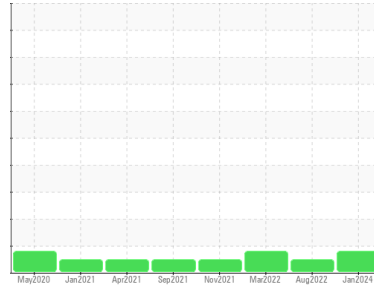


Machine Id  
**TB537**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON UHP 5W40 (18 LTR)**



**DIAGNOSIS**

**Recommendation**

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

**Wear**

Aluminum ppm levels are abnormal. Piston wear is indicated.

**Contamination**

There is no indication of any contamination in the oil.

**Fluid Condition**

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>PC0078386</b>	PC0064790	PC0060991
Sample Date	Client Info			<b>23 Jan 2024</b>	18 Aug 2022	15 Mar 2022
Machine Age	hrs	Client Info		<b>5205</b>	4741	4645
Oil Age	hrs	Client Info		<b>500</b>	0	700
Oil Changed	Client Info			<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	NORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method	>0.2		<b>NEG</b>	NEG	NEG

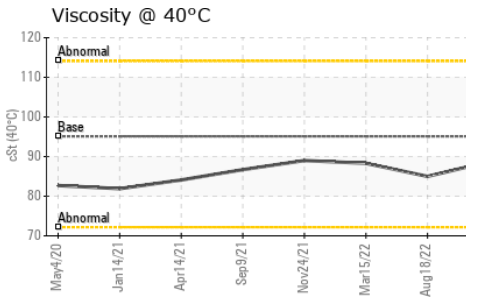
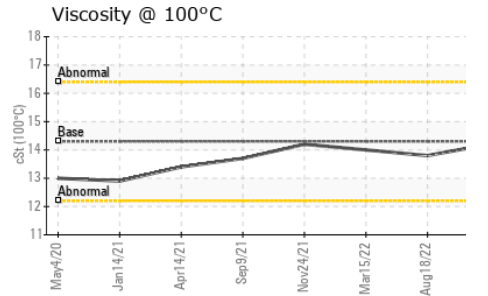
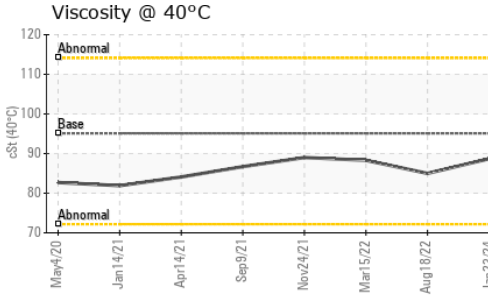
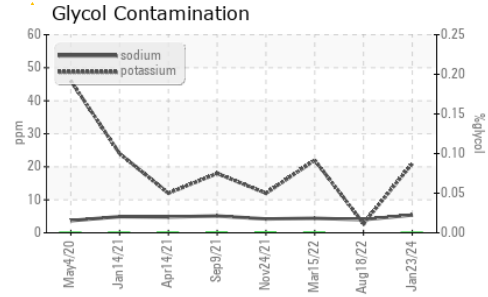
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	<b>20</b>	6	35
Chromium	ppm	ASTM D5185(m)	>20	<b>2</b>	<1	2
Nickel	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>▲ 27</b>	5	<b>▲ 34</b>
Lead	ppm	ASTM D5185(m)	>40	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185(m)	>330	<b>5</b>	3	9
Tin	ppm	ASTM D5185(m)	>15	<b>&lt;1</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>31</b>	51	38
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	65	<b>58</b>	53	57
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	1160	<b>1071</b>	1045	1074
Calcium	ppm	ASTM D5185(m)	820	<b>807</b>	835	817
Phosphorus	ppm	ASTM D5185(m)	1160	<b>971</b>	981	1005
Zinc	ppm	ASTM D5185(m)	1260	<b>1134</b>	1142	1196
Sulfur	ppm	ASTM D5185(m)	3000	<b>2746</b>	2786	2591
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	0

