OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
IOWA COLONY E-2101
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

WEAR

All component wear rates are normal.

CONTAMINATION

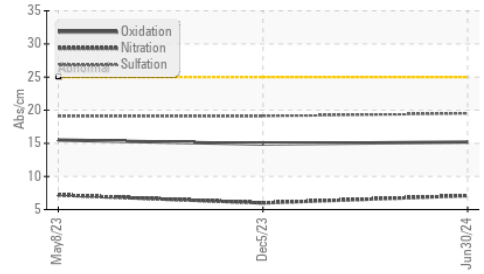
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

FLUID CONDITION

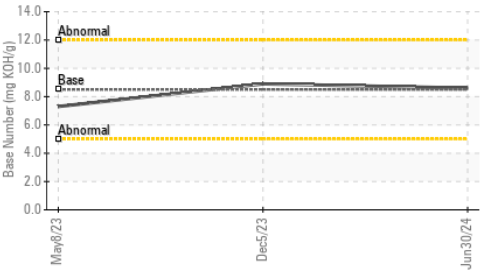
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0941922	WC0710299	WC0792369
Sample Date		Client Info		30 Jun 2024	05 Dec 2023	08 May 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	16	11	30
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	6
Silver	ppm	ASTM D5185m	>3	1	<1	2
Aluminum	ppm	ASTM D5185m	>20	5	4	5
Lead	ppm	ASTM D5185m	>40	<1	0	1
Copper	ppm	ASTM D5185m	>330	4	4	12
Tin	ppm	ASTM D5185m	>15	<1	0	1
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	5	5	10
Potassium	ppm	ASTM D5185m	>20	12	14	18
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	7.1	6.0	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.5	19.1	19.1
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
Sodium	ppm	ASTM D5185m	>216	1	0	3
Boron	ppm	ASTM D5185m	250	107	141	246
Barium	ppm	ASTM D5185m	10	0	2	0
Molybdenum	ppm	ASTM D5185m	100	58	59	66
Manganese	ppm	ASTM D5185m		1	0	2
Magnesium	ppm	ASTM D5185m	450	402	358	429
Calcium	ppm	ASTM D5185m	3000	1906	1644	1569
Phosphorus	ppm	ASTM D5185m	1150	1085	904	1068
Zinc	ppm	ASTM D5185m	1350	1321	1132	1298
Sulfur	ppm	ASTM D5185m	4250	4222	3645	4237
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.2	14.9	15.5
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.6	8.9	7.3
Visc @ 100°C	cSt	ASTM D445	14.4	13.2	13.3	13.6

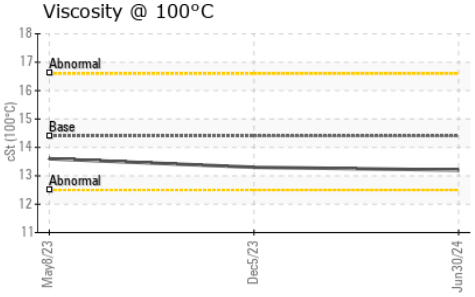
FT-IR (Direct Trend)



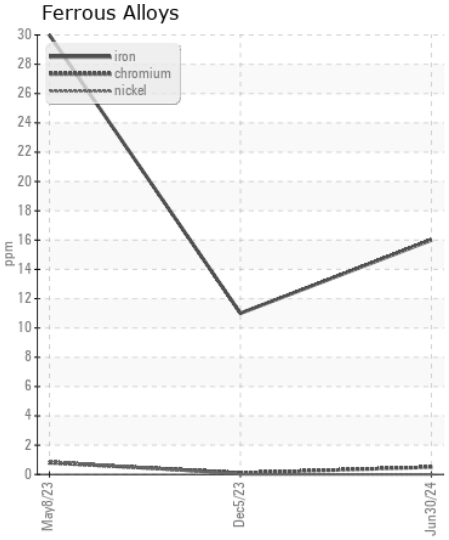
Base Number



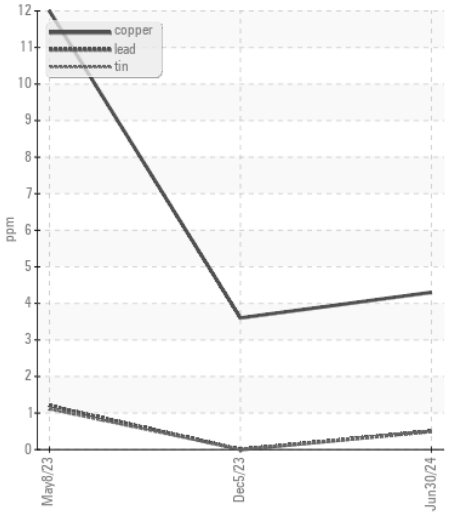
Viscosity @ 100°C



Ferrous Alloys



Non-ferrous Metals



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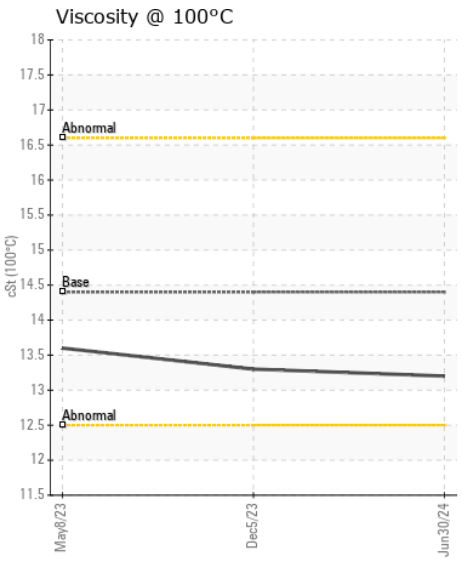

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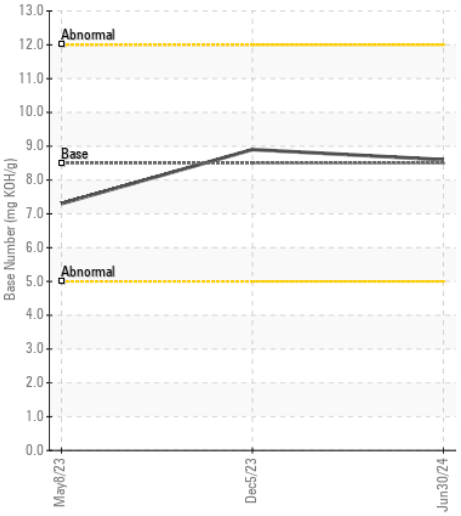

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0941922
Lab Number : 06224283
Unique Number : 11102480
Test Package : CONST (Additional Tests: TBN)

Received : 01 Jul 2024
Tested : 02 Jul 2024
Diagnosed : 02 Jul 2024 - Wes Davis

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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