

Machine Id  
**RST9963**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON UHP 5W40 (8 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>PC0082050</b>	PC0078376	PC0072944
Sample Date	Client Info			<b>30 Jan 2024</b>	17 Nov 2023	28 Mar 2023
Machine Age	hrs	Client Info		<b>6023</b>	5941	2920
Oil Age	hrs	Client Info		<b>250</b>	250	2000
Oil Changed	Client Info			<b>Changed</b>	Changed	Changed
Sample Status				<b>SEVERE</b>	NORMAL	ABNORMAL

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>8</b>	12	36
Chromium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	2	6
Nickel	ppm	ASTM D5185(m)	>4	<b>0</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>2</b>	2	5
Lead	ppm	ASTM D5185(m)	>40	<b>0</b>	<1	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

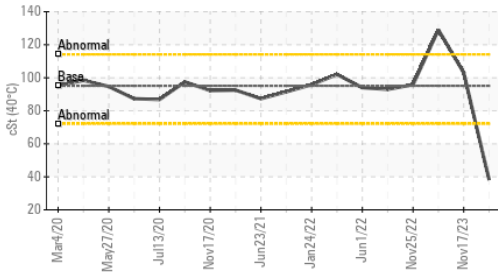
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	65	<b>35</b>	28	42
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	65	<b>37</b>	58	67
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m)	1160	<b>724</b>	1110	1263
Calcium	ppm	ASTM D5185(m)	820	<b>539</b>	834	1000
Phosphorus	ppm	ASTM D5185(m)	1160	<b>673</b>	978	1147
Zinc	ppm	ASTM D5185(m)	1260	<b>772</b>	1218	1385
Sulfur	ppm	ASTM D5185(m)	3000	<b>1928</b>	2709	2786
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>6</b>	10	12
Sodium	ppm	ASTM D5185(m)		<b>2</b>	5	6
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1
Fuel	%	ASTM D7593*	>5	<b>29.3</b>	<1.0	<1.0

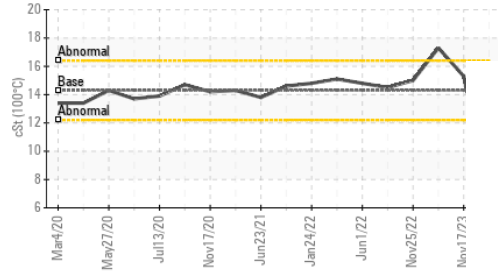
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	<b>0</b>	0.1	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>7.7</b>	13.0	6.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>18.1</b>	23.5	18.2

# OIL ANALYSIS REPORT

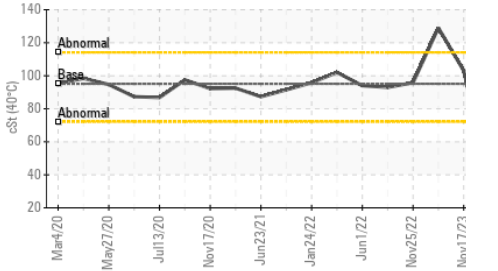
▲ Viscosity @ 40°C



● Viscosity @ 100°C



▲ Viscosity @ 40°C



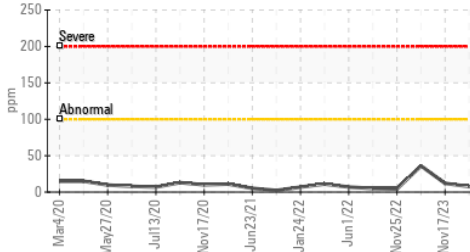
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>15.2</b>	28.2	12.9

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

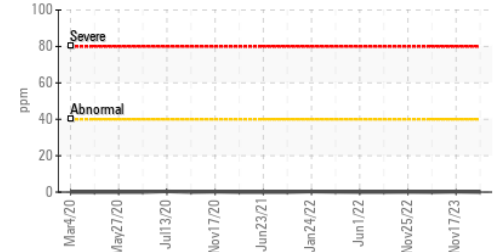
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	95.1	<b>▲ 38.3</b>	103	<b>▲ 129</b>
Visc @ 100°C	cSt	ASTM D7279(m)	14.3	<b>● 7.8</b>	15.3	<b>▲ 17.3</b>
Viscosity Index (VI)	Scale	ASTM D2270*	169	<b>179</b>	156	147

## GRAPHS

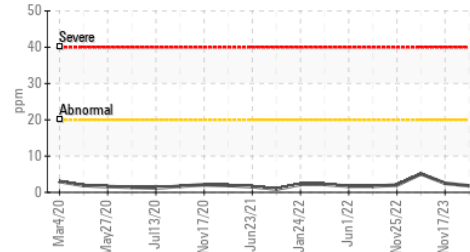
Iron (ppm)



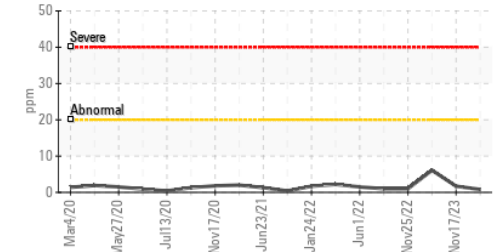
Lead (ppm)



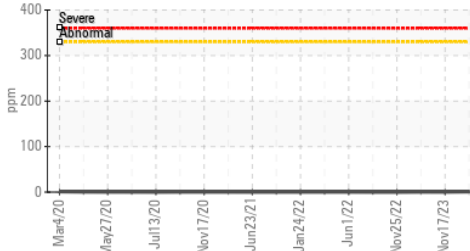
Aluminum (ppm)



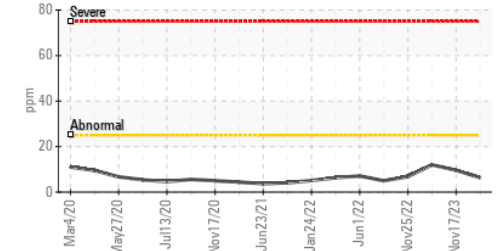
Chromium (ppm)



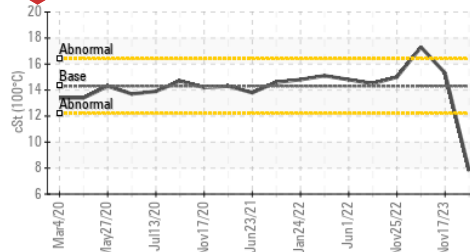
Copper (ppm)



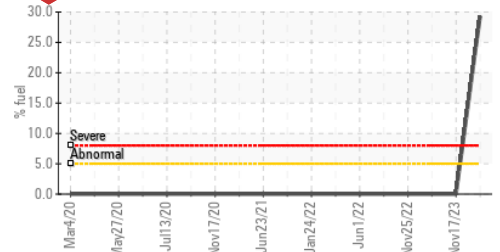
Silicon (ppm)



● Viscosity @ 100°C



● Fuel Dilution



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Green Infrastructure and Partners Inc (GIPI) - 286 - Shoring & Foundations  
**Sample No.** : PC0082050 **Received** : 01 Feb 2024  
**Lab Number** : **02612730** **Diagnosed** : 02 Feb 2024  
**Unique Number** : 5721825 **Diagnostician** : Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, KV40, PercentFuel, VI )

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.

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