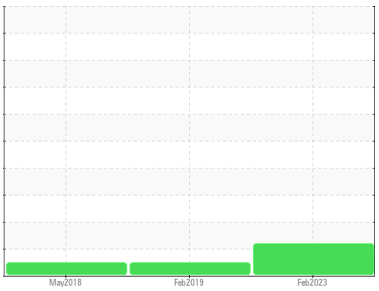
OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
Mobile Fleet
Machine Id
3009 3009
Component
Diesel Engine
Fluid
MOBIL DELVAC 1300 SUPER 10W30 (11 GAL)

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0489952**	WCMCF69204	WCMCF54103
Sample Date		Client Info		**21 Feb 2023**	12 Feb 2019	31 May 2018
Machine Age	hrs	Client Info		**6890**	2650	1188
Oil Age	hrs	Client Info		**500**	1462	886
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ATTENTION**	NORMAL	NORMAL

CONTAMINATION	method	limit/base	current	history1	history2
Fuel	WC Method	>5	**<1.0**	<1.0	<1.0
Water	WC Method	>0.2	**NEG**	NEG	NEG
Glycol	WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**6**	33	26
Chromium	ppm	ASTM D5185m	>20	**<1**	1	1
Nickel	ppm	ASTM D5185m	>4	**0**	<1	<1
Titanium	ppm	ASTM D5185m		**46**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**1**	2	1
Lead	ppm	ASTM D5185m	>40	**<1**	5	6
Copper	ppm	ASTM D5185m	>330	**<1**	24	119
Tin	ppm	ASTM D5185m	>15	**<1**	1	<1
Antimony	ppm	ASTM D5185m		**---**	0	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**86**	18	87
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**23**	40	8
Manganese	ppm	ASTM D5185m		**<1**	<1	2
Magnesium	ppm	ASTM D5185m		**473**	470	69
Calcium	ppm	ASTM D5185m		**1831**	1834	3330
Phosphorus	ppm	ASTM D5185m		**858**	679	927
Zinc	ppm	ASTM D5185m		**1080**	838	1060
Sulfur	ppm	ASTM D5185m		**3447**	2905	7717

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**10**	6	24
Sodium	ppm	ASTM D5185m		**2**	3	4
Potassium	ppm	ASTM D5185m	>20	**1**	1	4

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.1**	0.3	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**9.4**	13.6	8.
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.3**	24.2	18.

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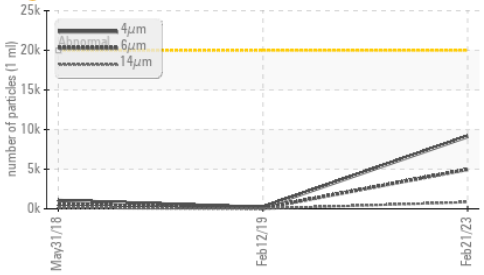
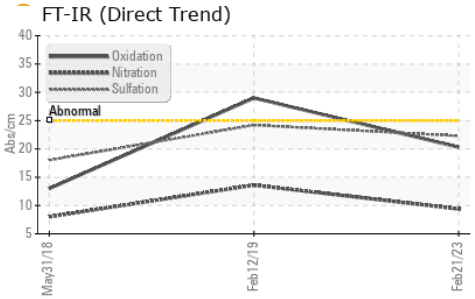
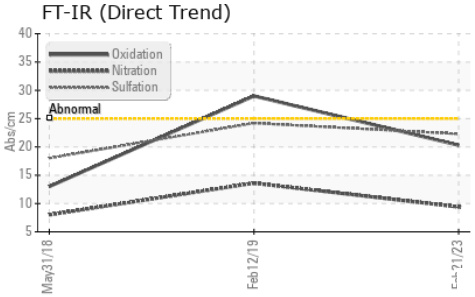
Particle Trend



