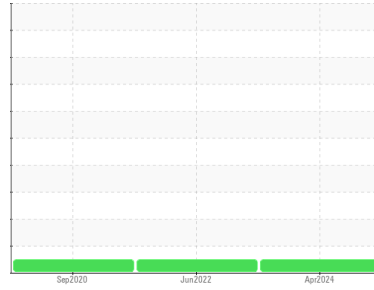




# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Machine Id  
**AMBER RIDGE**  
 Component  
**Diesel Engine**  
 Fluid  
**SHELL 15W40 (4 GAL)**

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

Metal levels are typical for a new component breaking in.

#### 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>WC0858818</b>	WC0700360	WCM1389051
Sample Date	Client Info			<b>04 Apr 2024</b>	10 Jun 2022	15 Sep 2020
Machine Age	hrs	Client Info		<b>337</b>	290	239
Oil Age	hrs	Client Info		<b>47</b>	52	40
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>3</b>	6	6
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	2	0
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m	>330	<b>2</b>	1	<1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	1	<1
Antimony	ppm	ASTM D5185m		<b>---</b>	---	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>219</b>	75	67
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>67</b>	9	3
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>358</b>	417	452
Calcium	ppm	ASTM D5185m		<b>1668</b>	1651	1693
Phosphorus	ppm	ASTM D5185m		<b>985</b>	999	1045
Zinc	ppm	ASTM D5185m		<b>1169</b>	1170	1139
Sulfur	ppm	ASTM D5185m		<b>4020</b>	3765	3476

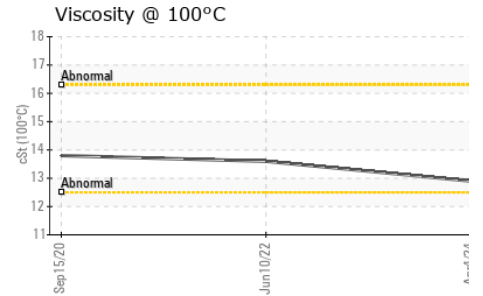
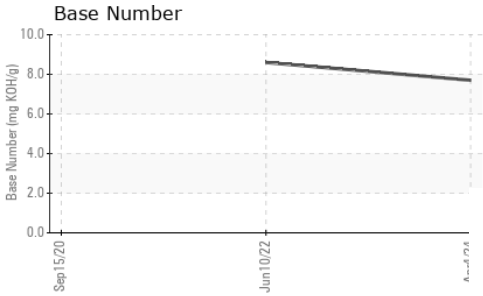
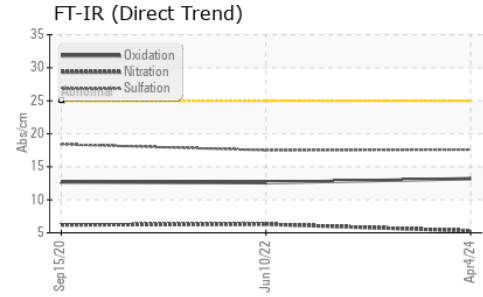
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<b>5</b>	4	3
Sodium	ppm	ASTM D5185m	>150	<b>&lt;1</b>	4	5
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	<1	2

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>5.3</b>	6.3	6.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.6</b>	17.5	18.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.2</b>	12.6	12.7
Base Number (BN)	mg KOH/g	ASTM D2896		<b>7.7</b>	8.6	---



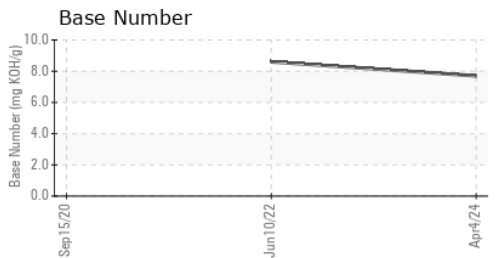
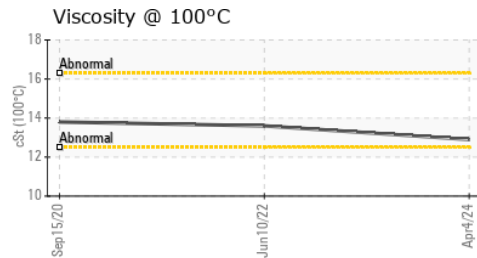
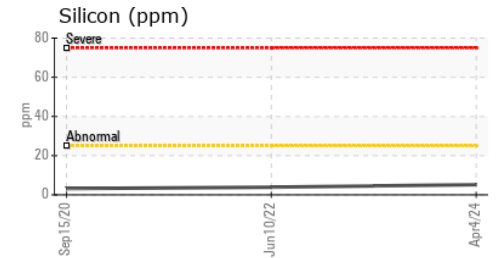
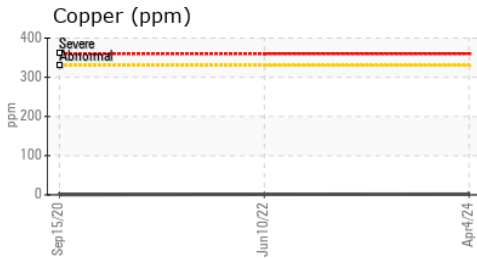
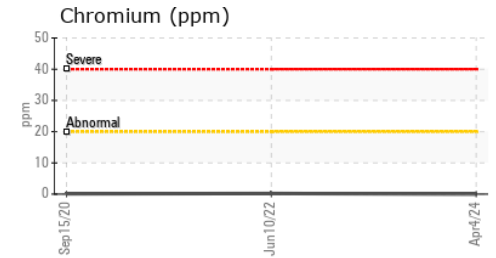
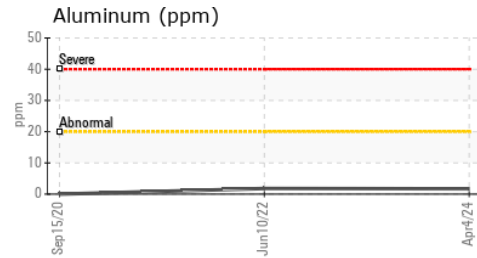
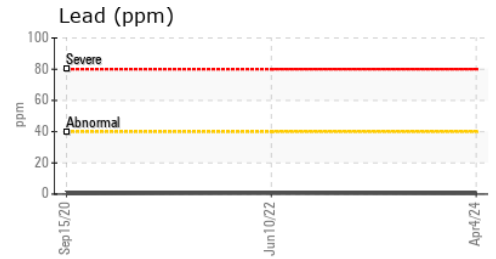
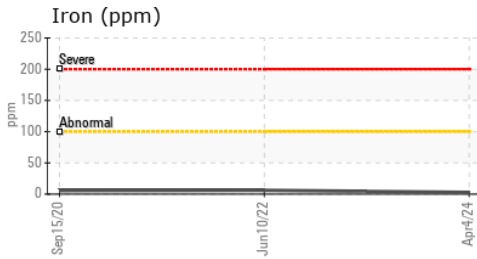
# OIL ANALYSIS REPORT



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	12.9	13.6	13.8

### GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0858818      **Received** : 08 Apr 2024  
**Lab Number** : 06142004      **Tested** : 09 Apr 2024  
**Unique Number** : 10966812      **Diagnosed** : 09 Apr 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**ALTERNATIVE POWER**  
 1000 NORTHGATE CT  
 MORRISVILLE, NC  
 US 27560

Contact: TERESA CHESTER  
teresa.chester@bittingelectric.com

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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F: