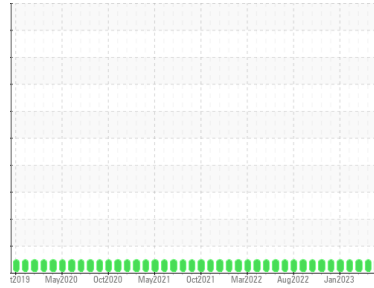




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Area  
**GEORGIA**  
 Machine Id  
**2015 MACK 5561**

Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- QTS)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on 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>WC0730459</b>	WC0646031	WC0646016
Sample Date	Client Info			<b>16 May 2023</b>	13 Apr 2023	06 Mar 2023
Machine Age	mls Client Info			<b>282324</b>	278109	273459
Oil Age	mls Client Info			<b>0</b>	0	0
Oil Changed	Client Info			<b>Not Changed</b>	Not Changed	Not Changed
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>15</b>	12	9
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>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>7</b>	2	6
Lead	ppm	ASTM D5185m	>40	<b>1</b>	<1	<1
Copper	ppm	ASTM D5185m	>330	<b>3</b>	3	2
Tin	ppm	ASTM D5185m	>15	<b>1</b>	1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	<b>24</b>	34	64
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>16</b>	16	16
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	1	<1
Magnesium	ppm	ASTM D5185m	450	<b>156</b>	152	137
Calcium	ppm	ASTM D5185m	3000	<b>2047</b>	1826	1854
Phosphorus	ppm	ASTM D5185m	1150	<b>833</b>	771	830
Zinc	ppm	ASTM D5185m	1350	<b>1056</b>	1003	1006
Sulfur	ppm	ASTM D5185m	4250	<b>3908</b>	3066	2792

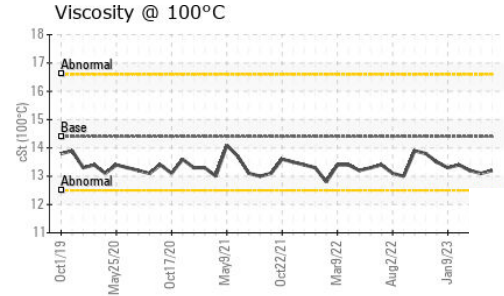
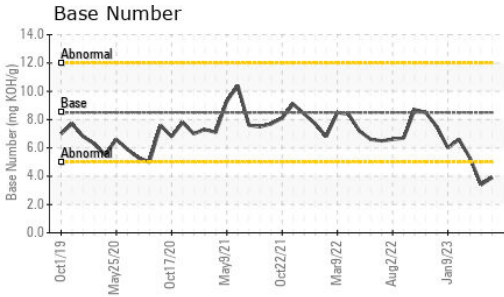
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<b>11</b>	10	9
Sodium	ppm	ASTM D5185m	>158	<b>6</b>	5	<1
Potassium	ppm	ASTM D5185m	>20	<b>8</b>	7	8

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0.6</b>	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.3</b>	9.7	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>28.1</b>	23.2	23.6

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>22.6</b>	19.5	19.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>3.9</b>	3.4	5.3



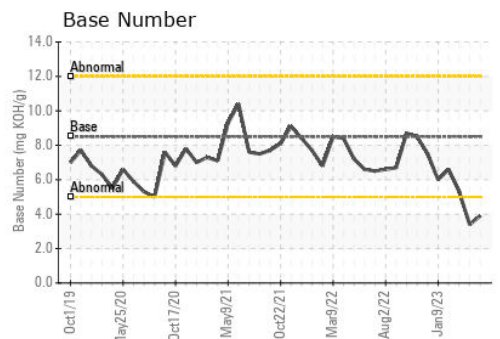
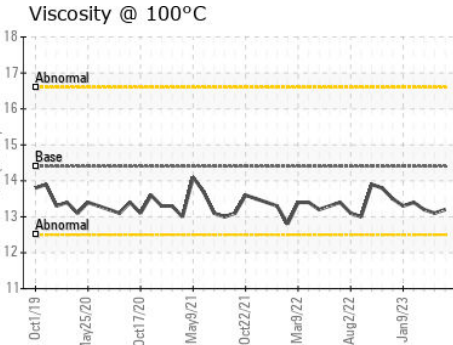
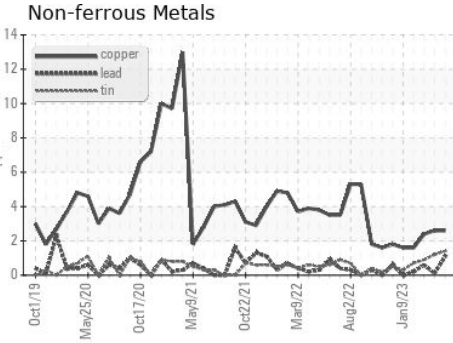
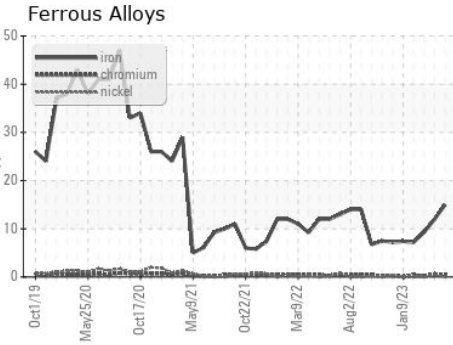
# OIL ANALYSIS REPORT



VISUAL	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	<b>13.2</b>	13.1	13.2

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0730459 **Received** : 23 May 2023  
**Lab Number** : **05854878** **Diagnosed** : 24 May 2023  
**Unique Number** : 10484233 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**LIBERTY DISPOSAL**  
 6401 S EASTERN AVE  
 OKLAHOMA CITY, OK  
 US 73149  
 Contact: Loran Cottle  
 l.cottle@ldi89.com  
 T: (910)970-0291  
 F: x:

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)