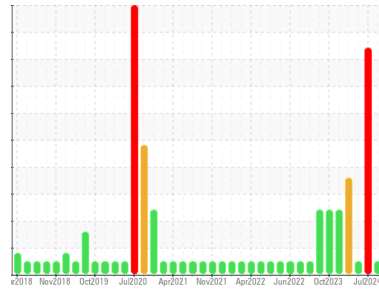




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**3789C AUTOCAR ACX**  
 Component  
**Natural Gas Engine**  
 Fluid  
**CHEVRON DELO 400 NG (48 QTS)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: This sample is a retest for glycol. )

### Wear

All component wear rates are normal.

### Contamination

No evidence of coolant present in the oil. 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>GFL0127893</b>  | GFL0117412  | GFL0103162  |
| Sample Date   | Client Info |             | <b>09 Jul 2024</b> | 01 Jul 2024 | 23 Jan 2024 |
| Machine Age   | hrs         | Client Info | <b>37361</b>       | 37280       | 36114       |
| Oil Age       | hrs         | Client Info | <b>1247</b>        | 1166        | 9311        |
| Oil Changed   | Client Info |             | <b>Not Chngd</b>   | Not Chngd   | Changed     |
| Sample Status |             |             | <b>NORMAL</b>      | SEVERE      | NORMAL      |

## CONTAMINATION

|       | method    | limit/base | current    | history1 | history2 |
|-------|-----------|------------|------------|----------|----------|
| Water | WC Method | >0.1       | <b>NEG</b> | NEG      | NEG      |

## WEAR METALS

|          | method | limit/base      | current      | history1 | history2 |
|----------|--------|-----------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >50 | <b>6</b>     | 40       | 30       |
| Chromium | ppm    | ASTM D5185m >4  | <b>0</b>     | 5        | 3        |
| Nickel   | ppm    | ASTM D5185m >2  | <b>0</b>     | <1       | <1       |
| Titanium | ppm    | ASTM D5185m     | <b>0</b>     | 0        | <1       |
| Silver   | ppm    | ASTM D5185m >3  | <b>0</b>     | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m >9  | <b>&lt;1</b> | 8        | 2        |
| Lead     | ppm    | ASTM D5185m >30 | <b>0</b>     | 2        | 1        |
| Copper   | ppm    | ASTM D5185m >35 | <b>0</b>     | <1       | 1        |
| Tin      | ppm    | ASTM D5185m >4  | <b>0</b>     | <1       | <1       |
| 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     | <b>31</b>   | 6        | 6        |
| Barium     | ppm    | ASTM D5185m     | <b>0</b>    | 0        | 0        |
| Molybdenum | ppm    | ASTM D5185m     | <b>46</b>   | 70       | 58       |
| Manganese  | ppm    | ASTM D5185m     | <b>0</b>    | <1       | <1       |
| Magnesium  | ppm    | ASTM D5185m     | <b>640</b>  | 584      | 543      |
| Calcium    | ppm    | ASTM D5185m     | <b>1494</b> | 1641     | 1514     |
| Phosphorus | ppm    | ASTM D5185m 800 | <b>832</b>  | 707      | 663      |
| Zinc       | ppm    | ASTM D5185m 880 | <b>1007</b> | 976      | 975      |
| Sulfur     | ppm    | ASTM D5185m     | <b>3048</b> | 2101     | 2317     |

## CONTAMINANTS

|           | method | limit/base        | current    | history1 | history2 |
|-----------|--------|-------------------|------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >+100 | <b>7</b>   | 22       | 20       |
| Sodium    | ppm    | ASTM D5185m       | <b>17</b>  | ▲ 221    | 7        |
| Potassium | ppm    | ASTM D5185m >20   | <b>33</b>  | ▲ 529    | 4        |
| Glycol    | %      | *ASTM D2982       | <b>---</b> | ▲ 0.10   | ---      |

## INFRA-RED

|           | method  | limit/base      | current     | history1 | history2 |
|-----------|---------|-----------------|-------------|----------|----------|
| Soot %    | %       | *ASTM D7844     | <b>0.1</b>  | 0        | 0        |
| Nitration | Abs/cm  | *ASTM D7624 >20 | <b>7.5</b>  | 13.3     | 11.2     |
| Sulfation | Abs.1mm | *ASTM D7415 >30 | <b>19.5</b> | 26.3     | 22.3     |

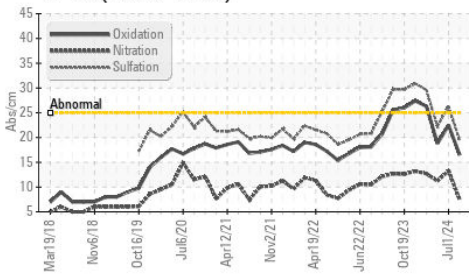
## FLUID DEGRADATION

|                  | method   | limit/base      | current     | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation        | Abs.1mm  | *ASTM D7414 >25 | <b>16.5</b> | 22.5     | 18.8     |
| Base Number (BN) | mg KOH/g | ASTM D2896 6.1  | <b>7.7</b>  | 3.5      | 4.0      |

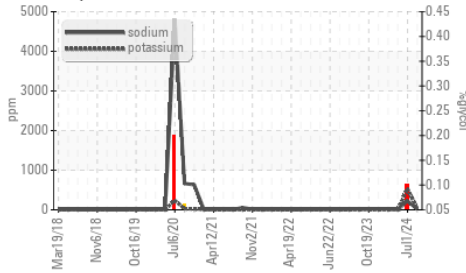


# OIL ANALYSIS REPORT

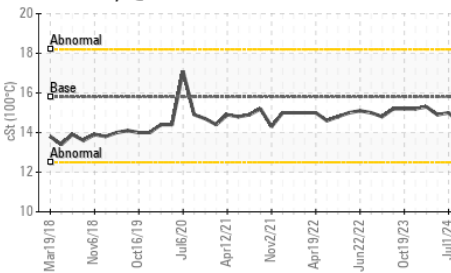
FT-IR (Direct Trend)



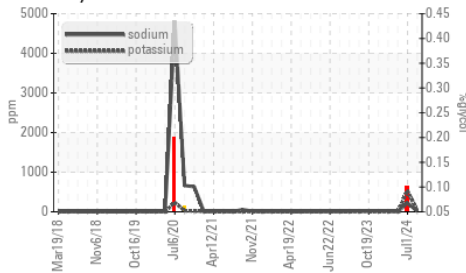
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

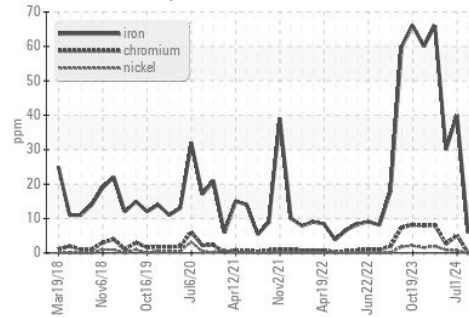


| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| 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    | >0.1    | NEG      | NEG      |
| Free Water       | scalar | *Visual    |         | NEG      | NEG      |

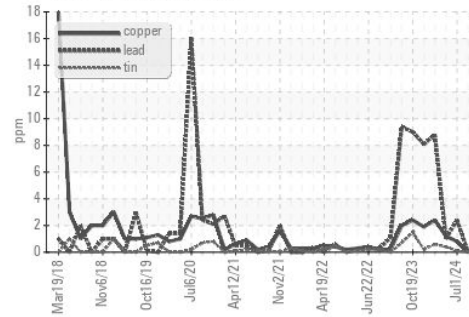
| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C     | cSt    | ASTM D445  | 15.8    | 14.5     | 15.0     |

## GRAPHS

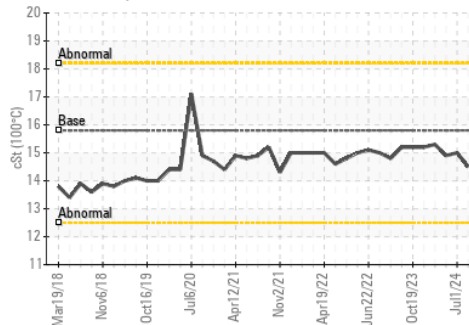
Ferrous Alloys



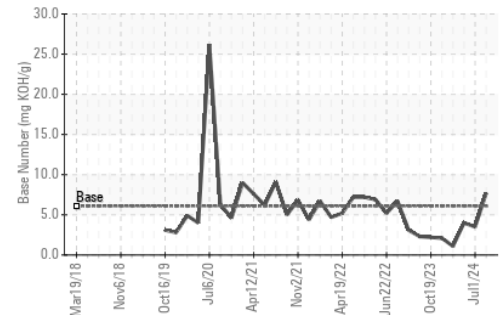
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0127893  
 Lab Number : 06232919  
 Unique Number : 11116412  
 Test Package : FLEET

Received : 11 Jul 2024  
 Tested : 15 Jul 2024  
 Diagnosed : 15 Jul 2024 - Jonathan Hester

GFL Environmental - 001 - Raleigh(CNG)  
 3741 Conquest Drive  
 Garner, NC  
 US 27529

Contact: Craig Johnson  
 craig.johnson@gflenv.com

T: (919)662-7100  
 F: (919)662-7130

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)