

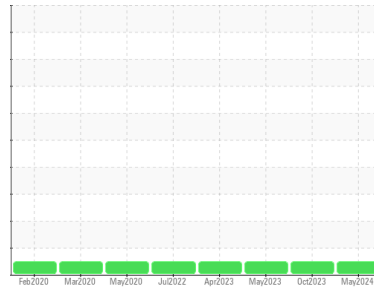


# OIL ANALYSIS REPORT



Area  
**Action Newark**  
 Machine Id  
**CATERPILLAR 5598**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

### Sample Rating Trend



**NORMAL**



### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### 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>WC0912331</b>	WC0863142	WC0745258
Sample Date	Client Info		<b>04 May 2024</b>	19 Oct 2023	24 May 2023
Machine Age	hrs	Client Info	<b>0</b>	20881	20177
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

### CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
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>32</b>	11	6
Chromium	ppm	ASTM D5185m >20	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m >2	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m >25	<b>9</b>	7	<1
Lead	ppm	ASTM D5185m >40	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m >330	<b>3</b>	2	<1
Tin	ppm	ASTM D5185m >15	<b>0</b>	3	<1
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	<1	0

### ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	<b>0</b>	17	18
Barium	ppm	ASTM D5185m 10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 100	<b>63</b>	57	64
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m 450	<b>901</b>	840	836
Calcium	ppm	ASTM D5185m 3000	<b>1334</b>	1043	1361
Phosphorus	ppm	ASTM D5185m 1150	<b>1025</b>	965	1061
Zinc	ppm	ASTM D5185m 1350	<b>1216</b>	1148	1334
Sulfur	ppm	ASTM D5185m 4250	<b>3665</b>	3657	4275

### CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>18</b>	4	7
Sodium	ppm	ASTM D5185m >158	<b>3</b>	2	3
Potassium	ppm	ASTM D5185m >20	<b>0</b>	2	3

### INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>1.5</b>	0.4	0.7
Nitration	Abs/cm	*ASTM D7624 >20	<b>8.6</b>	4.8	6.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>20.6</b>	17.3	18.6

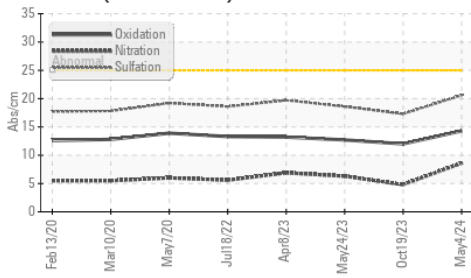
### FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>14.3</b>	12.0	12.7
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	<b>9.4</b>	9.3	9.3

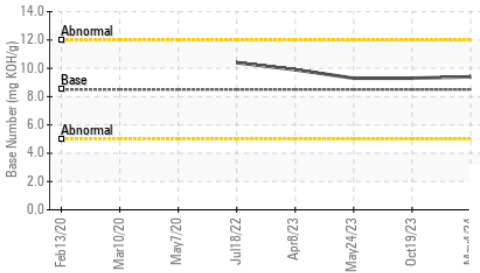


# OIL ANALYSIS REPORT

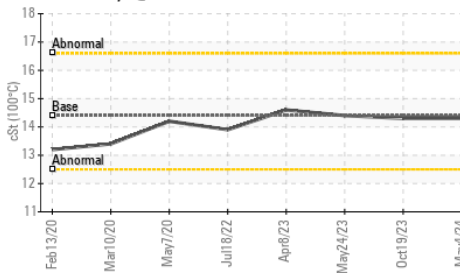
FT-IR (Direct Trend)



Base Number



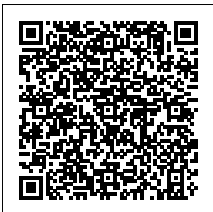
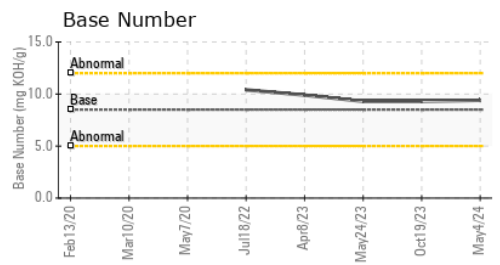
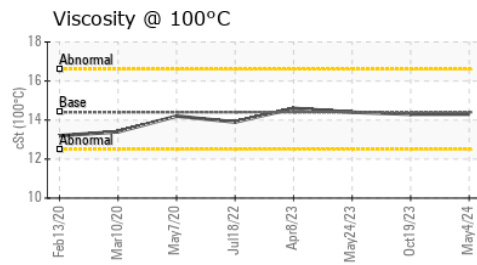
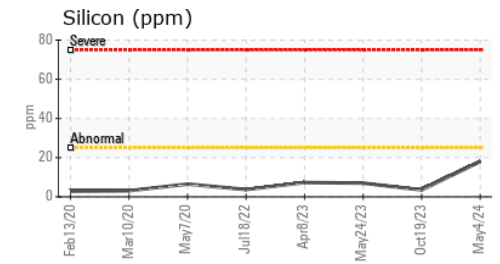
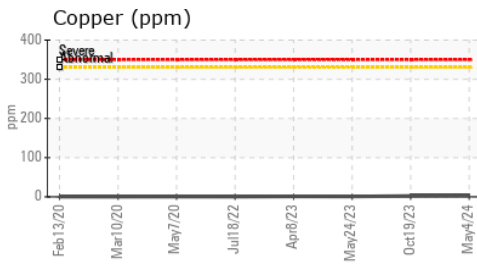
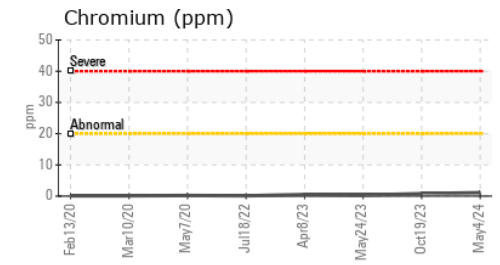
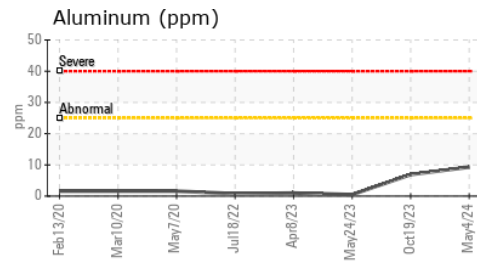
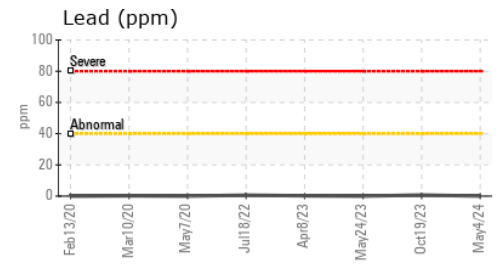
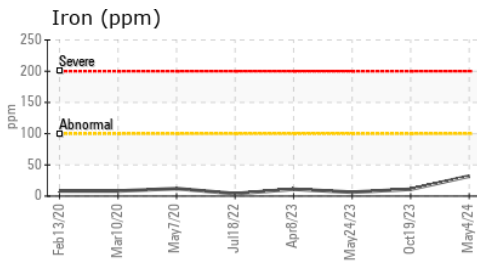
Viscosity @ 100°C



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	14.3	14.4

GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0912331 **Received** : 14 May 2024  
**Lab Number** : 06178340 **Tested** : 14 May 2024  
**Unique Number** : 11029666 **Diagnosed** : 14 May 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**INTERSTATE WASTE-NEWARK**  
 110 EVERGREEN AVE, BAY 3  
 NEWARK, NJ  
 US 07114

Contact: Robert Witynski  
 RWitynski@interstatewaste.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: