



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

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

Machine Id
CATERPILLAR 972M 6 A8O00389
 Component
Diesel Engine
 Fluid
TRC MOLY XL PRO-SPEC IV XP 15W40 (7 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|-------------|----------|----------|
| Sample Number | | Client Info | | TR05551882 | --- | --- |
| Sample Date | | Client Info | | 11 May 2022 | --- | --- |
| Machine Age | hrs | Client Info | | 8107 | --- | --- |
| Oil Age | hrs | Client Info | | 438 | --- | --- |
| Filter Age | hrs | Client Info | | 438 | --- | --- |
| Oil Changed | | Client Info | | Not Chngd | --- | --- |
| Filter Changed | | Client Info | | Not Chngd | --- | --- |
| Sample Status | | | | NORMAL | --- | --- |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|------|-----|-----|
| Iron | ppm | ASTM D5185m | >100 | 18 | --- | --- |
| Chromium | ppm | ASTM D5185m | >20 | <1 | --- | --- |
| Nickel | ppm | ASTM D5185m | >2 | 0 | --- | --- |
| Titanium | ppm | ASTM D5185m | >2 | <1 | --- | --- |
| Silver | ppm | ASTM D5185m | >2 | <1 | --- | --- |
| Aluminum | ppm | ASTM D5185m | >25 | 4 | --- | --- |
| Lead | ppm | ASTM D5185m | >40 | 5 | --- | --- |
| Copper | ppm | ASTM D5185m | >330 | 12 | --- | --- |
| Tin | ppm | ASTM D5185m | >15 | 1 | --- | --- |
| Vanadium | ppm | ASTM D5185m | | 0 | --- | --- |
| White Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- | --- |

CONTAMINATION

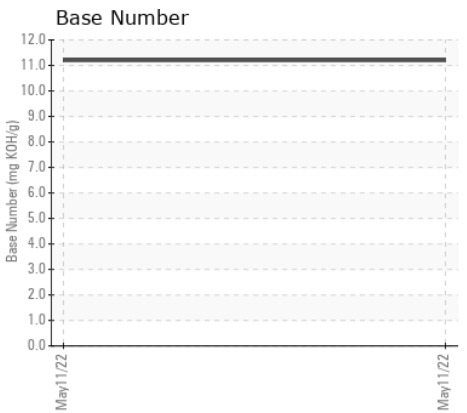
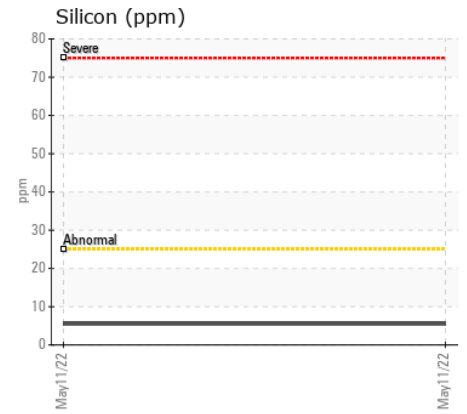
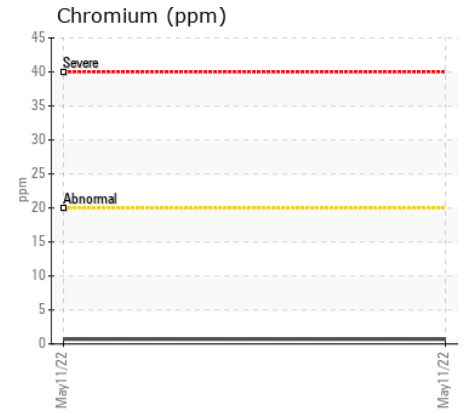
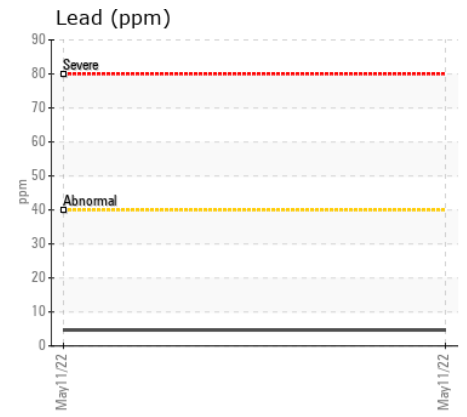
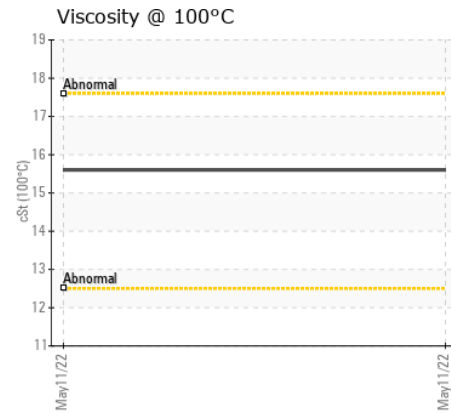
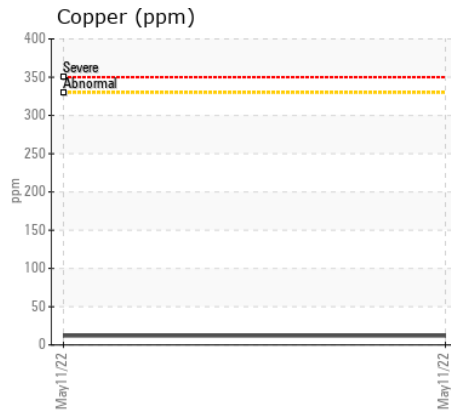
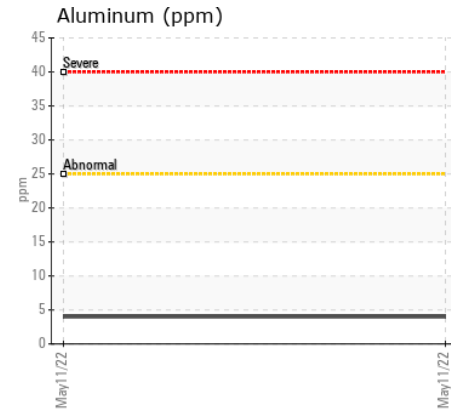
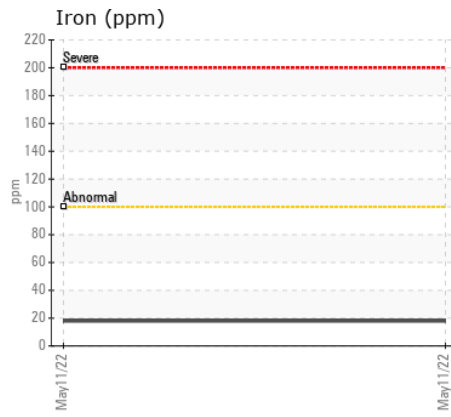
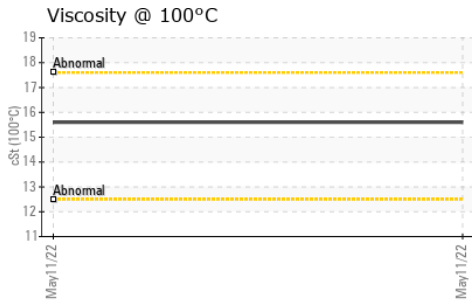
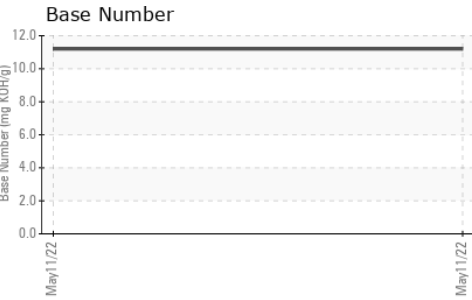
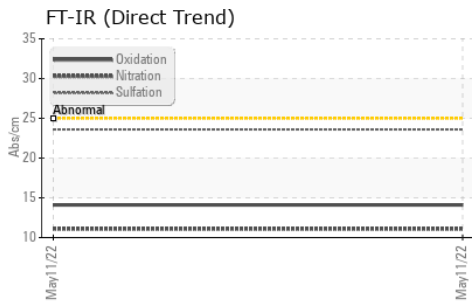
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|-------|-----|-----|
| Silicon | ppm | ASTM D5185m | >25 | 6 | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | 1 | --- | --- |
| Fuel | | WC Method | >5 | <1.0 | --- | --- |
| Water | | WC Method | >0.2 | NEG | --- | --- |
| Glycol | | WC Method | | NEG | --- | --- |
| Soot % | % | *ASTM D7844 | >3 | 1 | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 11.1 | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 23.6 | --- | --- |
| 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 suitable for further service.

| | | | | | | |
|------------------|----------|-------------|-----|------|-----|-----|
| Sodium | ppm | ASTM D5185m | | 1 | --- | --- |
| Boron | ppm | ASTM D5185m | | 7 | --- | --- |
| Barium | ppm | ASTM D5185m | | 0 | --- | --- |
| Molybdenum | ppm | ASTM D5185m | | 113 | --- | --- |
| Manganese | ppm | ASTM D5185m | | <1 | --- | --- |
| Magnesium | ppm | ASTM D5185m | | 26 | --- | --- |
| Calcium | ppm | ASTM D5185m | | 4305 | --- | --- |
| Phosphorus | ppm | ASTM D5185m | | 942 | --- | --- |
| Zinc | ppm | ASTM D5185m | | 1108 | --- | --- |
| Sulfur | ppm | ASTM D5185m | | 4027 | --- | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 14.1 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 11.2 | --- | --- |
| Visc @ 100°C | cSt | ASTM D445 | | 15.6 | --- | --- |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR05551882
Lab Number : 05551882
Unique Number : 9986249
Test Package : MOB 2
Received : 24 May 2022
Tested : 25 May 2022
Diagnosed : 25 May 2022 - Wes Davis

BARR-TECH COMPOSTING
 9117 KALLENBERGER RD N
 SPRAGUE, WA
 US 99032
 Contact: RON GROGAN

To discuss this sample report, contact Customer Service at 1-800-827-0711.

* - 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)

T: (509)590-0437

F: