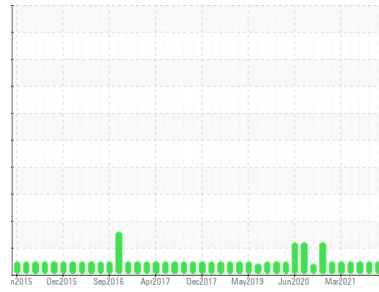




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**WESTERN STAR 505**  
 Component  
**Front Diesel Engine**  
 Fluid  
**SERVICE PRO 15W40 SYN BLEND (12 GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### 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
Sample Number	Client Info		<b>RW0005404</b>	RW0004773	RW0004767
Sample Date	Client Info		<b>05 Apr 2024</b>	12 Feb 2024	22 Dec 2023
Machine Age	mls	Client Info	<b>841261</b>	829327	816853
Oil Age	mls	Client Info	<b>11934</b>	10474	11787
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<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

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>165	<b>48</b>	51	54
Chromium	ppm	ASTM D5185m	>5	<b>2</b>	2	2
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	2	4
Lead	ppm	ASTM D5185m	>150	<b>7</b>	6	3
Copper	ppm	ASTM D5185m	>90	<b>0</b>	<1	1
Tin	ppm	ASTM D5185m	>5	<b>1</b>	1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		<b>9</b>	15	21
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>61</b>	52	46
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	1
Magnesium	ppm	ASTM D5185m		<b>906</b>	825	739
Calcium	ppm	ASTM D5185m		<b>1116</b>	1256	1365
Phosphorus	ppm	ASTM D5185m		<b>1029</b>	980	1004
Zinc	ppm	ASTM D5185m		<b>1228</b>	1242	1256
Sulfur	ppm	ASTM D5185m		<b>3301</b>	2831	3008

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>35	<b>4</b>	4	4
Sodium	ppm	ASTM D5185m		<b>4</b>	3	3
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	<1	2

## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>7.5	<b>3.3</b>	3.5	3.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.8</b>	11.1	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>25.5</b>	25.9	21.6

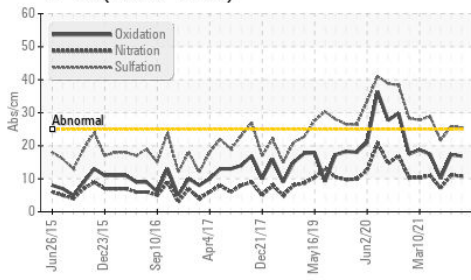
## FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.9</b>	17.3	10.1
Base Number (BN)	mg KOH/g	ASTM D2896		<b>8.93</b>	8.65	8.79

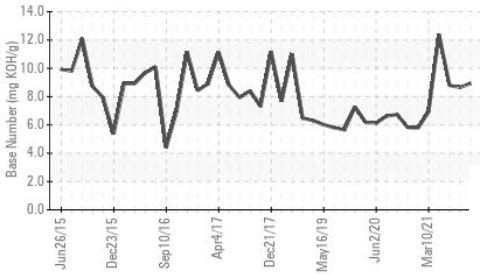


# OIL ANALYSIS REPORT

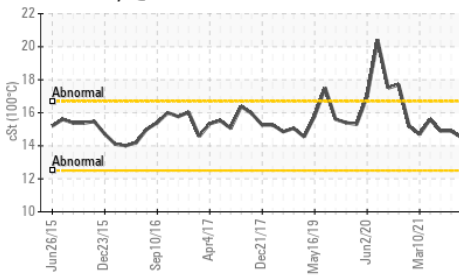
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

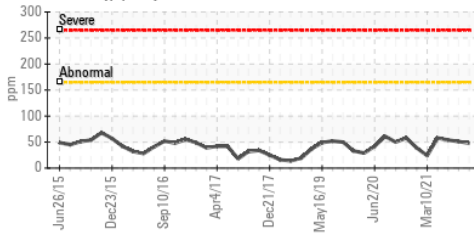


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

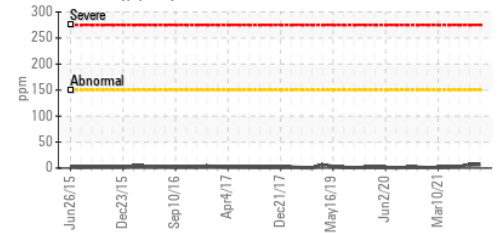
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.5	14.9	14.9

## GRAPHS

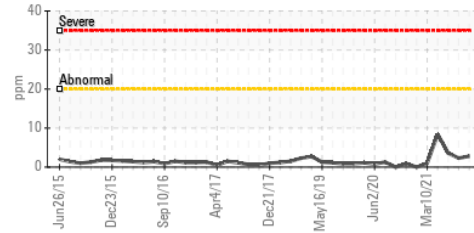
Iron (ppm)



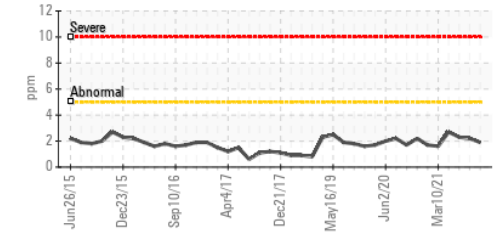
Lead (ppm)



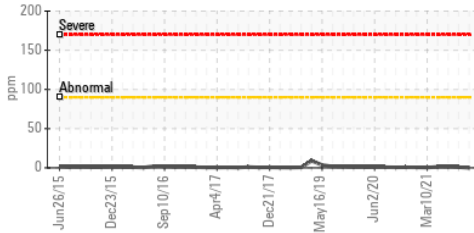
Aluminum (ppm)



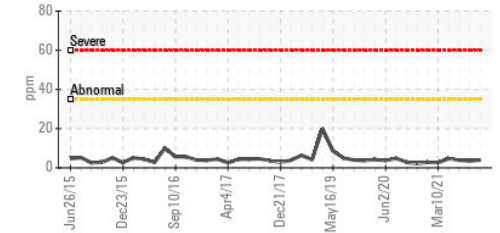
Chromium (ppm)



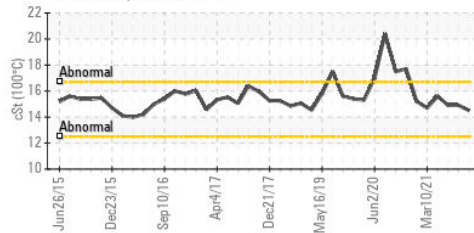
Copper (ppm)



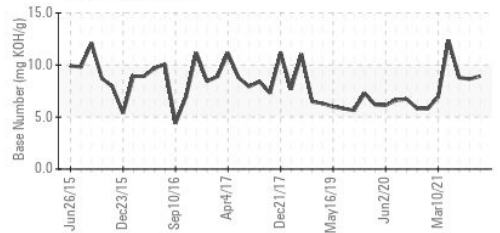
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : RW0005404

Lab Number : 06157103

Unique Number : 10992526

Test Package : MOB 2

Received : 22 Apr 2024

Tested : 23 Apr 2024

Diagnosed : 23 Apr 2024 - Wes Davis

MICHIGAN WOOD CARRIERS

P.O. BOX 337

VANDERBILT, MI

US 49795

Contact: STEVE WOLFE

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T: (989)983-2485

F: (989)983-9678

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)