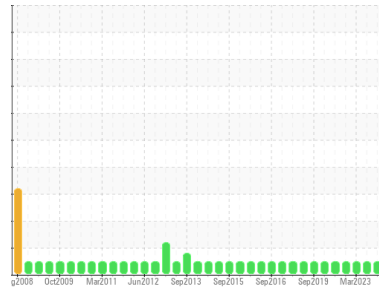




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
NORTH AM BUS 0071

Component
Diesel Engine

Fluid
SAFETY-KLEEN PERFORMANCE PLUS XHD-7 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0937221	WC0791334	WC0791440
Sample Date	Client Info		18 Jun 2024	07 Jun 2023	20 Mar 2023
Machine Age	kms	Client Info	113622	113455	81147
Oil Age	kms	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<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)	>130	6	17	39
Chromium	ppm	ASTM D5185(m)	>10	<1	<1	2
Nickel	ppm	ASTM D5185(m)	>4	<1	0	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	<1
Silver	ppm	ASTM D5185(m)	>2	<1	0	0
Aluminum	ppm	ASTM D5185(m)	>20	1	2	6
Lead	ppm	ASTM D5185(m)	>20	0	<1	<1
Copper	ppm	ASTM D5185(m)	>125	<1	1	<1
Tin	ppm	ASTM D5185(m)	>4	0	0	0
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)		1	1	1
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		59	59	56
Manganese	ppm	ASTM D5185(m)		0	<1	<1
Magnesium	ppm	ASTM D5185(m)		946	965	928
Calcium	ppm	ASTM D5185(m)		996	1061	1071
Phosphorus	ppm	ASTM D5185(m)		988	1097	1063
Zinc	ppm	ASTM D5185(m)		1147	1186	1167
Sulfur	ppm	ASTM D5185(m)		2605	2711	2658
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	3	4	6
Sodium	ppm	ASTM D5185(m)		<1	2	2
Potassium	ppm	ASTM D5185(m)	>20	<1	1	4

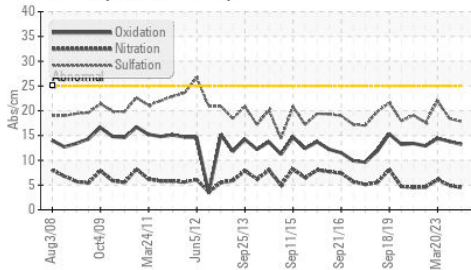
INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>6	0	0	0.1
Nitration	Abs/cm	ASTM D7624*	>20	4.5	4.9	6.1
Sulfation	Abs./1mm	ASTM D7415*	>30	17.8	18.4	22.0

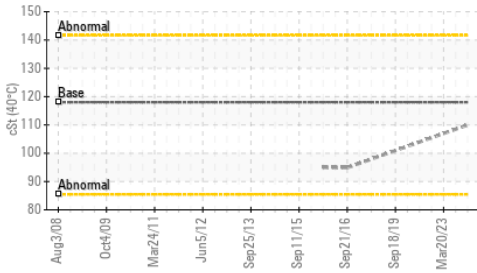


OIL ANALYSIS REPORT

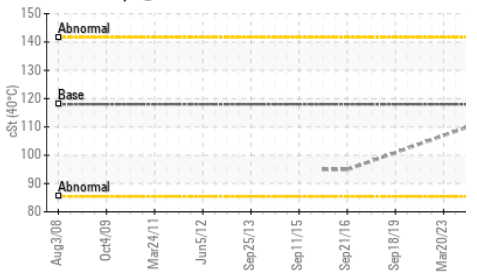
FT-IR (Direct Trend)



Viscosity @ 40°C



Viscosity @ 40°C



FLUID DEGRADATION

method	limit/base	current	history1	history2
Abs./1mm	ASTM D7414*	>25	13.8	14.4

VISUAL

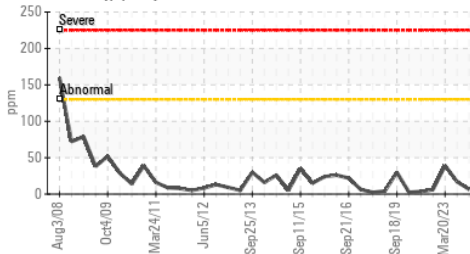
method	limit/base	current	history1	history2
scalar	Visual*	>0.2	NEG	NEG
scalar	Visual*	NEG	NEG	NEG