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	<b>15</b>	7	7
Sodium	ppm	ASTM D5185(m)		<b>5</b>	4	4
Potassium	ppm	ASTM D5185(m)	>20	<b>21</b>	3	22
Glycol	%	ASTM D7922*		<b>0.0</b>	NEG	0.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	<b>0.1</b>	0	0.4
Nitration	Abs/cm	ASTM D7624*	>20	<b>10.9</b>	7.6	13.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>20.7</b>	20.0	24.1

# OIL ANALYSIS REPORT

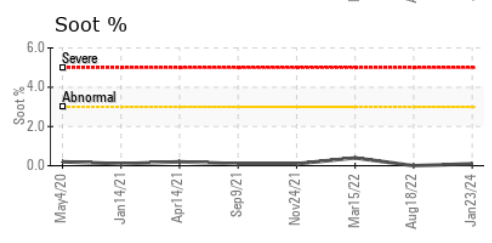
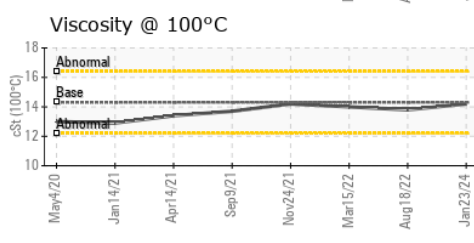
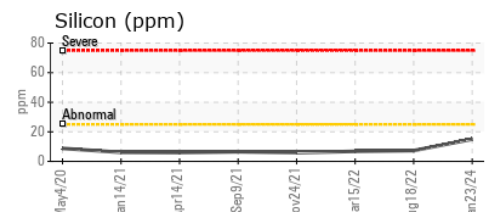
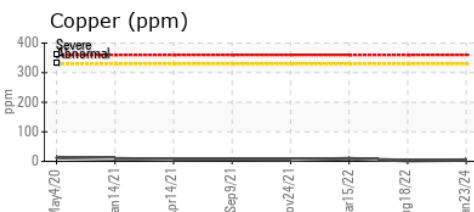
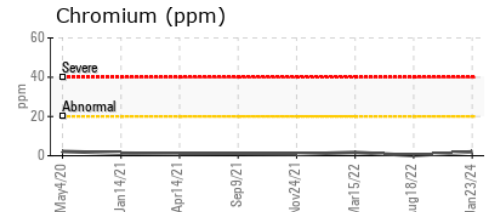
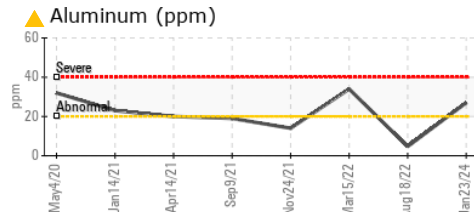
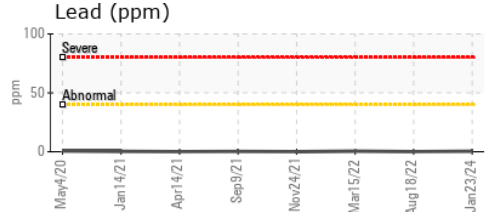
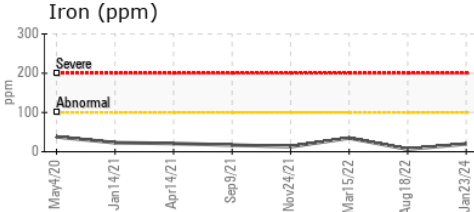


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>20.6</b>	17.6	24.9

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>VLITE</b>	---	---
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	---	---
Silt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Debris	scalar	Visual*	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Appearance	scalar	Visual*	NORML	<b>NORML</b>	---	---
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
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>88.7</b>	85.0	88.3
Visc @ 100°C	cSt	ASTM D7279(m)	14.3	<b>14.2</b>	13.8	14.0
Viscosity Index (VI)	Scale	ASTM D2270*	169	<b>165</b>	166	163

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Green Infrastructure and Partners Inc (GIPI) - 286 - Shoring & Foundations  
**Sample No.** : PC0078386 **Received** : 01 Feb 2024 151 Ram Forest Rd, Stouffville, ON  
**Lab Number** : 02612719 **Diagnosed** : 05 Feb 2024 CA L4A 2G8  
**Unique Number** : 5721814 **Diagnostician** : Bill Quesnel Contact: Shannon Abbott  
**Test Package** : MOB 1 ( Additional Tests: Glycol, KV40, VI, Visual ) 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.