

**TRIBOMAR**<sup>®</sup>  
Oil Management Solutions

## USED OIL ANALYSIS (UOA)

powered by  **TRIBOCARE**

The new Tribomar used oil analysis service is an excellent tool for predictive maintenance and provides important data on the performance of the lubricated machineries.

Tribomar has signed an agreement with the well-established Tribocare laboratory to provide to our customers a professional and independent used oil analysis service.

### CDA (Cylinder drain oil analysis)

Beside of the standard used oil analysis, Tribomar offers an extra analysis service which is specifically applied to the performance of cylinder oils in 2-stroke engines.

A representative sample - taken from the piston underside while operation - is analyzed at the Tribocare laboratory to help optimizing the engine performance and the cylinder oil feed rate.

This additional analysis service is more and more an important tool recommended by the most important engine builders to monitor even better the performance and condition of the 2-stroke engines and to meet the latest developments on slow steaming and sulphur regulations.

Benefits on used oil analysis:

- higher safety margin to avoid machinery break-down
- optimized engine operation through oil condition monitoring
- reduced costs on cylinder and system oil
- time between overhauls extended
- reduced maintenance cost
- minimizing of down time

### TRIBOMAR UOA Sample Bottle Set & TRIBOMAR CDA Sample Bottle Set

- 12 prepaid sample bottles Including envelopes, labels, MSDS, Sampling & Shipping instructions etc.



**TRIBOMAR UOA  
Sample Bottle Set  
Order No.: 1238**



DEMO VESSEL [0000012]

MAIN ENGINE [Cylinder Drain] [Cylinder No 5]

Manufacturer: WARTSILA  
Plant Location: Helsinki  
Fuel Grade: 2/E  
Lubricated in Use: NAVJO 10MCL

Model: BRTAGU  
Volume (m³): 25.0  
Sample Received: 27-Feb-13  
Lubricant Parameters: NAVJO 10 MCL

Sample Details: 1 (Comments) 2 3  
Rating: **Normal** **Normal** **Normal**  
Sample No: 1501457 1501521 1501744  
Sample Date: 22-Feb-13 07-Feb-13 24-Jun-13  
Engine Hours: 56883 56728 56475  
Liner Hours: 56883 56728 56475  
Crown Hours: 19910 19905 19902  
Piston Ring Hours: 19910 19905 19902  
Feed Rate(g/h): 0.79 0.80 0.80  
Feed Rate(g/h/rev): 2.31 3.00 3.00  
Sp. FRI(g/h/rev) 0.30 0.27 0.27  
Low(MACR) 13.00 13.00 13.00  
Rearring: 50.00 50.00 50.00

New Oil	DEM	System Oil	Analysis	Dark	Dark	Dark
20	12.83	10 at 180°C (S)	17.49	18.89	17.84	
240	>200	Flash Point(°C)	>200	>200	>200	
	<0.05	Water(wt%)	0.10	0.05	0.05	
100	0.9	Scotchbottle(wt%)	2.20	0.50	0.60	
	35.4	BN(KynChrg)	55.7	54.8		
11	34	PC(InaChrg)	12	25		

Wear Elements (ppm)

<1	Aluminum (Al)	<1	<1	<1
<1	Chromium (Cr)	<1	<1	<1
4	Copper (Cu)	3	<1	1
3	Iron (Fe)	77	20	28
5	Lead (Pb)	<1	<1	<1
<1	Tin (Sn)	<1	<1	<1

Contaminant Elements (ppm)

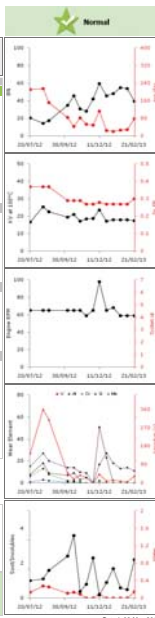
11	Boron (B)	6	<1	3
15	Sodium (Na)	31	20	28
11	Silicon (Si)	11	14	13
<1	Lithium (Li)	1	<1	<1
<1	Magnesium (Mg)	<1	<1	<1
<1	Nickel (Ni)	9	<1	2
<1	Titanium (Ti)	<1	<1	<1
<1	Silver (Ag)	<1	<1	<1
<1	Manganese (Mn)	<1	<1	<1
<1	Vanadium (V)	35	5	8

Oil Rating:  
BN value indicates the oil contains adequate alkalinity reserve.

Unit Rating:  
Water sol is within the allowable limit.

Action:  
No action is required.

Support: report@tribocare.com



### Summary report

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