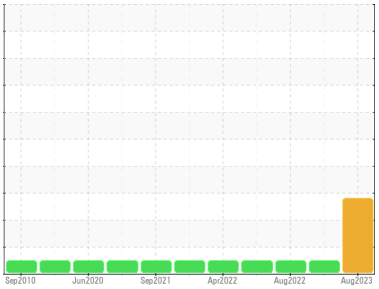
PROBLEM SUMMARY

Sample Rating Trend

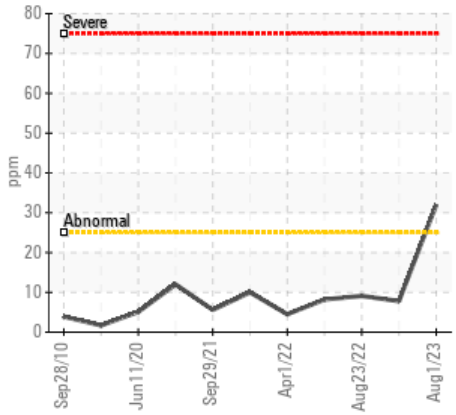


DIRT

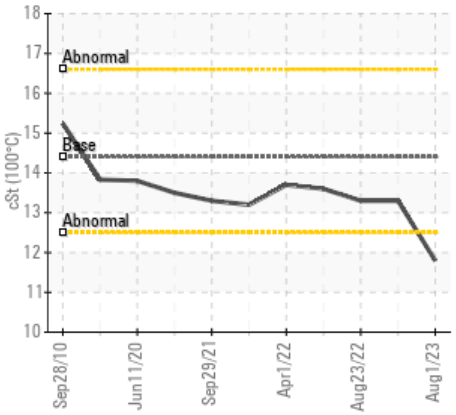
Machine Id
CR-4401
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (7 GAL)

COMPONENT CONDITION SUMMARY

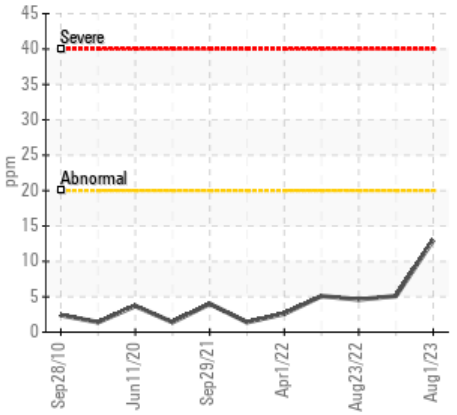
Silicon (ppm)



Viscosity @ 100°C



Aluminum (ppm)



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**	NORMAL	NORMAL
Aluminum	ppm	ASTM D5185m	>20	▲ **13**	5	5
Silicon	ppm	ASTM D5185m	>25	▲ **32**	8	9
Visc @ 100°C	cSt	ASTM D445	14.4	▲ **11.8**	13.3	13.3

Customer Id: BUCWILTX
Sample No.: WC0833405
Lab Number: 05925244
Test Package: CONST

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	---	---	?	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

20 Oct 2022 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.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

23 Aug 2022 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.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

15 Jun 2022 Diag: Wes Davis

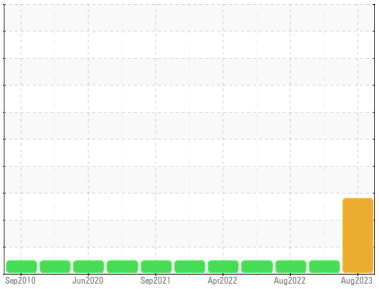
NORMAL

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.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

OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Machine Id
CR-4401
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (7 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
Fuel content negligible. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

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		**WC0833405**	WC0720805	WC0720707
Sample Date		Client Info		**01 Aug 2023**	20 Oct 2022	23 Aug 2022
Machine Age	hrs	Client Info		**1335**	11973	11383
Oil Age	hrs	Client Info		**0**	500	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**44**	7	6
Chromium	ppm	ASTM D5185m	>20	**3**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**<1**	0	<1
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>20	▲ **13**	5	5
Lead	ppm	ASTM D5185m	>40	**0**	<1	<1
Copper	ppm	ASTM D5185m	>330	**0**	<1	<1
Tin	ppm	ASTM D5185m	>15	**0**	<1	1
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	**53**	47	57
Barium	ppm	ASTM D5185m	10	**0**	0	0
Molybdenum	ppm	ASTM D5185m	100	**55**	75	76
Manganese	ppm	ASTM D5185m		**0**	<1	<1
Magnesium	ppm	ASTM D5185m	450	**687**	142	102
Calcium	ppm	ASTM D5185m	3000	**1770**	2031	1882
Phosphorus	ppm	ASTM D5185m	1150	**931**	985	951
Zinc	ppm	ASTM D5185m	1350	**1206**	1183	1128
Sulfur	ppm	ASTM D5185m	4250	**3976**	4235	3390

