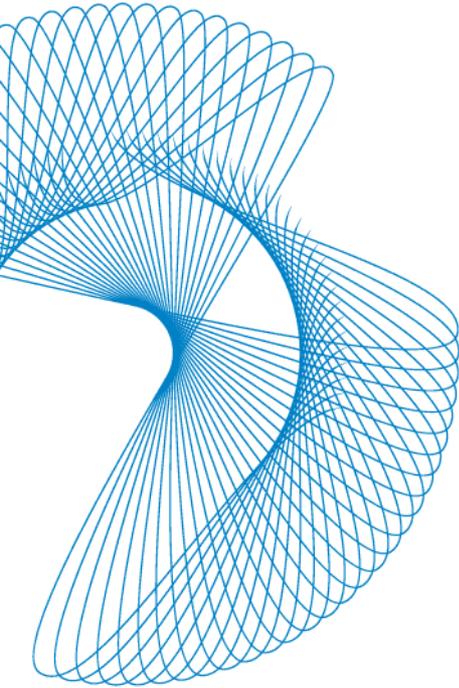


marinepollution**RESPONSE**service



National Oil Spill Contingency Plan

Chapter 10 – Evidence Collection
and Cost Recovery



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Introduction

This chapter has been prepared to provide guidance to responders to a marine oil spill event regarding evidence collection, which is required for cost recovery and prosecution. It is based upon the Oil Spill Preparedness and Response Guidelines for Regional Councils that have been developed by Maritime New Zealand.

Collection of Evidence

The Director of Maritime NZ has the power to investigate the discharge or escape of a harmful substance in breach of this Act or the Resource Management Act 1991, or any pollution incident. Persons authorised by the Director have powers that include:

- power to make inquiries;
- power to issue a summons requiring any person give evidence, and to produce any documents or things in that person's possession or under that person's control that are relevant to the subject of investigation;
- power to take possession of and remove any such object from the place where it is kept for such period of time as is reasonable in the circumstances;
- power to restrict or prohibit entry to a site;
- power to take samples; and
- power to seize or detain anything.

Outlined below is a suggested procedure for the collection of evidence by Regional Council.

General procedure

Evidence must be collected under the same legislation as that which the prosecution will be carried out (except under Section 397 (7) MTA where the director or a person acting under delegated authority may detain ships, marine documents or parts thereof for the purpose of evidence in any prosecution taken under either the RMA or MTA). Persons taking evidence should show documentation providing authorisation to collect the evidence and stating the legislation under which the evidence is taken. The personnel responsible for taking the samples must understand the powers under which the sample is taken.

In order to be able to later pin-point the exact locations that were sampled it is recommended that a sketch of the beach marking the sampling points is made, or a map or chart is marked to show exactly where the samples have been taken. Photographs taken during sampling can also provide useful to later identify sampling locations.

During any pollution incident, a prime requirement is to obtain samples of oil from the polluted areas and from the suspected source of the pollution. It is also important to collect such other evidence that assists in identifying the effects that the spill has had on the environment (e.g. ecology). Photographs can be an extremely important source of evidence, particularly those which show the spiller spilling the oil.

Oil samples can provide essential evidence that oil pollution has occurred; and that a particular operator is responsible. An oil spiller can be traced through the analysis of oil samples taken from the spill when these are compared with samples taken from potential sources. Oil samples must be taken from all possible spillers in order to match the oil signatures/fingerprints to the spilt oil, to correctly identify the guilty party and exonerate innocent parties.

Samples should be taken from all ships for which there is a suspicion that they may be the spiller. If there are no clues as to who the spiller might be then it is legally reasonable to sample all vessels in a port. There have been cases in the past where all but one vessel was sampled. The evidence was not upheld in court because all of the vessels in port at the time were not sampled.

A successful prosecution may be essential before the costs of a clean up can be recovered from the offender. Sampling must be carried out carefully and methodically to ensure that the evidence provided by the samples cannot be successfully challenged by the defence counsel. Those who take

samples must be aware that they may be called to give evidence in court. Witnesses of the sampling procedure may also be required to give evidence in court.

On arrival at an oil spill you should start taking notes of what you do, anyone you speak to and what you observe. Try to record the time against your entries as you go along, this will be helpful when you come to write up your statement.

As prosecutions may be taken anytime up to 6 months after an infringement has been discovered, if oil samples are collected they should be kept for at least this period of time.

Warrants

It is important that when exercising powers under the various legislation that officers hold and show their appropriate authorization to direct actions, collect evidence, etc.

With respect to the MTA 1994, a standard "proof of identification" card format, developed by the Maritime NZ, have been provided to Regional On-Scene Commanders and alternate On-Scene Commanders. It is important that the warrant refers to the appointing regional council and not the Maritime NZ. OSC's are trained and approved by Maritime NZ, but appointed by their Regional Council.

Safety

Before sampling think of safety first. When collecting samples from a spill, try to stay upwind of the spill. It is important to wear clean gloves to protect your hands when collecting samples. This is true for both spill samples and suspect samples. This limits the exposure you will get to dangerous chemical compounds often found in petroleum oils (like benzene).

Collecting oil samples is often done at night or in cold weather. Staying alert is very important. If you are unsure it is safe to collect a sample, it is best to wait until more information is known or until weather conditions improve.

When sampling any source, you should be accompanied by a member of the crew or personnel familiar with relevant equipment and installations. It can be very dangerous taking samples from vessels and other sources, therefore the sampling persons must be a warranted officer and should be experienced or acquainted with general construction of vessels and be aware of the dangers of entering confined spaces. If sampling from a ship the sample collector should be accompanied by a member of the ships crew at all times.

Safety timeframe

Samples of oil must be taken as soon as possible after the spill, preferably before dispersant is used, and before the oil weathers to a stage where it cannot be matched against a sample taken from the source of the spill. If samples are taken after dispersant has been applied then this should be noted in the field book with the name of the dispersant and a sample of the dispersant taken. Accordingly, the first person arriving at the scene of a spill should be prepared to take samples. It is essential that the staff member conducting the sampling shows their authorisation (warrant) when entering a ship to collect evidence including photographs and interviews, and understand the powers under which the sample is taken.

Sampling planning

Planning ahead involves thinking about sampling the spilled oil and sampling those who are suspected of causing the spill. Take samples of the spilled oil first because the oil will change immediately after its exposure to the environment (i.e. the volatile components of the oil will evaporate).

Samples taken may be stored in the appropriate manner while it is determined whether it is necessary to analyse the samples. If the clean-up costs are going to be minor, and the likelihood of identifying the spiller is low, then analysis of the samples may not be worthwhile.

Spill samples

Sample different parts of the spilled oil as soon as possible. The oil may spread out thinly on the water. If this happens, it can be difficult to collect a sample. The number of samples taken depends on

the size and location of the spill. For large spills, take at least three samples of the oil from different places, or one sample from each locality if the spill is widely dispersed. For small spills, do your best to take one or two samples.

Suspect samples

Samples should be collected from any ship or installation which may have spilled the oil. This means all facilities or vessels in the area of the spilled oil at the time of the spill. On a vessel, you may need to take samples from different places like the fuel tank, daily service tank, cargo tank, waste oil or slop tanks and bilges. Be prepared to take samples from each tank and the bilges if you cannot see where the spill came from. Do not try to determine the oil type by just looking at its colour.

After deciding who the suspects are and which tanks, etc. to sample, investigators must document:

1. which suspects were sampled; and
2. why any possible suspects were not sampled.

Note that factors such as wind and water flow direction might eliminate a vessel or facility from being a suspect. In general, however, all possible suspects should be sampled.

Reference samples (blanks or clean water samples)

If possible a reference sample should be taken. This sample is taken to show what the water was like before the oil spill. The sample taken should be upstream and away from the spill area.

However, because spilled oil, especially a light oil, spreads rapidly, a very thin layer of oil on the surface of the water may not be visible to the unaided eye. A reference sample can also be collected from other background environments (beach, etc) whenever relevant, in order to determine whether the spilled oil has been contaminated by an earlier spill or other organic material. If there is a limited volume of oil in the spill, a reference sample should be taken. Close harbour areas tend to have higher background levels and therefore reference samples should be taken in these areas.

Sample kits

Maritime NZ has distributed oil spill sample kits to every region in New Zealand. These kits should be used when collecting samples. The kits contain instructions for collection of samples.

Maritime NZ Sample Kit contents

- **Sample Jars** for collecting samples, glass, approx. 250 ml in size and pre-cleaned prior to use. The jar lids should be lined with TFE fluorocarbon polymer (Teflon) or aluminium (Tin foil).

Note: Plastic containers should not be used. Part of the plastic may mix with the oil and change its properties. However, if all you have is plastic containers, even bags, it is better to use them than nothing at all.

