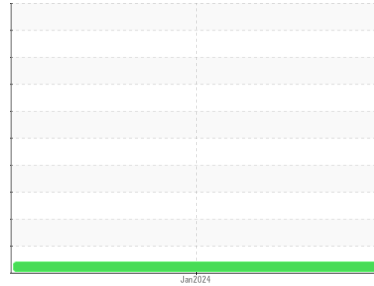




# OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Machine Id  
**KENWORTH T880 5689 (S/N 1XKZBP9X3RJ361013)**

Component  
**Diesel Engine**

Fluid  
**SHELL ROTELLA T 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

Fuel content negligible. 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.

### Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0878894</b>	---	---
Sample Date	Client Info		<b>29 Jan 2024</b>	---	---
Machine Age	mls	Client Info	<b>0</b>	---	---
Oil Age	mls	Client Info	<b>0</b>	---	---
Oil Changed	Client Info		<b>N/A</b>	---	---
Sample Status			<b>MARGINAL</b>	---	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	<b>NEG</b>	---	---
Glycol	WC Method		<b>NEG</b>	---	---

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	<b>49</b>	---	---
Chromium	ppm	ASTM D5185m >20	<b>2</b>	---	---
Nickel	ppm	ASTM D5185m >4	<b>0</b>	---	---
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	---	---
Silver	ppm	ASTM D5185m >3	<b>&lt;1</b>	---	---
Aluminum	ppm	ASTM D5185m >20	<b>43</b>	---	---
Lead	ppm	ASTM D5185m >40	<b>&lt;1</b>	---	---
Copper	ppm	ASTM D5185m >330	<b>17</b>	---	---
Tin	ppm	ASTM D5185m >15	<b>2</b>	---	---
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	---	---
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	---	---

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 316	<b>16</b>	---	---
Barium	ppm	ASTM D5185m 0.0	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m 1.2	<b>11</b>	---	---
Manganese	ppm	ASTM D5185m	<b>2</b>	---	---
Magnesium	ppm	ASTM D5185m 24	<b>799</b>	---	---
Calcium	ppm	ASTM D5185m 2292	<b>1224</b>	---	---
Phosphorus	ppm	ASTM D5185m 1064	<b>747</b>	---	---
Zinc	ppm	ASTM D5185m 1160	<b>847</b>	---	---
Sulfur	ppm	ASTM D5185m 4996	<b>2601</b>	---	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>14</b>	---	---
Sodium	ppm	ASTM D5185m	<b>4</b>	---	---
Potassium	ppm	ASTM D5185m >20	<b>126</b>	---	---
Fuel	%	ASTM D3524 >5	<b>0.4</b>	---	---

## INFRA-RED

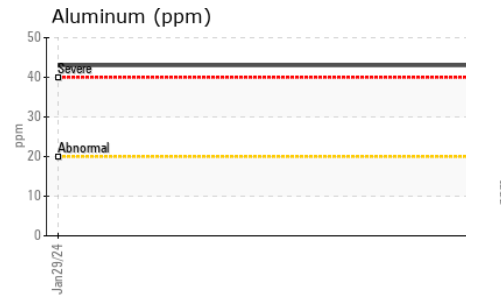
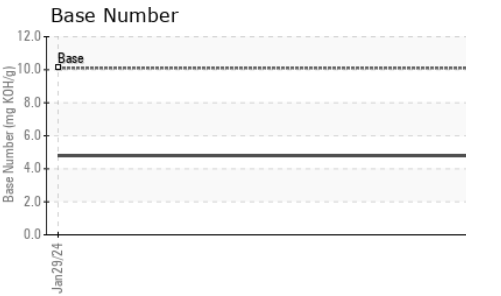
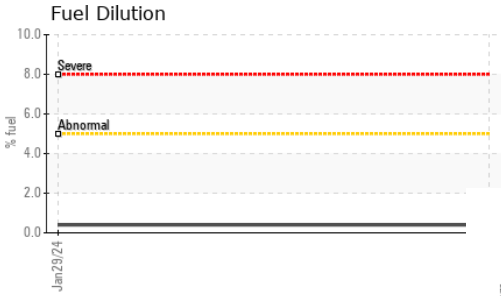
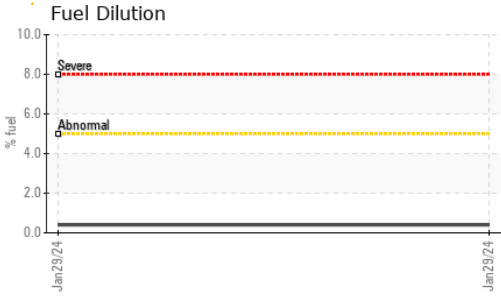
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.3</b>	---	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>10.7</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>24.4</b>	---	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>21.0</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896 10.1	<b>4.8</b>	---	---



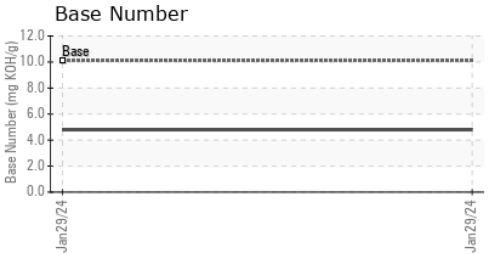
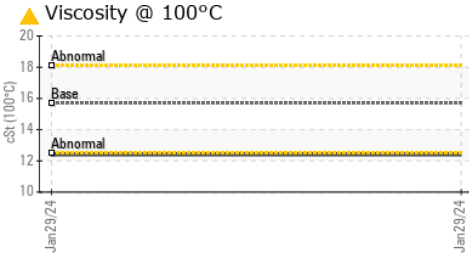
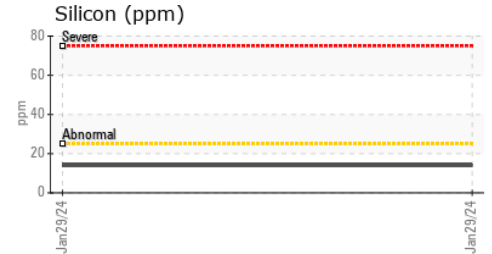
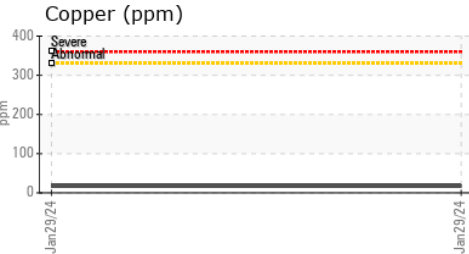
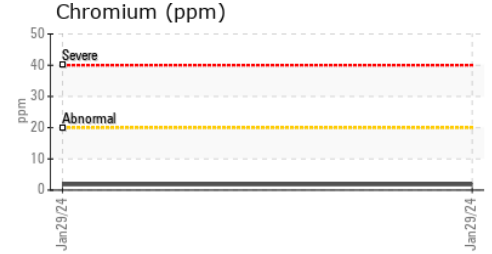
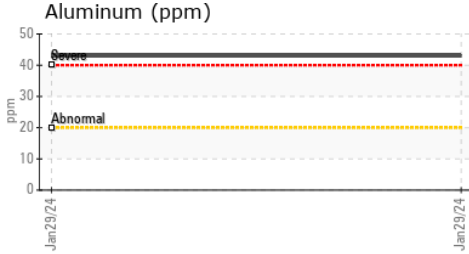
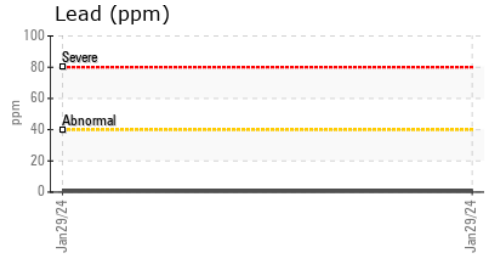
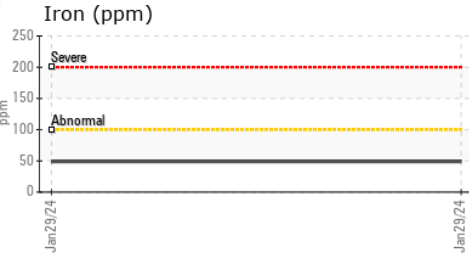
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7 ▲ 12.4	---	---

### GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0878894 **Recieved** : 31 Jan 2024  
**Lab Number** : 06076330 **Diagnosed** : 05 Feb 2024  
**Unique Number** : 10858421 **Diagnostician** : Jonathan Hester  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, PercentFuel, TBN )

**JOHNSON BREEDERS**  
 3425 HWY 117N  
 ROSE HILL, NC  
 US 28458  
 Contact: GREG JONES  
 gregory.jones@houseofraeford.com  
 T: (910)289-6884  
 F:

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)