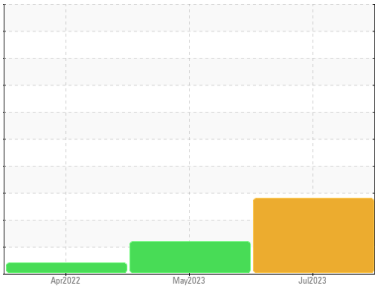
PROBLEM SUMMARY

Sample Rating Trend

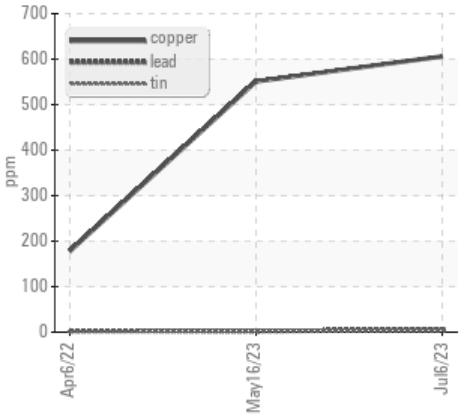


DIRT

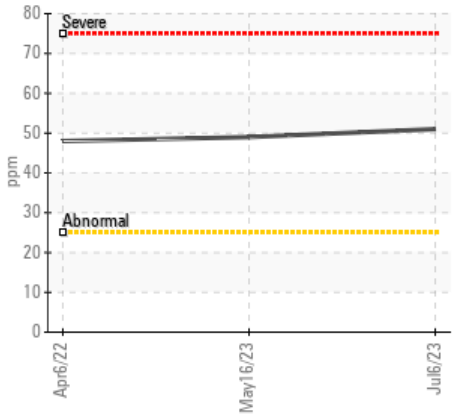
Area
KANSAS/44
Machine Id
69.106L [KANSAS^44]
Component
Diesel Engine
Fluid
MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

COMPONENT CONDITION SUMMARY

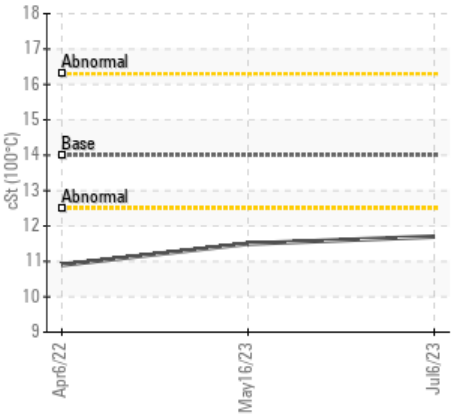
▲ Non-ferrous Metals



▲ Silicon (ppm)



▲ Viscosity @ 100°C



RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	ATTENTION
Copper	ppm	ASTM D5185m	>330	▲ **606**	▲ 551	178
Silicon	ppm	ASTM D5185m	>25	▲ **51**	49	48
Visc @ 100°C	cSt	ASTM D445	14	▲ **11.7**	▲ 11.5	▲ 10.9

Customer Id: SHEWIC
Sample No.: WC0781236
Lab Number: 05904169
Test Package: CONST

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@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
Check Dirt Access	MISSED	Aug 02 2023	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.

HISTORICAL DIAGNOSIS

16 May 2023 Diag: Sean Felton

WEAR

No corrective action is recommended at this time. Resample at the next service interval to monitor.The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other metal levels are typical for a new component breaking in. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

06 Apr 2022 Diag: Jonathan Hester

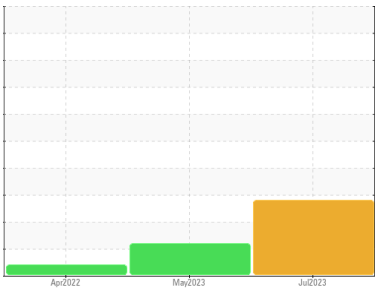
VISCOSITY

No corrective action is recommended at this time. Resample at the next service interval to monitor.Metal levels are typical for a new component breaking in. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Area
KANSAS/44
Machine Id
69.106L [KANSAS^44]
Component
Diesel Engine
Fluid
MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Wear
The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other metal levels are typical for a new component breaking in.

Contamination
Elemental level of silicon (Si) above normal indicating ingress of dirt/seal material.

Fluid Condition
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0781236**	WC0781171	WC0640017
Sample Date		Client Info		**06 Jul 2023**	16 May 2023	06 Apr 2022
Machine Age	hrs	Client Info		**1315**	1101	10
Oil Age	hrs	Client Info		**1101**	10	10
Oil Changed		Client Info		**N/A**	N/A	Not Changd
Sample Status				**ABNORMAL**	ABNORMAL	ATTENTION

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**81**	57	12
Chromium	ppm	ASTM D5185m	>20	**2**	2	<1
Nickel	ppm	ASTM D5185m	>2	**0**	0	0
Titanium	ppm	ASTM D5185m	>2	**0**	<1	0
Silver	ppm	ASTM D5185m	>2	**0**	0	1
Aluminum	ppm	ASTM D5185m	>25	**4**	2	2
Lead	ppm	ASTM D5185m	>40	**5**	2	3
Copper	ppm	ASTM D5185m	>330	▲ **606**	▲ 551	178
Tin	ppm	ASTM D5185m	>15	**4**	3	<1
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	0	**16**	22	74
Barium	ppm	ASTM D5185m	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185m	0	**43**	39	38
Manganese	ppm	ASTM D5185m		**4**	3	2
Magnesium	ppm	ASTM D5185m	0	**558**	517	522
Calcium	ppm	ASTM D5185m		**1972**	1813	1796
Phosphorus	ppm	ASTM D5185m		**971**	916	989
Zinc	ppm	ASTM D5185m		**1192**	1119	1018
Sulfur	ppm	ASTM D5185m		**2860**	2922	2785

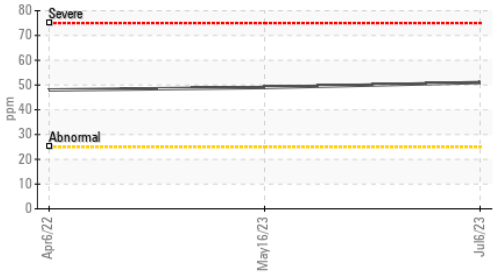
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **51**	49	48
Sodium	ppm	ASTM D5185m		**6**	5	4
Potassium	ppm	ASTM D5185m	>20	**<1**	2	<1
Glycol	%	*ASTM D2982		**0.0**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.9**	0.6	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**14.1**	12.8	4.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**26.3**	25.4	21.2

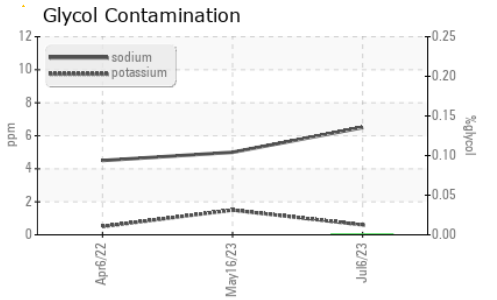
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**27.4**	25.6	18.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.4	**6.3**	7.3	10.9

OIL ANALYSIS REPORT

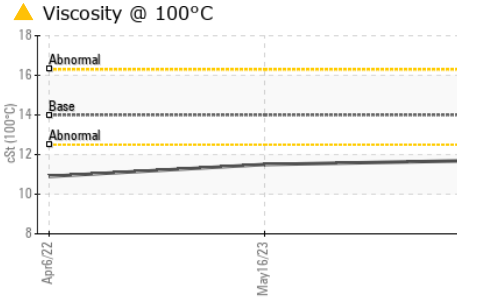
Silicon (ppm)



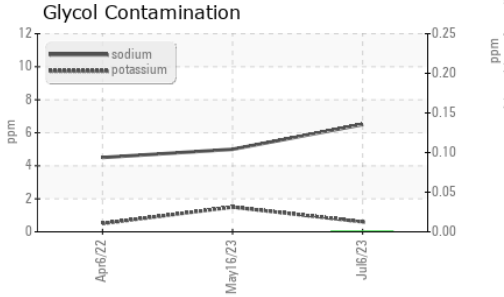
Glycol Contamination



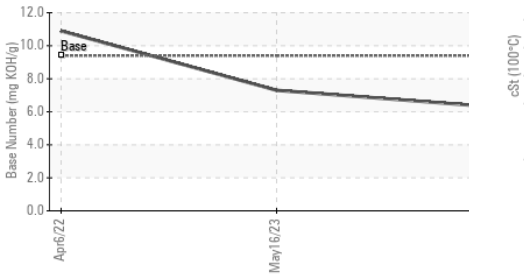
Viscosity @ 100°C



Glycol Contamination



Base Number

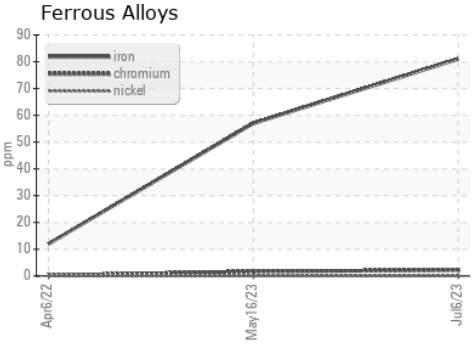


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

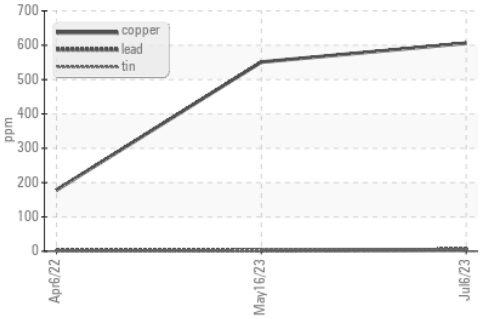
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14	▲ **11.7**	▲ 11.5	▲ 10.9

GRAPHS

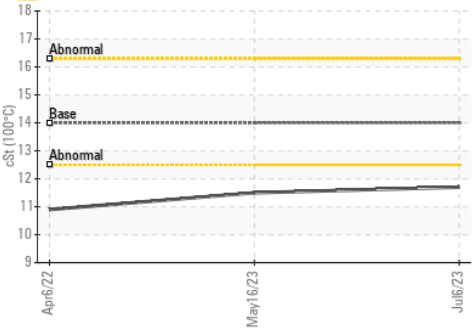
Ferrous Alloys



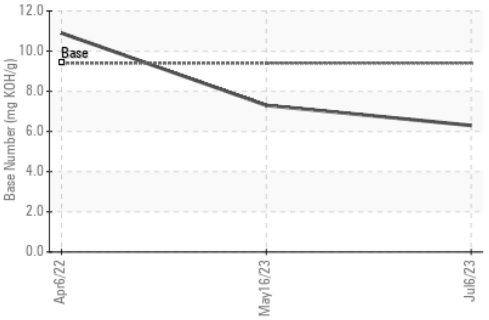
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0781236 **Received** : 21 Jul 2023
Lab Number : 05904169 **Diagnosed** : 01 Aug 2023
Unique Number : 10565525 **Diagnostician** : Doug Bogart
Test Package : CONST (Additional Tests: Glycol, 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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F: x: