



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
35163
Component
Diesel Engine
Fluid
{not provided} (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0012143	KL0012069	KL0012064
Sample Date		Client Info		02 Feb 2024	31 Oct 2023	27 Jul 2023
Machine Age	mls	Client Info		289432	288215	285196
Oil Age	mls	Client Info		288215	0	0
Filter Age	mls	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

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	5	3	14
Chromium	ppm	ASTM D5185m	>6	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	2	3
Lead	ppm	ASTM D5185m	>95	0	<1	0
Copper	ppm	ASTM D5185m	>85	2	2	3
Tin	ppm	ASTM D5185m	>9	0	0	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

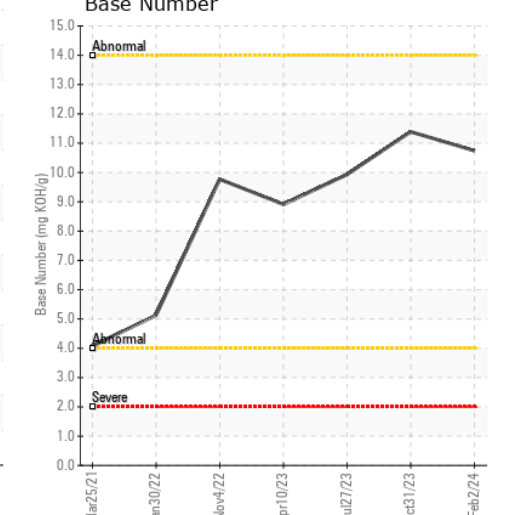
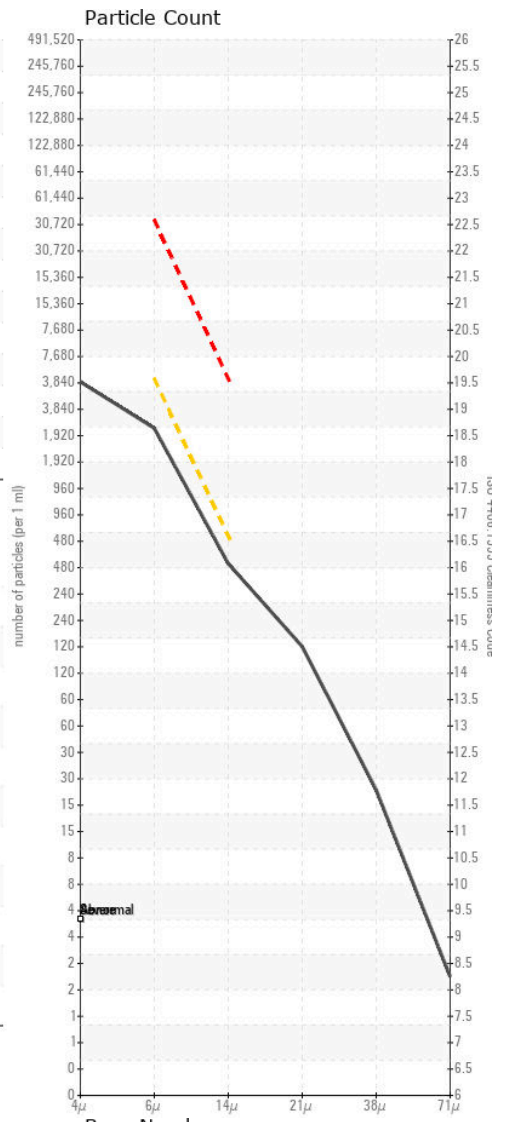
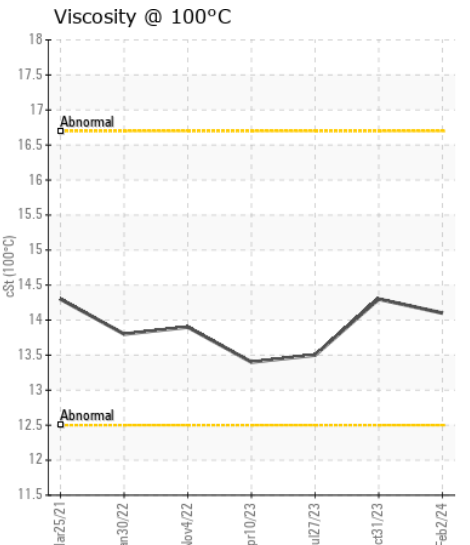
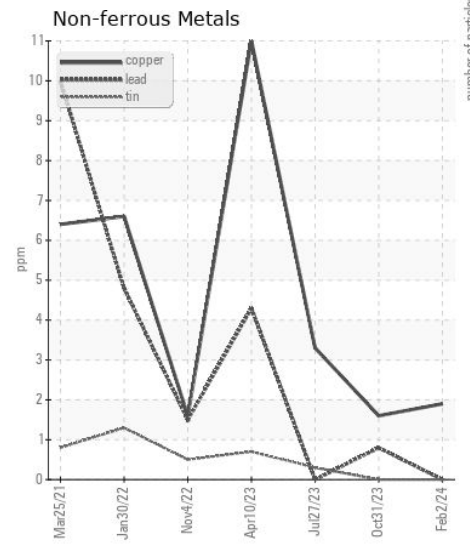
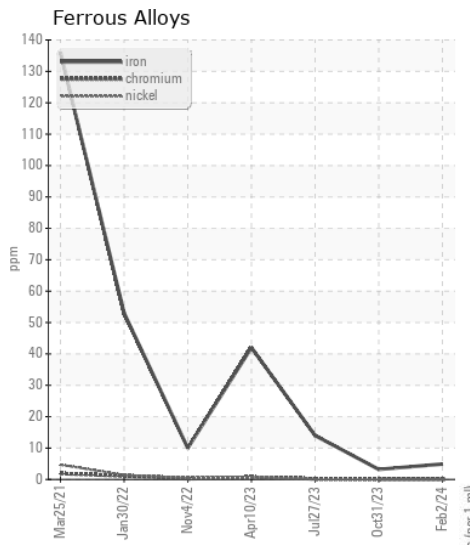
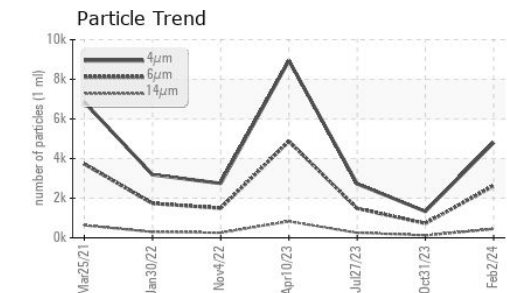
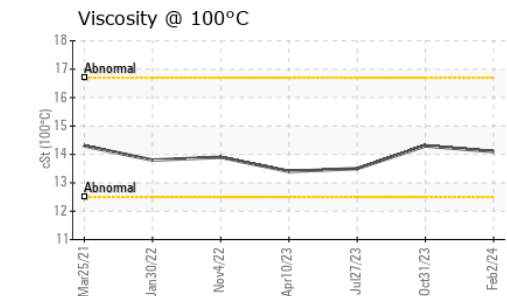
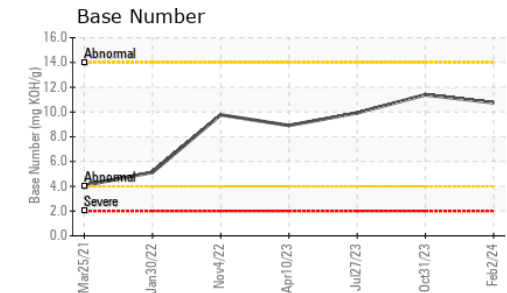
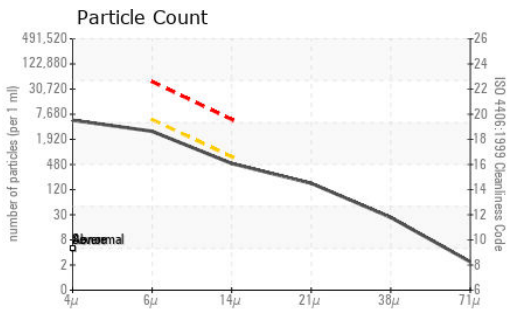
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>25	5	5	6
Potassium	ppm	ASTM D5185m	>20	2	3	1
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.2	0.1	0.4
Nitration	Abs/cm	*ASTM D7624	>20	6.1	5.9	8.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.2	19.2	20.8
Particles >4µm		ASTM D7647		4802	1331	2723
Particles >6µm		ASTM D7647	>5000	2616	725	1483
Particles >14µm		ASTM D7647	>640	445	123	252
Particles >21µm		ASTM D7647	>160	150	42	85
Particles >38µm		ASTM D7647	>40	23	6	13
Particles >71µm		ASTM D7647	>10	2	1	1
Oil Cleanliness		ISO 4406 (c)	>19/16	19/16	17/14	18/15
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	>0.1	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		2	2	5
Boron	ppm	ASTM D5185m		104	130	40
Barium	ppm	ASTM D5185m		11	0	0
Molybdenum	ppm	ASTM D5185m		59	62	65
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		975	1169	1142
Calcium	ppm	ASTM D5185m		878	989	1061
Phosphorus	ppm	ASTM D5185m		968	1148	1058
Zinc	ppm	ASTM D5185m		1112	1378	1334
Sulfur	ppm	ASTM D5185m		3475	3767	3905
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.1	15.0	17.8
Base Number (BN)	mg KOH/g	ASTM D2896		10.74	11.39	9.93
Visc @ 100°C	cSt	ASTM D445		14.1	14.3	13.5



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0012143
Lab Number : 06089631
Unique Number : 10877076
Test Package : MOB 2 (Additional Tests: PrtCount)

Received : 14 Feb 2024
Tested : 16 Feb 2024
Diagnosed : 16 Feb 2024 - Jonathan Hester

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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)