



WEAR	SEVERE
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
409
Component
Diesel Engine
Fluid
{not provided} (--- QTS)

RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. 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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LF0001764	---	---
Sample Date		Client Info		25 Feb 2024	---	---
Machine Age	mls	Client Info		0	---	---
Oil Age	mls	Client Info		0	---	---
Filter Age	mls	Client Info		0	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				SEVERE	---	---

WEAR

Aluminum ppm levels are severe. Piston wear is indicated.

Iron	ppm	ASTM D5185m	>100	41	---	---
Chromium	ppm	ASTM D5185m	>20	2	---	---
Nickel	ppm	ASTM D5185m	>4	<1	---	---
Titanium	ppm	ASTM D5185m		0	---	---
Silver	ppm	ASTM D5185m	>3	0	---	---
Aluminum	ppm	ASTM D5185m	>20	▲ 54	---	---
Lead	ppm	ASTM D5185m	>40	2	---	---
Copper	ppm	ASTM D5185m	>330	2	---	---
Tin	ppm	ASTM D5185m	>15	<1	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

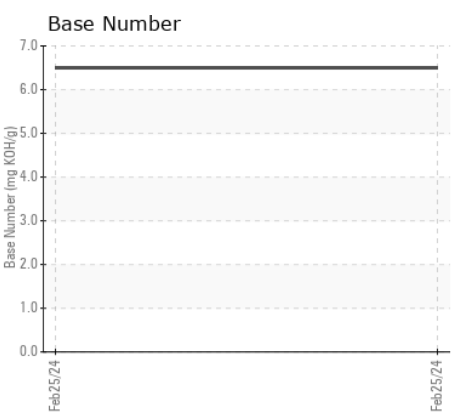
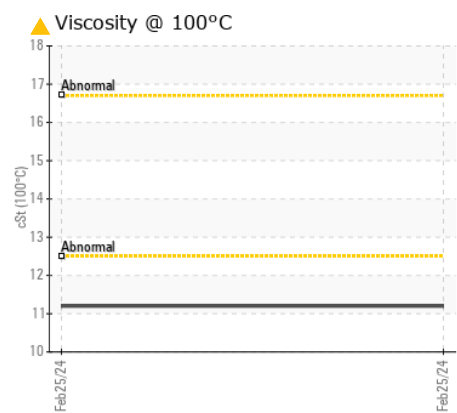
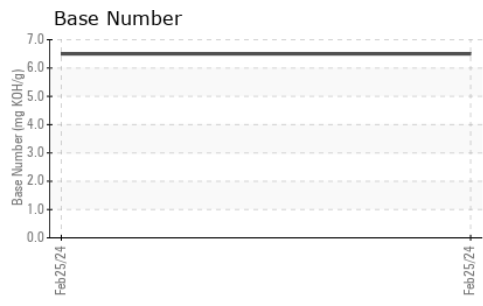
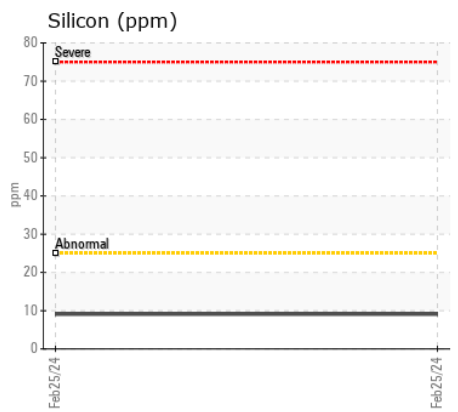
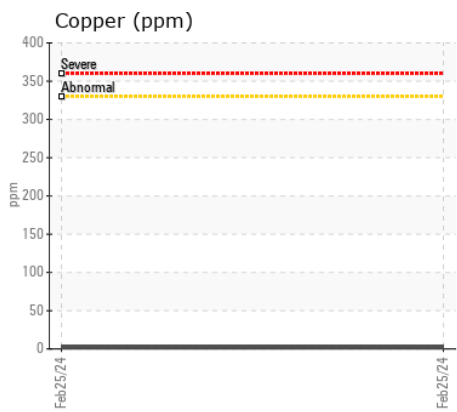
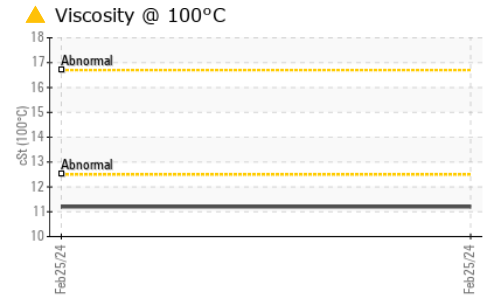
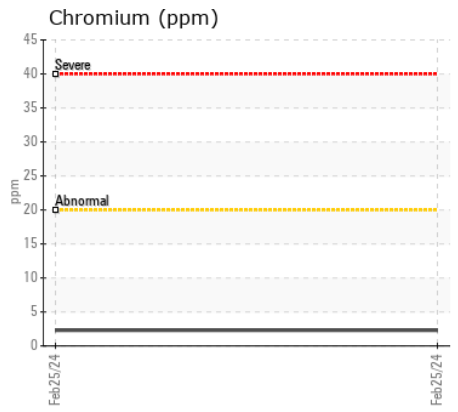
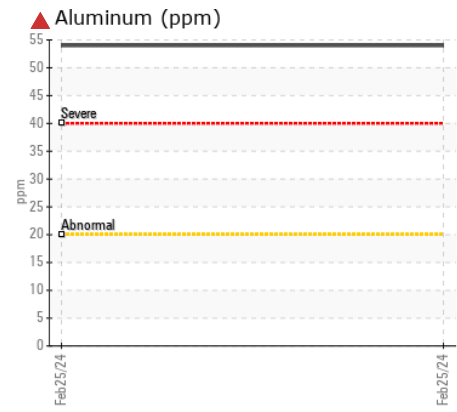
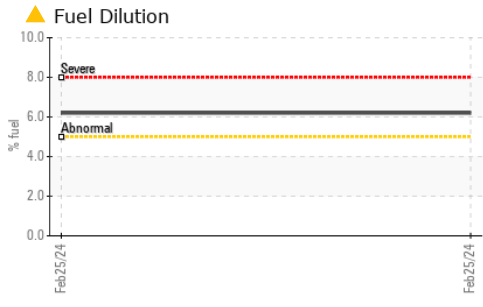
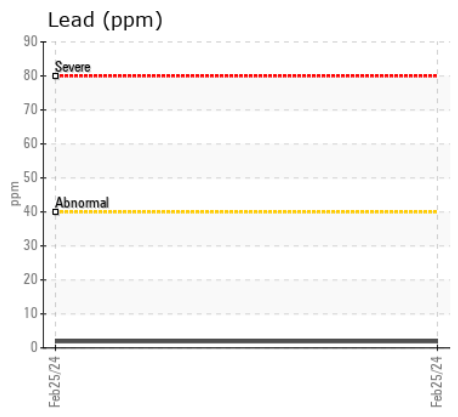
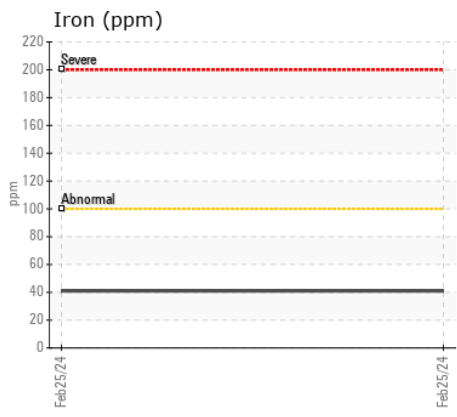
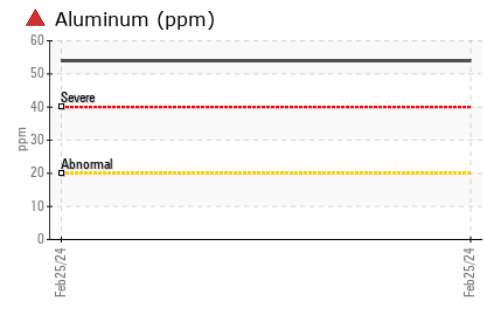
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185m	>25	9	---	---
Potassium	ppm	ASTM D5185m	>20	<1	---	---
Fuel	%	ASTM D3524	>5	▲ 6.2	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	1.2	---	---
Nitration	Abs/cm	*ASTM D7624	>20	11.8	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.3	---	---
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	---	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---	---

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185m		5	---	---
Boron	ppm	ASTM D5185m		30	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		51	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		520	---	---
Calcium	ppm	ASTM D5185m		1624	---	---
Phosphorus	ppm	ASTM D5185m		781	---	---
Zinc	ppm	ASTM D5185m		938	---	---
Sulfur	ppm	ASTM D5185m		2386	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.9	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		6.5	---	---
Visc @ 100°C	cSt	ASTM D445		▲ 11.2	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LF0001764 **Received** : 26 Feb 2024
Lab Number : 06100819 **Tested** : 29 Feb 2024
Unique Number : 10899049 **Diagnosed** : 29 Feb 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, TBN)

D PALMER & SONS
 139 BEACH LAKE HWY
 HONESDALE, PA
 US 18431
 Contact: CHRIS DOWNEY
 palmernsons@verizon.net
 T: (570)253-1618
 F: (570)253-9147

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)