



OIL ANALYSIS REPORT

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

Machine Id
PIERCE 0077
 Component
Diesel Engine
 Fluid
SYNGARD 15W40 (33 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | WC0804020 | WC0708762 | WC0610935 |
| Sample Date | | Client Info | | 11 May 2023 | 23 Aug 2022 | 05 Aug 2021 |
| Machine Age | hrs | Client Info | | 7288 | 6544 | 5678 |
| Oil Age | hrs | Client Info | | 288 | 654 | 377 |
| Filter Age | hrs | Client Info | | 288 | 654 | 377 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Filter Changed | | Client Info | | Not Changd | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >65 | 8 | 21 | 12 |
| Chromium | ppm | ASTM D5185m | >5 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >3 | <1 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | >5 | <1 | 2 | 11 |
| Silver | ppm | ASTM D5185m | >2 | 0 | <1 | <1 |
| Aluminum | ppm | ASTM D5185m | >35 | 4 | 12 | 5 |
| Lead | ppm | ASTM D5185m | >10 | 0 | <1 | 0 |
| Copper | ppm | ASTM D5185m | >180 | 3 | 10 | 13 |
| Tin | ppm | ASTM D5185m | >8 | <1 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

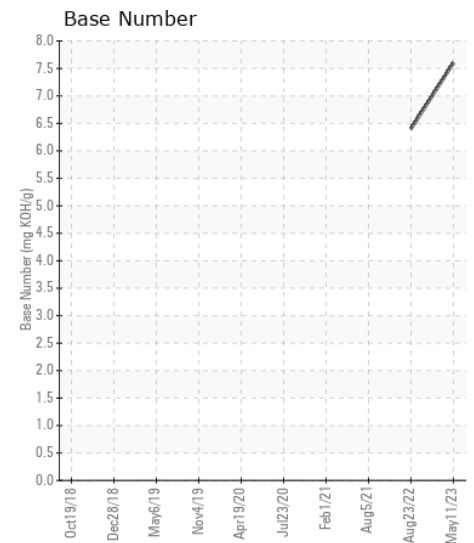
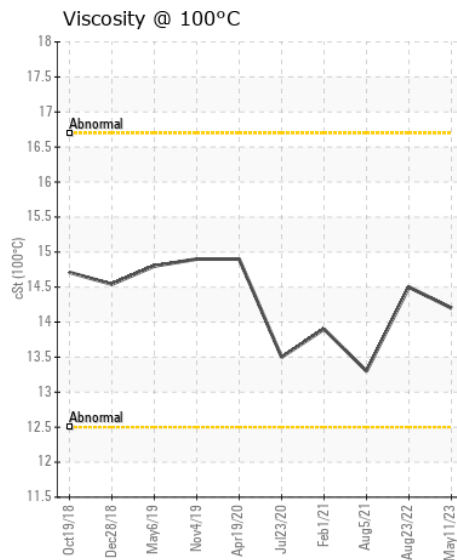
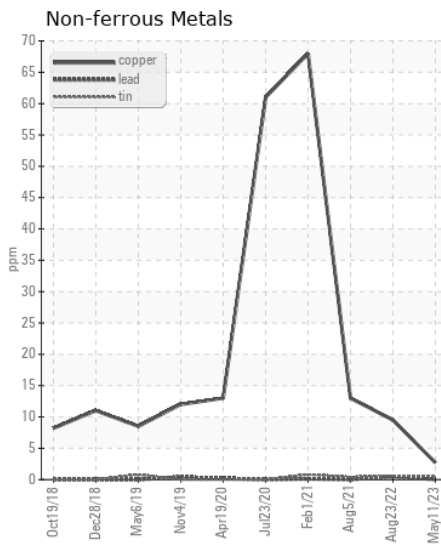
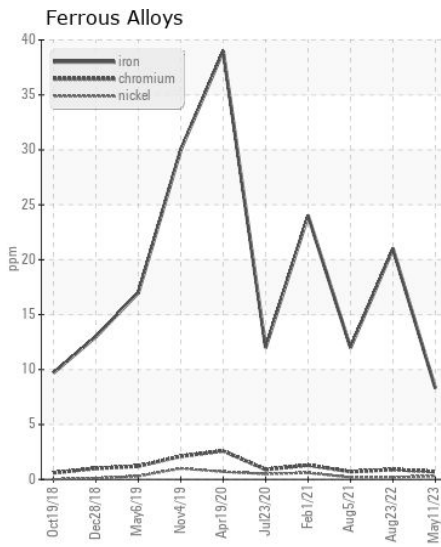
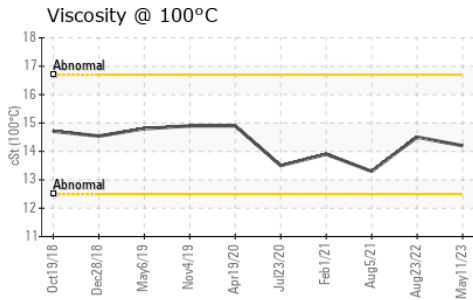
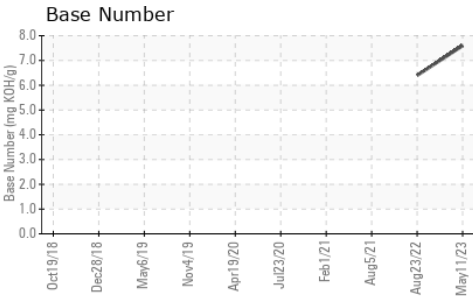
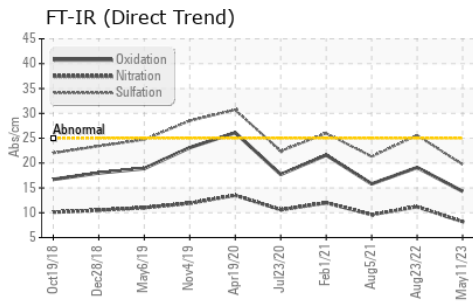
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >15 | 5 | 4 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 6 | 10 |
| 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 | 0.5 | 1 | 0.7 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 8.2 | 11.2 | 9.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.7 | 25.6 | 21.3 |
| 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 | 12 | 9 |
| Boron | ppm | ASTM D5185m | | 30 | 21 | 85 |
| Barium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 76 | 62 | 49 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 424 | 297 | 667 |
| Calcium | ppm | ASTM D5185m | | 1792 | 1770 | 1400 |
| Phosphorus | ppm | ASTM D5185m | | 1047 | 900 | 719 |
| Zinc | ppm | ASTM D5185m | | 1277 | 1170 | 829 |
| Sulfur | ppm | ASTM D5185m | | 4376 | 3121 | 2510 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 14.3 | 19.1 | 15.8 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 7.6 | 6.4 | --- |
| Visc @ 100°C | cSt | ASTM D445 | | 14.2 | 14.5 | 13.3 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0804020 **Received** : 18 May 2023
Lab Number : 05850436 **Tested** : 19 May 2023
Unique Number : 10479791 **Diagnosed** : 19 May 2023 - Wes Davis
Test Package : CONST (Additional Tests: TBN)

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Certificate L2367
 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)