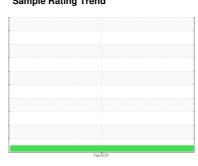


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id **624032** Component

Diesel Engine

{not provided} (--- QTS)

Recommendation

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

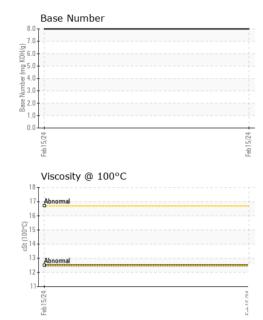
Fluid Condition

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					Feb2024		
Sample Number Client Info IL0026013	SAMPLE INFORM	/ATION	method			history1	historv2
Sample Date Client Info 15 Feb 2024							
Machine Age mls Client Info 147864 Oil Age mls Client Info 17828 Oil Changed Client Info Changed Sample Status NORMAL CONTAMINATION method Imitibase current history1 history2 Fuel WC Method >5 <1.0							
Oil Changed Oil Changed Client Info Changed Changed Changed Changed Changed Changed Control Imit Date Changed Change		mls					
Oil Changed Sample Status Client Info Changed NORMAL							
CONTAMINATION							
Fuel WC Method S5 C1.0 C1.0							
Water WC Method Solution NEG	CONTAMINATIO	N	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0		
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 19 Chromium ppm ASTM D5185m >20 <1	Water		WC Method	>0.2	NEG		
Iron	Glycol		WC Method		NEG		
Chromium ppm ASTM D5185m >20 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	19		
Titanium	Chromium	ppm	ASTM D5185m	>20	<1		
Silver	Nickel	ppm	ASTM D5185m	>4	0		
Aluminum ppm ASTM D5185m >20 11 Lead ppm ASTM D5185m >40 <1	Titanium	ppm	ASTM D5185m		0		
Lead	Silver	ppm	ASTM D5185m	>3	0		
Copper ppm ASTM D5185m >330 1 Tin ppm ASTM D5185m >15 <1	Aluminum	ppm	ASTM D5185m	>20	11		
Tin	Lead	ppm	ASTM D5185m	>40	<1		
Vanadium ppm ASTM D5185m <1 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 44 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 40 Manganese ppm ASTM D5185m 543 Magnesium ppm ASTM D5185m 543 Calcium ppm ASTM D5185m 1501 Phosphorus ppm ASTM D5185m 856 Sulfur ppm ASTM D5185m 2404 Sulfur ppm ASTM D5185m >25 7 Solicon ppm ASTM D5185m >20 7 <td>Copper</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>330</td> <th>1</th> <td></td> <td></td>	Copper	ppm	ASTM D5185m	>330	1		
Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 44 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 40 Manganese ppm ASTM D5185m 41 Magnesium ppm ASTM D5185m 543 Calcium ppm ASTM D5185m 1501 Phosphorus ppm ASTM D5185m 856 Zinc ppm ASTM D5185m 2404 Sulfur ppm ASTM D5185m >25 7 CONTAMINANTS method limit/base current history1 history2 Sodium ppm ASTM D5185m >20 7	Tin	ppm	ASTM D5185m	>15			
ADDITIVES	Vanadium	ppm			<1		
Boron	Cadmium	ppm	ASTM D5185m		0		
Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 40 Manganese ppm ASTM D5185m <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 40 Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 543 Calcium ppm ASTM D5185m 1501 Phosphorus ppm ASTM D5185m 696 Zinc ppm ASTM D5185m 856 Sulfur ppm ASTM D5185m 2404 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 25 7 Sodium ppm ASTM D5185m 20 7 Potassium ppm ASTM D5185m 20 7 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7624 <td>Boron</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>44</th> <td></td> <td></td>	Boron	ppm	ASTM D5185m		44		
Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 543 Calcium ppm ASTM D5185m 1501 Phosphorus ppm ASTM D5185m 696 Zinc ppm ASTM D5185m 2404 Sulfur ppm ASTM D5185m 2404 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 Sodium ppm ASTM D5185m 2 Potassium ppm ASTM D5185m >20 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 Nitration Abs/cm	Barium	ppm	ASTM D5185m		0		
Magnesium ppm ASTM D5185m 543 Calcium ppm ASTM D5185m 1501 Phosphorus ppm ASTM D5185m 696 Zinc ppm ASTM D5185m 856 Sulfur ppm ASTM D5185m 2404 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 25 7 Sodium ppm ASTM D5185m 2 Potassium ppm ASTM D5185m 20 7 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7624 >20 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 FLUID DEGRAD	Molybdenum	ppm	ASTM D5185m		40		
Calcium ppm ASTM D5185m 1501 Phosphorus ppm ASTM D5185m 696 Zinc ppm ASTM D5185m 856 Sulfur ppm ASTM D5185m 2404 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 2 Sodium ppm ASTM D5185m 2 Potassium ppm ASTM D5185m 20 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 Nitration Abs/cm *ASTM D7624 >20 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 FLUID DEGRA	Manganese	ppm	ASTM D5185m		<1		
Phosphorus ppm ASTM D5185m 696 Zinc ppm ASTM D5185m 856 Sulfur ppm ASTM D5185m 2404 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 Sodium ppm ASTM D5185m 2 Potassium ppm ASTM D5185m >20 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 Nitration Abs/cm *ASTM D7624 >20 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 FLUID DEGRADATION method limit/base current history1 history2<	Magnesium	ppm	ASTM D5185m		543		
Zinc	Calcium	ppm	ASTM D5185m		1501		
Sulfur ppm ASTM D5185m 2404 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 Sodium ppm ASTM D5185m 2 Potassium ppm ASTM D5185m >20 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 Nitration Abs/cm *ASTM D7624 >20 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.5	Phosphorus	ppm	ASTM D5185m		696		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 Sodium ppm ASTM D5185m 2 Potassium ppm ASTM D5185m >20 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 Nitration Abs/cm *ASTM D7624 >20 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.5	Zinc	ppm	ASTM D5185m		856		
Silicon ppm ASTM D5185m >25 7 Sodium ppm ASTM D5185m 2 Potassium ppm ASTM D5185m >20 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 Nitration Abs/cm *ASTM D7624 >20 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.5	Sulfur	ppm	ASTM D5185m		2404		
Sodium ppm ASTM D5185m 2 Potassium ppm ASTM D5185m >20 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 Nitration Abs/cm *ASTM D7624 >20 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.5	CONTAMINANTS	3		limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 Nitration Abs/cm *ASTM D7624 >20 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.5				>25			
INFRA-RED		ppm					
Soot % % *ASTM D7844 >3 0.7 Nitration Abs/cm *ASTM D7624 >20 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.5	Potassium	ppm	ASTM D5185m	>20	7		
Nitration Abs/cm *ASTM D7624 >20 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.5	INFRA-RED			limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 21.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.5	Soot %	%	*ASTM D7844	>3	0.7		
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.5	Nitration	Abs/cm	*ASTM D7624	>20	10.0		
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.0		
	FLUID DEGRADA	NOITA	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 8.0	Oxidation	Abs/.1mm	*ASTM D7414	>25	18.5		
	Base Number (BN)	mg KOH/g	ASTM D2896		8.0		



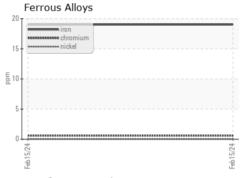
OIL ANALYSIS REPORT



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

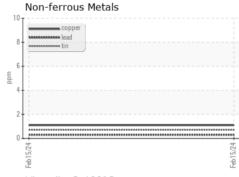
12.5

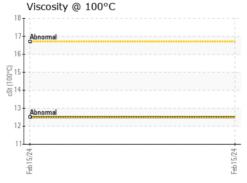
Visc @ 100°C
GRAPHS

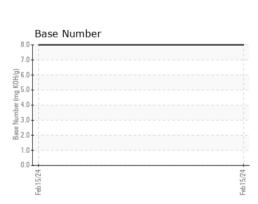


cSt

ASTM D445









Certificate L2367

Laboratory Sample No.

: IL0026013 Lab Number : 06097472 Unique Number : 10890325 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 22 Feb 2024

Tested Diagnosed

: 23 Feb 2024 : 23 Feb 2024 - Wes Davis **WIELAND IDEALEASE** 430 MIDLAND RD. BAY CITY, MI US 45601

Contact: BILL FLETCHER billfletcher@wielandtrucks.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)

Contact/Location: BILL FLETCHER - IDESAG

F: (989)790-7911