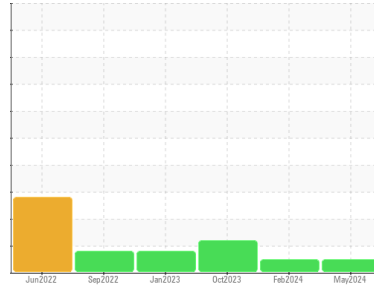




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
FREIGHTLINER 2200
 Component
Diesel Engine
 Fluid
ROYAL PURPLE MOTOR OIL 15W40 (--- QTS)

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		WC0720101	WC0720050	WC0720183
Sample Date	Client Info		09 May 2024	08 Feb 2024	03 Oct 2023
Machine Age	mls	Client Info	393365	347207	290305
Oil Age	mls	Client Info	100000	50000	100000
Oil Changed	Client Info		Changed	Not Changd	Changed
Sample Status			NORMAL	NORMAL	ATTENTION

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
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	>200	81	49	74
Chromium	ppm	ASTM D5185m	>6	2	1	2
Nickel	ppm	ASTM D5185m	>3	1	<1	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>50	11	9	13
Lead	ppm	ASTM D5185m	>10	0	0	0
Copper	ppm	ASTM D5185m	>50	13	9	22
Tin	ppm	ASTM D5185m	>6	1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	<1	0	4
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	100	7	8	49
Manganese	ppm	ASTM D5185m		2	<1	<1
Magnesium	ppm	ASTM D5185m	60	126	132	735
Calcium	ppm	ASTM D5185m	3050	2575	2604	1592
Phosphorus	ppm	ASTM D5185m	1050	1070	1037	968
Zinc	ppm	ASTM D5185m	1200	1236	1232	1262
Sulfur	ppm	ASTM D5185m	12500	3944	3634	2530

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>50	12	10	12
Sodium	ppm	ASTM D5185m		4	2	4
Potassium	ppm	ASTM D5185m	>20	20	12	23

INFRA-RED

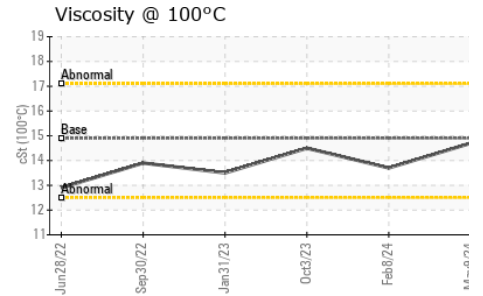
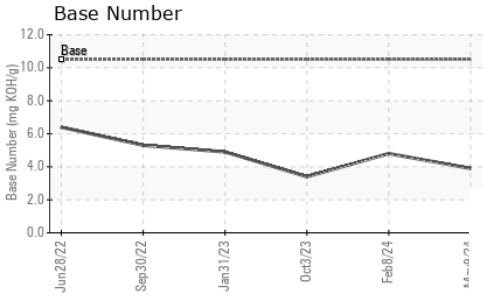
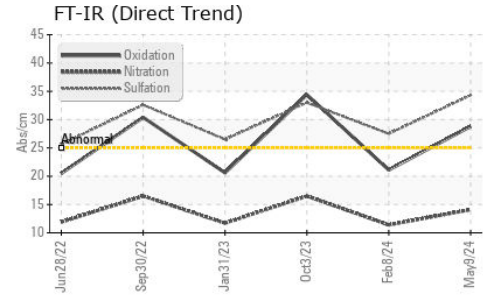
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	2.2	1.5	2.4
Nitration	Abs/cm	*ASTM D7624	>20	14.1	11.4	16.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	34.3	27.5	33.0

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	28.8	21.1	34.4
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	3.9	4.8	3.4



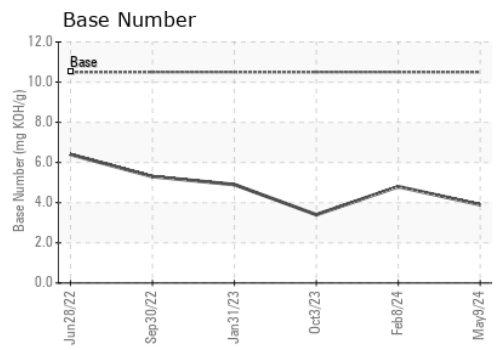
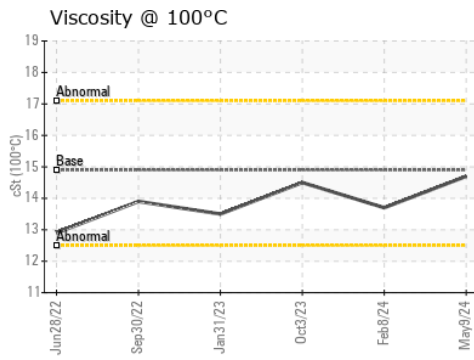
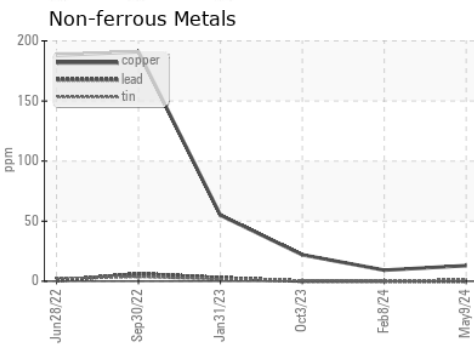
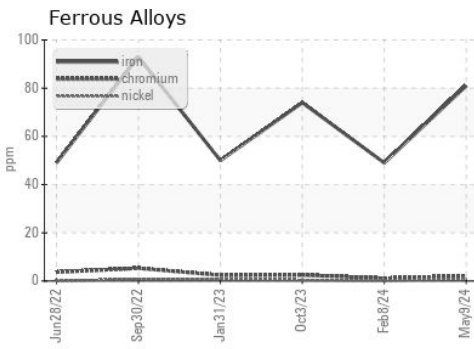
OIL ANALYSIS REPORT



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	14.9	14.7	13.7	14.5

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0720101 **Received** : 18 Jun 2024
Lab Number : 06213295 **Tested** : 19 Jun 2024
Unique Number : 11086159 **Diagnosed** : 20 Jun 2024 - Sean Felton
Test Package : FLEET

DILLON TRANSPORTATION
 974 TN WALTZ PARKWAY
 ASHLAND CITY, TN 37015
 Contact: MASON NICHOLSON
 M.NICHOLSON@DILLONTRANSPORTATION.COM
 T: (615)792-5099
 F: (615)469-4200

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)