	8	Flesh	Frozen	
15/01/2010	W10/002149	<i>Lutjanus malabaricus</i>	SP Site 3 09	528	F	4	Flesh	Frozen	
15/01/2010	W10/002150	<i>Lutjanus malabaricus</i>	SP Site 3 10	513	F	4	Flesh	Frozen	
15/01/2010	W10/002151	<i>Lutjanus malabaricus</i>	SP Site 3 11	446	M	8	Flesh	Frozen	
15/01/2010	W10/002152	<i>Lutjanus malabaricus</i>	SP Site 3 12	556	M	8	Flesh	Frozen	
15/01/2010	W10/002153	<i>Lutjanus malabaricus</i>	SP Site 3 13	550	M	8	Flesh	Frozen	
15/01/2010	W10/002154	<i>Lutjanus malabaricus</i>	SP Site 3 14	460	F	4	Flesh	Frozen	
15/01/2010	W10/002155	<i>Lutjanus malabaricus</i>	SP Site 3 15	551	M	8	Flesh	Frozen	
15/01/2010	W10/002156	<i>Lutjanus malabaricus</i>	SP Site 3 16	499	F	4	Flesh	Frozen	
15/01/2010	W10/002157	<i>Lutjanus malabaricus</i>	SP Site 3 17	550	M	8	Flesh	Frozen	
15/01/2010	W10/002158	<i>Lutjanus malabaricus</i>	SP Site 3 18	496	M	8	Flesh	Frozen	
15/01/2010	W10/002159	<i>Lutjanus malabaricus</i>	SP Site 3 19	510	F	4	Flesh	Frozen	
15/01/2010	W10/002160	<i>Lutjanus malabaricus</i>	SP Site 3 20	486	F	8	Flesh	Frozen	

Date	Analysis No.	Species	Sample ID	FL (mm)	Sex	Stage	Tissue type	Preservation method	Comments
15/01/2010	W10/002221	<i>Lutjanus sebae</i>	RE Site 3 01	406	M	3	Flesh	Frozen	
15/01/2010	W10/002222	<i>Lutjanus sebae</i>	RE Site 3 02	526	F	5	Flesh	Frozen	
15/01/2010	W10/002223	<i>Lutjanus sebae</i>	RE Site 3 03	450	F	5	Flesh	Frozen	
15/01/2010	W10/002224	<i>Lutjanus sebae</i>	RE Site 3 04	520	F	5	Flesh	Frozen	
15/01/2010	W10/002225	<i>Lutjanus sebae</i>	RE Site 3 05	503	F	5	Flesh	Frozen	
15/01/2010	W10/002226	<i>Lutjanus sebae</i>	RE Site 3 06	487	F	5	Flesh	Frozen	gut samples
15/01/2010	W10/002227	<i>Lutjanus sebae</i>	RE Site 3 07	445	F	5	Flesh	Frozen	W10/002321
15/01/2010	W10/002228	<i>Lutjanus sebae</i>	RE Site 3 08	500	F	5	Flesh	Frozen	W10/002322
15/01/2010	W10/002229	<i>Lutjanus sebae</i>	RE Site 3 09	487	M	8	Flesh	Frozen	
15/01/2010	W10/002230	<i>Lutjanus sebae</i>	RE Site 3 10	452	F	5	Flesh	Frozen	
15/01/2010	W10/002231	<i>Lutjanus sebae</i>	RE Site 3 11	361	F	4	Flesh	Frozen	
15/01/2010	W10/002232	<i>Lutjanus sebae</i>	RE Site 3 12	494	M	8	Flesh	Frozen	
15/01/2010	W10/002233	<i>Lutjanus sebae</i>	RE Site 3 13	502	M	8	Flesh	Frozen	
15/01/2010	W10/002234	<i>Lutjanus sebae</i>	RE Site 3 14	548	M	8	Flesh	Frozen	
15/01/2010	W10/002235	<i>Lutjanus sebae</i>	RE Site 3 15	400	F	5	Flesh	Frozen	
15/01/2010	W10/002236	<i>Lutjanus sebae</i>	RE Site 3 16	540	F	5	Flesh	Frozen	
15/01/2010	W10/002237	<i>Lutjanus sebae</i>	RE Site 3 17	461	F	5	Flesh	Frozen	
15/01/2010	W10/002238	<i>Lutjanus sebae</i>	RE Site 3 18	420	F	5	Flesh	Frozen	
15/01/2010	W10/002239	<i>Lutjanus sebae</i>	RE Site 3 19	479	F	5	Flesh	Frozen	
15/01/2010	W10/002240	<i>Lutjanus sebae</i>	RE Site 3 20	499	M	8	Flesh	Frozen	
15/01/2010	W10/002181	<i>Epinephelus areolatus</i>	SC Site 3 01	385	F	8	Flesh	Frozen	gut samples
15/01/2010	W10/002182	<i>Epinephelus areolatus</i>	SC Site 3 02	370	F	8	Flesh	Frozen	W10/002319
15/01/2010	W10/002183	<i>Epinephelus areolatus</i>	SC Site 3 03	407	F	8	Flesh	Frozen	W10/002320
15/01/2010	W10/002184	<i>Epinephelus areolatus</i>	SC Site 3 04	405	F	8	Flesh	Frozen	
15/01/2010	W10/002185	<i>Epinephelus areolatus</i>	SC Site 3 05	350	F	8	Flesh	Frozen	
15/01/2010	W10/002186	<i>Epinephelus areolatus</i>	SC Site 3 06	278	F	5	Flesh	Frozen	
15/01/2010	W10/002187	<i>Epinephelus areolatus</i>	SC Site 3 07	270	F	8	Flesh	Frozen	
15/01/2010	W10/002188	<i>Epinephelus areolatus</i>	SC Site 3 08	401	F	4	Flesh	Frozen	
15/01/2010	W10/002189	<i>Epinephelus areolatus</i>	SC Site 3 09	335	F	5	Flesh	Frozen	
15/01/2010	W10/002190	<i>Epinephelus areolatus</i>	SC Site 3 10	269	F	8	Flesh	Frozen	
15/01/2010	W10/002191	<i>Epinephelus areolatus</i>	SC Site 3 11	360	F	8	Flesh	Frozen	
15/01/2010	W10/002192	<i>Epinephelus areolatus</i>	SC Site 3 12	350	F	8	Flesh	Frozen	
15/01/2010	W10/002193	<i>Epinephelus areolatus</i>	SC Site 3 13	368	F	8	Flesh	Frozen	
15/01/2010	W10/002194	<i>Epinephelus areolatus</i>	SC Site 3 14	383	F	5	Flesh	Frozen	
15/01/2010	W10/002195	<i>Epinephelus areolatus</i>	SC Site 3 15	312	F	5	Flesh	Frozen	



Date	Analysis No.	Species	Sample ID	FL (mm)	Sex	Stage	Tissue type	Preservation method	Comments
15/01/2010	W10/002196	<i>Epinephelus areolatus</i>	SC Site 3 16	320	F	8	Flesh	Frozen	
15/01/2010	W10/002197	<i>Epinephelus areolatus</i>	SC Site 3 17	391	F	8	Flesh	Frozen	
15/01/2010	W10/002198	<i>Epinephelus areolatus</i>	SC Site 3 18	330	F	5	Flesh	Frozen	
15/01/2010	W10/002199	<i>Epinephelus areolatus</i>	SC Site 3 19	406	F	8	Flesh	Frozen	
15/01/2010	W10/002200	<i>Epinephelus areolatus</i>	SC Site 3 20	318	F	4	Flesh	Frozen	
<b>Site 4 Affected Area, Depth 85-106m, Coordinates Lat: 13°24.61 S Long: 124°05.84 E</b>									
16/01/2010	W10/002271	<i>Pristipomoides multidens</i>	GB Site 4 01	385	F	3	Flesh	Frozen	
16/01/2010	W10/002272	<i>Pristipomoides multidens</i>	GB Site 4 02	412	M	8	Flesh	Frozen	
16/01/2010	W10/002273	<i>Pristipomoides multidens</i>	GB Site 4 03	381	M	8	Flesh	Frozen	gut samples
16/01/2010	W10/002274	<i>Pristipomoides multidens</i>	GB Site 4 04	414	F	3	Flesh	Frozen	W10/002331
16/01/2010	W10/002275	<i>Pristipomoides multidens</i>	GB Site 4 05	480	F	5	Flesh	Frozen	W10/002332
16/01/2010	W10/002276	<i>Pristipomoides multidens</i>	GB Site 4 06	383	M	8	Flesh	Frozen	
16/01/2010	W10/002277	<i>Pristipomoides multidens</i>	GB Site 4 07	436	M	8	Flesh	Frozen	
16/01/2010	W10/002278	<i>Pristipomoides multidens</i>	GB Site 4 08	406	M	8	Flesh	Frozen	
16/01/2010	W10/002279	<i>Pristipomoides multidens</i>	GB Site 4 09	475	M	8	Flesh	Frozen	
16/01/2010	W10/002280	<i>Pristipomoides multidens</i>	GB Site 4 10	475	M	8	Flesh	Frozen	
16/01/2010	W10/002281	<i>Pristipomoides multidens</i>	GB Site 4 11	415	M	8	Flesh	Frozen	
16/01/2010	W10/002282	<i>Pristipomoides multidens</i>	GB Site 4 12	438	M	8	Flesh	Frozen	
16/01/2010	W10/002283	<i>Pristipomoides multidens</i>	GB Site 4 13	378	M	8	Flesh	Frozen	
16/01/2010	W10/002284	<i>Pristipomoides multidens</i>	GB Site 4 14	410	M	8	Flesh	Frozen	
16/01/2010	W10/002285	<i>Pristipomoides multidens</i>	GB Site 4 15	383	M	8	Flesh	Frozen	
16/01/2010	W10/002286	<i>Pristipomoides multidens</i>	GB Site 4 16	416	M	8	Flesh	Frozen	
16/01/2010	W10/002287	<i>Pristipomoides multidens</i>	GB Site 4 17	366	M	8	Flesh	Frozen	
16/01/2010	W10/002288	<i>Pristipomoides multidens</i>	GB Site 4 18	402	M	8	Flesh	Frozen	
16/01/2010	W10/002289	<i>Pristipomoides multidens</i>	GB Site 4 19	460	F	4	Flesh	Frozen	
16/01/2010	W10/002290	<i>Pristipomoides multidens</i>	GB Site 4 20	441	M	8	Flesh	Frozen	
16/01/2010	W10/002241	<i>Lutjanus malabaricus</i>	SP Site 4 01	492	M	8	Flesh	Frozen	gut samples
16/01/2010	W10/002242	<i>Lutjanus malabaricus</i>	SP Site 4 02	491	F	5	Flesh	Frozen	W10/002333
16/01/2010	W10/002243	<i>Lutjanus malabaricus</i>	SP Site 4 03	533	M	8	Flesh	Frozen	W10/002334
16/01/2010	W10/002244	<i>Lutjanus malabaricus</i>	SP Site 4 04	471	M	8	Flesh	Frozen	
16/01/2010	W10/002245	<i>Lutjanus malabaricus</i>	SP Site 4 05	470	F	5	Flesh	Frozen	
16/01/2010	W10/002246	<i>Lutjanus malabaricus</i>	SP Site 4 06	503	M	8	Flesh	Frozen	
16/01/2010	W10/002247	<i>Lutjanus malabaricus</i>	SP Site 4 07	512	F	4	Flesh	Frozen	

