OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	ABNORMAL

Machine Id
301-1240
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- LTR)

RECOMMENDATION

The oil is near the end of it's useful service life, recommend schedule an oil change. No corrective action is recommended at this time. Resample at the next service interval to monitor. 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

Metal levels are typical for a new component breaking in.

CONTAMINATION

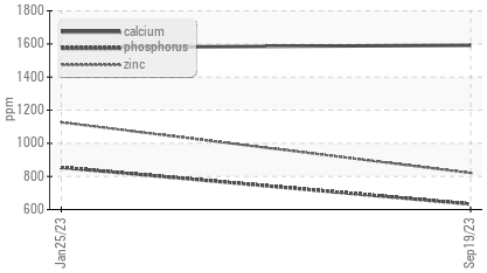
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Light fuel dilution occurring. No other contaminants were detected in the oil.

FLUID CONDITION

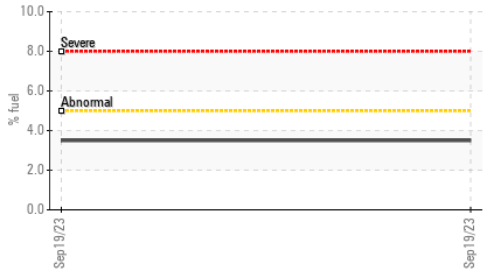
Phosphorus ppm levels are abnormally low. The BN result indicates that there is suitable alkalinity remaining in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		RPL05956354	RPL05751364	---
Sample Date		Client Info		19 Sep 2023	25 Jan 2023	---
Machine Age	mls	Client Info		69293	48770	---
Oil Age	mls	Client Info		20522	20000	---
Filter Age	mls	Client Info		0	0	---
Oil Changed		Client Info		N/A	N/A	---
Filter Changed		Client Info		N/A	N/A	---
Sample Status				ABNORMAL	NORMAL	---
Iron	ppm	ASTM D5185m	>100	18	23	---
Chromium	ppm	ASTM D5185m	>20	1	1	---
Nickel	ppm	ASTM D5185m	>4	0	<1	---
Titanium	ppm	ASTM D5185m		<1	<1	---
Silver	ppm	ASTM D5185m	>3	0	<1	---
Aluminum	ppm	ASTM D5185m	>20	13	21	---
Lead	ppm	ASTM D5185m	>40	<1	2	---
Copper	ppm	ASTM D5185m	>330	19	85	---
Tin	ppm	ASTM D5185m	>15	<1	1	---
Vanadium	ppm	ASTM D5185m		<1	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---
Silicon	ppm	ASTM D5185m	>25	8	7	---
Potassium	ppm	ASTM D5185m	>20	30	38	---
Fuel	%	ASTM D3524	>5	▲ 3.5	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0	0.4	---
Nitration	Abs/cm	*ASTM D7624	>20	10.5	8.9	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	27.2	22.2	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	---
Sodium	ppm	ASTM D5185m	>216	2	2	---
Boron	ppm	ASTM D5185m	250	208	255	---
Barium	ppm	ASTM D5185m	10	0	0	---
Molybdenum	ppm	ASTM D5185m	100	116	102	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m	450	621	497	---
Calcium	ppm	ASTM D5185m	3000	1592	1579	---
Phosphorus	ppm	ASTM D5185m	1150	▲ 633	854	---
Zinc	ppm	ASTM D5185m	1350	821	1126	---
Sulfur	ppm	ASTM D5185m	4250	2728	3163	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.1	17.4	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.5	7.2	---
Visc @ 100°C	cSt	ASTM D445	14.4	12.3	12.6	---

