



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
142218

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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		IL06055294	IL05559356	IL05496504
Sample Date		Client Info		19 Dec 2023	25 May 2022	22 Feb 2022
Machine Age	hrs	Client Info		1880	825	529
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	ATTENTION	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	85	110	36
Chromium	ppm	ASTM D5185m	>20	4	2	2
Nickel	ppm	ASTM D5185m	>4	1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	40	62	33
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	5	2	3
Tin	ppm	ASTM D5185m	>15	1	5	1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

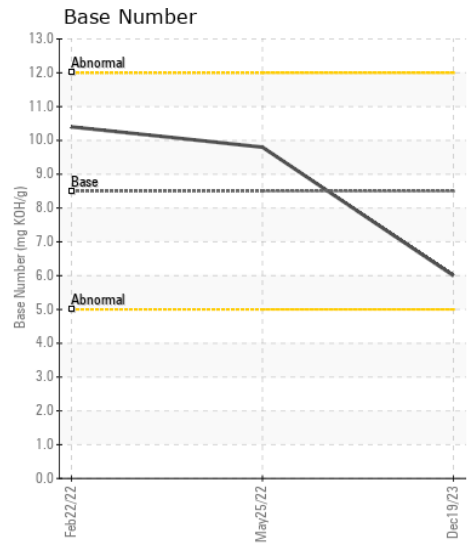
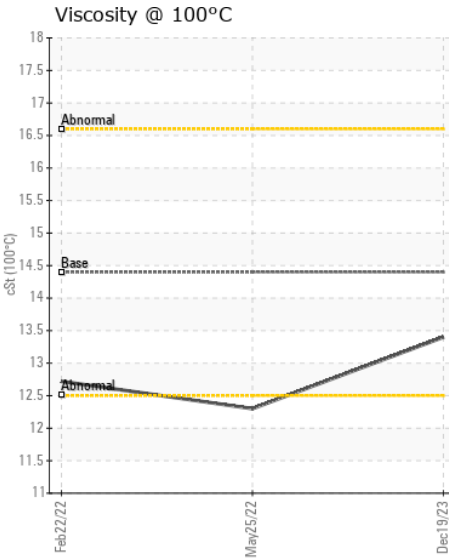
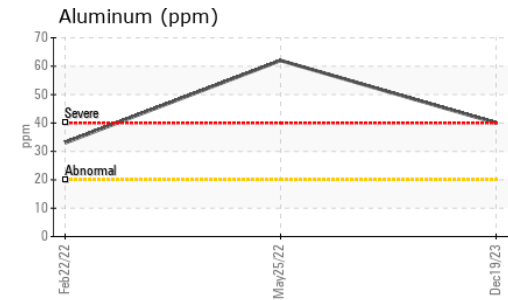
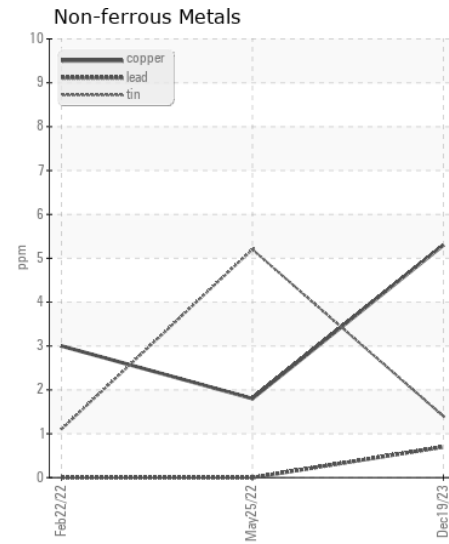
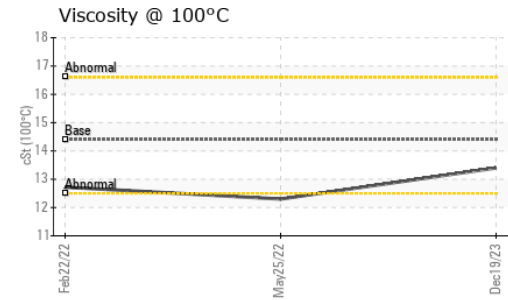
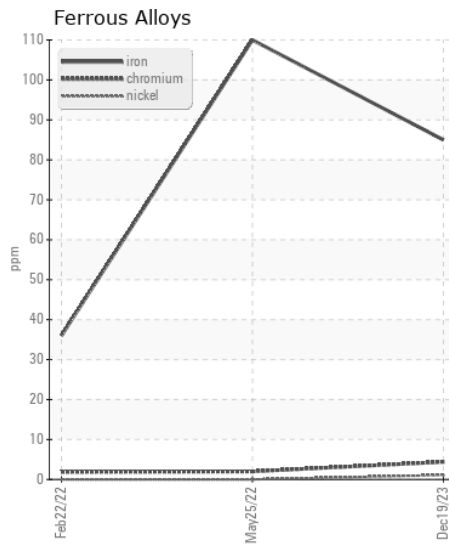
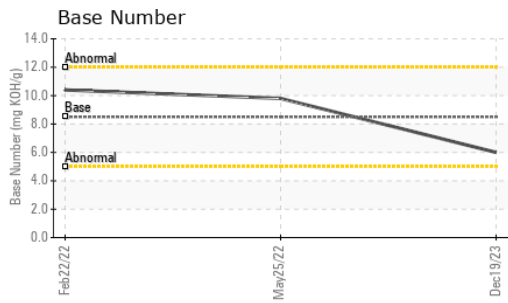
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	11	7	9
Potassium	ppm	ASTM D5185m	>20	76	81	58
Fuel		WC Method	>5	<1.0	▲ 3.1	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.9	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	13.6	8.2	8.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	28.3	20.1	22.2
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

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.

Sodium	ppm	ASTM D5185m	>216	0	2	2
Boron	ppm	ASTM D5185m	250	7	6	35
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	52	59	45
Manganese	ppm	ASTM D5185m		2	2	1
Magnesium	ppm	ASTM D5185m	450	843	856	706
Calcium	ppm	ASTM D5185m	3000	1179	1133	1446
Phosphorus	ppm	ASTM D5185m	1150	801	983	850
Zinc	ppm	ASTM D5185m	1350	1137	1196	983
Sulfur	ppm	ASTM D5185m	4250	3047	3601	2355
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.9	15.9	19.2
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.0	9.8	10.4
Visc @ 100°C	cSt	ASTM D445	14.4	13.4	▲ 12.3	12.72



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : IL06055294 **Received** : 09 Jan 2024
Lab Number : 06055294 **Diagnosed** : 10 Jan 2024
Unique Number : 10821243 **Diagnostician** : Wes Davis
Test Package : FLEET

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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)