



OIL ANALYSIS REPORT

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

Machine Id
015-R0015
 Component
Diesel Engine
 Fluid
SCHAEFFER SUPREME 7000 (5 GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. (Customer Sample Comment: Engine Oil Sample @ 3834 hours.)

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | WC0868292 | WC0903837 | WC0868375 |
| Sample Date | | Client Info | | 23 May 2024 | 06 Mar 2024 | 28 Nov 2023 |
| Machine Age | hrs | Client Info | | 3834 | 3331 | 2823 |
| Oil Age | hrs | Client Info | | 3331 | 0 | 0 |
| Filter Age | hrs | Client Info | | 3331 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >100 | 4 | 8 | 5 |
| Chromium | ppm | ASTM D5185m | >20 | 0 | <1 | 0 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 5 | 5 | 3 |
| Lead | ppm | ASTM D5185m | >40 | <1 | 2 | 0 |
| Copper | ppm | ASTM D5185m | >330 | <1 | <1 | 1 |
| Tin | ppm | ASTM D5185m | >15 | <1 | 1 | 0 |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

There is no indication of any contamination in the oil.

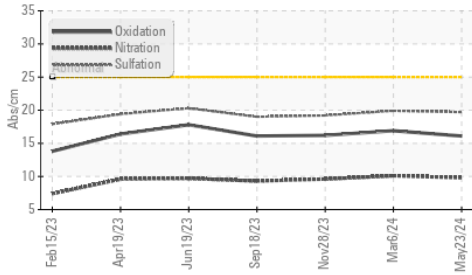
| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 5 | 7 | 9 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | 2 | 0 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.1 | 0.1 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 9.8 | 10.1 | 9.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.7 | 19.9 | 19.2 |
| 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 |

FLUID CONDITION

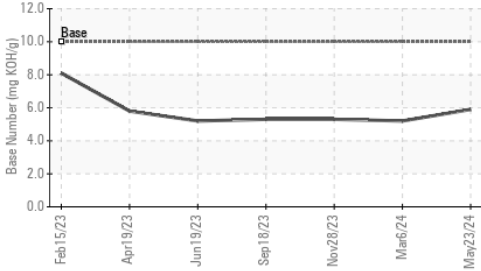
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium | ppm | ASTM D5185m | | 2 | 2 | <1 |
| Boron | ppm | ASTM D5185m | | 66 | 55 | 55 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 50 | 73 | 65 | 63 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | 1000 | 18 | 19 | 20 |
| Calcium | ppm | ASTM D5185m | 1400 | 2194 | 2193 | 1692 |
| Phosphorus | ppm | ASTM D5185m | 985 | 1012 | 1058 | 880 |
| Zinc | ppm | ASTM D5185m | 1060 | 1182 | 1279 | 1042 |
| Sulfur | ppm | ASTM D5185m | 4000 | 5524 | 6045 | 4009 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 16.1 | 16.9 | 16.2 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10 | 5.9 | 5.2 | 5.3 |
| Visc @ 100°C | cSt | ASTM D445 | 15 | 14.2 | 14.0 | 13.9 |

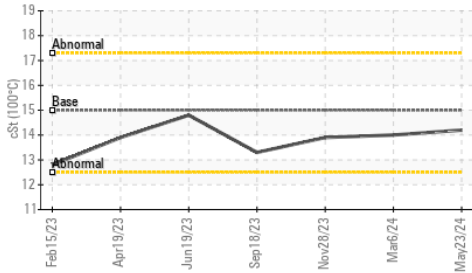
FT-IR (Direct Trend)



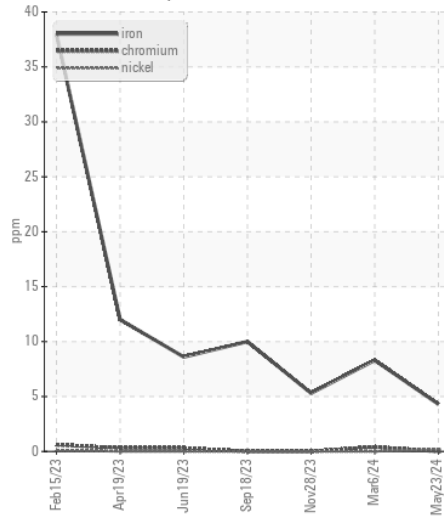
Base Number



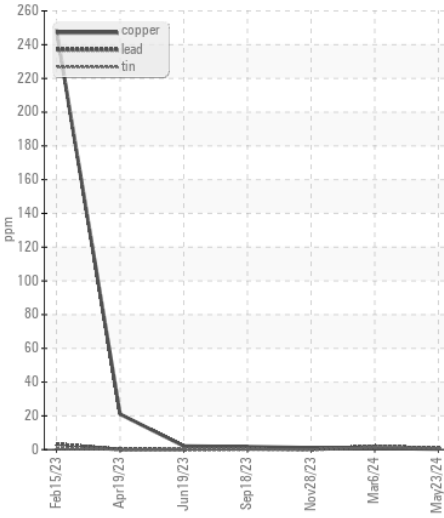
Viscosity @ 100°C



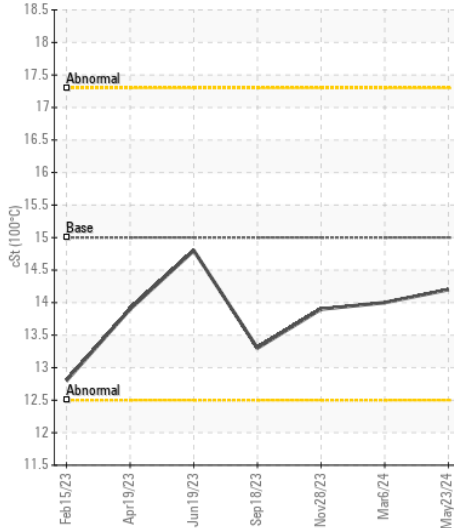
Ferrous Alloys



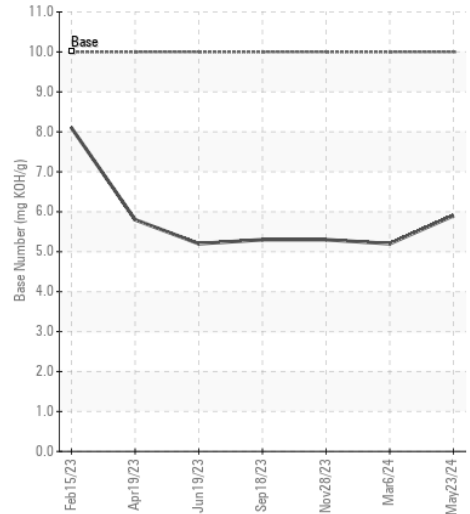
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0868292 **Received** : 28 May 2024
Lab Number : 06193427 **Tested** : 30 May 2024
Unique Number : 11050179 **Diagnosed** : 30 May 2024 - Sean Felton
Test Package : CONST (Additional Tests: TBN)

SHIMMICK CONSTRUCTION
 5535 TRAILHEAD DRIVE
 CHATTANOOGA, TN
 US 37415
 Contact: DANIEL LISELLA
 daniel.lisella@shimmick.com

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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F: