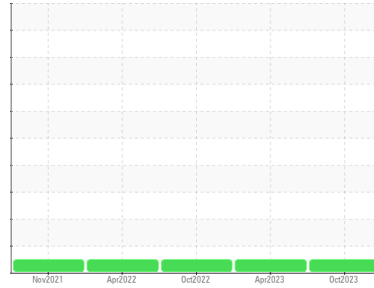




FUEL REPORT

Sample Rating Trend

NORMAL



Machine Id

A2

Component

Diesel Fuel

Fluid

No.1 DIESEL FUEL (ULTRALOW SULPHUR) (--- GAL)

DIAGNOSIS

Recommendation

All laboratory tests indicate that this sample meets specifications for No.2 ultra-low-sulfur diesel fuel.

Corrosion

All metal levels are normal indicating no corrosion in the system.

Contaminants

The water content is negligible. There is no bacteria or fungus (yeast and/or mold) indicated in the sample. There is no indication of any contamination in the fuel.

Fuel Condition

Sulfur value derived by ASTM D5453 method for ULSD validation. Sulfur level is acceptable for ULSD specification.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | | WC0873531 | WC0812014 | WC0750383 |
| Sample Date | Client Info | | | 31 Oct 2023 | 18 Apr 2023 | 10 Oct 2022 |
| Machine Age | hrs | Client Info | | 0 | 0 | 0 |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

| PHYSICAL PROPERTIES | | method | limit/base | current | history1 | history2 |
|---------------------|--------|-------------|------------|-------------|----------|----------|
| ASTM Color | scalar | *ASTM D1500 | | L4.0 | L4.0 | L4.0 |
| Visc @ 40°C | cSt | ASTM D445 | | 2.46 | 2.46 | 2.48 |

| SULFUR CONTENT | | method | limit/base | current | history1 | history2 |
|----------------|-----|-------------|------------|----------|----------|----------|
| Sulfur | ppm | ASTM D5185m | 7 | 0 | 2 | 0 |
| Sulfur (UVF) | ppm | ASTM D5453 | | 9 | 12 | 8 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m | <1.0 | <1 | 0 | 1 |
| Sodium | ppm | ASTM D5185m | <0.1 | 2 | 0 | 1 |
| Potassium | ppm | ASTM D5185m | <0.1 | 1 | <1 | 0 |
| Water | % | ASTM D6304 | <0.05 | 0.004 | 0.003 | 0.004 |
| ppm Water | ppm | ASTM D6304 | <500 | 43.1 | 38.5 | 44.2 |
| % Gasoline | % | *In-House | <0.50 | 0.0 | 0.0 | 0.0 |
| % Biodiesel | % | *In-House | <20.0 | 0.0 | 0.0 | 0.0 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|-------------------|--|--------------|------------|-----------------|----------|----------|
| Particles >4µm | | ASTM D7647 | >2500 | 1157 | 1638 | 1164 |
| Particles >6µm | | ASTM D7647 | >640 | 421 | 386 | 423 |
| Particles >14µm | | ASTM D7647 | >80 | 59 | 41 | 74 |
| Particles >21µm | | ASTM D7647 | >20 | 23 | 10 | 32 |
| Particles >38µm | | ASTM D7647 | >4 | 2 | 1 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >18/16/13 | 17/16/13 | 18/16/13 | 17/16/13 |

| HEAVY METALS | | method | limit/base | current | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Aluminum | ppm | ASTM D5185m | <0.1 | 0 | 0 | 1 |
| Nickel | ppm | ASTM D5185m | <0.1 | <1 | 0 | <1 |
| Lead | ppm | ASTM D5185m | <0.1 | <1 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | <0.1 | 0 | 0 | <1 |
| Iron | ppm | ASTM D5185m | <0.1 | 0 | 0 | 0 |
| Calcium | ppm | ASTM D5185m | <0.1 | <1 | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | <0.1 | 0 | <1 | 0 |
| Phosphorus | ppm | ASTM D5185m | <0.1 | 3 | 0 | 0 |
| Zinc | ppm | ASTM D5185m | <0.1 | 0 | 0 | 0 |

| SAMPLE IMAGES | | method | limit/base | current | history1 | history2 |
|---------------|--|--------|------------|---------|----------|----------|
|---------------|--|--------|------------|---------|----------|----------|

