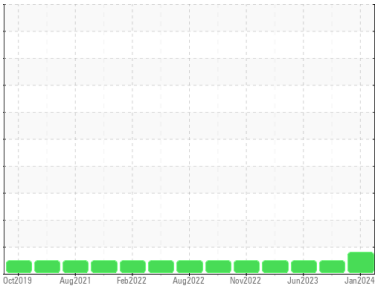
OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY

Machine Id
DR170
Component
Diesel Engine
Fluid
PETRO CANADA DURON UHP 5W40 (38 LTR)

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Wear
All component wear rates are normal.

Contamination
Light fuel dilution occurring. No other contaminants were detected in the oil.

Fluid Condition
Viscosity of sample indicates oil is within SAE 5W30 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		**PC0082677**	PC0078512	PC0075769
Sample Date		Client Info		**12 Jan 2024**	14 Aug 2023	15 Jun 2023
Machine Age	hrs	Client Info		**15915**	15385	15145
Oil Age	hrs	Client Info		**250**	250	250
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	NORMAL	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	**6**	16	15
Chromium	ppm	ASTM D5185(m)	>20	**0**	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)	>3	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**2**	<1	<1
Lead	ppm	ASTM D5185(m)	>40	**<1**	0	<1
Copper	ppm	ASTM D5185(m)	>330	**<1**	2	5
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	**39**	36	45
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	65	**58**	57	60
Manganese	ppm	ASTM D5185(m)	0	**0**	<1	<1
Magnesium	ppm	ASTM D5185(m)	1160	**1095**	1090	1082
Calcium	ppm	ASTM D5185(m)	820	**941**	811	769
Phosphorus	ppm	ASTM D5185(m)	1160	**1079**	1018	1007
Zinc	ppm	ASTM D5185(m)	1260	**1224**	1144	1134
Sulfur	ppm	ASTM D5185(m)	3000	**3115**	2738	2729
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**2**	3	3
Sodium	ppm	ASTM D5185(m)		**4**	4	4
Potassium	ppm	ASTM D5185(m)	>20	**<1**	1	<1
Fuel	%	ASTM D7593*	>5	**1.1**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.1**	0.3	0.2
Nitration	Abs/cm	ASTM D7624*	>20	**9.3**	8.0	7.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	**21.0**	21.2	19.9

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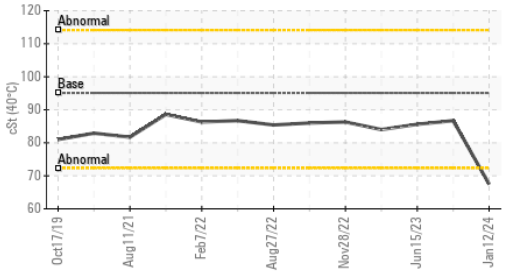
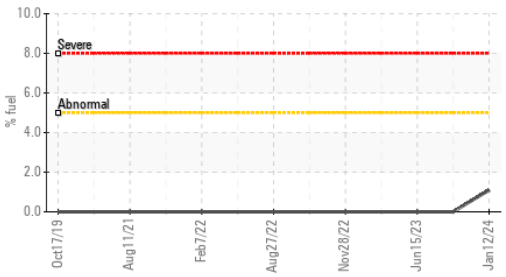
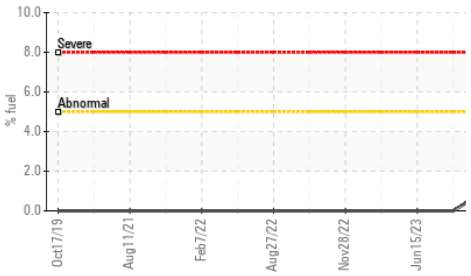
Viscosity @ 40°C



Fuel Dilution



Fuel Dilution



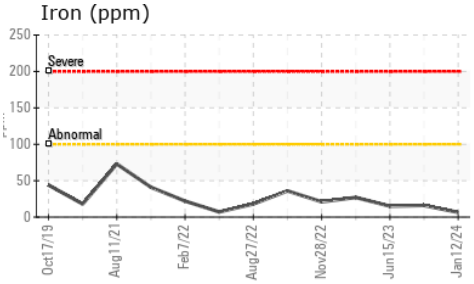
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**19.3**	17.4	17.0

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

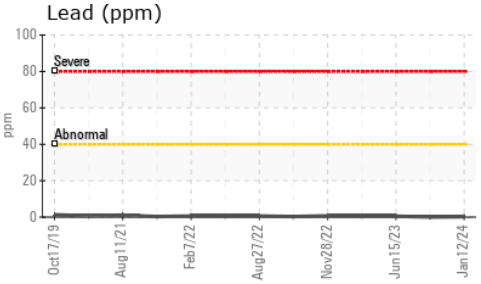
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	95.1	▲ **67.5**	86.7	85.6
Visc @ 100°C	cSt	ASTM D7279(m)	14.3	▲ **11.2**	14.2	13.9
Viscosity Index (VI)	Scale	ASTM D2270*	169	**159**	169	167

GRAPHS

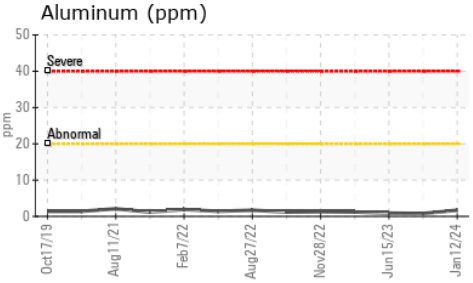
Iron (ppm)



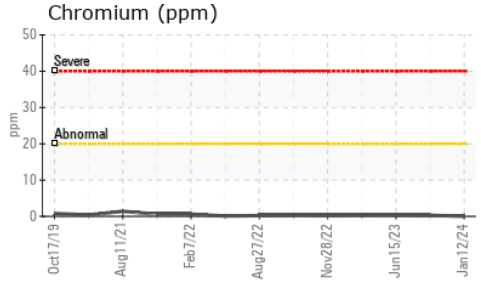
Lead (ppm)



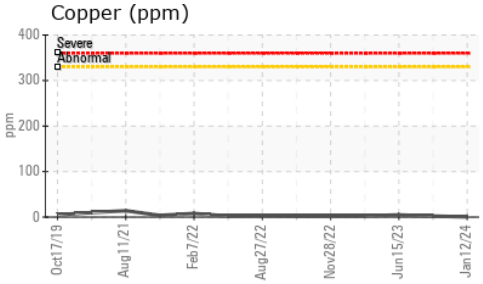
Aluminum (ppm)



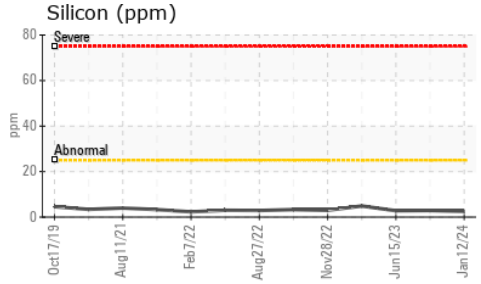
Chromium (ppm)



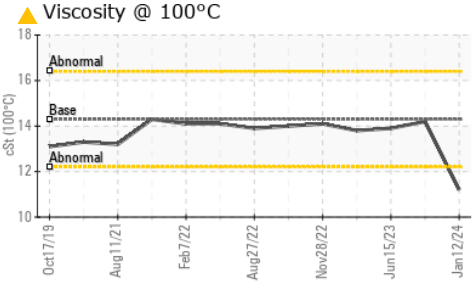
Copper (ppm)



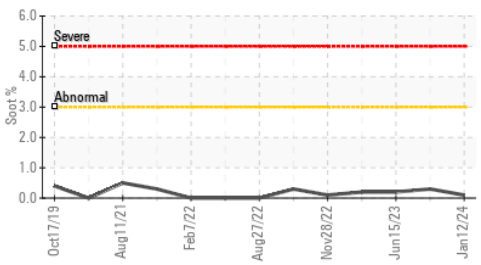
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Green Infrastructure and Partners Inc (GIPI) - 286 - Shoring & Foundations
Sample No. : PC0082677 **Recieved** : 26 Jan 2024
Lab Number : 02611394 **Diagnosed** : 29 Jan 2024
Unique Number : 5720489 **Diagnostician** : Bill Quesnel
Test Package : MOB 1 (Additional Tests: FuelDilution, KV40, PercentFuel, VI)

151 Ram Forest Rd,
Stouffville, ON
CA L4A 2G8
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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.