



# OIL ANALYSIS REPORT

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

Machine Id  
**963**  
 Component  
**Front Diesel Engine**  
 Fluid  
**VALVOLINE PREMIUM BLUE 2000 15W40 (--- QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0787432</b>	WC0654991	WC0616806
Sample Date		Client Info		<b>22 Dec 2023</b>	06 Aug 2022	04 Dec 2021
Machine Age	mls	Client Info		<b>256000</b>	210000	189000
Oil Age	mls	Client Info		<b>24000</b>	21000	22000
Filter Age	mls	Client Info		<b>24000</b>	21000	22000
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>13</b>	16	8
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	6	2
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>1</b>	2	1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

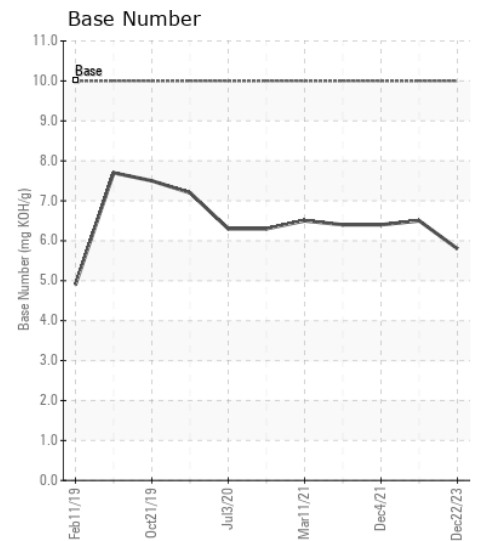
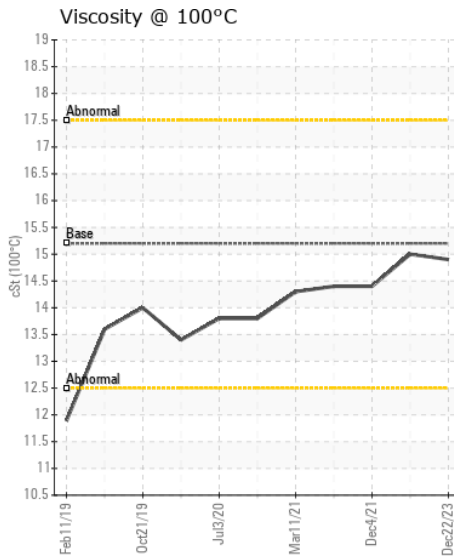
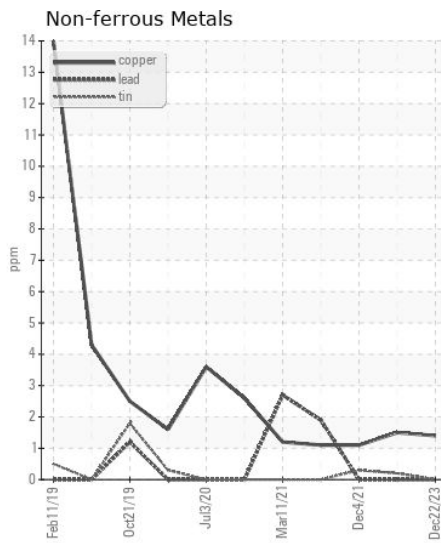
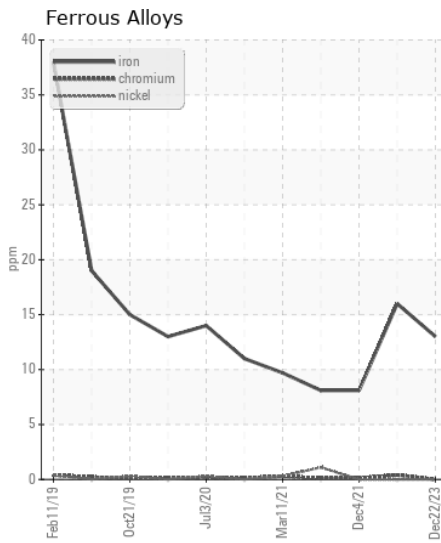
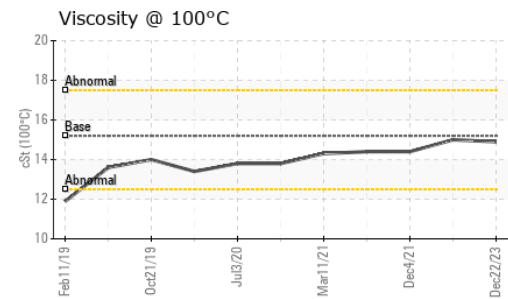
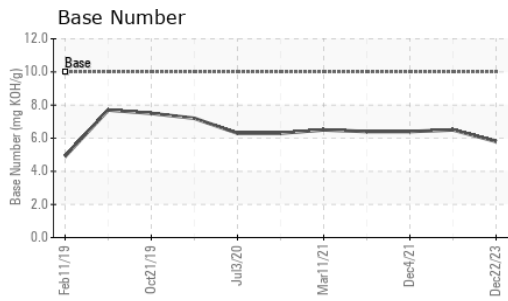
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>11</b>	9	7
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	10	1
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
Soot %	%	*ASTM D7844	>3	<b>0.4</b>	0.5	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.5</b>	14.1	10.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.7</b>	26.6	21.8
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		<b>3</b>	3	3
Boron	ppm	ASTM D5185m		<b>20</b>	19	17
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>54</b>	50	49
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>817</b>	801	821
Calcium	ppm	ASTM D5185m		<b>1318</b>	1292	1312
Phosphorus	ppm	ASTM D5185m		<b>773</b>	739	719
Zinc	ppm	ASTM D5185m		<b>938</b>	958	872
Sulfur	ppm	ASTM D5185m		<b>2374</b>	2806	2169
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>23.6</b>	26.3	19.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.0	<b>5.8</b>	6.5	6.4
Visc @ 100°C	cSt	ASTM D445	15.2	<b>14.9</b>	15.0	14.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0787432 **Received** : 12 Jan 2024  
**Lab Number** : 06059976 **Diagnosed** : 15 Jan 2024  
**Unique Number** : 10831358 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**ROUTH TRANSPORTATION INC**  
 2830 BENNY LINEBERRY RD  
 CLIMAX, NC  
 US 27233  
 Contact: BRAD ROUTH  
 routhtra@bellsouth.net  
 T: (336)685-0671  
 F: (336)685-9189

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)