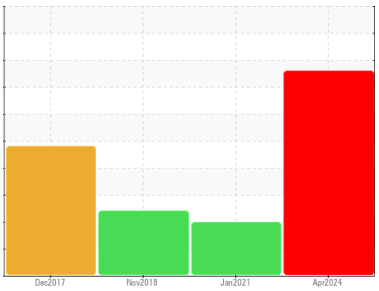
PROBLEM SUMMARY

Sample Rating Trend

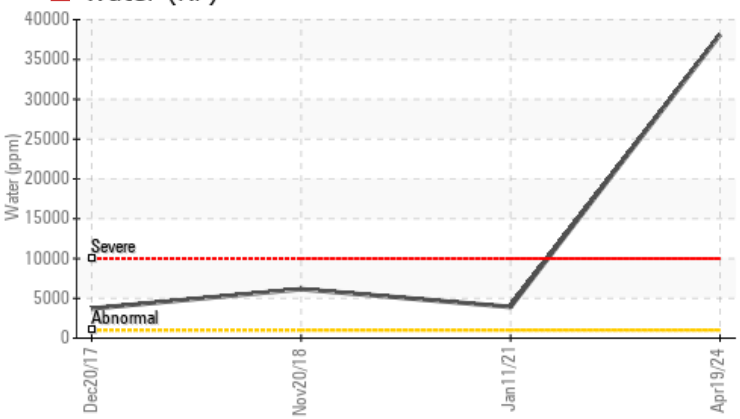


WATER

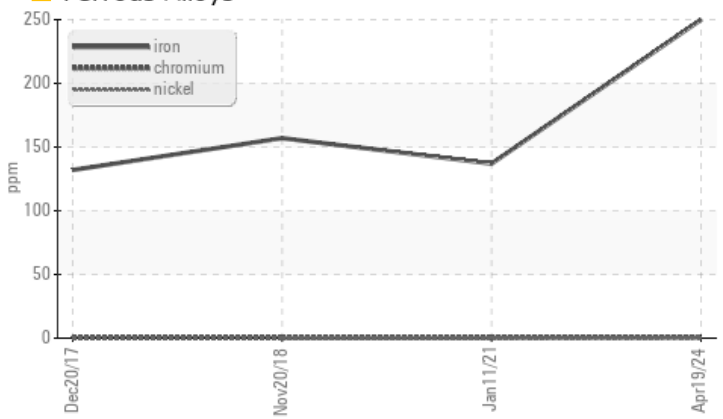
Machine Id
SEFTON (S/N 97031197)
Component
Natural Gas Engine
Fluid
{not provided} (--- QTS)

COMPONENT CONDITION SUMMARY

▲ Water (KF)



▲ Ferrous Alloys



RECOMMENDATION

We advise that you check for the source of water entry. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>50	▲ **250**	137	▲ 157
Water	%	ASTM D6304	>0.1	▲ **3.81**	▲ 0.392	▲ 0.615
ppm Water	ppm	ASTM D6304	>1000	▲ **38100**	▲ 3920	▲ 6150
Silt	scalar	*Visual	NONE	▲ **MODER**	NONE	NONE
Debris	scalar	*Visual	NONE	▲ **MODER**	NONE	NONE
Emulsified Water	scalar	*Visual	>0.1	▲ **0.2%**	NEG	NEG

Customer Id: WARWARRI
Sample No.: RP0039511
Lab Number: 06179513
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Sean Felton +1 919-379-4092
sfelton@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Change Filter	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Water Access	---	---	?	We advise that you check for the source of water entry.

HISTORICAL DIAGNOSIS

WATER

11 Jan 2021 Diag: Jonathan Hester

We advise that you check for the source of water entry. No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. Please note that there was too much water present in the oil to perform an accurate viscosity test.All component wear rates are normal. There is a moderate concentration of water present in the oil. The AN level is acceptable for this fluid.

view report

WATER

20 Nov 2018 Diag: Jonathan Hester

We advise that you check for the source of water entry. Resample at the next service interval to monitor.Cylinder, crank, or cam shaft wear is indicated. There is a moderate concentration of water present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

GLYCOL

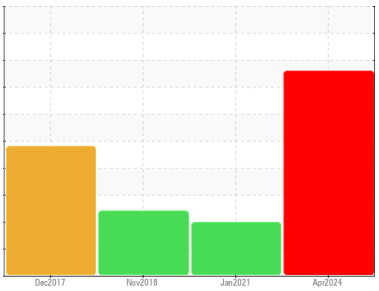
20 Dec 2017 Diag: Doug Bogart

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.Cylinder, crank, or cam shaft wear is indicated. Test for glycol is positive. There is a light concentration of water present in the oil. Trace concentration of anti-freeze present in the oil. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WATER

Machine Id
SEFTON (S/N 97031197)
Component
Natural Gas Engine
Fluid
{not provided} (--- QTS)

DIAGNOSIS

▲ Recommendation
We advise that you check for the source of water entry. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

▲ Wear
The iron level is abnormal.

▲ Contamination
There is a high concentration of water present in the oil. Moderate concentration of visible dirt/debris present in the oil. There is a moderate amount of visible silt present in the sample.

Fluid Condition
The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**RP0039511**	RP0013481	RP203749
Sample Date		Client Info		**19 Apr 2024**	11 Jan 2021	20 Nov 2018
Machine Age	hrs	Client Info		**198**	197	196
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**SEVERE**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	▲ **250**	137	▲ 157
Chromium	ppm	ASTM D5185m	>4	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**<1**	<1	<1
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m	>3	**0**	<1	0
Aluminum	ppm	ASTM D5185m	>9	**5**	6	2
Lead	ppm	ASTM D5185m	>30	**4**	3	4
Copper	ppm	ASTM D5185m	>35	**8**	22	9
Tin	ppm	ASTM D5185m	>4	**2**	3	0
Antimony	ppm	ASTM D5185m		**---**	0	2
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**1**	<1	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**11**	16	20
Barium	ppm	ASTM D5185m		**2**	0	0
Molybdenum	ppm	ASTM D5185m		**116**	8	18
Manganese	ppm	ASTM D5185m		**1**	<1	<1
Magnesium	ppm	ASTM D5185m		**536**	15	5
Calcium	ppm	ASTM D5185m		**1803**	2067	775
Phosphorus	ppm	ASTM D5185m		**296**	375	391
Zinc	ppm	ASTM D5185m		**354**	384	302

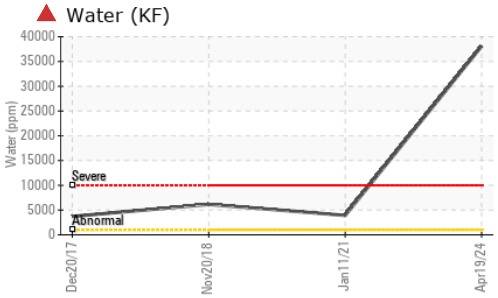
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+100	**10**	6	6
Sodium	ppm	ASTM D5185m		**6**	9	11
Potassium	ppm	ASTM D5185m	>20	**3**	<1	0
Water	%	ASTM D6304	>0.1	▲ **3.81**	▲ 0.392	▲ 0.615
ppm Water	ppm	ASTM D6304	>1000	▲ **38100**	▲ 3920	▲ 6150
Glycol	%	*ASTM D2982		**---**	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0.3**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**8.0**	7.1	9.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	**30.0**	22.8	25.7

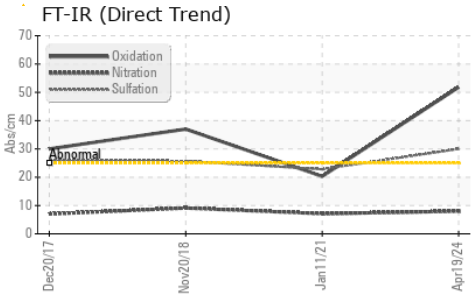
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**51.8**	20.3	37
Acid Number (AN)	mg KOH/g	ASTM D8045		**---**	1.291	1.672
Base Number (BN)	mg KOH/g	ASTM D2896		**8.60**	---	---

OIL ANALYSIS REPORT

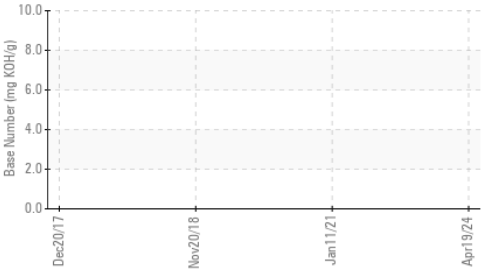
Water (KF)



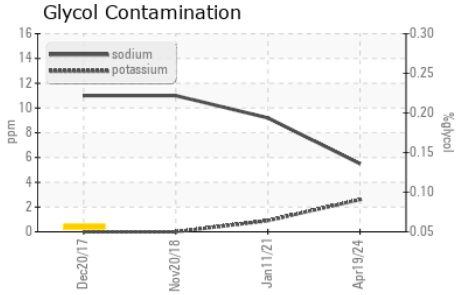
FT-IR (Direct Trend)



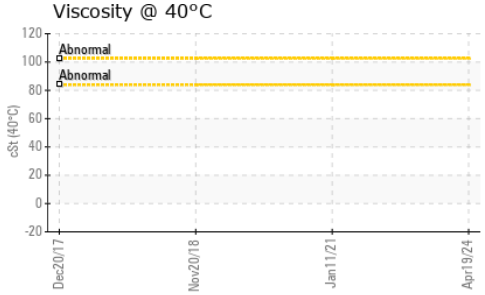
Base Number



Glycol Contamination



Viscosity @ 40°C

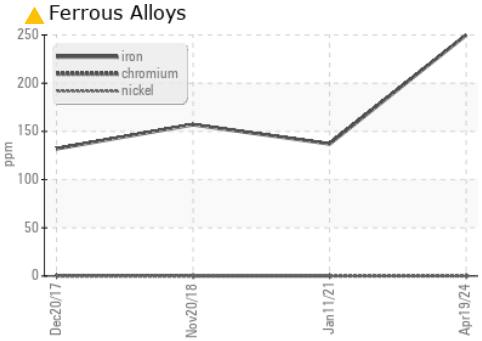


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	▲ **MODER**	NONE	NONE
Debris	scalar	*Visual	NONE	▲ **MODER**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	● **LAYRD**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	▲ **0.2%**	NEG	NEG
Free Water	scalar	*Visual		● **25.0**	NEG	NEG

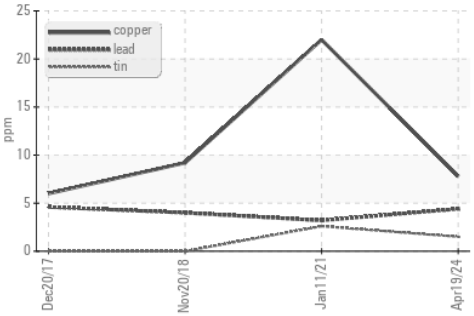
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**11.6**	5.1	8.16

GRAPHS

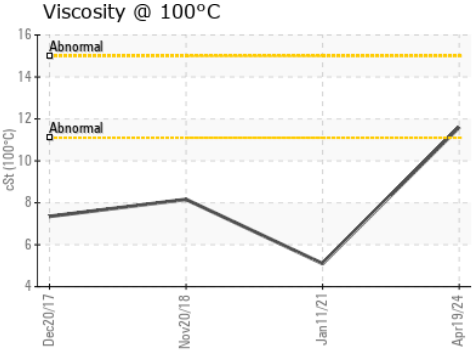
Ferrous Alloys



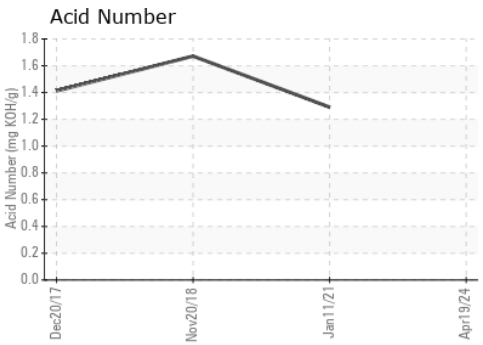
Non-ferrous Metals



Viscosity @ 100°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0039511 **Received** : 14 May 2024
Lab Number : 06179513 **Tested** : 17 May 2024
Unique Number : 11030839 **Diagnosed** : 17 May 2024 - Sean Felton
Test Package : IND 2 (Additional Tests: FT-IR, Glycol, KV100, TBN)

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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WARWICK, RI
US 02888
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F:

Report Id: WARWARRI [WUSCAR] 06179513 (Generated: 05/17/2024 10:09:17) Rev: 1
Contact/Location: JOHN BROSNAHAN - WARWARRI