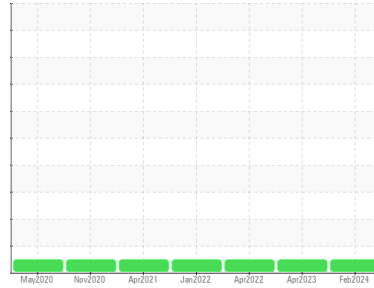


OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
OR919

Component
Diesel Engine

Fluid
PETRO CANADA DURON UHP 5W40 (13 LTR)

DIAGNOSIS

Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. 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

Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			PC0078319	PC0075750	PC0052356
Sample Date	Client Info			16 Feb 2024	25 Apr 2023	04 Apr 2022
Machine Age	hrs	Client Info		7663	7215	4325
Oil Age	hrs	Client Info		0	500	500
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<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	10	11	20
Chromium	ppm	ASTM D5185(m)	>20	3	3	2
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	<1	0
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	4	3	4
Lead	ppm	ASTM D5185(m)	>40	<1	0	<1
Copper	ppm	ASTM D5185(m)	>330	2	1	2
Tin	ppm	ASTM D5185(m)	>15	<1	<1	1
Antimony	ppm	ASTM D5185(m)		0	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

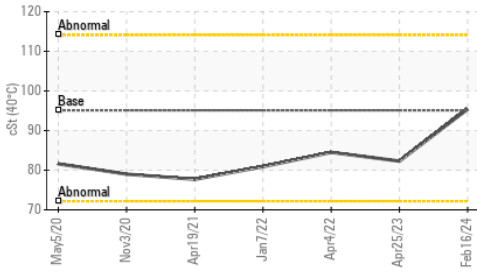
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	65	119	44	45
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	65	26	59	61
Manganese	ppm	ASTM D5185(m)	0	0	<1	<1
Magnesium	ppm	ASTM D5185(m)	1160	470	1124	1217
Calcium	ppm	ASTM D5185(m)	820	1666	873	855
Phosphorus	ppm	ASTM D5185(m)	1160	1006	1093	1109
Zinc	ppm	ASTM D5185(m)	1260	1158	1209	1307
Sulfur	ppm	ASTM D5185(m)	3000	3035	2827	2787
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	8	4	6
Sodium	ppm	ASTM D5185(m)		3	5	4
Potassium	ppm	ASTM D5185(m)	>20	5	0	<1

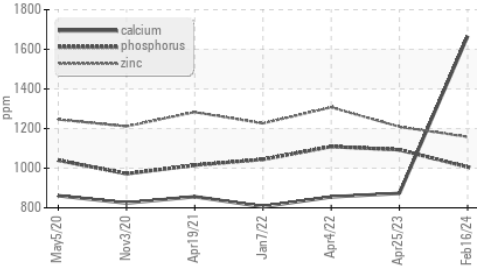
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0	0.1	0.2
Nitration	Abs/cm	ASTM D7624*	>20	8.7	11.9	12.6
Sulfation	Abs/.1mm	ASTM D7415*	>30	20.7	21.5	23.8

OIL ANALYSIS REPORT

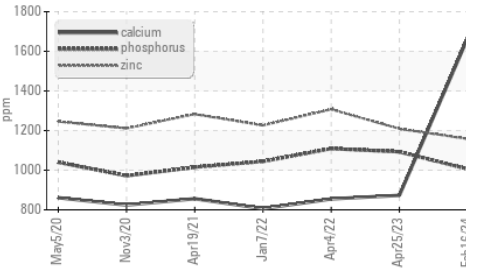
Viscosity @ 40°C



Additives



Additives



FLUID DEGRADATION method limit/base current history1 history2

Oxidation	Abs./1mm	ASTM D7414*	>25	18.3	23.6	23.7
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VISUAL method limit/base current history1 history2

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

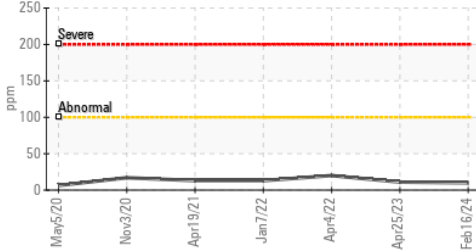
Visc @ 40°C	cSt	ASTM D7279(m)	95.1	95.4	82.3	84.5
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Visc @ 100°C	cSt	ASTM D7279(m)	14.3	13.9	13.3	13.5
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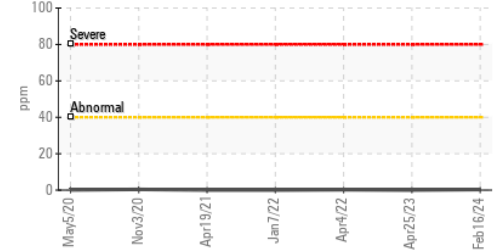
Viscosity Index (VI)	Scale	ASTM D2270*	169	148	163	162
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GRAPHS

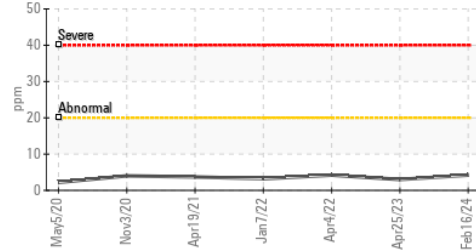
Iron (ppm)



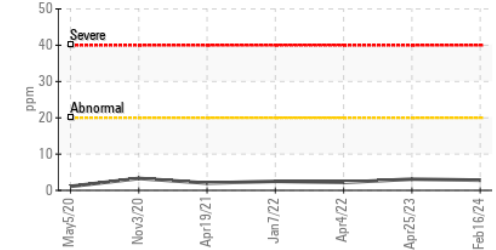
Lead (ppm)



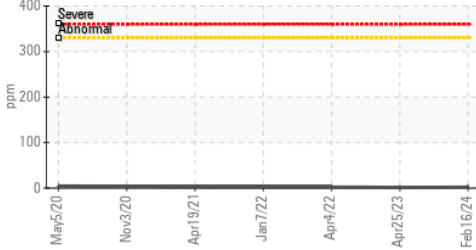
Aluminum (ppm)



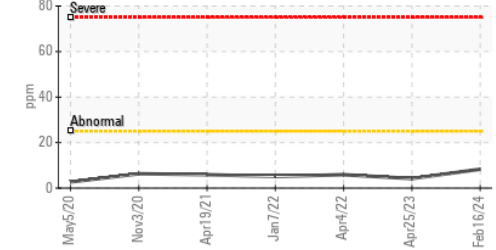
Chromium (ppm)



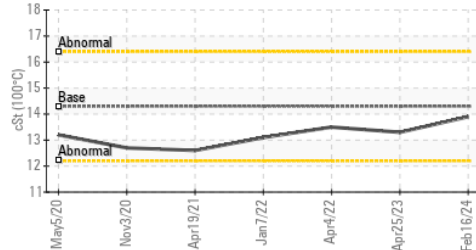
Copper (ppm)



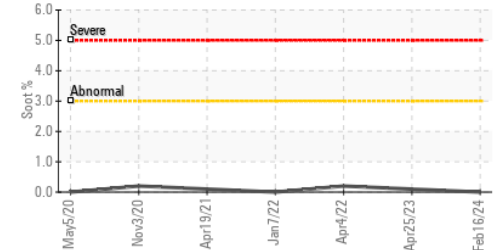
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9

Sample No. : PC0078319

Lab Number : 02617401

Unique Number : 5734511

Test Package : MOB 1 (Additional Tests: KV40, VI)

Received : 22 Feb 2024

Tested : 22 Feb 2024

Diagnosed : 22 Feb 2024 - Wes Davis

Green Infrastructure and Partners Inc (GIPI) - 286 - Shoring & Foundations

151 Ram Forest Rd,

Stouffville, ON

CA L4A 2G8

Contact: Bill Acton

bacton@gipi.com

T:

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.