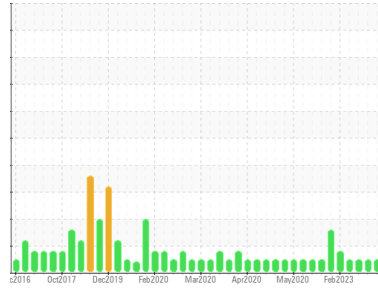


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

Fwd Machinery Space [450307773]

Machine Id

Pump - Fire Water (Stbd) - Engine Crank Case (S/N Sample Tag PA-71001B-S1)

Component

Starboard Diesel Engine

Fluid

PETRO CANADA DURON HP 15W40 (806 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	PC0080678	PC0076343	PC
Sample Date	Client Info	04 Jun 2024	20 Mar 2024	06 Dec 2023
Machine Age	hrs	0	0	0
Oil Age	hrs	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >6	<1.0	<1.0	<1.0
Water	WC Method >0.2	NEG	NEG	NEG
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185(m) >100	5	5	4
Chromium	ppm ASTM D5185(m) >20	<1	0	0
Nickel	ppm ASTM D5185(m) >2	<1	0	<1
Titanium	ppm ASTM D5185(m) >2	0	0	0
Silver	ppm ASTM D5185(m) >2	0	0	0
Aluminum	ppm ASTM D5185(m) >25	1	1	1
Lead	ppm ASTM D5185(m) >40	1	1	2
Copper	ppm ASTM D5185(m) >330	12	12	10
Tin	ppm ASTM D5185(m) >15	<1	0	<1
Antimony	ppm ASTM D5185(m)	0	0	0
Vanadium	ppm ASTM D5185(m)	0	0	0
Beryllium	ppm ASTM D5185(m)	0	0	0
Cadmium	ppm ASTM D5185(m)	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m) 0	1	<1	<1
Barium	ppm ASTM D5185(m) 0	<1	<1	0
Molybdenum	ppm ASTM D5185(m) 60	54	54	53
Manganese	ppm ASTM D5185(m) 0	<1	0	0
Magnesium	ppm ASTM D5185(m) 1010	853	911	872
Calcium	ppm ASTM D5185(m) 1070	939	980	955
Phosphorus	ppm ASTM D5185(m) 1150	901	933	949
Zinc	ppm ASTM D5185(m) 1270	1066	1093	1058
Sulfur	ppm ASTM D5185(m) 2060	2336	2383	2556
Lithium	ppm ASTM D5185(m)	<1	<1	<1

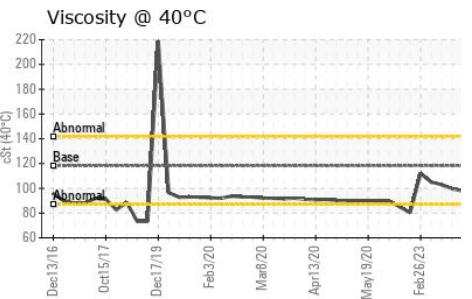
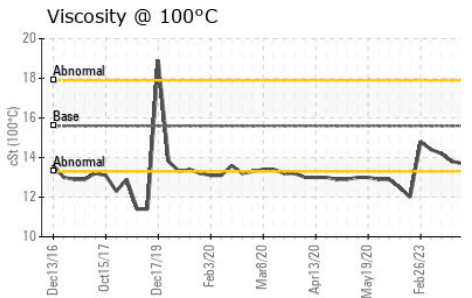
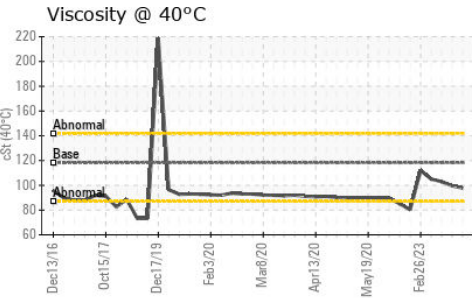
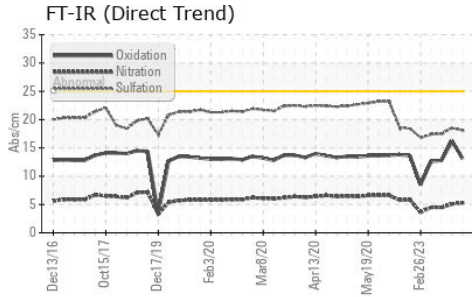
CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >25	2	2	3
Sodium	ppm ASTM D5185(m)	2	2	2
Potassium	ppm ASTM D5185(m) >20	<1	<1	<1

