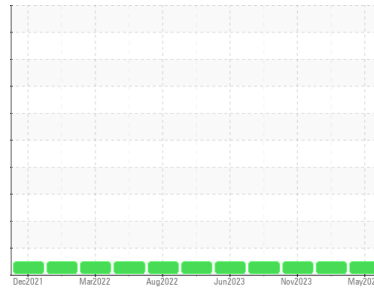




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

1908

Component

Diesel Engine

Fluid

DIESEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

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.

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		WC0887562	WC0887582	WC0844998
Sample Date	Client Info		21 May 2024	12 Feb 2024	24 Nov 2023
Machine Age	mls	Client Info	122454	0	111352
Oil Age	mls	Client Info	6000	0	6000
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	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	8	7	8
Chromium	ppm	ASTM D5185m >20	0	<1	<1
Nickel	ppm	ASTM D5185m >4	0	0	0
Titanium	ppm	ASTM D5185m	1	<1	<1
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	2	2	2
Lead	ppm	ASTM D5185m >40	0	0	<1
Copper	ppm	ASTM D5185m >330	<1	<1	1
Tin	ppm	ASTM D5185m >15	<1	0	0
Vanadium	ppm	ASTM D5185m	0	<1	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	106	43	153
Barium	ppm	ASTM D5185m 10	0	0	0
Molybdenum	ppm	ASTM D5185m 100	68	68	76
Manganese	ppm	ASTM D5185m	<1	0	<1
Magnesium	ppm	ASTM D5185m 450	374	354	294
Calcium	ppm	ASTM D5185m 3000	1576	1771	1604
Phosphorus	ppm	ASTM D5185m 1150	1001	1094	988
Zinc	ppm	ASTM D5185m 1350	1177	1286	1208
Sulfur	ppm	ASTM D5185m 4250	3481	3393	3190

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	6	6	9
Sodium	ppm	ASTM D5185m >158	10	4	6
Potassium	ppm	ASTM D5185m >20	<1	0	<1

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.6	0.5	0.6
Nitration	Abs/cm	*ASTM D7624 >20	8.8	8.9	8.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.8	20.5	21.1

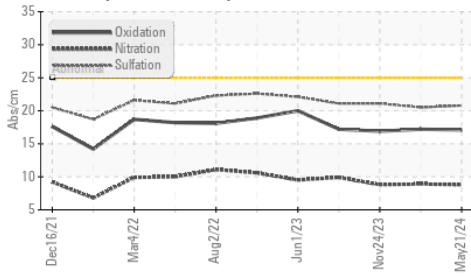
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	17.1	17.2	16.9
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	6.9	7.3	6.0

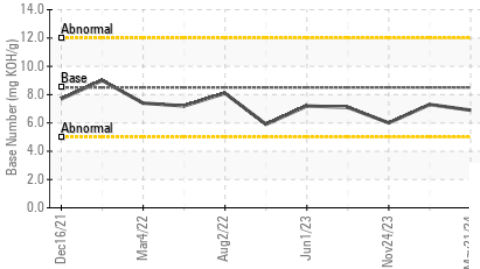


OIL ANALYSIS REPORT

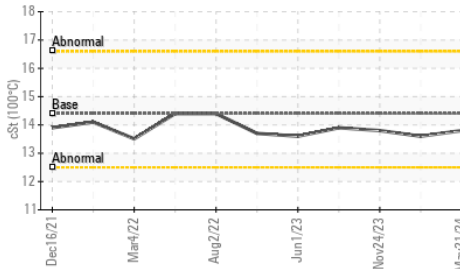
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

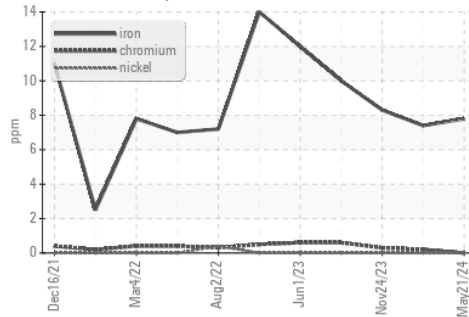


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

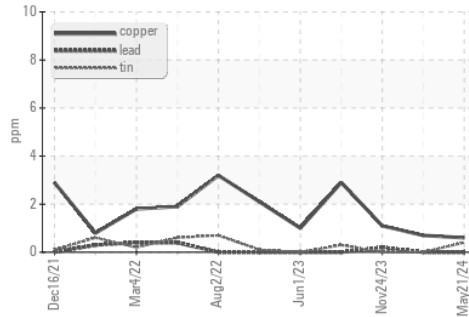
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	13.8	13.6

GRAPHS

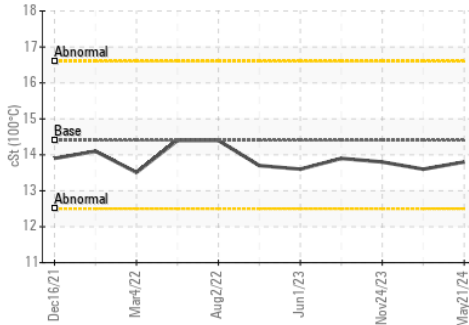
Ferrous Alloys



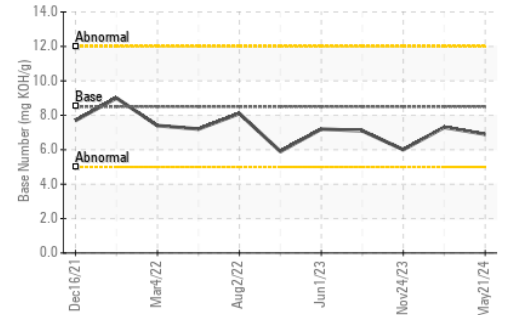
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0887562

Lab Number : 06196194

Unique Number : 11058317

Test Package : FLEET

Received : 31 May 2024

Tested : 03 Jun 2024

Diagnosed : 03 Jun 2024 - Wes Davis

TOWN OF CHAPEL HILL

6900 MILLHOUSE RD

CHAPEL HILL, NC

US 27516

Contact: Lisa DePasqua

ldepasqua@townofchapelhill.org

T: (919)696-4941

F:

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)