



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
333
 Component
Diesel Engine
 Fluid
{not provided} (--- QTS)

RECOMMENDATION

The oil is near the end of it's useful service life, recommend schedule an oil change. No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0013273	KL0013270	---
Sample Date		Client Info		26 Jan 2024	11 Oct 2023	---
Machine Age	hrs	Client Info		17193	1855	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		N/A	N/A	---
Filter Changed		Client Info		N/A	N/A	---
Sample Status				ABNORMAL	ABNORMAL	---

WEAR

Piston and cylinder wear is indicated.

Iron	ppm	ASTM D5185m	>100	▲ 188	▲ 200	---
Chromium	ppm	ASTM D5185m	>20	5	5	---
Nickel	ppm	ASTM D5185m	>4	2	2	---
Titanium	ppm	ASTM D5185m		<1	<1	---
Silver	ppm	ASTM D5185m	>3	<1	<1	---
Aluminum	ppm	ASTM D5185m	>20	▲ 32	▲ 32	---
Lead	ppm	ASTM D5185m	>40	1	<1	---
Copper	ppm	ASTM D5185m	>330	270	296	---
Tin	ppm	ASTM D5185m	>15	3	2	---
Vanadium	ppm	ASTM D5185m		<1	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

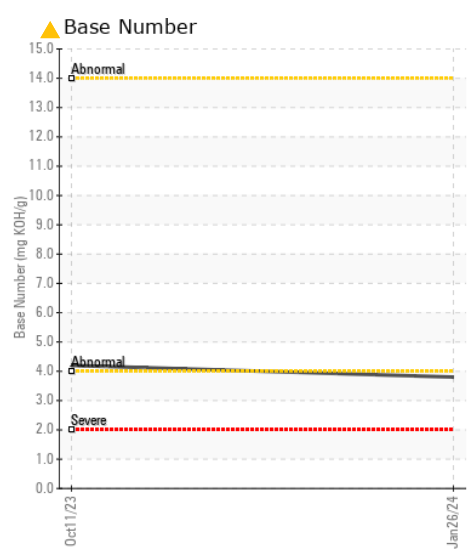
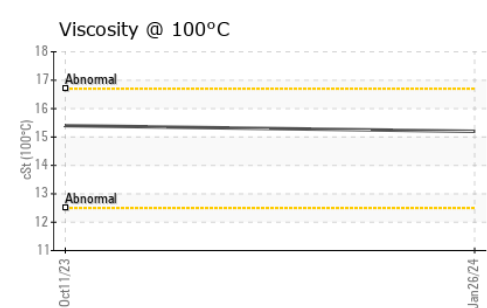
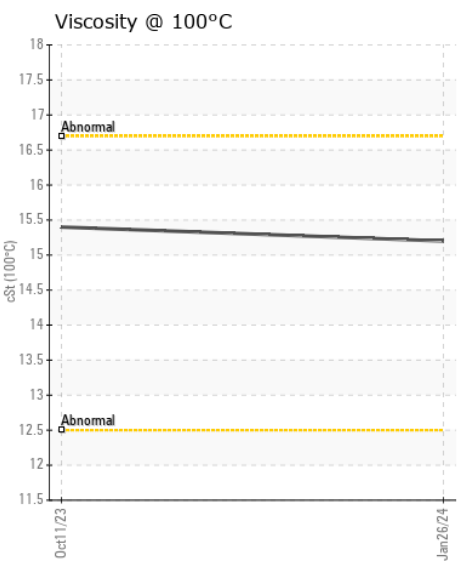
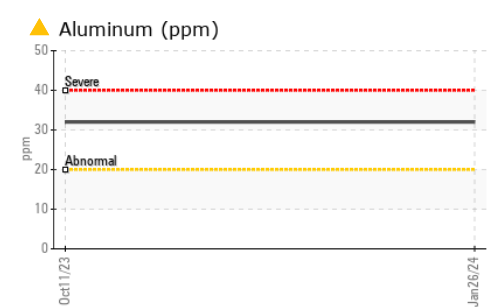
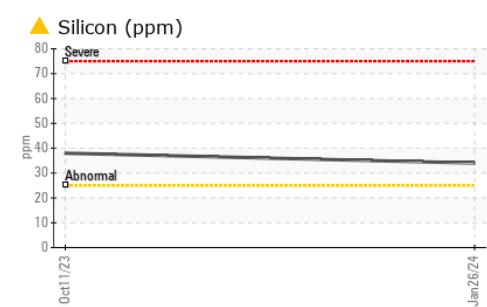
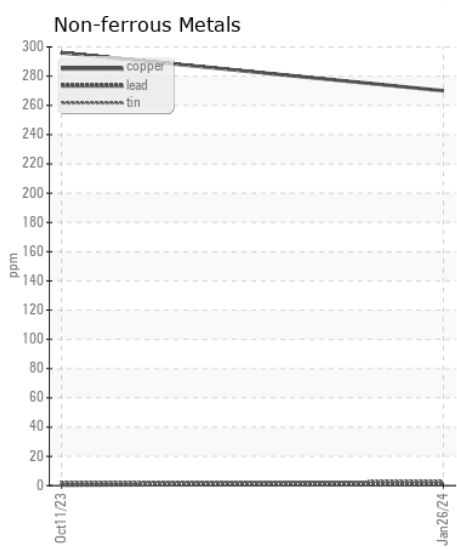
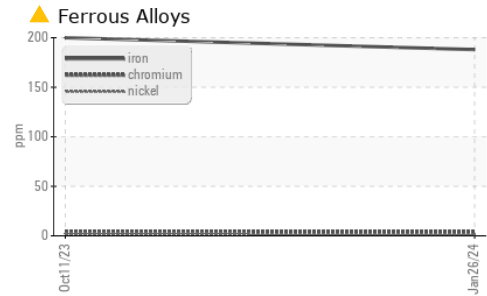
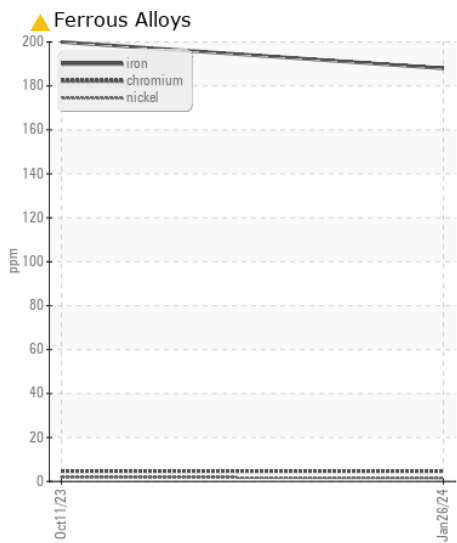
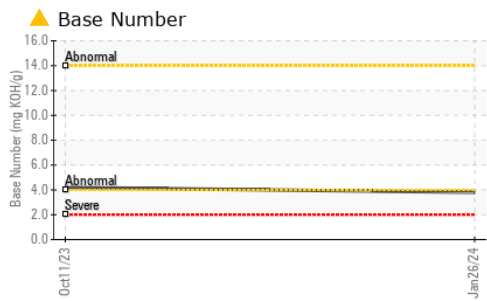
Sodium and/or potassium levels remain high. Elemental level of silicon (Si) above normal indicating ingress of seal material. Test for glycol is negative.

Silicon	ppm	ASTM D5185m	>25	▲ 34	▲ 38	---
Potassium	ppm	ASTM D5185m	>20	▲ 73	▲ 82	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol	%	*ASTM D2982		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	1.5	1.5	---
Nitration	Abs/cm	*ASTM D7624	>20	18.0	17.7	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	32.9	32.7	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	---

FLUID CONDITION

The BN level is low.

Sodium	ppm	ASTM D5185m		19	15	---
Boron	ppm	ASTM D5185m		46	52	---
Barium	ppm	ASTM D5185m		9	14	---
Molybdenum	ppm	ASTM D5185m		93	100	---
Manganese	ppm	ASTM D5185m		7	6	---
Magnesium	ppm	ASTM D5185m		613	578	---
Calcium	ppm	ASTM D5185m		1728	1742	---
Phosphorus	ppm	ASTM D5185m		857	780	---
Zinc	ppm	ASTM D5185m		1060	1047	---
Sulfur	ppm	ASTM D5185m		2311	2621	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	38.9	38.8	---
Base Number (BN)	mg KOH/g	ASTM D2896		▲ 3.8	4.2	---
Visc @ 100°C	cSt	ASTM D445		15.2	15.4	---



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013273 **Received** : 14 Feb 2024
Lab Number : 06089467 **Tested** : 16 Feb 2024
Unique Number : 10876912 **Diagnosed** : 16 Feb 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

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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)