



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id  
**FREIGHTLINER 2461**

Component  
**Hydraulic System**

Fluid  
**PROGARD ARCTIC AW 15 (40 GAL)**

**RECOMMENDATION**

No corrective action is recommended at this time. The 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		<b>RW0004932</b>	RW0004672	RW0003142
Sample Date		Client Info		<b>12 Feb 2024</b>	12 Sep 2023	06 May 2022
Machine Age	hrs	Client Info		<b>9162</b>	9140	8555
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	ABNORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	1
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Aluminum	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185m	>10	<b>1</b>	<1	1
Copper	ppm	ASTM D5185m	>75	<b>6</b>	7	6
Tin	ppm	ASTM D5185m	>10	<b>1</b>	<1	<1
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**

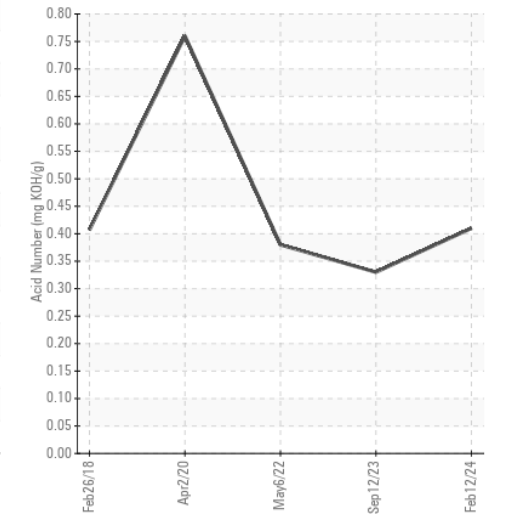
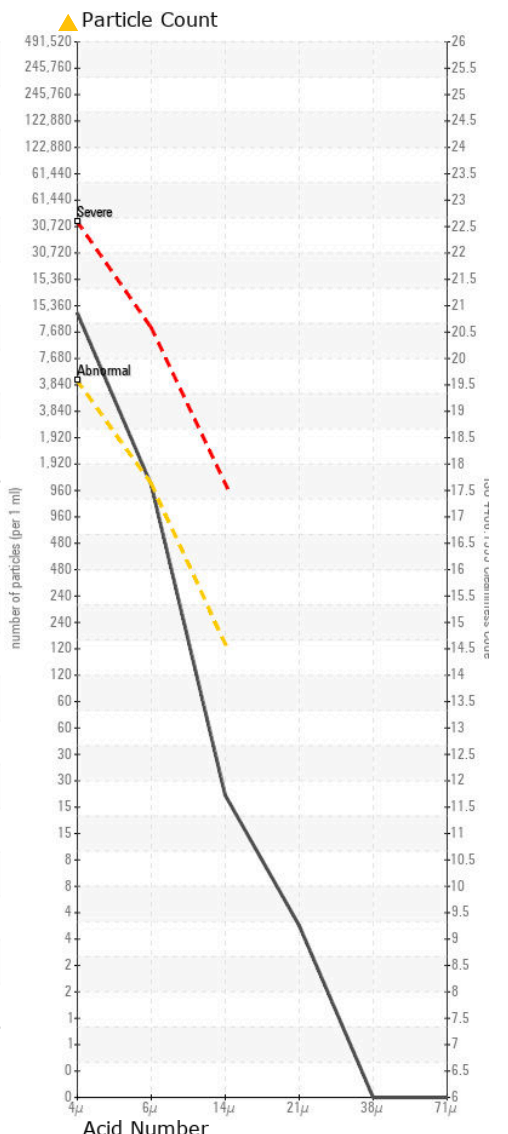
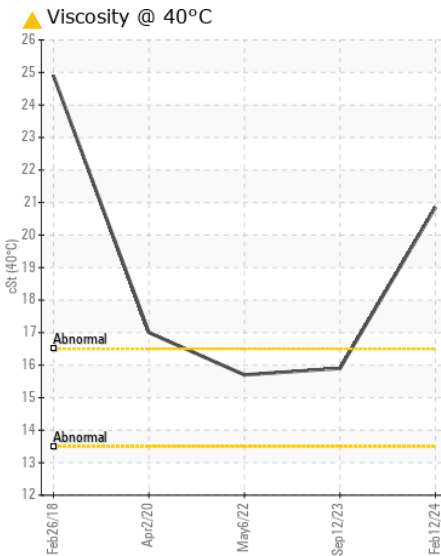
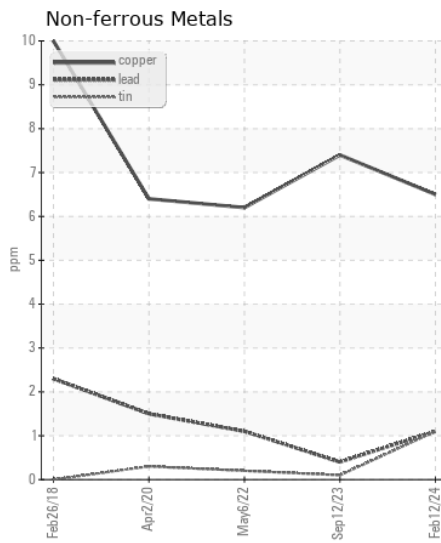
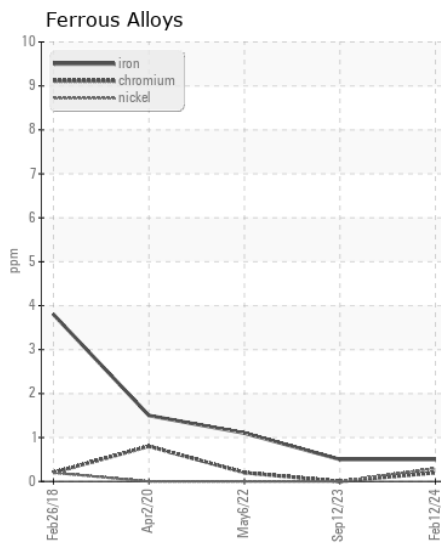
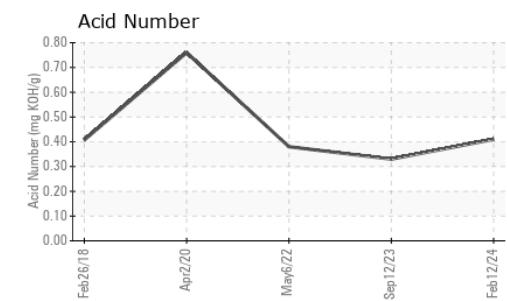
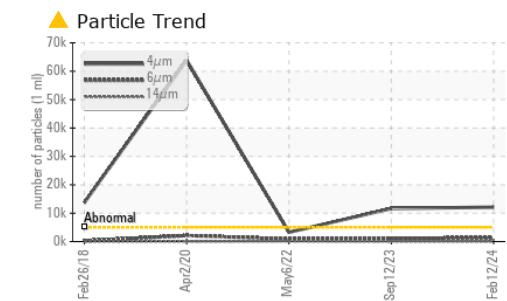
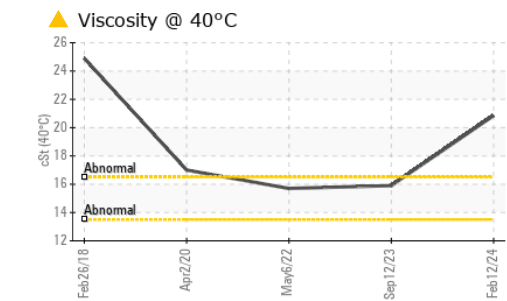
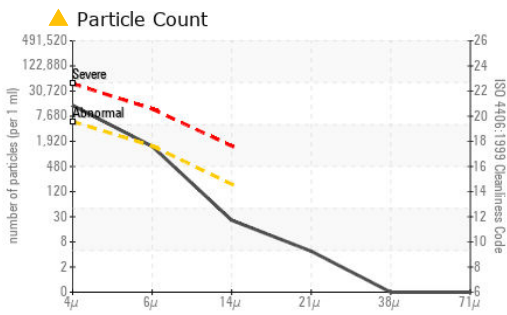
There is a high amount of silt (particulates < 6 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>1</b>	<1	<1
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>5000	<b>▲ 12118</b>	▲ 11652	3262
Particles >6µm		ASTM D7647	>1300	<b>1277</b>	1190	904
Particles >14µm		ASTM D7647	>160	<b>22</b>	44	99
Particles >21µm		ASTM D7647	>40	<b>4</b>	11	20
Particles >38µm		ASTM D7647	>10	<b>0</b>	0	2
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>▲ 21/17/12</b>	▲ 21/17/13	19/17/14
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	>0.1	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

The oil viscosity is higher than normal. The AN level is acceptable for this fluid.

Sodium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Boron	ppm	ASTM D5185m		<b>2</b>	0	6
Barium	ppm	ASTM D5185m		<b>5</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>3</b>	<1	<1
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>21</b>	0	5
Calcium	ppm	ASTM D5185m		<b>92</b>	65	93
Phosphorus	ppm	ASTM D5185m		<b>306</b>	332	352
Zinc	ppm	ASTM D5185m		<b>436</b>	387	370
Sulfur	ppm	ASTM D5185m		<b>930</b>	858	1013
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.41</b>	0.33	0.38
Visc @ 40°C	cSt	ASTM D445		<b>▲ 20.85</b>	15.9	15.7



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RW0004932  
**Lab Number** : 06098355  
**Unique Number** : 10896585  
**Test Package** : MOB 2  
**Received** : 23 Feb 2024  
**Tested** : 29 Feb 2024  
**Diagnosed** : 29 Feb 2024 - Jonathan Hester

**NEWKIRK ELECTRIC**  
 1875 ROBERTS ST.  
 MUSKEGON, MI  
 US 49442  
 Contact: ERIC KING  
 ewking@newkirk-electric.com  
 T: (231)206-6131  
 F: (231)724-4090

Certificate L2367  
 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)