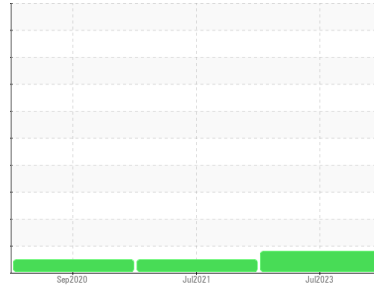


OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
OR905

Component
Diesel Engine

Fluid
PETRO CANADA DURON UHP 5W40 (--- GAL)

DIAGNOSIS

Recommendation

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

Wear

Chromium ppm levels are abnormal. Ring wear is indicated.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. 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			PC0077041	PC0047774	PC0037381
Sample Date	Client Info			25 Jul 2023	09 Jul 2021	10 Sep 2020
Machine Age	hrs	Client Info		7605	8694	8237
Oil Age	hrs	Client Info		500	500	7809
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	<1.0	<1.0
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	23	29	17
Chromium	ppm	ASTM D5185(m)	>20	▲ 26	6	4
Nickel	ppm	ASTM D5185(m)	>4	0	0	0
Titanium	ppm	ASTM D5185(m)		<1	<1	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	6	5	4
Lead	ppm	ASTM D5185(m)	>40	<1	<1	<1
Copper	ppm	ASTM D5185(m)	>330	5	3	3
Tin	ppm	ASTM D5185(m)	>15	1	1	<1
Antimony	ppm	ASTM D5185(m)		<1	<1	<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

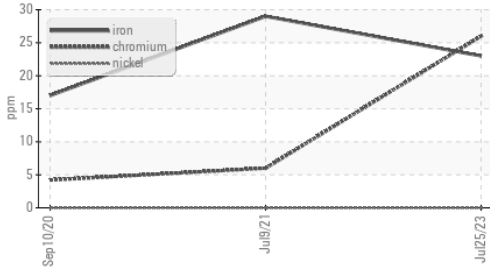
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	65	49	39	43
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	65	60	63	59
Manganese	ppm	ASTM D5185(m)	0	<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	1160	1159	1250	1094
Calcium	ppm	ASTM D5185(m)	820	864	935	934
Phosphorus	ppm	ASTM D5185(m)	1160	1066	1153	1047
Zinc	ppm	ASTM D5185(m)	1260	1244	1371	1257
Sulfur	ppm	ASTM D5185(m)	3000	2765	2935	2902
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	17	10	8
Sodium	ppm	ASTM D5185(m)		5	5	3
Potassium	ppm	ASTM D5185(m)	>20	1	1	<1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0.1	0.4	0.3
Nitration	Abs/cm	ASTM D7624*	>20	12.2	10.7	10.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	22.1	22.1	20.5

OIL ANALYSIS REPORT

▲ Ferrous Alloys



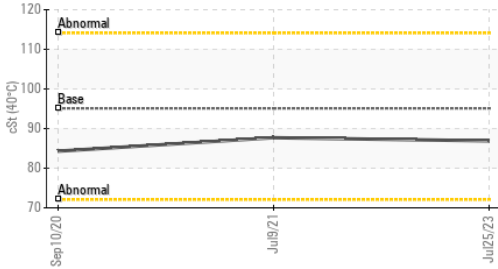
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	21.8	20.8	19.0
Base Number (BN)	mg KOH/g	ASTM D2896*	11.0	10.54	---	---

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

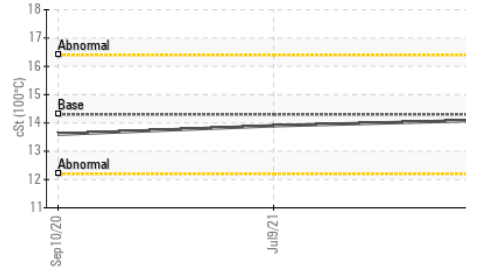
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	95.1	86.9	87.7	84.3
Visc @ 100°C	cSt	ASTM D7279(m)	14.3	14.1	13.9	13.6
Viscosity Index (VI)	Scale	ASTM D2270*	169	167	162	164

