

Consultancy for Contemporary Used Oil Audits in Selected Pacific Island Countries

Report for Wallis and Futuna

**Prepared for the Secretariat of the Pacific Regional
Environment Programme (SPREP)**

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Executive Summary

This report covers the Wallis and Futuna component of a project involving used oil audits in selected Pacific Island countries. The objective of the audits is to establish volumes of lubricating, hydraulic and transmission oils imported annually into each country and the volumes of used oil produced, stored or otherwise disposed. The work has been carried out by Contract Environmental Ltd under a contract to the Secretariat of the Pacific Regional Environment Programme (SPREP), with funding provided by the Global Environment Facility. Most of the information required for the audit has been obtained in a country visit undertaken by Martyn O'Cain from 7 to 15 September 2015 and was organised through the local Service de l'Environnement.

Used Oil Production

The total quantity of lubricating oils imported into Wallis and Futuna in 2014 was between 87,000 and 99,000 litres and it is estimated that approximately 5% of that will end up as used oil. In addition small amounts of the 7 million litres of diesel imported into Wallis and Futuna ends up in the used oil stream. Other used oil components come from diesel waste, small amounts of hydraulic and transmission oils, brake fluid and vegetable oil. It is therefore estimated that about 44,000 to 47,000 litres of used oil is produced per year. Certainty estimates for the estimated volumes are given at the end of the report.

Used Oil Collection and Disposal

There are no private used oil recovery companies in Wallis and Futuna. The Island of Wallis does have a formal collection point for used oil however the manner in which it is stockpiled is not suitable given the large amount of oil that is accumulated. Some used oil is sent to Wallis from Futuna. Any disposal of used oil on Wallis and Futuna is not governed or managed by either the private sector or a government agency.

Based on the volumes of used oil that are being generated and the figures showing what is being stored and stockpiled there is confidence that used oil is not being disposed of unlawfully in significant quantities however a small but significant volume is being provided to locals to use as a timber treatment product.

There are no oil reuse options available in Wallis and Futuna except for a very small amount being used in the production of asphalt. Some treated diesel product that is generated by the power companies on Wallis and Futuna but not suitable for reuse as a fuel for the generators is sent to the Wallis Landfill where it is reused to fuel the medical waste incinerator.

The best management option is for the used oil to be collected and exported off shore.




National Instruments

Service de l'Environnement does provide limited governance over the management of used oil.

A plan has been prepared that covers a number of environmental issues and is currently being implemented (2011 – 2016). Hazardous waste management is covered in the plan.

Recommendations

Based on this audit of used oil in Wallis and Futuna the following recommendations are offered:

- Establish a robust set of regulations for managing, monitoring and enforcing the handling, storage and disposal of used oil on Wallis and Futuna;
- Improve the collection facility at the Wallis Landfill. This will include establishing an environmentally secure collection area that is bunded, covered and monitored to ensure the entry and exit of used oil is correctly managed. It is acknowledged that some of the area being used to store used oil at the landfill is suitable however there is currently not enough capacity for the amount that is being stockpiled;
- Extend the collection system to include all used oil being generated on the Island of Futuna
- Establish a formal procedure for collecting, managing and disposing of used oil at the centralised collection point;
- Encourage local residents not to use the oil for treating timber. This can be achieved through better education and public awareness;
- Provide suitable used oil containers (empty drums) for locals to store used oil prior to it being collected by Service de l'Environnement;
- Establish suitable time frames for exporting the collected oil to an offshore facility given that the estimated amount of used oil being generated each year is now available. This includes executing tender contracts within a timely manner; 
- Independent scrutiny of tendering contracts for the export of the used oil. Consideration should be given to the reputation and professionalism of the appointed contractor. Such things as ensuring they have appropriate ships for carrying the oil; they have good history within the industry; they have guaranteed contracts with an approved treatment facility and that they will guarantee stewardship of the product once it has left Wallis and Futuna 
- Consider re-use options on Wallis and Futuna. A possible re-use option would be to  establish a waste to energy system at the existing power station. Briefly, this would involve establishing a suitably sized burner capable of being fuelled by used oil. Connect an electricity generating turbine that recovers the energy generated by the oil combustion. Connect the turbine to the main power grid which will supplement the existing power production. A feasibility study may be required to establish whether or not enough used oil is generated to warrant such a system. It is acknowledged that the Wallis landfill did have a used oil burner on site between 2003 and 2006. Such a system could be resurrected and expanded on using current technology.



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1. Introduction

1.1 Purpose

This report covers the Wallis and Futuna component of a project involving used oil audits in selected Pacific Island countries. The objective of the audits was to establish volumes of lubricating, hydraulic and transmission oils imported annually into each country and the volumes of used oil produced, stored or otherwise disposed. The work was carried out by Contract Environmental Ltd under a contract to the Secretariat of the Pacific Regional Environment Programme (SPREP), with funding provided by the Global Environment Facility. Most of the information required for the audit was obtained in a country visit undertaken by Martyn O'Cain from 7 to 14 September 2015 and was organised through the Service de l'Environnement on Wallis and Futuna.

1.2 Scope of Work

A copy of the Terms of Reference for this work is given in Appendix 1. It lists the following tasks:

- a) *Establish and document national oil import/generation volumes and rates for the last 3 years ideally 2012, 2013 and 2014;*
- b) *Establish national used oil production rates for the last 3 years ideally 2012, 2013 and 2014;*
- c) *[Prepare an] Oil Audit Balance for the last 3 years ideally 2012, 2013 and 2014;*
- d) *Document and summarise existing national used oil management procedures; and*
- e) *Document and summarise existing national used oil management instruments.*

1.3 Report Content and Layout



Section 2 of this report provides details of the annual oil imports to Wallis and Futuna, based on the data obtained from the Customs Department and from companies that import directly into Wallis and Futuna.

An estimate of used oil generation rates and volumes is set out in Section 3 while Section 4 contains the overall audit balance, including an assessment of uncertainties in the data.

Section 5 provides information on existing storage facilities for used oil and current stockpiles; current reuse or disposal methods; and an assessment of possible future alternatives. Information on the current shipping costs to the nearest main port is also covered here.

Section 6 sets out the details of the relevant national instruments for used oil management.

Section 7 provides some overall discussions and recommendations, and is followed by the following 2 appendices:

- A copy of the TOR is given in Appendix 1; 
- The organisational details for the country visit and a list of contacts are given in Appendix 2;
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2.0 Oil Imports

2.1 Information Provided by the Wallis & Futuna Customs Department

Information was sought from and provided by the Wallis and Futuna Customs Department for petroleum imports from 2013 - 2015. Oil import data extracted from the customs information for 2103 and 2014 is presented in Table 1. The 2015 data was not included as the year's imports have not yet been completed. The information was provided on a weight (kg) basis. A simple conversion factor of 1.11 was used to convert the oil weight to litres.



The diesel import figures provided by customs have not been included. After reviewing the data over the three years that was provided it was considered that the information was significantly lower when compared to what the sole importer of diesel provided. 

Table 1 shows the oil imports to Wallis and Futuna for 2013 and 2014 as provided by the Customs Department.

Table 1 - Oil Import Data for Wallis and Futuna (2013-2014) as provided by Customs Department

Type of Oil	2013 (litres)	2014 (litres)	2-Year Average (litres)
Various Oil Types	58,000	87,250	72,625

2.2 Additional Information on Imports

Table 2 shows the data that has been collected from individual importers of oils that include but are not limited to lubricating oil, hydraulic oil, transmission fluid and two-stroke oil. The data is a combination of imports to Wallis Island and Futuna Island 

Please note that SWAFEPP¹ was able to provide data on oil imports for the last three years however the smaller suppliers only provided information for the previous year.

¹ La Société Wallisienne et Futunienne d'Entreposage des Produits Pétroliers

Table 2 – Lubricating Oil Import Data for Wallis and Futuna as Provided by Importing Companies

Company	Location	2012 (litres)	2013 (litres)	2014 (litres)
SWAFEPP	Wallis & Futuna	99,817	50,124	65,315
Cowafdis S.A.	Futuna	-	-	9,000
Sigave Distribution	Futuna	-	-	60
Britirama	Wallis	-	-	2,100
BTP SUD	Wallis	-	-	16,000
Garage Siokivaka	Wallis	-	-	6,600
Total				99,075

Table 3 shows the volume of diesel imported by SWAFEPP into Wallis and Futuna from 2012 – 2014. SWAFEPP are the only known importers of diesel into the country.

Table 3 – Diesel Import Data for Wallis and Futuna as Provided by SWAFEPP

Year	2012	2013	2014	Mean
Diesel (L@15°C)	7,557,472	7,329,285	6,904,103	7,263,620

2.3 Cost and Price Information

The following price information (Table 4) for lubricating oil was obtained from retail shops and the local power companies in both Wallis and Futuna.

The prices and currency conversion provided are for September 2015. They are shown as Communaute Financiere du Pacifique Francs (XPF) at a conversion rate of around 106 XPF to US\$1. The range of oil prices reflects the different brands and oil quality that were observed in the retail shops on Wallis and Futuna. Power company representatives indicated that for 2015 the cost per litre of diesel has varied between 135 – 170 XPF/L.

Table 4 – Price Information for Various Oil Products and Volumes

Item	Retail Price	
	XPF	US\$
Lubricating oil (5 litres)	3780 – 10200	35.70 – 97.00
Lubricating oil (2 litres)	1760 – 3120	16.60 – 29.44
Lubricating oil (1 litre)	1390 – 2390	13.11 – 22.55
Diesel (retail pump)	182.7/L	1.73/L
Diesel (power company)	145.6/L	1.38/L

3.0 Used Oil Production

The information collected on the production of used oil in Wallis and Futuna was obtained by visiting many companies and operations that could potentially generate used oil. Individuals at each location were asked specifically how much used oil their operation generated over a set period of time. The information was provided verbally as very few operators kept detailed written records. The information was usually provided as drums per month which was then extrapolated to litres per year. The volumes of used oil identified at each locality are included in the contacts list attached as Appendix 2.2. Location maps showing the key sites that were visited as part of this investigation are also included in Appendix 2.2.

3.1 Used Oil Recovery by Vehicle and Machinery Servicing

Sixteen sites were visited on Wallis and eight on Futuna. Each site visited maintained or serviced vehicles either for their own use or for off site customers. The businesses and organisations that were visited included auto repair shops, construction companies, oil supply depots and air and sea port terminals.

The annual volume of used oil generated by these businesses is calculated to be 16,070 L/yr for Wallis and 5,040 L/yr for Futuna. The country total is approximately 21,110 L/yr

3.2 Used Oil Recovery from Ship and Boat Servicing

There were no specific organisations that maintained, repaired or serviced engines associated with large marine vessels on Wallis and Futuna. It was established that the service and maintenance of small marine craft is predominantly undertaken by the owners of the local vehicle repair shops.

Wallis and Futuna does not have the facilities nor the capability to accept used heavy fuel oil from visiting ships. Boats visiting the country are mainly cargo ships providing necessary supplies to the Islands.

3.3 Used Oil Recovery by Power Stations and Small Generators

Large power generators often use heavy fuel oil as their operating fuel. In Wallis and Futuna all the generators that were inspected used diesel as the fuel source. Therefore any used oil that is being generated at these sites is from the use of lubricating oil for running and maintaining the generators.

3.3.1 Small Generators


The power supply on Wallis and Futuna is considered stable and reliable therefore the use of private generators is not common. No industry or private company was identified as using generators on a full time basis or operating off the main power grid. Information from two sites (Wallis Hospital and Wallis Airport) confirmed that the use of generators was limited and they were primarily maintained for emergency use only. Wallis hospital stated that all maintenance and servicing, including vehicles, was outsourced. No small generators were identified on the Island of Futuna.

The annual volume of oil generated by these operations is calculated to be approximately 225 L/yr.

3.3.2 Wallis and Futuna Power Company

The Islands of Wallis and Futuna both have diesel fuelled generators.

On Wallis Island, oil collected from the maintenance of the 6 diesel generators is collected into 205 L drums and taken directly to the local landfill for storage on a weekly basis. The annual volume of used oil generated by the Wallis power company is estimated to be 9,000 L/yr.

On the island of Futuna used oil generated from the maintenance of the 4 power generators is also collected in 205 L drums. The drums are sent to a shed on the northwestern coast of the Island. According to the Service de l'Environnement when approximately 60 drums have been collected they are loaded into a shipping container and transported to Wallis Island where they are being stored at a centralised location. At the time the investigation was undertaken there were 29  drums at the storage location on Futuna. There were also 15 x 5 L containers full of used oil at this location. The annual volume of used oil generated by the Futuna power company is estimated to be 4,100 L/yr.

It is important to note that both power companies regularly drain diesel from the bulk diesel storage tanks and run it through a series of oil separators. Water naturally accumulates in the bulk storage tanks due to rain events and humidity. Once the diesel has been separated from the water the collected diesel is pumped into 205 L or 1,000 L containers. The diesel product is sent to the Landfill on Wallis Island. At the landfill the diesel is reused as a fuel. The main reuse option is fuel for the medical waste burner that is located at the Wallis Landfill.

It is estimated that Futuna power company generates about 800 L/yr of waste diesel while Wallis power company estimates about 3000 L/yr.

3.4 Used Oil Recovered from Outer Islands

There are no outer islands associated with Wallis and Futuna.

3.5 Survey Allowance

It would be unrealistic to assume that this audit is without inaccuracies and incomplete data. It is accepted that there are businesses and companies that generate used oil but were not visited as part of this audit. Such operations would also include individual vehicle owners that carry out their own maintenance and repair. It is unknown how many of these operations there are. Therefore a 10% allowance has been applied to the total volume of used oil that has been determined from visiting individual sites.

4.0 Oil Audit Balance

4.1 Theoretical Used Oil Production Rates

An estimate can be made of the quantities of used oil produced based on the information provided in the previous section.

Waste oil from lubricating oil:

The total annual quantity of lubricating oil imported is approximately 99,000 litres, based on the 2014 figures provided by the importing companies. Based on 2014 customs data the oil imports are approximately 87,250 litres.

Typically about 50%² of the imported oil would be burnt and 50% would contribute to the total used oil produced. The estimate of used oil from lubricating oil is therefore between **43,625 - 49,500 litres**.

Waste Oil from Fuel Oil used by Power Stations

The generators operating in Wallis and Futuna use standard diesel to produce the country's power supply. No used oil is generated from the ignition process however it is generated from the lubricating oil that is required to run and maintain the engines.

Waste Oil from Ships

Wallis and Futuna is not² a member of the International Convention for the Prevention of Pollution from Ships (MARPOL) therefore it is not expected to accept used oil from visiting ships. It is our understanding that neither Wallis Island nor Futuna Islands accept used oil from visiting ships. On-site observations confirmed that neither Island have the facilities at the docking ports to accept, handle or dispose of such a product in the quantities that would be generated.

Waste Oil from Diesel and other Sources

Diesel and other products (e.g. solvents, mineral turpentine, grease, hydraulic oil, cooking oil, etc) also contribute minor amounts to the used oil stream at say 0.01%¹ of the figures that are available from SWAFEPP, i.e. **726 litres/year**.

The above figures are summarised in Table 5 below:

² These figures have previously been accepted by SFA² based on earlier used oil audits

Table 5 – Theoretical Used Oil Production in Wallis and Futuna

Source of Used Oil	Estimated Quantities (litres/year)	
	Based on private company information	Based on Customs information
Lubricating Oil	45,900	43,625
Waste from Diesel and Other Sources	726	726*
TOTAL	46,626	44,351

* based on the data provided by SWAFEPP

4.2 Actual Used Oil Production Rates

The used oil being collected on Wallis and Futuna by auto repair shops, heavy plant and machinery operators, generator operators and boat maintenance operations is generally being mixed without any record of what waste stream it is being generated from. No operators were able to indicate the quantities of used oil generated from the different oil products. Therefore for the purposes of this report used lubricating oil, hydraulic oil, transmission oils, grease, and diesel 'slops' are considered as the total used oil generated.

Table 6 – Actual Waste Oil Collection in Wallis and Futuna

Source of Used Oil	Actual Quantities (litres/year)		
	Wallis	Futuna	Total
Vehicle and machinery servicing	16,070	5,040	21,110
Small generators	225	0	225
Power Stations	9,000	4,100	13,100
Sub Total	25,295	9,140	34,435
Survey Allowance (10%)	2,529	914	3,443
TOTAL	27,824	10,054	37,878

4.3 Used Oil Balance

There is a 15% - 19% difference between the theoretical oil production rates and the actual oil production rates as determined from interviewing individual businesses. The discrepancy may be due to any of the following:

- The theoretical assumption that 50% of the oil would be burnt during a normal life cycle may be under estimated;
- The contribution of diesel slops to the waste stream may be too low;
- The 10% survey allowance is not high enough;
- An under estimate by the individuals that were interviewed regarding the actual amount they expect to generate each year; and
- A combination of some or all of the above.

4.4 Certainty Assessment

The confidence levels for each component of the audit balance are summarised below:

- The data for lubricating oil imports can be taken as having a **medium to high level of confidence**. The audit has used the data provided by the import companies for 2014 rather than the Customs data. The reason being that there seems to be an element of subjectivity when describing the type of oil that is being imported under the Customs data system also the information was only provided as weight and not in litres so a conversion was required. There is significant scope for data to be missed or categorised incorrectly. The importing companies provided the data directly from their yearly accounts. Having said that the difference between the two sets of data is only 12%; and
- The figure for total used oil produced can be taken as having a **medium level of confidence**. The data is reliant on the accuracy of the people that were interviewed at each of the locations and that at least 90% of the used oil generators were visited.

5.0 Current Storage and Disposal Practices

5.1 Existing Storage Facilities and Current Stockpiles

5.1.1 Specific Used Oil Storage Facilities

There is no specialised oil recovery company based in Wallis and Futuna. On the Island of Wallis used oil is collected from individual vehicle repair shops and the power company by the Service de l'Environnement and taken to the local landfill where it is stored. This practice began in 2003. Unfortunately, while the landfill has enough space to adequately store the growing volume of used oil drums, the facility was not designed to be a centralised collection facility meaning that the majority of the used oil containers are exposed to the elements and are therefore steadily deteriorating. Some drums have already failed. One 20,000 L tank and one 1,850 L tank were observed at the landfill as being suitable for long term storage. The 20,000 L tank is shown in Figure 1.

It should be noted that while the Service de l'Environnement picks up used oil from the local vehicle repair shops through an environment tax that is collected from local companies, not all the organisations that were visited were participating.

Figure 1 – 20,000 L storage tank full of used oil on Wallis



On the Island of Futuna only used oil generated by the local Power Company is collected and stored at a centralised location. Drums are stored in a designated shed on the waterfront. The shed is also used to store old lead-acid batteries. When approximately 60 drums of used oil have been collected they are put into a shipping container and sent to Wallis where they are stored at the landfill. This

occurs once every 2 – 3 years. At the time of inspection there were 29 drums and 15 x 5 litre containers at the collection point. Figure 2 shows the drums currently stored at the Futuna collection point.

It is important to reiterate that only oil generated by the power company is managed in this way. Used oil from the local vehicle repair shops is not included.

Figure 2 – Drums of waste oil collected from the power company and stored at the Futuna collection point



5.1.2 Current Stockpiles

Eleven sites were visited on the Island of Futuna (including the Service de l'Environnement collection point) as part of the used oil audit. At each location the volume of used oil that was being stockpiled on the site was recorded and photographed. The total volume of used oil recorded at the time of the audit on Futuna was 9,754 L. A similar exercise was carried out on the Island of Wallis. Eighteen sites were visited (not including the landfill site). The total volume of used oil stockpiled at these locations is 4,455 L.

