OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
INTERNATIONAL 46133
Component
Diesel Engine
Fluid
SHELL 15W40 (20 QTS)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

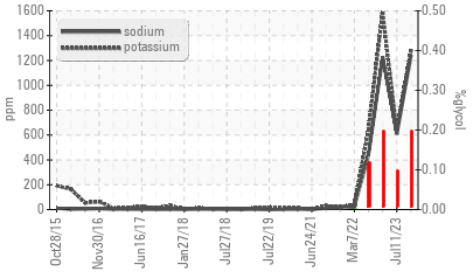
Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil.

FLUID CONDITION

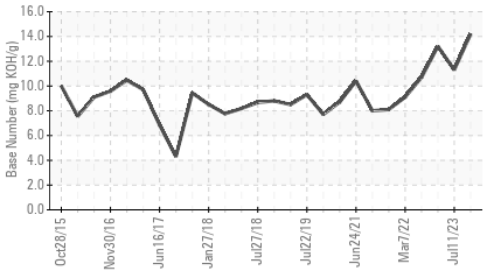
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0842083	WC0742219	WC0742326
Sample Date		Client Info		17 Jan 2024	11 Jul 2023	16 May 2023
Machine Age	mls	Client Info		295942	288651	280082
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	SEVERE	SEVERE
Iron	ppm	ASTM D5185m	>130	81	47	96
Chromium	ppm	ASTM D5185m	>10	5	2	3
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	10	9	15
Lead	ppm	ASTM D5185m	>20	1	0	0
Copper	ppm	ASTM D5185m	>125	12	4	6
Tin	ppm	ASTM D5185m	>4	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	12	7	10
Potassium	ppm	ASTM D5185m	>20	▲ 1277	▲ 637	▲ 1587
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		⬢ 0.20	⬢ 0.10	⬢ 0.20
Soot %	%	*ASTM D7844	>6	0.3	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	13.5	10.2	14.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.1	19.7	23.7
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	>150	▲ 1240	▲ 609	▲ 1229
Boron	ppm	ASTM D5185m		8	0	2
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		146	110	173
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m		911	958	1033
Calcium	ppm	ASTM D5185m		987	1077	1180
Phosphorus	ppm	ASTM D5185m		1040	1033	1091
Zinc	ppm	ASTM D5185m		1227	1247	1399
Sulfur	ppm	ASTM D5185m		3261	3708	4278
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.3	14.8	17.6
Base Number (BN)	mg KOH/g	ASTM D2896		14.2	11.3	13.2
Visc @ 100°C	cSt	ASTM D445		12.7	13.0	12.9

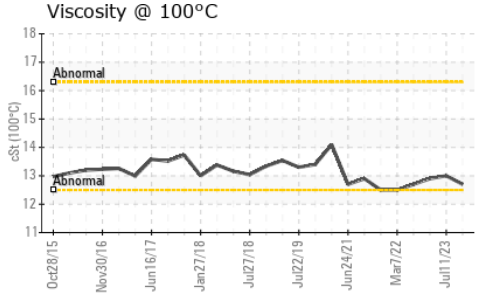
Glycol Contamination



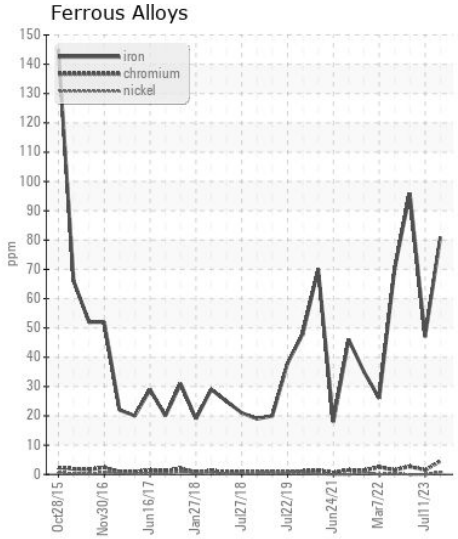
Base Number



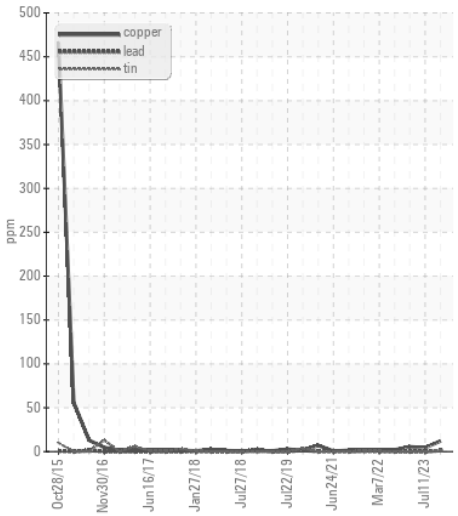
Viscosity @ 100°C



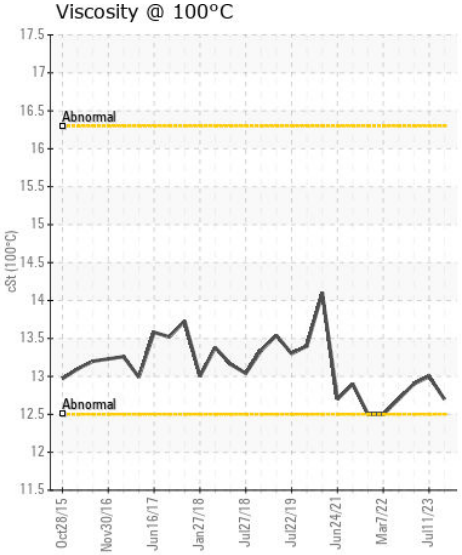
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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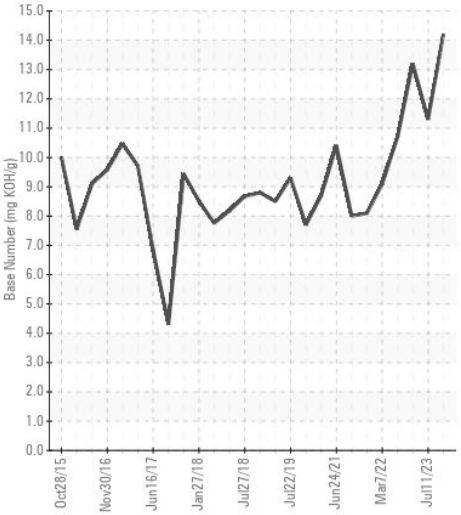

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0842083
Lab Number : 06099674
Unique Number : 10897904
Test Package : FLEET

Received : 26 Feb 2024
Tested : 28 Feb 2024
Diagnosed : 28 Feb 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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