Color

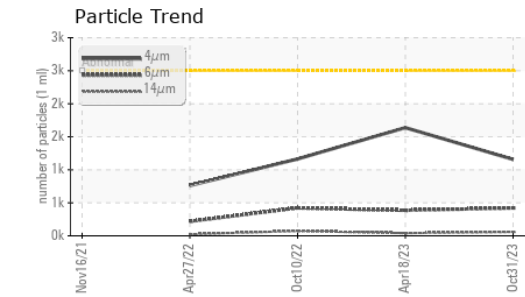
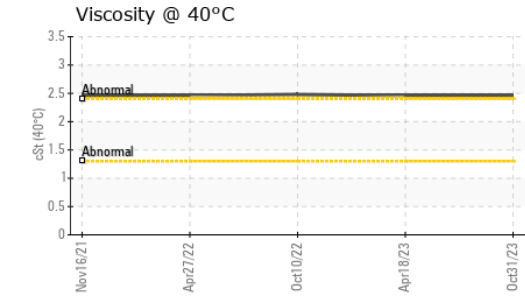
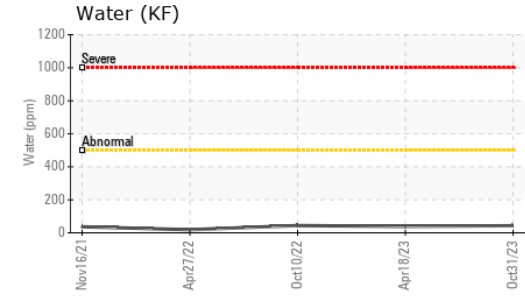
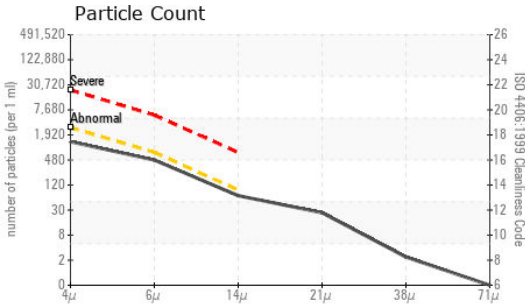


Bottom

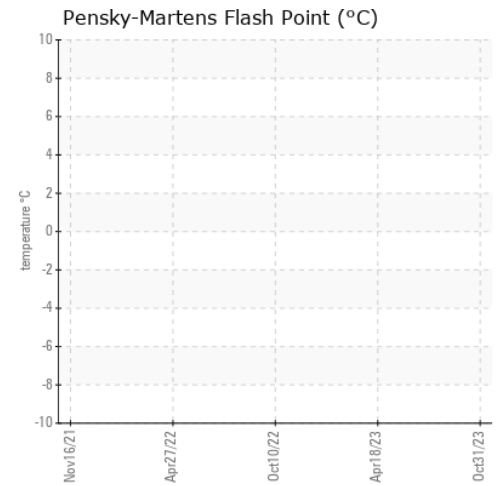




FUEL REPORT



GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0873531 **Received** : 31 Oct 2023
Lab Number : 05995174 **Diagnosed** : 13 Nov 2023
Unique Number : 10723534 **Diagnostician** : Doug Bogart
Test Package : DF-5 (Additional Tests: Screen)

NALCO AN ECOLAB COMPANY
 1304 SEATON ROAD UNIT 8
 DURHAM, NC
 US 27707
 Contact: SHAWN SMITH
 shawn.smith@ecolab.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)

T:
F: