



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
2178
Component
Diesel Engine
Fluid
VALVOLINE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		IL0035088	IL0034309	---
Sample Date		Client Info		12 Jan 2024	11 Oct 2023	---
Machine Age	mls	Client Info		69414	46614	---
Oil Age	mls	Client Info		0	0	---
Filter Age	mls	Client Info		0	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				NORMAL	NORMAL	---

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>100	20	63	---
Chromium	ppm	ASTM D5185m	>20	1	2	---
Nickel	ppm	ASTM D5185m	>4	0	<1	---
Titanium	ppm	ASTM D5185m		1	0	---
Silver	ppm	ASTM D5185m	>3	<1	<1	---
Aluminum	ppm	ASTM D5185m	>20	8	19	---
Lead	ppm	ASTM D5185m	>40	2	3	---
Copper	ppm	ASTM D5185m	>330	2	8	---
Tin	ppm	ASTM D5185m	>15	<1	2	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

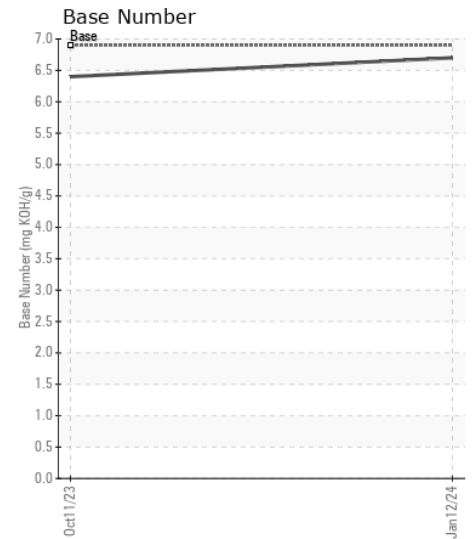
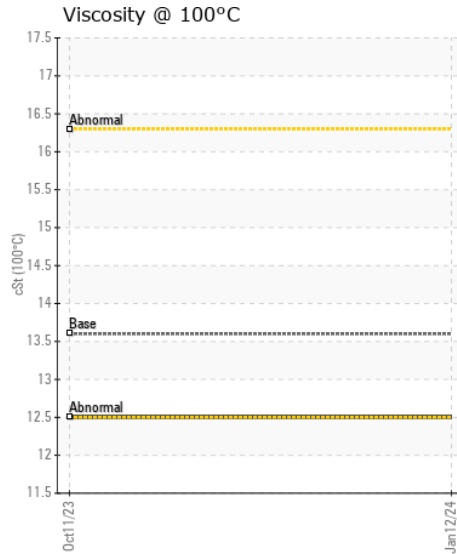
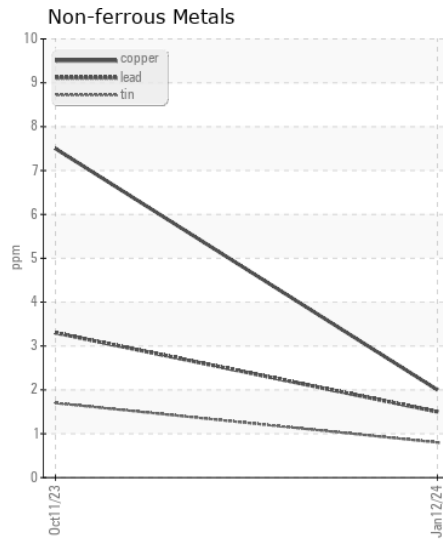
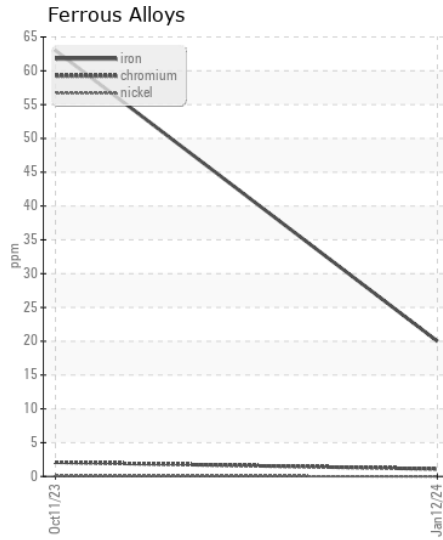
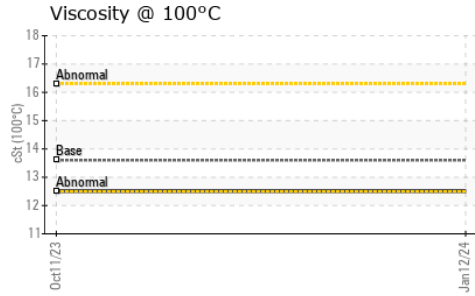
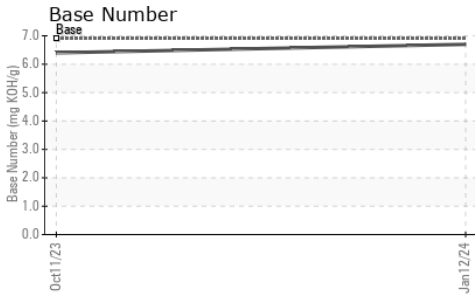
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	6	12	---
Potassium	ppm	ASTM D5185m	>20	33	61	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.2	0.2	---
Nitration	Abs/cm	*ASTM D7624	>20	9.1	9.4	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.7	20.9	---
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	---

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.

Sodium	ppm	ASTM D5185m		0	0	---
Boron	ppm	ASTM D5185m	39	80	13	---
Barium	ppm	ASTM D5185m	1	25	1	---
Molybdenum	ppm	ASTM D5185m	49	74	70	---
Manganese	ppm	ASTM D5185m	1	0	2	---
Magnesium	ppm	ASTM D5185m	616	651	691	---
Calcium	ppm	ASTM D5185m	1554	1184	1308	---
Phosphorus	ppm	ASTM D5185m	899	842	945	---
Zinc	ppm	ASTM D5185m	1069	969	1172	---
Sulfur	ppm	ASTM D5185m	2624	2659	3264	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.8	17.0	---
Base Number (BN)	mg KOH/g	ASTM D2896	6.9	6.7	6.4	---
Visc @ 100°C	cSt	ASTM D445	13.6	12.5	12.5	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : IL0035088

Lab Number : 06084594

Unique Number : 10872039

Test Package : FLEET

Received : 09 Feb 2024

Tested : 12 Feb 2024

Diagnosed : 12 Feb 2024 - Wes Davis

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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)