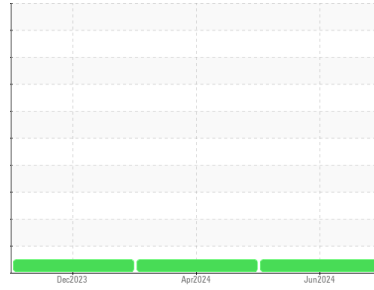


OIL ANALYSIS REPORT

Area
UPS CANADA
Machine Id
FORD 515604
Component
Gasoline Engine
Fluid
PETRO CANADA SUPREME 5W30 (--- LTR)

Sample Rating Trend



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			PC0085523	PC0085531	PC0085569
Sample Date	Client Info			10 Jun 2024	24 Apr 2024	19 Dec 2023
Machine Age	kms	Client Info		19750	15653	3577
Oil Age	kms	Client Info		0	0	0
Oil Changed	Client Info			N/A	Not Changd	N/A
Sample Status				NORMAL	---	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>4.0		<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)	>150	13	10	2
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	0
Nickel	ppm	ASTM D5185(m)	>5	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		<1	<1	0
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>40	7	5	1
Lead	ppm	ASTM D5185(m)	>50	0	0	0
Copper	ppm	ASTM D5185(m)	>155	9	8	3
Tin	ppm	ASTM D5185(m)	>10	<1	0	0
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

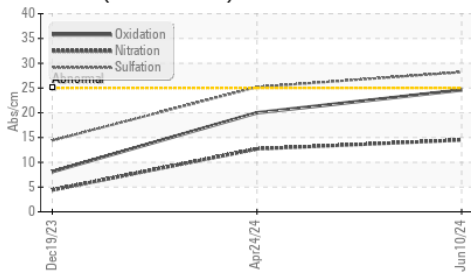
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	186	27	32	169
Barium	ppm	ASTM D5185(m)	<1	<1	<1	0
Molybdenum	ppm	ASTM D5185(m)	79	75	75	67
Manganese	ppm	ASTM D5185(m)	0	2	1	0
Magnesium	ppm	ASTM D5185(m)	578	492	488	472
Calcium	ppm	ASTM D5185(m)	1002	1219	1199	1120
Phosphorus	ppm	ASTM D5185(m)	745	644	626	585
Zinc	ppm	ASTM D5185(m)	837	728	707	671
Sulfur	ppm	ASTM D5185(m)	2502	2177	2169	2214
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>30	42	35	17
Sodium	ppm	ASTM D5185(m)	>400	6	5	2
Potassium	ppm	ASTM D5185(m)	>20	2	<1	1

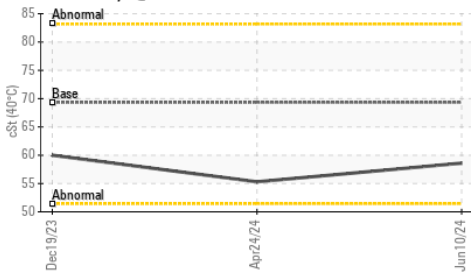
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	14.5	12.7	4.4
Sulfation	Abs./1mm	ASTM D7415*	>30	28.2	25.2	14.4

OIL ANALYSIS REPORT

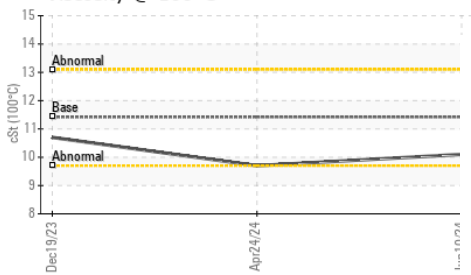
FT-IR (Direct Trend)



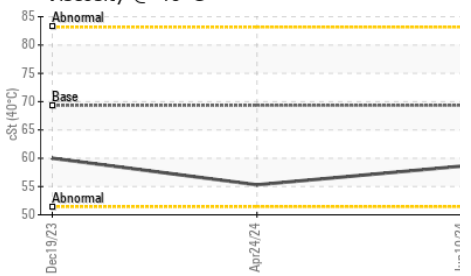
Viscosity @ 40°C



Viscosity @ 100°C



Viscosity @ 40°C



Viscosity @ 100°C

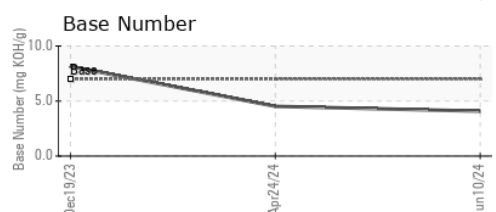
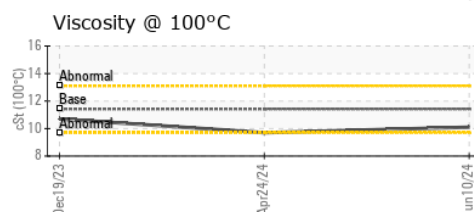
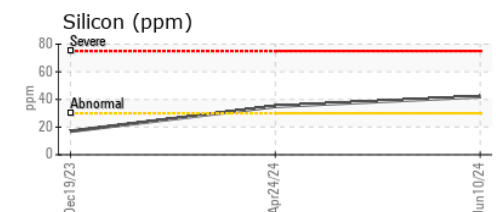
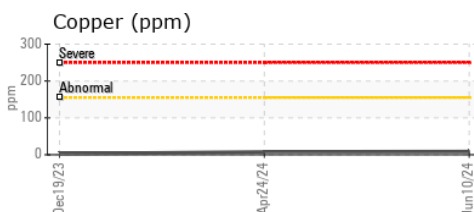
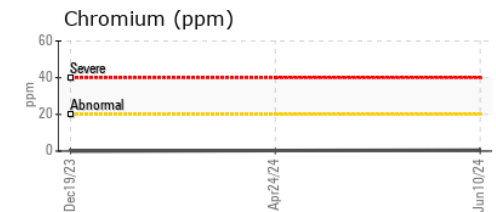
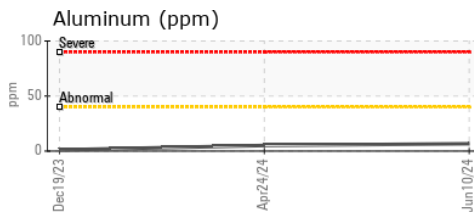
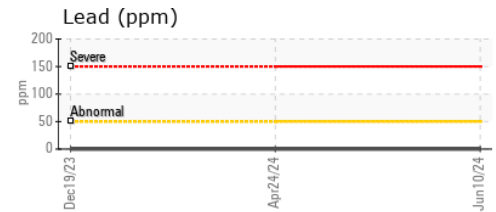
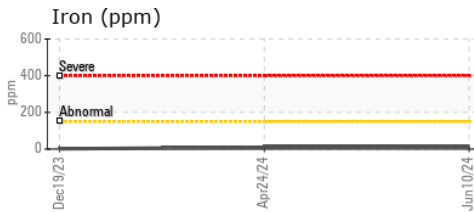


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	24.6	20.0	8.1
Base Number (BN)	mg KOH/g	ASTM D2896*	7.0	4.08	4.52	8.14

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	VLITE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	VLITE	VLITE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
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)	69.33	58.6	55.3	60.0
Visc @ 100°C	cSt	ASTM D7279(m)	11.42	10.1	9.7	10.7
Viscosity Index (VI)	Scale	ASTM D2270*	159	160	161	170

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **Petro-Canada Technical/Behshad Sabah**
Sample No. : PC0085523 **Received** : 19 Jun 2024
Lab Number : **02642852** **Tested** : 20 Jun 2024
Unique Number : 5800391 **Diagnosed** : 20 Jun 2024 - Wes Davis
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