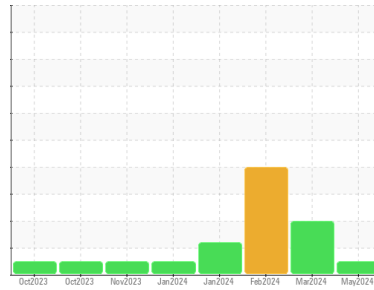




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id

**1704**

Component

**Diesel Engine**

Fluid

**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

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

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination 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		<b>WC0897839</b>	WC0894020	WC0893974
Sample Date	Client Info		<b>02 May 2024</b>	27 Mar 2024	27 Feb 2024
Machine Age	mls	Client Info	<b>440533</b>	0	0
Oil Age	mls	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	Changed	N/A
Sample Status			<b>NORMAL</b>	ABNORMAL	SEVERE

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	▲ 4.4	▲ 13.6
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>100	<b>12</b>	14	17
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	0
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	3	2
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>3</b>	7	5
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	250	<b>2</b>	2	0
Barium	ppm	ASTM D5185m	10	<b>2</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>58</b>	52	52
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	450	<b>854</b>	839	860
Calcium	ppm	ASTM D5185m	3000	<b>1087</b>	1001	912
Phosphorus	ppm	ASTM D5185m	1150	<b>1026</b>	913	873
Zinc	ppm	ASTM D5185m	1350	<b>1150</b>	1136	1101
Sulfur	ppm	ASTM D5185m	4250	<b>3128</b>	3154	2563

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	<b>17</b>	10	4
Sodium	ppm	ASTM D5185m	>158	<b>&lt;1</b>	3	2
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	<1	1

## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.5	0.7
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.7</b>	9.8	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.3</b>	27.1	▲ 32.7

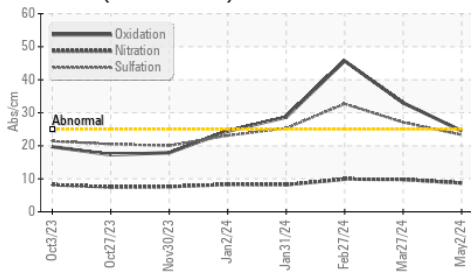
## FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>24.5</b>	33.0	45.7
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>6.5</b>	▲ 4.4	▲ 1.9

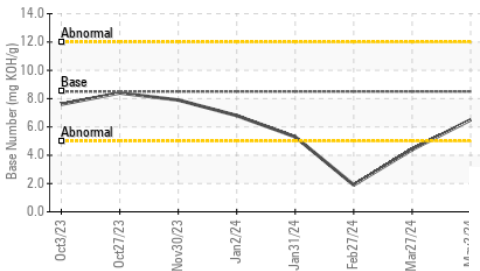


# OIL ANALYSIS REPORT

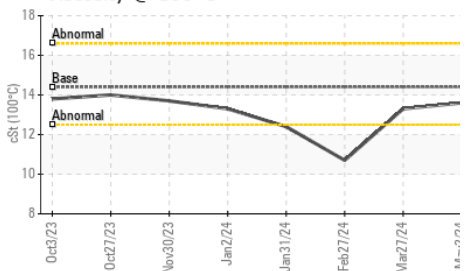
FT-IR (Direct Trend)



Base Number



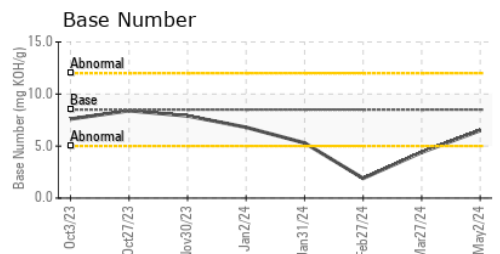
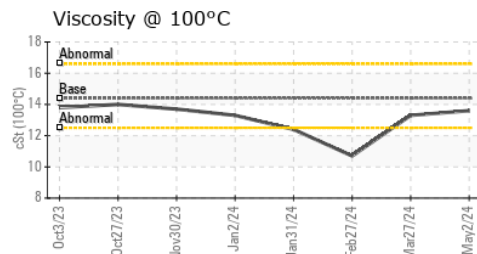
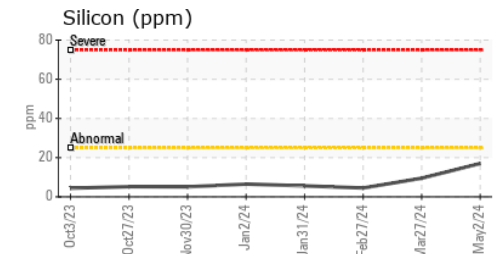
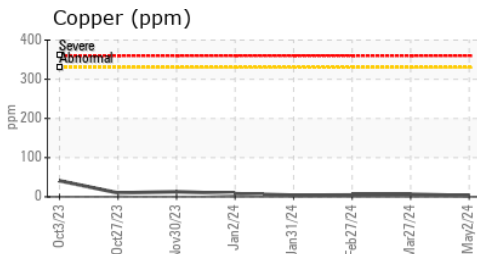
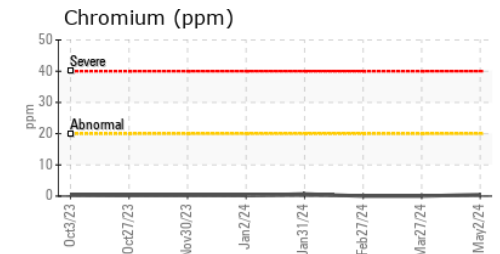
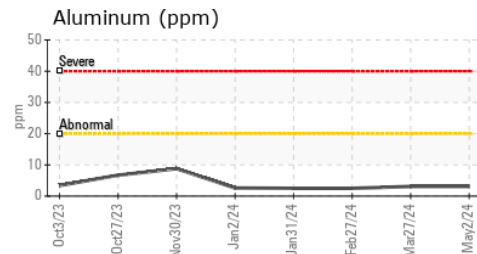
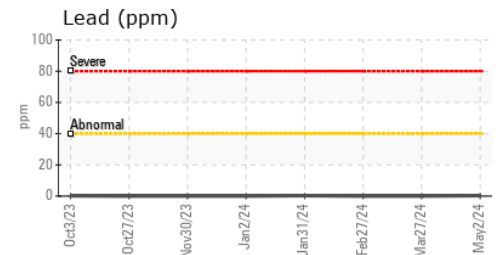
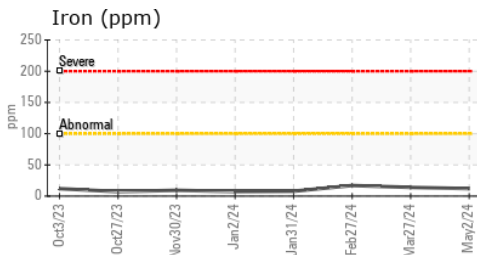
Viscosity @ 100°C



PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
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
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	13.6	13.3 ▲ 10.7

GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0897839 **Received** : 13 May 2024  
**Lab Number** : 06176787 **Tested** : 14 May 2024  
**Unique Number** : 11022840 **Diagnosed** : 14 May 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**GO DURHAM - RAPT**  
 1903 FAYETTEVILLE ST  
 DURHAM, NC  
 US 27701

Contact: Robert Iosiniecki  
 Robert.iosiniecki@ratpdev.com

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)

T:  
F: