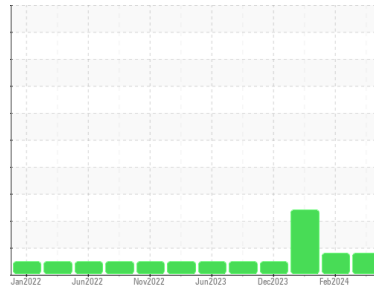


# OIL ANALYSIS REPORT

Sample Rating Trend



**FUEL**



Machine Id

**1716**

Component

**Diesel Engine**

Fluid

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

**DIAGNOSIS**

**Recommendation**

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time. 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**

Light fuel dilution occurring. No other contaminants were detected 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>HRE0000162</b>	WC0887527	WC0887586
Sample Date	Client Info		<b>15 May 2024</b>	20 Feb 2024	05 Feb 2024
Machine Age	mls	Client Info	<b>208610</b>	204308	203079
Oil Age	mls	Client Info	<b>0</b>	1230	0
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>MARGINAL</b>	ABNORMAL	SEVERE

**CONTAMINATION**    method    limit/base    current    history1    history2

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>	0	10
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	1	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	3	3
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>1</b>	<1	3
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

**ADDITIVES**    method    limit/base    current    history1    history2

Boron	ppm	ASTM D5185m	250	<b>125</b>	148	36
Barium	ppm	ASTM D5185m	10	<b>&lt;1</b>	0	10
Molybdenum	ppm	ASTM D5185m	100	<b>60</b>	67	58
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m	450	<b>306</b>	327	290
Calcium	ppm	ASTM D5185m	3000	<b>1126</b>	1409	1402
Phosphorus	ppm	ASTM D5185m	1150	<b>789</b>	898	867
Zinc	ppm	ASTM D5185m	1350	<b>938</b>	1102	1020
Sulfur	ppm	ASTM D5185m	4250	<b>2769</b>	3027	3021

**CONTAMINANTS**    method    limit/base    current    history1    history2

Silicon	ppm	ASTM D5185m	>25	<b>10</b>	8	7
Sodium	ppm	ASTM D5185m	>158	<b>3</b>	4	9
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	1	2
Fuel	%	ASTM D3524	>5	<b>▲ 4.2</b>	▲ 5.4	▲ 9.1

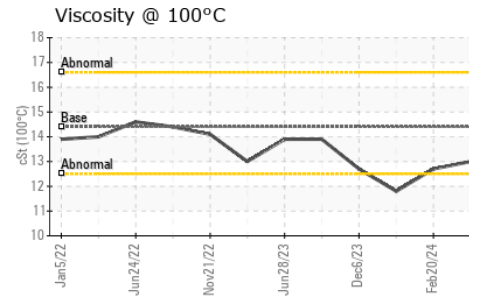
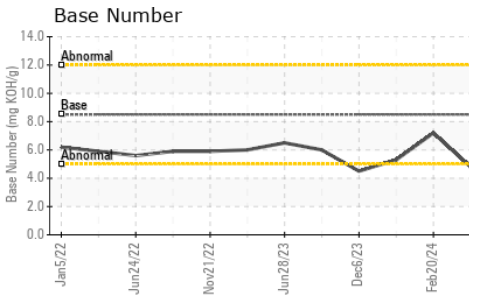
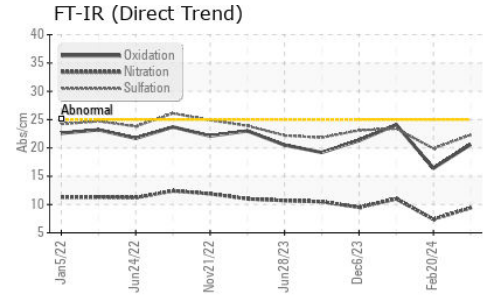
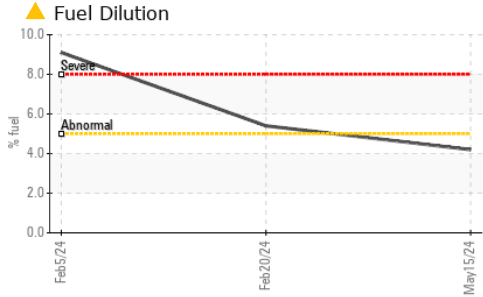
**INFRA-RED**    method    limit/base    current    history1    history2

Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.1	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.4</b>	7.4	11.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.3</b>	19.9	23.4

**FLUID DEGRADATION**    method    limit/base    current    history1    history2

Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.6</b>	16.4	24.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>4.8</b>	7.2	5.3

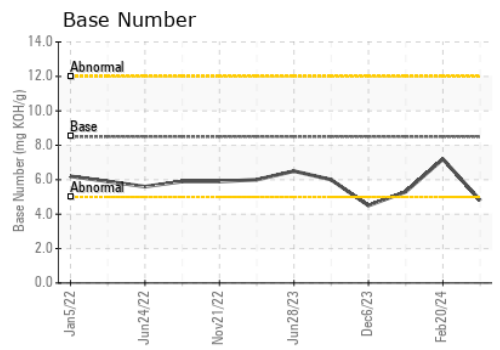
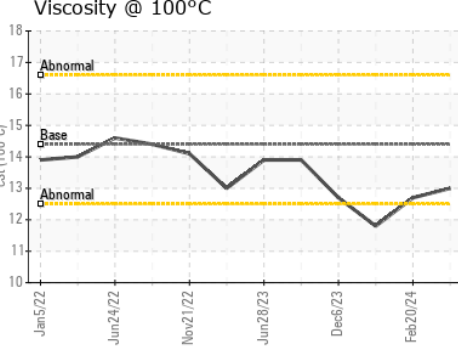
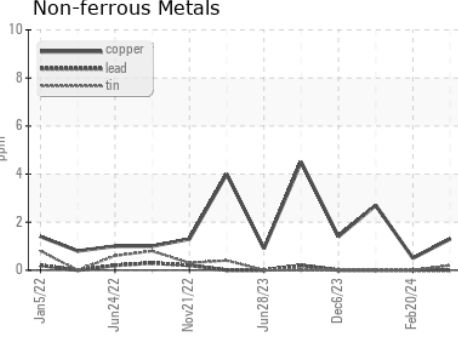
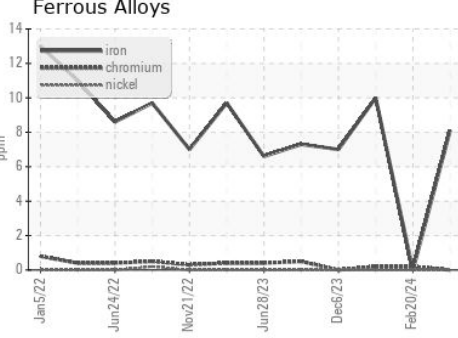
# OIL ANALYSIS REPORT



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	13.0	12.7 ▲ 11.8

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : HRE0000162 **Received** : 31 May 2024  
**Lab Number** : 06196201 **Tested** : 05 Jun 2024  
**Unique Number** : 11058324 **Diagnosed** : 05 Jun 2024 - Wes Davis  
**Test Package** : FLEET ( Additional Tests: PercentFuel )

**TOWN OF CHAPEL HILL**  
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 CHAPEL HILL, NC  
 US 27516  
 Contact: Lisa DePasqua  
 ldepasqua@townofchapelhill.org  
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 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)