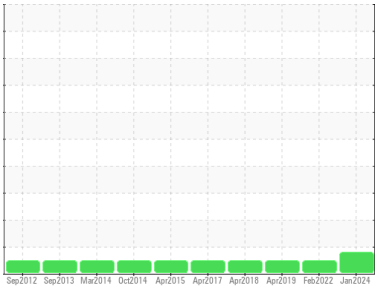
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
KME 300907
Component
Front Diesel Engine
Fluid
SAFETY-KLEEN PERFORMANCE PLUS XHD-7 15W40 (34 LTR)

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Wear
Metal levels are typical for a new component breaking in.

Contamination
Light fuel dilution occurring. No other contaminants were detected 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		**PC0078187**	PC0054304	WC0310352
Sample Date		Client Info		**20 Jan 2024**	16 Feb 2022	12 Apr 2019
Machine Age	kms	Client Info		**42031**	38144	32365
Oil Age	kms	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**MARGINAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>85	**17**	27	25
Chromium	ppm	ASTM D5185(m)	>5	**2**	2	2
Nickel	ppm	ASTM D5185(m)	>5	**<1**	1	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	0
Silver	ppm	ASTM D5185(m)	>2	**0**	<1	0
Aluminum	ppm	ASTM D5185(m)	>40	**14**	18	19
Lead	ppm	ASTM D5185(m)	>25	**2**	4	6
Copper	ppm	ASTM D5185(m)	>350	**14**	26	41
Tin	ppm	ASTM D5185(m)	>5	**2**	4	5
Antimony	ppm	ASTM D5185(m)		**0**	0	0
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	<1

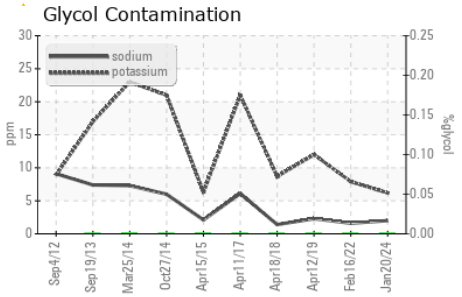
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**<1**	2	5
Barium	ppm	ASTM D5185(m)		**0**	0	0
Molybdenum	ppm	ASTM D5185(m)		**59**	57	51
Manganese	ppm	ASTM D5185(m)		**0**	<1	<1
Magnesium	ppm	ASTM D5185(m)		**944**	958	793
Calcium	ppm	ASTM D5185(m)		**1018**	981	1025
Phosphorus	ppm	ASTM D5185(m)		**1021**	1021	924
Zinc	ppm	ASTM D5185(m)		**1186**	1166	1113
Sulfur	ppm	ASTM D5185(m)		**2759**	2556	2635
Lithium	ppm	ASTM D5185(m)		**<1**	0	0

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>40	**6**	7	7
Sodium	ppm	ASTM D5185(m)		**2**	2	2
Potassium	ppm	ASTM D5185(m)	>20	**6**	8	12
Fuel	%	ASTM D7593*	>5	▲ **2.6**	<1.0	1.1
Glycol	%	ASTM D7922*		**0.0**	0.0	0.0

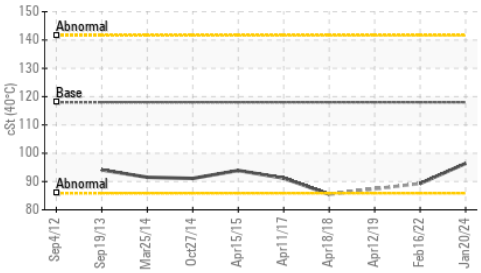
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.1**	0.1	0.1
Nitration	Abs/cm	ASTM D7624*	>20	**7.0**	7.8	8.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	**19.0**	20.3	19.0

