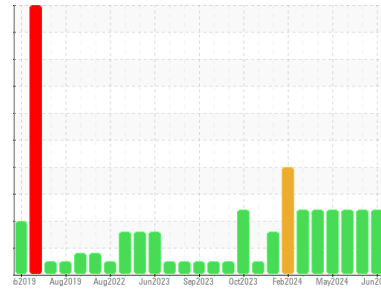




# OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id  
**929080-205304**

Component  
**Diesel Engine**

Fluid  
**DIESEL ENGINE OIL SAE 15W30 (--- GAL)**

## DIAGNOSIS

### Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### Contamination

Sodium and/or potassium levels remain high.

### Fluid Condition

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>GFL0121613</b>	GFL0105296	GFL0105097	
Sample Date	Client Info	<b>11 Jun 2024</b>	23 May 2024	15 May 2024	
Machine Age	hrs	Client Info	<b>13457</b>	13321	13227
Oil Age	hrs	Client Info	<b>150</b>	150	150
Oil Changed	Client Info	<b>Not Changed</b>	Not Changed	Not Changed	
Sample Status		<b>ABNORMAL</b>	ABNORMAL	ABNORMAL	

## 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

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	<b>14</b>	11	4
Chromium	ppm ASTM D5185m >20	<b>1</b>	<1	<1
Nickel	ppm ASTM D5185m >4	<b>&lt;1</b>	0	0
Titanium	ppm ASTM D5185m	<b>&lt;1</b>	<1	0
Silver	ppm ASTM D5185m >3	<b>&lt;1</b>	0	<1
Aluminum	ppm ASTM D5185m >20	<b>3</b>	2	<1
Lead	ppm ASTM D5185m >40	<b>3</b>	1	<1
Copper	ppm ASTM D5185m >330	<b>2</b>	<1	<1
Tin	ppm ASTM D5185m >15	<b>&lt;1</b>	<1	0
Vanadium	ppm ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm ASTM D5185m	<b>&lt;1</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 250	<b>3</b>	0	0
Barium	ppm ASTM D5185m 10	<b>1</b>	0	0
Molybdenum	ppm ASTM D5185m 100	<b>95</b>	77	66
Manganese	ppm ASTM D5185m	<b>&lt;1</b>	0	0
Magnesium	ppm ASTM D5185m 450	<b>1078</b>	889	1011
Calcium	ppm ASTM D5185m 3000	<b>1214</b>	1030	1120
Phosphorus	ppm ASTM D5185m 1150	<b>1265</b>	907	1095
Zinc	ppm ASTM D5185m 1350	<b>1444</b>	1183	1307
Sulfur	ppm ASTM D5185m 4250	<b>3758</b>	3156	3846

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>11</b>	8	6
Sodium	ppm ASTM D5185m >25	<b>▲ 188</b>	▲ 155	▲ 59
Potassium	ppm ASTM D5185m >20	<b>▲ 121</b>	▲ 96	▲ 34
Glycol	% *ASTM D2982	<b>NEG</b>	0.0	NEG

## INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>0.2</b>	0.2	0.1
Nitration	Abs/cm *ASTM D7624 >20	<b>8.8</b>	7.9	6.3
Sulfation	Abs.1mm *ASTM D7415 >30	<b>21.4</b>	20.3	18.7

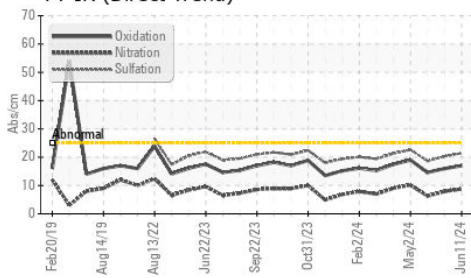
## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs.1mm *ASTM D7414 >25	<b>17.0</b>	16.0	14.6
Base Number (BN)	mg KOH/g ASTM D2896 8.5	<b>8.2</b>	8.4	8.1

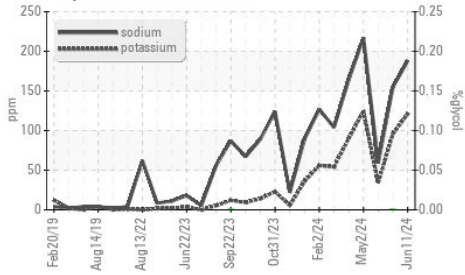


# OIL ANALYSIS REPORT

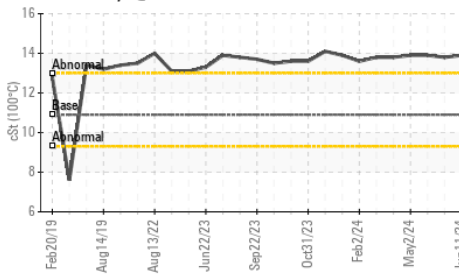
### FT-IR (Direct Trend)



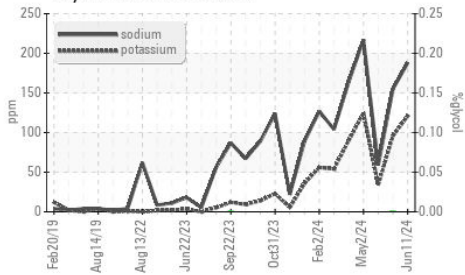
### Glycol Contamination



### Viscosity @ 100°C



### Glycol Contamination

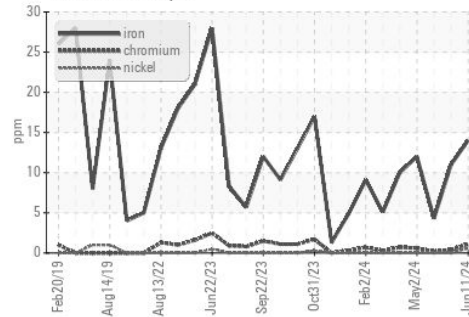


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

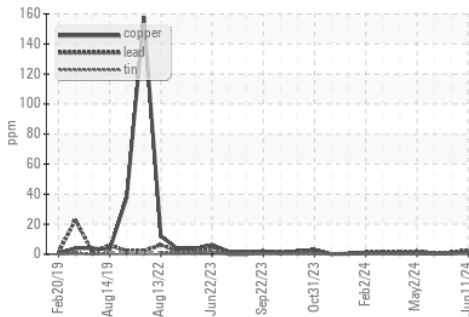
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	10.9	13.9	13.8

### GRAPHS

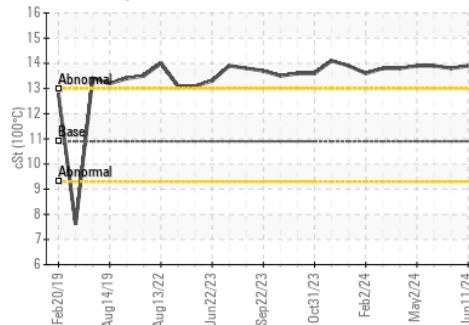
#### Ferrous Alloys



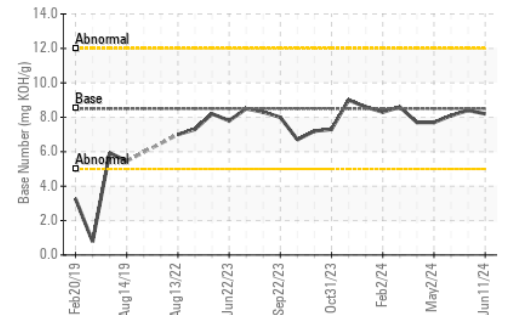
#### Non-ferrous Metals



#### Viscosity @ 100°C



#### Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0121613

Lab Number : 06219294

Unique Number : 11097491

Test Package : FLEET ( Additional Tests: Glycol )

Received : 25 Jun 2024

Tested : 26 Jun 2024

Diagnosed : 26 Jun 2024 - Jonathan Hester

GFL Environmental - 821 - Ozarks Hauling

33924 Olath Drive

Lebanon, MO

US 65536

Contact: Landen Johnson

landen.johnson@gflenv.com

T: (417)664-0010

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)