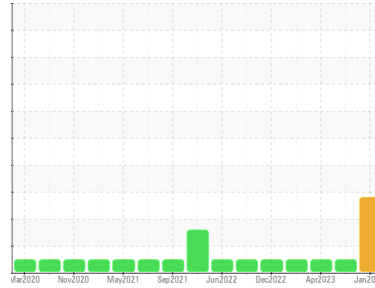




Machine Id  
**DR167**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON UHP 5W40 (40 LTR)**



**DIAGNOSIS**

**Recommendation**  
We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. 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			<b>PC0078388</b>	PC0078016	PC0071492
Sample Date	Client Info			<b>18 Jan 2024</b>	13 Dec 2023	04 Apr 2023
Machine Age	hrs	Client Info		<b>14622</b>	14469	13976
Oil Age	hrs	Client Info		<b>250</b>	250	0
Oil Changed	Client Info			<b>Changed</b>	Changed	Changed
Sample Status				<b>SEVERE</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method	>0.2		<b>NEG</b>	NEG	NEG
Glycol	WC Method			<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	<b>23</b>	38	13
Chromium	ppm	ASTM D5185(m)	>20	<b>2</b>	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>3</b>	1	<1
Lead	ppm	ASTM D5185(m)	>40	<b>0</b>	1	<1
Copper	ppm	ASTM D5185(m)	>330	<b>&lt;1</b>	4	4
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	<1	<1
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0	0

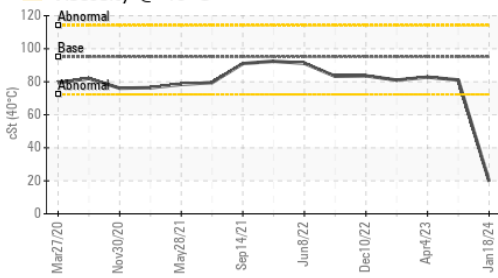
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	65	<b>20</b>	36	50
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	65	<b>27</b>	57	61
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m)	1160	<b>526</b>	1076	1102
Calcium	ppm	ASTM D5185(m)	820	<b>398</b>	805	842
Phosphorus	ppm	ASTM D5185(m)	1160	<b>478</b>	976	1065
Zinc	ppm	ASTM D5185(m)	1260	<b>563</b>	1152	1153
Sulfur	ppm	ASTM D5185(m)	3000	<b>1292</b>	2768	2873
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	<b>7</b>	3	3
Sodium	ppm	ASTM D5185(m)		<b>2</b>	4	4
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1
Fuel	%	ASTM D7593*	>5	<b>51.3</b>	<1.0	<1.0

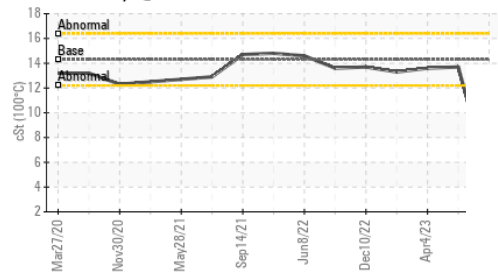
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	<b>0.1</b>	0.4	0.1
Nitration	Abs/cm	ASTM D7624*	>20	<b>8.7</b>	9.3	7.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>17.4</b>	21.2	20.2

# OIL ANALYSIS REPORT

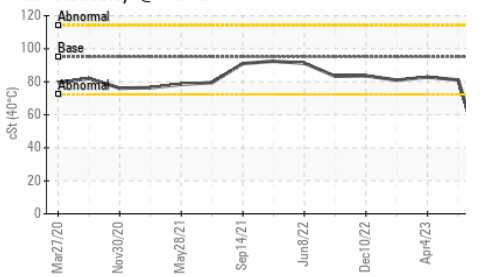
▲ Viscosity @ 40°C



▲ Viscosity @ 100°C



▲ Viscosity @ 40°C



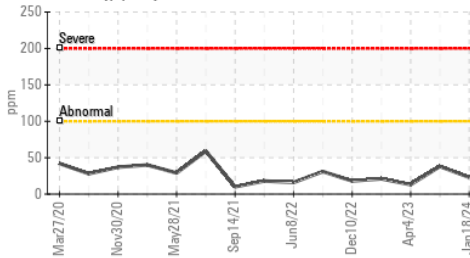
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>15.1</b>	19.0	17.7

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

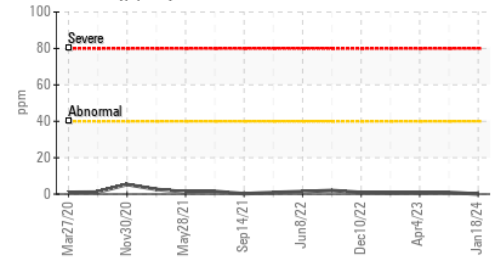
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	95.1	<b>▲ 19.8</b>	81.1	82.8
Visc @ 100°C	cSt	ASTM D7279(m)	14.3	<b>▲ 4.6</b>	13.7	13.6
Viscosity Index (VI)	Scale	ASTM D2270*	169	<b>155</b>	173	168

## GRAPHS

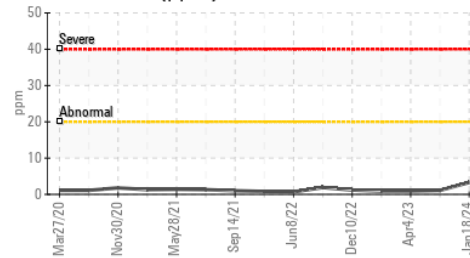
Iron (ppm)



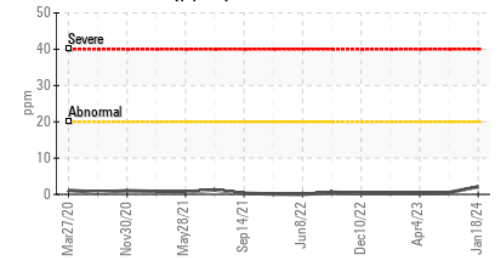
Lead (ppm)



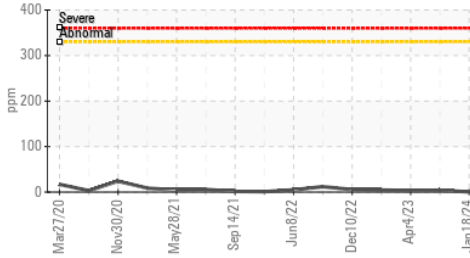
Aluminum (ppm)



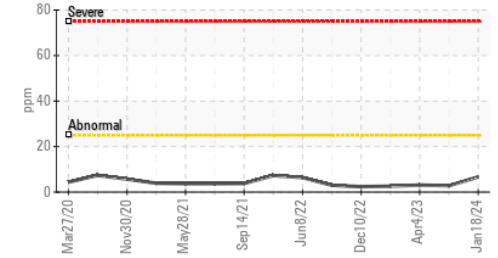
Chromium (ppm)



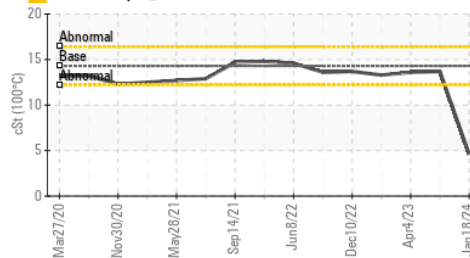
Copper (ppm)



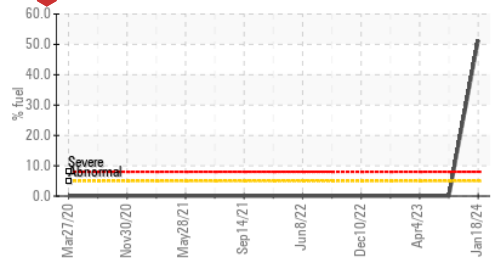
Silicon (ppm)



▲ Viscosity @ 100°C



◆ Fuel Dilution



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.** : PC0078388 **Received** : 26 Jan 2024  
**Lab Number** : 02611451 **Diagnosed** : 29 Jan 2024  
**Unique Number** : 5720546 **Diagnostician** : Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, KV40, PercentFuel, VI )

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.