OIL ANALYSIS REPORT

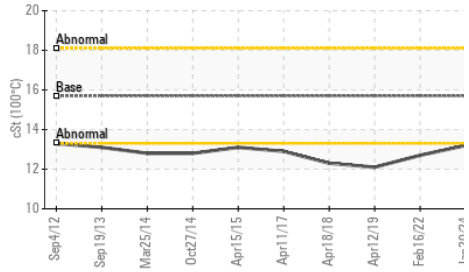
Glycol Contamination



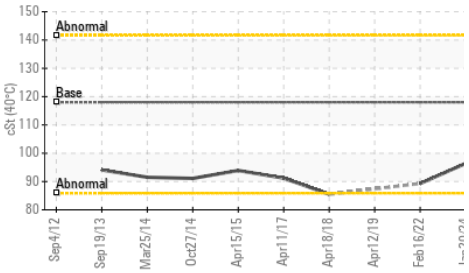
Viscosity @ 40°C



Viscosity @ 100°C



Viscosity @ 40°C



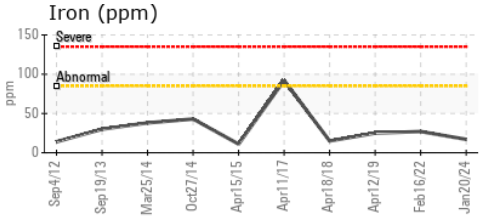
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**14.3**	14.5	12.6

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	---	---
Yellow Metal	scalar	Visual*	NONE	**VLITE**	---	---
Precipitate	scalar	Visual*	NONE	**NONE**	---	---
Silt	scalar	Visual*	NONE	**NONE**	---	---
Debris	scalar	Visual*	NONE	**NONE**	---	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	---	---
Appearance	scalar	Visual*	NORML	**NORML**	---	---
Odor	scalar	Visual*	NORML	**NORML**	NORML	---
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

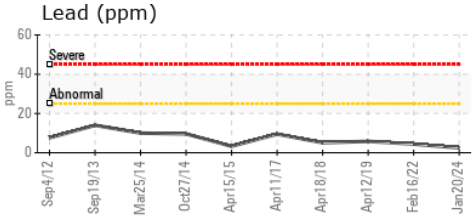
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	118	**96.4**	89.3	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.7	**13.2**	12.7	12.1
Viscosity Index (VI)	Scale	ASTM D2270*	140	**135**	139	---

GRAPHS

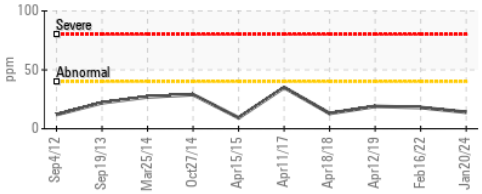
Iron (ppm)



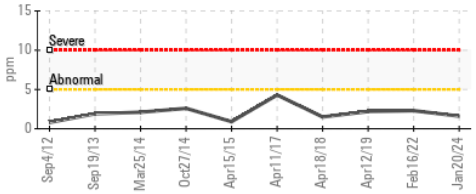
Lead (ppm)



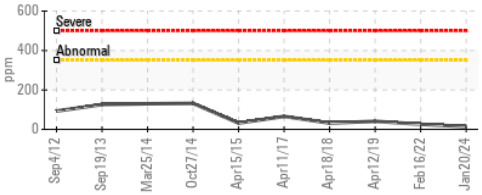
Aluminum (ppm)



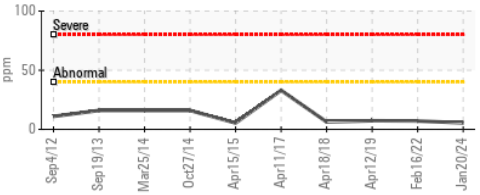
Chromium (ppm)



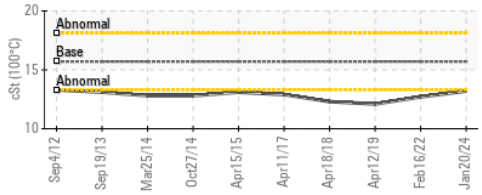
Copper (ppm)



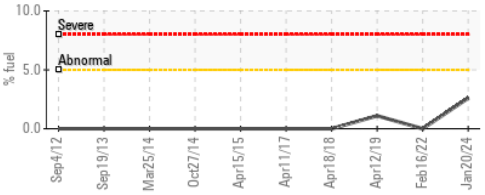
Silicon (ppm)



Viscosity @ 100°C



Fuel Dilution



CALA
ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0078187
Lab Number : 02615535
Unique Number : 5724630
Test Package : MOB 1 (Additional Tests: FuelDilution, Glycol, KV40, PercentFuel, VI, Visual)
Received : 14 Feb 2024
Tested : 15 Feb 2024
Diagnosed : 15 Feb 2024 - Wes Davis

HAMILTON FIRE DEPT
MECHANICAL DIV., 177 BAY STREET NORTH
HAMILTON, ON
CA L8R 2P8
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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.