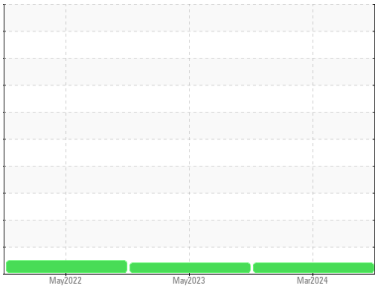
OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY

Machine Id
W/C DES PGN-28-RACES TRUCK-FLEET #501120 G100142217
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil.

Fluid Condition
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0878241**	WC0799854	WC0651389
Sample Date		Client Info		**09 Mar 2024**	14 May 2023	27 May 2022
Machine Age	hrs	Client Info		**675**	0	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	N/A	N/A
Sample Status				**ATTENTION**	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**<1**	4	3
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**0**	<1	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>20	**2**	2	1
Lead	ppm	ASTM D5185m	>40	**<1**	0	1
Copper	ppm	ASTM D5185m	>330	**<1**	6	6
Tin	ppm	ASTM D5185m	>15	**<1**	2	0
Vanadium	ppm	ASTM D5185m		**0**	<1	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	**84**	91	205
Barium	ppm	ASTM D5185m	10	**0**	0	0
Molybdenum	ppm	ASTM D5185m	100	**152**	47	50
Manganese	ppm	ASTM D5185m		**0**	<1	<1
Magnesium	ppm	ASTM D5185m	450	**545**	405	31
Calcium	ppm	ASTM D5185m	3000	**1337**	1922	2017
Phosphorus	ppm	ASTM D5185m	1150	**684**	858	659
Zinc	ppm	ASTM D5185m	1350	**836**	1149	837
Sulfur	ppm	ASTM D5185m	4250	**2260**	4444	3809

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**7**	4	6
Sodium	ppm	ASTM D5185m	>158	**0**	2	9
Potassium	ppm	ASTM D5185m	>20	**<1**	2	<1
Fuel	%	ASTM D3524	>5	**0.0**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0**	0	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**6.0**	5.8	6.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	**14.6**	16.6	16.5

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**9.0**	11.9	11.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**6.8**	7.9	6.9

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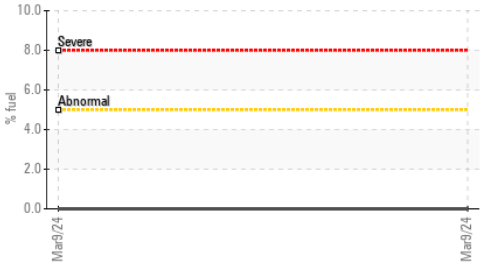
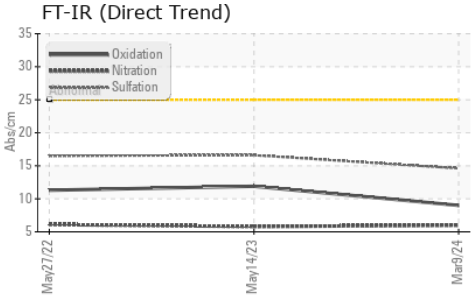
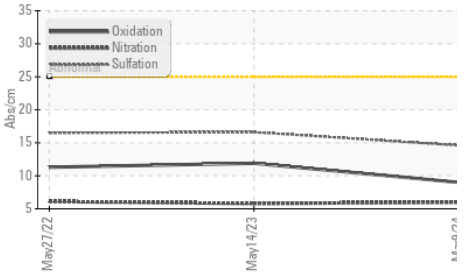
Fuel Dilution



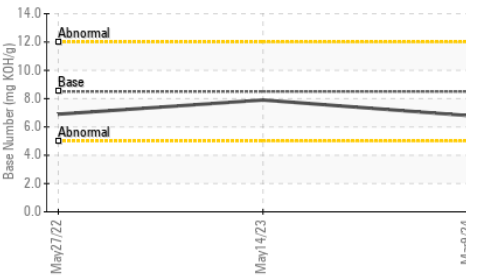
FT-IR (Direct Trend)



FT-IR (Direct Trend)