GRAPHS

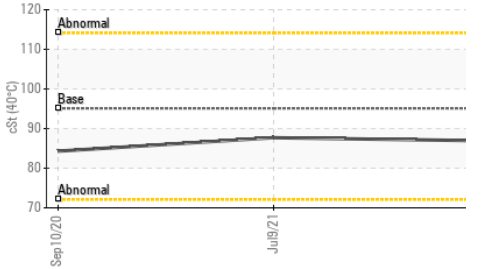
Viscosity @ 40°C



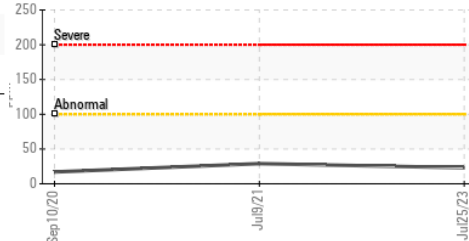
Viscosity @ 100°C



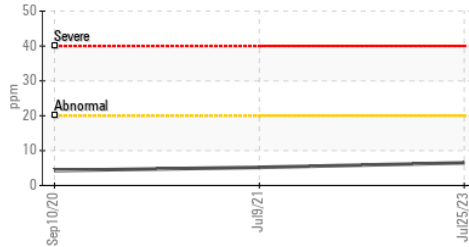
Viscosity @ 40°C



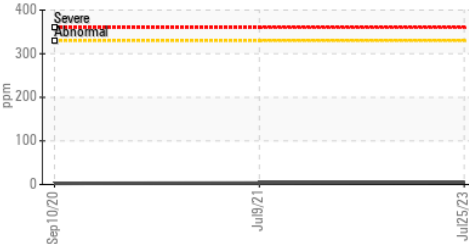
Iron (ppm)



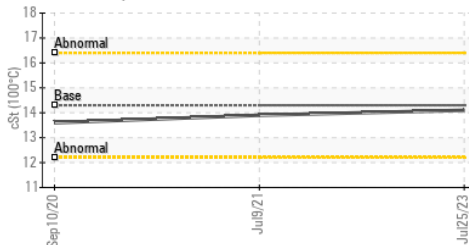
Aluminum (ppm)



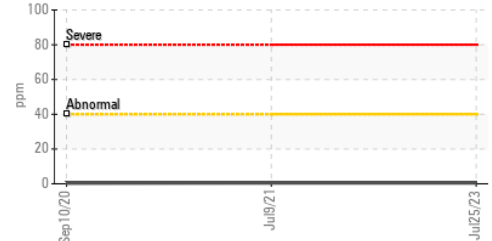
Copper (ppm)



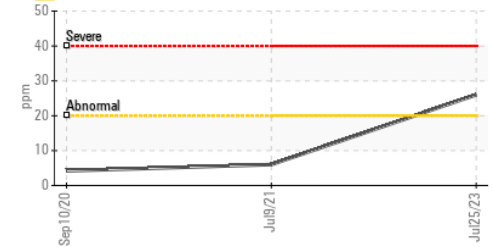
Viscosity @ 100°C



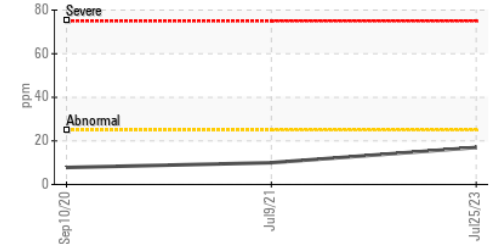
Lead (ppm)



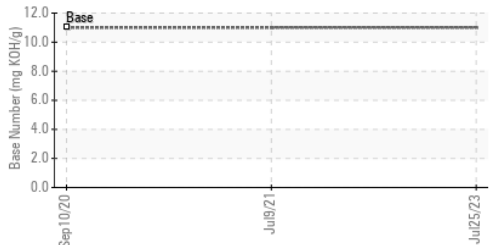
▲ Chromium (ppm)



Silicon (ppm)



Base Number



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Green Infrastructure and Partners Inc (GIPI) - 286 - Shoring & Foundations
Sample No. : PC0077041 **Received** : 28 Aug 2023 151 Ram Forest Rd, Stouffville, ON
Lab Number : 02578724 **Diagnosed** : 29 Aug 2023 CA L4A 2G8
Unique Number : 5631784 **Diagnostician** : Kevin Marson Contact: Shannon Abbott
Test Package : MOB 2 (Additional Tests: KV40, VI) sabbott@gipi.com

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.

T: (905)750-5900
 F: