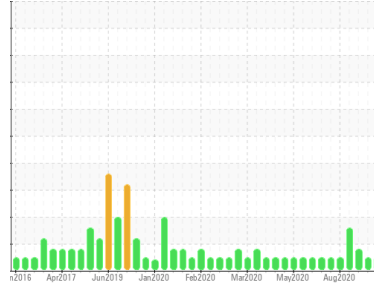


Area  
**Fwd Machinery Space [450234540]**  
 Machine Id  
**Pump - Fire Water (Stbd) - Engine Crank Case (S/N Sample Tag PA-71001B-S1)**  
 Component  
**Starboard Diesel Engine**  
 Fluid  
**{not provided} (806 LTR)**



**DIAGNOSIS**

**Recommendation**  
 Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

**Wear**  
 All component wear rates are normal.

**Contamination**  
 There is no indication of any contamination in the oil.

**Fluid Condition**  
 The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>PC</b>	PC0052569	PC
Sample Date	Client Info			<b>06 Dec 2023</b>	30 Aug 2023	26 Feb 2023
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed	Client Info			<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	MARGINAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<b>&lt;1.0</b>	1	▲ 2.2
Water	WC Method	>0.2		<b>NEG</b>	NEG	NEG
Glycol	WC Method			<b>NEG</b>	NEG	NEG

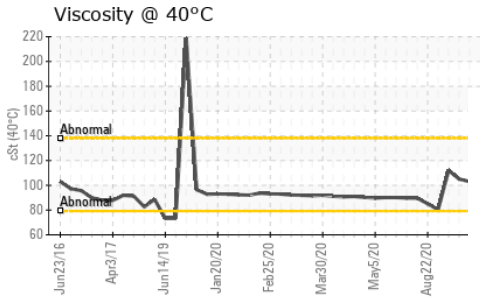
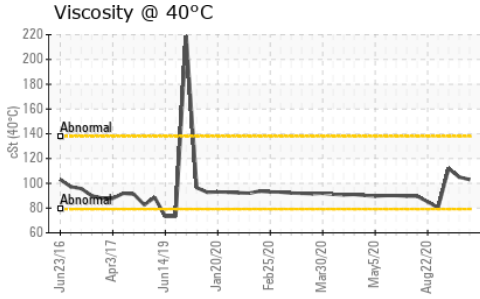
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	<b>4</b>	4	4
Chromium	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>1</b>	<1	1
Lead	ppm	ASTM D5185(m)	>40	<b>2</b>	1	1
Copper	ppm	ASTM D5185(m)	>330	<b>10</b>	9	5
Tin	ppm	ASTM D5185(m)	>15	<b>&lt;1</b>	<1	<1
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<b>&lt;1</b>	1	1
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>53</b>	55	54
Manganese	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)		<b>872</b>	916	909
Calcium	ppm	ASTM D5185(m)		<b>955</b>	968	1023
Phosphorus	ppm	ASTM D5185(m)		<b>949</b>	1031	1025
Zinc	ppm	ASTM D5185(m)		<b>1058</b>	1120	1112
Sulfur	ppm	ASTM D5185(m)		<b>2556</b>	2517	2545
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	<b>3</b>	4	4
Sodium	ppm	ASTM D5185(m)		<b>2</b>	2	2
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	<b>0</b>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>4.5</b>	4.5	3.6
Sulfation	Abs.1mm	ASTM D7415*	>30	<b>17.5</b>	17.4	16.8

