



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Area
5C07
Machine Id
FREIGHTLINER M2 106 MEDIUM DUTY RTK3076 (S/N 3ALHCYCY7GDHK3220)
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		ARI0007594	---	---
Sample Date		Client Info		18 Jan 2024	---	---
Machine Age	mls	Client Info		226642	---	---
Oil Age	mls	Client Info		0	---	---
Filter Age	mls	Client Info		0	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ATTENTION	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	19	---	---
Chromium	ppm	ASTM D5185m	>5	<1	---	---
Nickel	ppm	ASTM D5185m	>2	<1	---	---
Titanium	ppm	ASTM D5185m		0	---	---
Silver	ppm	ASTM D5185m	>3	<1	---	---
Aluminum	ppm	ASTM D5185m	>30	4	---	---
Lead	ppm	ASTM D5185m	>30	<1	---	---
Copper	ppm	ASTM D5185m	>150	<1	---	---
Tin	ppm	ASTM D5185m	>5	<1	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

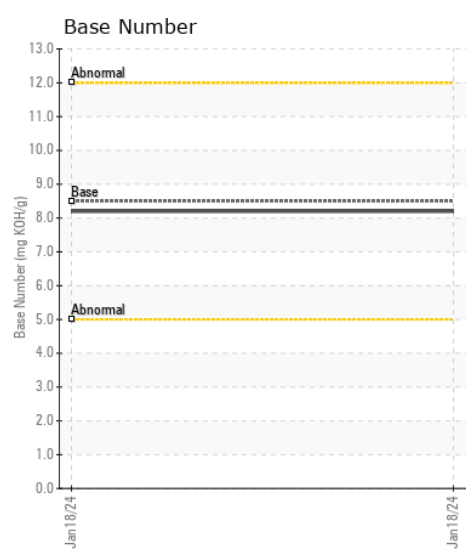
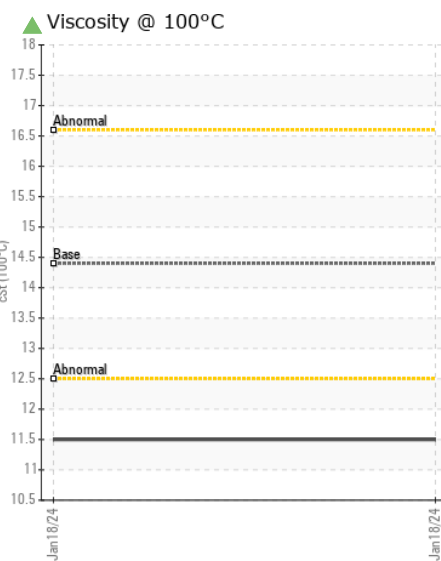
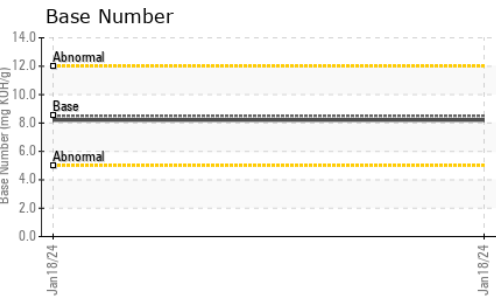
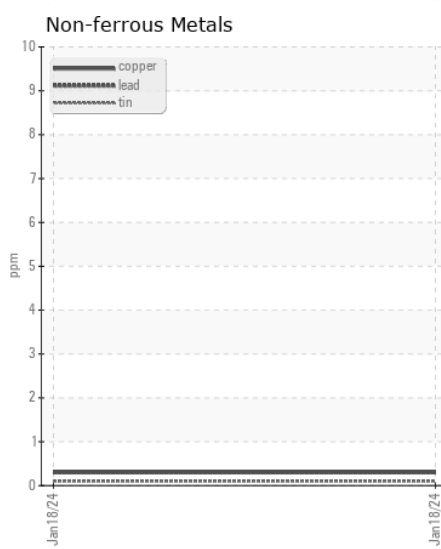
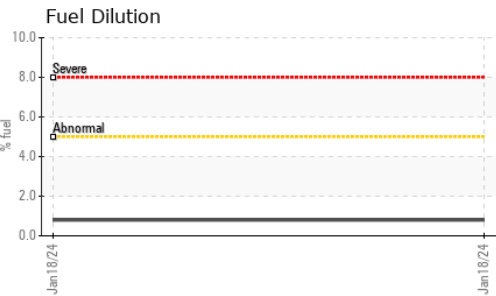
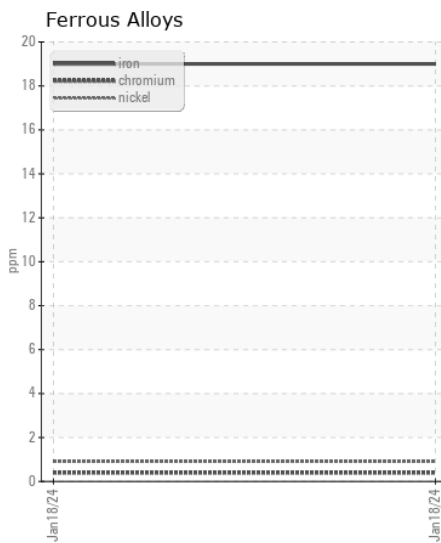
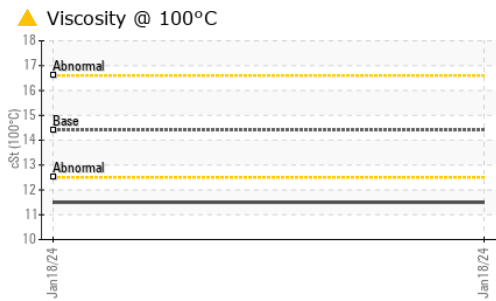
Fuel content negligible. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	5	---	---
Potassium	ppm	ASTM D5185m	>20	2	---	---
Fuel	%	ASTM D3524	>5	0.8	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	1.2	---	---
Nitration	Abs/cm	*ASTM D7624	>20	8.1	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.5	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---	---

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.

Sodium	ppm	ASTM D5185m	>158	3	---	---
Boron	ppm	ASTM D5185m	250	31	---	---
Barium	ppm	ASTM D5185m	10	0	---	---
Molybdenum	ppm	ASTM D5185m	100	32	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m	450	154	---	---
Calcium	ppm	ASTM D5185m	3000	2087	---	---
Phosphorus	ppm	ASTM D5185m	1150	939	---	---
Zinc	ppm	ASTM D5185m	1350	1154	---	---
Sulfur	ppm	ASTM D5185m	4250	3319	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	11.6	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.2	---	---
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 11.5	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ARI0007594 **Received** : 30 Jan 2024
Lab Number : 06074399 **Diagnosed** : 02 Feb 2024
Unique Number : 10856490 **Diagnostician** : Jonathan Hester
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

INSITUFORM TECHNOLOGIES, INC
 17988 EDISON AVE.
 CHESTERFIELD, MO
 US 63005
 Contact: WILLIAM COWELL
 WCOWELL@INSITUFORM.COM
 T: (317)450-3774
 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)