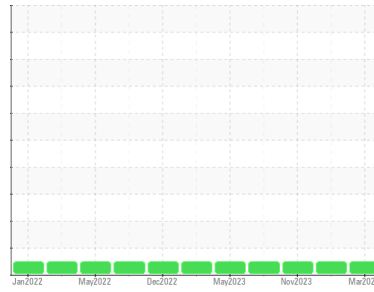


# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id

**1710**

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			<b>HRE0000121</b>	WC0844967	WC0860443
Sample Date	Client Info			<b>26 Mar 2024</b>	02 Feb 2024	27 Nov 2023
Machine Age	mls	Client Info		<b>221593</b>	216320	210797
Oil Age	mls	Client Info		<b>6000</b>	6000	0
Oil Changed	Client Info			<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method	>0.2		<b>NEG</b>	NEG	NEG
Glycol	WC Method			<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	<b>8</b>	9	7
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>2</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	2	3
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185m	>330	<b>2</b>	5	1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
Cadmium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	<b>110</b>	14	56
Barium	ppm	ASTM D5185m	10	<b>0</b>	10	0
Molybdenum	ppm	ASTM D5185m	100	<b>68</b>	61	78
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m	450	<b>334</b>	328	199
Calcium	ppm	ASTM D5185m	3000	<b>1541</b>	1586	1976
Phosphorus	ppm	ASTM D5185m	1150	<b>998</b>	961	1016
Zinc	ppm	ASTM D5185m	1350	<b>1104</b>	1113	1239
Sulfur	ppm	ASTM D5185m	4250	<b>3249</b>	3332	3452

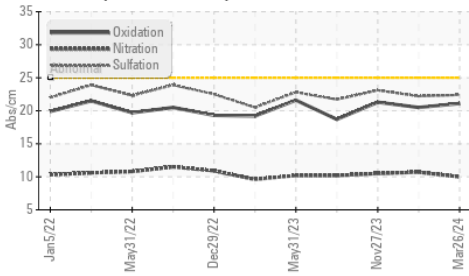
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<b>9</b>	6	8
Sodium	ppm	ASTM D5185m	>158	<b>2</b>	4	5
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	2	<1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0.5</b>	0.5	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.0</b>	10.7	10.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.4</b>	22.2	23.1

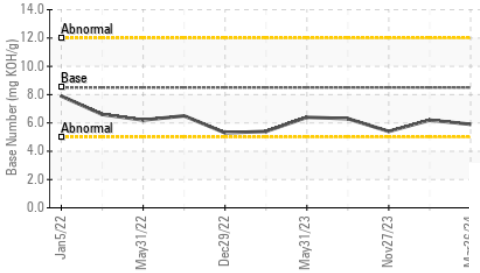
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>21.1</b>	20.5	21.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>5.9</b>	6.2	5.4

# OIL ANALYSIS REPORT

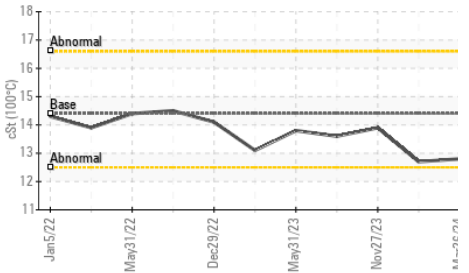
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

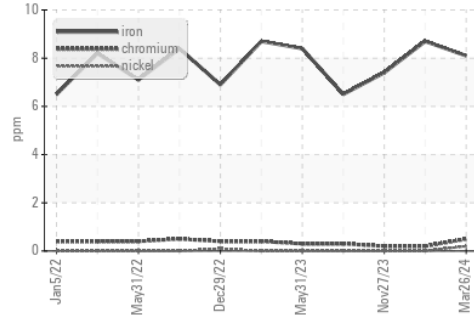


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

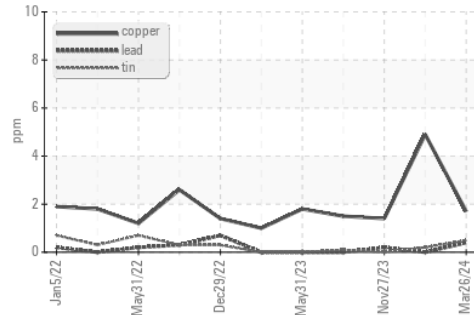
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	12.8	12.7

**GRAPHS**

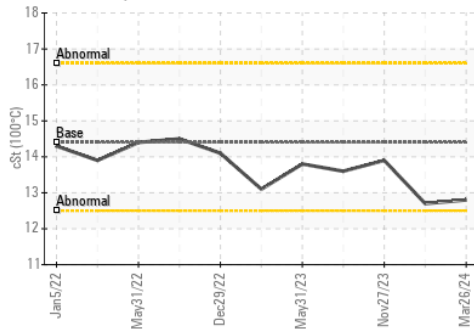
Ferrous Alloys



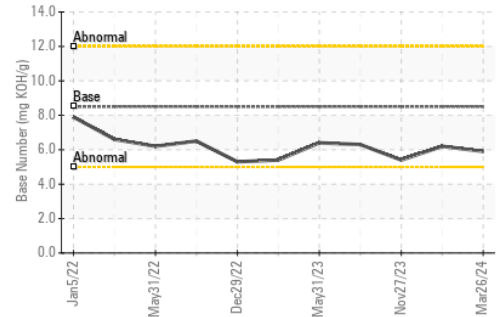
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : HRE0000121  
**Lab Number** : 06148460  
**Unique Number** : 10978538  
**Test Package** : FLEET

**Received** : 15 Apr 2024  
**Tested** : 16 Apr 2024  
**Diagnosed** : 16 Apr 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

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)