



OIL ANALYSIS REPORT

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

Machine Id
PIERCE M01721
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | DC0034063 | DC0028288 | DC0023016 |
| Sample Date | | Client Info | | 09 May 2024 | 22 Aug 2023 | 28 Dec 2022 |
| Machine Age | mls | Client Info | | 88503 | 77194 | 65743 |
| Oil Age | mls | Client Info | | 0 | 0 | 0 |
| Filter Age | mls | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | ABNORMAL | ABNORMAL | NORMAL |

WEAR

The aluminum level is abnormal. All other component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|-------------|------|
| Iron | ppm | ASTM D5185m | >100 | 66 | 62 | 34 |
| Chromium | ppm | ASTM D5185m | >20 | 4 | 3 | 2 |
| Nickel | ppm | ASTM D5185m | >4 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | ▲ 43 | ▲ 45 | 26 |
| Lead | ppm | ASTM D5185m | >40 | 1 | <1 | 1 |
| Copper | ppm | ASTM D5185m | >330 | 6 | 5 | 4 |
| Tin | ppm | ASTM D5185m | >15 | 1 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

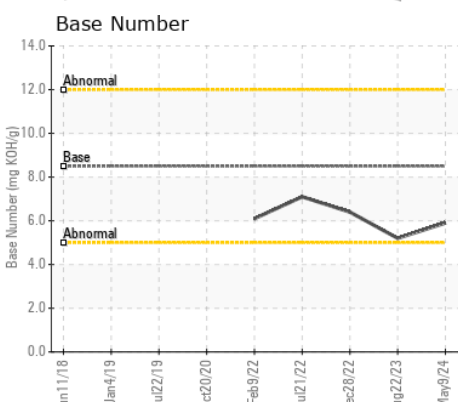
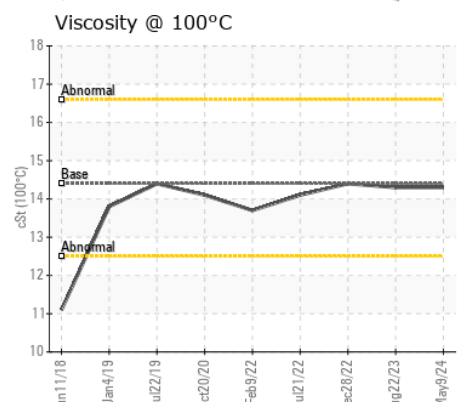
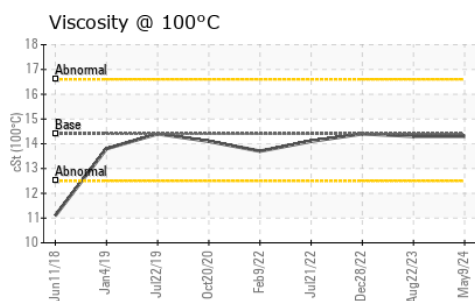
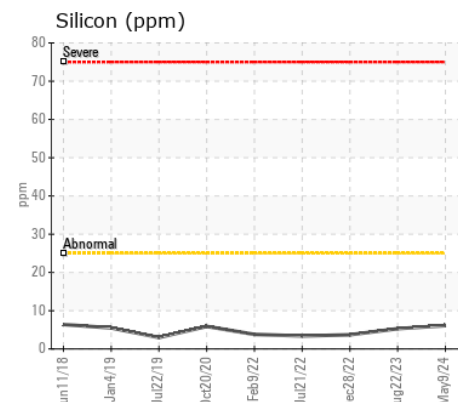
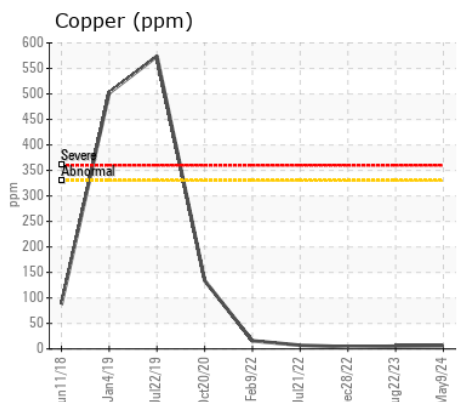
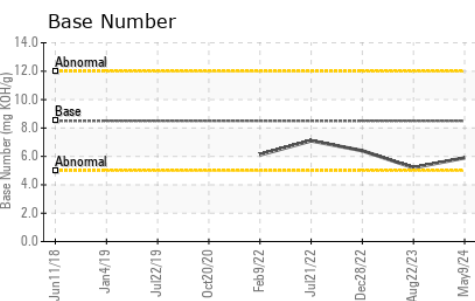
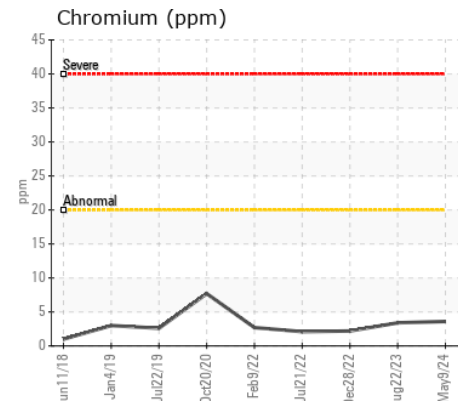
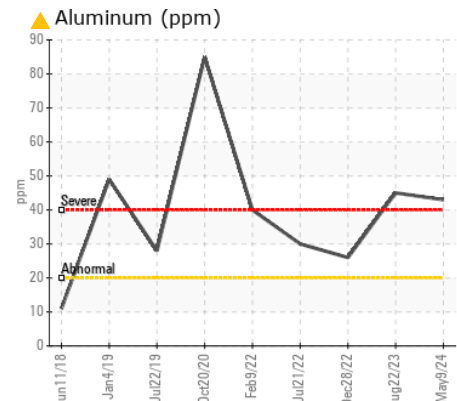
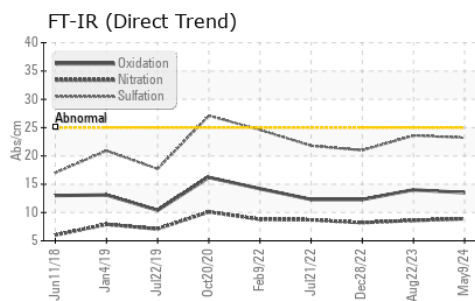
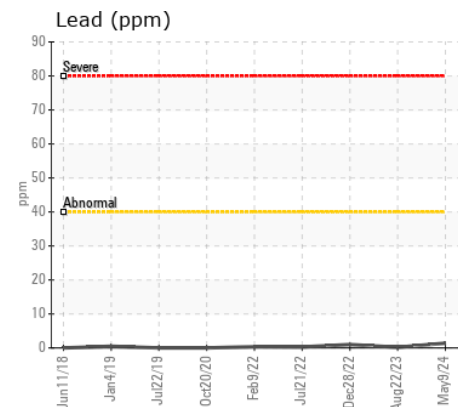
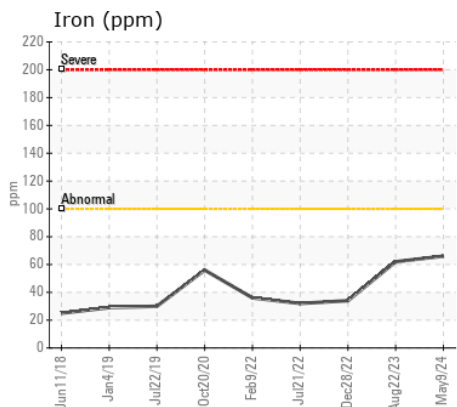
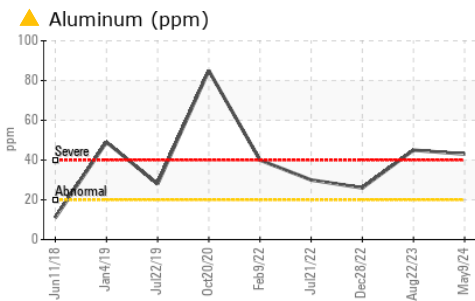
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 6 | 5 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | 9 | 11 | 7 |
| 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 | 0.8 | 0.8 | 0.5 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 8.9 | 8.6 | 8.2 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 23.2 | 23.6 | 21.0 |
| 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 acceptable for the time in service.

| | | | | | | |
|------------------|----------|-------------|------|-------------|------|------|
| Sodium | ppm | ASTM D5185m | >158 | 3 | 2 | 6 |
| Boron | ppm | ASTM D5185m | 250 | 2 | 0 | 4 |
| Barium | ppm | ASTM D5185m | 10 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 100 | 2 | <1 | 3 |
| Manganese | ppm | ASTM D5185m | | 1 | 1 | <1 |
| Magnesium | ppm | ASTM D5185m | 450 | 31 | 33 | 51 |
| Calcium | ppm | ASTM D5185m | 3000 | 2498 | 2602 | 2522 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 969 | 956 | 937 |
| Zinc | ppm | ASTM D5185m | 1350 | 1106 | 1176 | 1216 |
| Sulfur | ppm | ASTM D5185m | 4250 | 4188 | 4538 | 4408 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 13.5 | 14.0 | 12.3 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 5.9 | 5.2 | 6.4 |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 14.3 | 14.3 | 14.4 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DC0034063 **Received** : 29 May 2024
Lab Number : 06194835 **Tested** : 30 May 2024
Unique Number : 11056958 **Diagnosed** : 31 May 2024 - Sean Felton
Test Package : MOB 1 (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)