WEAR CONTAMINATION **FLUID CONDITION**

NORMAL ATTENTION ATTENTION

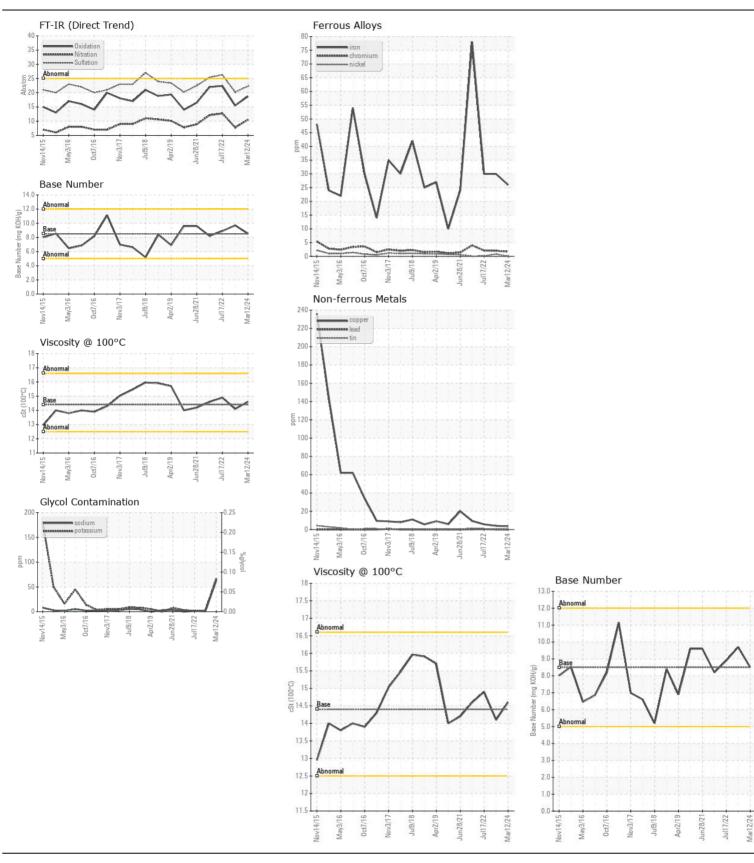
Machine Id

FREIGHTLINER 55284

Component

Diesel Engine

Diesel Engine Fluid DIESEL ENGINE OIL SAE 15W40 (QTS)							
RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
	Sample Number		Client Info		WC0912555	WC0698673	WC0698643
Check for low coolant level. We advise that you check for the source of the coolant leak. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.	Sample Date		Client Info		12 Mar 2024	13 Jan 2023	17 Jul 2022
	Machine Age	mls	Client Info		583925	525892	520714
	Oil Age	mls	Client Info		0	0	25000
	Filter Age	mls	Client Info		0	0	25000
	Oil Changed		Client Info		Changed	N/A	Changed
	Filter Changed		Client Info		Changed	N/A	Changed
	Sample Status				ATTENTION	NORMAL	NORMAL
WEAR	Iron	ppm	ASTM D5185m	>65	26	30	30
	Chromium	ppm	ASTM D5185m	>5	2	2	2
All component wear rates are normal.	Nickel	ppm	ASTM D5185m		0	<1	<1
	Titanium	ppm	ASTM D5185m	>5	<1	<1	0
	Silver	ppm	ASTM D5185m	>2	<1	0	<1
	Aluminum	ppm	ASTM D5185m		11	12	18
	Lead	ppm	ASTM D5185m	>10	0	0	<1
	Copper	ppm	ASTM D5185m	>180	3	4	6
	Tin	ppm	ASTM D5185m	>8	<1	0	<1
	Vanadium	ppm	ASTM D5185m		<1	0	0
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
CONTAMINATION	Silicon	ppm	ASTM D5185m	>15	4	6	6
CONTAMINATION	Potassium	ppm	ASTM D5185m		<u>66</u>	2	1
Sodium and/or potassium levels are high.	Fuel	PP	WC Method		<1.0	<1.0	<1.0
	Water		WC Method		NEG	NEG	NEG
	Glycol	%	*ASTM D2982		NEG	NEG	NEG
	Soot %	%	*ASTM D7844	>3	0.8	0.5	1
	Nitration	Abs/cm		>20	10.5	7.8	12.7
	Sulfation	Abs/.1mm	*ASTM D7415	>30	22.3	20.2	26.3
	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
	Debris	scalar	*Visual	NONE	NONE	NONE	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
FLUID CONDITION	Sodium	ppm	ASTM D5185m	>158	63	<1	1
	Boron	ppm	ASTM D5185m	250	0	4	8
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.	Barium	ppm	ASTM D5185m	10	0	0	0
	Molybdenum	ppm	ASTM D5185m	100	68	69	69
	Manganese	ppm	ASTM D5185m		<1	<1	<1
	Magnesium	ppm	ASTM D5185m	450	1082	1077	1027
	Calcium	ppm	ASTM D5185m	3000	1177	1279	1229
	Phosphorus	ppm	ASTM D5185m	1150	1122	1140	1095
	Zinc	ppm	ASTM D5185m	1350	1343	1418	1355
	Sulfur	ppm	ASTM D5185m	4250	3691	4073	3553
	Oxidation	Abs/.1mm	*ASTM D7414		18.7	15.5	22.4
	Base Number (BN)				8.5	9.7	8.9
	Visc @ 100°C	cSt	ASTM D445	14.4	14.6	14.1	14.9







Certificate L2367

Laboratory Sample No.

Lab Number : 06191546

: WC0912555

Unique Number: 11048298 Test Package: FLEET (Additional Tests: Glycol)

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 24 May 2024 **Tested**

Diagnosed

: 30 May 2024 : 30 May 2024 - Sean Felton

198 PARK PLAZA DRIVE

WINSTON SALEM, NC US 27105

SALEM NATIONALEASE CORPORATION

Contact: Audrey Hopkins Audrey.Hopkins@salemcorp.com T: (336)767-9642

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)

F: x:

Contact/Location: Audrey Hopkins - SALWIN