

Area
UPS CANADA
Machine Id
FREIGHTLINER 862546
Component
Diesel Engine
Fluid
PETRO CANADA SUPREME 5W30 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil from the component if this has not already been done. We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
There is a moderate concentration of dirt present in the oil.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			PC0085527	PC0085557	---
Sample Date	Client Info			24 Apr 2024	20 Dec 2023	---
Machine Age	kms	Client Info		253900	249766	---
Oil Age	kms	Client Info		0	0	---
Oil Changed	Client Info			Not Chngd	N/A	---
Sample Status				ABNORMAL	NORMAL	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	<1.0	---
Water	WC Method	>0.2		NEG	NEG	---
Glycol	WC Method			NEG	NEG	---

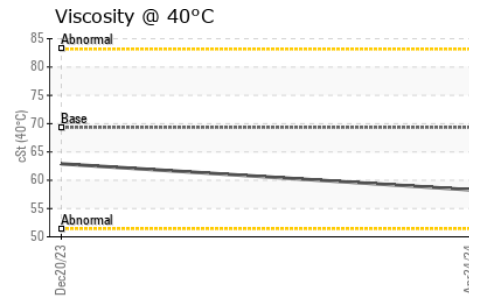
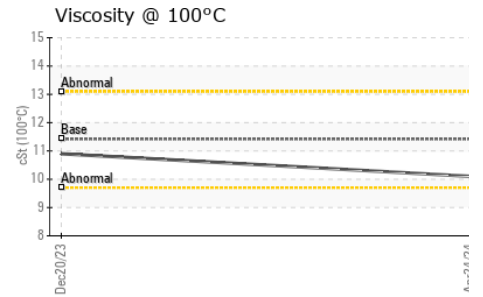
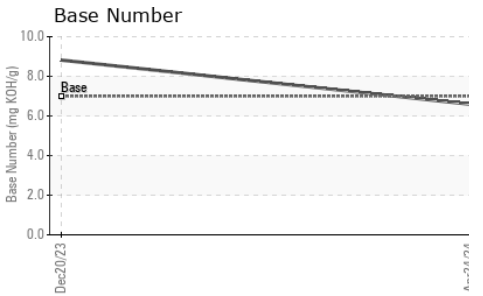
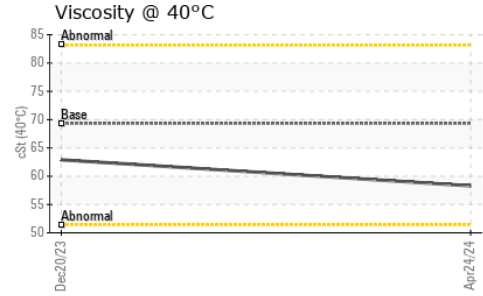
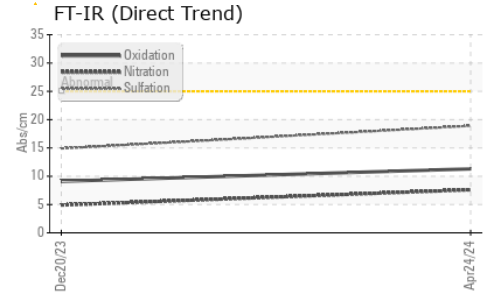
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>80	30	6	---
Chromium	ppm	ASTM D5185(m)	>5	2	<1	---
Nickel	ppm	ASTM D5185(m)	>2	<1	0	---
Titanium	ppm	ASTM D5185(m)		0	0	---
Silver	ppm	ASTM D5185(m)	>3	0	0	---
Aluminum	ppm	ASTM D5185(m)	>30	3	2	---
Lead	ppm	ASTM D5185(m)	>30	<1	0	---
Copper	ppm	ASTM D5185(m)	>150	45	2	---
Tin	ppm	ASTM D5185(m)	>5	0	0	---
Antimony	ppm	ASTM D5185(m)		0	0	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
Beryllium	ppm	ASTM D5185(m)		0	0	---
Cadmium	ppm	ASTM D5185(m)		0	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	186	86	156	---
Barium	ppm	ASTM D5185(m)	<1	0	0	---
Molybdenum	ppm	ASTM D5185(m)	79	72	62	---
Manganese	ppm	ASTM D5185(m)	0	1	0	---
Magnesium	ppm	ASTM D5185(m)	578	577	554	---
Calcium	ppm	ASTM D5185(m)	1002	1211	1113	---
Phosphorus	ppm	ASTM D5185(m)	745	632	639	---
Zinc	ppm	ASTM D5185(m)	837	825	737	---
Sulfur	ppm	ASTM D5185(m)	2502	2236	2284	---
Lithium	ppm	ASTM D5185(m)		<1	<1	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	▲ 20	10	---
Sodium	ppm	ASTM D5185(m)		2	1	---
Potassium	ppm	ASTM D5185(m)	>20	<1	1	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0	0	---
Nitration	Abs/cm	ASTM D7624*	>20	7.6	4.9	---
Sulfation	Abs.1mm	ASTM D7415*	>30	18.9	14.9	---

OIL ANALYSIS REPORT

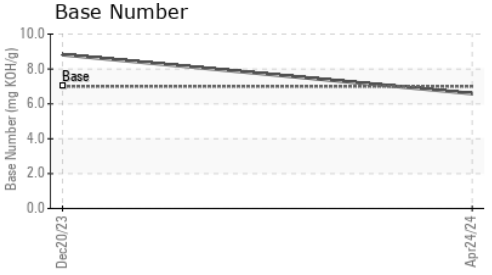
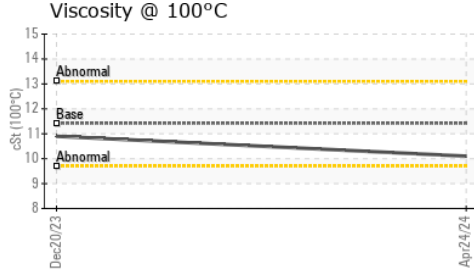
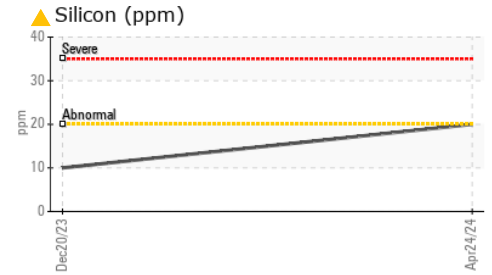
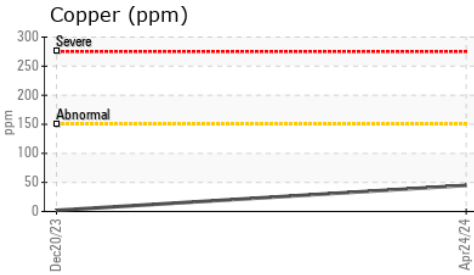
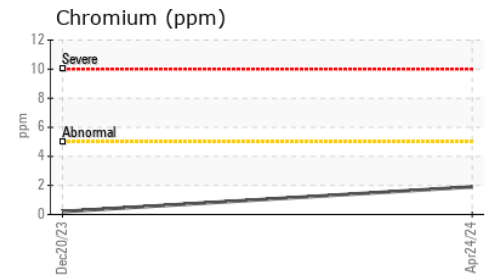
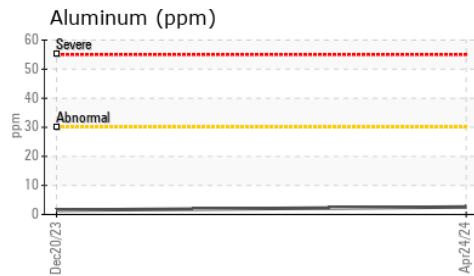
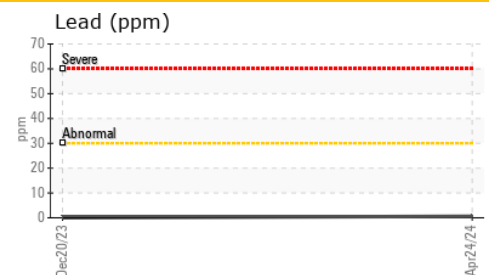
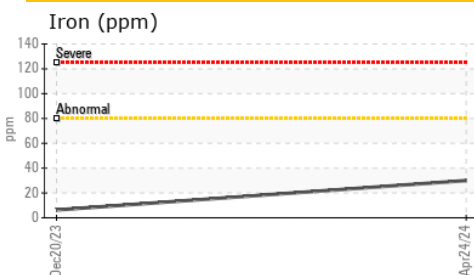


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	11.3	9.1	---
Base Number (BN)	mg KOH/g	ASTM D2896*	7.0	6.59	8.82	---

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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	69.33	58.3	62.9	---
Visc @ 100°C	cSt	ASTM D7279(m)	11.42	10.1	10.9	---
Viscosity Index (VI)	Scale	ASTM D2270*	159	161	165	---

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **Petro-Canada Technical/Behshad Sabah**
Sample No. : PC0085527 **Received** : 19 Jun 2024
Lab Number : **02642853** **Tested** : 20 Jun 2024
Unique Number : 5800392 **Diagnosed** : 20 Jun 2024 - Kevin Marson
Test Package : MOB 2 (Additional Tests: KV40, VI)

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.

Mississauga, ON
 CA L5J 1K2
 Contact: Behshad Sabah
 Behshad.Sabah@hfsinclair.com
 T: (905)716-2158
 F: (905)403-6740