



OIL ANALYSIS REPORT

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

Machine Id
72231
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | WC0921161 | WC0921155 | WC0681003 |
| Sample Date | | Client Info | | 13 Jun 2024 | 29 Apr 2024 | 26 Jan 2024 |
| Machine Age | hrs | Client Info | | 4557 | 1062 | 1856 |
| Oil Age | hrs | Client Info | | 799 | 1062 | 1008 |
| Filter Age | hrs | Client Info | | 799 | 1062 | 1008 |
| 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 | 29 | 29 | 28 |
| Chromium | ppm | ASTM D5185m | >20 | 3 | 2 | 1 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | 20 | 19 | 17 |
| Silver | ppm | ASTM D5185m | >3 | <1 | <1 | <1 |
| Aluminum | ppm | ASTM D5185m | >20 | 14 | 20 | 8 |
| Lead | ppm | ASTM D5185m | >40 | <1 | 0 | 2 |
| Copper | ppm | ASTM D5185m | >330 | 12 | 15 | 54 |
| Tin | ppm | ASTM D5185m | >15 | <1 | <1 | 2 |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

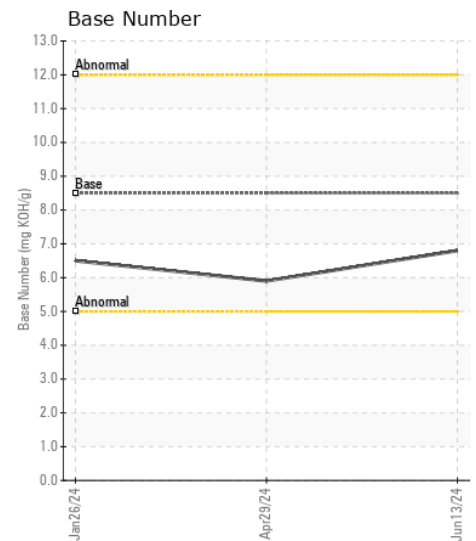
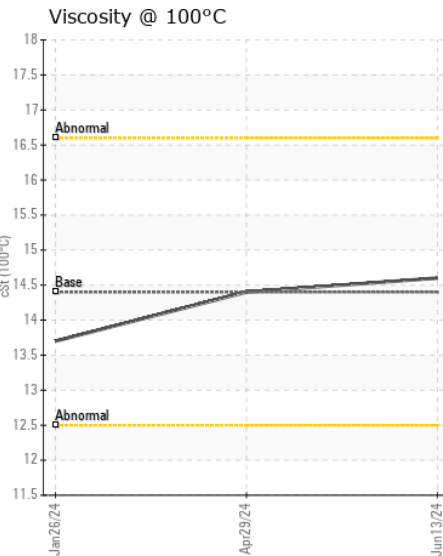
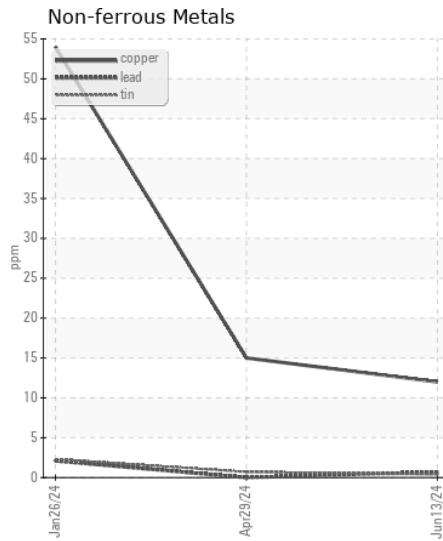
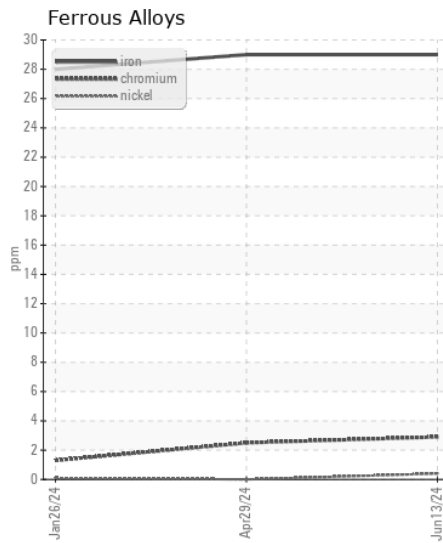
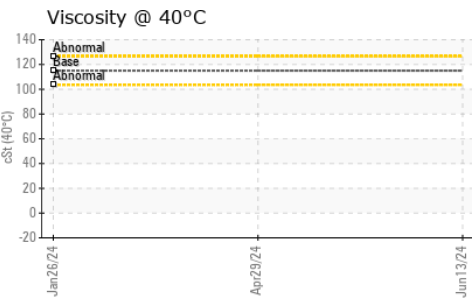
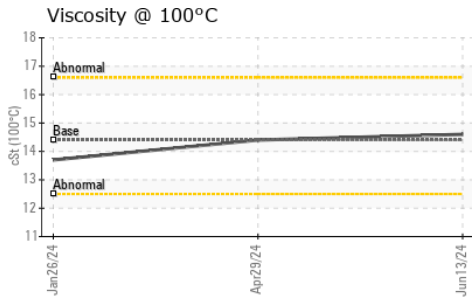
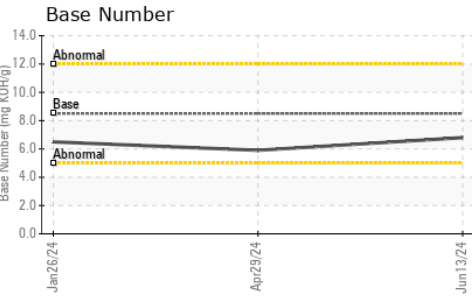
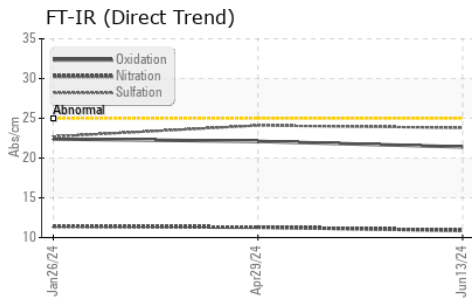
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 9 | 6 | 6 |
| Potassium | ppm | ASTM D5185m | >20 | 26 | 37 | 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 | 0.4 | 0.5 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 10.9 | 11.3 | 11.4 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 23.8 | 24.1 | 22.7 |
| 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 | >158 | 2 | 2 | 5 |
| Boron | ppm | ASTM D5185m | 250 | 33 | 40 | 30 |
| Barium | ppm | ASTM D5185m | 10 | <1 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 100 | 37 | 35 | 34 |
| Manganese | ppm | ASTM D5185m | | <1 | 1 | 1 |
| Magnesium | ppm | ASTM D5185m | 450 | 918 | 858 | 808 |
| Calcium | ppm | ASTM D5185m | 3000 | 1949 | 1816 | 1622 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 948 | 829 | 761 |
| Zinc | ppm | ASTM D5185m | 1350 | 1071 | 975 | 897 |
| Sulfur | ppm | ASTM D5185m | 4250 | 3403 | 3427 | 2604 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 21.4 | 22.1 | 22.4 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 6.8 | 5.9 | 6.5 |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 14.6 | 14.4 | 13.7 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0921161 **Received** : 28 Jun 2024
Lab Number : 06224213 **Tested** : 01 Jul 2024
Unique Number : 11102410 **Diagnosed** : 01 Jul 2024 - Angela Borella
Test Package : FLEET (Additional Tests: KV40)

NANA LYNDEN LOGISTICS

P.O. BOX 570
 KOTZEBUE, AK
 US 99752

Contact: Mark Tatlow
 nanalynden@lynden.com

T: (907)754-5551
 F: (800)418-0974

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)