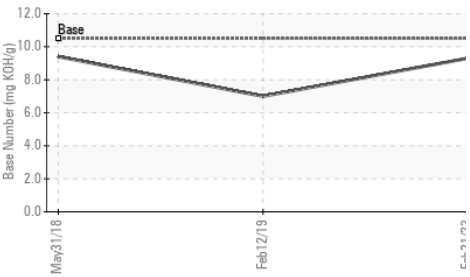
FT-IR (Direct Trend)



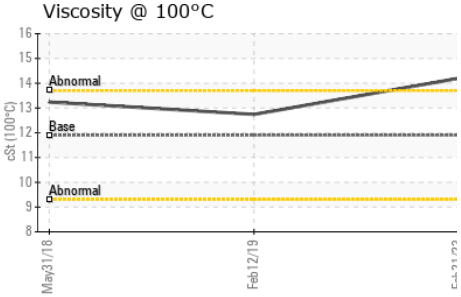
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	**9126**	166	1051
Particles >6µm		ASTM D7647	>5000	**4971**	90	572
Particles >14µm		ASTM D7647	>640	**846**	15	97
Particles >21µm		ASTM D7647	>160	**285**	5	32
Particles >38µm		ASTM D7647	>40	**44**	0	5
Particles >71µm		ASTM D7647	>10	**4**	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	**20/19/17**	15/14/11	17/16/14

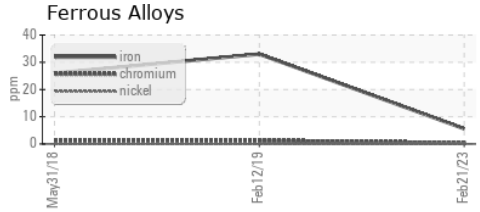
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**20.3**	29	13.
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	**9.3**	7	9.40

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	>0.2	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

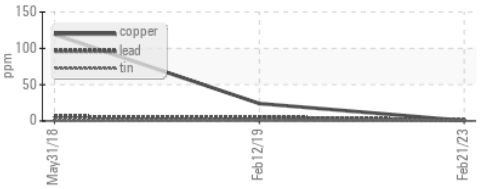
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	11.9	**14.2**	12.74	13.24

GRAPHS

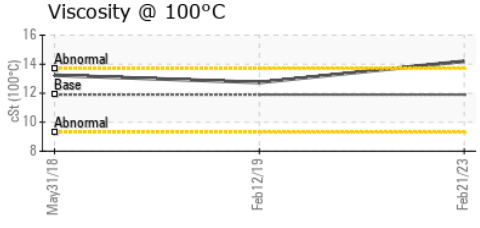
Ferrous Alloys



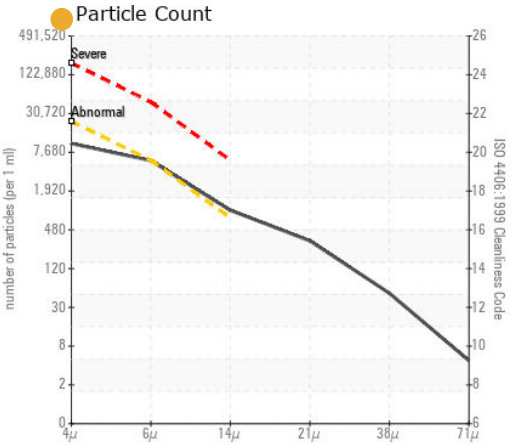
Non-ferrous Metals



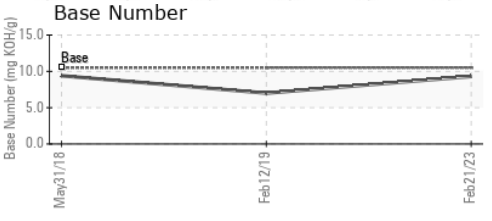
Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0489952 **Received** : 09 Mar 2023
Lab Number : 05787198 **Tested** : 10 Mar 2023
Unique Number : 10371869 **Diagnosed** : 10 Mar 2023 - Angela Borella
Test Package : MOBCE (Additional Tests: PrtCount, 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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