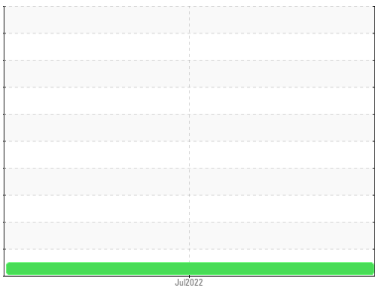
# FUEL REPORT

Sample Rating Trend




NORMAL

Machine Id
## NX6010HB (S/N PP4400042)
Component
**Diesel Fuel**
Fluid
**{not provided} (--- LTR)**

## 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**
There is no bacteria or fungus (yeast and/or mold) indicated in the sample. The water content is negligible. 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 | | **KT0000014** | --- | --- |
| Sample Date | | Client Info | | **01 Jul 2022** | --- | --- |
| Machine Age | hrs | Client Info | | **1902** | --- | --- |
| Sample Status | | | | **NORMAL** | --- | --- |

| PHYSICAL PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Specific Gravity | | *ASTM D1298 | | **0.845** | --- | --- |
| Fuel Color | text | *Visual Screen | | **Red** | --- | --- |
| ASTM Color | scalar | *ASTM D1500 | | **L5.5** | --- | --- |
| Visc @ 40°C | cSt | ASTM D445 | | **2.25** | --- | --- |
| Pensky-Martens Flash Point | °C | *PMCC Calculated | | **60** | --- | --- |

| SULFUR CONTENT | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sulfur | ppm | ASTM D5185m | | **9** | --- | --- |
| Sulfur (UVF) | ppm | ASTM D5453 | | **10** | --- | --- |

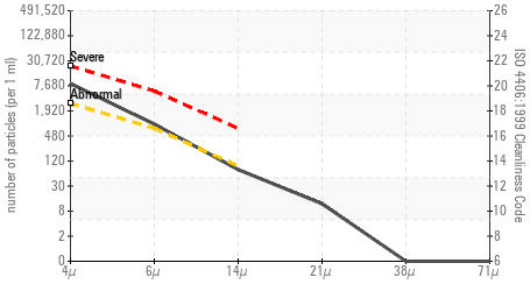
| DISTILLATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Initial Boiling Point | °C | ASTM D86 | | **160** | --- | --- |
| 5% Distillation Point | °C | ASTM D86 | | **188** | --- | --- |
| 10% Distill Point | °C | ASTM D86 | | **200** | --- | --- |
| 15% Distillation Point | °C | ASTM D86 | | **208** | --- | --- |
| 20% Distill Point | °C | ASTM D86 | | **216** | --- | --- |
| 30% Distill Point | °C | ASTM D86 | | **230** | --- | --- |
| 40% Distill Point | °C | ASTM D86 | | **242** | --- | --- |
| 50% Distill Point | °C | ASTM D86 | | **254** | --- | --- |
| 60% Distill Point | °C | ASTM D86 | | **266** | --- | --- |
| 70% Distill Point | °C | ASTM D86 | | **279** | --- | --- |
| 80% Distill Point | °C | ASTM D86 | | **293** | --- | --- |
| 85% Distillation Point | °C | ASTM D86 | | **302** | --- | --- |
| 90% Distill Point | °C | ASTM D86 | | **312** | --- | --- |
| 95% Distillation Point | °C | ASTM D86 | | **328** | --- | --- |
| Final Boiling Point | °C | ASTM D86 | | **338** | --- | --- |
| Distillation Residue | % | ASTM D86 | | **1.4** | --- | --- |
| Distillation Loss | % | ASTM D86 | | **0.7** | --- | --- |

| IGNITION QUALITY | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| API Gravity | | ASTM D7777 | | **36.0** | --- | --- |
| Cetane Index | | ASTM D4737 | <40.0 | **45.1** | --- | --- |

