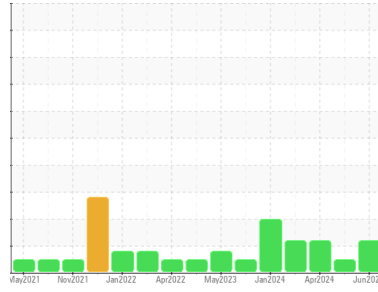


# OIL ANALYSIS REPORT

Sample Rating Trend



**DEGRADATION**



Machine Id

**OE1247**

Component

**Diesel Engine**

Fluid

**PETRO CANADA DURON UHP 5W40 (7 LTR)**

## DIAGNOSIS

### Recommendation

We advise that you check for faulty combustion and a possible overheat condition. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

A small degree of oil oxidation was indicated. The oil is no longer serviceable.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>PC0081608</b>	PC0088286	PC0082023
Sample Date	Client Info	<b>04 Jun 2024</b>	01 May 2024	10 Apr 2024
Machine Age	hrs	<b>10047</b>	9344	8836
Oil Age	hrs	<b>0</b>	0	0
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
Glycol	WC Method	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185(m) >100	<b>5</b>	10	24
Chromium	ppm ASTM D5185(m) >20	<b>&lt;1</b>	<1	1
Nickel	ppm ASTM D5185(m) >4	<b>0</b>	0	0
Titanium	ppm ASTM D5185(m)	<b>0</b>	0	0
Silver	ppm ASTM D5185(m) >3	<b>0</b>	0	0
Aluminum	ppm ASTM D5185(m) >20	<b>1</b>	2	2
Lead	ppm ASTM D5185(m) >40	<b>0</b>	0	0
Copper	ppm ASTM D5185(m) >330	<b>&lt;1</b>	<1	<1
Tin	ppm ASTM D5185(m) >15	<b>0</b>	0	0
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>34</b>	36	38
Barium	ppm ASTM D5185(m) 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185(m) 65	<b>55</b>	53	56
Manganese	ppm ASTM D5185(m) 0	<b>0</b>	0	0
Magnesium	ppm ASTM D5185(m) 1160	<b>1053</b>	1048	1107
Calcium	ppm ASTM D5185(m) 820	<b>790</b>	815	841
Phosphorus	ppm ASTM D5185(m) 1160	<b>899</b>	875	928
Zinc	ppm ASTM D5185(m) 1260	<b>1140</b>	1136	1182
Sulfur	ppm ASTM D5185(m) 3000	<b>2452</b>	2452	2451
Lithium	ppm ASTM D5185(m)	<b>&lt;1</b>	<1	<1

## CONTAMINANTS

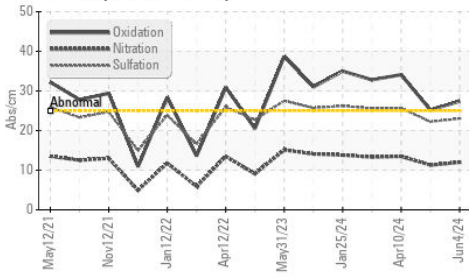
method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >25	<b>2</b>	2	4
Sodium	ppm ASTM D5185(m)	<b>4</b>	4	4
Potassium	ppm ASTM D5185(m) >20	<b>&lt;1</b>	0	0

## INFRA-RED

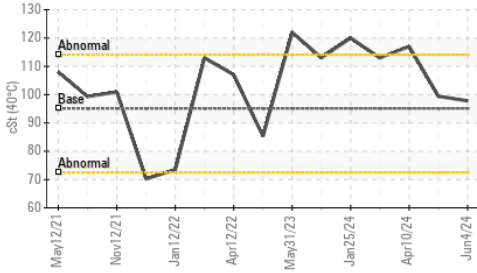
method	limit/base	current	history1	history2
Soot %	% ASTM D7844* >3	<b>0</b>	0	0.1
Nitration	Abs/cm ASTM D7624* >20	<b>12.0</b>	11.3	13.5
Sulfation	Abs./1mm ASTM D7415* >30	<b>23.0</b>	22.2	25.7

