



# OIL ANALYSIS REPORT

|                 |          |
|-----------------|----------|
| WEAR            | NORMAL   |
| CONTAMINATION   | ABNORMAL |
| FLUID CONDITION | NORMAL   |

Machine Id  
**54150**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL 10W40 (--- QTS)**

## RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current     | History1 | History2 |
|----------------|-----|-------------|-----------|-------------|----------|----------|
| Sample Number  |     | Client Info |           | WC0913809   | ---      | ---      |
| Sample Date    |     | Client Info |           | 09 Apr 2024 | ---      | ---      |
| Machine Age    | hrs | Client Info |           | 176         | ---      | ---      |
| Oil Age        | hrs | Client Info |           | 130         | ---      | ---      |
| Filter Age     | hrs | Client Info |           | 130         | ---      | ---      |
| Oil Changed    |     | Client Info |           | Changed     | ---      | ---      |
| Filter Changed |     | Client Info |           | Changed     | ---      | ---      |
| Sample Status  |     |             |           | ABNORMAL    | ---      | ---      |

## WEAR

Metal levels are typical for a new component breaking in.

|              |        |             |      |      |     |     |
|--------------|--------|-------------|------|------|-----|-----|
| Iron         | ppm    | ASTM D5185m | >100 | 61   | --- | --- |
| Chromium     | ppm    | ASTM D5185m | >20  | 9    | --- | --- |
| Nickel       | ppm    | ASTM D5185m | >4   | 0    | --- | --- |
| Titanium     | ppm    | ASTM D5185m |      | <1   | --- | --- |
| Silver       | ppm    | ASTM D5185m | >3   | 0    | --- | --- |
| Aluminum     | ppm    | ASTM D5185m | >20  | 8    | --- | --- |
| Lead         | ppm    | ASTM D5185m | >40  | 1    | --- | --- |
| Copper       | ppm    | ASTM D5185m | >330 | 4    | --- | --- |
| Tin          | ppm    | ASTM D5185m | >15  | <1   | --- | --- |
| Vanadium     | ppm    | ASTM D5185m |      | 0    | --- | --- |
| White Metal  | scalar | *Visual     | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual     | NONE | NONE | --- | --- |

## CONTAMINATION

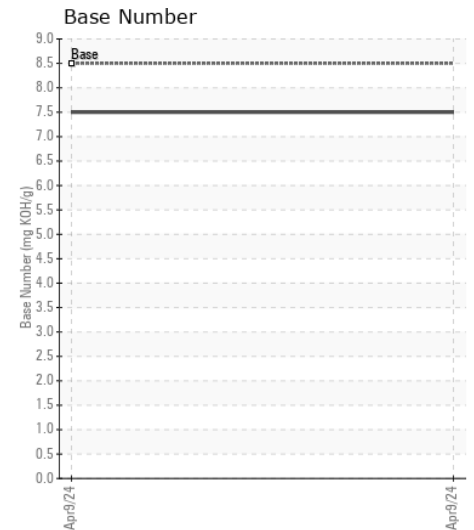
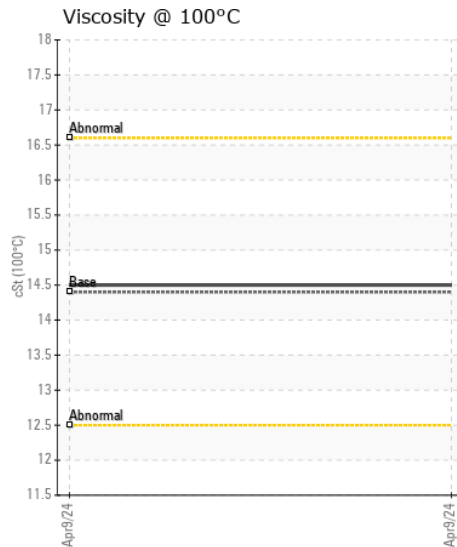
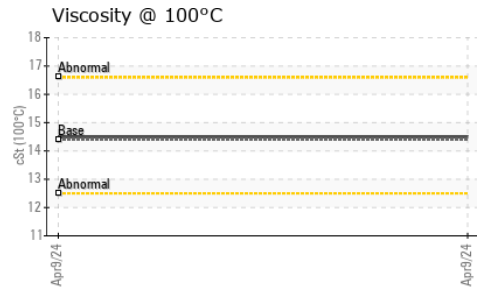
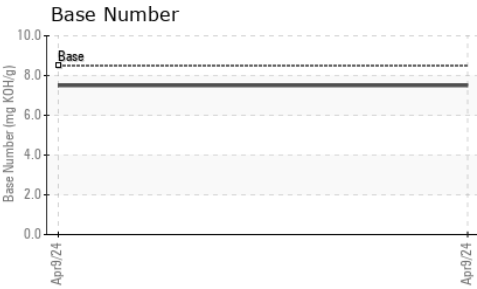
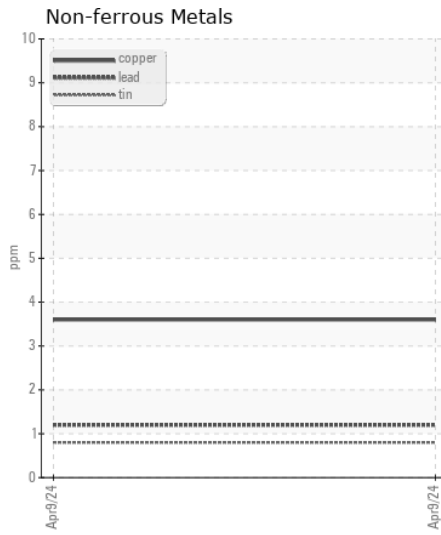
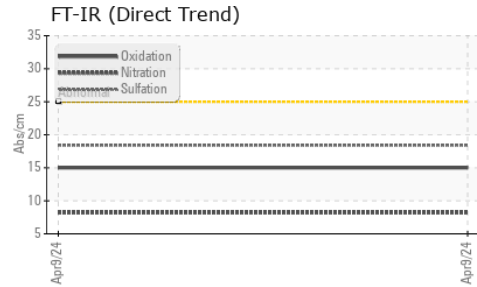
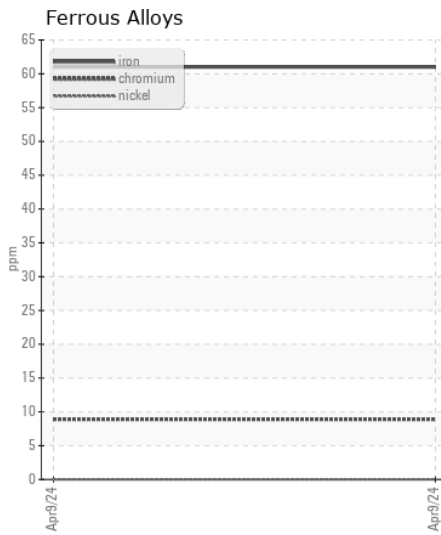
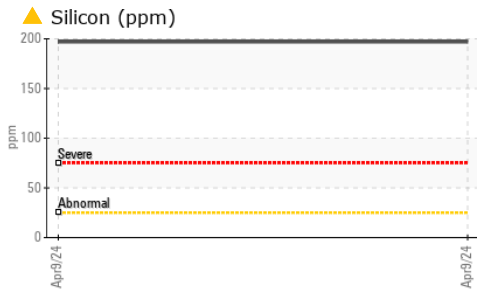
Elemental level of silicon (Si) above normal indicating ingress of seal material.

|                  |          |             |       |       |     |     |
|------------------|----------|-------------|-------|-------|-----|-----|
| Silicon          | ppm      | ASTM D5185m | >25   | ▲ 197 | --- | --- |
| Potassium        | ppm      | ASTM D5185m | >20   | 2     | --- | --- |
| Fuel             |          | WC Method   | >5    | <1.0  | --- | --- |
| Water            |          | WC Method   | >0.2  | NEG   | --- | --- |
| Glycol           |          | WC Method   |       | NEG   | --- | --- |
| Soot %           | %        | *ASTM D7844 | >3    | 0.3   | --- | --- |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | 8.2   | --- | --- |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | 18.4  | --- | --- |
| Silt             | scalar   | *Visual     | NONE  | NONE  | --- | --- |
| Debris           | scalar   | *Visual     | NONE  | NONE  | --- | --- |
| Sand/Dirt        | scalar   | *Visual     | NONE  | NONE  | --- | --- |
| Appearance       | scalar   | *Visual     | NORML | NORML | --- | --- |
| Odor             | scalar   | *Visual     | NORML | NORML | --- | --- |
| Emulsified Water | scalar   | *Visual     | >0.2  | NEG   | --- | --- |

## 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.

|                  |          |             |      |      |     |     |
|------------------|----------|-------------|------|------|-----|-----|
| Sodium           | ppm      | ASTM D5185m |      | 4    | --- | --- |
| Boron            | ppm      | ASTM D5185m | 250  | 70   | --- | --- |
| Barium           | ppm      | ASTM D5185m | 10   | <1   | --- | --- |
| Molybdenum       | ppm      | ASTM D5185m | 100  | 5    | --- | --- |
| Manganese        | ppm      | ASTM D5185m |      | 2    | --- | --- |
| Magnesium        | ppm      | ASTM D5185m | 450  | 260  | --- | --- |
| Calcium          | ppm      | ASTM D5185m | 3000 | 2308 | --- | --- |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | 793  | --- | --- |
| Zinc             | ppm      | ASTM D5185m | 1350 | 965  | --- | --- |
| Sulfur           | ppm      | ASTM D5185m | 4250 | 3612 | --- | --- |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | 15.0 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 8.5  | 7.5  | --- | --- |
| Visc @ 100°C     | cSt      | ASTM D445   | 14.4 | 14.5 | --- | --- |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0913809 **Received** : 15 Apr 2024  
**Lab Number** : 06148226 **Tested** : 16 Apr 2024  
**Unique Number** : 10978304 **Diagnosed** : 16 Apr 2024 - Sean Felton  
**Test Package** : CONST ( Additional Tests: TBN )

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)

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