Since 2003 the Service de l'Environnement on Wallis Island has regularly collected used oil from those companies that generate it. They store it primarily in drums at the local landfill. Some of the drums are protected from the weather by plastic covers, with a small number stored on a concrete pad however many are placed unprotected in an area surrounding the main building complex at the site. These drums have or will eventually begin to fail. Figures 3 - 5 show the drums that are being stored unprotected.

The total estimated volume of used oil that is currently stockpiled at the landfill is 184,390 L.

The total volume of used oil being stockpiled on Wallis and Futuna at the time of the audit was 198,600 L. This figure is likely to be slightly underestimated as it is accepted that not every container holding used oil was inspected by the project representatives. Similar to the survey allowance described for the used oil generation an increase of 10% would be considered realistic.

Therefore the total volume of used oil stockpiled on Wallis and Futuna is 218,460 L.

The volumes stockpiled at each location are included in the contacts list attached as Appendix 2.2.

Very few of the sites that were visited had well-managed storage facilities that included bunds and weather protection. The drums and containers were poorly managed and exposed the local environment to significant risk from the uncontrolled release of used oil.

It is important to note that the new landfill on Futuna has collected and stockpiled approximately 200 drums of aged and weathered bitumen that was left over from the redevelopment of the Futuna airport runway in 2009. The drums are in poor condition and many have already failed. It is not used oil but it is a petroleum hydrocarbon based product that can be detrimental to human health and the environment if not managed correctly. The stored drums are shown in Figure 6.

Figures 3 – 5 – Used oil storage at the landfill on Wallis Island





Figure 6 – Drums of aged bitumen stored at the Futuna Landfill




5.2 Current Reuse or Disposal Methods

Currently there are no heavy or light industry options on Wallis and Futuna that are capable of utilising the Islands' used oil. The landfill on Wallis Island runs a diesel fuelled incinerator for the destruction of medical waste. It uses recycled diesel from the two power companies to fuel it. This investigation did not explore the option of converting or modifying the incinerator so that used oil can be used. It was also established that the Landfill once had a specific used oil incinerator. It was established at the landfill in 2003 but stopped working in 2006 and was not repaired. It remains stored at the landfill.

After interviewing the manager of BTP SUD it was identified that they do use a small amount of used oil as a fuel for heating asphalt during road construction and repairs. They use a 1/3 mix of oil with diesel. Unfortunately they only estimated a total of 400 L of used oil being utilised per year which would have very little impact on reducing Wallis and Futuna total used annual oil generation. They did indicate that occasionally used oil is provided to Public Works for the same purpose.

A number of the garage owners indicated that they gave a lot of used oil to local residents for treating timber prior to construction or as a water proofing agent on the underneath of cars. No information was provided as to how much oil was given away in this manner.

In the absence of any specific industry that is capable of using used oil as fuel for generators or incinerators, the only available option for the disposal of used oil from Wallis and Futuna, at the time the audit was undertaken, is to have it taken offsho and disposed of at a facility that has the capability to treat the product to a standard where it can be reused elsewhere.

It is important to note that at the time the audit was undertaken the Service de l'Environnement had commissioned a tender process to interested companies to oversee the removal of the used oil stockpiles. Due to the timing of the tender and the undertaking of this audit, it is understood that the tender was put on hold until this report was completed.

5.3 Assessment of Possible Future Alternatives.

Future alternatives are limited on Wallis and Futuna given the absence of any significant light or heavy industry. The most likely and immediate remedy to the increasing stockpiles of used oil on Wallis and Futuna is to export it off the Islands. This process is currently underway.

It is possible that discussions could be had with Service de l'Environnement about resurrecting a used oil incinerator specifically designed to accommodate the estimated annual volume of used oil being generated. This could involve purchasing and maintaining a 'stand alone' used oil incinerator or converting the hospital waste incinerator to operate using used oil. Such incinerators could be upgraded in the future, to supporting a waste to energy process. It is acknowledged however that a feasibility study may be required to establish whether or not enough used oil is generated to warrant a waste to energy system. It is also acknowledged that these systems are reasonably 'high tech' and carry significant risk if not managed or used correctly. Assistance in training and maintaining such equipment would have to accompany any reuse initiatives.

Wallis and Futuna is not a signatory of the Basel Convention however are likely to be parties to the convention by virtue of being under French administration. This being the case Wallis and Futuna may export used oil to other countries that are parties to the Basel Conventions. Wallis and Futuna are not listed as members of the Waigani Convention.

5.4 Current Shipping Costs

Société Walisienne et Futunienne de Transport (SWFT) estimated the cost to ship a 20 ft container to Fiji at around US\$3,000 with approximately an additional US\$2,000 for land transport, loading, wharf fees, insurance, and customs costs.

6.0 Relevant National Instruments

The Service de l'Environnement has a plan for the elimination of hazardous wastes from Wallis and Futuna, mandated under the Code de l'Environnement legislation³. The current plan is for the 2011 - 2016 period and discusses the export of hazardous waste materials.

The most relevant piece of legislation for Wallis and Futuna is the Code de l'Environnement of 2007, which is the current law regarding the treatment and shipment of hazardous wastes. Livre Quatrieme: Pollutions, Risques et Nuisances, Title 2 'Dechets' deals with wastes, and Chapter 3 Section 2 deals with exports of hazardous wastes, and as such will address used oil shipments. Specific mention is made of the Basel Convention and some European Commission directives that are relevant⁴. This section also has a specific prohibition against export to several countries, including Fiji (presumably because Fiji is not a party to the Basel Convention).

The legislation adopts a polluter pays principle and expects the government to manage risk to human health and the environment based on the precautionary principal. The Government is expected to prepare environmental management plans that are to address waste management. Such plans are directed to reduce waste on Wallis and Futuna.

Copies of the 'Plan Particulier d'Elimination des Dechets Dangereux du Territoire De Wallis et Futuna 2011 – 2016' and the 'Code de l'Environnement (2006)' are available on request.

³ Book four, Title 2, Chapter 2 section 3

⁴ Code de l'Environnement, Version définitive adoptée 26 juillet 2007, Article E. 423-2

7.0 Discussion and Recommendations

7.1 Used Oil Generation

The quantity of lubricating oil imports into Wallis and Futuna is estimated at between 87,000 and 99,000 litres for 2014 and approximately half that would end up as used oil. In addition small amounts of the 7 million litres of diesel and other oil-based products imported into Wallis and Futuna would end up in the used oil stream.

All the oil generated is collected from the maintenance of vehicles, boats or generators. Wallis and Futuna does not have the facilities to collect and purify used fuel oil from visiting ships.

There are no established companies in Wallis and Futuna that recover used oil from the businesses and companies that generate the used oil as part of their day-to-day operations with the exception of a very small amount being used to assist with the production asphalt for pavement construction. Used oil that is generated is currently being stored on the premises where it is being generated, delivered to the local landfill or given to 'locals' as a timber treatment product.

The amount being generated is estimated to be between 38,000 and 47,000 L/year while at the time the investigation was undertaken it is estimated that around 218,500 L of used oil is currently stored on Wallis and Futuna. 184,390 litres is stored at the local landfill on Wallis while around 6,000 L is being stockpiled on Futuna by the Service de l'Environnement in preparation for transport to Wallis. The balance of about 28,110 L is stockpiled at multiple locations in both Wallis and Futuna.

There is approximately 5 - 6 years of accumulated used oil stockpiled on Wallis and Futuna.

7.2 Used Oil Collection

As discussed in Section 5.1.1 there is no established oil recovery company operating in Wallis and Futuna however the Service de l'Environnement have begun a formal centralised collection system by organising and funding the collection of used oil through a tax generated from companies and businesses that produce it. However it became evident during the audit that not all used oil generators participate in the scheme and that it was primarily only active on the Island of Wallis. The only used oil being collected and transported to Wallis from Futuna was product generated by the Futuna power station.

Generally, the manner in which the oil is being stored on both Islands is not environmentally protective with many of the storage containers exposed to the elements. This includes most of the used oil being stockpiled at the landfill on Wallis Island.

Comments from some of the local used oil generators indicated that obtaining suitable empty oil drums was difficult and therefore some of the containers being used were not suitable. It may be prudent for the Service de l'Environnement to purchase and provide such drums or similar containers for those organisations that are having difficulty sourcing them themselves.

7.3 Used Oil Management

The volumes of used oil that are being generated and those that have been identified in stockpiles do indicate that businesses on Wallis and Futuna that produce used oil are generally collecting and storing it. The only evidence of used oil being disposed of in an uncontrolled manner are the second hand stories regarding locals requesting it from businesses for treating timber.

The main issue to surface from the investigation undertaken on Wallis and Futuna is the lack of environmental management being implemented by businesses generating and storing used oil. While there is an organised collection system on Wallis Island, which is a commendable achievement, suitable storage space at the landfill is limited and had all but been taken up at the time this report was prepared. Additional information should also be provided to the local businesses that generate used oil on the appropriate storage of such a product. Expanding the collection program on the Island of Futuna should also be considered.

Figures 7 and 8 – Stored used oil containers in Wallis and Futuna



Service de l'Environnement does have capacity within its current regulations to enforce safe and effective storage of used oil on the island however it is unknown how effective compliance and enforcement of such regulations are.

With regard to the management of used oil on each of the Islands, the findings of this report do suggest that collecting it and exporting it offshore is the most appropriate way to manage the product in the foreseeable future.

The most urgent aspect associated with the short and long term management of used oil on Wallis and Futuna is to establish a formal and regular collection and export program that ensures used oil containers are not unnecessarily exposed to the elements for long periods or are stored in more robust containers before being exported off shore. Coupled with establishing a more suitable collection point is the requirement to raise the awareness of the producers of used oil to the potential adverse effects that the product can have on the environment if it is not properly managed. This can be delivered via various media outlets and through Service de l'Environnement.

The following table provides a summary of the key information collected in the survey:

Table 7: Summary of Key Information on Waste Oil for Wallis and Futuna

ANNUAL OIL IMPORT VOLUME 2014 (LITRES/YEAR)	ANNUAL WASTE VOLUME ESTIMATE (LITRES/YEAR)	CURRENT STOCKPILE OF WASTE OIL ESTIMATE	ORGANISED COLLECTION BY?
87,000 – 99,000 litres/year	38,000 – 47,000 litres/year	218,500 litres	Nil (currently being tendered)
DIRECT CONTAINER SHIPPING ROUTE TO Fiji?	SHIPPING COSTS (APPROX. FOR A 20FT CONTAINER)	CURRENT REGULATORY DRIVERS?	PARTY TO BASEL/WAIGANI?
Yes	US\$3,000 - \$5,000	Available	Basel/Yes, Waigani/No (since France is a Party to Basel)

7.4 Recommendations

Based on this audit of used oil in Wallis and Futuna the following recommendations are offered:

Short to medium term:

- Establish a robust set of regulations for managing, monitoring and enforcing the handling, storage and disposal of used oil on Wallis and Futuna;
- Improve the collection facility at the Wallis Landfill. This will include establishing an environmentally secure collection area that is bunded, covered and monitored to ensure the entry and exit of used oil is correctly managed. It is acknowledged that some of the area being used to store used oil at the landfill is suitable however there is currently not enough capacity for the amount that is being stockpiled;
- Extend the collection system to include all used oil being generated on the Island of Futuna
- Establish a formal procedure for collecting, managing and disposing of used oil at the centralised collection point;
- Encourage local residents not to use the oil for treating timber. This can be achieved through better education and public awareness;
- Provide suitable used oil containers (empty drums) for locals to store used oil prior to it being collected by Service de l'Environnement;
- Establish suitable time frames for exporting the collected oil to an offshore facility given that the estimated amount of used oil being generated each year is now available. This includes executing tender contracts within a timely manner; and
- Independent scrutiny of tendering contracts for the export of the used oil. Consideration should be given to the reputation and professionalism of the appointed contractor. Such things as ensuring they have appropriate ships for carrying the oil; they have good history

within the industry; they have guaranteed contracts with an approved treatment facility and that they will guarantee stewardship of the product once it has left Wallis and Futuna.

Long term:

- Consider re-use options on Wallis and Futuna. A possible re-use option would be to establish a waste to energy system at the existing power station. Briefly, this would involve establishing a suitably sized burner capable of being fuelled by used oil. Connect an electricity generating turbine that recovers the energy generated by the oil combustion. Connect the turbine to the main power grid which will supplement the existing power production. A feasibility study may be required to establish whether or not enough used oil is generated to warrant such a system. It is acknowledged that the Wallis landfill did have a used oil burner on site between 2003 and 2006. Such a system could be resurrected and expanded on using current technology.

It is acknowledged that the implementation of some of these recommendations will require significant financial capital that is unlikely to be readily available. Funding from an outside agency would more than likely be required. It is also acknowledged that these systems are reasonably 'high tech' and carry significant risk if not managed or used correctly. Assistance in training and maintaining such equipment would have to accompany any reuse initiatives.

Appendix 1: Copy of the Terms of Reference



SPREP

Secretariat of the Pacific Regional
Environment Programme

PO Box 240, Apia, Samoa

E: sprep@sprep.org

T: +685 21929

F: +685 20231

W: www.sprep.org

The Pacific environment, sustaining our livelihoods and natural heritage in harmony with our cultures



CONSULTANCY AGREEMENT

AP 1/4/3

26th June 2015

Mr John O'Grady
Director,
Contract Environment Ltd,
14 Wookey Lane,
Kumeu
Auckland, New Zealand.
jogrady@actrix.co.nz

Consultancy for Provision of Consulting Services to Improve Management of Used Oil in Wallis and Futuna Islands

between

The Secretariat of the Pacific Regional Environment Programme (SPREP)

and

Contract Environment Ltd

(together, "the Parties")

Dear Mr O'Grady,

I am pleased to offer you this Consultancy Agreement ("the Agreement") with the Secretariat of the Pacific Regional Environment Programme (SPREP) in accordance with the following terms and conditions.

Interpretation

"Confidential Information" means any information (in any form) expressly marked or designated as "confidential" that the Consultant discloses to SPREP or SPREP discloses to the Consultant or which, by its nature, may reasonably be regarded as being sensitive or of commercial value to the disclosing Party. Information cannot be marked or designated as "confidential" if it is:

(i) publicly available, (ii) rightfully known by the Consultant before disclosure by SPREP or rightfully known by SPREP before disclosure by the Consultant, or (iii) independently created or obtained by the Consultant or by SPREP without reference or access to each other's Confidential Information.

"Deliverables" means completed work components or products (reports, outputs, and the like) as contained in the Terms of Reference.

"Director General" means the Director General of SPREP and includes "Officer-in-charge" and "Acting Director General".

"Intellectual Property" includes, but is not limited to, copyright (including future copyright and rights in the nature of, or analogous to, copyright), trademarks, trade names, designs, inventions (including patents), non-patentable processes and methods, Confidential Information, know-how and show-how, technical and other data or information, trade secrets, service marks, circuit layouts and the like.

"Services" means the work to be done under the Terms of Reference.

1. Terms of Reference for Services & Deliverables

- a) The Terms of Reference are set out in the Attachment which forms part of this Agreement.
- b) Deliverables are to be submitted to SPREP in accordance with the Terms of Reference.

2. Duration

The consultancy work is to be undertaken between July 2015 and December 2015 and a draft report covering the completed scope of work is to be submitted to SPREP for review no later than 1st December 2015.

3. Remuneration

- a) The Consultant will receive the sum of €10,000 as consultancy fees.
The Consultant shall provide account details for transfer of funds.
- b) 20% per cent of the maximum consultancy fee will be paid within 14 days of the Parties signing this Agreement.
- c) A second payment of 30% will be made upon submission of a draft project report.
- d) The remaining amount (50%) will be paid within 14 days following the completion and acceptance by SPREP of the deliverables.
- e) SPREP reserves the right to withhold remuneration if in the opinion of the Director General (acting reasonably) the Services under this Agreement are unsatisfactorily, incompetently, or incompletely performed or money is owed to SPREP by the Consultant.

4. Travel

- a) All travel required under this consultancy will be arranged and paid for by the consultant, and all travel costs are included in the consultancy fees (3a above).
- b) All in-country translation services will be provided by the Consultant.



5. Status of Consultant

- a) The Consultant shall be considered as having the legal status of an independent contractor and not the status of an official or staff member of SPREP. Agents, employees or representatives of the Consultant shall not be considered as being officials or staff of SPREP.
- b) The Consultant is entitled only to those benefits stated in this Agreement.

6. Title Rights

- a) Other than material purchased by the Consultant from the Consultant's own funds, any material permanently obtained for the purpose of fulfilling this Agreement shall be the property of SPREP.
- b) Unless otherwise stated in this Agreement, intellectual property shall be the property of SPREP.

7. Delay

The Consultant must notify the Director General in writing as soon as the Consultant becomes aware of circumstances which may give rise to delay together with an estimate of further time required for the completion of the Services.

8. Confidentiality

Unless otherwise stated in this Agreement or as otherwise agreed in writing by the Parties, neither Party will disclose or use in any way any Confidential Information except to the extent that disclosure or use of such Confidential Information is necessary to enable the Services to be performed.

9. Financial responsibility

The Consultant agrees it is responsible for:

- a) payment of applicable taxes, superannuation and the like;
- b) relevant insurance cover such as medical, travel and professional liability.

10. Indemnity

- a) The Consultant shall perform the Services with due professional care and skill.
- b) The Consultant shall have full regard to SPREP's interests and not knowingly take any action that might adversely affect SPREP.
- c) The Consultant agrees to indemnify and hold harmless SPREP of and from any and all claims, demands, losses, causes of action, damage, lawsuits, judgments, including lawyer's fees and costs, arising from
 - (i) any negligent act or omission by the Consultant (including any of its personnel) in connection with this Agreement;
 - (ii) any breach by the Consultant (including any of its personnel) of its obligations under this Agreement;
 - (iii) any use or disclosure by the Consultant (including its personnel) of Confidential Information held or controlled in connection with this Agreement.
 - (iv) Intellectual property breaches.

11. Termination

- a) If the Consultant acts in a manner which in the reasonable opinion of the Director General has a serious negative impact upon SPREP, the Director General may immediately terminate this Agreement.
- b) Other than termination in accordance with sub-clause (a), either Party may terminate this Agreement at any time by giving the other ten days' notice in writing of its intention to do so.
- c) Upon receipt of a notice to terminate:
 - (i) the Parties will take all action necessary to cancel outstanding commitments relating to the Services under this Agreement and will use their best efforts to honour their respective prior commitments.
 - (ii) SPREP will make payment for work satisfactorily completed up to the time of termination, up to the stated maximum.
 - (iii) The Consultant will return all unexpended funds.
- d) Termination or expiry of this Agreement will not prejudice any rights or obligations of the Parties which exist, whether under this Agreement, at law or otherwise, prior to termination or expiry.
- e) Clauses 6, 8, 9, 10 and 11, and any other relevant provisions, will survive the termination or expiry of this Agreement.

12. Applicable Law

This Agreement shall be governed by the laws of Samoa and subject to the jurisdiction of Samoan Courts.

13. Dispute resolution

The Parties shall cooperate to carry out their obligations in good faith and shall endeavour to resolve any disagreement in an amicable manner, including through use of mediation and conciliation processes, prior to taking any Court action.

14. Variation of Agreement

This Agreement may be varied by written agreement of the Parties.

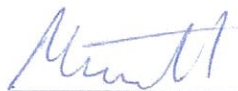
15. Counterparts

This Agreement may be executed in any number of counterparts (including by facsimile or electronic copies) each of which, when taken together, will constitute one and the same document.

Should these terms and conditions be acceptable to you, please sign below, also initial each page of the Agreement and its attachment, and return one copy of each to me.

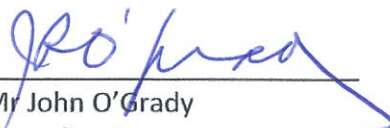
jos *NP*

Yours sincerely,



Dr Netatua Pelesikoti
Officer in Charge
SPREP

Date: 30/6/15



Mr John O'Grady
Consultant
Contract Environmental Ltd

Date: 02/07/15

ATTACHMENT

Attachment A: Consulting services to allow completion of contemporary used oil audits to improve management of used oil in Wallis and Futuna Islands

Contract Tasks

Completion of contemporary used oil audits in Wallis and Futuna islands to establish volumes of lubricating, hydraulic and transmissions oils imported into each country and the volume of used oil produced, and stored or otherwise disposed of.

Location of Work

Wallis and Futuna Islands

Implementation Plan

For each of the project intervention countries, the Contractor will submit an Implementation Plan for approval by SPREP that will contain at a minimum:

- a. a general description of the methods which the Contractor proposes to adopt for executing the contract;
- b. a proposed time schedule and sequence of events that the Contractor will use to meet the contract; and
- c. contingency planning for contracted travel in the Pacific, allowing for weather events and natural disasters.

Contract Deliverables

For each country, the Consultant will visit each country and spend as much time as is necessary to collect the information required to:

- a. **Establish and document national oil import/generation volumes and rates for the last 3 years ideally 2011, 2012 and 2013:**
 - (i) Document by major suppliers, the annual volume of lubricating, hydraulic and transmission oils imported into each country for internal use;
 - (ii) Document quantities of each oil distributed to outlying islands from main port(s) of entry;
 - (iii) Obtain retail and wholesale purchase costs for: a 205litre and 20litre drum; and 5 litre, 4 litre and a 1 litre containers of lubricating oils; and
 - (iv) Identify prices for fuels in particular the cost of diesel fuel purchased by power generators.



- b. Establish national used oil production rates for the last 3 years ideally 2011, 2012 and 2013:**
- (i) Document used oil volumes recovered from outlying islands;
 - (ii) Visit large and small vehicle service centres to establish actual recovery rates;
 - (iii) Visit bus, haulage and construction companies to establish actual recovery rates;
 - (iv) Visit the port authority, operators of fishing/private vessel and international vessels, shipping agents and shipping companies to establish actual recovery rates;
 - (v) Visit electricity generators using diesel powered generators to establish recovery rates; and
 - (vi) Document volumes of used oil generated by any other major users.
- c. Oil Audit Balance for the last 3 years ideally 2011, 2012 and 2013:**
- (i) Prepare an audit balance of new oils and used oils.
- d. Document and summarise existing national used oil management procedures:**
- (i) Identify existing storage facilities and stored oil volumes;
 - (ii) Identify where possible, current used oil disposal locations;
 - (iii) Provide photographic records of existing collection and storage facilities;
 - (iv) Identify possible end users in country or within the relevant distribution network for the used oil, either using the used oil as a diesel extender, a supplementary furnace fuel etc;
 - (v) Review the paperwork pertaining to the transportation of any waste oil from each country; and
 - (vi) Document shipping costs of containerised or tank-tainers of used oil to the nearest main port with adjacent used oil recycling facilities (e.g. Australia, Fiji, India, Japan, New Zealand, Philippines, Singapore). Shipping costs shall include documentation costs, port handling costs and any insurance costs.
- e. Document and summarise existing national used oil management instruments:**
- (i) Document used oil provisions in national legislations by identifying relevant national waste management legislations, regulations and policies that manage used oil, and provide an overview of a national used oil management regulatory considerations.

Contract Implementation Timeframe

The Contractor is to complete the contract deliverables by 1st December 2015.

Reporting Timeframe

The Final Draft Report will be submitted to SPREP by 1st December 2015. This report will at a minimum provide:

Provide comprehensive draft audit reports (**individual reports for each country**) including the methodology used and associated confidence levels for the reported data for each country.

Failure to deliver the final report within that time period may result in enforcement of payment penalties.

Appendix 2: Organisational Details and List of Contacts

A2.1 Organisational Details

The visit to Wallis and Futuna took place from 7 to 15 September 2015. The consultant was Martyn O’Cain.

The primary agency for liaison was the Service de l’Environnement, and the following personnel were involved:

Atoloto Malau, Chef Service de l’Environnement

Sosefo Malau, Environment Officer (Wallis)

Didier Labrousse, Environmental Officer (Futuna)

These officers were very helpful and provided considerable support during the visit.

Numerous other people were visited and considerable assistance was willingly provided. Full contact details are given below.

A2.2. List of Contacts

Wallis

Company	Date	Location	Type	Category	Contact	ULO Generated (L/yr)	Stockpile (L)
Britirama	08/09/2015	Mata-utu	Hardware Shop	Import	Bernard Lamboul	0	0
Technic Imports	08/09/2015	Aka-Aka	New cars and service	Vehicle & boat	Louis Alphonse	1,700	205
Garage Im Disser	08/09/2015	Mata-utu	Workshop	Vehicle	Louis Chardigny	900	320
Hospital	08/09/2015	Mata-utu	Generator maintenance	Generator	Mateo	20	0
Garage Pasifika	08/09/2015	Mata-utu	Workshop	Vehicle	Yannick Saliga	830	205
Wallis Power company	08/09/2015	Mata-utu	Power Supply	Generator	Yanic Sagot	9,000	0
Circonscription (Fire,ambo service)	08/09/2015	Mata-utu	Community service vehicles	Vehicle	Aloisio Pilioko	410	205
Public Works	08/09/2015	Mata-utu	Construction	Vehicle	Tamiano Tuugahala	1,640	0
BTP SUD	08/09/2015	Nalaetoli	Construction	Vehicle	Laurent Mercier	2,900	410
Garage Tapa Taginoa	08/09/2015	Tapa	Workshop	Vehicle	Sofeto Taginoa	615	205
Garage Veka	08/09/2015	Mata-utu	Workshop	Vehicle	Mr Robert	615	1,230
Garage Luankon	09/09/2015	Vailala	Workshop	Vehicle	Terry Luankon	240	40
Wallis Airport	09/09/2015	Hihifo	Airport	Generator	Christian Derkum	205	0

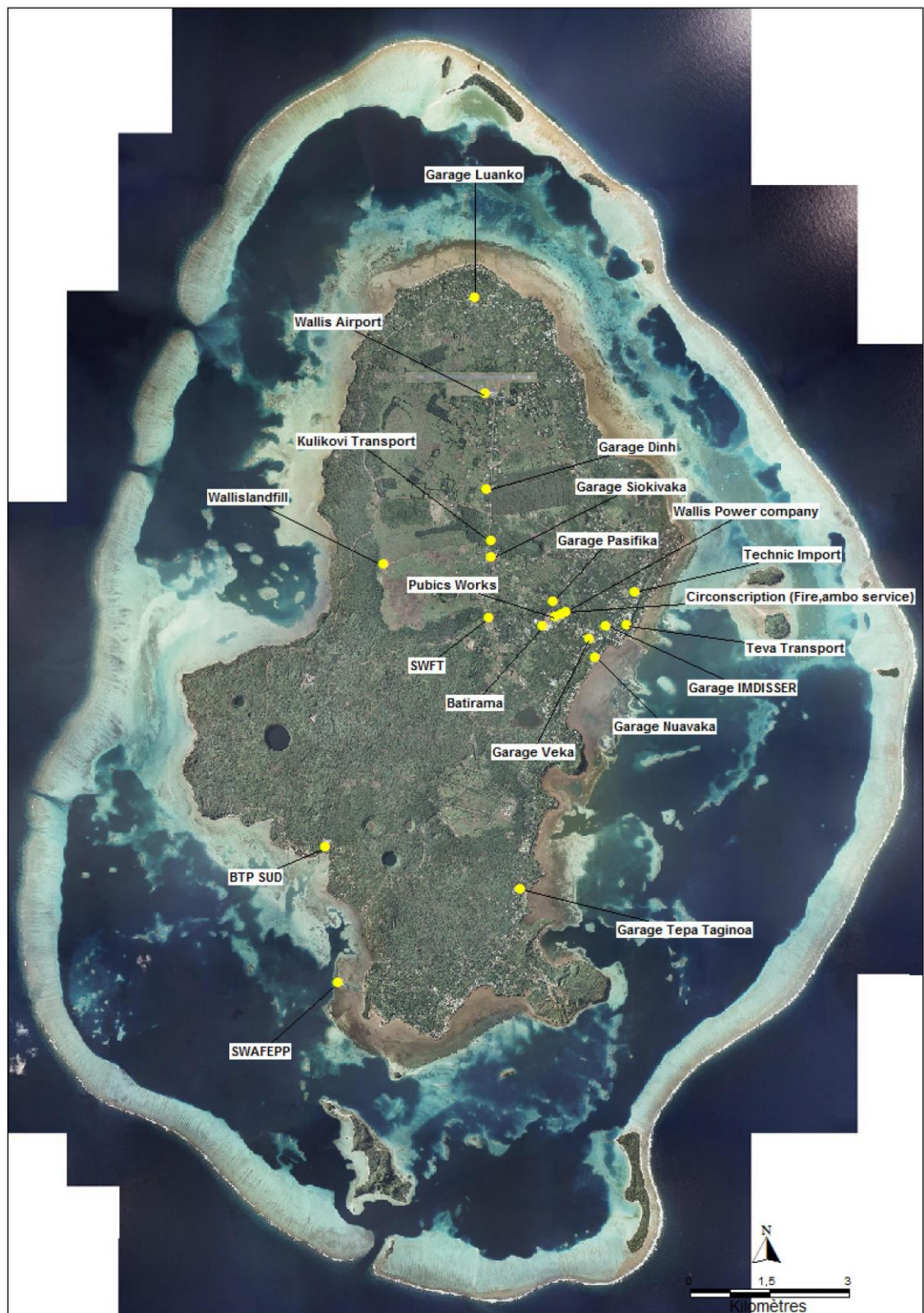
Wallis Airport	09/09/2015	Hihifo	Airport	Vehicle	Christian Derkum	205	0
Garage Dinh	09/09/2015	Alele	Workshop	Vehicle	Francois Dinh	36	615
Kulikovi Transport	09/09/2015	Aka-Aka	Bus Company	Vehicle	Sanele Seo	60	100
Garage Siokivaka	09/09/2015	Mata-utu	Workshop	Vehicle	Terry Tukunuli	4,920	615
Teva Transport	09/09/2012	Mata-utu	Bus Company	Vehicle	Alfred Bougarde	100	100
Garage Nuavaka	09/09/2015	Halamaitai	Workshop	Vehicle	Luciano Nuavaka	480	0
Wallis Landfill	09/09/2015	Vailepo	Collection point	Storage	Sosefo Malau		180,670
SWFT	14/09/2015	Mata-utu	Transport Company	Vehicle	Emmanuel Iloai	416	205

Futuna

Company	Date	Location	Type	Category	Contact	Generate (L/yr)	Stockpile (L)
Public Works	10/09/2015	Leava	Construction	Vehicle	Lino Kauvaetupu	615	615
Garage Brial	10/09/2015	Leava	Workshop	Vehicle	Jean Pierre Brial	500	860
Futuna Landfill	10/09/2015	Toloke	Landfill	Waste	Didier Labrousse	0	15
Dock collection point	10/09/2015	Fiua	Collection point	Storage	Didier Labrousse	0	6,020
Toloke Cooperative	10/09/2015	Toloke	Bus Company	Vehicle	Thomas Keletolona	60	20
Garage Valao	10/09/2015	Fiua	Workshop	Vehicle	Mikaele Valao	615	220
Garage Falelavaki	10/09/2015	Leava	Workshop	Vehicle	Patita Falelavaki	0	40
Garage Baudry	10/09/2015	Vele	Workshop	Vehicle	Fredrick Baudry	1,200	24
General Construction	10/09/2015	Nuku	Construction	Vehicle	Sylvain Brial	1,025	300
Cowafdis S.A.	10/09/2015	Leava	Hardware	Supply	Sylvain Brial	0	0
Vahine Auto	11/09/2015	Leava	Workshop	Vehicle	Fatuimoana	1,025	1,025
Futuna Power Company	11/09/2015	Leava	Power supply	Generator	Ikasa Pierre Chanel	4,100	615
Sigave Distribution	11/09/2015	Fiua	Hardware	Supply	Fano Tialetagi	0	0

Key sites visited during the used oil audit investigation on Wallis and Futuna.

Wallis



Futuna

