



# OIL ANALYSIS REPORT

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

Machine Id  
**INTERNATIONAL 3520**  
 Component  
**Front Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 10W30 (44 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0916471</b>	WC0854006	WC0854054
Sample Date		Client Info		<b>22 Jun 2024</b>	21 Feb 2024	29 Nov 2023
Machine Age	mls	Client Info		<b>0</b>	370252	360089
Oil Age	mls	Client Info		<b>23621</b>	10163	15654
Filter Age	mls	Client Info		<b>23621</b>	10163	15654
Oil Changed		Client Info		<b>Changed</b>	N/A	Changed
Filter Changed		Client Info		<b>Changed</b>	N/A	Changed
Sample Status				<b>NORMAL</b>	ATTENTION	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>165	<b>35</b>	25	28
Chromium	ppm	ASTM D5185m	>5	<b>&lt;1</b>	1	1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	<1	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>13</b>	12	12
Lead	ppm	ASTM D5185m	>150	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m	>90	<b>2</b>	<1	<1
Tin	ppm	ASTM D5185m	>5	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	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.

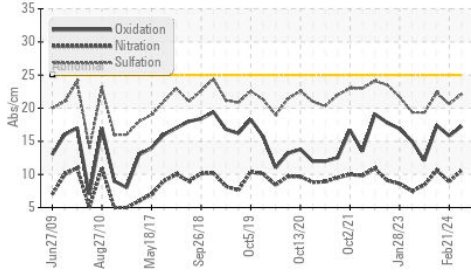
Silicon	ppm	ASTM D5185m	>35	<b>7</b>	5	5
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	4	6
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	0.5	0.4
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>7.5	<b>1.3</b>	1.1	1.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.6</b>	8.9	10.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.1</b>	20.6	22.3
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

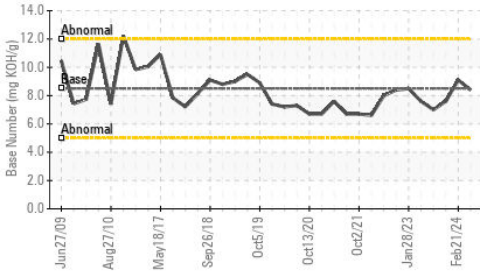
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>3</b>	2	1
Boron	ppm	ASTM D5185m	250	<b>27</b>	1	4
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>74</b>	66	56
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	450	<b>983</b>	1062	841
Calcium	ppm	ASTM D5185m	3000	<b>1169</b>	1206	1293
Phosphorus	ppm	ASTM D5185m	1150	<b>1124</b>	1206	1060
Zinc	ppm	ASTM D5185m	1350	<b>1333</b>	1378	1283
Sulfur	ppm	ASTM D5185m	4250	<b>3562</b>	3586	3315
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.3</b>	15.8	17.4
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>8.4</b>	9.1	7.6
Visc @ 100°C	cSt	ASTM D445	10.9	<b>11.6</b>	11.5	12.1

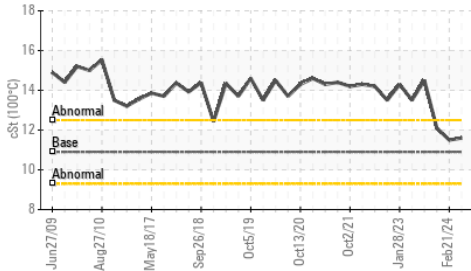
**FT-IR (Direct Trend)**



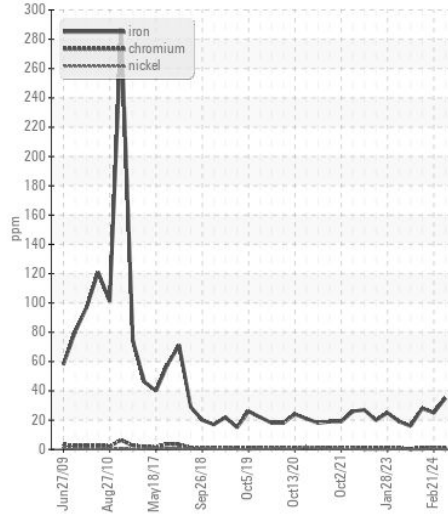
**Base Number**



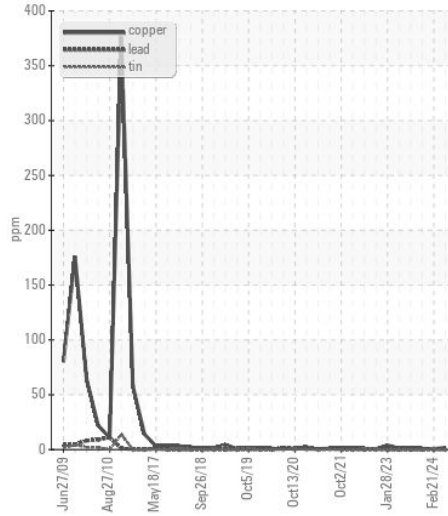
**Viscosity @ 100°C**



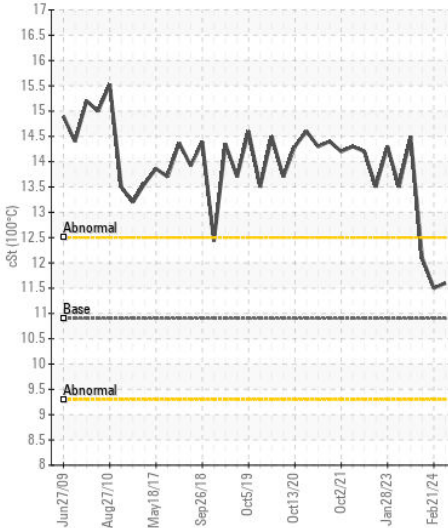
**Ferrous Alloys**



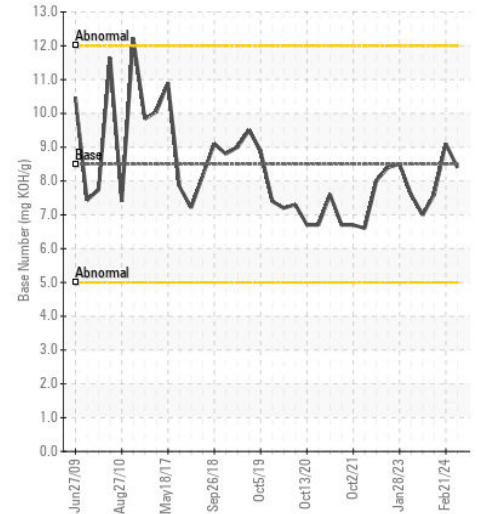
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

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

**Sample No.** : WC0916471

**Lab Number** : 06235332

**Unique Number** : 11124166

**Test Package** : FLEET

**Received** : 15 Jul 2024

**Tested** : 15 Jul 2024

**Diagnosed** : 15 Jul 2024 - Wes Davis

**CARCO TRANSPORTATION**

3403 EAST ROOSEVELT ROAD

LITTLE ROCK, AR

US 72206

Contact: DENNIS CATES

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T: (800)967-0777

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)