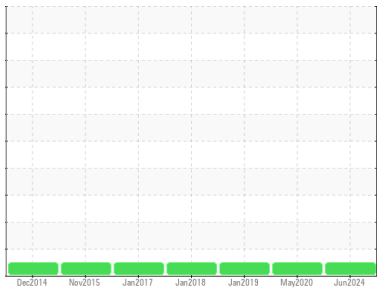
# FUEL REPORT

Sample Rating Trend




NORMAL

Area
**[6100298904]**
Machine Id
**6R735912**
Component
**Diesel Fuel**
Fluid
**No.1 DIESEL FUEL (LOW-SULPHUR) (--- GAL)**

## DIAGNOSIS

**Recommendation**
Laboratory test indicate that this fuel is suitable for use and meets all test requirements. Resample at the next service interval to monitor.

**Contaminants**
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. There is no indication of any contamination in the diesel fuel.

**Fuel Condition**
All laboratory tests indicate that this sample meets specifications for No.1 ultra-low-sulfur diesel fuel (US EPA/CGSB-3.517-3 type A).

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WA0021953** | WA0015027 | WA0010082 |
| Sample Date | | Client Info | | **18 Jun 2024** | 14 May 2020 | 08 Jan 2019 |
| Machine Age | hrs | Client Info | | **0** | 285 | 252 |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |

| PHYSICAL PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Specific Gravity | | ASTM D1298* | 0.825 | **0.838** | 0.838 | 0.835 |
| Fuel Color | text | Visual Screen* | Clear | **Yllow** | Yllow | Yllow |
| Visc @ 40°C | cSt | ASTM D7279(m) | 1.8 | **2.4** | 2.3 | 2.3 |
| Pensky-Martens Flash Point | °C | ASTM D7215* | 38 | **61.9** | 66 | 62 |

| SULFUR CONTENT | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sulfur | ppm | ASTM D5185(m) | 250 | **15** | 72 | 111 |

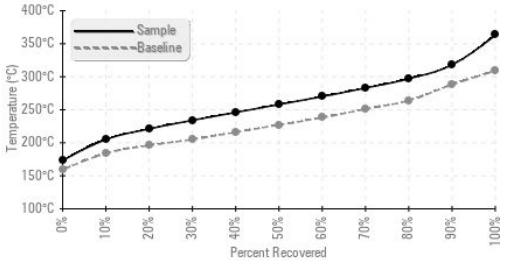
| DISTILLATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Initial Boiling Point | °C | ASTM D2887* | 159 | **173** | 168 | 169 |
| 5% Distillation Point | °C | ASTM D2887* | | **195** | 192 | 191 |
| 10% Distill Point | °C | ASTM D2887* | 184 | **205** | 201 | 200 |
| 15% Distillation Point | °C | ASTM D2887* | | **213** | 208 | 206 |
| 20% Distill Point | °C | ASTM D2887* | 196 | **221** | 213 | 213 |
| 30% Distill Point | °C | ASTM D2887* | 205 | **234** | 226 | 224 |
| 40% Distill Point | °C | ASTM D2887* | 216 | **246** | 237 | 236 |
| 50% Distill Point | °C | ASTM D2887* | 227 | **258** | 248 | 247 |
| 60% Distill Point | °C | ASTM D2887* | 238 | **270** | 260 | 258 |
| 70% Distill Point | °C | ASTM D2887* | 251 | **283** | 272 | 270 |
| 80% Distill Point | °C | ASTM D2887* | 264 | **297** | 286 | 284 |
| 85% Distillation Point | °C | ASTM D2887* | | **307** | 295 | 293 |
| 90% Distill Point | °C | ASTM D2887* | 288 | **318** | 307 | 304 |
| 95% Distillation Point | °C | ASTM D2887* | | **336** | 324 | 322 |
| Final Boiling Point | °C | ASTM D2887* | 309 | **363** | 338 | 335 |
| Distillation Residue | % | ASTM D86(e)* | 3.0 | **---** | 1.4 | 1.4 |
| Distillation Loss | % | ASTM D86(e)* | 3.0 | **---** | 0.4 | 0.5 |

| IGNITION QUALITY | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| API Gravity | ASTM D1298* | 40.1 | **37** | 37.4 | 38.0 |
| Cetane Index | ASTM D4737* | <40.0 | **48** | 46.7 | 47.2 |

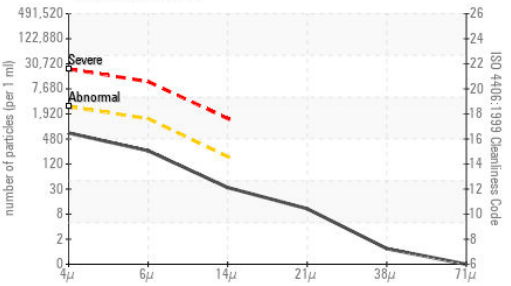
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | <1.0 | **0** | 0 | 0 |
| Sodium | ppm | ASTM D5185(m) | <0.1 | **0** | <1 | <1 |
| Potassium | ppm | ASTM D5185(m) | <0.1 | **0** | 0 | 0 |
| Water | % | ASTM D6304* | <0.05 | **0.003** | 0.001 | 0.001 |
| ppm Water | ppm | ASTM D6304* | <500 | **29** | 13.5 | 10.3 |

# FUEL REPORT

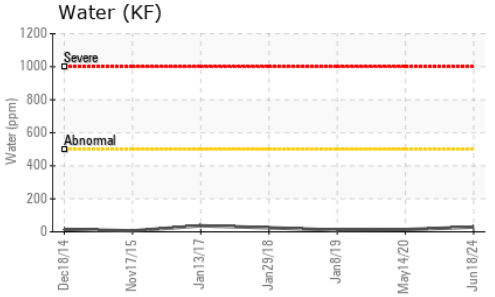
Fuel Distillation Curve



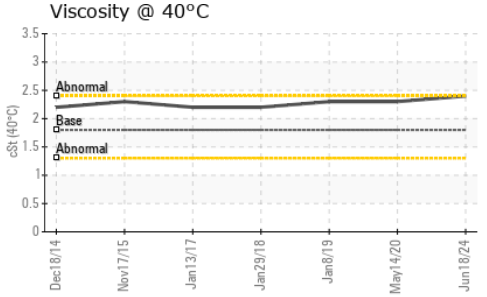

Particle Count



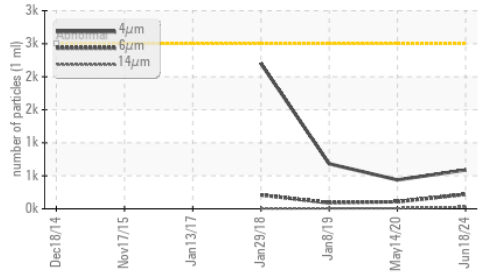

Water (KF)




Viscosity @ 40°C

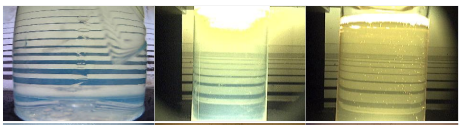



Particle Trend




| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >2500 | **588** | 438 | 682 |
| Particles >6µm | | ASTM D7647 | >1300 | **220** | 107 | 90 |
| Particles >14µm | | ASTM D7647 | >160 | **29** | 8 | 7 |
| Particles >21µm | | ASTM D7647 | >40 | **9** | 3 | 2 |
| Particles >38µm | | ASTM D7647 | >10 | **1** | 0 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >18/17/14 | **16/15/12** | 16/14/10 | 17/14/10 |

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

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

ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WA0021953 **Received** : 26 Jun 2024
**Lab Number** : 02644259 **Tested** : 02 Jul 2024
**Unique Number** : 5801798 **Diagnosed** : 02 Jul 2024 - Kevin Marson
**Test Package** : FUEL ( Additional Tests: CC Flash, PrtCount )

*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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