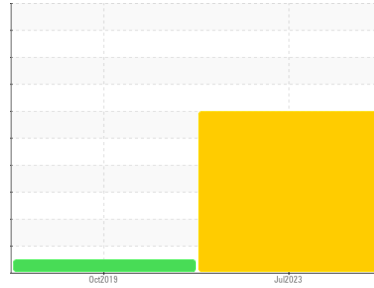


OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
OR917

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 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

Iron ppm levels are severe. Cylinder, crank, or cam shaft 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	PC0078063	PC0021370	---
Sample Date	Client Info	11 Jul 2023	08 Oct 2019	---
Machine Age	hrs	7510	5917	---
Oil Age	hrs	500	5473	---
Oil Changed	Client Info	Changed	Changed	---
Sample Status		SEVERE	NORMAL	---

CONTAMINATION

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

WEAR METALS

method	limit/base	current	history1	history2
PQ	ASTM D8184*	15	---	---
Iron	ppm ASTM D5185(m) >100	313	33	---
Chromium	ppm ASTM D5185(m) >20	10	14	---
Nickel	ppm ASTM D5185(m) >4	<1	<1	---
Titanium	ppm ASTM D5185(m)	<1	<1	---
Silver	ppm ASTM D5185(m) >3	0	0	---
Aluminum	ppm ASTM D5185(m) >20	9	8	---
Lead	ppm ASTM D5185(m) >40	2	<1	---
Copper	ppm ASTM D5185(m) >330	11	4	---
Tin	ppm ASTM D5185(m) >15	2	1	---
Antimony	ppm ASTM D5185(m)	0	<1	---
Vanadium	ppm ASTM D5185(m)	0	0	---
Beryllium	ppm ASTM D5185(m)	0	0	---
Cadmium	ppm ASTM D5185(m)	0	0	---

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m) 250	33	46	---
Barium	ppm ASTM D5185(m) 10	0	0	---
Molybdenum	ppm ASTM D5185(m) 100	62	68	---
Manganese	ppm ASTM D5185(m)	4	<1	---
Magnesium	ppm ASTM D5185(m) 450	1209	1159	---
Calcium	ppm ASTM D5185(m) 3000	948	1061	---
Phosphorus	ppm ASTM D5185(m) 1150	1135	1062	---
Zinc	ppm ASTM D5185(m) 1350	1350	1303	---
Sulfur	ppm ASTM D5185(m) 4250	2692	2843	---
Lithium	ppm ASTM D5185(m)	<1	<1	---

CONTAMINANTS

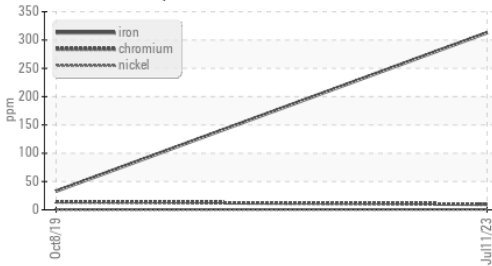
method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >25	17	14	---
Sodium	ppm ASTM D5185(m) >44	6	4	---
Potassium	ppm ASTM D5185(m) >20	1	1	---

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% ASTM D7844* >3	0.5	0.5	---
Nitration	Abs/cm ASTM D7624* >20	12.8	12.0	---
Sulfation	Abs./1mm ASTM D7415* >30	24.3	24.7	---

OIL ANALYSIS REPORT

Ferrous Alloys



FLUID DEGRADATION method limit/base current history1 history2

Oxidation	Abs./1mm	ASTM D7414*	>25	23.9	21.5	---
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VISUAL method limit/base current history1 history2

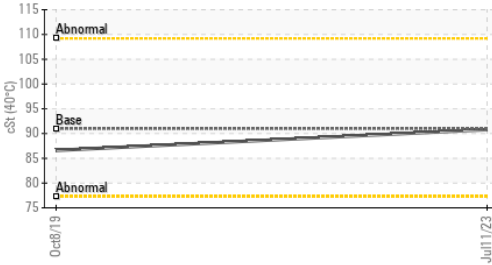
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	---
Free Water	scalar	Visual*		NEG	NEG	---

