OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
44950
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- QTS)

RECOMMENDATION

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

WEAR

All component wear rates are normal.

CONTAMINATION

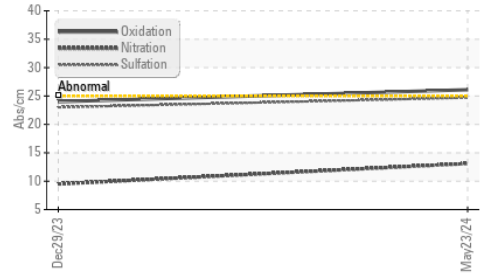
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

FLUID CONDITION

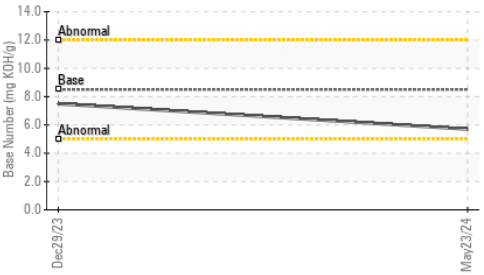
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**WC0829751**	WC0829958	---
Sample Date		Client Info		**23 May 2024**	29 Dec 2023	---
Machine Age	mls	Client Info		**88646**	18337	---
Oil Age	mls	Client Info		**0**	0	---
Filter Age	mls	Client Info		**0**	0	---
Oil Changed		Client Info		**Changed**	Changed	---
Filter Changed		Client Info		**Changed**	Changed	---
Sample Status				**NORMAL**	ATTENTION	---
Iron	ppm	ASTM D5185m	>100	**88**	53	---
Chromium	ppm	ASTM D5185m	>20	**5**	5	---
Nickel	ppm	ASTM D5185m	>4	**<1**	1	---
Titanium	ppm	ASTM D5185m		**2**	0	---
Silver	ppm	ASTM D5185m	>3	**<1**	0	---
Aluminum	ppm	ASTM D5185m	>20	**62**	94	---
Lead	ppm	ASTM D5185m	>40	**0**	2	---
Copper	ppm	ASTM D5185m	>330	**224**	119	---
Tin	ppm	ASTM D5185m	>15	**2**	4	---
Vanadium	ppm	ASTM D5185m		**<1**	<1	---
White Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Silicon	ppm	ASTM D5185m	>25	**14**	8	---
Potassium	ppm	ASTM D5185m	>20	**125**	201	---
Fuel		WC Method	>5	**<1.0**	0.1	---
Water		WC Method	>0.2	**NEG**	NEG	---
Glycol		WC Method		**NEG**	NEG	---
Soot %	%	*ASTM D7844	>3	**0.7**	0.4	---
Nitration	Abs/cm	*ASTM D7624	>20	**13.1**	9.5	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.7**	23.0	---
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	---
Sodium	ppm	ASTM D5185m	>158	**5**	6	---
Boron	ppm	ASTM D5185m	250	**36**	25	---
Barium	ppm	ASTM D5185m	10	**0**	0	---
Molybdenum	ppm	ASTM D5185m	100	**106**	39	---
Manganese	ppm	ASTM D5185m		**3**	4	---
Magnesium	ppm	ASTM D5185m	450	**772**	537	---
Calcium	ppm	ASTM D5185m	3000	**1744**	1614	---
Phosphorus	ppm	ASTM D5185m	1150	**764**	677	---
Zinc	ppm	ASTM D5185m	1350	**927**	817	---
Sulfur	ppm	ASTM D5185m	4250	**2476**	1850	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	**26.1**	24.0	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**5.7**	7.5	---
Visc @ 100°C	cSt	ASTM D445	14.4	**13.4**	9.8	---

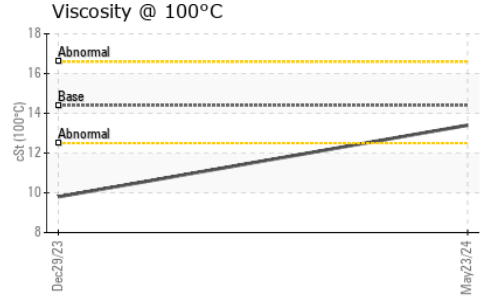
FT-IR (Direct Trend)



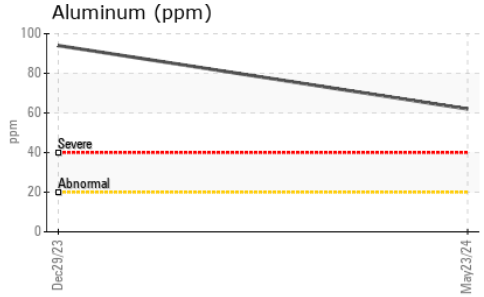
Base Number



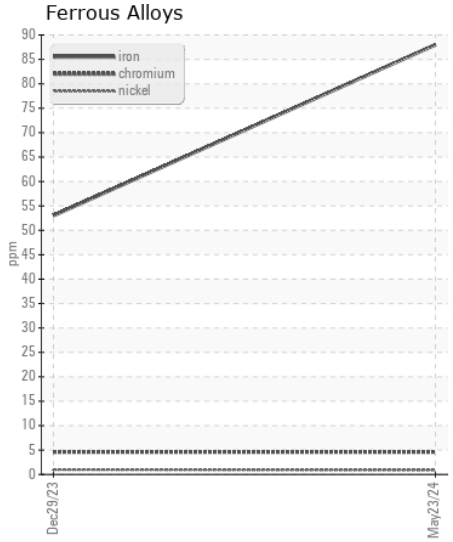
Viscosity @ 100°C



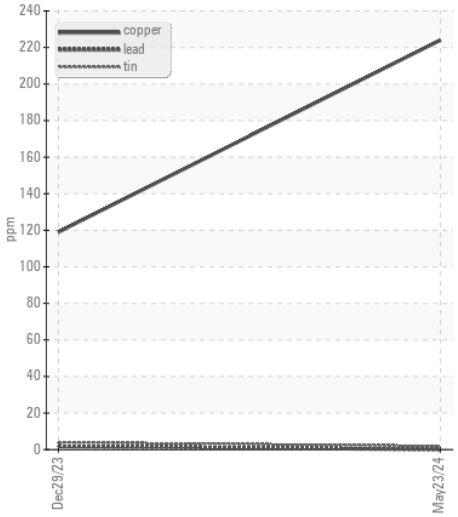
Aluminum (ppm)



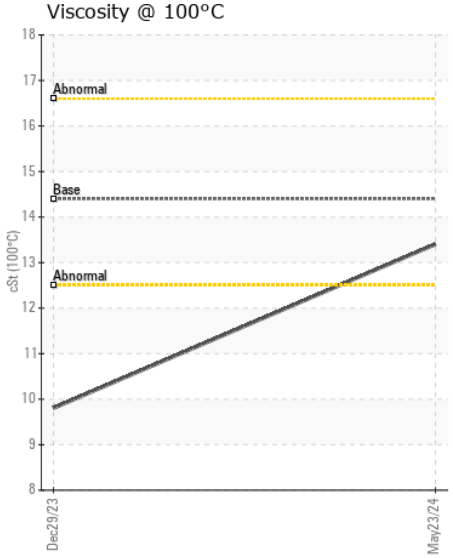
Ferrous Alloys



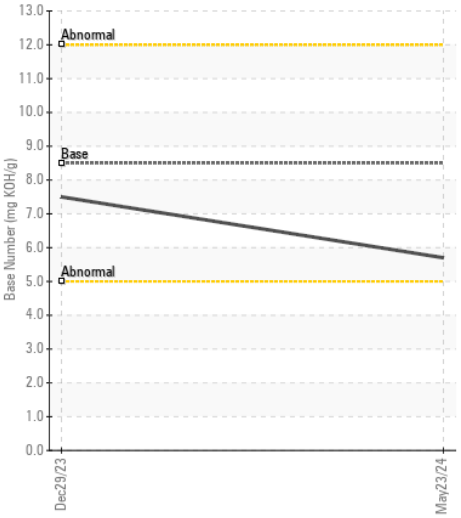
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0829751
Lab Number : 06217533
Unique Number : 11090397
Test Package : FLEET

Received : 21 Jun 2024
Tested : 25 Jun 2024
Diagnosed : 25 Jun 2024 - Sean Felton

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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