OIL ANALYSIS REPORT

WEAR	ATTENTION
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
AL-300
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (--- QTS)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

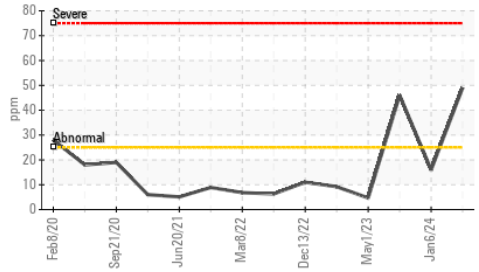
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

FLUID CONDITION

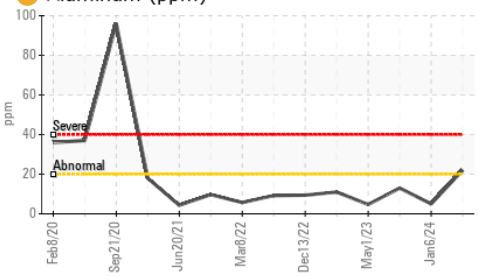
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0011704	KL0011716	KL0011814
Sample Date		Client Info		05 Mar 2024	06 Jan 2024	16 Dec 2023
Machine Age	mls	Client Info		262336	256215	254104
Oil Age	mls	Client Info		23569	17448	15388
Filter Age	mls	Client Info		23569	17448	15388
Oil Changed		Client Info		Changed	Not Changd	Changed
Filter Changed		Client Info		Changed	Not Changd	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>100	85	25	80
Chromium	ppm	ASTM D5185m	>20	6	2	4
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		2	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	22	5	13
Lead	ppm	ASTM D5185m	>40	4	<1	2
Copper	ppm	ASTM D5185m	>330	3	0	1
Tin	ppm	ASTM D5185m	>15	2	<1	<1
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	▲ 49	16	▲ 46
Potassium	ppm	ASTM D5185m	>20	8	2	2
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	0.3	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	10.2	6.6	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.7	18.6	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		2	0	2
Boron	ppm	ASTM D5185m	316	47	58	58
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	1.2	42	38	33
Manganese	ppm	ASTM D5185m		1	<1	1
Magnesium	ppm	ASTM D5185m	24	377	375	311
Calcium	ppm	ASTM D5185m	2292	1685	1481	1688
Phosphorus	ppm	ASTM D5185m	1064	983	949	844
Zinc	ppm	ASTM D5185m	1160	1197	1114	1056
Sulfur	ppm	ASTM D5185m	4996	3212	2957	2959
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.4	14.7	15.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	5.9	7.5	8.1
Visc @ 100°C	cSt	ASTM D445	15.7	13.4	13.2	12.9

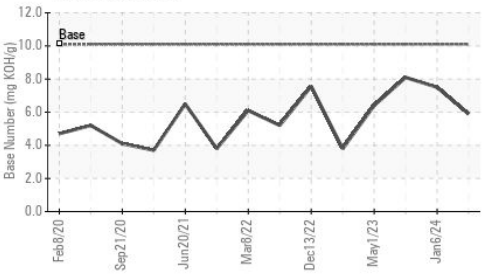
Silicon (ppm)



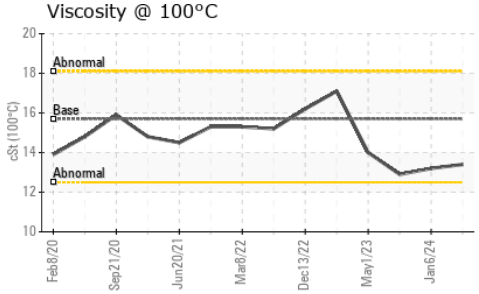
Aluminum (ppm)



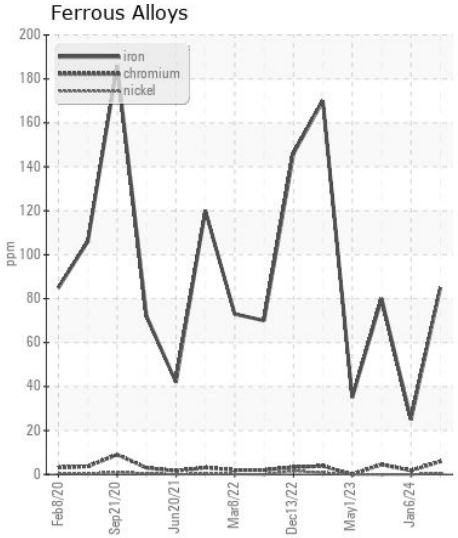
Base Number



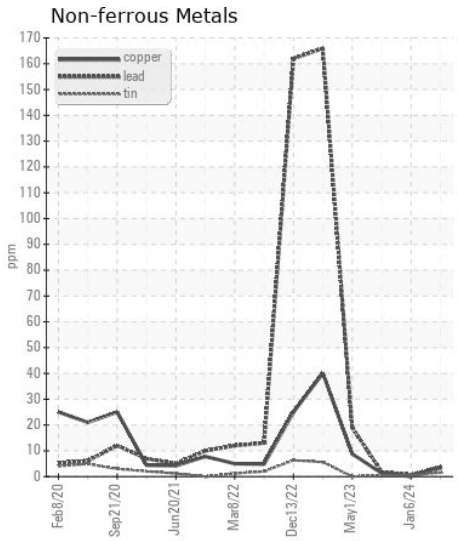
Viscosity @ 100°C



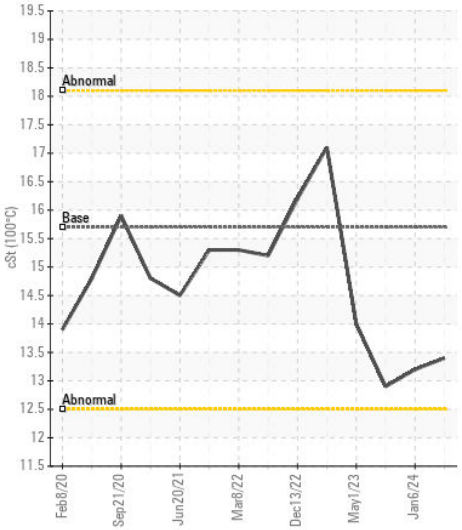
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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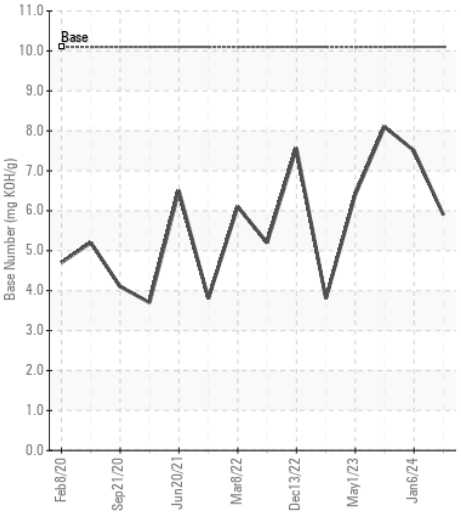

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0011704
Lab Number : 06121944
Unique Number : 10936095
Test Package : FLEET

Received : 19 Mar 2024
Tested : 19 Mar 2024
Diagnosed : 21 Mar 2024 - Jonathan Hester

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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