



# OIL ANALYSIS REPORT

|                 |                 |
|-----------------|-----------------|
| WEAR            | <b>NORMAL</b>   |
| CONTAMINATION   | <b>ABNORMAL</b> |
| FLUID CONDITION | <b>NORMAL</b>   |

Machine Id  
**139444**  
Component  
**Diesel Engine**  
Fluid  
**CHEVRON DELO 400 MULTIGRADE 15W40 (--- GAL)**

## RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>RPL0016770</b>  | RPL0007316  | RPL0007188  |
| Sample Date    |     | Client Info |           | <b>12 Apr 2024</b> | 19 Jan 2023 | 26 Oct 2022 |
| Machine Age    | mls | Client Info |           | <b>375221</b>      | 252007      | 0           |
| Oil Age        | mls | Client Info |           | <b>375221</b>      | 26646       | 0           |
| Filter Age     | mls | Client Info |           | <b>0</b>           | 26646       | 0           |
| Oil Changed    |     | Client Info |           | <b>N/A</b>         | Not Changd  | Changed     |
| Filter Changed |     | Client Info |           | <b>N/A</b>         | Changed     | Changed     |
| Sample Status  |     |             |           | <b>ABNORMAL</b>    | NORMAL      | NORMAL      |

## WEAR

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >100 | <b>27</b>    | 30   | 25   |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>&lt;1</b> | <1   | <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>     | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >20  | <b>4</b>     | 6    | 8    |
| Lead         | ppm    | ASTM D5185m | >40  | <b>2</b>     | 3    | 3    |
| Copper       | ppm    | ASTM D5185m | >330 | <b>0</b>     | <1   | <1   |
| Tin          | ppm    | ASTM D5185m | >15  | <b>&lt;1</b> | <1   | <1   |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | 0    |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |

## CONTAMINATION

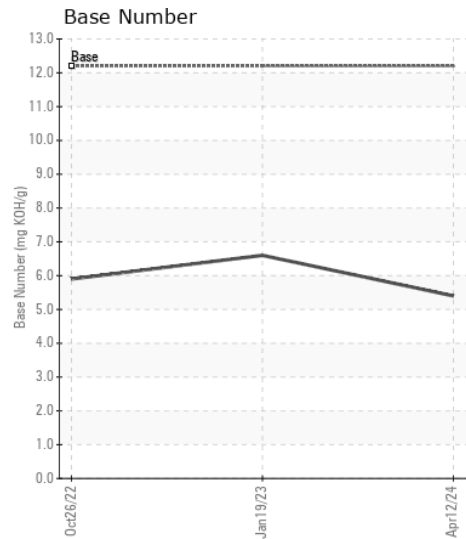
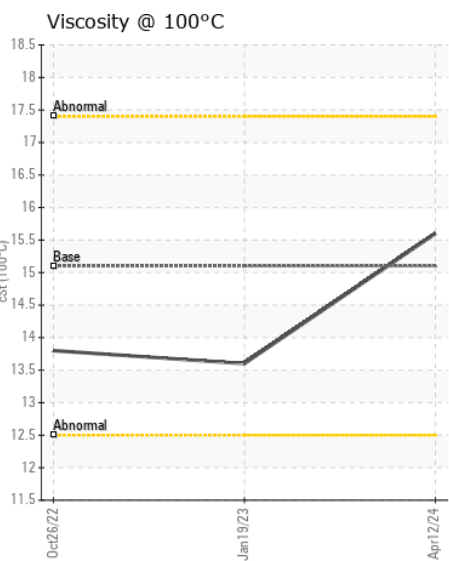
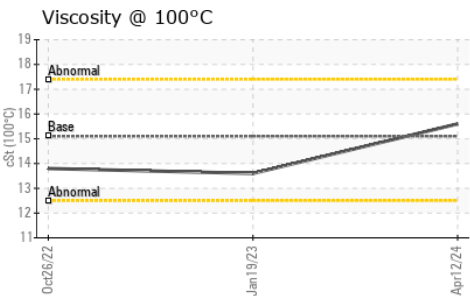
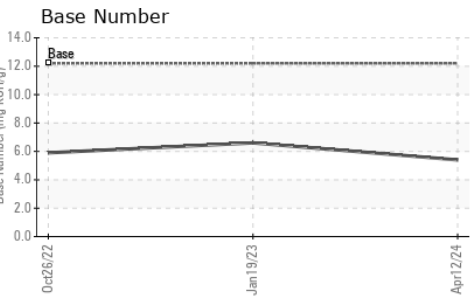
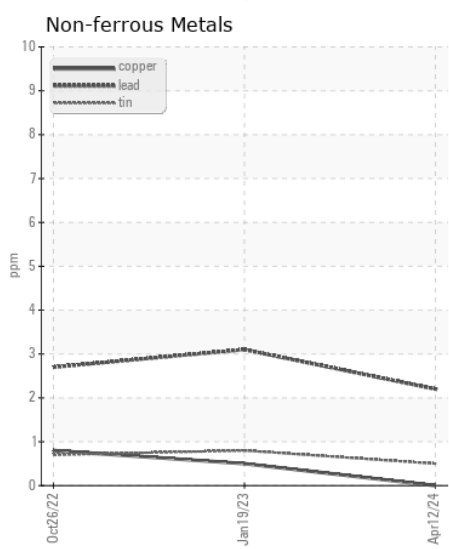
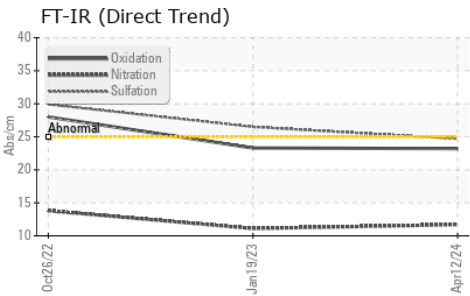
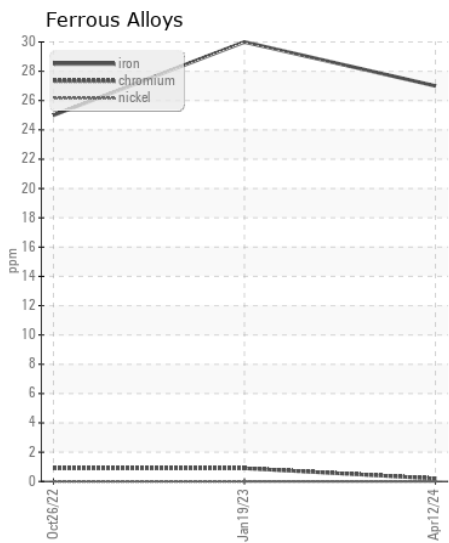
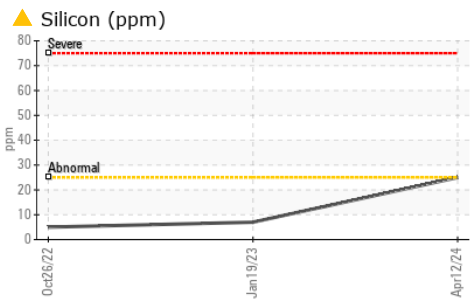
Elemental level of silicon (Si) above normal indicating ingress of seal material.

|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>▲ 25</b>    | 7     | 5     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>6</b>       | 24    | 19    |
| 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   |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0.5</b>     | 0.6   | 0.8   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>11.7</b>    | 11.1  | 13.8  |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>24.7</b>    | 26.5  | 29.9  |
| Silt             | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Debris           | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Sand/Dirt        | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Appearance       | scalar   | *Visual     | NORML | <b>NORML</b>   | NORML | NORML |
| Odor             | scalar   | *Visual     | NORML | <b>NORML</b>   | NORML | NORML |
| Emulsified Water | scalar   | *Visual     | >0.2  | <b>NEG</b>     | NEG   | NEG   |

## 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.

|                  |          |             |      |             |      |      |
|------------------|----------|-------------|------|-------------|------|------|
| Sodium           | ppm      | ASTM D5185m |      | <b>0</b>    | 2    | <1   |
| Boron            | ppm      | ASTM D5185m |      | <b>6</b>    | 113  | 8    |
| Barium           | ppm      | ASTM D5185m |      | <b>0</b>    | 0    | 0    |
| Molybdenum       | ppm      | ASTM D5185m |      | <b>58</b>   | 150  | 71   |
| Manganese        | ppm      | ASTM D5185m |      | <b>0</b>    | <1   | <1   |
| Magnesium        | ppm      | ASTM D5185m |      | <b>863</b>  | 660  | 956  |
| Calcium          | ppm      | ASTM D5185m |      | <b>1052</b> | 1391 | 1227 |
| Phosphorus       | ppm      | ASTM D5185m | 1360 | <b>958</b>  | 627  | 1053 |
| Zinc             | ppm      | ASTM D5185m | 1480 | <b>1142</b> | 792  | 1312 |
| Sulfur           | ppm      | ASTM D5185m |      | <b>3441</b> | 2687 | 3452 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>23.2</b> | 23.3 | 28   |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 12.2 | <b>5.4</b>  | 6.6  | 5.9  |
| Visc @ 100°C     | cSt      | ASTM D445   | 15.1 | <b>15.6</b> | 13.6 | 13.8 |



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RPL0016770 **Received** : 17 Apr 2024  
**Lab Number** : 06151665 **Tested** : 18 Apr 2024  
**Unique Number** : 10981743 **Diagnosed** : 22 Apr 2024 - Jonathan Hester  
**Test Package** : FLEET

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Certificate L2367  
 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)