- **Equipment for sheen collection.** Teflon nets or bags, rings and extension poles. Teflon sheets or mesh fabric may also be used.
- **Disposable Gloves** 100% Nitrile, medical examination gloves. Gloves help keep oil from your hands getting in the sample as well as oil getting on your hands.
- **Tape** for sealing sample jars, approx. 2 cm wide.
- **Robust Containers** for shipping samples, approx 40 cm x 25 cm x 25 cm.
- **Sorbent** material for packing in boxes to absorb oil if jar leaks.
- **Grease proof sealable plastic bags** for sample jars.
- **Large rubbish bag** to contain disposable items.
- **Sampling log book or field sheet** to record all relevant information about the samples and spill situation.
- **Oil sampling checklists** for sampling from machinery spaces in ships, from cargo systems, and other general sampling.
- **Chain of custody and Sample identification Labels**, white adhesive, oil and water-resistant.
- **Hazardous substances sticker.**
- **Shipping names and UN numbers** for petroleum products.

- **Towels**, absorbent cloth or paper, to clean sample jars after sample is taken.
- **Tongue depressors or precleaned metal scoop** to aid collecting samples of heavy oils or tar balls.
- **Sampling Kit Case** to hold all sampling equipment ready for transport to spill location.

Oil sampling procedure

General

Ideally sample bottles should be filled to 25mm from the top, although this may not always be possible and a small amount of sample can yield important information. It is essential that at least two people are involved in the collection of samples. Under this procedure one can act as a witness to the work of the other. Each sample must be sealed, a unique identifier given to each sample and the relevant data compiled on a oil sample form as the work progresses. It is acceptable to use standard regional council forms for this purpose. This must not be left to later. Entries in one's diary regarding observations and activities during the conduct of the investigation and sampling are also essential.

It is preferable to take a sufficient amount sample from each sampling point such that the sample can be split in two. Both samples must be recorded on the sample chain of custody form. One set of samples will be sent to the laboratory for analysis. When sending samples to a laboratory for analysis it is essential that they are packed in a "chilly bin" with a coolant such as ice or "slicka pads". This will ensure that the samples arrive at the laboratory in good condition and capable of being used as evidence.

The other set should be kept in a sealed container in a lockable refrigerator (preferable temperature 2 - 7°C) at the Regional Council, or alternatively if a secured refrigerator is not available a cool, dark and lockable area is acceptable.

The stored samples may be used by either party to verify the results of the analysis.

From ships

Unless it can be shown that:

- the ship's oil analytically matches the spilled oil
- a linkage between the present or previous location of the ship and the spilled oil can be demonstrated, and
- other potential spillers have been eliminated,

then a successful prosecution or cost recovery is unlikely. When the suspect vessel is bound for another port it will be necessary to urgently request that port to collect the evidence. Where the vessel is bound for an overseas destination, then the Marine Duty Officer, MARITIME NZ, may be asked to assist.

When going on board the ship approach the master first and explain what you are investigating and seek their cooperation. Ask if their ship is responsible for the spill and do they want to report it (thereby satisfying the requirements of the MTA). Any statement from the master should be witnessed. The ships stamp should be endorsed on it and a copy left with the master.

Oil samples from all tanks in the suspected vessel(s) should be taken by:

- the warranted officer;
- a person suitable qualified to understand where samples are being taken (e.g. a representative of Maritime NZ (MSI) or a marine engineer); and
- a ship's officer should also be present during sampling.

As a rough guide, always sample the engine room bilges along the tanks relevant to the type of oil involved. When taking oil samples from the Engine Room and other spaces, it is general practice for the accompanying ships officer(s) to be given a set of samples or for them to take their own samples at the same time. This is a general ships operation protocol and should be encouraged.

From beaches

It is necessary to obtain a series of samples from different locations on the shore in order to determine whether more than one type of oil has been spilled and to indicate the full extent of the pollution. The frequency of sampling must be left to the discretion of the persons taking the samples. The aim is to take a representative series of samples over the entire polluted area (remember not all samples have to be analysed – but you cannot analyse what you have not got). A clean garden trowel or similar tool is useful for collecting samples. Implements used to collect samples should be cleaned between samples to avoid cross contamination. Care should be taken to keep foreign matter to a minimum.

From the sea

Again a series of samples should be taken, especially if the oil has broken into separate slicks. Obtaining samples from the sea is difficult as the oil spreads rapidly after the initial discharge to possible only a thin film. Skimming oil from the surface in a clean bucket and decanting excess water is probably the easiest method. Again, try and ensure any foreign matter is excluded.