# OIL ANALYSIS REPORT

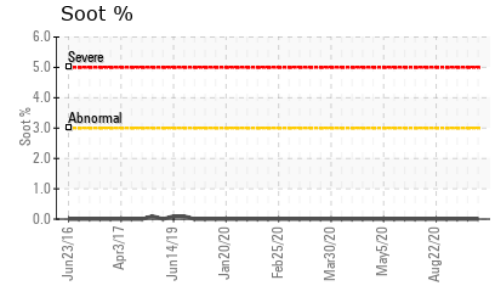
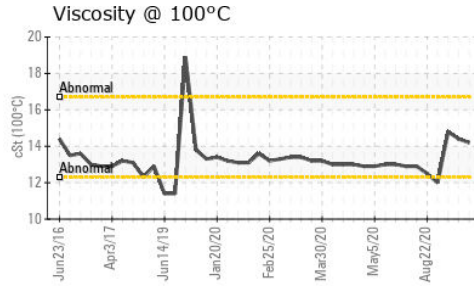
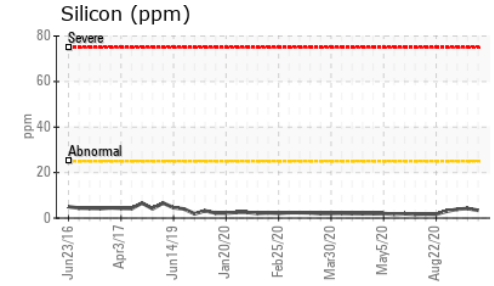
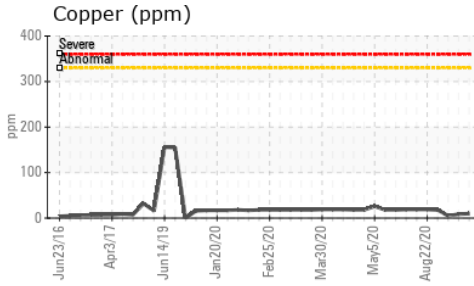
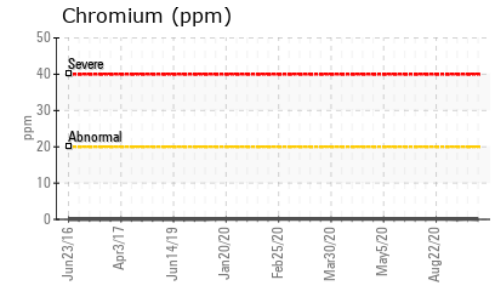
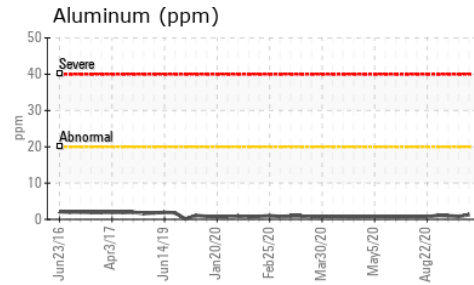
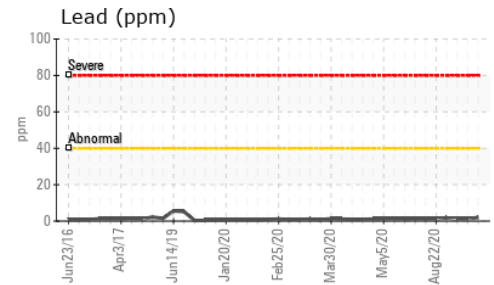
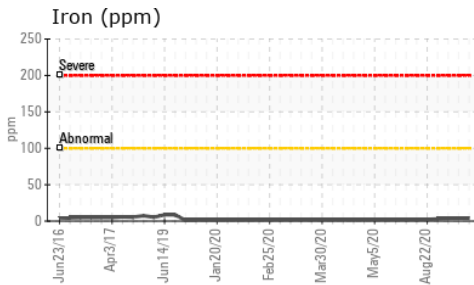


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>12.8</b>	12.6	8.5

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG
Free Water	scalar	Visual*		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)		<b>103</b>	105	112
Visc @ 100°C	cSt	ASTM D7279(m)		<b>14.2</b>	14.4	14.8
Viscosity Index (VI)	Scale	ASTM D2270*		<b>140</b>	140	136

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC **Received** : 28 Dec 2023  
**Lab Number** : **02605493** **Tested** : 28 Dec 2023  
**Unique Number** : 5698578 **Diagnosed** : 28 Dec 2023 - Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: KV40, VI )

**Suncor - Terra Nova Projects**  
 Scotia Centre, 235 Water Street  
 St. John's, NL  
 CA A1C 1B6  
 Contact: Josh Hynes  
 joshhynes@suncor.com  
 T: (709)778-3575  
 F: (709)724-2835

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.