



# WEAR CHECK

## OIL ANALYSIS REPORT

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

Machine Id  
**1066**  
 Component  
**Diesel Engine**  
 Fluid  
**VALVOLINE PREMIUM BLUE GEN2 SAE 10W30 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0837771</b>	WC0837756	WC0694150
Sample Date		Client Info		<b>16 Dec 2023</b>	25 Nov 2023	31 Aug 2023
Machine Age	mls	Client Info		<b>463327</b>	463327	424094
Oil Age	mls	Client Info		<b>39000</b>	40000	30000
Filter Age	mls	Client Info		<b>39000</b>	40000	30000
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>29</b>	33	20
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	2	1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	6	4
Lead	ppm	ASTM D5185m	>40	<b>7</b>	4	5
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	<1	0
Tin	ppm	ASTM D5185m	>15	<b>1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</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.

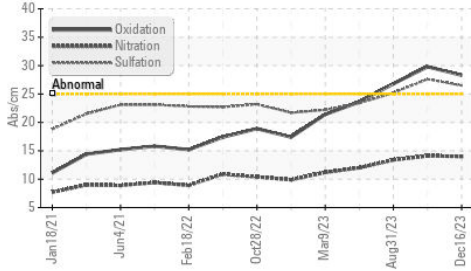
Silicon	ppm	ASTM D5185m	>25	<b>8</b>	7	6
Potassium	ppm	ASTM D5185m	>20	<b>7</b>	2	4
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.6</b>	0.9	0.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>14.0</b>	14.1	13.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>26.5</b>	27.6	25.2
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

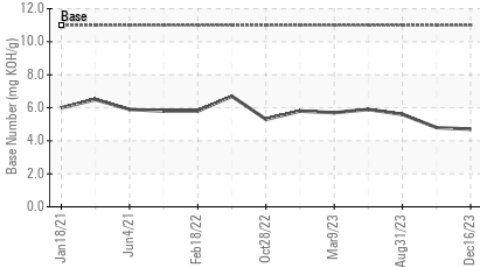
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>5</b>	3	3
Boron	ppm	ASTM D5185m		<b>18</b>	29	17
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>52</b>	58	55
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>842</b>	932	865
Calcium	ppm	ASTM D5185m		<b>1309</b>	1462	1206
Phosphorus	ppm	ASTM D5185m	800	<b>824</b>	899	690
Zinc	ppm	ASTM D5185m	890	<b>973</b>	1103	928
Sulfur	ppm	ASTM D5185m		<b>2811</b>	3052	2240
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>28.3</b>	29.8	26.8
Base Number (BN)	mg KOH/g	ASTM D2896	11	<b>4.7</b>	4.8	5.6
Visc @ 100°C	cSt	ASTM D445	12.0	<b>11.8</b>	11.7	11.9

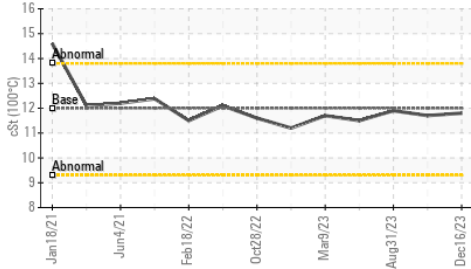
**FT-IR (Direct Trend)**



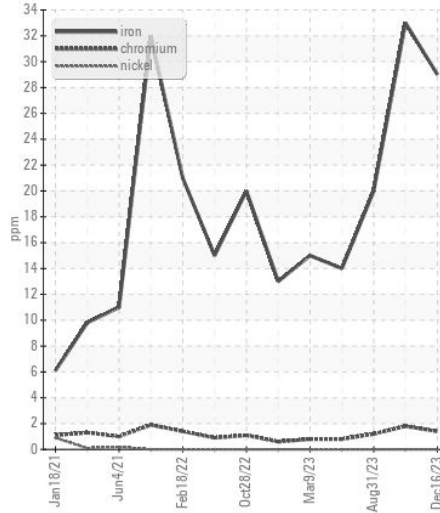
**Base Number**



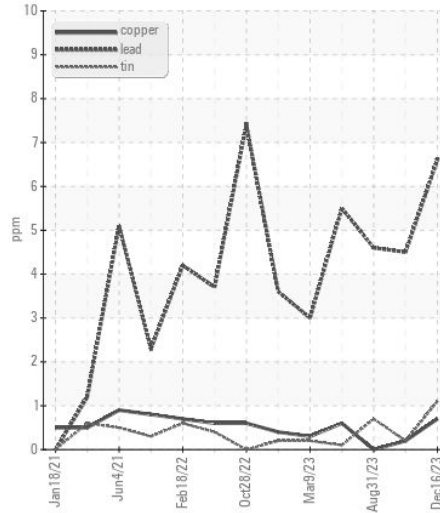
**Viscosity @ 100°C**



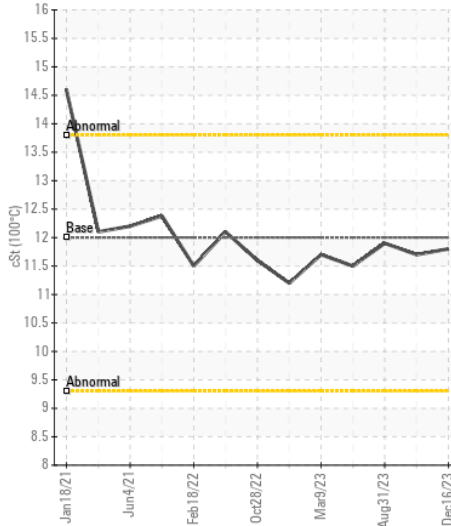
**Ferrous Alloys**



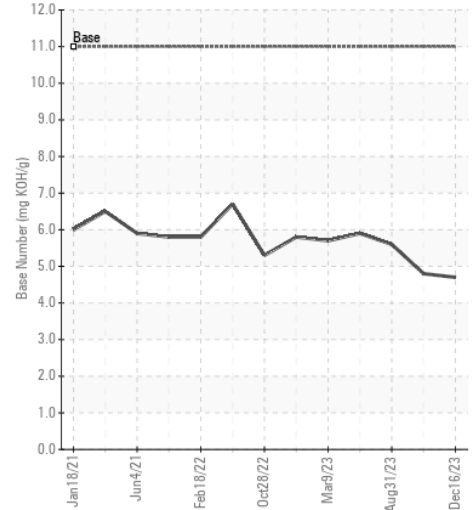
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0837771  
**Lab Number** : 06231958  
**Unique Number** : 11115451  
**Test Package** : FLEET

**LIBERTY LINEHAUL WEST INC**  
 1501 CHAPIN ROAD  
 MONTEBELLO, CA  
 US 90640

Contact: GREG DUBUQUE  
 greg@libertylinehaulwest.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)

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