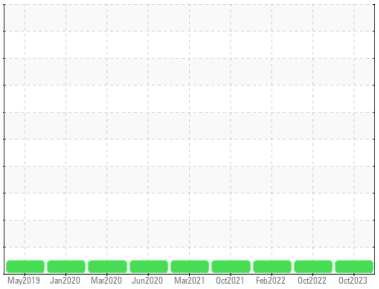
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
CR237
Component
Diesel Engine
Fluid
PETRO CANADA DURON UHP 5W40 (32 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		**PC**	PC0061661	PC0054090
Sample Date		Client Info		**25 Oct 2023**	17 Oct 2022	03 Feb 2022
Machine Age	hrs	Client Info		**0**	0	12874
Oil Age	hrs	Client Info		**0**	0	500
Oil Changed		Client Info		**N/A**	N/A	Changed
Sample Status				**NORMAL**	NORMAL	NORMAL

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	**8**	5	4
Chromium	ppm	ASTM D5185(m)	>20	**1**	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	**0**	0	<1
Titanium	ppm	ASTM D5185(m)		**0**	<1	0
Silver	ppm	ASTM D5185(m)	>3	**<1**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**2**	11	4
Lead	ppm	ASTM D5185(m)	>40	**0**	<1	0
Copper	ppm	ASTM D5185(m)	>330	**<1**	<1	<1
Tin	ppm	ASTM D5185(m)	>15	**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)	65	**32**	49	45
Barium	ppm	ASTM D5185(m)	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)	65	**62**	54	55
Manganese	ppm	ASTM D5185(m)	0	**0**	<1	<1
Magnesium	ppm	ASTM D5185(m)	1160	**1144**	1069	1133
Calcium	ppm	ASTM D5185(m)	820	**895**	798	803
Phosphorus	ppm	ASTM D5185(m)	1160	**970**	1043	1038
Zinc	ppm	ASTM D5185(m)	1260	**1220**	1131	1160
Sulfur	ppm	ASTM D5185(m)	3000	**2647**	2742	2772
Lithium	ppm	ASTM D5185(m)		**<1**	<1	0

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

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0**	0	0
Nitration	Abs/cm	ASTM D7624*	>20	**11.5**	7.7	7.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	**21.7**	20.0	21.2

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**24.1**	17.6	18.6

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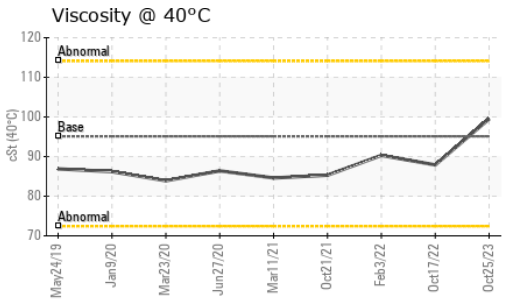
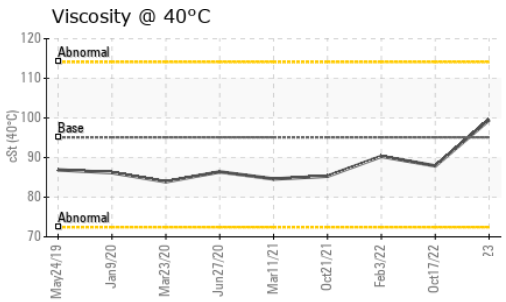
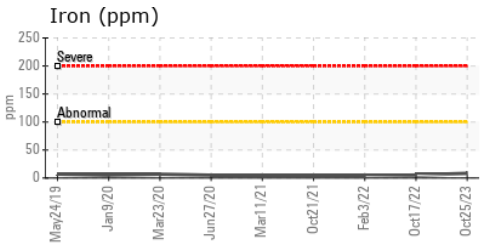


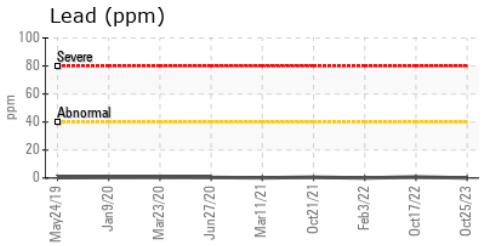


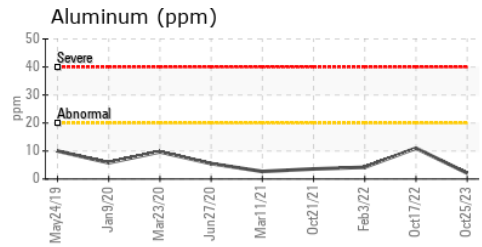
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	---
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	---
Silt	scalar	Visual*	NONE	**NONE**	NONE	---
Debris	scalar	Visual*	NONE	**VLITE**	NONE	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	VLITE	---
Appearance	scalar	Visual*	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

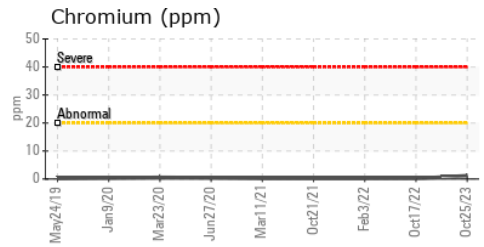
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	95.1	**99.5**	87.9	90.3
Visc @ 100°C	cSt	ASTM D7279(m)	14.3	**15.3**	14.3	14.6
Viscosity Index (VI)	Scale	ASTM D2270*	169	**162**	168	168

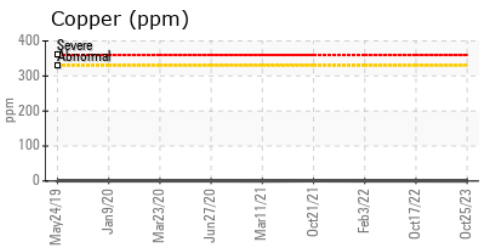
GRAPHS

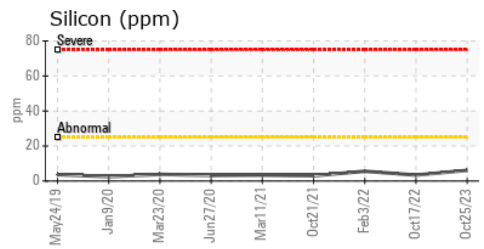


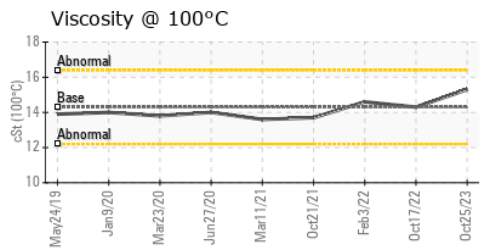


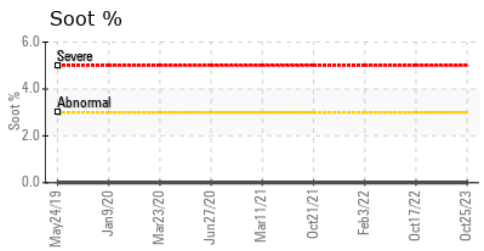












ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Green Infrastructure and Partners Inc (GIPI) - 286 - Shoring & Foundations
Sample No. : PC
Lab Number : 02592010
Unique Number : 5669089
Test Package : MOB 1 (Additional Tests: KV40, VI, Visual)

Received : 26 Oct 2023
Diagnosed : 26 Oct 2023
Diagnostician : Wes Davis

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.