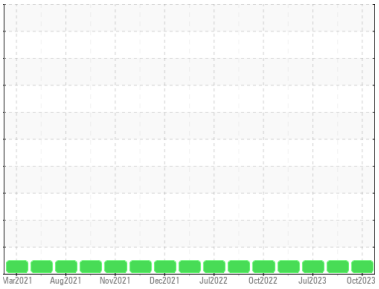
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Area
GATHERING STATIONS/BOA GATHERING STATION
Machine Id
MRC-203 - CAT (S/N JFE01699)
Component
Natural Gas Engine
Fluid
NOT GIVEN (--- GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear
All component wear rates are normal.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**TO60001476**	TO60001451	TO60000727
Sample Date		Client Info		**02 Oct 2023**	06 Sep 2023	13 Jul 2023
Machine Age	hrs	Client Info		**22170**	21546	20547
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	Not Changd
Sample Status				**NORMAL**	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**7**	8	7
Chromium	ppm	ASTM D5185m	>4	**0**	<1	0
Nickel	ppm	ASTM D5185m	>2	**0**	<1	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>9	**1**	<1	1
Lead	ppm	ASTM D5185m	>30	**15**	14	14
Copper	ppm	ASTM D5185m	>35	**2**	2	2
Tin	ppm	ASTM D5185m	>4	**<1**	<1	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**77**	86	82
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**1**	1	2
Manganese	ppm	ASTM D5185m		**0**	<1	<1
Magnesium	ppm	ASTM D5185m		**3**	22	12
Calcium	ppm	ASTM D5185m		**1601**	1613	1577
Phosphorus	ppm	ASTM D5185m		**314**	327	321
Zinc	ppm	ASTM D5185m		**430**	393	389
Sulfur	ppm	ASTM D5185m		**1845**	1944	1905

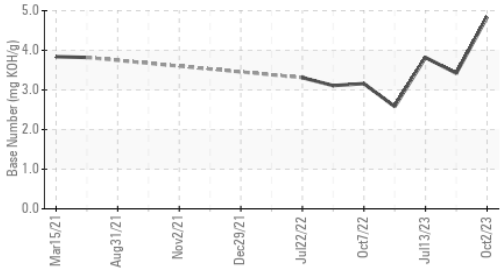
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+100	**2**	2	1
Sodium	ppm	ASTM D5185m		**4**	6	4
Potassium	ppm	ASTM D5185m	>20	**2**	2	0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0**	0	0
Nitration	Abs/cm	*ASTM D7624	>20	**10.4**	11.5	10.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.1**	22.5	19.4

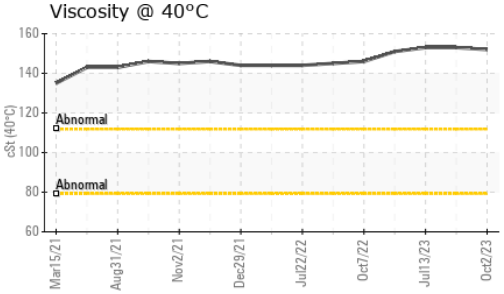
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**19.8**	22.2	20.2
Acid Number (AN)	mg KOH/g	ASTM D8045		**1.38**	1.50	1.62
Base Number (BN)	mg KOH/g	ASTM D2896		**4.84**	3.42	3.82

OIL ANALYSIS REPORT

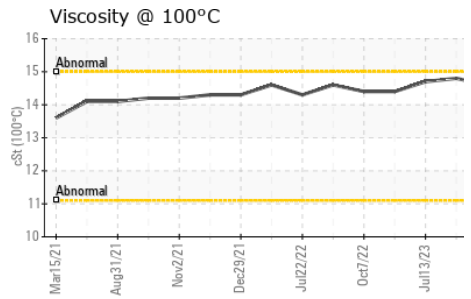
Base Number



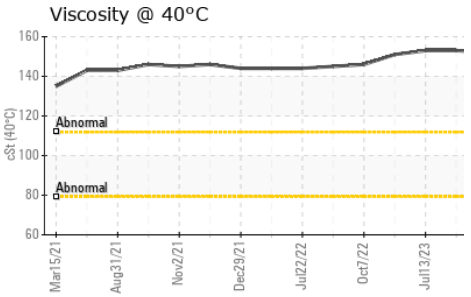
Viscosity @ 40°C



Viscosity @ 100°C



Viscosity @ 40°C

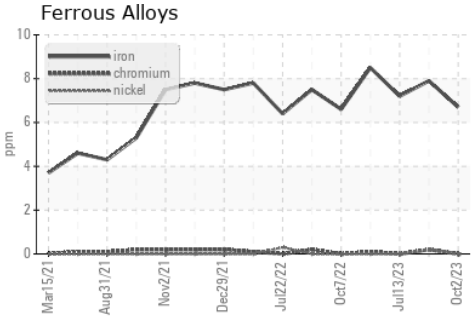


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

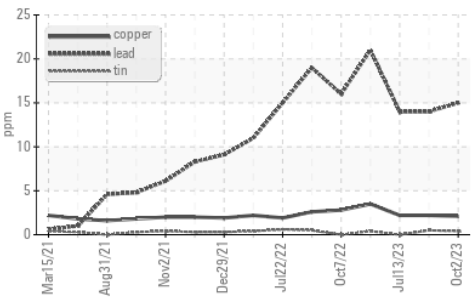
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		**152**	153	153
Visc @ 100°C	cSt	ASTM D445		**14.6**	14.8	14.7
Viscosity Index (VI)	Scale	ASTM D2270		**94**	95	94

GRAPHS

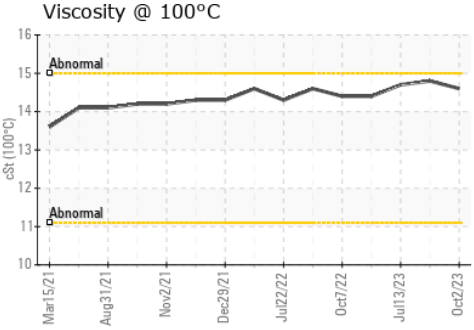
Ferrous Alloys



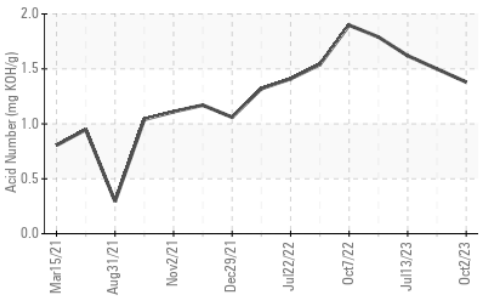
Non-ferrous Metals



Viscosity @ 100°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO60001476 **Received** : 16 Oct 2023
Lab Number : 05980596 **Diagnosed** : 17 Oct 2023
Unique Number : 10697891 **Diagnostician** : Wes Davis
Test Package : IND 2 (Additional Tests: FT-IR, KV40, VI)

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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