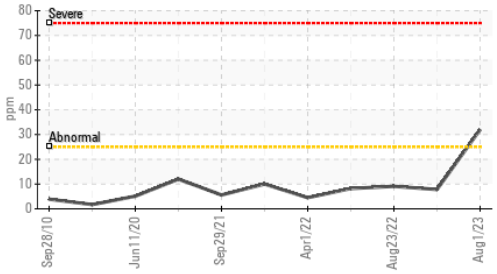
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **32**	8	9
Sodium	ppm	ASTM D5185m	>158	**4**	8	4
Potassium	ppm	ASTM D5185m	>20	**4**	7	1
Fuel	%	ASTM D3524	>5	**1.3**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.4**	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**8.1**	10.2	10.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.1**	19.9	19.2

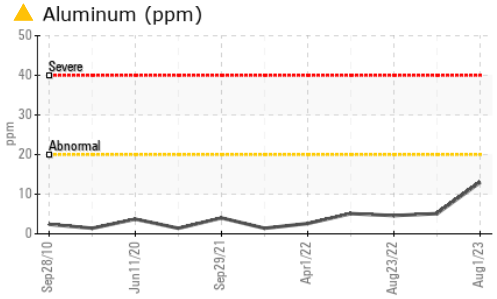
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**17.0**	15.6	14.8
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**7.7**	7.6	7.5

OIL ANALYSIS REPORT

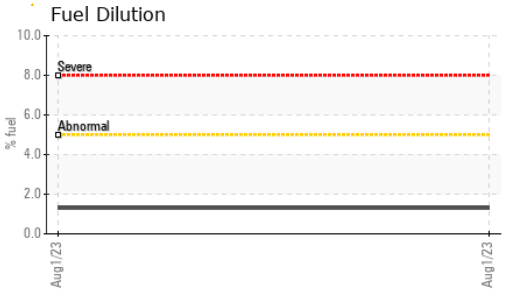
Silicon (ppm)



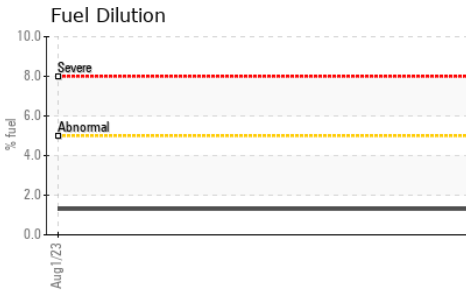
Aluminum (ppm)



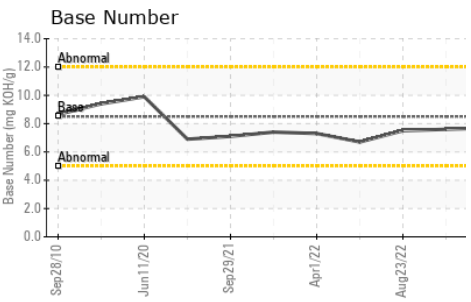
Fuel Dilution



Fuel Dilution



Base Number

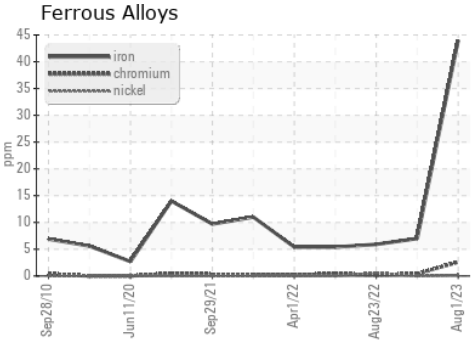


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

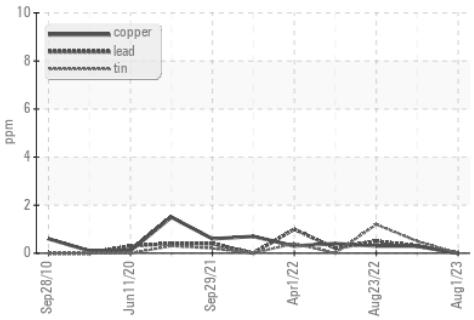
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	▲ **11.8**	13.3	13.3

GRAPHS

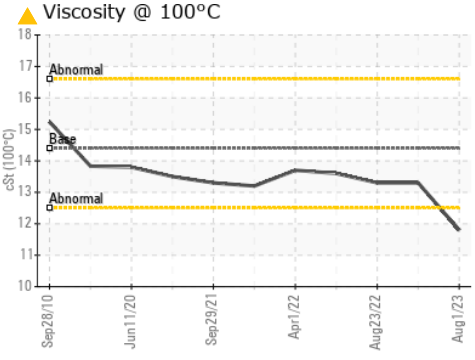
Ferrous Alloys



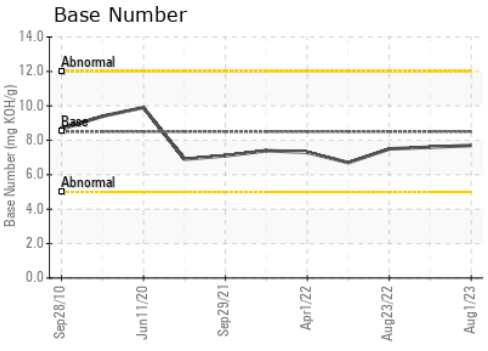
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0833405 **Received** : 15 Aug 2023
Lab Number : 05925244 **Diagnosed** : 17 Aug 2023
Unique Number : 10605191 **Diagnostician** : Sean Felton
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, 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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