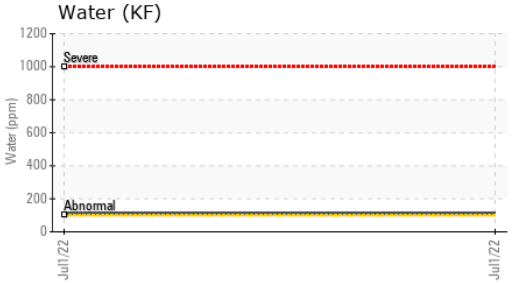
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | <1.0 | **<1** | --- | --- |
| Sodium | ppm | ASTM D5185m | <0.1 | **0** | --- | --- |
| Potassium | ppm | ASTM D5185m | <0.1 | **0** | --- | --- |
| Water | % | ASTM D6304 | <0.05 | **0.011** | --- | --- |
| ppm Water | ppm | ASTM D6304 | <500 | **110.8** | --- | --- |
| % Gasoline | % | *In-House | <0.50 | **0.0** | --- | --- |
| % Biodiesel | % | *In-House | <20.0 | **0.0** | --- | --- |

# FUEL REPORT

Particle Count



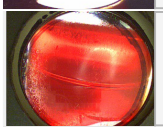

Water (KF)




Viscosity @ 40°C


| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >2500 | **7551** | --- | --- |
| Particles >6µm | | ASTM D7647 | >640 | **809** | --- | --- |
| Particles >14µm | | ASTM D7647 | >80 | **66** | --- | --- |
| Particles >21µm | | ASTM D7647 | >20 | **10** | --- | --- |
| Particles >38µm | | ASTM D7647 | >4 | **0** | --- | --- |
| Particles >71µm | | ASTM D7647 | >3 | **0** | --- | --- |
| Oil Cleanliness | | ISO 4406 (c) | >18/16/13 | **20/17/13** | --- | --- |

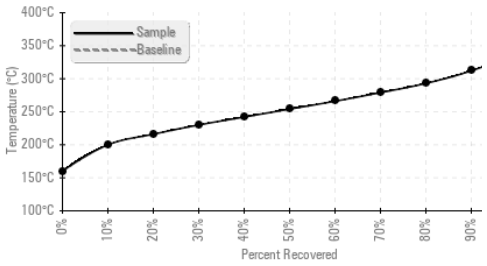
| HEAVY METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Aluminum | ppm | ASTM D5185m | <0.1 | **<1** | --- | --- |
| Nickel | ppm | ASTM D5185m | <0.1 | **0** | --- | --- |
| Lead | ppm | ASTM D5185m | <0.1 | **0** | --- | --- |
| Vanadium | ppm | ASTM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

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | *no image* | *no image* |
| Bottom | | |  | *no image* | *no image* |

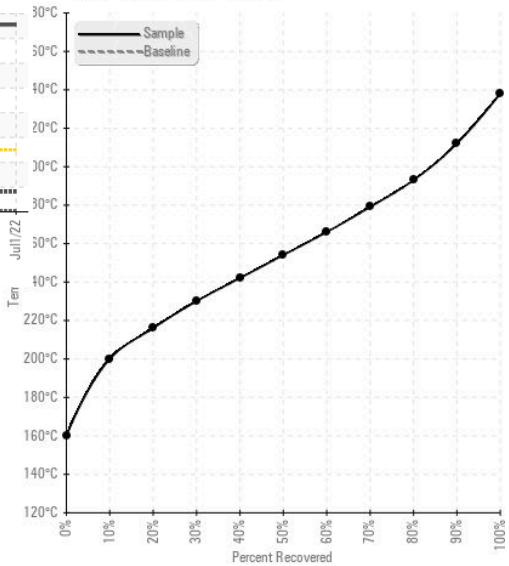
## GRAPHS

Particle Trend

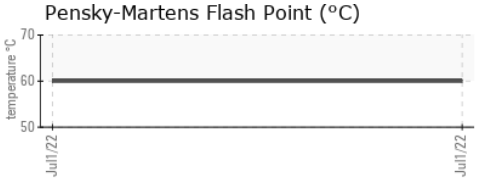

Fuel Distillation Curve




Fuel Distillation Curve




Pensky-Martens Flash Point (°C)




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KT0000014 **Received** : 07 Jul 2022
**Lab Number** : 05585779 **Diagnosed** : 11 Jul 2022
**Unique Number** : 10045226 **Diagnostician** : Doug Bogart
**Test Package** : DF-2 ( Additional Tests: Screen )

*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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