FLUID PROPERTIES method limit/base current history1 history2

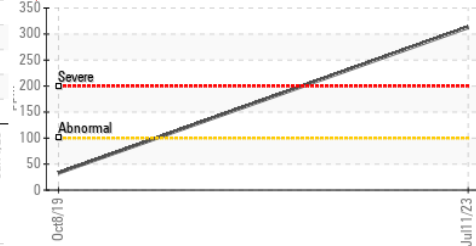
Visc @ 40°C	cSt	ASTM D7279(m)	91	90.8	86.6	---
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	14.1	13.8	---
Viscosity Index (VI)	Scale	ASTM D2270*	164	159	163	---

GRAPHS

Viscosity @ 40°C



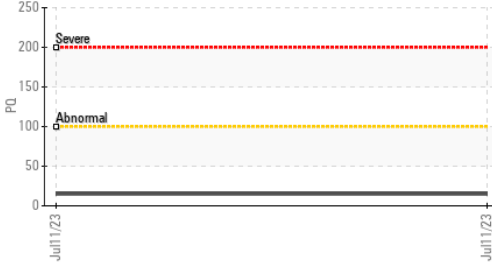
Iron (ppm)



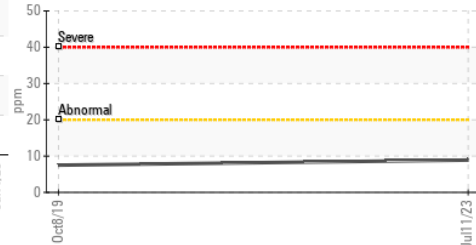
Lead (ppm)



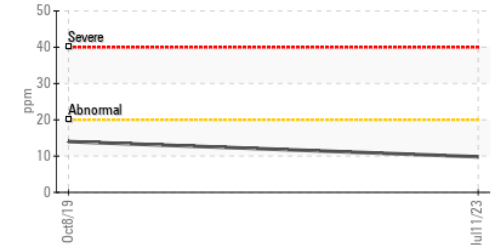
PQ



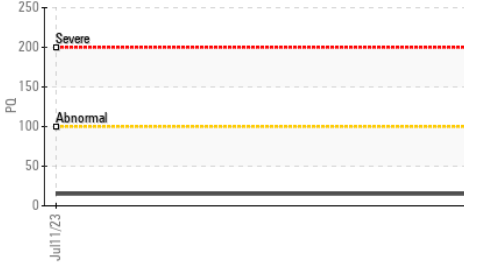
Aluminum (ppm)



Chromium (ppm)



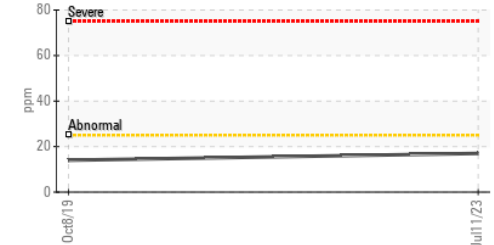
PQ



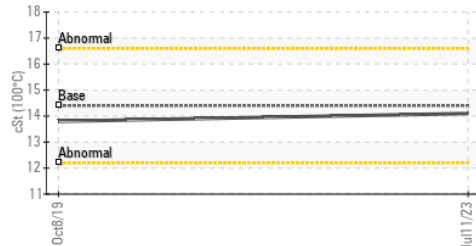
Copper (ppm)



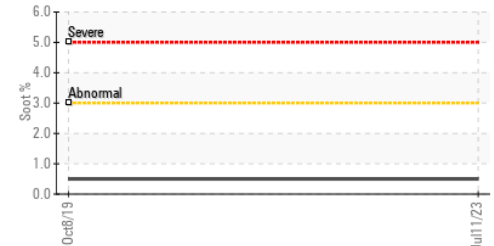
Silicon (ppm)



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. : PC0078063 **Received** : 25 Jul 2023 151 Ram Forest Rd,
Lab Number : **02571848** **Diagnosed** : 26 Jul 2023 Stouffville, ON
Unique Number : 5616899 **Diagnostician** : Kevin Marson CA L4A 2G8
Test Package : MOB 1 (Additional Tests: KV40, PQ, VI)
 Contact: Shannon Abbott

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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