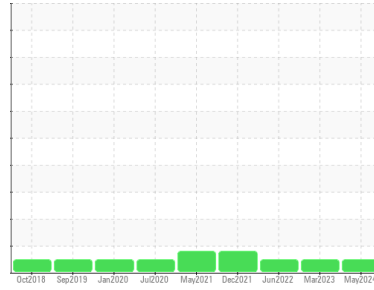


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

OR643

Component

Diesel Engine

Fluid

PETRO CANADA SUPREME SYNTHETIC 5W40 (24 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 condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			PC0088283	PC0072947	PC0064409
Sample Date	Client Info			23 May 2024	24 Mar 2023	23 Jun 2022
Machine Age	hrs	Client Info		9779	8860	8431
Oil Age	hrs	Client Info		0	500	400
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>2.1		<1.0	<1.0	<1.0
Water	WC Method	>0.21		NEG	NEG	NEG
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>51	24	46	42
Chromium	ppm	ASTM D5185(m)	>11	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	0	<1	<1
Titanium	ppm	ASTM D5185(m)		0	<1	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>31	1	3	3
Lead	ppm	ASTM D5185(m)	>26	0	<1	1
Copper	ppm	ASTM D5185(m)	>26	4	1	1
Tin	ppm	ASTM D5185(m)	>4	0	<1	<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

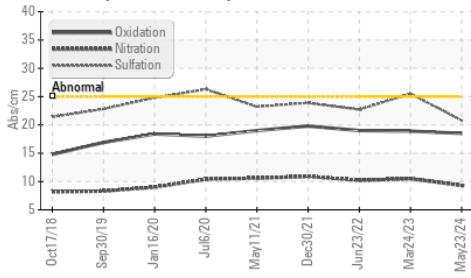
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	190	39	39	43
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	79	54	62	60
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	564	1057	1103	1114
Calcium	ppm	ASTM D5185(m)	993	805	891	848
Phosphorus	ppm	ASTM D5185(m)	763	982	1076	1023
Zinc	ppm	ASTM D5185(m)	835	1147	1186	1211
Sulfur	ppm	ASTM D5185(m)	2536	2613	2790	2859
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>22	2	5	6
Sodium	ppm	ASTM D5185(m)	>31	4	5	5
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	<1

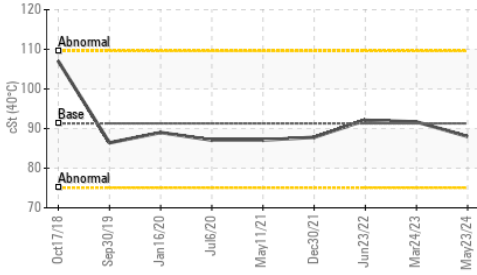
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0.3	1.3	1.1
Nitration	Abs/cm	ASTM D7624*	>20	9.3	10.5	10.2
Sulfation	Abs/.1mm	ASTM D7415*	>30	20.8	25.5	22.7

OIL ANALYSIS REPORT

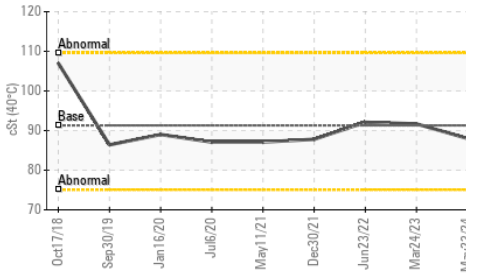
FT-IR (Direct Trend)



Viscosity @ 40°C



Viscosity @ 40°C



FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs./1mm ASTM D7414*	>25	18.5	18.9	19.0

VISUAL

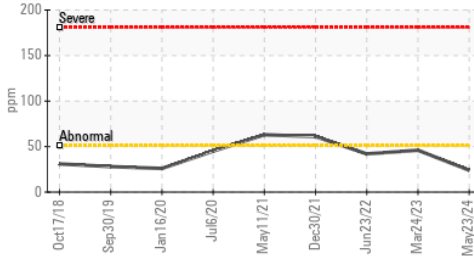
method	limit/base	current	history1	history2	
Emulsified Water	scalar Visual*	>0.21	NEG	NEG	NEG
Free Water	scalar Visual*		NEG	NEG	NEG

FLUID PROPERTIES

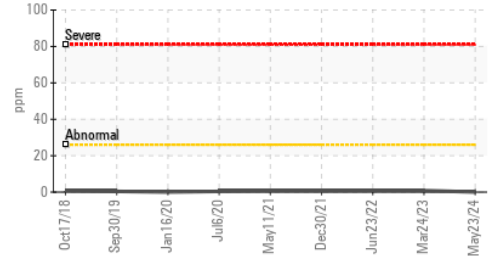
method	limit/base	current	history1	history2	
Visc @ 40°C	cSt ASTM D7279(m)	91.3	88.0	91.7	92.1
Visc @ 100°C	cSt ASTM D7279(m)	14.8	14.3	14.8	14.7
Viscosity Index (VI)	Scale ASTM D2270*	170	168	169	166

GRAPHS

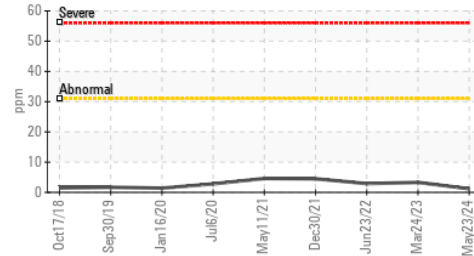
Iron (ppm)



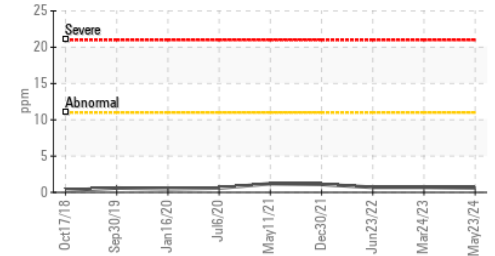
Lead (ppm)



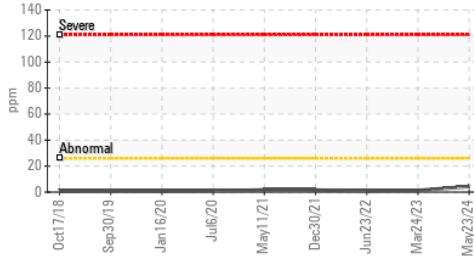
Aluminum (ppm)



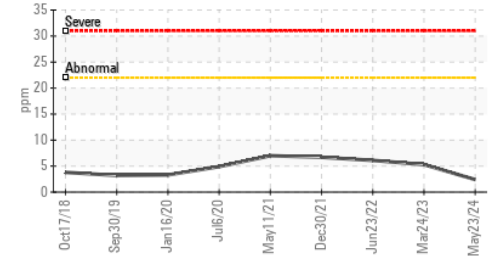
Chromium (ppm)



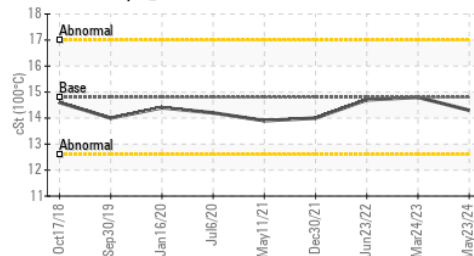
Copper (ppm)



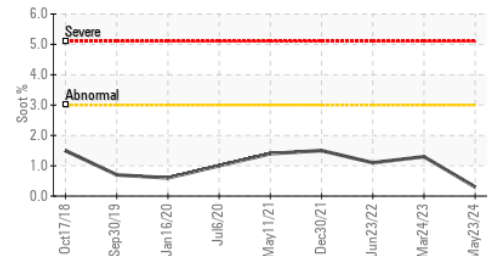
Silicon (ppm)



Viscosity @ 100°C



Soot %



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0088283
Lab Number : 02637901
Unique Number : 5787063
Test Package : MOB 1 (Additional Tests: KV40, VI)

Received : 28 May 2024
Tested : 28 May 2024
Diagnosed : 28 May 2024 - Wes Davis
 Green Infrastructure and Partners Inc (GIPI) - 286 - Shoring & Foundations
 151 Ram Forest Rd,
 Stouffville, ON
 CA L4A 2G8
 Contact: Shannon Abbott
 sabbott@gipi.com
 T: (905)750-5900
 F:

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.