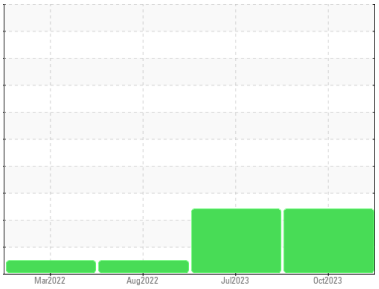
PROBLEM SUMMARY

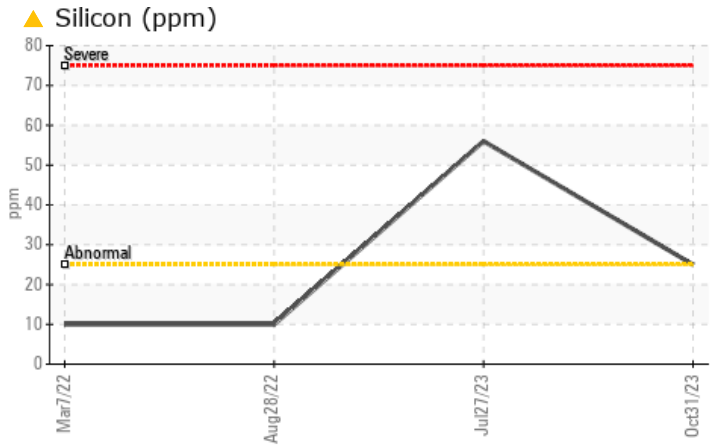
Sample Rating Trend

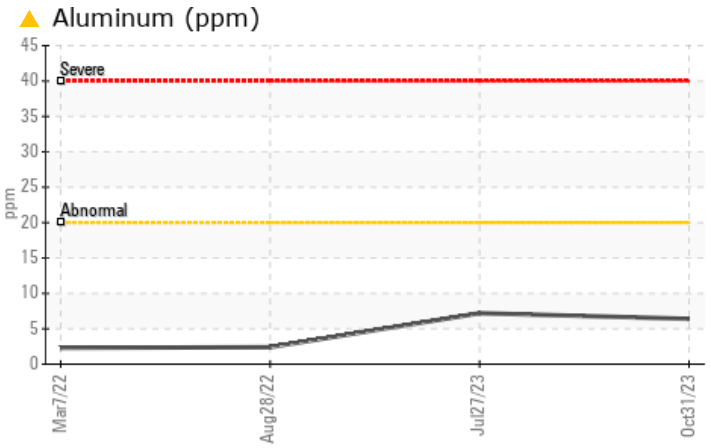


DIRT

Machine Id
1757
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 5W30 (--- GAL)

COMPONENT CONDITION SUMMARY





RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	ABNORMAL	NORMAL
Aluminum	ppm	ASTM D5185m	>20	▲ 6	▲ 7	2
Silicon	ppm	ASTM D5185m	>25	▲ 25	▲ 56	10

Customer Id: TOWCHANC
Sample No.: WC0860375
Lab Number: 06013782
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldridge +1
don.b505@comcast.net

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	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
Check Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.

HISTORICAL DIAGNOSIS

27 Jul 2023 Diag: Don Baldridge

DIRT

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

view report

28 Aug 2022 Diag: Don Baldridge

NORMAL

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

view report

07 Mar 2022 Diag: Angela Borella

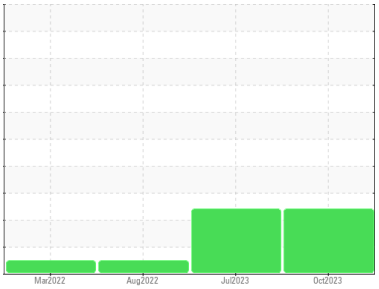
NORMAL

Oil and filter change at the time of sampling has been noted. 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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Machine Id
1757
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 5W30 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter 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
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0860375**	WC0827080	WC0722036
Sample Date		Client Info		**31 Oct 2023**	27 Jul 2023	28 Aug 2022
Machine Age	mls	Client Info		**86906**	82656	78581
Oil Age	mls	Client Info		**0**	6000	6000
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	ABNORMAL	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	**17**	41	14
Chromium	ppm	ASTM D5185m	>20	**1**	1	<1
Nickel	ppm	ASTM D5185m	>4	**1**	<1	0
Titanium	ppm	ASTM D5185m		**<1**	<1	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	▲ **6**	▲ 7	2
Lead	ppm	ASTM D5185m	>40	**2**	9	0
Copper	ppm	ASTM D5185m	>330	**4**	21	1
Tin	ppm	ASTM D5185m	>15	**0**	2	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	250	**32**	52	45
Barium	ppm	ASTM D5185m	10	**0**	10	<1
Molybdenum	ppm	ASTM D5185m	100	**171**	82	71
Manganese	ppm	ASTM D5185m		**2**	3	<1
Magnesium	ppm	ASTM D5185m	450	**669**	586	488
Calcium	ppm	ASTM D5185m	3000	**1268**	2152	1164
Phosphorus	ppm	ASTM D5185m	1150	**723**	2230	634
Zinc	ppm	ASTM D5185m	1350	**969**	2946	741
Sulfur	ppm	ASTM D5185m	4250	**2853**	6577	2677

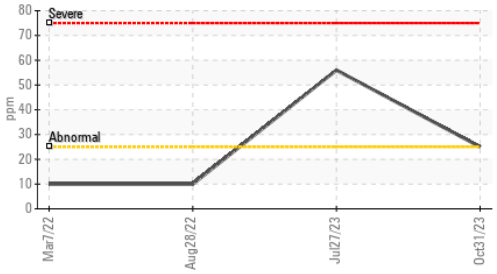
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **25**	▲ 56	10
Sodium	ppm	ASTM D5185m		**7**	39	4
Potassium	ppm	ASTM D5185m	>20	**3**	14	0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.1**	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**12.8**	11.6	12.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**25.6**	32.6	24.1

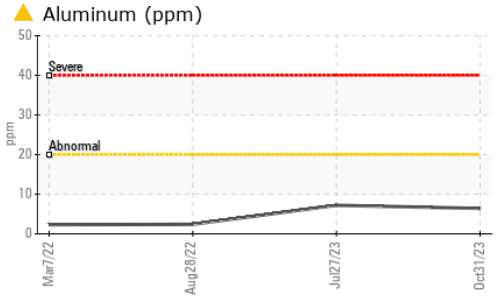
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**18.7**	17.9	18.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**4.6**	7.3	5.9

OIL ANALYSIS REPORT

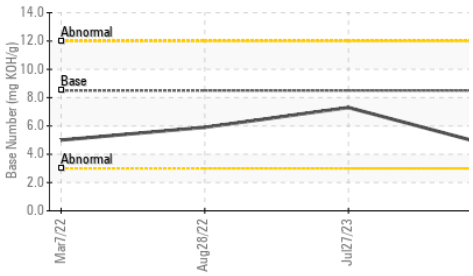
Silicon (ppm)



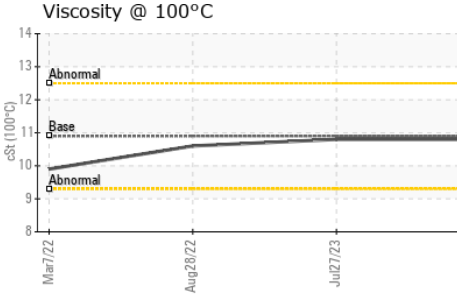
Aluminum (ppm)



Base Number



Viscosity @ 100°C

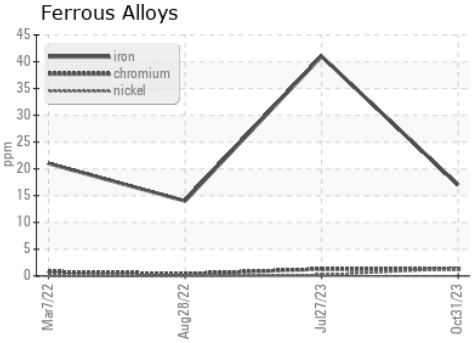


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

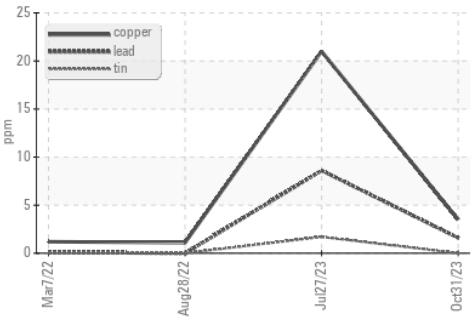
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	10.9	**10.8**	10.8	10.6

GRAPHS

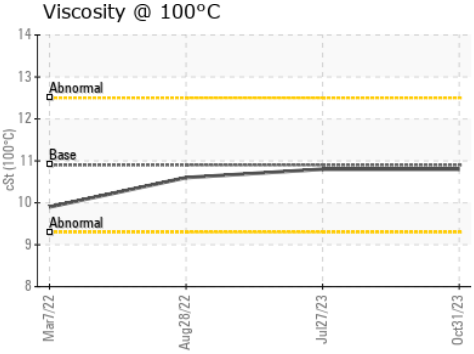
Ferrous Alloys



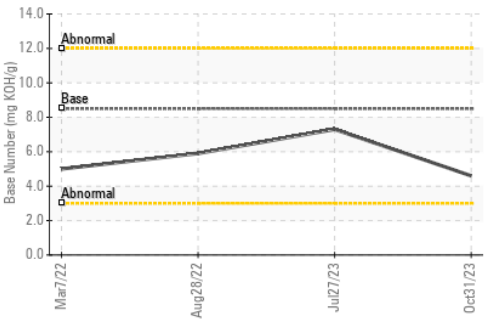
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0860375
Lab Number : 06013782
Unique Number : 10752926
Test Package : FLEET

Received : 21 Nov 2023
Diagnosed : 23 Nov 2023
Diagnostician : Don Baldridge

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)

TOWN OF CHAPEL HILL
6900 MILLHOUSE RD
CHAPEL HILL, NC
US 27516
Contact: Lisa DePasqua
ldepasqua@townofchapelhill.org
T: (919)696-4941
F: