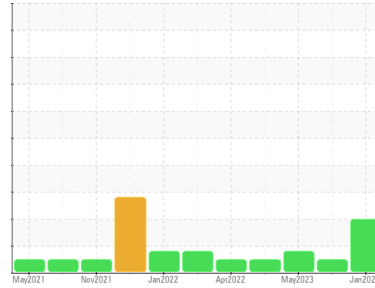


Machine Id
OE1247

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. Viscosity of sample indicates oil is within SAE 5W50 range, advise investigate. The oil is no longer serviceable.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			PC0082667	PC0077042	PC0056408
Sample Date	Client Info			25 Jan 2024	28 Jul 2023	31 May 2023
Machine Age	hrs	Client Info		7017	4016	3377
Oil Age	hrs	Client Info		250	500	500
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	<1.0	<1.0
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	10	8	13
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	1
Nickel	ppm	ASTM D5185(m)	>4	0	0	0
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	2	2	3
Lead	ppm	ASTM D5185(m)	>40	0	0	<1
Copper	ppm	ASTM D5185(m)	>330	<1	<1	<1
Tin	ppm	ASTM D5185(m)	>15	0	0	<1
Antimony	ppm	ASTM D5185(m)		0	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

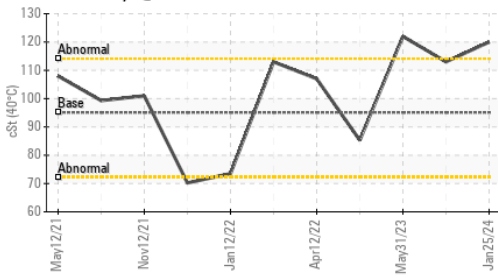
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	65	43	35	45
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	65	59	57	65
Manganese	ppm	ASTM D5185(m)	0	0	<1	<1
Magnesium	ppm	ASTM D5185(m)	1160	1138	1140	1189
Calcium	ppm	ASTM D5185(m)	820	854	828	953
Phosphorus	ppm	ASTM D5185(m)	1160	999	1023	1084
Zinc	ppm	ASTM D5185(m)	1260	1225	1212	1282
Sulfur	ppm	ASTM D5185(m)	3000	2770	2647	2790
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	5	5	8
Sodium	ppm	ASTM D5185(m)		4	4	5
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	0

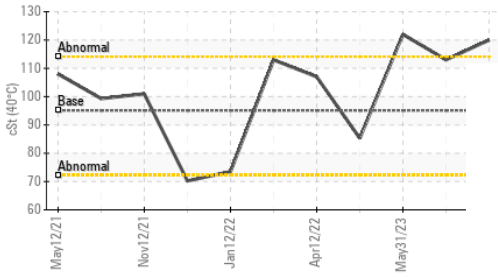
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0.1	0	0
Nitration	Abs/cm	ASTM D7624*	>20	13.8	14.1	15.1
Sulfation	Abs.1mm	ASTM D7415*	>30	26.2	25.7	27.5

OIL ANALYSIS REPORT

▲ Viscosity @ 40°C



▲ Viscosity @ 40°C



FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs./1mm ASTM D7414*	>25 ▲ 35.0	31.0	38.7

VISUAL

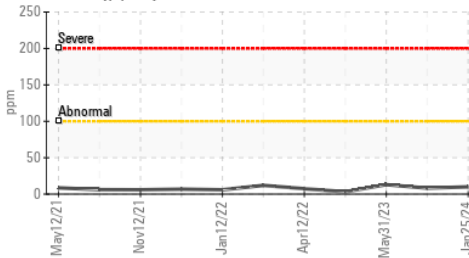
method	limit/base	current	history1	history2
Emulsified Water	scalar Visual*	>0.2 NEG	NEG	NEG
Free Water	scalar Visual*	NEG	NEG	NEG

FLUID PROPERTIES

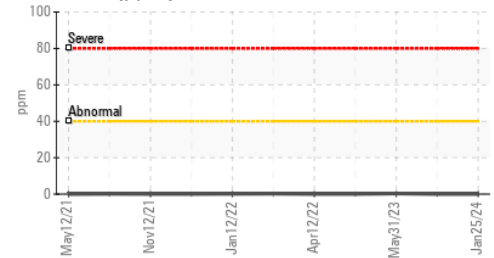
method	limit/base	current	history1	history2
Visc @ 40°C	cSt ASTM D7279(m)	95.1 ▲ 120	113	▲ 122
Visc @ 100°C	cSt ASTM D7279(m)	14.3 ▲ 16.9	16.2	▲ 16.8
Viscosity Index (VI)	Scale ASTM D2270*	169 153	153	149

GRAPHS

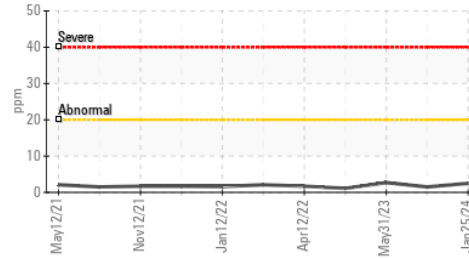
Iron (ppm)



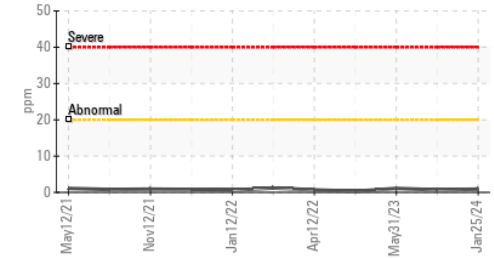
Lead (ppm)



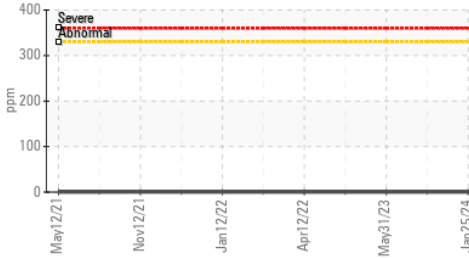
Aluminum (ppm)



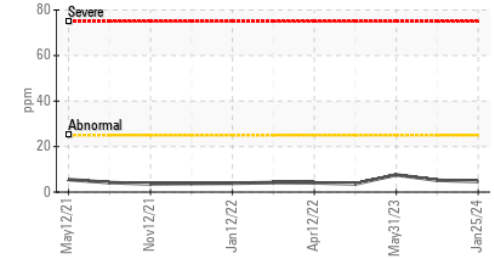
Chromium (ppm)



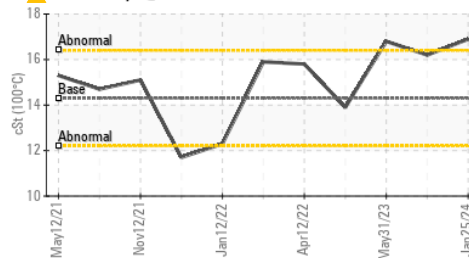
Copper (ppm)



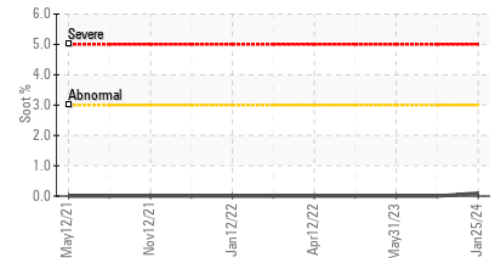
Silicon (ppm)



▲ Viscosity @ 100°C



Soot %



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Green Infrastructure and Partners Inc (GIPI) - 286 - Shoring & Foundations
Sample No. : PC0082667 **Received** : 01 Feb 2024
Lab Number : 02612727 **Diagnosed** : 01 Feb 2024
Unique Number : 5721822 **Diagnostician** : Bill Quesnel
Test Package : MOB 1 (Additional Tests: KV40, 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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