



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
INTERNATIONAL KL197208

Component
Diesel Engine

Fluid
VALVOLINE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		IL0034220	IL05900955	IL05715703
Sample Date		Client Info		28 Dec 2023	30 Jun 2023	06 Dec 2022
Machine Age	mls	Client Info		167176	162778	157727
Oil Age	mls	Client Info		0	150186	129182
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	N/A
Filter Changed		Client Info		Changed	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	22	32	28
Chromium	ppm	ASTM D5185m	>20	<1	1	1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		0	1	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	5	7	9
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	3	4	4
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

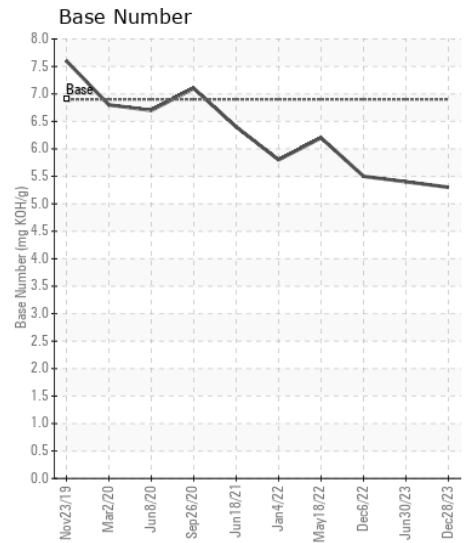
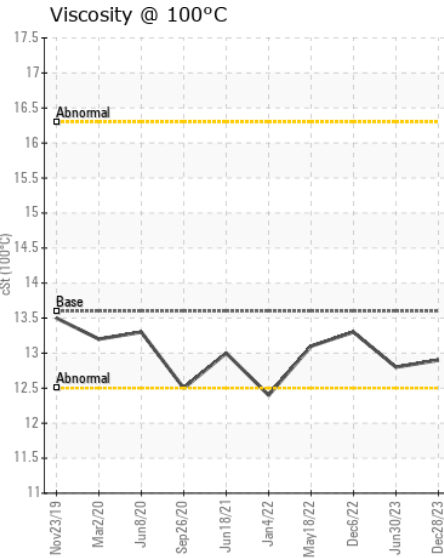
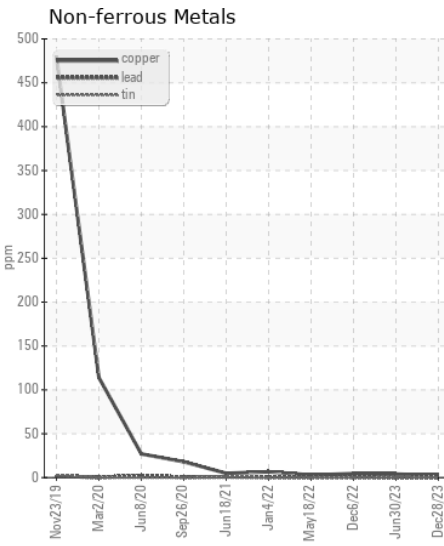
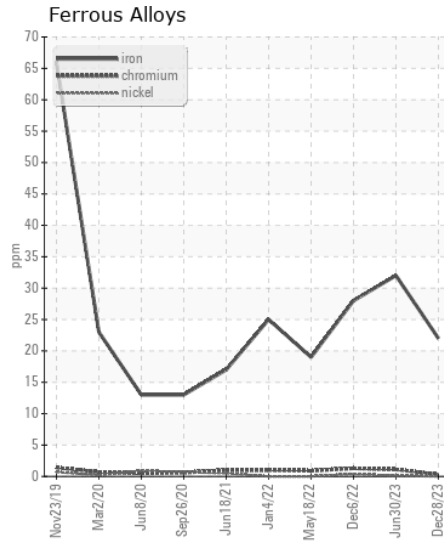
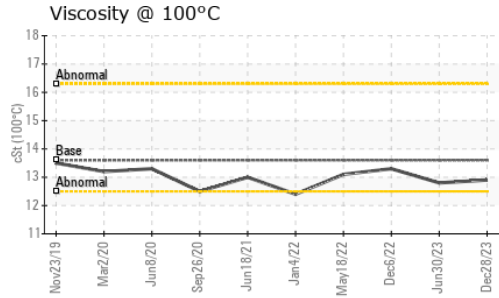
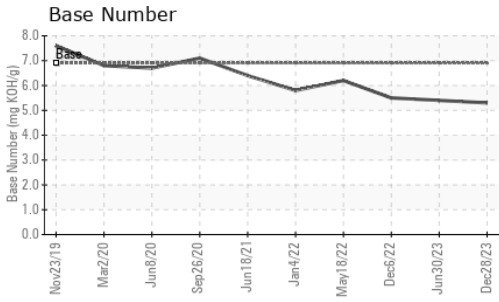
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	8	9	9
Potassium	ppm	ASTM D5185m	>20	9	10	13
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	0.5	0.7	0.6
Nitration	Abs/cm	*ASTM D7624	>20	11.8	14.2	15.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.3	26.3	27.6
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		3	6	2
Boron	ppm	ASTM D5185m	39	38	26	14
Barium	ppm	ASTM D5185m	1	0	0	0
Molybdenum	ppm	ASTM D5185m	49	64	62	57
Manganese	ppm	ASTM D5185m	1	0	<1	<1
Magnesium	ppm	ASTM D5185m	616	702	720	758
Calcium	ppm	ASTM D5185m	1554	1246	1313	1263
Phosphorus	ppm	ASTM D5185m	899	747	743	704
Zinc	ppm	ASTM D5185m	1069	952	957	920
Sulfur	ppm	ASTM D5185m	2624	2671	3007	2834
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.3	27.6	29.8
Base Number (BN)	mg KOH/g	ASTM D2896	6.9	5.3	5.4	5.5
Visc @ 100°C	cSt	ASTM D445	13.6	12.9	12.8	13.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : IL0034220 **Received** : 10 Jan 2024
Lab Number : 06057272 **Diagnosed** : 11 Jan 2024
Unique Number : 10823221 **Diagnostician** : Wes Davis
Test Package : FLEET

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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