Base Number

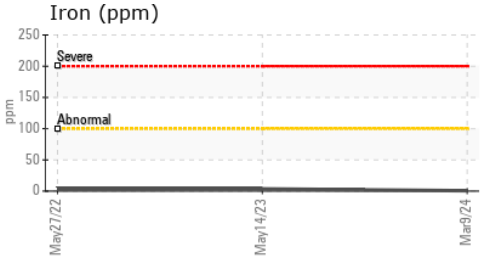


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	▲ MODER	NONE
Sand/Dirt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

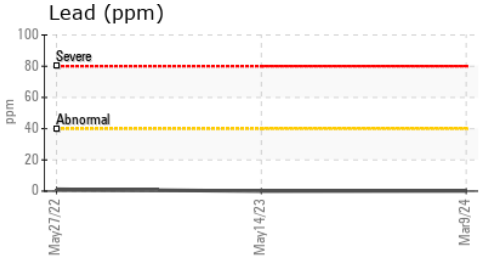
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	● **11.0**	14.0	11.4

GRAPHS

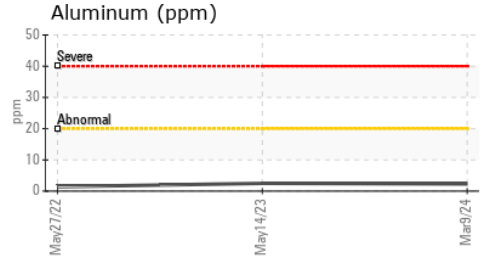
Iron (ppm)



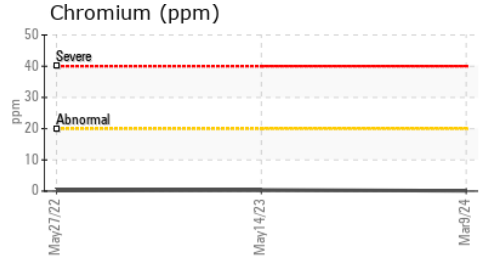
Lead (ppm)



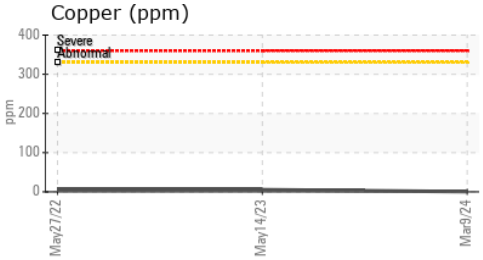
Aluminum (ppm)



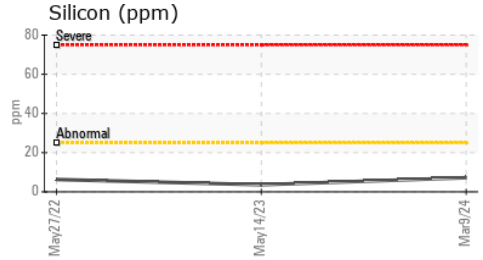
Chromium (ppm)



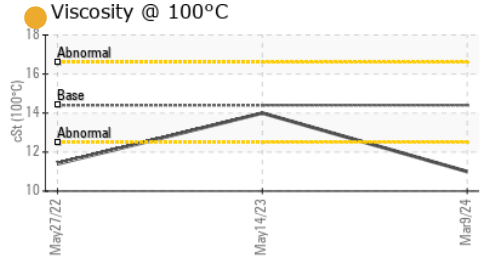
Copper (ppm)



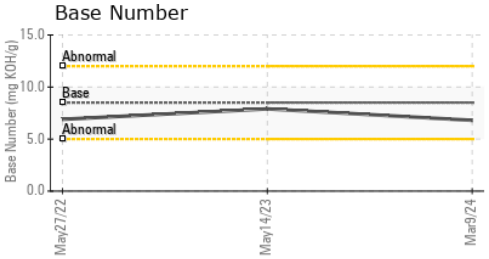
Silicon (ppm)



● Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0878241 **Received** : 17 Apr 2024
Lab Number : 06151476 **Tested** : 22 Apr 2024
Unique Number : 10981554 **Diagnosed** : 22 Apr 2024 - Sean Felton
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, TBN)

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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