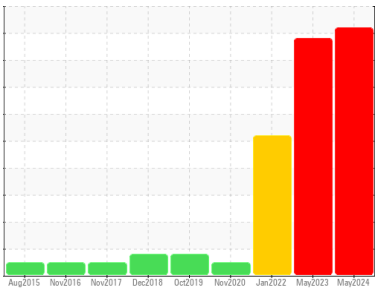
PROBLEM SUMMARY

Sample Rating Trend

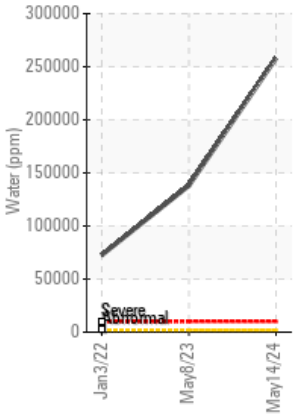


WATER

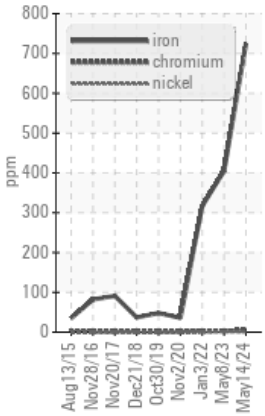
Area
Mobile Fleet
Machine Id
6413 6413
Component
Rear Differential
Fluid
MOBIL DELVAC 1 SYNTHETIC GEAR SAE 75W90 (9 GAL)

COMPONENT CONDITION SUMMARY

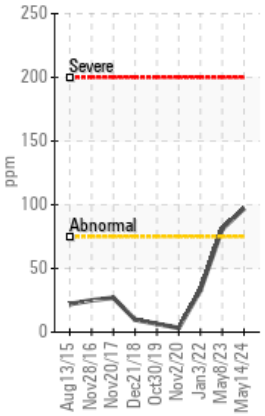
Water (KF)



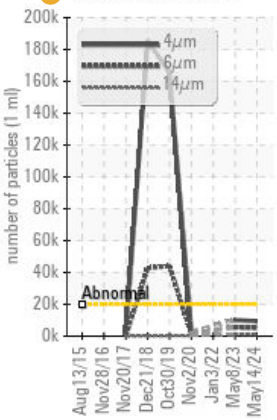
Ferrous Alloys



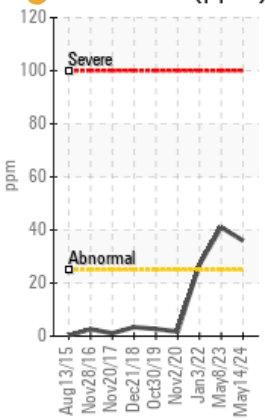
Silicon (ppm)



Particle Trend



Aluminum (ppm)



RECOMMENDATION

We advise that you check for the source of water entry. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	SEVERE
Iron	ppm	ASTM D5185m	>500	▲ **725**	405	317
Silicon	ppm	ASTM D5185m	>75	▲ **97**	▲ 81	33
Water	%	ASTM D6304	>.2	▲ **25.8**	▲ 13.8	▲ 7.25
ppm Water	ppm	ASTM D6304	>2000	▲ **258000**	▲ 138000	▲ 72500
Emulsified Water	scalar	*Visual	>.2	▲ **0.2%**	▲ 0.2%	▲ 0.2%

Customer Id: CARBUTNC
Sample No.: WC0937776
Lab Number: 06181191
Test Package: CONST

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@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
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.
Check Water Access	---	---	?	We advise that you check for the source of water entry.

HISTORICAL DIAGNOSIS

WATER

08 May 2023 Diag: Jonathan Hester

We advise that you check for the source of water entry. We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.All component wear rates are normal. Appearance is milky. There is a moderate amount of particulates present in the oil. There is a high concentration of water present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. High concentration of visible dirt/debris present in the oil. The oil is no longer serviceable due to the presence of contaminants.

view report

WATER

03 Jan 2022 Diag: Jonathan Hester

We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to a high concentration of particles present in this sample.The aluminum level is abnormal. Appearance is milky. There is a high concentration of water present in the oil. Moderate concentration of visible dirt/debris present in the oil. The oil is no longer serviceable due to the presence of contaminants.

view report

NORMAL

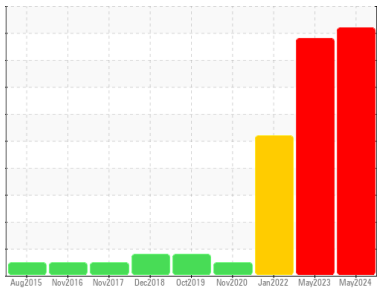
02 Nov 2020 Diag: Don Baldridge

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The condition of the oil is acceptable for the time in service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WATER

Area
Mobile Fleet
Machine Id
6413 6413
Component
Rear Differential
Fluid
MOBIL DELVAC 1 SYNTHETIC GEAR SAE 75W90 (9 GAL)

DIAGNOSIS

Recommendation
We advise that you check for the source of water entry. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
Gear wear is indicated.

Contamination
Appearance is milky. There is a moderate amount of particulates present in the oil. There is a high concentration of water present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

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		**WC0937776**	WC0765105	WC0645015
Sample Date		Client Info		**14 May 2024**	08 May 2023	03 Jan 2022
Machine Age	hrs	Client Info		**16248**	14604	12245
Oil Age	hrs	Client Info		**4007**	2363	1933
Oil Changed		Client Info		**Changed**	Not Changd	Changed
Sample Status				**SEVERE**	SEVERE	SEVERE

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>500	▲ **725**	405	317
Chromium	ppm	ASTM D5185m	>10	**5**	3	2
Nickel	ppm	ASTM D5185m	>10	**0**	2	<1
Titanium	ppm	ASTM D5185m		**2**	2	<1
Silver	ppm	ASTM D5185m		**<1**	<1	2
Aluminum	ppm	ASTM D5185m	>25	● **36**	● 41	▲ 27
Lead	ppm	ASTM D5185m	>25	**0**	2	1
Copper	ppm	ASTM D5185m	>100	**2**	<1	2
Tin	ppm	ASTM D5185m	>10	**3**	7	2
Antimony	ppm	ASTM D5185m	>5	**---**	---	<1
Vanadium	ppm	ASTM D5185m		**<1**	<1	<1
Cadmium	ppm	ASTM D5185m		**0**	<1	2

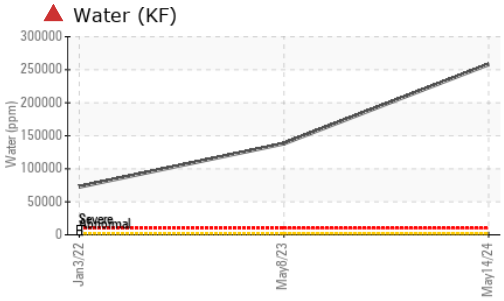
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**182**	159	253
Barium	ppm	ASTM D5185m		**<1**	0	0
Molybdenum	ppm	ASTM D5185m		**1**	2	2
Manganese	ppm	ASTM D5185m		**9**	6	6
Magnesium	ppm	ASTM D5185m		**25**	28	24
Calcium	ppm	ASTM D5185m		**256**	224	85
Phosphorus	ppm	ASTM D5185m		**1150**	1143	1372
Zinc	ppm	ASTM D5185m		**63**	41	87
Sulfur	ppm	ASTM D5185m		**24863**	25522	23439

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>75	▲ **97**	▲ 81	33
Sodium	ppm	ASTM D5185m		**8**	0	2
Potassium	ppm	ASTM D5185m	>20	**11**	11	2
Water	%	ASTM D6304	>.2	▲ **25.8**	▲ 13.8	▲ 7.25
ppm Water	ppm	ASTM D6304	>2000	▲ **258000**	▲ 138000	▲ 72500

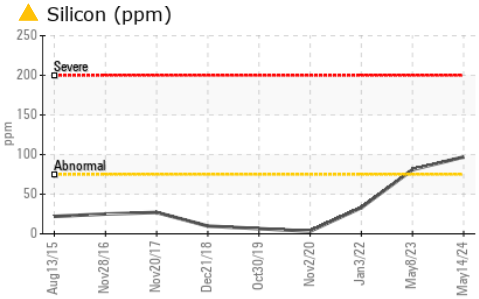
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	**9352**	10092	---
Particles >6µm		ASTM D7647	>5000	● **5095**	● 5497	---
Particles >14µm		ASTM D7647	>640	● **867**	● 936	---
Particles >21µm		ASTM D7647	>160	● **292**	● 315	---
Particles >38µm		ASTM D7647	>40	● **45**	● 49	---
Particles >71µm		ASTM D7647	>10	**5**	5	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	● **20/20/17**	● 21/20/17	---

OIL ANALYSIS REPORT

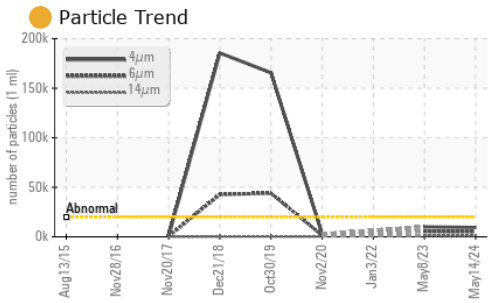
Water (KF)



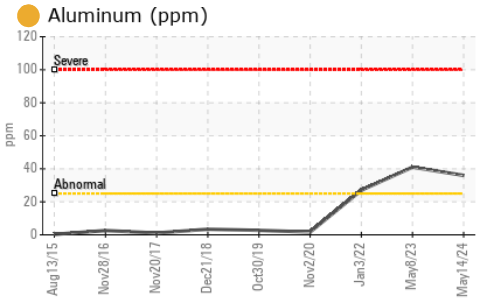
Silicon (ppm)



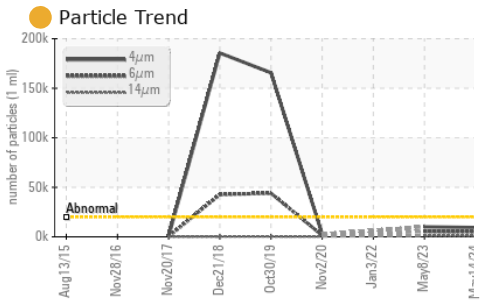
Particle Trend



Aluminum (ppm)

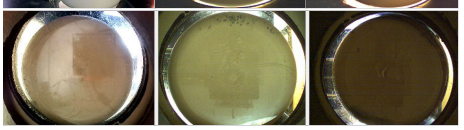


Particle Trend



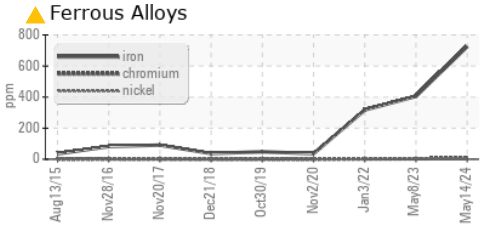
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	▲ HEAVY	▲ MODER
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	● **MILKY**	● MILKY	● MILKY
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>.2	▲ **0.2%**	▲ 0.2%	▲ 0.2%
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	120	**208**	197	110

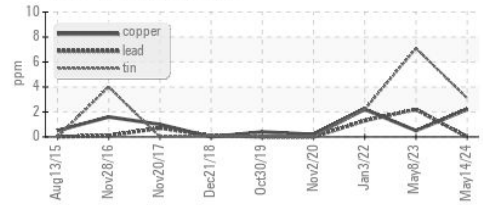
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

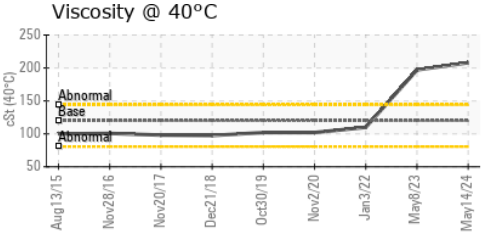
Ferrous Alloys



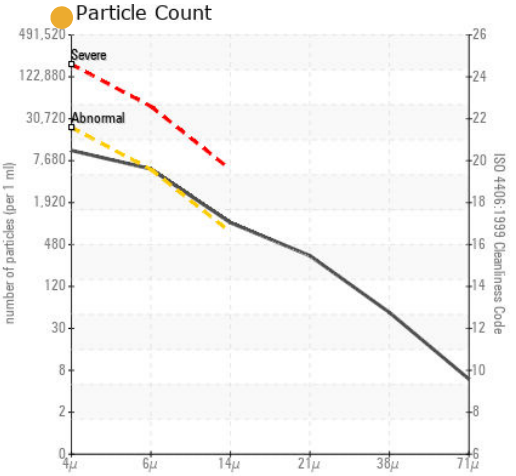
Non-ferrous Metals



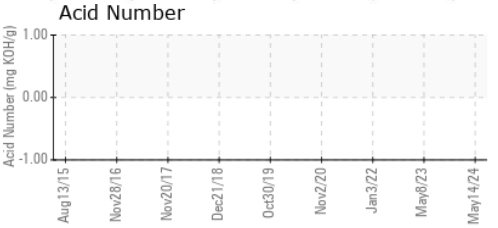
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0937776 **Received** : 16 May 2024
Lab Number : 06181191 **Tested** : 20 May 2024
Unique Number : 11032517 **Diagnosed** : 20 May 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: KF, PrtCount)

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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