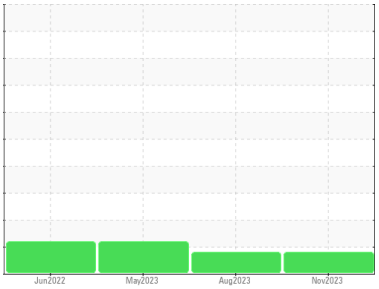
PROBLEM SUMMARY

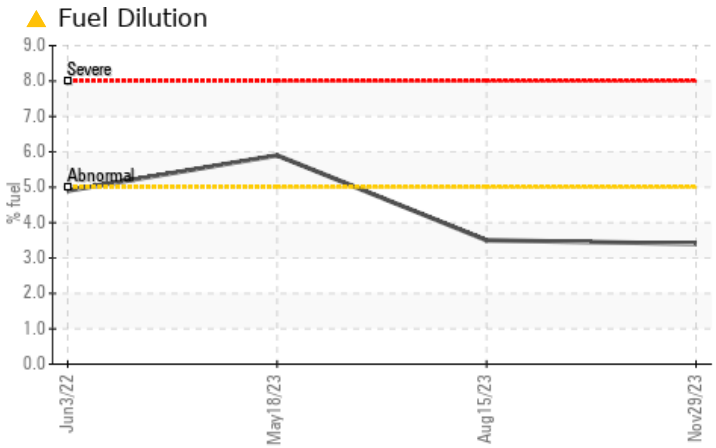
Machine Id
4334R
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- QTS)

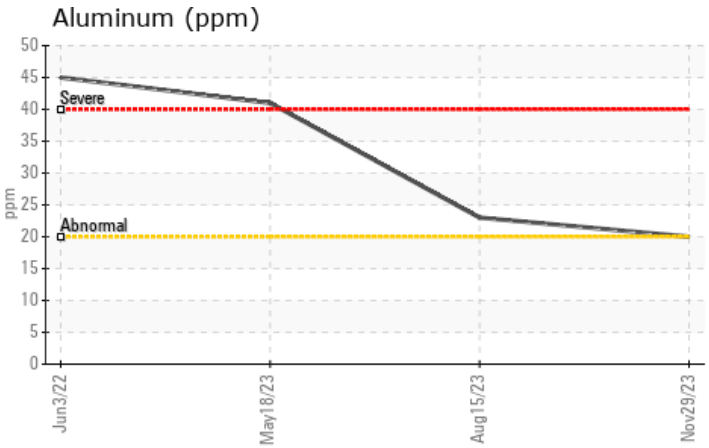
Sample Rating Trend



FUEL

COMPONENT CONDITION SUMMARY





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. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

PROBLEMATIC TEST RESULTS

Sample Status				**MARGINAL**	MARGINAL	ABNORMAL
Fuel	%	ASTM D3524	>5	▲ **3.4**	▲ 3.5	▲ 5.9

Customer Id: IDECHIIL
Sample No.: IL0034349
Lab Number: 06026024
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Information Required	---	---	?	Please specify the brand, type, and viscosity of the oil on your next sample. Please specify the component make and model with your next sample.

HISTORICAL DIAGNOSIS

15 Aug 2023 Diag: Wes Davis

FUEL

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. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.All component wear rates are normal. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Light fuel dilution occurring. No other contaminants were detected in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

18 May 2023 Diag: Jonathan Hester

FUEL

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. There is a moderate amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

03 Jun 2022 Diag: Jonathan Hester

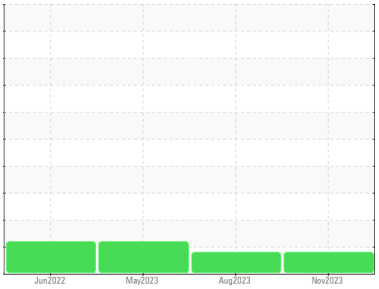
FUEL

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. There is a moderate amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
4334R
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- QTS)

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. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Light fuel dilution occurring. No other contaminants were detected in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**IL0034349**	IL0032454	IL0028947
Sample Date		Client Info		**29 Nov 2023**	15 Aug 2023	18 May 2023
Machine Age	mls	Client Info		**95850**	75508	58844
Oil Age	mls	Client Info		**20000**	15000	15000
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**MARGINAL**	MARGINAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
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 D5185m	>100	**23**	23	51
Chromium	ppm	ASTM D5185m	>20	**2**	2	2
Nickel	ppm	ASTM D5185m	>4	**<1**	0	<1
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**20**	23	41
Lead	ppm	ASTM D5185m	>40	**<1**	0	0
Copper	ppm	ASTM D5185m	>330	**2**	<1	3
Tin	ppm	ASTM D5185m	>15	**<1**	0	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	**0**	<1	8
Barium	ppm	ASTM D5185m	10	**0**	0	0
Molybdenum	ppm	ASTM D5185m	100	**61**	55	53
Manganese	ppm	ASTM D5185m		**<1**	<1	1
Magnesium	ppm	ASTM D5185m	450	**1010**	943	906
Calcium	ppm	ASTM D5185m	3000	**1094**	1029	1166
Phosphorus	ppm	ASTM D5185m	1150	**994**	981	882
Zinc	ppm	ASTM D5185m	1350	**1277**	1230	1169
Sulfur	ppm	ASTM D5185m	4250	**3023**	3618	3680

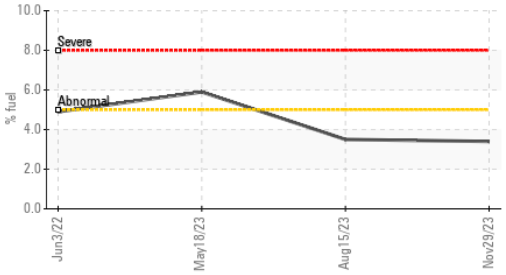
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**6**	4	9
Sodium	ppm	ASTM D5185m	>158	**1**	<1	2
Potassium	ppm	ASTM D5185m	>20	**36**	36	68
Fuel	%	ASTM D3524	>5	▲ **3.4**	▲ 3.5	▲ 5.9

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.2**	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	**9.8**	9.3	12.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.5**	22.4	27.0

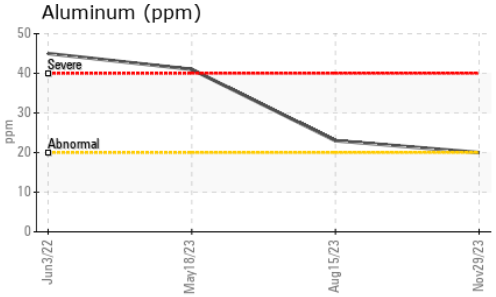
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**22.7**	22.3	27.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**6.8**	7.3	5.0

OIL ANALYSIS REPORT

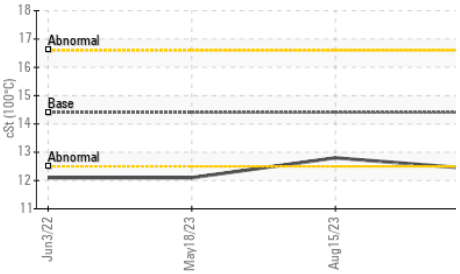
Fuel Dilution



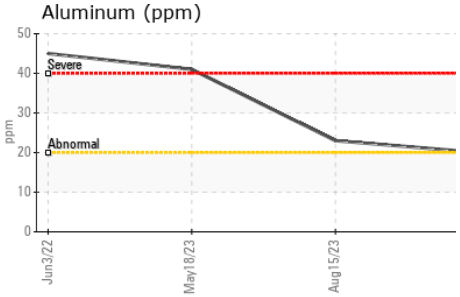
Aluminum (ppm)



Viscosity @ 100°C



Aluminum (ppm)

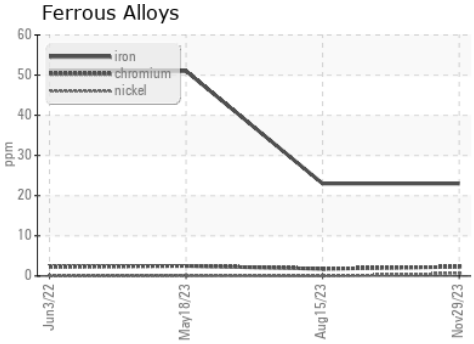


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

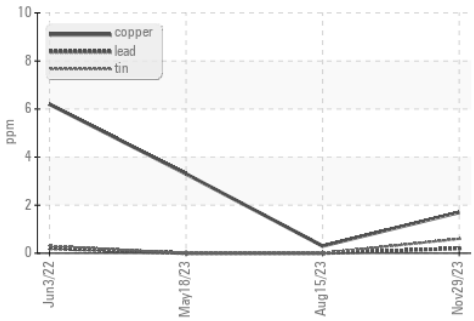
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	**12.4**	12.8	▲ 12.1

GRAPHS

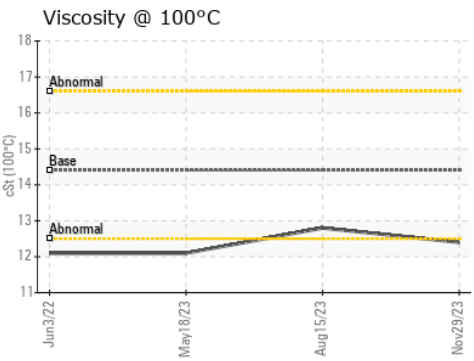
Ferrous Alloys



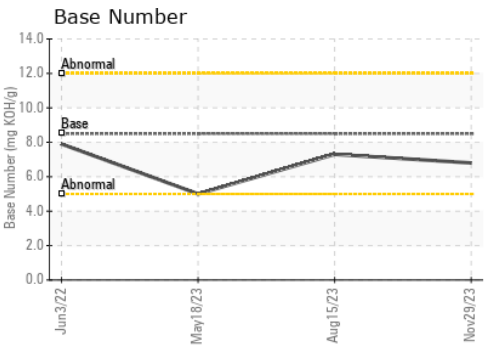
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : IL0034349 **Received** : 06 Dec 2023
Lab Number : 06026024 **Diagnosed** : 12 Dec 2023
Unique Number : 10775815 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

RUSH TRUCK CENTER - CHICAGO IDEALEASE
4655 SOUTH CENTRAL AVENUE
CHICAGO, IL
US 60638
Contact: MIKE LINLEY
linleym@rushtruckcenters.com
T: (708)496-7500
F: (708)496-8818