OIL ANALYSIS REPORT

WEAR	ATTENTION
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
CUMMINS 8465182
Component
Diesel Engine
Fluid
MOBIL DELVAC 1300 SUPER 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the fuel injection system. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

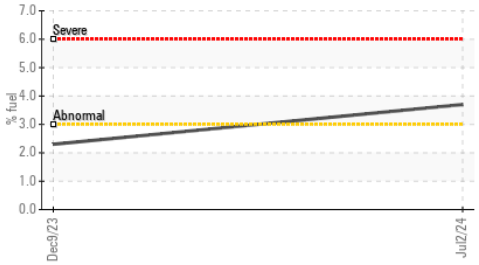
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Elemental level of silicon (Si) above normal indicating ingress of seal material. There is a moderate amount of fuel present in the oil.

FLUID CONDITION

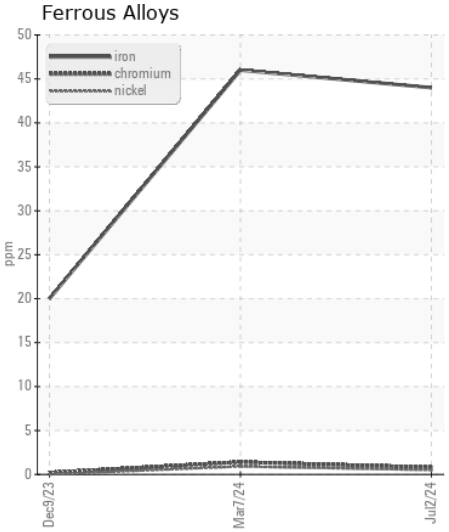
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		RPL0021886	RPL0019445	RPL0016821
Sample Date		Client Info		02 Jul 2024	07 Mar 2024	09 Dec 2023
Machine Age	mls	Client Info		0	11865	6237
Oil Age	mls	Client Info		0	11865	6237
Filter Age	mls	Client Info		0	11865	0
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Filter Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>90	44	46	20
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	● 15	21	6
Lead	ppm	ASTM D5185m	>40	3	3	<1
Copper	ppm	ASTM D5185m	>330	30	41	17
Tin	ppm	ASTM D5185m	>15	3	4	2
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	▲ 40	57	▲ 35
Potassium	ppm	ASTM D5185m	>20	▲ 66	▲ 85	21
Fuel	%	ASTM D3524	>3.0	▲ 3.7	<1.0	▲ 2.3
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.5	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	9.5	9.1	7.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.4	19.2	18.4
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		5	7	3
Boron	ppm	ASTM D5185m	0	33	77	73
Barium	ppm	ASTM D5185m	0	0	6	<1
Molybdenum	ppm	ASTM D5185m	0	13	19	11
Manganese	ppm	ASTM D5185m		6	8	5
Magnesium	ppm	ASTM D5185m	0	728	1022	730
Calcium	ppm	ASTM D5185m		1267	1747	1196
Phosphorus	ppm	ASTM D5185m		721	1022	665
Zinc	ppm	ASTM D5185m		874	1221	838
Sulfur	ppm	ASTM D5185m		3252	4355	2710
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.5	15.3	13.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.4	6.8	6.6	8.5
Visc @ 100°C	cSt	ASTM D445	14	▲ 10.7	● 10.6	11.1

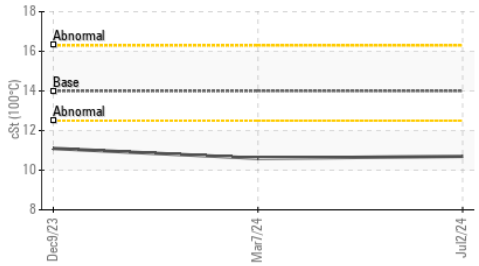
Fuel Dilution



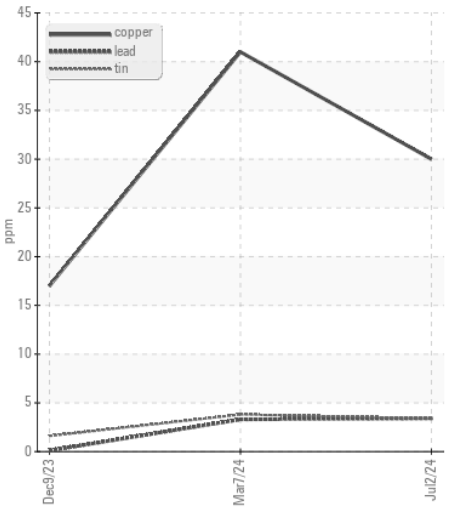
Ferrous Alloys



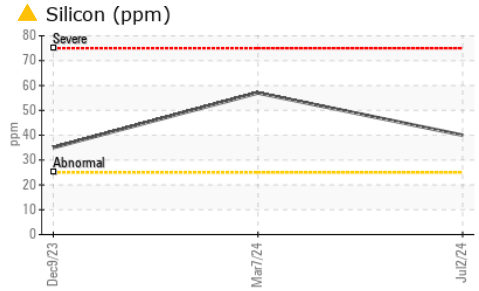
Viscosity @ 100°C



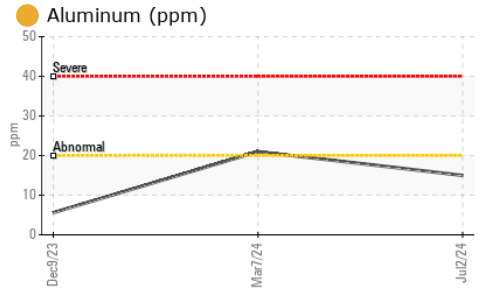
Non-ferrous Metals



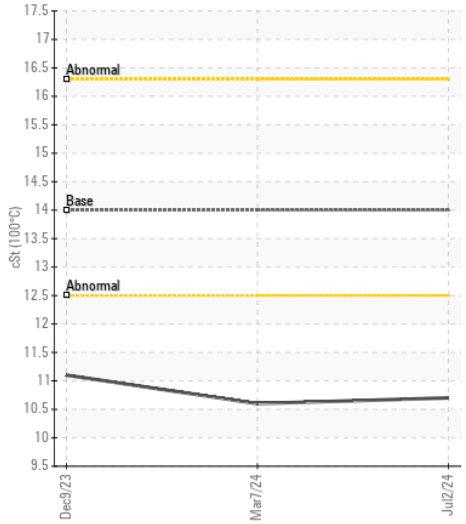
Silicon (ppm)



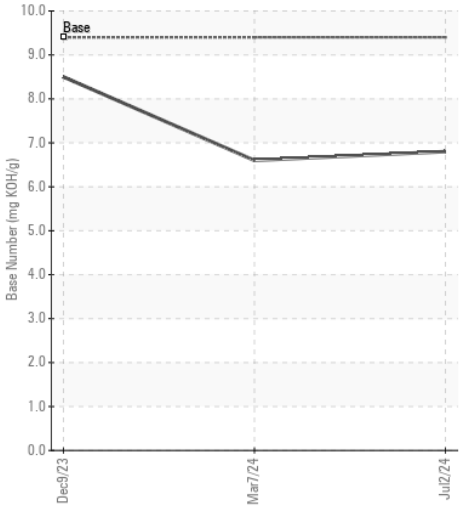
Aluminum (ppm)



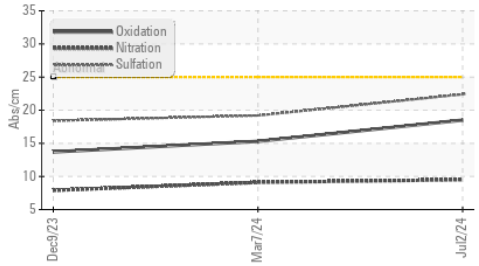
Viscosity @ 100°C



Base Number



FT-IR (Direct Trend)



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RPL0021886
Lab Number : 06234493
Unique Number : 11123327
Test Package : FLEET (Additional Tests: FuelDilution, Glycol, PercentFuel)

Received : 12 Jul 2024
Tested : 16 Jul 2024
Diagnosed : 16 Jul 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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