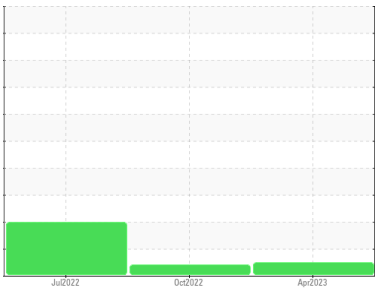
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
223
Component
Diesel Engine
Fluid
CITGO CITGO 10W30 (--- GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear
All component wear rates are normal.

Contamination
There is no indication of any contamination 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		**WC05878599**	WC05692683	WC0595208
Sample Date		Client Info		**22 Apr 2023**	28 Oct 2022	30 Jul 2022
Machine Age	mls	Client Info		**98632**	50130	24472
Oil Age	mls	Client Info		**48472**	50130	0
Oil Changed		Client Info		**Changed**	Changed	Not Changd
Sample Status				**NORMAL**	ATTENTION	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	0.7
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**59**	91	42
Chromium	ppm	ASTM D5185m	>20	**0**	2	<1
Nickel	ppm	ASTM D5185m	>4	**1**	0	0
Titanium	ppm	ASTM D5185m		**0**	<1	<1
Silver	ppm	ASTM D5185m	>3	**0**	<1	<1
Aluminum	ppm	ASTM D5185m	>20	**9**	38	29
Lead	ppm	ASTM D5185m	>40	**3**	8	4
Copper	ppm	ASTM D5185m	>330	**87**	252	204
Tin	ppm	ASTM D5185m	>15	**2**	8	5
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**	14	63
Barium	ppm	ASTM D5185m		**0**	0	1
Molybdenum	ppm	ASTM D5185m		**74**	123	108
Manganese	ppm	ASTM D5185m		**<1**	5	4
Magnesium	ppm	ASTM D5185m		**1037**	647	656
Calcium	ppm	ASTM D5185m		**1296**	1501	1393
Phosphorus	ppm	ASTM D5185m		**1012**	648	602
Zinc	ppm	ASTM D5185m		**1326**	825	757
Sulfur	ppm	ASTM D5185m		**2949**	2467	2032

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**14**	39	▲ 40
Sodium	ppm	ASTM D5185m		**4**	3	4
Potassium	ppm	ASTM D5185m	>20	**26**	103	74

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.7**	0.8	0.4
Nitration	Abs/cm	*ASTM D7624	>20	**14.4**	17.4	14.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.8**	29.9	26.7

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**23.8**	36.1	28.2
Base Number (BN)	mg KOH/g	ASTM D2896		**6.0**	5.39	7.2

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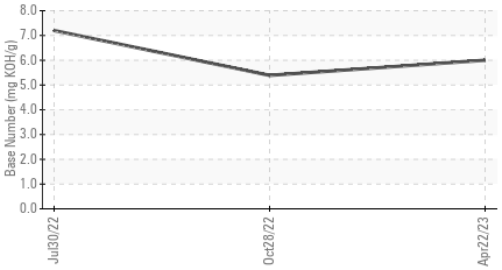
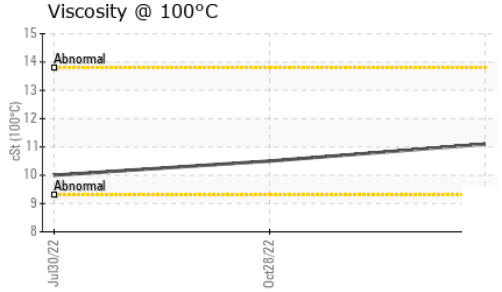
Base Number



Viscosity @ 100°C

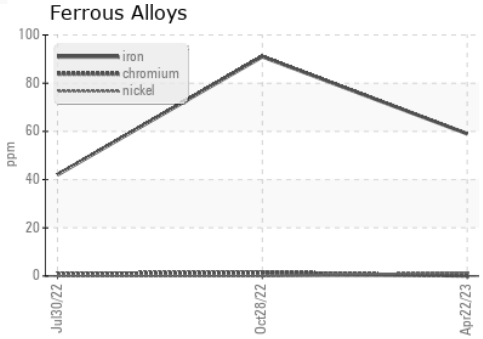


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

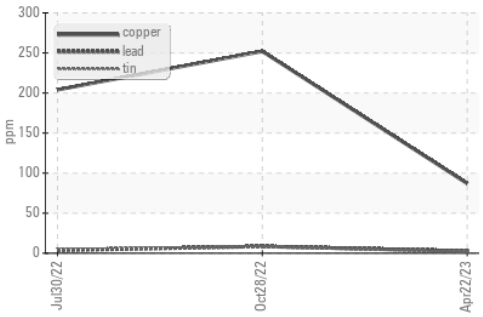
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**11.1**	▲ 10.5	▲ 10.0

GRAPHS

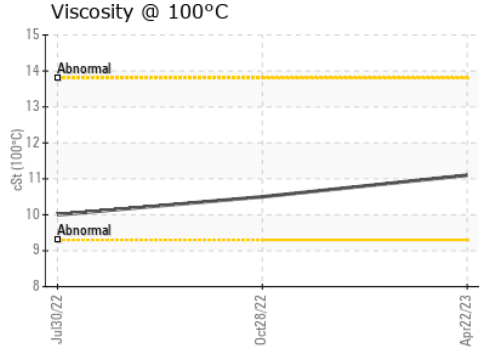
Ferrous Alloys



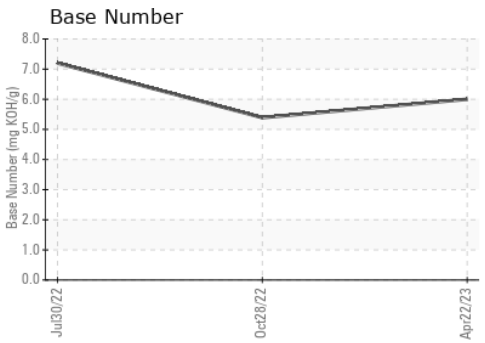
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC05878599
Lab Number : 05878599
Unique Number : 10523702
Test Package : FLEET

Received : 20 Jun 2023
Diagnosed : 21 Jun 2023
Diagnostician : Wes Davis

LONNIE SONGER
1820 SHELTON MISSION RD
GREENEVILLE, TN
US 37743
Contact: LONNIE SONGER

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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