

PROBLEM SUMMARY









{UNASSIGNED}
Machine Id
MACK 604

Component

Diesel Engine

DIESEL ENGINE OIL SAE 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY

No relevant graphs to display

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

| PROBLEMATIC TEST RESULTS | | | | | | | |
|--------------------------|----------|------------|-----|------------|--|--|--|
| Sample Status | | | | ABNORMAL | | | |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 2.0 | | | |

Customer Id: APPLEVW Sample No.: WC0832962 Lab Number: 05998375 Test Package: CONST

To manage this report scan the QR code

To discuss the diagnosis or test data:

Don Baldridge +1 don.b505@comcast.net

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

| RECOMMENDED ACTIONS | | | | | | |
|---------------------|--------|------|---------|---|--|--|
| Action | Status | Date | Done By | Description | | |
| Change Fluid | | | ? | Oil and filter change at the time of sampling has been noted. | | |
| Change Filter | | | ? | Oil and filter change at the time of sampling has been noted. | | |

HISTORICAL DIAGNOSIS



OIL ANALYSIS REPORT











{UNASSIGNED} MACK 604

Diesel Engine

DIESEL ENGINE OIL S

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

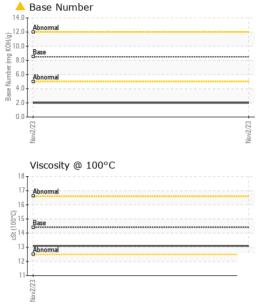
▲ Fluid Condition

The BN level is low.

| A F 4 F W 4 O / O | | | | | | Ŭ |
|-------------------|----------|-------------|------------|--------------|----------|----------|
| AE 15W40 (G | AL) | | | Nov2023 | | |
| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
| Sample Number | | Client Info | | WC0832962 | | |
| Sample Date | | Client Info | | 02 Nov 2023 | | |
| Machine Age | hrs | Client Info | | 0 | | |
| Oil Age | hrs | Client Info | | 0 | | |
| Oil Changed | | Client Info | | Changed | | |
| Sample Status | | | | ABNORMAL | | |
| CONTAMINATION | N | method | limit/base | current | history1 | history2 |
| -uel | | WC Method | >3.0 | <1.0 | | |
| Glycol | | WC Method | | NEG | | |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| ron | ppm | ASTM D5185m | >120 | 58 | | |
| Chromium | ppm | ASTM D5185m | >20 | 1 | | |
| Nickel | ppm | ASTM D5185m | >5 | 2 | | |
| Titanium | ppm | ASTM D5185m | >2 | 0 | | |
| Silver | ppm | ASTM D5185m | >2 | 0 | | |
| Aluminum | ppm | ASTM D5185m | >20 | 6 | | |
| Lead | ppm | ASTM D5185m | >40 | 4 | | |
| Copper | ppm | ASTM D5185m | >330 | 3 | | |
| Γin | ppm | ASTM D5185m | >15 | 1 | | |
| Vanadium | ppm | ASTM D5185m | | <1 | | |
| Cadmium | ppm | ASTM D5185m | | 0 | | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185m | 250 | 6 | | |
| Barium | ppm | ASTM D5185m | 10 | 0 | | |
| Molybdenum | ppm | ASTM D5185m | 100 | 62 | | |
| Manganese | ppm | ASTM D5185m | | <1 | | |
| Magnesium | ppm | ASTM D5185m | 450 | 898 | | |
| Calcium | ppm | ASTM D5185m | 3000 | 1055 | | |
| Phosphorus | ppm | ASTM D5185m | 1150 | 932 | | |
| Zinc | ppm | ASTM D5185m | 1350 | 1242 | | |
| Sulfur | ppm | ASTM D5185m | 4250 | 2501 | | |
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
| Silicon | ppm | ASTM D5185m | >25 | 9 | | |
| Sodium | ppm | ASTM D5185m | >158 | 4 | | |
| Potassium | ppm | ASTM D5185m | >20 | 2 | | |
| INFRA-RED | | method | limit/base | current | history1 | history2 |
| Soot % | % | *ASTM D7844 | >4 | 0.9 | | |
| Vitration | Abs/cm | *ASTM D7624 | >20 | 19.2 | | |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 31.8 | | |
| FLUID DEGRADA | TION | method | limit/base | current | history1 | history2 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 38.6 | | |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | <u>^</u> 2.0 | | |
| | | | | | | |



OIL ANALYSIS REPORT

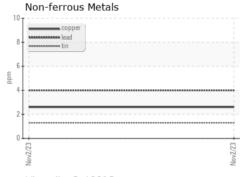


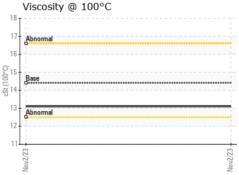
| VISUAL | | method | limit/base | current | history1 | history2 |
|-------------------------|--------|--------------|------------|---------|------------|----------|
| White Metal | scalar | *Visual | NONE | NONE | | |
| Yellow Metal | scalar | *Visual | NONE | NONE | | |
| Precipitate | scalar | *Visual | 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 PROPERT | IFS | method | limit/base | current | history1 | history2 |
| | iLO | A OTHER DATE | | Current | Thistory I | HISTOLYZ |

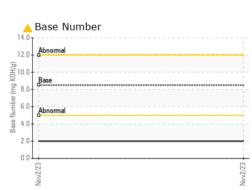
| I LOID I NOI LI | THES | memou | IIIIII/Dase | Current | HISTOLAL | HISTORY | |
|-----------------|------|-----------|-------------|---------|----------|---------|--|
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 13.1 | | | |

GRAPHS

Ferrous Alloys









Certificate L2367

Laboratory Sample No. Lab Number

: WC0832962 : 05998375 Unique Number : 10726735

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

: 06 Nov 2023 Diagnostician : Don Baldridge

: 03 Nov 2023

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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Submitted By: Frank Hottle