# FUEL REPORT

Sample Rating Trend

ISO

Area
**[101535]**
Machine Id
**N239**
Component
**Diesel Fuel**
Fluid
**No.2 DIESEL FUEL (ULTRALOW SULPHUR) (--- GAL)**

## DIAGNOSIS

**Recommendation**

Laboratory test indicate that this fuel is suitable for use and meets all test requirements. We advise that you filter this fluid before use. We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

**Corrosion**

Light concentration of visible metal present.

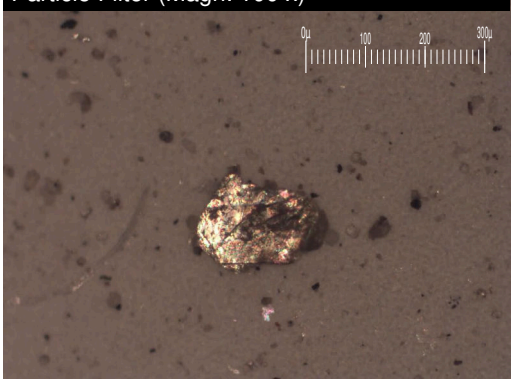
**Contaminants**

There is a moderate amount of silt (particulates < 14 microns in size) present in the fuel. The water content is negligible.

**Fuel Condition**

All laboratory tests indicate that this sample meets specifications for No.2 ultra-low-sulfur diesel fuel (US EPA/CGSB-3.517-3 type B). The fuel is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Particle Filter (Magn: 100 x)



| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **CU0020773** | --- | --- |
| Sample Date | | Client Info | | **09 Aug 2023** | --- | --- |
| Machine Age | hrs | Client Info | | **0** | --- | --- |
| Sample Status | | | | **ABNORMAL** | --- | --- |

| PHYSICAL PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Specific Gravity | | ASTM D1298* | 0.839 | **0.832** | --- | --- |
| Fuel Color | text | Visual Screen* | Yllow | **Yllow** | --- | --- |
| Visc @ 40°C | cSt | ASTM D7279(m) | 3.0 | **2.3** | --- | --- |
| Pensky-Martens Flash Point | °C | ASTM D7215* | 52 | **55.5** | --- | --- |

| SULFUR CONTENT | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sulfur | ppm | ASTM D5185(m) | 10 | **10** | --- | --- |

| DISTILLATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Initial Boiling Point | °C | ASTM D2887* | 165 | **165** | --- | --- |
| 5% Distillation Point | °C | ASTM D2887* | | **187** | --- | --- |
| 10% Distill Point | °C | ASTM D2887* | 201 | **198** | --- | --- |
| 15% Distillation Point | °C | ASTM D2887* | | **206** | --- | --- |
| 20% Distill Point | °C | ASTM D2887* | 216 | **214** | --- | --- |
| 30% Distill Point | °C | ASTM D2887* | 230 | **230** | --- | --- |
| 40% Distill Point | °C | ASTM D2887* | 243 | **243** | --- | --- |
| 50% Distill Point | °C | ASTM D2887* | 255 | **257** | --- | --- |
| 60% Distill Point | °C | ASTM D2887* | 267 | **270** | --- | --- |
| 70% Distill Point | °C | ASTM D2887* | 280 | **283** | --- | --- |
| 80% Distill Point | °C | ASTM D2887* | 295 | **296** | --- | --- |
| 85% Distillation Point | °C | ASTM D2887* | | **306** | --- | --- |
| 90% Distill Point | °C | ASTM D2887* | 310 | **316** | --- | --- |
| 95% Distillation Point | °C | ASTM D2887* | | **333** | --- | --- |
| Final Boiling Point | °C | ASTM D2887* | 341 | **357** | --- | --- |

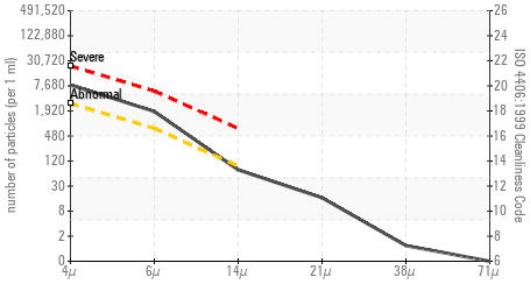
| IGNITION QUALITY | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| API Gravity | ASTM D1298* | 37.7 | **38** | --- | --- |
| Cetane Index | ASTM D4737* | <40.0 | **50** | --- | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | <1.0 | **0** | --- | --- |
| Sodium | ppm | ASTM D5185(m) | <0.1 | **0** | --- | --- |
| Potassium | ppm | ASTM D5185(m) | <0.1 | **<1** | --- | --- |
| Water | % | ASTM D6304* | <0.05 | **0.004** | --- | --- |
| ppm Water | ppm | ASTM D6304* | <500 | **47.8** | --- | --- |

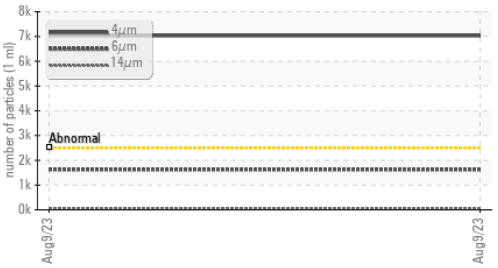
| FLUID CLEANLINESS | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Particles >4µm | ASTM D7647 | >2500 | ▲ **7032** | --- | --- |
| Particles >6µm | ASTM D7647 | >640 | ▲ **1628** | --- | --- |
| Particles >14µm | ASTM D7647 | >80 | **65** | --- | --- |
| Particles >21µm | ASTM D7647 | >20 | **14** | --- | --- |
| Particles >38µm | ASTM D7647 | >4 | **1** | --- | --- |
| Particles >71µm | ASTM D7647 | >3 | **0** | --- | --- |
| Oil Cleanliness | ISO 4406 (c) | >18/16/13 | ▲ **20/18/13** | --- | --- |

# FUEL REPORT

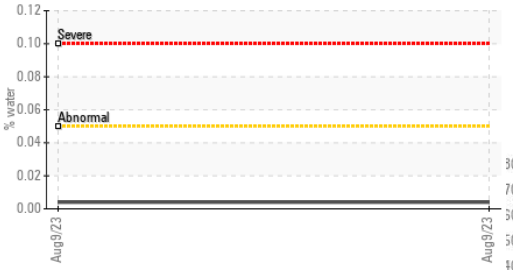
Particle Count



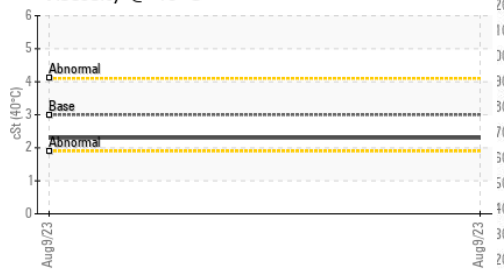

Particle Trend



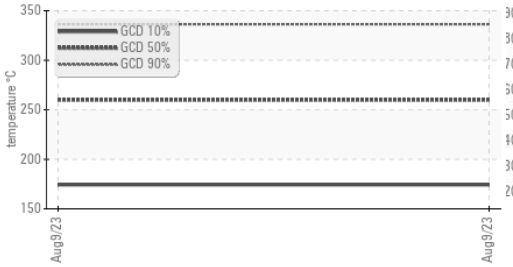

Water



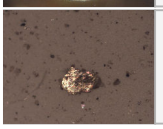

Viscosity @ 40°C




Gas Chromatography (GCD)

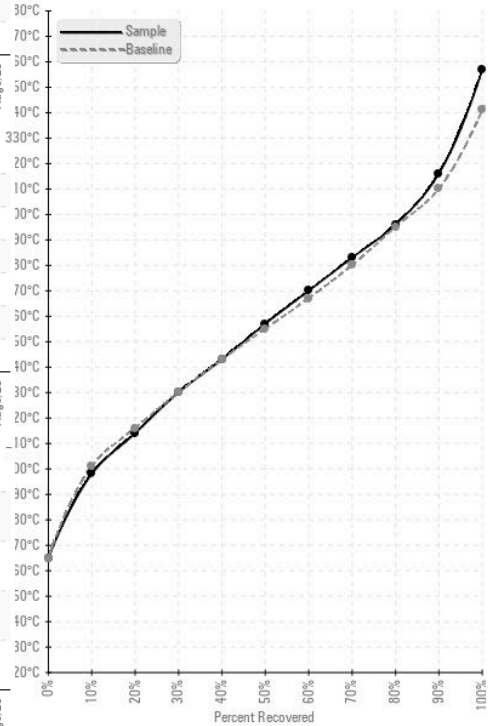



| HEAVY METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Aluminum | ppm | ASTM D5185(m) | <0.1 | **0** | --- | --- |
| Nickel | ppm | ASTM D5185(m) | <0.1 | **0** | --- | --- |
| Lead | ppm | ASTM D5185(m) | <0.1 | **0** | --- | --- |
| Vanadium | ppm | ASTM D5185(m) | <0.1 | **0** | --- | --- |
| Iron | ppm | ASTM D5185(m) | <0.1 | **<1** | --- | --- |
| Calcium | ppm | ASTM D5185(m) | <0.1 | **0** | --- | --- |
| Magnesium | ppm | ASTM D5185(m) | <0.1 | **0** | --- | --- |
| Phosphorus | ppm | ASTM D5185(m) | <0.1 | **0** | --- | --- |
| Zinc | ppm | ASTM D5185(m) | <0.1 | **0** | --- | --- |

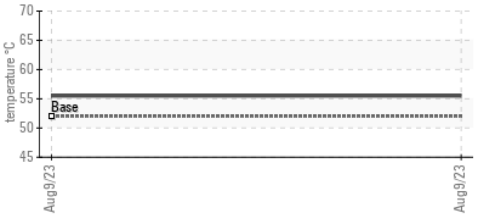
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | *no image* | *no image* |
| Bottom | | |  | *no image* | *no image* |
| PrtFilter | | |  | *no image* | *no image* |

## GRAPHS

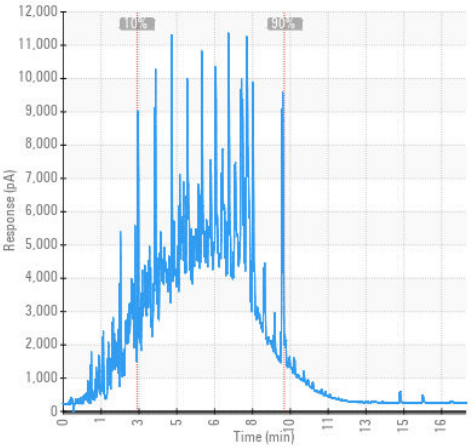
Fuel Distillation Curve




Pensky-Martens Flash Point (°C)




GCD Spectrum




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : CU0020773
**Lab Number** : 02575266
**Unique Number** : 5620317
**Test Package** : FUEL ( Additional Tests: BottomAnalysis, CC Flash, FILTERPATCH, GC-PercFuel, PrtCount, PrtFilter )

**Received** : 10 Aug 2023
**Diagnosed** : 14 Aug 2023
**Diagnostician** : Kevin Marson

*To discuss this sample report, contact Customer Service at 1-800-268-2131.*
*Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.*
*Validity of results and interpretation are based on the sample and information as supplied.*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