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% ASTM D7844* >3	0	0	0
Nitration	Abs/cm ASTM D7624* >20	5.3	5.1	4.5
Sulfation	Abs./1mm ASTM D7415* >30	18.1	18.5	17.5

OIL ANALYSIS REPORT

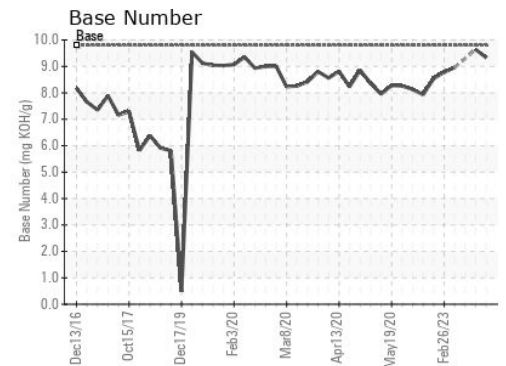
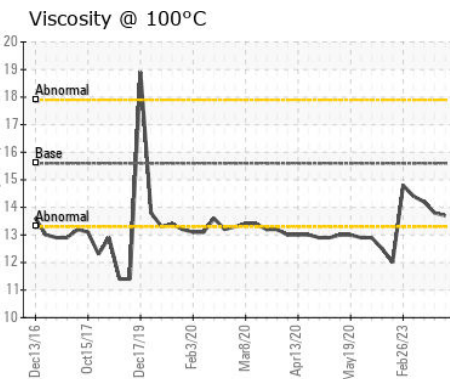
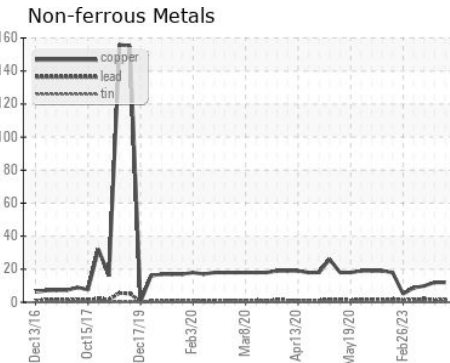
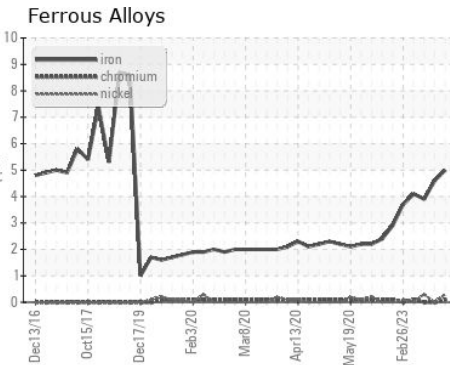


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	13.1	16.2	12.8
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	9.33	9.64	---

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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	118.2	97.8	99.6	103
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	13.7	13.8	14.2
Viscosity Index (VI)	Scale	ASTM D2270*	139	141	139	140

GRAPHS



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0080678
Lab Number : **02643695**
Unique Number : 5801234
Test Package : MAR 2 (Additional Tests: KV40, VI)
Received : 24 Jun 2024
Tested : 25 Jun 2024
Diagnosed : 25 Jun 2024 - Kevin Marson

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.

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