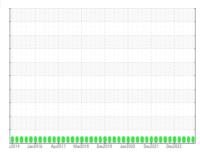


OIL ANALYSIS REPORT

Sample Rating Trend







LP 267 Component

Diesel Engine

DIESEL ENGINE OIL SAE 40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil

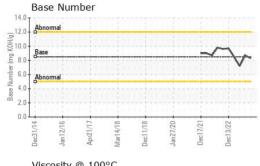
Fluid Condition

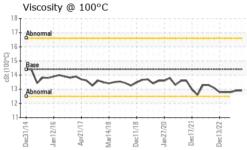
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| z2014 Jan2016 Apr2017 Mar2018 Dec2018 Jan2020 Dec2021 Dec2022 | | | | | | |
|---|----------|--------------|------------|-------------|-------------|-------------|
| SAMPLE INFORM | //ATION | method | limit/base | current | history1 | history2 |
| Sample Number | | Client Info | | WC0862921 | WC0816296 | WC0797802 |
| Sample Date | | Client Info | | 28 Oct 2023 | 03 Jul 2023 | 10 Apr 2023 |
| Machine Age | hrs | Client Info | | 29975 | 29188 | 28382 |
| Oil Age | hrs | Client Info | | 777 | 810 | 702 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| CONTAMINATION | N | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Glycol | | WC Method | | NEG | NEG | 0.0 |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >100 | 8 | 11 | 7 |
| Chromium | ppm | ASTM D5185m | >20 | 2 | 5 | 1 |
| Nickel | ppm | ASTM D5185m | >4 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | 3 | 0 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >330 | 1 | <1 | 0 |
| Tin | ppm | ASTM D5185m | >15 | 0 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185m | 250 | 6 | 9 | 7 |
| Barium | ppm | ASTM D5185m | 10 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 100 | 55 | 59 | 58 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 450 | 915 | 945 | 900 |
| Calcium | ppm | ASTM D5185m | 3000 | 1098 | 1137 | 1030 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1017 | 1032 | 977 |
| Zinc | ppm | ASTM D5185m | 1350 | 1267 | 1297 | 1182 |
| Sulfur | ppm | ASTM D5185m | 4250 | 3024 | 3691 | 2938 |
| CONTAMINANTS | ; | method | limit/base | current | history1 | history2 |
| Silicon | ppm | ASTM D5185m | >25 | 3 | 3 | 2 |
| Sodium | ppm | ASTM D5185m | >216 | 2 | 1 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | <1 | <1 |
| INFRA-RED | | method | limit/base | current | history1 | history2 |
| Soot % | % | *ASTM D7844 | >3 | 0.2 | 0.2 | 0.2 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 6.2 | 6.8 | 5.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 17.5 | 18.7 | 16.3 |
| FLUID DEGRADA | ATION _ | method | limit/base | current | history1 | history2 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 13.7 | 14.9 | 14.2 |
| | | | 8.5 | 8.3 | 8.7 | 7.2 |
| Base Number (BN) | mg KOH/g | ASTIVI DZOSO | 0.5 | 0.3 | 0./ | 1.6 |



OIL ANALYSIS REPORT



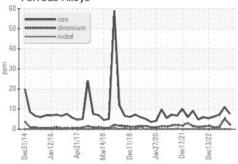


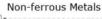
| VISUAL | | method | limit/base | current | history1 | history2 |
|-------------------------|--------|---------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG | NEG |

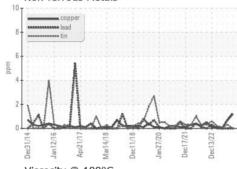
| FLUID PROPERTIES | | method | | | | history2 |
|------------------|-----|-----------|------|------|------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 12.9 | 12.9 | 12.8 |

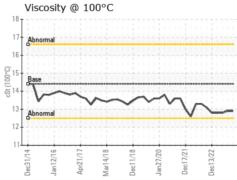
GRAPHS

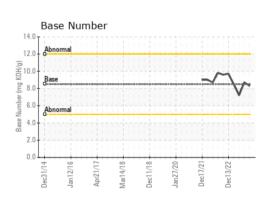
Ferrous Alloys















Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10722562

: WC0862921 : 05994202

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 31 Oct 2023 Diagnosed

: 01 Nov 2023 Diagnostician : Wes Davis

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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