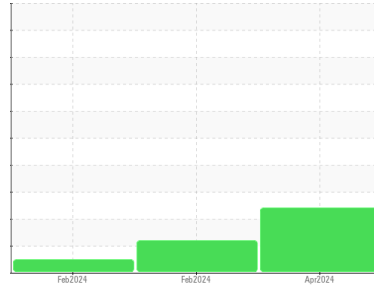




# OIL ANALYSIS REPORT

## Sample Rating Trend



GLYCOL



Machine Id  
**6567**  
 Component  
**Diesel Engine**  
 Fluid  
**CITGO CITGUARD 600 15W40 (--- GAL)**

### DIAGNOSIS

#### Recommendation

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

#### Wear

All component wear rates are normal.

#### Contamination

Sodium and/or potassium levels are high. Test for glycol is negative.

#### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0891568</b>	WC0891584	WC0891580
Sample Date	Client Info		<b>10 Apr 2024</b>	12 Feb 2024	08 Feb 2024
Machine Age	mls	Client Info	<b>502200</b>	484087	279309
Oil Age	mls	Client Info	<b>17000</b>	15000	279309
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>ABNORMAL</b>	ABNORMAL	NORMAL

CONTAMINATION	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG

WEAR METALS	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>90	<b>59</b>	41	26
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	3	2
Lead	ppm	ASTM D5185m	>40	<b>35</b>	12	<1
Copper	ppm	ASTM D5185m	>330	<b>1</b>	2	1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

ADDITIVES	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	13	<b>11</b>	22	39
Barium	ppm	ASTM D5185m	0	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m	57	<b>99</b>	91	69
Manganese	ppm	ASTM D5185m		<b>1</b>	0	0
Magnesium	ppm	ASTM D5185m	825	<b>535</b>	404	363
Calcium	ppm	ASTM D5185m	1100	<b>2292</b>	1882	1685
Phosphorus	ppm	ASTM D5185m	933	<b>1413</b>	1155	1037
Zinc	ppm	ASTM D5185m	1089	<b>1690</b>	1372	1206
Sulfur	ppm	ASTM D5185m	2769	<b>4226</b>	3536	3394

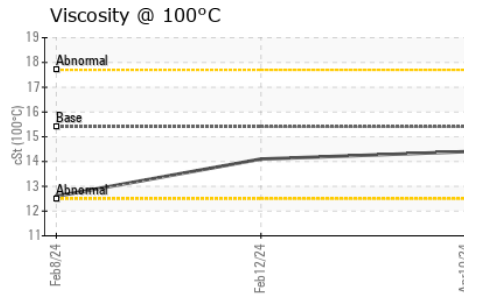
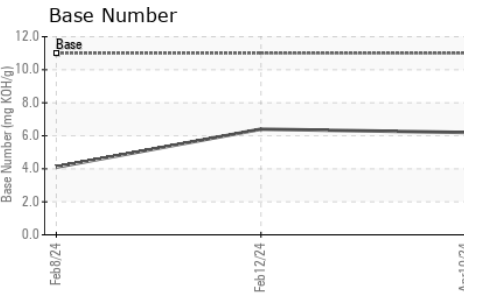
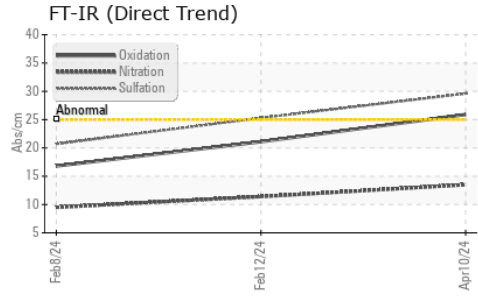
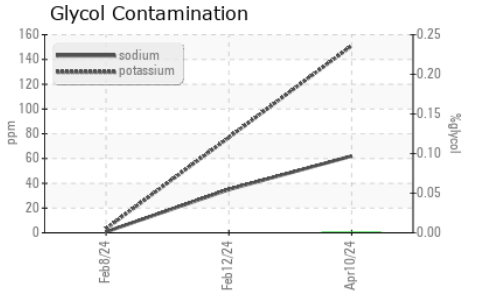
CONTAMINANTS	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	<b>7</b>	5	5
Sodium	ppm	ASTM D5185m		<b>▲ 62</b>	35	<1
Potassium	ppm	ASTM D5185m	>20	<b>▲ 151</b>	▲ 77	3
Glycol	%	*ASTM D2982		<b>0.0</b>	NEG	NEG

INFRA-RED	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>6	<b>0.7</b>	0.5	0.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>13.5</b>	11.4	9.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>29.6</b>	25.3	20.7

FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>25.9</b>	21.1	16.8
Base Number (BN)	mg KOH/g	ASTM D2896	11.0	<b>6.2</b>	6.4	4.1



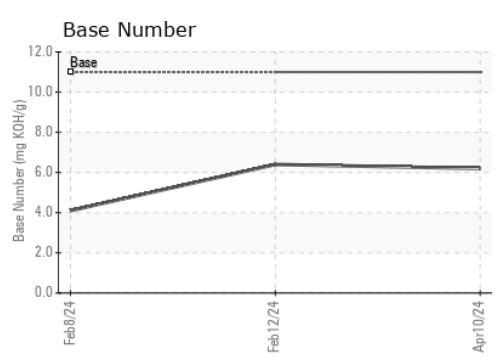
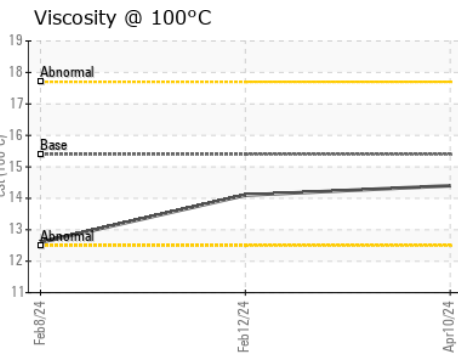
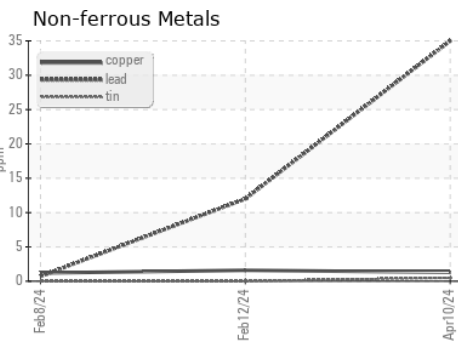
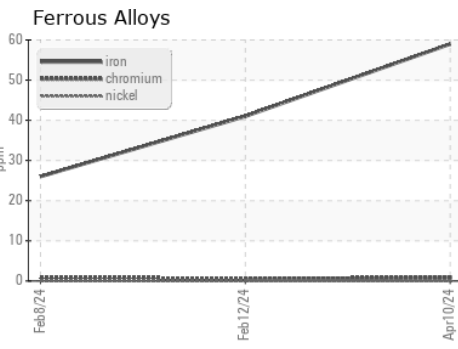
# OIL ANALYSIS REPORT



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	15.4	14.4	14.1

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0891568      **Received** : 16 Apr 2024  
**Lab Number** : 06149965      **Tested** : 17 Apr 2024  
**Unique Number** : 10980043      **Diagnosed** : 18 Apr 2024 - Don Baldrige  
**Test Package** : FLEET ( Additional Tests: Glycol )

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 F: (423)979-5922

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)