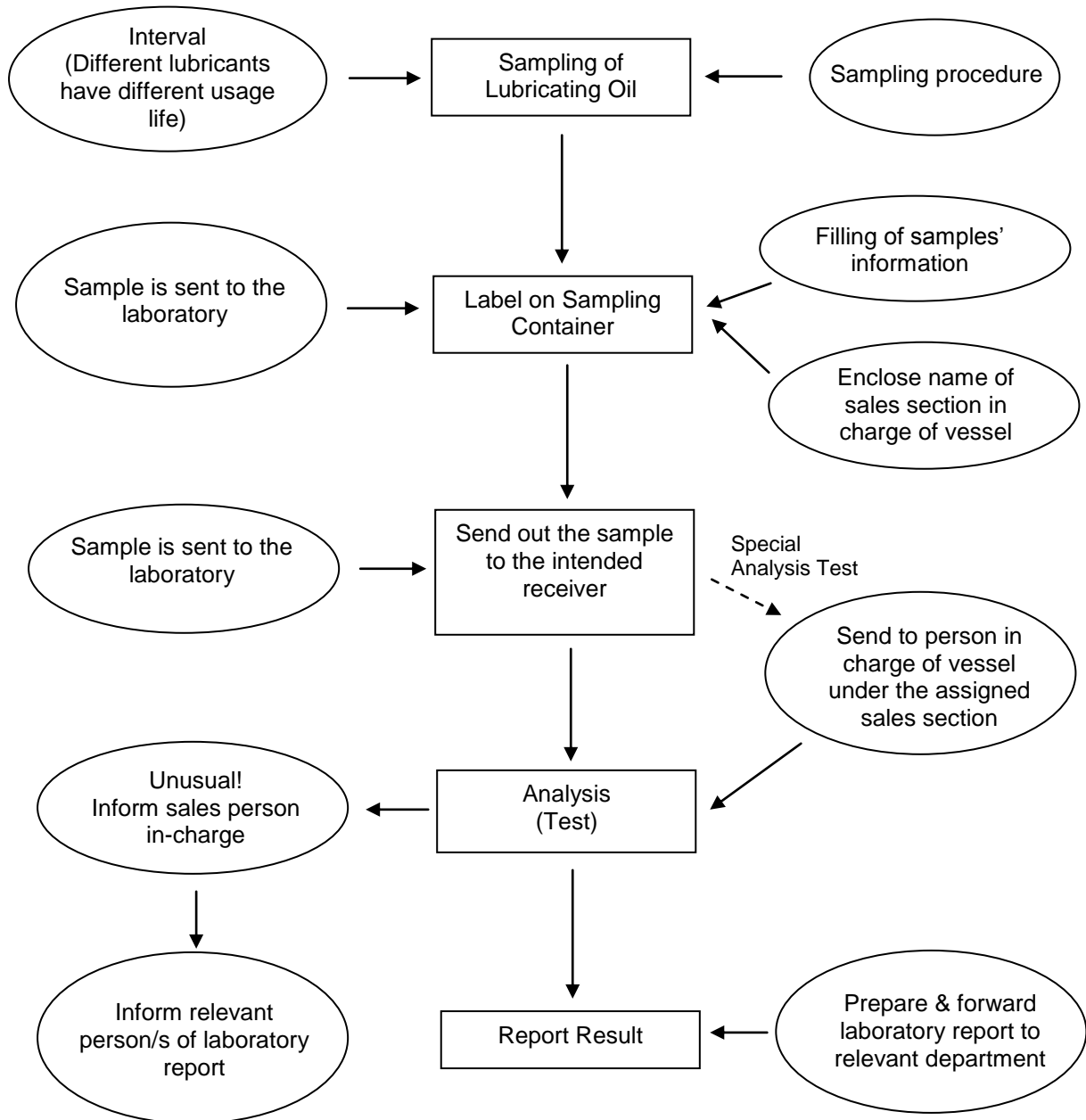


1. Sampling

Lubricants used in various mechanical sections of a ship have to be checked periodically. The following process can be adapted for sampling of lubricants to examine for contamination and deterioration of the lubricants used. During the sampling process, it is advisable to consult our personnel and follow sampling instructions accordingly.

Oil Sampling Flow Diagram



1.1 Sampling Standard

	(1) Main Diesel Engine	(2) Generating Diesel Engine	(3) Hydraulic Equipment	(4) Others
1 st	When tank is filled with new oil (Use the same oil after flashing)	Same as the above	Same as the above	When tank is filled with new oil
2 nd	After official sea trial	Same as the above	Samples should be taken approximately every 6 months or so. However it is convenient to take samples when ship is docked for intermediate or regular inspections	Appropriate sampling times and intervals for lubricants in other equipment should be determined or followed according to the equipment manual or advice from the technical service engineer
3 rd	After maiden voyage	Some samples should be taken after approximately every 500 hours of operation to determine appropriate time to change oil		
4 th	After approximately 1,500 hours of engine operation	After determining the oil change period, samples should be taken at intervals of given operation time		
5 th	After every 1,500 ~ 2,000 hours of engine operation			

1.2 Sampling Procedure

When collecting the samples,


- 1) ensure that the typical used oil is collected
- 2) ensure the following precautions and methods are followed:
 - (i) Sample container used must be suitable for the oil.
 - (ii) Sample containers must not have any foreign matters such as water, dust or other types of oil. Inner walls of used container should be thoroughly washed and dried before performing the sampling procedure.
 - (iii) To collect the sample, ensure that foreign matters adhering to cocks and valves at sampling places are removed and oil remaining in piping must be completely flushed away.
 - (iv) It is best to obtain samples during the operation when the lubricant is at the regular operating temperature if it is to represent all the lubricants. However, if samples cannot be taken during the operation, the samples should be obtained immediately after operation has ceased.
 - (v) Samples for lubricant control should be taken from a given location at all times and a minimum of half a litre is required. Samples for trouble shooting purposes should be taken at appropriate locations.
 - (vi) Samples from machines that have not been used for a long time should be taken from two locations, both at the top and bottom of the oil tank.
 - (vii) Container should be sealed immediately after sample is taken so that will not be contaminated by any foreign matter. The types of samples should be clearly indicated on the container.

1.3 Sending Out Samples

Sample containers sent for analysis tests should be properly labeled with clear indication of the type of lubricant in it as well as the following details listed below. This is to facilitate better identification of the samples to avoid any confusion or loss of samples.

(1) Sample Container Label

Following details should be indicated on the sample container's label:

VESSEL 船舶名称:	_____	
OWNER 公司名称:	_____	KunLun 昆仑润滑油
DATE / TIME 取样日期 / 时间:	_____	JOB NO 编号: _____
PRODUCT 油品名称:	_____	
PORT / TERMINAL 取样港口:	_____	
SOURCE 取样场所:	_____	
REMARK 备注:	_____	
SIGNATURE 签名:	_____	
PetroChina Lubricant Company 中国石油润滑油公司	TEL: +86 (21) 5081 8361 TEL: +65 6285 7833	

Label should be clearly indicated with a ball-point pen that will not be easily smudged by oil or water. Label should only be placed on the filled sample container after any oil or water on the surface of the container is removed. The objective of the analysis, sample number and other remarks should be written in the “remarks” column.