Sample identification and security

Seal the jar

Use tape to seal the jar lid to the jar. TIP: seal the sample jar before placing the labels on the jar. Alternatively, the label can be used to seal the jar. The tape/lid interface on the sample jar should be sealed over with tape to minimize the chance of tampering.

Label the jar

Place a label on the jar to identify the sample. Labels should be put on the sample jars immediately after the sample is taken. Use indelible ink to write on the labels. If an officer of the Regional Council is taking the samples they should follow the sample identification procedure and chain of custody form used by their Regional Council.

The Sample Identification Label should have the following information:

- Case Number. A unique number assigned by investigator to help keep track of spills over time.
- Sample Number. Use #1 for the first sample followed by #2, etc.
- Date and time the sample was taken.
- Whether the sample is from the spill or a suspect.
- Sample Description. Identify the sample so that you separate it from the other samples:
 - For a water sample (spill), the description should have information relating the sample to a fixed point (ANYPORT RIVER, 10 M SE OF PIER # 12, ANYTOWN).
 - For samples from vessels (suspects), the description should have the name of the vessel and the specific location of the sample (VESSEL ANYSTAR, ENGINE ROOM, BILGE).
 - Samples taken from a shore facility should include the name of the facility, including a city, location, and the location of the sample on the facility (BIGTIME OIL CO, ANYTOWN, DRAIN VALVE, TANK #4A).
- Name of the person taking the sample.
- Name of the witness.

Other information that may be required: geographic location (latitude/longitude), signature on suspected source sample from master/crewman, dates sealed and who sealed sample, etc.

Chain of custody

It is important that the samples be kept in a person's custody or possession at all times. The samples are in a person's possession if they can see them or if the samples are locked up. It is common for the person who takes samples to be the one who takes possession of them. The possession or custody of the samples will change when the samples are given to another person.

Prepare a chain of Custody Record to show the chain of custody for the oil samples. An example of a chain of custody record is attached in Appendix 2. The sample description should be exactly the same as the one on the sample label. All persons who have control of the samples (or take custody of them)

need to sign in the signature (bottom) part of the Custody Record. The chain of custody document will be sent with the samples to the laboratory.

Storing the samples

Samples should be shipped immediately, but if this is impossible, they can be stored for a short period of time before shipping.

Store samples in a cool, dark location, under lock and key. Do this before you transport them away from the spill location. Do not allow the samples to sit uncovered in a closed vehicle or direct sunlight. The samples may change (weather) if they are exposed to heat and sunlight. Remember, if the samples change, this will affect the laboratory results. Place the samples in a fridge or chilly bin.

A closed vehicle can get very hot. The temperature can easily reach 50 °C in the summer sun. If you must keep the samples in a closed vehicle for a short period, do as follows: wrap them in several layers of newspaper, a blanket or other insulating material. Move the samples to a proper storage location as soon as possible.

The optimum condition for storing oil samples is in a lockable, explosion proof refrigerator at 2-7 °C. DO NOT FREEZE the samples. At temperatures below -4 °C some petroleum oils tend to de-ax, possibly altering the fingerprint. If you do not have a refrigerator, store the samples in a cool, dark and secure location as soon as possible.

Send all samples to the laboratory as soon as possible.

Requesting laboratory analysis

Oil samples should be sent to IANZ register laboratories for analysis. When sending oil samples to the laboratory, prepare a request letter. This letter gives the laboratory information to plan the analysis. An investigation report would also be beneficial to the laboratory.

An example of a request letter is given in Appendix 1.

Additional evidence

Additional evidence should include photographs and interviews with ships personnel and any other person who can give an account of "what they saw". In regard to hearsay, it is understood that you can only give evidence on what the "accused" said, not what any witness or "other person" said.

Photographs are excellent visual evidence and should be carefully recorded, as during evidence in court details on each may be sort – i.e. time the photograph was taken, place, sea conditions etc. The photograph taken should be recorded in the investigating officers diary – i.e. time taken place, etc. Date/time cameras are particularly useful for this purpose as the details recorded in the officer's diary can be verified by the dates on the photographs. The investigating officer should check that the date and time on the camera are correct at the time of taking the photographs. Photographs should be signed and dated by the investigating officer upon development. Photographs however should not be regarded as evidence in themselves. It is more important for the photographer to give actual evidence in support of the photo since the photo is at best an exhibit (aide memoir) only.

An inquiry may establish that a shipping company is liable to prosecution. In that situation a ships captain or crew are potential witnesses and not defendants. Their statements whether written or verbal will be important but can only be introduced into Court by them giving oral first hand evidence. The witness statements cannot be given in evidence by the inquiry officer. To allow that to occur would be allowing hearsay evidence to be considered which is contrary to the court's rules of evidence.

The burden of proof always lies with the prosecution. The defendant does not generally have to prove anything unless a positive defence to the charges has been raised. Therefore it is very important there is sufficient evidence to prove all charges beyond a reasonable doubt. All persons/entities being investigated for a breach of a criminal code are entitled to remain silent when being questioned. There is no law that compels them to answer questions except for providing name and address and date of birth in some circumstances. On the other hand a witness can be compelled to attend court and answer questions. Written and signed witness statements are crucial to successful prosecution outcomes especially when a witness is reluctant to give evidence. It is often helpful to ask the local

MARITIME NZ MSI to accompany you on an interview. MSI's are experienced in interviewing and will have on hand the appropriate cue card with respect to making the witness aware of their rights.

When samples are being taken from ships it is also important to get:

- an extract from the oil record book certified by a ships officer. This record must be held under the MTA (1994). If the ship does not have a photocopier, the ships officer should be requested to step ashore and copy it. If necessary an Maritime NZ MSI may be called upon to, in your company, perform this function under section 457 of the MTA;
- sufficient information in the form of navigational fixes, courses steered, and ship speed (where applicable) to establish a ships location during a spill. Photocopies of the charts of the area in question are often very helpful. In some cases the navigational fixes made during the voyage are still on the chart at the time of the investigation;
- a copy of the crew list showing the dates of birth and seaman's document number;
- the ships register of nationality showing tonnages, port of register official number, IMO number; and
- a load line certificate and endorsement including the last annual survey.

Try to avoid removing original documents from the ship. Obtain photocopies.

Appendix 1 – Example Request Letter

Date

To Name

To Address

Request analysis of the 8 samples listed on the attached Chain of Custody Record to assist in our investigation of spill case # XXXXXXXXXX

For questions about this case, call: JOHN DOE, TELEPHONE # XXXXXXXXX. Fax # XXXXXXXX

The spill samples were collected from ANYPORT HARBOUR AND THE ANYTOWN SEWER OUTFALL # 2 (river, outfall, shore etc)

Wind conditions: ___ calm; mild breeze; very windy ___.

Air Temperature: ___ below 0°C; ___ 0 – 15°C; 15 - 30°C; ___ 30 – 35°C; ___ over 35°C.

Sky Conditions: ___ Overcast; Bright Sun; ___ Rain; _____ Other (specify)

Spillage involves seepage of oil through the soil: ___ Yes; No. If Yes estimated distance to the nearest possible suspected source.

List any possible non-oil contamination sources in the area: SEWERAGE AND SAWDUST

Are all the samples in the is case being sent to the laboratory? Yes; ___ No. If no explain.

Have all possible sources been sampled? Yes; ___ No. If No, explain why any possible sources were not sampled.

Is there any additional information about the samples or overall situation which may be helpful to lab personnel? ___ Yes; No. If Yes, explain.

(Name and signature)

Appendix 2 – Chain of Custody Record

Note to Laboratory: Please fax back the signed COC Form and return all completed COCs to sender.

LABORATORY: Destination Lab				FROM: Fax:	
Required Completion Date:			Job#:	Project: (name/#)	
ANALYSIS TYPE REQUIRED: (if known)					
DESCRIPTION OF PACKAGE				Seal number (if applicable):	
Sample Identification #	Location (from where sample taken)	Date sample taken	Time sample taken	Condition upon Receipt (Lab use only)	Assigned Lab # (Lab use only)
PERSON ASSUMING RESPONSIBILITY FOR SAMPLES					TIME/DATE
PACKAGE ID (contains all above samples)	RELINQUISHED BY:	TIME/DATE	RECEIVED BY:	TIME/DATE	REASON FOR CHANGE OF CUSTODY
PACKAGE ID (contains all above samples)	RELINQUISHED BY:	TIME/DATE	RECEIVED BY:	TIME/DATE	REASON FOR CHANGE OF CUSTODY
PACKAGE ID (contains all above samples)	RELINQUISHED BY:	TIME/DATE	RECEIVED BY:	TIME/DATE	REASON FOR CHANGE OF CUSTODY
PACKAGE ID (contains all above samples)	RELINQUISHED BY:	TIME/DATE	RECEIVED BY:	TIME/DATE	REASON FOR CHANGE OF CUSTODY