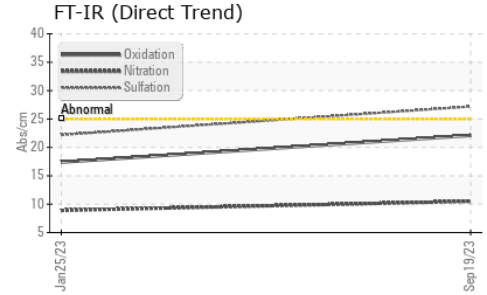
Additives



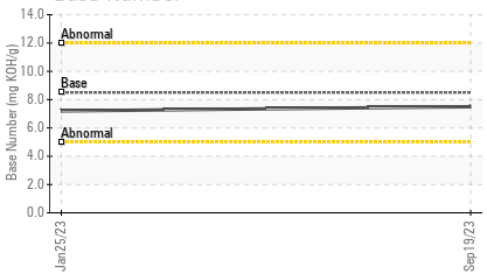
Fuel Dilution



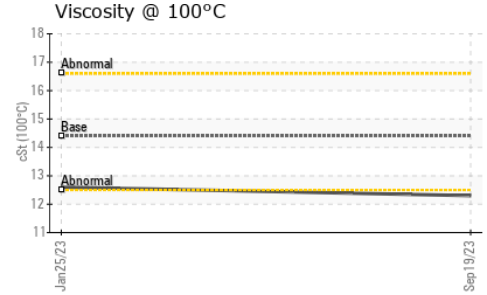
FT-IR (Direct Trend)



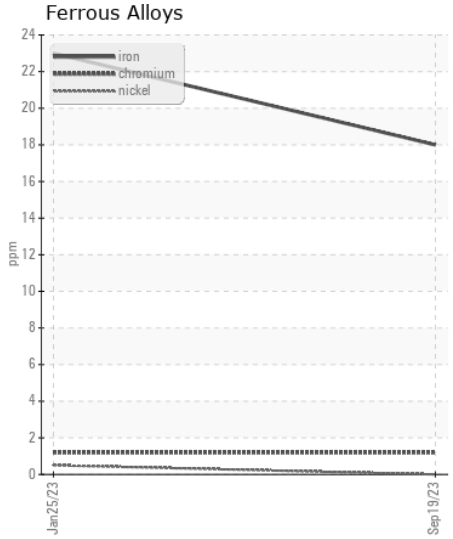
Base Number



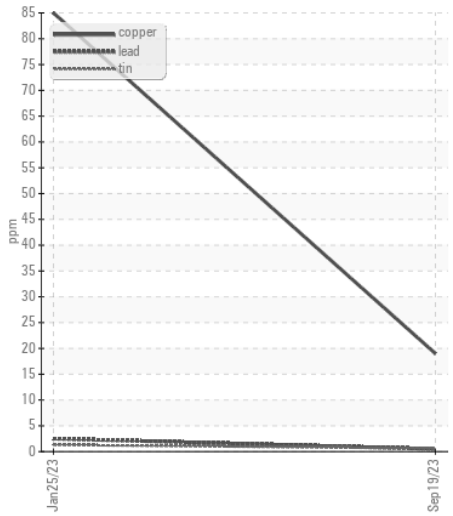
Viscosity @ 100°C



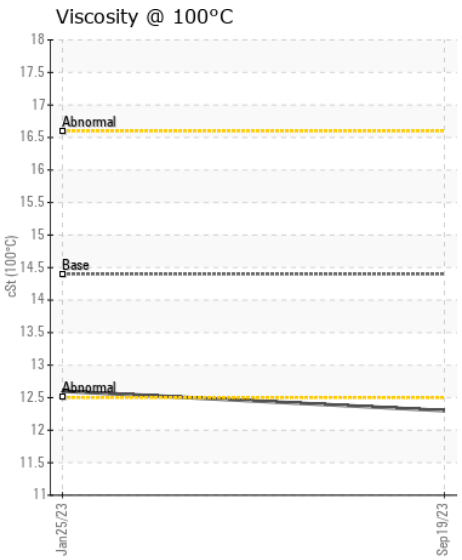
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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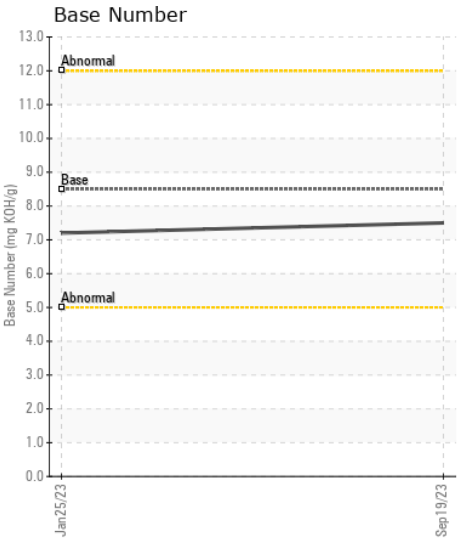

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RPL05956354
Lab Number : 05956354
Unique Number : 10657567
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 20 Sep 2023
Tested : 21 Sep 2023
Diagnosed : 21 Sep 2023 - Wes Davis

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)

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