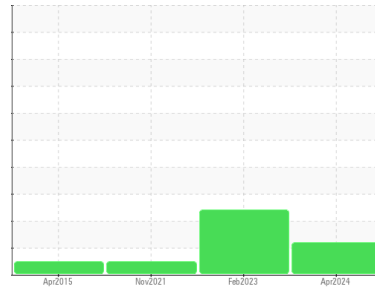




# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id  
**GENERAC LIBERTY COMMONS SALISBURY**  
 Component  
**Diesel Engine**  
 Fluid  
**SHELL ROTELLA T 15W40 (8 QTS)**

## DIAGNOSIS

### Recommendation

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

### Wear

Metal levels are typical for a new component breaking in.

### Contamination

There is a moderate amount of fuel present in the oil.

### Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0887870</b>	WC0712749	WC0458258
Sample Date	Client Info		<b>17 Apr 2024</b>	08 Feb 2023	16 Nov 2021
Machine Age	hrs	Client Info	<b>593</b>	553	0
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>Changed</b>	Changed	N/A
Sample Status			<b>ABNORMAL</b>	SEVERE	NORMAL

## 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>0</b>	<1	1
Chromium	ppm	ASTM D5185m >20	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185m >4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	<b>0</b>	0	0
Silver	ppm	ASTM D5185m >3	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185m >40	<b>1</b>	<1	<1
Copper	ppm	ASTM D5185m >330	<b>0</b>	<1	<1
Tin	ppm	ASTM D5185m >15	<b>0</b>	0	0
Antimony	ppm	ASTM D5185m	<b>---</b>	---	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 316	<b>73</b>	69	99
Barium	ppm	ASTM D5185m 0.0	<b>0</b>	0	1
Molybdenum	ppm	ASTM D5185m 1.2	<b>89</b>	71	52
Manganese	ppm	ASTM D5185m	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m 24	<b>36</b>	98	190
Calcium	ppm	ASTM D5185m 2292	<b>2382</b>	1798	1604
Phosphorus	ppm	ASTM D5185m 1064	<b>1099</b>	832	823
Zinc	ppm	ASTM D5185m 1160	<b>1321</b>	1092	1013
Sulfur	ppm	ASTM D5185m 4996	<b>4718</b>	3608	2786

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>2</b>	3	3
Sodium	ppm	ASTM D5185m	<b>1</b>	1	<1
Potassium	ppm	ASTM D5185m >20	<b>1</b>	<1	0
Fuel	%	ASTM D3524 >5	<b>▲ 7.2</b>	▲ 8.8	<1.0

## INFRA-RED

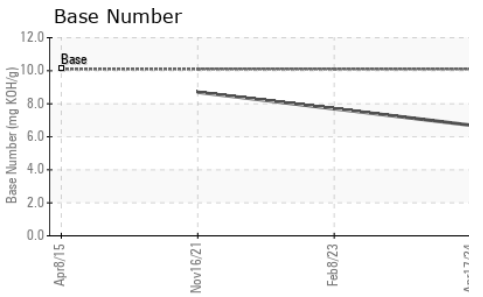
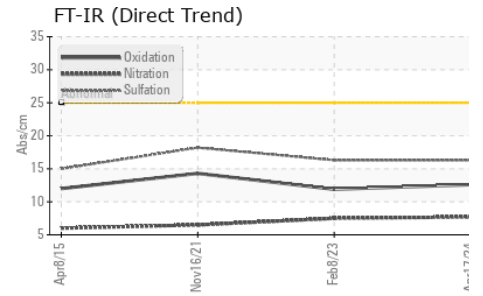
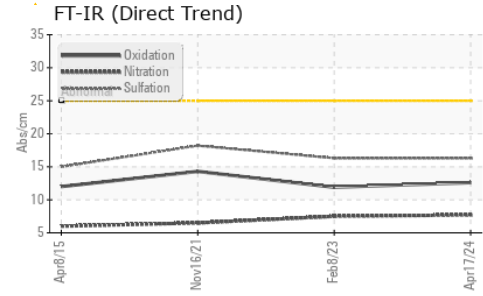
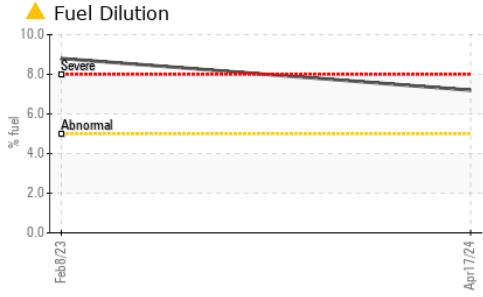
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0</b>	0.1	0
Nitration	Abs/cm	*ASTM D7624 >20	<b>7.7</b>	7.5	6.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>16.3</b>	16.3	18.2

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>12.6</b>	11.9	14.3
Base Number (BN)	mg KOH/g	ASTM D2896 10.1	<b>6.7</b>	7.7	8.7



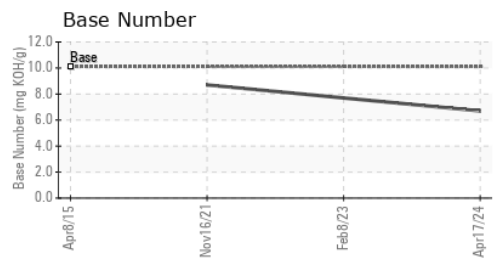
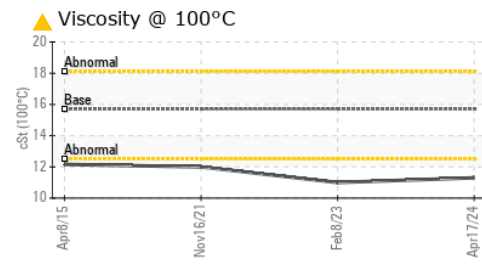
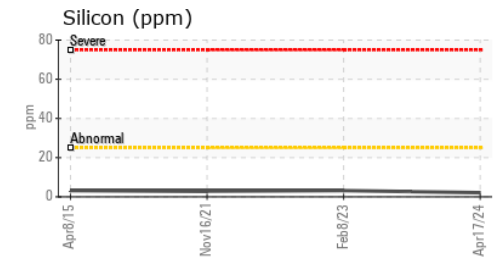
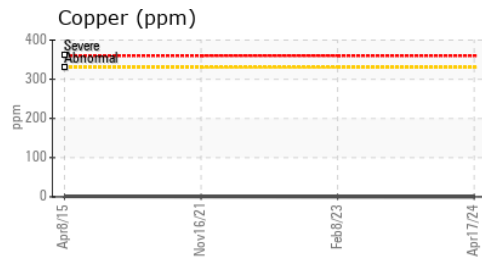
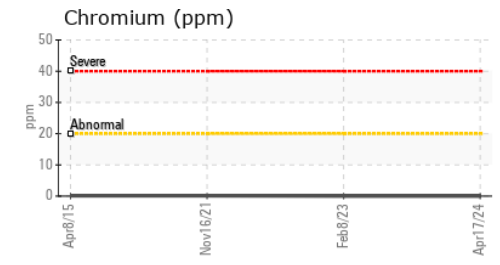
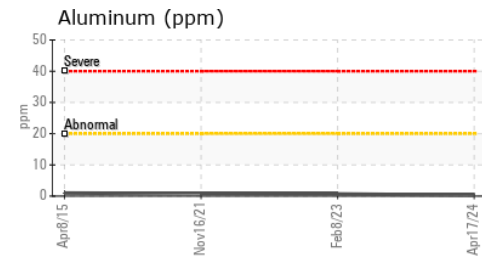
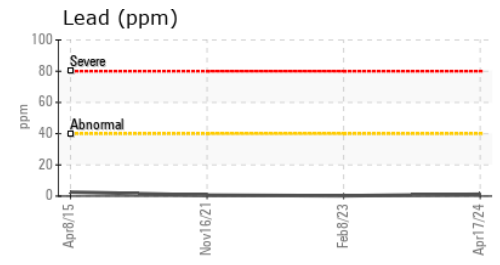
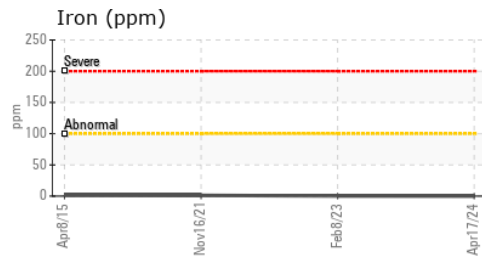
# OIL ANALYSIS REPORT



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	15.7	▲ 11.3	▲ 11.0	12.0

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0887870      **Received** : 24 Apr 2024  
**Lab Number** : 06158766      **Tested** : 25 Apr 2024  
**Unique Number** : 10994189      **Diagnosed** : 25 Apr 2024 - Sean Felton  
**Test Package** : MOB 1 ( Additional Tests: PercentFuel, TBN )

**PIEDMONT GENERATOR**  
 7560 NC HWY 22 NORTH  
 CLIMAX, NC  
 US 27233  
 Contact: TERRY SHEPPARD  
 terry1pg@bellsouth.net; bill3pg@bellsouth.net

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)