# OIL ANALYSIS REPORT

Sample Rating Trend


**DIRT**

Machine Id
## LT-300
Component
**Diesel Engine**
Fluid
**DIESEL ENGINE OIL SAE 40 (--- GAL)**

## DIAGNOSIS

**Recommendation**

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend an early resample to monitor this condition. Please note that this is a corrected copy for data entry updates.

**Wear**

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal.

**Contamination**

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

**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 | | **WC0570749** | --- | --- |
| Sample Date | | Client Info | | **29 Aug 2021** | --- | --- |
| Machine Age | hrs | Client Info | | **0** | --- | --- |
| Oil Age | hrs | Client Info | | **0** | --- | --- |
| Oil Changed | | Client Info | | **N/A** | --- | --- |
| Sample Status | | | | **ABNORMAL** | --- | --- |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >5 | **<1.0** | --- | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >100 | **25** | --- | --- |
| Chromium | ppm | ASTM D5185m | >20 | **1** | --- | --- |
| Nickel | ppm | ASTM D5185m | >4 | **0** | --- | --- |
| Titanium | ppm | ASTM D5185m | | **1** | --- | --- |
| Silver | ppm | ASTM D5185m | >3 | **0** | --- | --- |
| Aluminum | ppm | ASTM D5185m | >20 | **7** | --- | --- |
| Lead | ppm | ASTM D5185m | >40 | **0** | --- | --- |
| Copper | ppm | ASTM D5185m | >330 | ▲ **626** | --- | --- |
| Tin | ppm | ASTM D5185m | >15 | **0** | --- | --- |
| Antimony | ppm | ASTM D5185m | | **3** | --- | --- |
| Vanadium | ppm | ASTM D5185m | | **0** | --- | --- |
| Cadmium | ppm | ASTM D5185m | | **<1** | --- | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 250 | **8** | --- | --- |
| Barium | ppm | ASTM D5185m | 10 | **0** | --- | --- |
| Molybdenum | ppm | ASTM D5185m | 100 | **57** | --- | --- |
| Manganese | ppm | ASTM D5185m | | **<1** | --- | --- |
| Magnesium | ppm | ASTM D5185m | 450 | **1030** | --- | --- |
| Calcium | ppm | ASTM D5185m | 3000 | **1126** | --- | --- |
| Phosphorus | ppm | ASTM D5185m | 1150 | **1116** | --- | --- |
| Zinc | ppm | ASTM D5185m | 1350 | **1175** | --- | --- |
| Sulfur | ppm | ASTM D5185m | 4250 | **2544** | --- | --- |

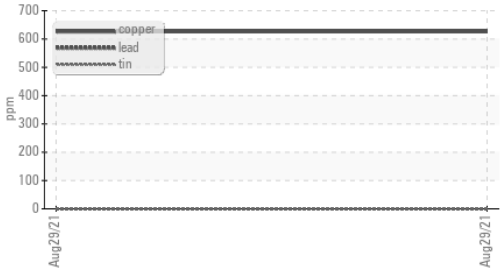
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | ▲ **27** | --- | --- |
| Sodium | ppm | ASTM D5185m | >216 | **4** | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | **6** | --- | --- |
| Glycol | % | *ASTM D2982 | | **NEG** | --- | --- |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **0.2** | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **8.1** | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **19.6** | --- | --- |

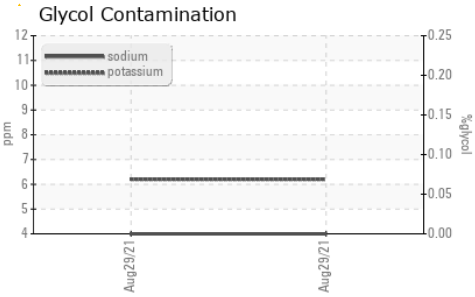
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **16.2** | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | **9.56** | --- | --- |

# OIL ANALYSIS REPORT

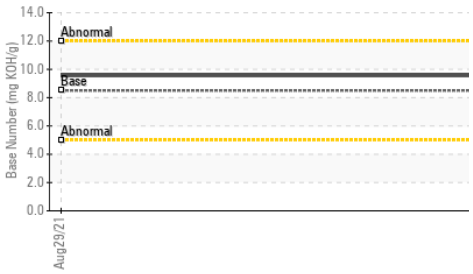
Non-ferrous Metals



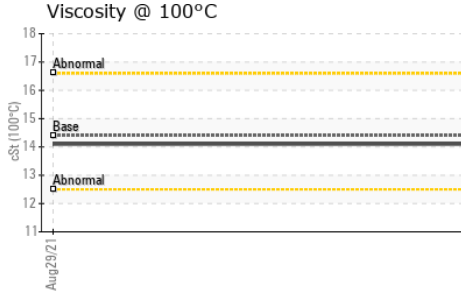

Glycol Contamination



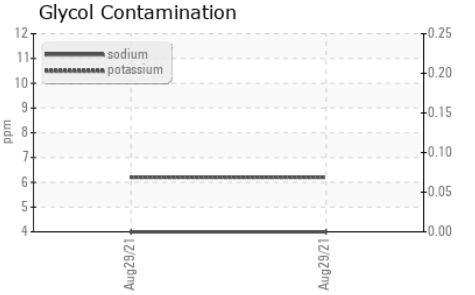

Base Number




Viscosity @ 100°C




Glycol Contamination

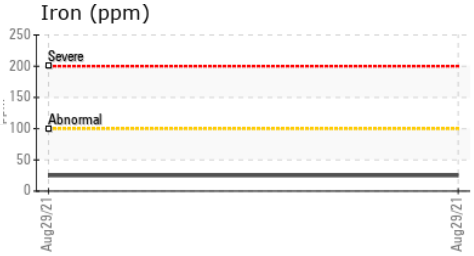



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | --- | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | --- | --- |
| Silt |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

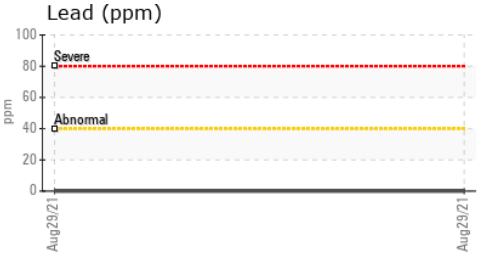
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | **14.1** | --- | --- |

## GRAPHS

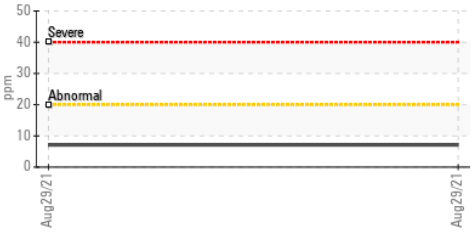
Iron (ppm)




Lead (ppm)

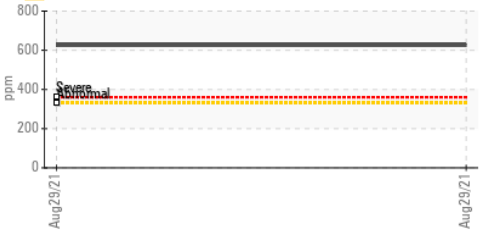



Aluminum (ppm)

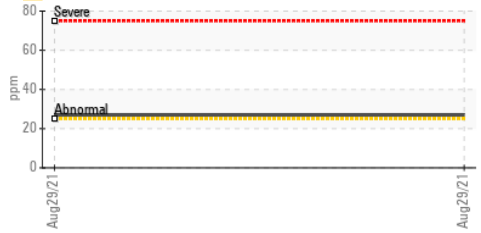



Chromium (ppm)

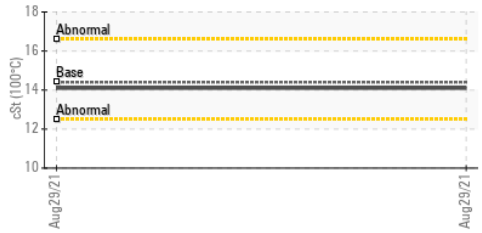

Copper (ppm)



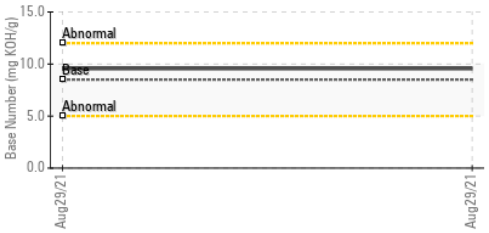

Silicon (ppm)




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0570749 **Received** : 30 Aug 2021
**Lab Number** : 05337538 **Diagnosed** : 01 Sep 2021
**Unique Number** : 9636536 **Diagnostician** : Doug Bogart
**Test Package** : MOB 2 ( Additional Tests: Glycol )

*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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