Date	Analysis No.	Species	Sample ID	FL (mm)	Sex	Stage	Tissue type	Preservation method	Comments
16/01/2010	W10/002248	<i>Lutjanus malabaricus</i>	SP Site 4 08	455	F	4	Flesh	Frozen	
16/01/2010	W10/002249	<i>Lutjanus malabaricus</i>	SP Site 4 09	475	F	4	Flesh	Frozen	
16/01/2010	W10/002250	<i>Lutjanus malabaricus</i>	SP Site 4 10	473	F	4	Flesh	Frozen	
16/01/2010	W10/002291	<i>Lutjanus malabaricus</i>	SP Site 4 11	473	F	4	Flesh	Frozen	
16/01/2010	W10/002292	<i>Lutjanus malabaricus</i>	SP Site 4 12	487	M	8	Flesh	Frozen	
16/01/2010	W10/002293	<i>Lutjanus malabaricus</i>	SP Site 4 13	482	M	8	Flesh	Frozen	
16/01/2010	W10/002294	<i>Lutjanus malabaricus</i>	SP Site 4 14	485	F	4	Flesh	Frozen	
16/01/2010	W10/002295	<i>Lutjanus malabaricus</i>	SP Site 4 15	532	M	8	Flesh	Frozen	
16/01/2010	W10/002296	<i>Lutjanus malabaricus</i>	SP Site 4 16	474	M	8	Flesh	Frozen	
16/01/2010	W10/002297	<i>Lutjanus malabaricus</i>	SP Site 4 17	498	M	8	Flesh	Frozen	
16/01/2010	W10/002298	<i>Lutjanus malabaricus</i>	SP Site 4 18	542	M	8	Flesh	Frozen	
16/01/2010	W10/002299	<i>Lutjanus malabaricus</i>	SP Site 4 19	473	F	4	Flesh	Frozen	
16/01/2010	W10/002251	<i>Lutjanus sebae</i>	RE Site 4 01	389	M	8	Flesh	Frozen	
16/01/2010	W10/002252	<i>Lutjanus sebae</i>	RE Site 4 02	460	F	5	Flesh	Frozen	smell of oil on this fish
16/01/2010	W10/002253	<i>Lutjanus sebae</i>	RE Site 4 03	490	F	5	Flesh	Frozen	W10/002329
16/01/2010	W10/002254	<i>Lutjanus sebae</i>	RE Site 4 04	452	F	5	Flesh	Frozen	W10/002330
16/01/2010	W10/002255	<i>Lutjanus sebae</i>	RE Site 4 05	485	M	8	Flesh	Frozen	gut samples
16/01/2010	W10/002256	<i>Lutjanus sebae</i>	RE Site 4 06	490	F	5	Flesh	Frozen	
16/01/2010	W10/002257	<i>Lutjanus sebae</i>	RE Site 4 07	450	M	8	Flesh	Frozen	
16/01/2010	W10/002258	<i>Lutjanus sebae</i>	RE Site 4 08	575	M	8	Flesh	Frozen	
16/01/2010	W10/002259	<i>Lutjanus sebae</i>	RE Site 4 09	481	F	5	Flesh	Frozen	
16/01/2010	W10/002260	<i>Lutjanus sebae</i>	RE Site 4 10	462	F	5	Flesh	Frozen	
16/01/2010	W10/002261	<i>Lutjanus sebae</i>	RE Site 4 11	475	F	5	Flesh	Frozen	
16/01/2010	W10/002262	<i>Lutjanus sebae</i>	RE Site 4 12	461	F	5	Flesh	Frozen	
16/01/2010	W10/002263	<i>Lutjanus sebae</i>	RE Site 4 13	426	F	5	Flesh	Frozen	
16/01/2010	W10/002264	<i>Lutjanus sebae</i>	RE Site 4 14	530	M	8	Flesh	Frozen	
16/01/2010	W10/002265	<i>Lutjanus sebae</i>	RE Site 4 15	430	F	5	Flesh	Frozen	
16/01/2010	W10/002266	<i>Lutjanus sebae</i>	RE Site 4 16	376	F	5	Flesh	Frozen	
16/01/2010	W10/002267	<i>Lutjanus sebae</i>	RE Site 4 17	452	F	5	Flesh	Frozen	
16/01/2010	W10/002268	<i>Lutjanus sebae</i>	RE Site 4 18	478	F	5	Flesh	Frozen	
16/01/2010	W10/002269	<i>Lutjanus sebae</i>	RE Site 4 19	553	M	8	Flesh	Frozen	
16/01/2010	W10/002270	<i>Lutjanus sebae</i>	RE Site 4 20	489	F	5	Flesh	Frozen	
16/01/2010	W10/002300	<i>Epinephelus areolatus</i>	SC Site 4 01	321	F	8	Flesh	Frozen	W10/002335
16/01/2010	W10/002301	<i>Epinephelus areolatus</i>	SC Site 4 02	331	F	4	Flesh	Frozen	W10/002336

Date	Analysis No.	Species	Sample ID	FL (mm)	Sex	Stage	Tissue type	Preservation method	Comments
16/01/2010	W10/002302	<i>Epinephelus areolatus</i>	SC Site 4 03	310	F	8	Flesh	Frozen	
16/01/2010	W10/002303	<i>Epinephelus areolatus</i>	SC Site 4 04	374	F	4	Flesh	Frozen	
16/01/2010	W10/002304	<i>Epinephelus areolatus</i>	SC Site 4 05	294	F	4	Flesh	Frozen	
16/01/2010	W10/002305	<i>Epinephelus areolatus</i>	SC Site 4 06	343	F	5	Flesh	Frozen	
16/01/2010	W10/002306	<i>Epinephelus areolatus</i>	SC Site 4 07	290	F	8	Flesh	Frozen	
16/01/2010	W10/002307	<i>Epinephelus areolatus</i>	SC Site 4 08	227	F	3	Flesh	Frozen	
16/01/2010	W10/002308	<i>Epinephelus areolatus</i>	SC Site 4 09	323	F	5	Flesh	Frozen	
16/01/2010	W10/002309	<i>Epinephelus areolatus</i>	SC Site 4 10	360	F	8	Flesh	Frozen	
16/01/2010	W10/002310	<i>Epinephelus areolatus</i>	SC Site 4 11	303	F	4	Flesh	Frozen	
16/01/2010	W10/002311	<i>Epinephelus areolatus</i>	SC Site 4 12	410	F	8	Flesh	Frozen	
16/01/2010	W10/002312	<i>Epinephelus areolatus</i>	SC Site 4 13	291	F	8	Flesh	Frozen	
16/01/2010	W10/002313	<i>Epinephelus areolatus</i>	SC Site 4 14	362	F	8	Flesh	Frozen	
16/01/2010	W10/002314	<i>Epinephelus areolatus</i>	SC Site 4 15	398	F	8	Flesh	Frozen	
16/01/2010	W10/002315	<i>Epinephelus areolatus</i>	SC Site 4 16	391	F	8	Flesh	Frozen	
16/01/2010	W10/002316	<i>Epinephelus areolatus</i>	SC Site 4 17	371	F	6	Flesh	Frozen	

### Appendix 3: Curtin University Sample Site Collection Data

Date	Analysis No.	Species	Sample ID	FL (mm)	Sex	Stage	Tissue type	Preservation method	Comments
9/11/10	W10/002001	<i>Gold-Band Snapper</i>	SP Site 1 01	545	F	3	Flesh	Frozen	
9/11/10	W10/002002	<i>Gold-Band Snapper</i>	SP Site 1 02	485	F	3	Flesh	Frozen	
9/11/10	W10/002003	<i>Gold-Band Snapper</i>	SP Site 1 03	480	M	2	Flesh	Frozen	
9/11/10	W10/002004	<i>Gold-Band Snapper</i>	SP Site 1 04	475	F	2	Flesh	Frozen	
9/11/10	W10/002005	<i>Gold-Band Snapper</i>	SP Site 1 05	472	F	3	Flesh	Frozen	
9/11/10	W10/002006	<i>Gold-Band Snapper</i>	SP Site 1 06	560	F	2	Flesh	Frozen	
9/11/10	W10/002007	<i>Gold-Band Snapper</i>	SP Site 1 07	390	F	2	Flesh	Frozen	
9/11/10	W10/002008	<i>Red Emperor</i>	SP Site 1 08	600	M	1	Flesh	Frozen	
9/11/10	W10/002009	<i>Red Emperor</i>	SP Site 1 09	443	F	3	Flesh	Frozen	
9/11/10	W10/002010	<i>Red Emperor</i>	SP Site 1 10	486	F	4	Flesh	Frozen	
9/11/10	W10/002011	<i>Saddletail Seaperch</i>	SP Site 1 11	430	F	4	Flesh	Frozen	
9/11/10	W10/002012	<i>Saddletail Seaperch</i>	SP Site 1 12	516	M	1	Flesh	Frozen	
9/11/10	W10/002013	<i>Gold-Band Snapper</i>	SP Site 1 13	480	F	2	Flesh	Frozen	
9/11/10	W10/002014	<i>Gold-Band Snapper</i>	SP Site 1 14	402	F	1	Flesh	Frozen	
9/11/10	W10/002015	<i>Gold-Band Snapper</i>	SP Site 1 15	515	M	3	Flesh	Frozen	
9/11/10	W10/002016	<i>Gold-Band Snapper</i>	SP Site 1 16	460	M	1	Flesh	Frozen	
9/11/10	W10/002017	<i>Saddletail Seaperch</i>	SP Site 1 17	550	F	2	Flesh	Frozen	
9/11/10	W10/002018	<i>Saddletail Seaperch</i>	SP Site 1 18	540	F	1	Flesh	Frozen	
9/11/10	W10/002019	<i>Gold-Band Snapper</i>	SP Site 1 19	462	F	2	Flesh	Frozen	
9/11/10	W10/002020	<i>Red Emperor</i>	SP Site 1 20	416	F	4	Flesh	Frozen	
9/11/10	W10/002021	<i>Gold-Band Snapper</i>	GB Site 1 01	542	F	2	Flesh	Frozen	
9/11/10	W10/002022	<i>Gold-Band Snapper</i>	GB Site 1 02	565	F	4	Flesh	Frozen	
9/11/10	W10/002023	<i>Gold-Band Snapper</i>	GB Site 1 03	430	F	2	Flesh	Frozen	
9/11/10	W10/002024	<i>Gold-Band Snapper</i>	GB Site 1 04	485	F	3	Flesh	Frozen	
9/11/10	W10/002025	<i>Gold-Band Snapper</i>	GB Site 1 05	538	F	3	Flesh	Frozen	
9/11/10	W10/002026	<i>Red Emperor</i>	SP Site 1 06	484	F	4	Flesh	Frozen	
9/11/10	W10/002027	<i>Red Emperor</i>	GB Site 1 07	485	F	1	Flesh	Frozen	
9/11/10	W10/002028	<i>Red Emperor</i>	GB Site 1 08	360	F	1	Flesh	Frozen	
10/11/10	W10/002029	<i>Saddletail Seaperch</i>	GB Site 1 09	634	F	1	Flesh	Frozen	
10/11/10	W10/002030	<i>Saddletail Seaperch</i>	GB Site 1 10	551	F	4	Flesh	Frozen	
10/11/10	W10/002031	<i>Saddletail Seaperch</i>	GB Site 1 11	614	F	1	Flesh	Frozen	
10/11/10	W10/002032	<i>Red Emperor</i>	GB Site 1 12	506	F	3	Flesh	Frozen	