FLUID PROPERTIES

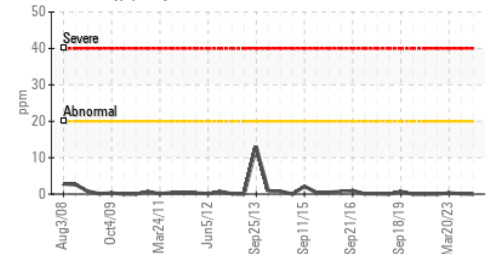
method	limit/base	current	history1	history2
cSt	ASTM D7279(m)	118	---	---
cSt	ASTM D7279(m)	15.7	14.8	14.6
Scale	ASTM D2270*	140	---	---

GRAPHS

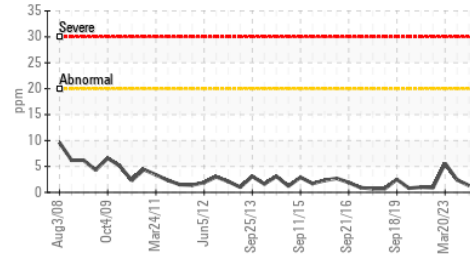
Iron (ppm)



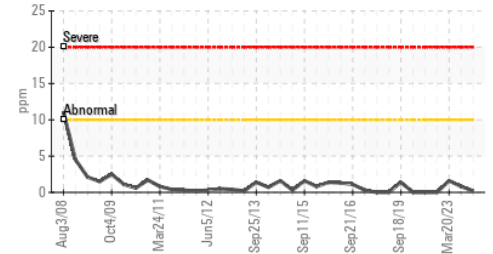
Lead (ppm)



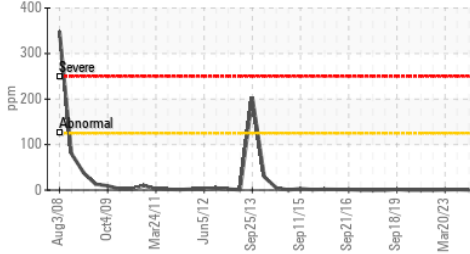
Aluminum (ppm)



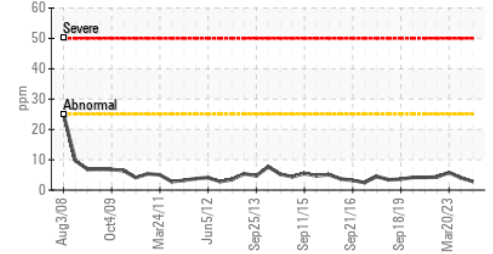
Chromium (ppm)



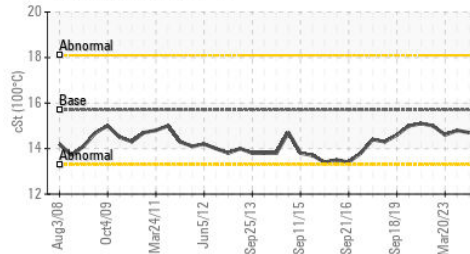
Copper (ppm)



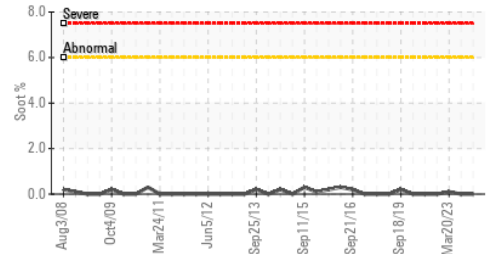
Silicon (ppm)



Viscosity @ 100°C



Soot %



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0937221 **Received** : 21 Jun 2024
Lab Number : 02643345 **Tested** : 21 Jun 2024
Unique Number : 5800884 **Diagnosed** : 21 Jun 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: KV40, VI)

CITY OF HAMILTON
 2200 UPPER JAMES., MOUNTAIN TRANSIT STOREROOM
 MOUNT HOPE, ON
 CA L0R 1W0
 Contact: Jeff Parr
 jeff.parr@hamilton.ca
 T: (905)546-2424
 F: (905)679-4502

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.