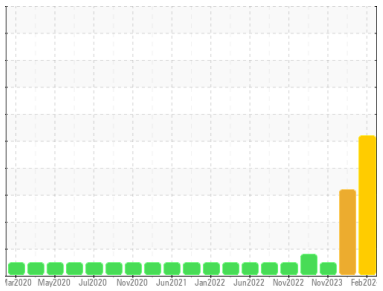
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
RST9963
Component
Diesel Engine
Fluid
PETRO CANADA DURON UHP 5W40 (8 LTR)

DIAGNOSIS

Recommendation
We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC0078299**	PC0082050	PC0078376
Sample Date		Client Info		**09 Feb 2024**	30 Jan 2024	17 Nov 2023
Machine Age	hrs	Client Info		**9963**	6023	5941
Oil Age	hrs	Client Info		**0**	250	250
Oil Changed		Client Info		**Not Changd**	Changed	Changed
Sample Status				**SEVERE**	SEVERE	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
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	**24**	8	12
Chromium	ppm	ASTM D5185(m)	>20	**2**	<1	2
Nickel	ppm	ASTM D5185(m)	>4	**<1**	0	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)	>3	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**4**	2	2
Lead	ppm	ASTM D5185(m)	>40	**<1**	0	<1
Copper	ppm	ASTM D5185(m)	>330	**2**	<1	<1
Tin	ppm	ASTM D5185(m)	>15	**0**	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)	65	**24**	35	28
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	65	**30**	37	58
Manganese	ppm	ASTM D5185(m)	0	**0**	0	0
Magnesium	ppm	ASTM D5185(m)	1160	▲ **564**	724	1110
Calcium	ppm	ASTM D5185(m)	820	▲ **415**	539	834
Phosphorus	ppm	ASTM D5185(m)	1160	▲ **510**	673	978
Zinc	ppm	ASTM D5185(m)	1260	▲ **605**	772	1218
Sulfur	ppm	ASTM D5185(m)	3000	▲ **1409**	1928	2709
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**7**	6	10
Sodium	ppm	ASTM D5185(m)		**2**	2	5
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Fuel	%	ASTM D7593*	>5	⬢ **46.5**	⬢ 29.3	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.1**	0	0.1
Nitration	Abs/cm	ASTM D7624*	>20	**8.6**	7.7	13.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	**17.9**	18.1	23.5

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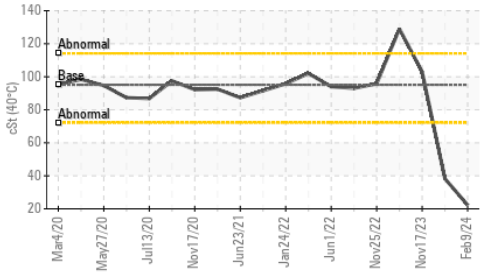
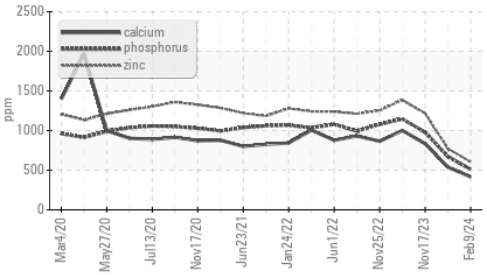
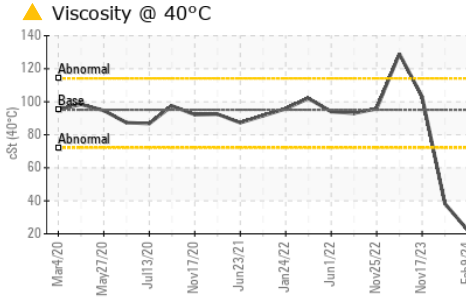
Viscosity @ 40°C



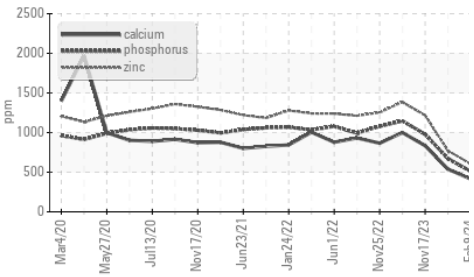
Additives



Viscosity @ 40°C



Additives



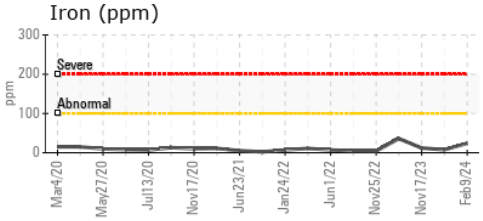
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**15.4**	15.2	28.2

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

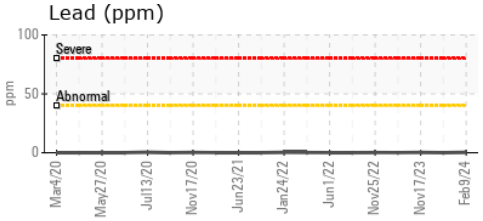
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	95.1	▲ **22.3**	▲ 38.3	103
Visc @ 100°C	cSt	ASTM D7279(m)	14.3	⬢ **5.2**	⬢ 7.8	15.3
Viscosity Index (VI)	Scale	ASTM D2270*	169	**176**	179	156

GRAPHS

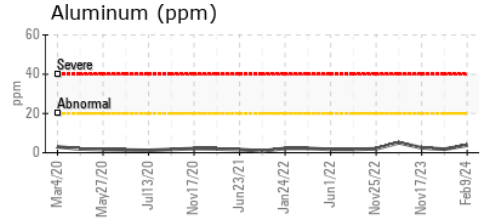
Iron (ppm)



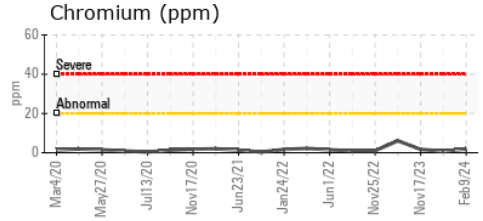
Lead (ppm)



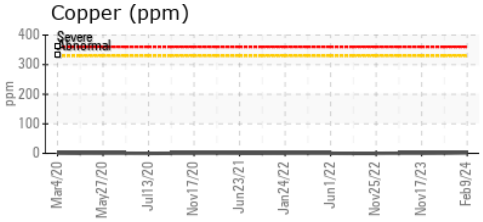
Aluminum (ppm)



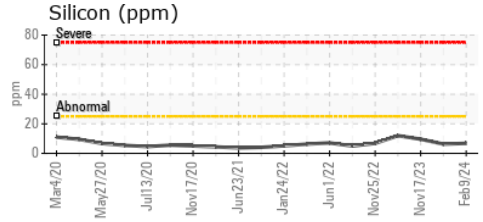
Chromium (ppm)



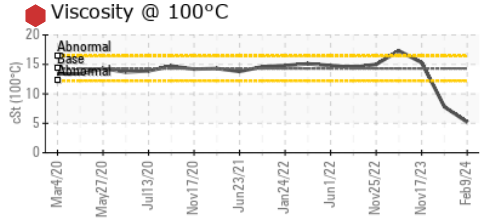
Copper (ppm)



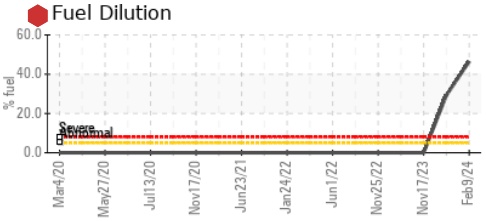
Silicon (ppm)



⬢ Viscosity @ 100°C



⬢ Fuel Dilution



CALA Testing Accreditation No. 1005078
ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0078299
Lab Number : 02615545
Unique Number : 5724640
Test Package : MOB 1 (Additional Tests: KV40, PercentFuel, VI, Visual)

Received : 14 Feb 2024
Tested : 23 Feb 2024
Diagnosed : 23 Feb 2024 - Kevin Marson

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.