



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**THOMAS 1736**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0906102</b>	WC0870685	WC0821415
Sample Date		Client Info		<b>19 Mar 2024</b>	05 Dec 2023	08 Jun 2023
Machine Age	mls	Client Info		<b>94210</b>	84380	70040
Oil Age	mls	Client Info		<b>0</b>	0	0
Filter Age	mls	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Sample Status				<b>NORMAL</b>	MARGINAL	ABNORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>17</b>	8	28
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>9</b>	6	9
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>1</b>	<1	3
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

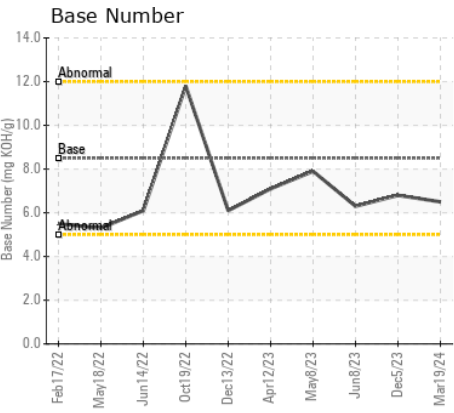
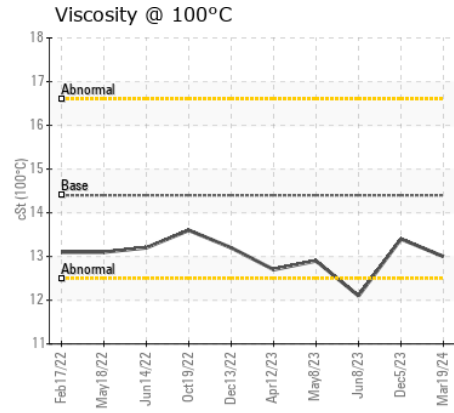
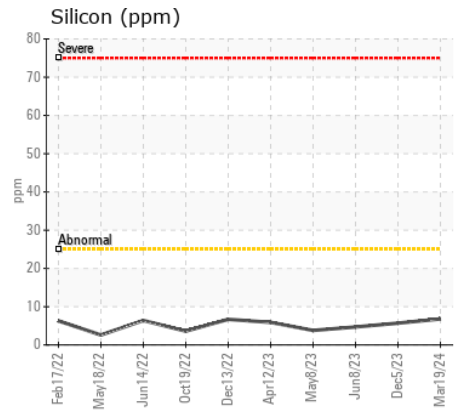
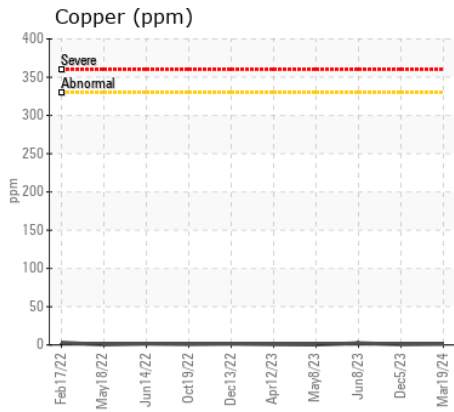
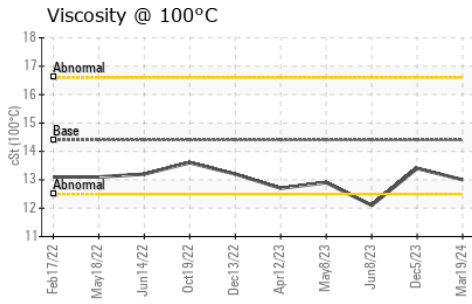
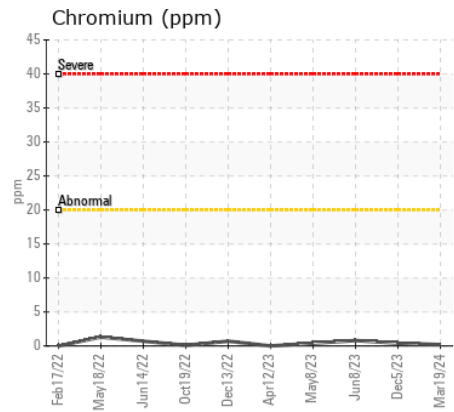
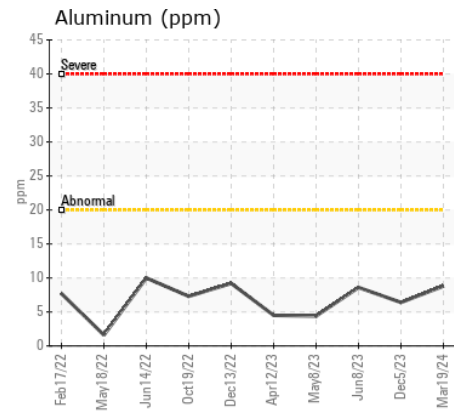
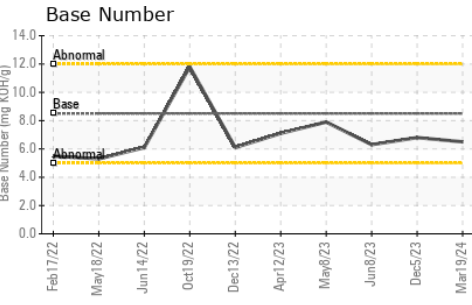
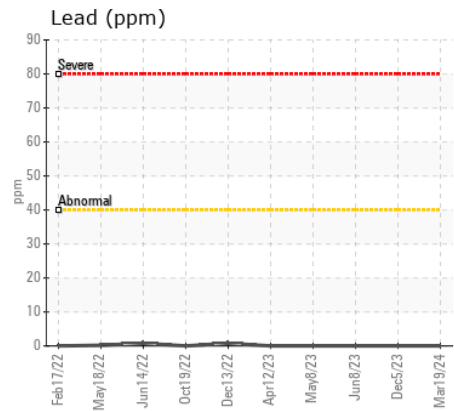
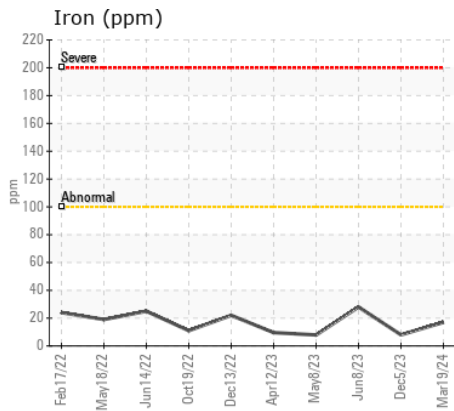
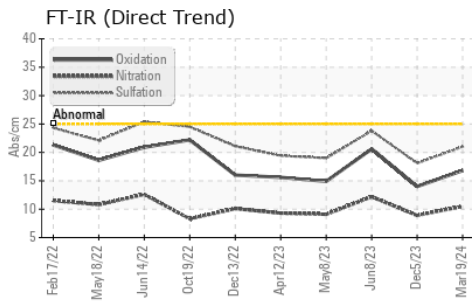
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>7</b>	6	5
Potassium	ppm	ASTM D5185m	>20	<b>12</b>	4	7
Fuel		WC Method	>5	<b>&lt;1.0</b>	▲ 2.0	▲ 7.2
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.5</b>	0.3	0.7
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.5</b>	8.9	12.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.0</b>	18.1	23.8
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	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	>158	<b>3</b>	3	2
Boron	ppm	ASTM D5185m	250	<b>32</b>	50	20
Barium	ppm	ASTM D5185m	10	<b>0</b>	3	0
Molybdenum	ppm	ASTM D5185m	100	<b>83</b>	90	81
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m	450	<b>159</b>	122	138
Calcium	ppm	ASTM D5185m	3000	<b>2112</b>	2088	2190
Phosphorus	ppm	ASTM D5185m	1150	<b>1033</b>	1079	996
Zinc	ppm	ASTM D5185m	1350	<b>1249</b>	1259	1247
Sulfur	ppm	ASTM D5185m	4250	<b>4162</b>	4244	4223
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.8</b>	14.0	20.6
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>6.5</b>	6.8	6.3
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.0</b>	13.4	▲ 12.1



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0906102 **Received** : 26 Jun 2024  
**Lab Number** : 06220886 **Tested** : 27 Jun 2024  
**Unique Number** : 11099083 **Diagnosed** : 27 Jun 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: TBN )  
 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)

**WAKE COUNTY PUBLIC SCHOOL SYSTEM**  
 1551 ROCK QUARRY ROAD  
 RALEIGH, NC  
 US 27610  
 Contact: DEVIN WEBER  
 dweber@wcpss.net  
 T: (919)856-8076  
 F: x: