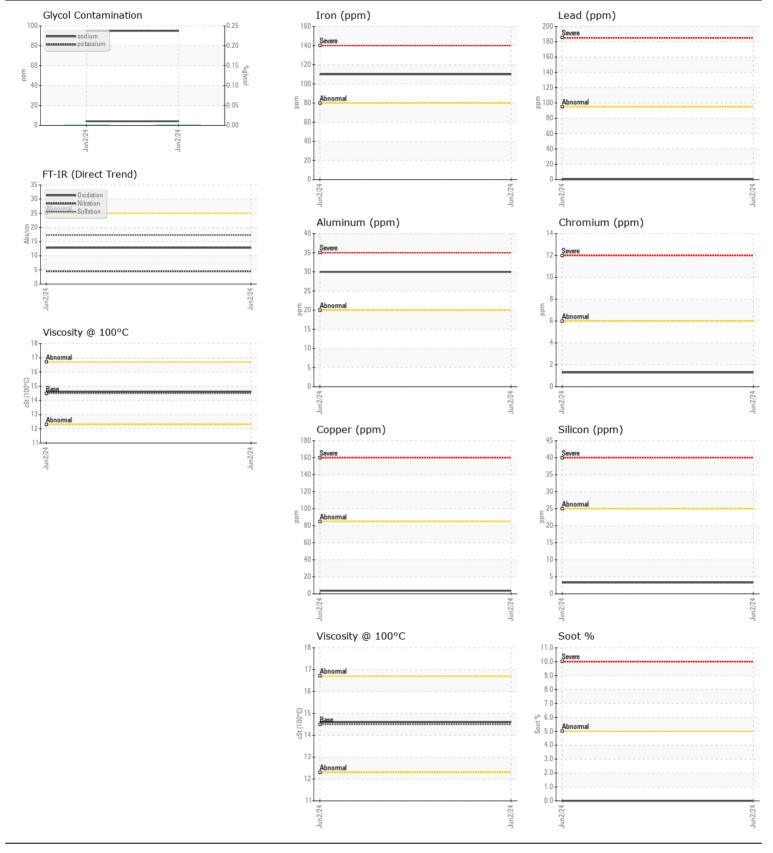


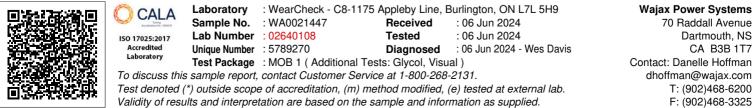
Machine Id 2006014620 Component Starboard Diesel Engine Fluid SAE 15W40 (--- GAL)

SAE 15W40 (GAL)							
RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor.	Sample Number		Client Info		WA0021447		
	Sample Date		Client Info		02 Jun 2024		
	Machine Age	hrs	Client Info		936		
	Oil Age	hrs	Client Info		0		
	Filter Age	hrs	Client Info		0		
	Oil Changed		Client Info		Not Changd		
	Filter Changed		Client Info		Not Changd		
	Sample Status				NORMAL		
WEAR	Iron	ppm	ASTM D5185(m)	>80	110		
Metal levels are typical for a new component breaking in.	Chromium	ppm	ASTM D5185(m)		1		
	Nickel	ppm	ASTM D5185(m)		<1		
	Titanium	ppm	ASTM D5185(m)		0		
	Silver	ppm	ASTM D5185(m)		0		
	Aluminum	ppm	ASTM D5185(m)		30		
	Lead	ppm	ASTM D5185(m)	>95	<1		
	Copper	ppm	ASTM D5185(m)		4		
	Tin	ppm	ASTM D5185(m)		0		
	Vanadium	ppm	ASTM D5185(m)		0		
	White Metal	scalar	Visual*	NONE	NONE		
	Yellow Metal	scalar	Visual*	NONE	NONE		
CONTAMINATION	Silicon	ppm	ASTM D5185(m)	>25	3		
There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185(m)	>20	4		
	Fuel		WC Method	>4.0	<1.0		
	Water		WC Method	>0.1	NEG		
	Glycol	%	ASTM D7922*		0.0		
	Soot %	%	ASTM D7844*		0		
	Nitration	Abs/cm	ASTM D7624*	>20	4.5		
	Sulfation	Abs/.1mm	ASTM D7415*	>30	17.3		
	Silt	scalar	Visual*	NONE	NONE		
	Debris	scalar	Visual*	NONE	NONE		
	Sand/Dirt	scalar	Visual*	NONE	NONE		
	Appearance	scalar	Visual*	NORML	NORML		
	Odor	scalar	Visual*	NORML	NORML		
	Emulsified Water	scalar	Visual*	>0.1	NEG		
FLUID CONDITION	Sodium	ppm	ASTM D5185(m)	>57	95		
The condition of the oil is acceptable for the time in service.	Boron	ppm	ASTM D5185(m)		2		
	Barium	ppm	ASTM D5185(m)		0		
	Molybdenum	ppm	ASTM D5185(m)		57		
	Manganese	ppm	ASTM D5185(m)		<1		
	Magnesium	ppm	ASTM D5185(m)		961		
	Calcium	ppm	ASTM D5185(m)		1017		
	Phosphorus	ppm	ASTM D5185(m)		983		
	Zinc	ppm	ASTM D5185(m)		1124		
	Sulfur	ppm	ASTM D5185(m)		2541		
	Oxidation	Abs/.1mm	ASTM D7414*	>25	12.8		
		-					

Visc @ 100°C cSt ASTM D7279(m) 14.5

14.6





Contact/Location: Danelle Hoffman - DDCDAR Page 2 of 2