



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**C220E310190**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0216004</b>	JR0177438	---
Sample Date		Client Info		<b>28 May 2024</b>	09 Aug 2023	---
Machine Age	hrs	Client Info		<b>7482</b>	7482	---
Oil Age	hrs	Client Info		<b>7482</b>	7482	---
Filter Age	hrs	Client Info		<b>0</b>	0	---
Oil Changed		Client Info		<b>N/A</b>	Changed	---
Filter Changed		Client Info		<b>N/A</b>	Changed	---
Sample Status				<b>NORMAL</b>	NORMAL	---

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>72</b>	24	---
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	<1	---
Nickel	ppm	ASTM D5185m	>4	<b>1</b>	0	---
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	---
Silver	ppm	ASTM D5185m	>3	<b>1</b>	<1	---
Aluminum	ppm	ASTM D5185m	>20	<b>11</b>	7	---
Lead	ppm	ASTM D5185m	>40	<b>1</b>	<1	---
Copper	ppm	ASTM D5185m	>330	<b>2</b>	1	---
Tin	ppm	ASTM D5185m	>15	<b>1</b>	<1	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

### CONTAMINATION

There is no indication of any contamination in the oil.

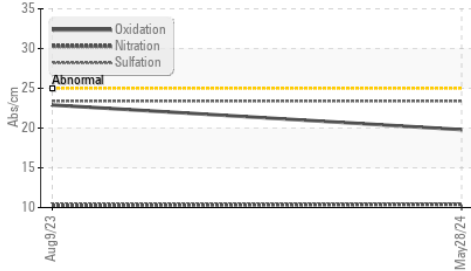
Silicon	ppm	ASTM D5185m	>25	<b>13</b>	7	---
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	2	---
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	---
Water		WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol		WC Method		<b>NEG</b>	NEG	---
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.4	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.4</b>	10.3	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.4</b>	23.4	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	---

### FLUID CONDITION

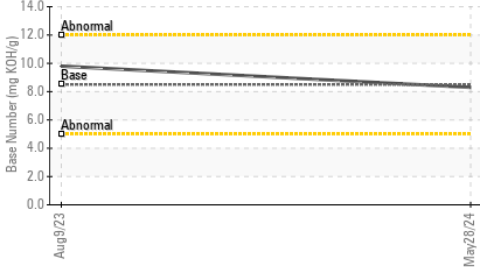
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	<b>2</b>	0	---
Boron	ppm	ASTM D5185m	250	<b>203</b>	27	---
Barium	ppm	ASTM D5185m	10	<b>0</b>	2	---
Molybdenum	ppm	ASTM D5185m	100	<b>238</b>	53	---
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	---
Magnesium	ppm	ASTM D5185m	450	<b>809</b>	591	---
Calcium	ppm	ASTM D5185m	3000	<b>1528</b>	1876	---
Phosphorus	ppm	ASTM D5185m	1150	<b>932</b>	1008	---
Zinc	ppm	ASTM D5185m	1350	<b>1137</b>	1220	---
Sulfur	ppm	ASTM D5185m	4250	<b>3462</b>	3301	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>19.8</b>	22.9	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>8.3</b>	9.8	---
Visc @ 100°C	cSt	ASTM D445	14.4	<b>14.3</b>	13.5	---

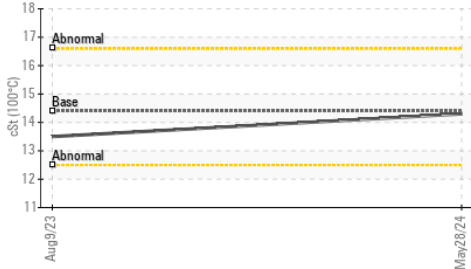
**FT-IR (Direct Trend)**



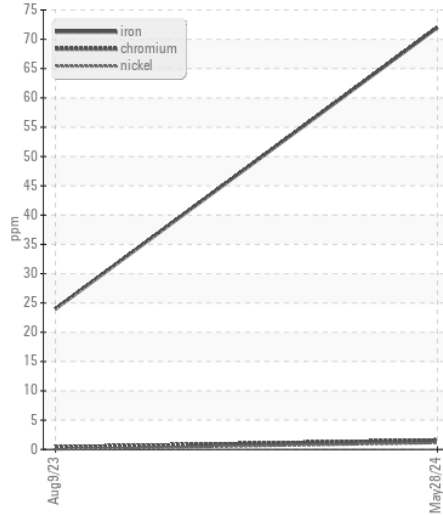
**Base Number**



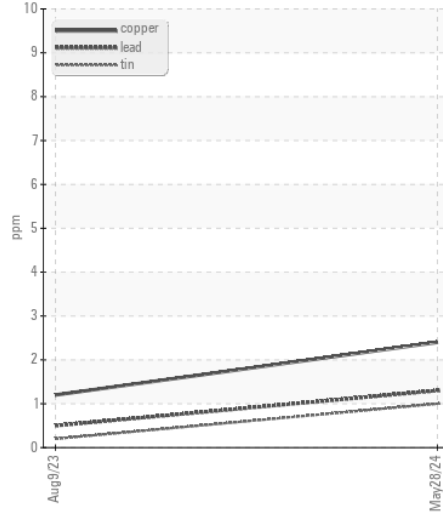
**Viscosity @ 100°C**



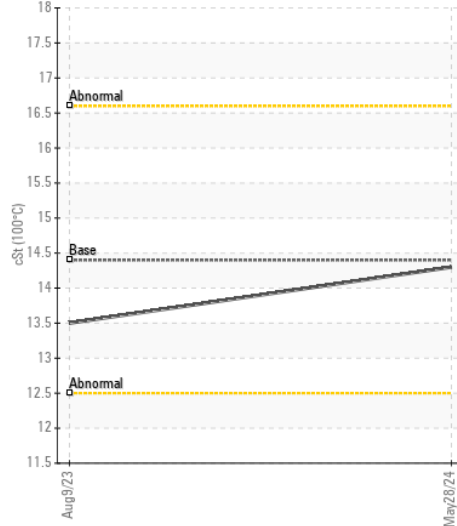
**Ferrous Alloys**



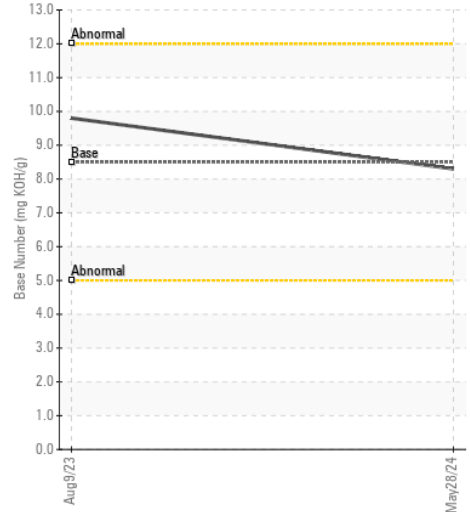
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0216004 **Received** : 29 May 2024  
**Lab Number** : 06193603 **Tested** : 30 May 2024  
**Unique Number** : 11050355 **Diagnosed** : 30 May 2024 - Sean Felton  
**Test Package** : CONST ( 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)

**JRE - GREENSBORO**  
 411 SOUTH REGIONAL ROAD  
 GREENSBORO, NC  
 US 27409  
 Contact: NICK GALLAHER  
 NGALLAHER@JRENET.COM  
 T: (336)668-2762  
 F: (336)665-9556