Date	Analysis No.	Species	Sample ID	FL (mm)	Sex	Stage	Tissue type	Preservation method	Comments
10/11/10	W10/002033	<i>Red Emperor</i>	GB Site 1 13	524	F	4	Flesh	Frozen	
10/11/10	W10/002034	<i>Saddletail Seaperch</i>	GB Site 1 14	575	F	1	Flesh	Frozen	
10/11/10	W10/002035	<i>Red Emperor</i>	GB Site 1 15	500	F	4	Flesh	Frozen	
10/11/10	W10/002036	<i>Red Emperor</i>	GB Site 1 16	496	F	4	Flesh	Frozen	
10/11/10	W10/002037	<i>Gold-Band Snapper</i>	GB Site 1 17	564	F	3	Flesh	Frozen	
10/11/10	W10/002038	<i>Gold-Band Snapper</i>	GB Site 1 18	538	F	3	Flesh	Frozen	
10/11/10	W10/002039	<i>Gold-Band Snapper</i>	GB Site 1 19	507	M	2	Flesh	Frozen	
10/11/10	W10/002040	<i>Gold-Band Snapper</i>	GB Site 1 20	605	F	4	Flesh	Frozen	
10/11/10	W10/002041	<i>Gold-Band Snapper</i>	RE Site 1 01	555	M	2	Flesh	Frozen	
10/11/10	W10/002042	<i>Gold-Band Snapper</i>	RE Site 1 02	426	M	1	Flesh	Frozen	
10/11/10	W10/002043	<i>Gold-Band Snapper</i>	RE Site 1 03	452	M	1	Flesh	Frozen	
10/11/10	W10/002044	<i>Gold-Band Snapper</i>	RE Site 1 04	472	M	1	Flesh	Frozen	
10/11/10	W10/002045	<i>Gold-Band Snapper</i>	RE Site 1 05	427	M	1	Flesh	Frozen	
10/11/10	W10/002046	<i>Gold-Band Snapper</i>	RE Site 1 06	471	M	2	Flesh	Frozen	
10/11/10	W10/002047	<i>Gold-Band Snapper</i>	RE Site 1 07	480	F	2	Flesh	Frozen	
10/11/10	W10/002048	<i>Spanish Mackerel</i>	RE Site 1 08	1352	F	5	Flesh	Frozen	
11/11/10	W10/002049	<i>Rainbow Runner</i>	RE Site 1 09	626	F	4	Flesh	Frozen	
11/11/10	W10/002050	<i>Dog-Tooth Tuna</i>	RE Site 1 10	820	F	3	Flesh	Frozen	
11/11/10	W10/002051	<i>Big-Eye Trevally</i>	RE Site 1 11	570	F	4	Flesh	Frozen	
11/11/10	W10/002052	<i>Red Emperor</i>	RE Site 1 12	600	M	4	Flesh	Frozen	
11/11/10	W10/002053	<i>Red Emperor</i>	RE Site 1 13	505	F	4	Flesh	Frozen	
11/11/10	W10/002054	<i>Red Emperor</i>	RE Site 1 14	440	F	3	Flesh	Frozen	
11/11/10	W10/002055	<i>Red Emperor</i>	RE Site 1 15	505	F	5	Flesh	Frozen	
11/11/10	W10/002056	<i>Rainbow Runner</i>	RE Site 1 16	578	M	5	Flesh	Frozen	
11/11/10	W10/002057	<i>Dog-Tooth Tuna</i>	RE Site 1 17	855	M	4	Flesh	Frozen	
11/11/10	W10/002058	<i>Rainbow Runner</i>	RE Site 1 18	592	M	5	Flesh	Frozen	
11/11/10	W10/002059	<i>Dog-Tooth Tuna</i>	RE Site 1 19	524	M	4	Flesh	Frozen	
12/11/10	W10/002060	<i>Rainbow Runner</i>	RE Site 1 20	580	M	5	Flesh	Frozen	
12/11/10	W10/002061	<i>Rainbow Runner</i>	SC Site 1 01	594	F	5	Flesh	Frozen	
12/11/10	W10/002062	<i>Rainbow Runner</i>	SC Site 1 02	598	M	4	Flesh	Frozen	
12/11/10	W10/002063	<i>Spanish Mackerel</i>	SC Site 1 03	767	F	3	Flesh	Frozen	
12/11/10	W10/002064	<i>Rainbow Runner</i>	SC Site 1 04	806	M	5	Flesh	Frozen	
12/11/10	W10/002065	<i>Rainbow Runner</i>	SC Site 1 05	550	F	2	Flesh	Frozen	
12/11/10	W10/002066	<i>Rainbow Runner</i>	SC Site 1 06	600	M	5	Flesh	Frozen	
12/11/10	W10/002067	<i>Rainbow Runner</i>	SC Site 1 07	554	M	5	Flesh	Frozen	

Date	Analysis No.	Species	Sample ID	FL (mm)	Sex	Stage	Tissue type	Preservation method	Comments
12/11/10	W10/002068	<i>Rainbow Runner</i>	SC Site 1 08	570	F	4	Flesh	Frozen	
12/11/10	W10/002069	<i>Dog-Tooth Tuna</i>	SC Site 1 09	918	F	4	Flesh	Frozen	
12/11/10	W10/002070	<i>Rainbow Runner</i>	SC Site 1 10	627	F	4	Flesh	Frozen	
12/11/10	W10/002071	<i>Rainbow Runner</i>	SC Site 1 11	595	F	3	Flesh	Frozen	
12/11/10	W10/002072	<i>Saddletail Seaperch</i>	SC Site 1 12	495	F	2	Flesh	Frozen	
12/11/10	W10/002073	<i>Saddletail Seaperch</i>	SC Site 1 13	540	F	5	Flesh	Frozen	
12/11/10	W10/002074	<i>Red Emperor</i>	SC Site 1 14	535	M	3	Flesh	Frozen	
12/11/10	W10/002075	<i>Red Emperor</i>	SC Site 1 15	449	F	3	Flesh	Frozen	
13/11/10	W10/002076	<i>Rainbow Runner</i>	SC Site 1 16	599	M	5	Flesh	Frozen	
13/11/10	W10/002077	<i>Red Emperor</i>	SC Site 1 17	442	F	2	Flesh	Frozen	
13/11/10	W10/002078	<i>Gold-Band Snapper</i>	SC Site 1 18	585	M	2	Flesh	Frozen	
13/11/10	W10/002079	<i>Gold-Band Snapper</i>	SC Site 1 19	525	F	3	Flesh	Frozen	
13/11/10	W10/002080	<i>Gold-Band Snapper</i>	SC Site 1 20	560	F	3	Flesh	Frozen	
13/11/10	W10/006501	<i>Gold-Band Snapper</i>	GB Site 1 03	519	F	3	Flesh	Frozen	
13/11/10	W10/006502	<i>Gold-Band Snapper</i>	GB Site 1 04	546	M	3	Flesh	Frozen	
13/11/10	W10/006503	<i>Gold-Band Snapper</i>	GB Site 1 07	605	M	4	Flesh	Frozen	
13/11/10	W10/006504	<i>Gold-Band Snapper</i>	GB Site 1 13	524	F	2	Flesh	Frozen	
13/11/10	W10/006505	<i>Gold-Band Snapper</i>	GB Site 1 14	475	M	2	Flesh	Frozen	
13/11/10	W10/006506	<i>Gold-Band Snapper</i>	GB Site 1 15	571	M	2	Flesh	Frozen	
13/11/10	W10/006507	<i>Gold-Band Snapper</i>	GB Site 1 16	430	M	1	Flesh	Frozen	
13/11/10	W10/006508	<i>Gold-Band Snapper</i>	GB Site 1 19	527	M	3	Flesh	Frozen	
13/11/10	W10/006509	<i>Red Emperor</i>	GB Site 1 21	504	F	3	Flesh	Frozen	
13/11/10	W10/006510	<i>Red Emperor</i>	GB Site 1 22	511	F	3	Flesh	Frozen	
13/11/10	W10/006511	<i>Red Emperor</i>	GB Site 1 23	472	M	1	Flesh	Frozen	
13/11/10	W10/006512	<i>Red Emperor</i>	GB Site 1 24	531	F	4	Flesh	Frozen	
13/11/10	W10/006513	<i>Red Emperor</i>	GB Site 1 25	460	F	2	Flesh	Frozen	
13/11/10	W10/006514	<i>Red Emperor</i>	GB Site 1 02	418	F	2	Flesh	Frozen	
13/11/10	W10/006515	<i>Red Emperor</i>	GB Site 1 05	540	F	3	Flesh	Frozen	
13/11/10	W10/006516	<i>Red Emperor</i>	GB Site 1 06	428	M	1	Flesh	Frozen	
13/11/10	W10/006517	<i>Red Emperor</i>	GB Site 1 01	540	F	3	Flesh	Frozen	
13/11/10	W10/006518	<i>Red Emperor</i>	RE Site 1 08	451	F	2	Flesh	Frozen	
14/11/10	W10/006519	<i>Red Emperor</i>	RE Site 1 09	470	F	2	Flesh	Frozen	
14/11/10	W10/006520	<i>Red Emperor</i>	RE Site 1 10	390	F	3	Flesh	Frozen	
15/11/10	W10/006521	<i>Spanish Mackerel</i>	RE Site 1 20	1308	F	6	Flesh	Frozen	
15/11/10	W10/006522	<i>Rainbow Runner</i>	RE Site 1 26	585	F	4	Flesh	Frozen	

<b>Date</b>	<b>Analysis No.</b>	<b>Species</b>	<b>Sample ID</b>	<b>FL (mm)</b>	<b>Sex</b>	<b>Stage</b>	<b>Tissue type</b>	<b>Preservation method</b>	<b>Comments</b>
15/11/10	W10/006523	<i>Rainbow Runner</i>	RE Site 1 27	613	M	5	Flesh	Frozen	
15/11/10	W10/006524	<i>Rainbow Runner</i>	RE Site 1 28	658	F	5	Flesh	Frozen	
15/11/10	W10/006525	<i>Rainbow Runner</i>	SS Site 1 11	702	F	5	Flesh	Frozen	
15/11/10	W10/006526	<i>Rainbow Runner</i>	SS Site 1 17	606	M	5	Flesh	Frozen	
15/11/10	W10/006527	<i>Spanish Mackerel</i>	SS Site 1 18	732	F	6	Flesh	Frozen	
15/11/10	W10/006528	<i>Rainbow Runner</i>	SS Site 1 12	614	M	5	Flesh	Frozen	

## Appendix 4

### **RESULTS FOR THE ANALYSIS OF PETROLEUM HYDROCARBONS IN FISH**

This Appendix contains the following results:

- Department of Fisheries sites 1-4 flesh samples (PAH, BTEX, TPH)
- Department of Fisheries sites 1-4 gut samples (TPH)
- Curtin University sites 1-6 flesh samples (PAH, BTEX, TPH)
- Curtin University sites 1-6 gut samples (TPH)
- Biomarker analysis
- TPH matching



These data were supplied by and meets all the quality assurances of the NATA qualified lab.

The following pages contain the results for the analysis of petroleum hydrocarbons in fish flesh and guts.

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**Symbols used in tables**

Compound Name	Abbreviation
Naphthalene	Naph
Naphthlene	Naphl
Naphthene	Naphte
Fluoene	Fluorene
Phenanthrene	Phenan
Anthracene	Anth
Fluoranthenen	Flouran
Pyrene	Pyrene
Benzo(a)anthracene	Benzo(a)an
Benzo(b)&(k)fluoranthene	B bk Fluoran
Benzo(a)pyrene	B a pyrene
Indeno(1,2,3-cd)pyrene	I pyrene
Dibenzo(a,h)anthracene	DB anthr
Benzo(g,h,i)perylene	B peryl
Ethyl Benzene	E-Benzene

**Methods Numbers**

PAH Method: NGCMS\_1111

BTEX Method: NGCMS\_1121

TPH Method: NGCMS\_1112

[illegible]

WAF Site 1	Fish Guts	S Lat	-12.72	E Long	124.577
	<1 NM Southwest of West Atlas			Depth	70 m

Limit of Reporting is indicated by "< number"

Lab No.	Sample No.	Total Petroleum Hydrocarbons				Volatile Surrogate Recovery %
		C <sub>6</sub> - C <sub>9</sub> mg/kg	C <sub>10</sub> - C <sub>14</sub> mg/kg	C <sub>15</sub> - C <sub>28</sub> mg/kg	C <sub>29</sub> - C <sub>36</sub> mg/kg	
W10/002337	GB Site 1 04	<25	<50	<100	<100	102
W10/002338	GB Site 1 06	<25	<50	<100	<100	102
W10/002339	SP Site 1 04	<25	<50	<100	<100	121
W10/002340	SP Site 1 05	<25	<50	<100	<100	114
W10/002341	SC Site 1 06	<25	<50	<100	<100	107
W10/002342	SC Site 1 07	<25	<50	<100	<100	112
W10/002343	RE Site 1 04	<25	<50	<100	<100	106
W10/002344	RE Site 1 05	<25	<50	<100	<100	106

WAF Site 2			Fish Flesh			S Lat			-12.670 E Long			124.5345			20 NM from West Atlas			Depth 75 m															
Limit of Reporting is indicated by "< number"																														TPH		Volatile	
		Polynuclear Aromatic Hydrocarbons																BTEX					Total Petroleum Hydrocarbons				Surrogate	Surrogate					
Lab No.	Sample No.	Naph mg/kg	Napthtl mg/kg	Napthe mg/kg	Fluorene mg/kg	Phenan mg/kg	Anth mg/kg	Fluoran mg/kg	Pyrene mg/kg	Benzo(a)an mg/kg	Chrysene mg/kg	B bk Fluoran mg/kg	B a pyrene mg/kg	I pyrene mg/kg	DB anthr mg/kg	B peryl mg/kg	Benzene mg/kg	Toluene mg/kg	Ξ-Benzene mg/kg	1, p-Xylene mg/kg	o - Xylene mg/kg	C <sub>6</sub> - C <sub>9</sub> mg/kg	C <sub>10</sub> - C <sub>14</sub> mg/kg	C <sub>15</sub> - C <sub>28</sub> mg/kg	C <sub>29</sub> - C <sub>36</sub> mg/kg	Recovery %	Recovery %						
W10/002081	SP Site 2 01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	107	100						
W10/002082	SP Site 2 02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	123	102						
W10/002083	SP Site 2 03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	124	102						
W10/002084	SP Site 2 04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	107	103						
W10/002085	SP Site 2 05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	123	98						
W10/002086	SP Site 2 06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	142	99						
W10/002087	SP Site 2 07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	95	98						
W10/002088	SP Site 2 08	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	102	98						
W10/002089	SP Site 2 09	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	134	101						
W10/002090	SP Site 2 10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	128	99						
W10/002091	SP Site 2 11	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	130	99						
W10/002092	SP Site 2 12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	101	98						
W10/002093	SP Site 2 13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	111	96						
W10/002094	SP Site 2 14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	114	101						
W10/002095	SP Site 2 15	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	62	98						
W10/002096	SP Site 2 16	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	139	116						
W10/002097	SP Site 2 17	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	128	96						
W10/002098	SP Site 2 18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	92	97						
W10/002099	SP Site 2 19	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	138	95						
W10/002100	SP Site 2 20	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	157	97						
W10/002101	GB Site 2 01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	78	97						
W10/002102	GB Site 2 02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	96	98						
W10/002103	GB Site 2 03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	80	96						
W10/002104	GB Site 2 04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	106	88						
W10/002105	GB Site 2 05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	69	89						
W10/002106	GB Site 2 06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	73	87						
W10/002107	GB Site 2 07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	98	87						
W10/002108	GB Site 2 08	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	97	98						
W10/002109	GB Site 2 09	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	118	89						
W10/002110	GB Site 2 10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	103	80						
W10/002111	GB Site 2 11	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	79	84						
W10/002112	GB Site 2 12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	108	87						
W10/002113	GB Site 2 13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	122	86						
W10/002114	GB Site 2 14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	120	88						
W10/002115	GB Site 2 15	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	95	81						
W10/002116	GB Site 2 16	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	93	88						
W10/002117	GB Site 2 17	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	111	82						
W10/002118	GB Site 2 18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	120	88						
W10/002119	GB Site 2 19	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	107	89						
W10/002120	GB Site 2 20	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5															

**Limit of Reporting is indicated by "< number"**

Lab No.	Sample No.	Total Petroleum Hydrocarbons				Surrogate
		C <sub>6</sub> - C <sub>9</sub>	C <sub>10</sub> - C <sub>14</sub>	C <sub>15</sub> - C <sub>28</sub>	C <sub>29</sub> - C <sub>36</sub>	Recovery
		mg/kg	mg/kg	mg/kg	mg/kg	%
W10/002323	RE Site 2 05	<25	<50	<100	<100	106
W10/002324	RE Site 2 06	<25	<50	<100	<100	113
W10/002325	SC Site 2 04	<25	<50	<100	<100	109
W10/002326	SC Site 2 05	<25	<50	<100	<100	105
W10/002345	GB Site 2 06	<25	<50	<100	<100	116
W10/002346	GB Site 2 07	<25	<50	<100	<100	110
W10/002347	SP Site 2 01	<25	<50	<100	<100	111
W10/002348	SP Site 2 02	<25	<50	<100	<100	107

WAF Site 3			Fish Flesh		S Lat		-12.881		E Long		124.332		53 NM from West Atlas		Depth 25-100 m		VulcanShoal														
Limit of Reporting is indicated by "< number"																															
Lab No.	Sample No.	Polynuclear Aromatic Hydrocarbons																	BTEX					Total Petroleum Hydrocarbons				TPH		Volatile	
		Naph mg/kg	Naphthl mg/kg	Naphthe mg/kg	Fluorene mg/kg	Phenan mg/kg	Anth mg/kg	Fluoran mg/kg	Pyrene mg/kg	Ienzo(a) mg/kg	Chrysene mg/kg	B bk mg/kg	Fluoran B mg/kg	A pyrene mg/kg	I pyrene mg/kg	DB anthr mg/kg	B peryl mg/kg	Benzene mg/kg	Toluene mg/kg	o-Benzene mg/kg	m, p-Xylene mg/kg	o - Xylene mg/kg	C <sub>6</sub> - C <sub>9</sub> mg/kg	C <sub>10</sub> - C <sub>14</sub> mg/kg	C <sub>15</sub> - C <sub>28</sub> mg/kg	C <sub>29</sub> - C <sub>36</sub> mg/kg	Recovery %	Surrogate Recovery %			
W10/002141	SP Site 3 01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	85	109				
W10/002142	SP Site 3 02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	89	108				
W10/002143	SP Site 3 03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	121	111				
W10/002144	SP Site 3 04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	103	107				
W10/002145	SP Site 3 05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	98	108				
W10/002146	SP Site 3 06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	98	107				
W10/002147	SP Site 3 07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	93	103				
W10/002148	SP Site 3 08	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	81	110				
W10/002149	SP Site 3 09	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	89	110				
W10/002150	SP Site 3 10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	93	97				
W10/002151	SP Site 3 11	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	88	96				
W10/002152	SP Site 3 12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	94	96				
W10/002153	SP Site 3 13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	115	96				
W10/002154	SP Site 3 14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	80	97				
W10/002155	SP Site 3 15	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	88	98				
W10/002156	SP Site 3 16	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	74	98				
W10/002157	SP Site 3 17	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	98	97				
W10/002158	SP Site 3 18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	96	97				
W10/002159	SP Site 3 19	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	100	96				
W10/002160	SP Site 3 20	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	75	96				
W10/002181	SC Site 3 01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	109	108				
W10/002182	SC Site 3 02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	113	107				
W10/002183	SC Site 3 03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	109	108				
W10/002184	SC Site 3 04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	78	108				
W10/002185	SC Site 3 05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	139	108				
W10/002186	SC Site 3 06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	107	109				
W10/002187	SC Site 3 07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	106	108				
W10/002188	SC Site 3 08	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	119	108				
W10/002189	SC Site 3 09	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	148	107				
W10/002190	SC Site 3 10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	138	111				
W10/002191	SC Site 3 11	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	150	108				
W10/002192	SC Site 3 12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	147	107				
W10/002193	SC Site 3 13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	68	105				
W10/002194	SC Site 3 14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	131	105				
W10/002195	SC Site 3 15	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	89	106				
W10/002196	SC Site 3 16	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	127	108				
W10/002197	SC Site 3 17	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	150	107				
W10/002198	SC Site 3 18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	97	106				
W10/002199	SC Site 3 19	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	133	110				
W10/002200	SC Site 3 20	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01																

WAF Site 3      Fish Flesh      S Lat    -12.881    E Long    124.332    53 NM from West Atlas      Depth 25-100 m      VulcanShoal

Limit of Reporting is indicated by "< number"

		Polynuclear Aromatic Hydrocarbons																BTEX					Total Petroleum Hydrocarbons				TPH	Volatile
Lab No.	Sample No.	Naph mg/kg	Naphthl mg/kg	Naphthe mg/kg	Fluorene mg/kg	Phenan mg/kg	Anth mg/kg	Fluoran mg/kg	Pyrene mg/kg	ienzo(a)an mg/kg	Chrysene mg/kg	B bk mg/kg	Fluoran B mg/kg	a pyrene mg/kg	I pyrene mg/kg	DB anthr mg/kg	B peryl mg/kg	Benzene mg/kg	Toluene mg/kg	m-Benzene mg/kg	p-Xylene mg/kg	o - Xylene mg/kg	C <sub>6</sub> - C <sub>9</sub> mg/kg	C <sub>10</sub> - C <sub>14</sub> mg/kg	C <sub>15</sub> - C <sub>28</sub> mg/kg	C <sub>29</sub> - C <sub>36</sub> mg/kg	Surrogate Recovery %	Surrogate Recovery %
W10/002239	RE Site 3    19	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	56	92
W10/002240	RE Site 3    20	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	63	94

WAF Site 3      Fish Guts      S Lat    -12.881    E Long    124.332  
 53 NM from West Atlas    Depth 25-100 m      Vulcan Shoal

Limit of Reporting is indicated by "< number"

Lab No.	Sample No.	Total Petroleum Hydrocarbons				Volatile Surrogate Recovery %
		C <sub>6</sub> - C <sub>9</sub> mg/kg	C <sub>10</sub> - C <sub>14</sub> mg/kg	C <sub>15</sub> - C <sub>28</sub> mg/kg	C <sub>29</sub> - C <sub>36</sub> mg/kg	
W10/002317	SP Site 3 04	<25	<50	<100	<100	108
W10/002318	SP Site 3 05	<25	<50	<100	<100	110
W10/002319	SC Site 3 02	<25	<50	<100	<100	104
W10/002320	SC Site 3 03	<25	<50	<100	<100	102
W10/002321	RE Site 3 07	<25	<50	<100	<100	90
W10/002322	RE Site 3 08	<25	<50	<100	<100	111
W10/002327	GB Site 3 03	<25	<50	<100	<100	100
W10/002328	GB Site 3 04	<25	<50	<100	<100	116



WAF Site 4		Fish Flesh		S Lat		-13.409		E Long		124.081		~ 30 NM from West Atlas		Heyward Shoal		Depth 25-100 m														
Limit of Reporting is indicated by "< number"																														
		Polynuclear Aromatic Hydrocarbons																BTEX				Total Petroleum Hydrocarbons				TPH		Volatile		
Lab No.	Sample No.	Naph mg/kg	Naphthl mg/kg	Naphthe mg/kg	Fluorene mg/kg	Phenan mg/kg	Anth mg/kg	Fluoran mg/kg	Pyrene mg/kg	Benzo(a)an mg/kg	Chrysene mg/kg	B bk mg/kg	Fluoran mg/kg	B a pyrene mg/kg	I pyrene mg/kg	DB anthr mg/kg	B peryl mg/kg	Benzene mg/kg	Toluene mg/kg	o - Benzene mg/kg	m - Xylene mg/kg	p - Xylene mg/kg	C <sub>6</sub> - C <sub>9</sub> mg/kg	C <sub>10</sub> - C <sub>14</sub> mg/kg	C <sub>15</sub> - C <sub>28</sub> mg/kg	C <sub>29</sub> - C <sub>36</sub> mg/kg	Surrogate Recovery	Surrogate %	Surrogate Recovery	Surrogate %
W10/002241	SP Site 4 01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	83		98	
W10/002242	SP Site 4 02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	91		87	
W10/002243	SP Site 4 03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	84		84	
W10/002244	SP Site 4 04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	98		99	
W10/002245	SP Site 4 05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	78		97	
W10/002246	SP Site 4 06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	102		99	
W10/002247	SP Site 4 07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	111		100	
W10/002248	SP Site 4 08	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	103		100	
W10/002249	SP Site 4 09	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	93		83	
W10/002250	SP Site 4 10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	85		83	
W10/002251	RE Site 4 01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	94		98	
W10/002252	RE Site 4 02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	123		91	
W10/002253	RE Site 4 03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	119		99	
W10/002254	RE Site 4 04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	68		99	
W10/002255	RE Site 4 05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	107		98	
W10/002256	RE Site 4 06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	124		99	
W10/002257	RE Site 4 07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	109		100	
W10/002258	RE Site 4 08	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	91		85	
W10/002259	RE Site 4 09	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	108		99	
W10/002260	RE Site 4 10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	131		90	
W10/002261	RE Site 4 11	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	92		91	
W10/002262	RE Site 4 12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	99		95	
W10/002263	RE Site 4 13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	85		94	
W10/002264	RE Site 4 14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	32		92	
W10/002265	RE Site 4 15	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	78		93	
W10/002266	RE Site 4 16	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	91		92	
W10/002267	RE Site 4 17	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	97		94	
W10/002268	RE Site 4 18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	93		95	
W10/002269	RE Site 4 19	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	122		94	
W10/002270	RE Site 4 20	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	101		94	
W10/002271	GB Site 4 01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	94		94	
W10/002272	GB Site 4 02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	102		95	
W10/002273	GB Site 4 03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	110		94	
W10/002274	GB Site 4 04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	68		95	
W10/002275	GB Site 4 05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	110		94	
W10/002276	GB Site 4 06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	115		93	
W10/002277	GB Site 4 07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	95		98	
W10/002278	GB Site 4 08	<0.01	<0.01	<0.01	<0.01	<																								

WAF Site 4      Fish Guts      S Lat    -13.409    E Long    124.081  
                          ~ 30 NM from West Atlas                           Heyward Shoal                           Depth 25-100 m

Limit of Reporting is indicated by "< number"

Lab No.	Sample No.	Total Petroleum Hydrocarbons				Volatile
		C <sub>6</sub> - C <sub>9</sub>	C <sub>10</sub> - C <sub>14</sub>	C <sub>15</sub> - C <sub>28</sub>	C <sub>29</sub> - C <sub>36</sub>	Surrogate Recovery
		mg/kg	mg/kg	mg/kg	mg/kg	%
W10/002329	RE Site 4 04	<25	<50	<100	<100	107
W10/002330	RE Site 4 03	<25	<50	<100	<100	104
W10/002331	GB Site 4 04	<25	<50	<100	<100	110
W10/002332	GB Site 4 05	<25	<50	<100	<100	100
W10/002333	SP Site 4 02	<25	<50	<100	<100	120
W10/002334	SP Site 4 03	<25	<50	<100	<100	101
W10/002335	SC Site 4 01	<25	<50	<100	<100	106
W10/002336	SC Site 4 02	<25	<50	<100	<100	111

Limit of Reporting is indicated by "< number"

Lab No.	Sample No.	Polynuclear Aromatic Hydrocarbons														BTEx					Total Petroleum Hydrocarbons					Surrogate	Surrogate
		Naph mg/kg	Naphthi mg/kg	Naphthe mg/kg	Fluorene mg/kg	Phenan mg/kg	Anth mg/kg	Fluoran mg/kg	Pyrene mg/kg	Benzo(a)an mg/kg	Chrysene mg/kg	B bk Fluoran mg/kg	B a pyrene mg/kg	I pyrene mg/kg	DB anthr mg/kg	B peryl mg/kg	Benzene mg/kg	Toluene mg/kg	E-Benzene mg/kg	1, p-Xylene mg/kg	o - Xylene mg/kg	C <sub>6</sub> - C <sub>9</sub> mg/kg	C <sub>10</sub> - C <sub>14</sub> mg/kg	C <sub>15</sub> - C <sub>28</sub> mg/kg	C <sub>29</sub> - C <sub>36</sub> mg/kg	Recovery	Recovery
W10/006501	GB Site 1 03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	140	98	
W10/006502	GB Site 1 04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	112	98	
W10/006503	GB Site 1 07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	114	99	
W10/006504	GB Site 1 13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	127	98	
W10/006505	GB Site 1 14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	112	99	
W10/006506	GB Site 1 15	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	114	100	
W10/006507	GB Site 1 16	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	99	100	
W10/006508	GB Site 1 19	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	105	99	
W10/006509	GB Site 1 21	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	97	99	
W10/006510	GB Site 1 22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	114	100	
W10/006511	GB Site 1 23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	123	102	
W10/006512	GB Site 1 24	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	92	101	
W10/006513	GB Site 1 25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	98	104	
W10/006514	GB Site 1 02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	123	105	
W10/006515	GB Site 1 05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	104	103	
W10/006516	GB Site 1 06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	106	106	
W10/006517	GB Site 1 01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	108	108	
W10/006518	RE Site 1 08	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	107	105	
W10/006519	RE Site 1 09	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	90	105	
W10/006520	RE Site 1 10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	91	105	
W10/006521	RE Site 1 20	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	113	97	
W10/006522	RE Site 1 26	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	118	98	
W10/006523	RE Site 1 27	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	126	97	
W10/006524	RE Site 1 28	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	120	100	
W10/006525	SS Site 1 11	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	90	97	
W10/006526	SS Site 1 17	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	114	99	
W10/006527	SS Site 1 18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	107	97	
W10/006528	SS Site 1 12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	130	97	

**Limit of Reporting is indicated by "< number"**

Lab No.	Sample No.	Total Petroleum Hydrocarbons				Surrogate
		C <sub>6</sub> - C <sub>9</sub> mg/kg	C <sub>10</sub> - C <sub>14</sub> mg/kg	C <sub>15</sub> - C <sub>28</sub> mg/kg	C <sub>29</sub> - C <sub>36</sub> mg/kg	Recovery %
W10/006602	GB Site 1 03		<100	<200	<200	
W10/006603	GB Site 1 04		<100	<200	<200	
W10/006605	GB Site 1 13		<100	<200	<200	
W10/006606	GB Site 1 14		<100	<200	<200	
W10/006607	GB Site 1 15		<50	<100	<100	
W10/006609	GB Site 1 19		<100	<200	<200	
W10/006610	GB Site 1 21		<100	<200	<200	
W10/006611	GB Site 1 22		<100	<200	<200	
W10/006612	GB Site 1 23		<50	<100	<100	
W10/006613	GB Site 1 24		<50	<100	<100	
W10/006614	GB Site 1 25		<50	<100	<100	
W10/006615	RE Site 1 08	<25	<50	<100	<100	97
W10/006616	RE Site 1 09		<100	<200	<200	
W10/006617	RE Site 1 10	<25	<50	<100	<100	96
W10/006618	RE Site 1 20	<25	<50	<100	<100	94
W10/006619	RE Site 1 26	<25	<50	<100	<100	97
W10/006620	RE Site 1 27	<25	<50	<100	<100	95
W10/006621	RE Site 1 28		<100	<200	<200	
W10/006622	SS Site 1 11	<25	<50	<100	<100	111
W10/006623	SS Site 1 17	<25	<50	<100	<100	94
W10/006624	SS Site 1 18	<25	<50	<100	<100	96

Curtin Site 2		Fish Flesh		S Lat	-12.72	E Long	124.578	2 NM from West Atlas				75 m depth																
Limit of Reporting is indicated by "< number"																										TPH	Volatile	
		Polynuclear Aromatic Hydrocarbons																BTEX					Total Petroleum Hydrocarbons				Surrogate	Surrogate
Lab No.	Sample No.	Naph	Naphthl	Naphthe	Fluorene	Phenan	Anth	Fluoran	Pyrene	Benzo(a)an	Chrysene	B bk Fluoran	B a pyrene	I pyrene	DB anthr	B peryl	Benzene	Toluene	m-Benzene	p-Xylene	o - Xylene	C <sub>6</sub> - C <sub>9</sub>	C <sub>10</sub> - C <sub>14</sub>	C <sub>15</sub> - C <sub>28</sub>	C <sub>29</sub> - C <sub>36</sub>	Recovery	Recovery	
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	
'10/006529	GB Site 2 38	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	114	95	
'10/006530	GB Site 2 40	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	117	97	
'10/006531	GB Site 2 42	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	135	96	
'10/006532	GB Site 2 46	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	135	97	
'10/006533	GB Site 2 43	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	126	97	
'10/006534	GB Site 2 44	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	138	101	
'10/006535	GB Site 2 45	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	142	98	
'10/006536	GB Site 2 41	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	125	97	
'10/006537	GB Site 2 37	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	137	99	
'10/006538	GB Site 2 39	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	139	97	
'10/006539	RE Site 2 32	<0.01	<0.01	<0.01	<0.01	0.014	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	117	98	
'10/006540	RE Site 2 33	<0.01	<0.01	<0.01	<0.01	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	137	97	
'10/006541	RE Site 2 35	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	128	112	
'10/006542	RE Site 2 36	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	240	<100	104	113	
'10/006543	SS Site 2 29	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	123	115	
'10/006544	SS Site 2 30	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	136	115	
'10/006545	SS Site 2 34	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	134	120	
'10/006546	SS Site 2 31	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	118	122	
'10/006547	SM Site 2 68	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	132	117	

**Limit of Reporting is indicated by "< number"**

Lab No.	Sample No.	Total Petroleum Hydrocarbons				Surrogate
		C <sub>6</sub> - C <sub>9</sub> mg/kg	C <sub>10</sub> - C <sub>14</sub> mg/kg	C <sub>15</sub> - C <sub>28</sub> mg/kg	C <sub>29</sub> - C <sub>36</sub> mg/kg	Recovery %
W10/006625	GB Site 2 38		<50	<100	<100	
W10/006626	GB Site 2 40	<25	<50	<100	<100	96
W10/006628	GB Site 2 46		<100	<200	<200	
W10/006629	GB Site 2 43		<100	<200	<200	
W10/006630	GB Site 2 44		<100	<200	<200	
W10/006631	GB Site 2 45		<100	<200	<200	
W10/006632	GB Site 2 47		<100	<200	<200	
W10/006633	RE Site 2 32	<25	<50	<100	<100	96
W10/006634	RE Site 2 33	<25	<50	<100	<100	97
W10/006635	RE Site 2 35	<25	<50	<100	<100	95
W10/006636	RE Site 2 36	<25	<50	<100	<100	97
W10/006637	RE Site 2 72	<25	<50	<100	<100	95
W10/006638	RE Site 2 73		<50	<100	<100	
W10/006639	RE Site 2 74	<25	<50	<100	<100	103
W10/006640	RE Site 2 75		<100	<200	<200	
W10/006641	SS Site 2 29		<50	<100	<100	
W10/006642	SS Site 2 30		<50	<100	<100	
W10/006643	SS Site 2 34		<50	<100	<100	

Curtin Site 3      Fish Flesh                      S Long      -12.881      E Long      124.332 ~ 30 NM from West Atlas                      25 - 1   m depth

Limit of Reporting is indicated by "< number"

Lab No.	Sample No.	Polynuclear Aromatic Hydrocarbons															BTEX					Total Petroleum Hydrocarbons				TPH	Volatile
		Naph mg/kg	Naphthl mg/kg	Naphthe mg/kg	Fluorene mg/kg	Phenan mg/kg	Anth mg/kg	Fluoran mg/kg	Pyrene mg/kg	Benzo(a)an mg/kg	Chrysene mg/kg	B bk Fluoran mg/kg	B a pyrene mg/kg	I pyrene mg/kg	DB anthr mg/kg	B peryl mg/kg	Benzene mg/kg	Toluene mg/kg	Ξ-Benzene mg/kg	l, p-Xylene mg/kg	o - Xylene mg/kg	C <sub>6</sub> - C <sub>9</sub> mg/kg	C <sub>10</sub> - C <sub>14</sub> mg/kg	C <sub>15</sub> - C <sub>28</sub> mg/kg	C <sub>29</sub> - C <sub>36</sub> mg/kg	Recovery %	Recovery %
W10/006548	BT Site 3 71	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	142	127
W10/006549	DT Site 3 70	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	124	124
W10/006550	RR Site 3 69	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	143	117

Curtin Site 3      Fish Guts      S Lat -12.8809    E Long 124.3324  
Vulcan Shoal

Limit of Reporting is indicated by "< number"

Lab No.	Sample No.	Total Petroleum Hydrocarbons				Volatile
		C <sub>6</sub> - C <sub>9</sub>	C <sub>10</sub> - C <sub>14</sub>	C <sub>15</sub> - C <sub>28</sub>	C <sub>29</sub> - C <sub>36</sub>	Surrogate
		mg/kg	mg/kg	mg/kg	mg/kg	Recovery
						%
W10/006645	BT Site 3 71		<100	<200	<200	
W10/006646	DT Site 3 70		<100	<200	<200	



Limit of Reporting is indicated by "< number"

Lab No.	Sample No.	Polynuclear Aromatic Hydrocarbons															BTEX					Total Petroleum Hydrocarbons				TPH	Volatile
		Naph mg/kg	Naphthl mg/kg	Naphthe mg/kg	Fluorene mg/kg	Phenan mg/kg	Anth mg/kg	Fluoran mg/kg	Pyrene mg/kg	Benzo(a)an mg/kg	Chrysene mg/kg	B bk Fluoran mg/kg	B a pyrene mg/kg	I pyrene mg/kg	DB anthr mg/kg	B peryl mg/kg	Benzene mg/kg	Toluene mg/kg	Ξ-Benzene mg/kg	l, p-Xylene mg/kg	o - Xylene mg/kg	C <sub>6</sub> - C <sub>9</sub> mg/kg	C <sub>10</sub> - C <sub>14</sub> mg/kg	C <sub>15</sub> - C <sub>28</sub> mg/kg	C <sub>29</sub> - C <sub>36</sub> mg/kg	Recovery %	Recovery %
W10/006551	DT Site 4 79	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	142	121
W10/006552	DT Site 4 90	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	148	111
W10/006553	DT Site 4 77	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	128	121
W10/006554	RR Site 4 76	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	120	119
W10/006555	RR Site 4 78	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	135	119
W10/006556	RR Site 4 87	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	136	119
W10/006557	RR Site 4 88	<0.01	<0.01	<0.01	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	137	102
W10/006558	RR Site 4 80	<0.01	<0.01	<0.01	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	118	118
W10/006559	RR Site 4 81	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	121	112
W10/006560	RR Site 4 82	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	105	114
W10/006561	RR Site 4 84	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	132	99
W10/006562	RR Site 4 85	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	146	104
W10/006563	RR Site 4 86	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	137	105
W10/006564	RE Site 4 111	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	40	102
W10/006565	SS Site 4 93	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	119	110
W10/006566	SS Site 4 94	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	133	106
W10/006567	SM Site 4 83	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	124	109

**Limit of Reporting is indicated by "< number"**

Lab No.	Sample No.	Total Petroleum Hydrocarbons				Surrogate Recovery %
		C <sub>6</sub> - C <sub>9</sub> mg/kg	C <sub>10</sub> - C <sub>14</sub> mg/kg	C <sub>15</sub> - C <sub>28</sub> mg/kg	C <sub>29</sub> - C <sub>36</sub> mg/kg	
W10/006647	DT Site 4 79		<50	<100	<100	
W10/006648	DT Site 4 90		<50	<100	<100	
W10/006649	DT Site 4 77		<100	<200	<200	
W10/006651	RR Site 4 78		<50	<100	<100	
W10/006652	RR Site 4 87		<100	<200	<200	
W10/006653	RR Site 4 88		<100	780	<200	
W10/006654	RR Site 4 91		<50	870	480	
W10/006655	RR Site 4 92		<100	<200	<200	
W10/006656	RE Site 4 111		<50	130	<100	
W10/006657	RE Site 4 112		<50	<100	<100	
W10/006658	SS Site 4 93		<100	<200	<200	
W10/006659	SS Site 4 94		<50	<100	<100	

Curtin Site 5	Fish Flesh	S Lat	-14.208	E Long	123.537	110 NM from West Atlas			0-120 m depth			Browse Island														TPH	Volatile	
Limit of Reporting is indicated by "< number"																												
		Polynuclear Aromatic Hydrocarbons																BTEX					Total Petroleum Hydrocarbons				Surrogate	Surrogate
Lab No.	Sample No.	Naph mg/kg	Naphthl mg/kg	Naphthe mg/kg	Fluorene mg/kg	Phenan mg/kg	Anth mg/kg	Fluoran mg/kg	Pyrene mg/kg	benzo(a)an mg/kg	Chrysene mg/kg	1 bk Fluora mg/kg	B a pyrene mg/kg	I pyrene mg/kg	DB anthr mg/kg	B peryl mg/kg	Benzene mg/kg	Toluene mg/kg	m-Benzene mg/kg	p-Xylene mg/kg	o - Xylene mg/kg	C <sub>6</sub> - C <sub>9</sub> mg/kg	C <sub>10</sub> - C <sub>14</sub> mg/kg	C <sub>15</sub> - C <sub>28</sub> mg/kg	C <sub>29</sub> - C <sub>36</sub> mg/kg	Recovery %	Recovery %	
W10/006568	GB Site 5 118	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	147	112	
W10/006569	GB Site 5 119	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	119	115	
W10/006570	GB Site 5 120	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	134	109	
W10/006571	GB Site 5 121	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	131	119	
W10/006572	GB Site 5 122	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	150	113	
W10/006573	GB Site 5 123	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	140	110	
W10/006574	GB Site 5 125	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	120	117	
W10/006575	GB Site 5 126	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	98	110	
W10/006576	GB Site 5 127	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	118	116	
W10/006577	GB Site 5 124	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	116	113	
W10/006578	RR Site 5 116	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	138	108	
W10/006579	RE Site 5 117	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	148	96	
W10/006580	RE Site 5 129	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	133	114	
W10/006581	RE Site 5 130	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	136	93	
W10/006582	RE Site 5 145	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	107	91	
W10/006583	RE Site 5 146	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	118	91	
W10/006584	RE Site 5 147	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	108	94	
W10/006585	RE Site 5 148	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	114	101	
W10/006586	RE Site 5 149	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	100	88	
W10/006587	RE Site 5 150	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	112	100	
W10/006588	RE Site 5 151	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	111	97	

Curtin Site 5                      Fish Guts                      S Lat        -14.208        E Long    123.537  
    110 NM from West Atlas                      0-120 m depth                      Browse Island

Limit of Reporting is indicated by "< number"

Lab No.	Sample No.	Total Petroleum Hydrocarbons				Volatile Surrogate Recovery %
		C <sub>6</sub> - C <sub>9</sub> mg/kg	C <sub>10</sub> - C <sub>14</sub> mg/kg	C <sub>15</sub> - C <sub>28</sub> mg/kg	C <sub>29</sub> - C <sub>36</sub> mg/kg	
W10/006661	GB Site 5 118		<100	<200	<200	
W10/006662	GB Site 5 119		<100	<200	<200	
W10/006663	GB Site 5 120		<100	<200	<200	
W10/006664	GB Site 5 121	<25	<50	<100	<100	102
W10/006665	GB Site 5 122		<100	<200	<200	
W10/006667	GB Site 5 125		<100	<200	<200	
W10/006668	GB Site 5 126		<100	<200	<200	
W10/006669	GB Site 5 127		<100	<200	<200	
W10/006670	GB Site 5 128		<100	<200	<200	
W10/006671	RR Site 5 116		<50	<100	<100	
W10/006672	RE Site 5 117	<25	<50	<100	<100	101
W10/006673	RE Site 5 129	<25	<50	<100	<100	102
W10/006674	RE Site 5 130	<25	<50	<100	<100	101
W10/006675	RE Site 5 145	<25	<50	<100	<100	100
W10/006676	RE Site 5 146	<25	<50	<100	<100	98
W10/006677	RE Site 5 147	<25	<50	<100	<100	100
W10/006678	RE Site 5 148		<100	<200	<200	
W10/006679	RE Site 5 149		<100	<200	<200	
W10/006680	RE Site 5 150		<100	<200	<200	
W10/006681	RE Site 5 151	<25	<50	<100	<100	100
W10/006682	RE Site 5 131		<50	<100	<100	
W10/006683	RE Site 5 156	<25	<50	<100	<100	99
W10/006684	RE Site 5 157	<25	<50	<100	<100	104

Limit of Reporting is indicated by "< number"

Limit of Reporting is indicated by "< number"		Polynuclear Aromatic Hydrocarbons															BTEX				Total Petroleum Hydrocarbons				TPH	Volatile				
Lab No.	Sample No.	Naph mg/kg	Naphthl mg/kg	Naphthe mg/kg	Fluorene mg/kg	Phenan mg/kg	Anth mg/kg	Fluoran mg/kg	Pyrene mg/kg	enzo(a) mg/kg	an mg/kg	Chrysene mg/kg	l bk mg/kg	Fluora mg/kg	B a mg/kg	pyrene mg/kg	I pyrene mg/kg	DB anthr mg/kg	B peryl mg/kg	Benzene mg/kg	Toluene mg/kg	Benzen mg/kg	e, p-Xylene mg/kg	o - Xylene mg/kg	C <sub>6</sub> - C <sub>9</sub> mg/kg	C <sub>10</sub> - C <sub>14</sub> mg/kg	C <sub>15</sub> - C <sub>28</sub> mg/kg	C <sub>29</sub> - C <sub>36</sub> mg/kg	Surrogate Recovery %	Surrogate Recovery %
W10/006589	DT Site 6 176	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	94	94
W10/006590	RR Site 6 168	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	128	98
W10/006591	RR Site 6 169	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	122	102
W10/006592	RR Site 6 170	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	113	101
W10/006593	RR Site 6 171	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	118	101
W10/006594	RR Site 6 172	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	122	97
W10/006595	RR Site 6 174	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	137	103
W10/006596	RR Site 6 175	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	133	99
W10/006597	RR Site 6 180	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	116	94
W10/006598	SM Site 6 173	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	114	97
W10/006599	SM Site 6 177	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	97	92
W10/006600	SM Site 6 181	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	132	104
W10/006601	SM Site 6 167	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.5	<0.5	<0.5	<1	<0.5	<25	<50	<100	<100	131	91

Curtin Site 6                      Fish Guts                      S Lat        -13.856        E Long    123.966  
    177 NM from West Atlas                      Depth 0-400 m                      Echuca Shoals

Limit of Reporting is indicated by "< number"

Lab No.	Sample No.	Total Petroleum Hydrocarbons				Volatile
		C <sub>6</sub> - C <sub>9</sub>	C <sub>10</sub> - C <sub>14</sub>	C <sub>15</sub> - C <sub>28</sub>	C <sub>29</sub> - C <sub>36</sub>	Surrogate
		mg/kg	mg/kg	mg/kg	mg/kg	Recovery %
W10/006685	RR Site 6 168		<50	<100	<100	
W10/006686	RR Site 6 169		<100	<200	<200	
W10/006687	RR Site 6 170	<25	<50	<100	<100	101
W10/006688	RR Site 6 171	<25	<50	<100	<100	101
W10/006689	RR Site 6 172		<100	<200	<200	
W10/006690	RR Site 6 174		<100	<200	<200	
W10/006691	RR Site 6 175	<25	<50	<100	<100	100
W10/006692	SM Site 6 173		<100	<200	<200	
W10/006693	SM Site 6 177	<25	<50	<100	<100	102
W10/006694	SM Site 6 181		<100	<200	<200	
W10/006695	12 Stomach	<25	<50	<100	<100	100
W10/006696	6 Internal contents		<100	<200	<200	

**Biomarker Analysis****Key:**

ND = Nil Detected

NM = No Match

M = Match

" – " = Not Applicable

NMI LRN	Marker – Tetramethyl Naphthalenes (TeMN)	Marker – Dibenzo- thiophene (DBT)	Ratio DBT / 1,3,6,7- TeMN	GC-FID hydrocarbon – match with Montara crude oil profile	Ion 57 selected ion chromatogram – match with Montara crude oil profile
W10/006501	ND	ND	-	NM	NM
W10/006502	ND	ND	-	NM	NM
W10/006503	ND	ND	-	NM	NM
W10/006504	ND	ND	-	NM	NM
W10/006505	ND	ND	-	NM	NM
W10/006506	ND	ND	-	NM	NM
W10/006507	ND	ND	-	NM	NM
W10/006508	ND	ND	-	NM	NM
W10/006509	ND	ND	-	NM	NM
W10/006510	ND	ND	-	NM	NM
W10/006511	ND	ND	-	NM	NM
W10/006512	ND	ND	-	NM	NM
W10/006513	ND	ND	-	NM	NM
W10/006514	ND	ND	-	NM	NM
W10/006515	ND	ND	-	NM	NM
W10/006516	ND	ND	-	NM	NM
W10/006517	ND	ND	-	NM	NM
W10/006518	ND	ND	-	NM	NM
W10/006519	ND	ND	-	NM	NM
W10/006520	ND	ND	-	NM	NM
W10/006521	ND	ND	-	NM	NM
W10/006522	ND	ND	-	NM	NM
W10/006523	ND	ND	-	NM	NM
W10/006524	ND	ND	-	NM	NM
W10/006525	ND	ND	-	NM	NM
W10/006526	ND	ND	-	NM	NM
W10/006527	ND	ND	-	NM	NM
W10/006528	ND	ND	-	NM	NM
W10/006529	ND	ND	-	NM	NM
W10/006530	ND	ND	-	NM	NM
W10/006531	ND	ND	-	NM	NM
W10/006532	ND	ND	-	NM	NM
W10/006533	ND	ND	-	NM	NM
W10/006534	ND	ND	-	NM	NM
W10/006535	ND	ND	-	NM	NM
W10/006536	ND	ND	-	NM	NM
W10/006537	ND	ND	-	NM	NM
W10/006538	ND	ND	-	NM	NM
W10/006539	ND	ND	-	NM	NM
W10/006540	ND	ND	-	NM	NM
W10/006541	ND	ND	-	NM	NM
W10/006542	ND	ND	-	NM	NM
W10/006543	ND	ND	-	NM	NM
W10/006544	ND	ND	-	NM	NM
W10/006545	ND	ND	-	NM	NM
W10/006546	ND	ND	-	NM	NM
W10/006547	ND	ND	-	NM	NM
W10/006548	ND	ND	-	NM	NM
W10/006549	ND	ND	-	NM	NM
W10/006550	ND	ND	-	NM	NM

**Biomarker Analysis**Key:

ND = Nil Detected

NM = No Match

M = Match

“ – “ = Not Applicable

NMI LRN	Marker – Tetramethyl Naphthalenes (TeMN)	Marker – Dibenzo- thiophene (DBT)	Ratio DBT / 1,3,6,7- TeMN	GC-FID hydrocarbon – match with Montara crude oil profile	Ion 57 selected ion chromatogram – match with Montara crude oil profile
W10/006551	ND	ND	-	NM	NM
W10/006552	ND	ND	-	NM	NM
W10/006553	ND	ND	-	NM	NM
W10/006554	ND	ND	-	NM	NM
W10/006555	ND	ND	-	NM	NM
W10/006556	ND	ND	-	NM	NM
W10/006557	ND	ND	-	NM	NM
W10/006558	ND	ND	-	NM	NM
W10/006559	ND	ND	-	NM	NM
W10/006560	ND	ND	-	NM	NM
W10/006561	ND	ND	-	NM	NM
W10/006562	ND	ND	-	NM	NM
W10/006563	ND	ND	-	NM	NM
W10/006564	ND	ND	-	NM	NM
W10/006565	ND	ND	-	NM	NM
W10/006566	ND	ND	-	NM	NM
W10/006567	ND	ND	-	NM	NM
W10/006568	ND	ND	-	NM	NM
W10/006569	ND	ND	-	NM	NM
W10/006570	ND	ND	-	NM	NM
W10/006571	ND	ND	-	NM	NM
W10/006572	ND	ND	-	NM	NM
W10/006573	ND	ND	-	NM	NM
W10/006574	ND	ND	-	NM	NM
W10/006575	ND	ND	-	NM	NM
W10/006576	ND	ND	-	NM	NM
W10/006577	ND	ND	-	NM	NM
W10/006578	ND	ND	-	NM	NM
W10/006579	ND	ND	-	NM	NM
W10/006580	ND	ND	-	NM	NM
W10/006581	ND	ND	-	NM	NM
W10/006582	ND	ND	-	NM	NM
W10/006583	ND	ND	-	NM	NM
W10/006584	ND	ND	-	NM	NM
W10/006585	ND	ND	-	NM	NM
W10/006586	ND	ND	-	NM	NM
W10/006587	ND	ND	-	NM	NM
W10/006588	ND	ND	-	NM	NM
W10/006589	ND	ND	-	NM	NM
W10/006590	ND	ND	-	NM	NM
W10/006591	ND	ND	-	NM	NM
W10/006592	ND	ND	-	NM	NM
W10/006593	ND	ND	-	NM	NM
W10/006594	ND	ND	-	NM	NM
W10/006595	ND	ND	-	NM	NM
W10/006596	ND	ND	-	NM	NM
W10/006597	ND	ND	-	NM	NM
W10/006598	ND	ND	-	NM	NM
W10/006599	ND	ND	-	NM	NM
W10/006600	ND	ND	-	NM	NM



**Biomarker Analysis**Key:

ND = Nil Detected

NM = No Match

M = Match

" – " = Not Applicable

<b>NMI LRN</b>	<b>Marker – Tetramethyl Naphthalenes (TeMN)</b>	<b>Marker – Dibenzo- thiophene (DBT)</b>	<b>Ratio DBT / 1,3,6,7- TeMN</b>	<b>GC-FID hydrocarbon – match with Montara crude oil profile</b>	<b>Ion 57 selected ion chromatogram – match with Montara crude oil profile</b>
W10/006601	ND	ND	-	NM	NM

**TPH Matcing**Key:

ND = Nil Detected

NM = No Match

M = Match

“ – “ = Not Applicable

<b>NMI LRN</b>	<b>GC-FID hydrocarbon – match with Montara crude oil profile</b>
W10/006602	NM
W10/006603	NM
W10/006604	NM
W10/006605	NM
W10/006606	NM
W10/006607	NM
W10/006608	NM
W10/006609	NM
W10/006610	NM
W10/006611	NM
W10/006612	NM
W10/006613	NM
W10/006614	NM
W10/006615	NM
W10/006616	NM
W10/006617	NM
W10/006618	NM
W10/006619	NM
W10/006620	NM
W10/006621	NM
W10/006622	NM
W10/006623	NM
W10/006624	NM
W10/006625	NM
W10/006626	NM
W10/006627	NM
W10/006628	NM
W10/006629	NM
W10/006630	NM
W10/006631	NM
W10/006632	NM
W10/006633	NM
W10/006634	NM
W10/006635	NM
W10/006636	NM
W10/006637	NM
W10/006638	NM
W10/006639	NM
W10/006640	NM
W10/006641	NM
W10/006642	NM
W10/006643	NM
W10/006644	NM
W10/006645	NM
W10/006646	NM
W10/006647	NM
W10/006648	NM
W10/006649	NM
W10/006650	NM
W10/006651	NM
W10/006652	NM

**TPH Matcing**Key:

ND = Nil Detected

NM = No Match

M = Match

“ – “ = Not Applicable

<b>NMI LRN</b>	<b>GC-FID hydrocarbon – match with Montara crude oil profile</b>
W10/006653	NM
W10/006654	NM
W10/006655	<b>M*</b>
W10/006656	NM
W10/006657	NM
W10/006658	NM
W10/006659	NM
W10/006660	NM
W10/006661	NM
W10/006662	NM
W10/006663	NM
W10/006664	NM
W10/006665	NM
W10/006666	NM
W10/006667	NM
W10/006668	NM
W10/006669	NM
W10/006670	NM
W10/006671	NM
W10/006672	NM
W10/006673	NM
W10/006674	NM
W10/006675	NM
W10/006676	NM
W10/006677	NM
W10/006678	NM
W10/006679	NM
W10/006680	NM
W10/006681	NM
W10/006682	NM
W10/006683	NM
W10/006684	NM
W10/006685	NM
W10/006686	NM
W10/006687	NM
W10/006688	NM
W10/006689	NM
W10/006690	NM
W10/006691	NM
W10/006692	NM
W10/006693	NM
W10/006694	NM
W10/006695	NM
W10/006696	NM

## Appendix 5: Selected tables from “Survey of polycyclic aromatic hydrocarbons (PAH) in Australian Foods: Dietary Exposure Assessment and Risk Characterization”

**Table 2: Upper-, middle- and lower-bound concentrations of total PAH in sampled foods (ng/g)\***

Foods	Mean Total PAH concentration (fresh weight ng/g) <sup>†,‡</sup>		
	Upper bound	Middle bound	Lower bound
<b>Meat and Meat Products</b>			
Hamburger	50.3	50.2	50.1
Bacon	15.5	10.2	4.9
Sausage, beef	13.3	7.2	1.1
Tuna, canned in brine	11.0	5.5	0
Liver, sheep	6.7	6.6	6.4
Fish fillets	6.0	6.0	5.9
Beef steak	5.5	3.3	1.1
Lamb chops	4.5	2.8	1.1
Pork chops	4.2	2.1	0
Chicken breast fillet	3.4	3.3	3.3
<b>Dairy Products</b>			
Butter, regular	16.9	10.4	3.8
Margarine	11.1	5.5	0
Cream, pure, not thickened	8.4	5.3	2.3
Cheese, cheddar, full fat	6.8	4.0	1.2
Ice cream	2.0	1.0	0
Yoghurt, fruit, full fat	1.8	1.1	0.3
Milk, full fat	1.1	0.5	0
Milk, modified low fat	1.0	0.5	0
<b>Other Foods</b>			
Coconut, desiccated	43.1	26.4	9.6
Potato crisps	32.9	21.9	10.8
Chocolate, milk type	30.1	29.7	29.3
Peanut butter	7.0	3.5	0
Pizza	4.7	3.1	1.5
Bread, white	3.7	3.6	3.5
Oil, canola	3.5	1.8	0
Eggs, boiled	3.4	1.7	0
Water tap 1 <sup>‡</sup>	2.6	1.3	0
Carrots	1.6	1.0	0.4
Water tap 2 <sup>‡</sup>	1.4	0.7	0
Salt, table, non-iodised	0.8	0.4	0
Potatoes, cooked	0.5	0.2	0
<b>Infant Foods</b>			
Infant dinner, containing meat	5.0	4.9	4.9
Infant dessert, dairy based	2.0	1.4	0.8
Infant cereal	1.9	1.8	1.7
Infant dessert, fruit based	1.7	1.0	0.4
Infant formula	1.2	0.6	0

Note: Results have been rounded to one decimal place.

\* Some samples required preparation to a ready-to-eat state. Please refer to Appendix 3 for food sample preparation instructions.

† The total PAH concentration in each food category is listed in descending order based on the upper bound, with the highest level in each food category listed first.

‡ Any contribution Acenaphthylene, Acenaphthene and Fluorene may have in the total PAH concentration has been excluded due to suspected matrix interference during analyses. Therefore, non-detect values have been assigned as 0 in all cases.

\* duplicate sample. All values reported for the PAH analysed, other than 5-methyl chrysene were reported as <LOD. Discrepancies in the upper- and middle-bound value for the two tap water samples are due to variation in the LOD individual PAH.

**Table 3: Multinational comparison of Benzo[a]pyrene as a measure of PAH levels in specific foods, in ng/g fresh weight (fw).**

Food	Concentration of Benzo[a]pyrene (ng/gram fresh weight)				
	AUSTRALIA <sup>‡</sup>	USA <sup>†</sup>	UK <sup>‡</sup>	SPAIN <sup>Ⓢ</sup>	ITALY <sup>‡</sup>
Butter	0	nd	0.45	N/A	0.016
Margarine	0	0.12	0.19-6.0	0.272	N/A
Cheese	0 <sup>†</sup>	nd	<0.04	0.078	0.014
Milk, whole	0 <sup>†</sup>	0.02	<0.04	0.011	0.336
Milk, formula	0	N/A	<0.01-0.2	N/A	N/A
Ice cream	0	N/A	<0.04	N/A	N/A
Yoghurt	0 <sup>†</sup>	0.18	<0.04	0.078	0.336
Eggs	0	0.03	<0.04	0.023	0.015
Fresh fish	0	0.15	<0.08	0.235	0.027
Canned fish	0	0.01	N/A	0.272	N/A
Bacon	0	0.2	0.05	0.098	0.034
Beef steak, grilled	0	4.75	0.01-0.04 unsmoked 0.01-0.14 smoked	0.098	0.613 pan 1.445 bbq
Lamb, grilled	0	N/A	<0.04	0.098	N/A
Pork, grilled	0	0.01	<0.04	0.098	0.035 pan 0.121 bbq
Chicken breast	0	0.39	<0.04	0.098	0.015
Beef sausage	0	0.02	0.03-0.26	0.098	
Hamburger	1.2	1.52		0.098	
Bread	0.075	0.10	0.11	0.262	0.017
Milk chocolate	0.29	0.18 <sup>Ⓢ</sup>	N/A	N/A	0.332

Note: There are limitations when making comparisons of PAH levels in food from other countries due to the variation in foods selected for analysis, the analytical methodologies, limit of quantification or reporting, treatment of non-detect values and the calculation and reporting of individual PAH.

N/A: not available; nd: not detectable

<sup>†</sup> Cheese was cheddar; yoghurt was full fat and contained fruit, milk was full fat.

<sup>‡</sup> determined from data presented in this study from composite samples. Values quoted are at the lower bound for all foods.

<sup>‡</sup> Kazerouni *et al.*, 2001. Yoghurt contained fruit and frozen, fresh fish, bacon and pork were pan fried (well done); beef steak and chicken were grilled (well done); hamburger was grilled or barbequed (very well done); Sausages were pork and bread was white bread. Values represented mean concentrations from composite samples.

<sup>‡</sup> <http://www.food.gov.uk/science/surveillance>, 2002. Values represent upper bound benzo[a]pyrene levels in ppb fresh weight. NB: Value for butter is for all oils and fats tested. Type of milk not stated; value for cheese, ice cream and yoghurt represents all dairy products. Values for pork and lamb are based on meat product values presented. Milk formula value is assumed as infant formula (data taken from FSIS09/06, 2006). Values for margarine (range values), bacon, beef steak and sausage were taken from WHO 2006; values for beef steak and sausages are for meat and sausage products in general.

<sup>Ⓢ</sup> Falco *et al.*, 2003; PAH content is estimated as a mean measure of benzo[a]pyrene in composite food samples. Meat products were analysed together and incorporate beef, hamburger, lamb, pork, pork sausage and chicken. Values for fish represents hake and sardines; milk values include whole and semi skimmed; dairy products include cheese and yoghurt; value for margarine also includes oils, canned fish and meat products such as ham, hot dogs and salami.

<sup>‡</sup> WHO, 1998; PAH content is estimated as a measure of benzo[a]pyrene content; poultry and eggs are given a value together; meat and meat products were analysed together (lamb, pork, sausages).

<sup>‡</sup> Lodovici *et al.*, 1995; PAH content is estimated as a measure of benzo[a]pyrene content in composite samples, value for bacon represents cured meats.

<sup>Ⓢ</sup> Result is for chocolate candy not specifically milk chocolate.

## METHODS OF ANALYSIS AND QUALITY ASSURANCE

PAH analysis was conducted on composited food samples by isotope dilution high resolution gas chromatography/high resolution mass spectrometry (HRGC/HRMS).

Homogenous composited samples were prepared following lyophilisation. A representative portion was removed and spiked with a range of isotopically labelled surrogate standards, saponified and extracted with organic solvent.

Sample clean up was conducted by partitioning with formic acid then complexing with a caffeine solution. Further purification using silica gel column chromatography was conducted. Internal standards are added to each extract immediately prior to injection into the GC. PAH are separated by the GC and detected by a high-resolution (>10,000) mass spectrometer. The quality of the analysis is assured through reproducible calibration and testing of the extraction, cleanup, and GC/MS systems. The limits of detection (LOD) for the 20 PAH range from <0.0003 to <30 ng/g, respectively and are shown in Table A3.

All analytical results are corrected for labelled surrogates and reported on a nanogram per gram lipid and per gram fresh weight basis.

**Table A3: List of PAH Analysed and Limits of Detection**

PAH	Limit of Detection (LOD) <sup>†</sup> (ng/g)
Acenaphthene	<0.05 - <0.2
Acenaphthylene	<0.03 - <0.2
Anthracene	<0.003 - <0.6
Benz[a]anthracene	<0.004 - <0.3
Benzo[b,k,j]fluorathene	<0.003 - <0.3
Benzo[g,h,i]perylene	<0.002 - <0.5
Benzo[a]pyrene	<0.003 - <0.4
Chrysene	<0.006 - <0.6
Dibenz[a,h]anthracene	<0.0003 - <0.05
Fluoranthene	<0.03 - <2
Fluorene	<0.05 - <0.3
Indeno[1,2,3-cd]pyrene	<0.001 - <0.3
Phenanthrene	<0.03 - <30
Pyrene	<0.05 - <1
Cyclopenta[c,d]pyrene	<0.002 - <0.08
5-Methyl Chrysene	<0.001 - <0.1
Dibenzo[a,c]pyrene	<0.001 - <0.2
Dibenzo[a,h]pyrene	<0.0008 - <0.2
Dibenzo[a,i]pyrene	<0.002 - <0.1
Dibenzo[a,l]pyrene	<0.004 - <0.4

<sup>†</sup> The Limit of Detection varies and is dependent on the type of food matrix tested. The values presented in the table above are the range for each analyte for all food types.

**Appendix 6:** Extract from “Managing seafood safety after an oil spill” (Yender, et al., 2002).

*Table II-7. Presence and duration of taint and tissue contamination with petroleum compounds reported at various oil spills. Refer to Table I-1 for the details on spill location, date, oil type and volume, environmental conditions, and references.*

Spill Name	Tissue PAH Concentration (µg/kg or ppb wet weight) and Persistence	Taint Persistence
<b>Finfish</b>		
<i>T/V Sea Empress</i>	Wild salmon: 12-186 Declined “rapidly”	Wild salmon: No taint
<i>T/V Braer</i>	Cod: 1.3-74 Haddock: 8-262 Plaice: 15-184 Whiting: 9-2,650 Lemon sole: 6-1,240 Dab: 25-2,160 All but dab reached background in 1 month; dab in 2 months  Caged salmon: up to 14,000; rapid loss to 1,000 in 25 days, reached background in 5 months	Cod: No taint Haddock: 1 month Plaice: Suspect taint 2 months Whiting: No data Lemon sole: No taint Dab: 1 month Caged salmon: 7 months
<i>T/B North Cape</i>	Finfish: 5-1,100; 0 months because no increase over background was observed	All finfish: No taint in 416 samples
<b>Crustaceans</b>		
<i>M/V Kure</i>	Rock crab: 5-350; 0.5 months	Crab: No taint
<i>M/V New Carissa</i>	Dungeness crab: < 15	No sensory testing conducted
<i>T/V Braer</i>	Lobster: 112-1,060; 1 month Velvet crab: 94-308; 2 months Edible crab white meat: 19-281; brown meat: 104-1,390; 12 months for crabs	Lobster: 1 month Edible crab: No taint
<i>T/B North Cape</i>	Lobster: 0-33,150; 2.5-5 months	Lobster: 2.5-5 months
<b>Bivalves</b>		
<i>M/V Kure</i>	Oyster: 264-4,467; 0.5 months	Oyster: No taint
<i>M/V New Carissa</i>	Oyster: 70-1,200; 3 weeks	Oyster: No taint
<i>T/V Sea Empress</i>	Whelk: 50-3,800; 4 months Mussel: up to 19,500; 2.5-5 months Cockle: similar to mussels	Whelk: No taint Mussel: No data
<i>T/V Braer</i>	Whelk: 45-1,130; 12 months Scallop: 223-3,580; 17 months	Whelk: No data Scallop: Suspect taint 2 months
<i>T/B North Cape</i>	Steamer clam: 8,500-18,400; 3 months Oyster: 1,400-13,500; 3 months Mussel: 4,200-24,300; 3 months	Steamer clam: No taint Oyster: No taint Mussel: No taint
Refinery Spill, El Salvador	Oysters: 30,000; <1 month	Oysters: No data
<i>T/V Exxon Valdez</i>	Bivalves from four small areas were above 100; 1 year All other areas < 100	Bivalves: No data