# OIL ANALYSIS REPORT

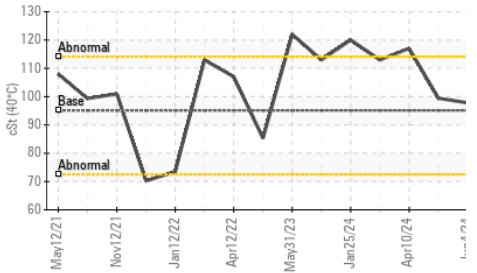
## ▲ FT-IR (Direct Trend)



## Viscosity @ 40°C



## Viscosity @ 40°C



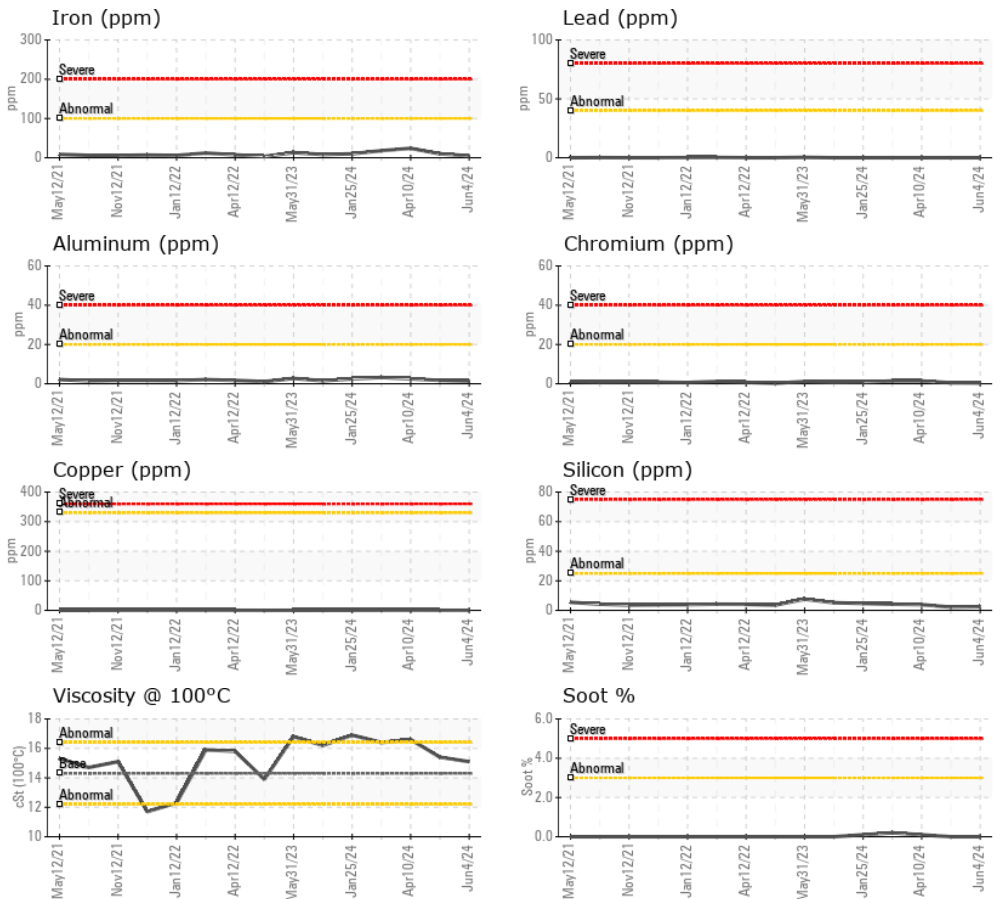
## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs./1mm ASTM D7414*	>25 ▲ 27.4	25.2	▲ 34.1
VISUAL				
method	limit/base	current	history1	history2
White Metal	scalar Visual*	NONE	---	NONE
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
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	97.8	99.4
Visc @ 100°C	cSt ASTM D7279(m)	14.3	15.1	15.4
Viscosity Index (VI)	Scale ASTM D2270*	169	162	164

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0081608  
**Lab Number** : 02640673  
**Unique Number** : 5789835  
**Test Package** : MOB 1 ( Additional Tests: KV40, VI, Visual )

**Received** : 10 Jun 2024  
**Tested** : 10 Jun 2024  
**Diagnosed** : 10 Jun 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.