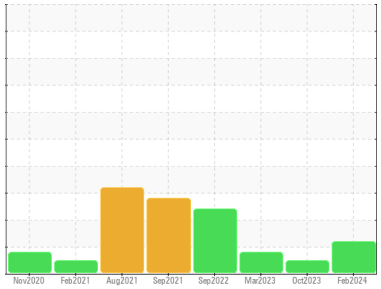
OIL ANALYSIS REPORT

Sample Rating Trend



OFF SPEC

Machine Id
CR219
Component
Diesel Engine
Fluid
PETRO CANADA SUPREME SYNTHETIC 5W40 (28 LTR)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Fuel content negligible. There is no indication of any contamination in the oil.

Fluid Condition
Viscosity of sample indicates oil is within SAE 10W30 range, advise investigate. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC0078318**	PC	PC0072914
Sample Date		Client Info		**20 Feb 2024**	25 Oct 2023	01 Mar 2023
Machine Age	hrs	Client Info		**4859**	0	8700
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	N/A	Changed
Sample Status				**ABNORMAL**	NORMAL	ABNORMAL

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	**17**	22	16
Chromium	ppm	ASTM D5185(m)	>20	**2**	<1	4
Nickel	ppm	ASTM D5185(m)	>4	**<1**	0	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	<1
Silver	ppm	ASTM D5185(m)	>3	**0**	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	**<1**	2	<1
Lead	ppm	ASTM D5185(m)	>40	**2**	<1	3
Copper	ppm	ASTM D5185(m)	>330	**1**	2	2
Tin	ppm	ASTM D5185(m)	>15	**4**	0	6
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	**10**	28	4
Barium	ppm	ASTM D5185(m)	0	**0**	<1	0
Molybdenum	ppm	ASTM D5185(m)	79	**10**	57	2
Manganese	ppm	ASTM D5185(m)		**0**	0	<1
Magnesium	ppm	ASTM D5185(m)	564	**1003**	1065	994
Calcium	ppm	ASTM D5185(m)	993	**1044**	836	1147
Phosphorus	ppm	ASTM D5185(m)	763	**1134**	998	1234
Zinc	ppm	ASTM D5185(m)	835	**1290**	1166	1330
Sulfur	ppm	ASTM D5185(m)	2536	**2834**	2740	2845
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**4**	3	8
Sodium	ppm	ASTM D5185(m)		**2**	5	1
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	0
Fuel	%	ASTM D7593*	>5	**0.7**	<1.0	0.8

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.1**	0.4	0
Nitration	Abs/cm	ASTM D7624*	>20	**5.0**	9.1	4.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	**14.8**	20.6	16.3

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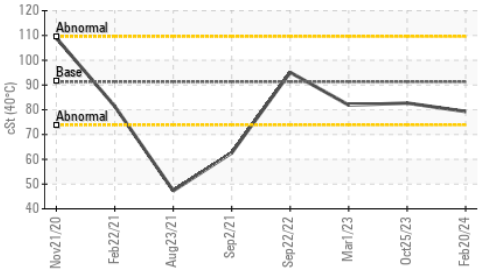
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**9.3**	18.6	8.0

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

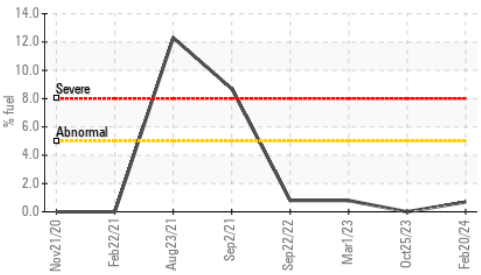
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	91.3	▲ **79.3**	82.7	81.9
Visc @ 100°C	cSt	ASTM D7279(m)	14.8	▲ **11.2**	13.6	▲ 11.0
Viscosity Index (VI)	Scale	ASTM D2270*	170	▲ **130**	168	▲ 121

GRAPHS

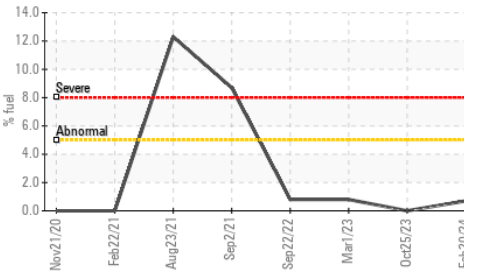
▲ Viscosity @ 40°C



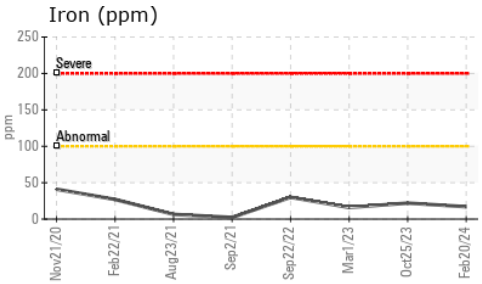
Fuel Dilution



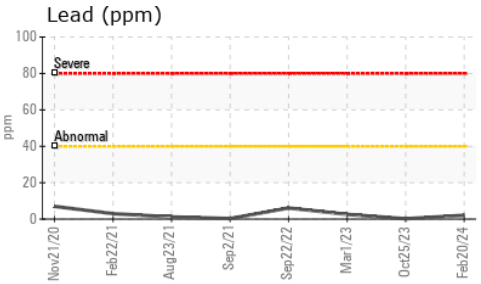
Fuel Dilution



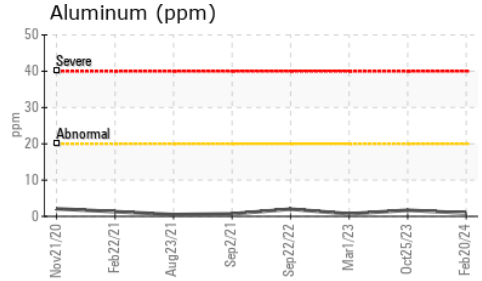
Iron (ppm)



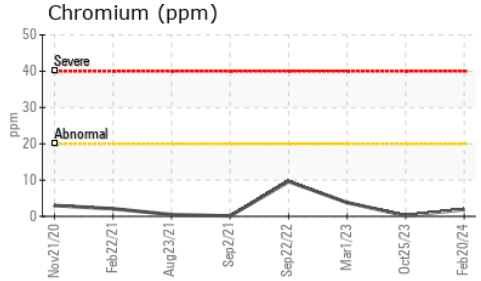
Lead (ppm)



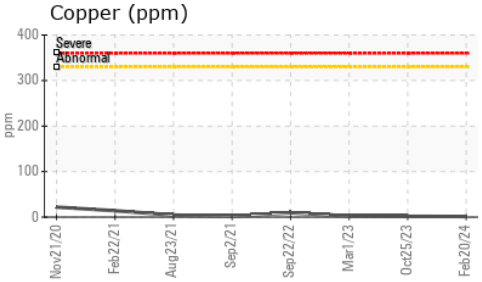
Aluminum (ppm)



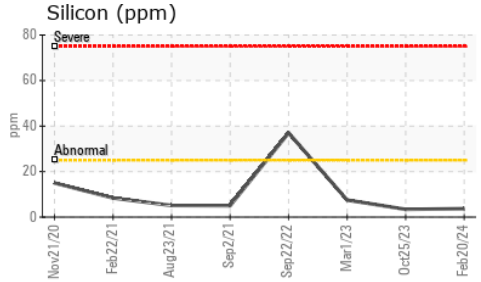
Chromium (ppm)



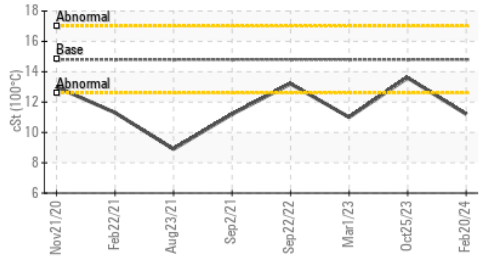
Copper (ppm)



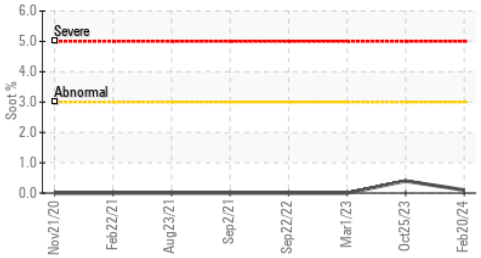
Silicon (ppm)



▲ Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0078318
Lab Number : 02617399
Unique Number : 5734509
Test Package : MOB 1 (Additional Tests: FuelDilution, KV40, PercentFuel, VI)

Received : 22 Feb 2024
Tested : 23 Feb 2024
Diagnosed : 23 Feb 2024 - Kevin Marson

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