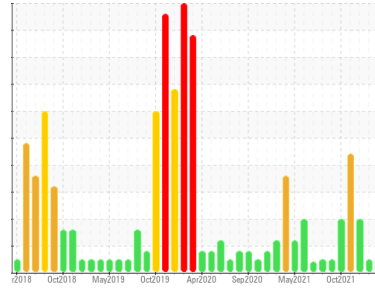


FUEL REPORT

Sample Rating Trend



NORMAL



Machine Id
Crane - Mid Ship Fuel Sample (S/N Sample Tag: MA-04002)
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. Resample at the next service interval to monitor.

Corrosion

{not applicable}

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.2 ultra-low-sulfur diesel fuel (US EPA/CGSB-3.517-3 type B).

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | | PC | PC | PC0052005 |
| Sample Date | Client Info | | | 06 Sep 2023 | 15 Aug 2023 | 02 May 2023 |
| Machine Age | hrs | Client Info | | 0 | 0 | 0 |
| Sample Status | | | | NORMAL | NORMAL | ABNORMAL |

| PHYSICAL PROPERTIES | | method | limit/base | current | history1 | history2 |
|----------------------------|------|----------------|------------|--------------|----------|----------|
| Specific Gravity | | ASTM D1298* | 0.839 | 0.844 | 0.843 | 0.842 |
| Fuel Color | text | Visual Screen* | Yllow | Yllow | Yllow | Orang |
| Visc @ 40°C | cSt | ASTM D7279(m) | 3.0 | 3.1 | 2.8 | 3 |
| Pensky-Martens Flash Point | °C | ASTM D7215* | 52 | 62.2 | 61.9 | 63.3 |

| SULFUR CONTENT | | method | limit/base | current | history1 | history2 |
|----------------|-----|---------------|------------|-----------|----------|----------|
| Sulfur | ppm | ASTM D5185(m) | 10 | 14 | 15 | 156 |

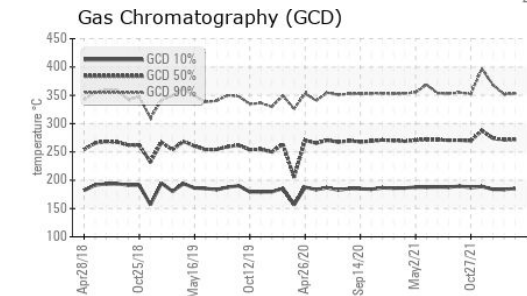
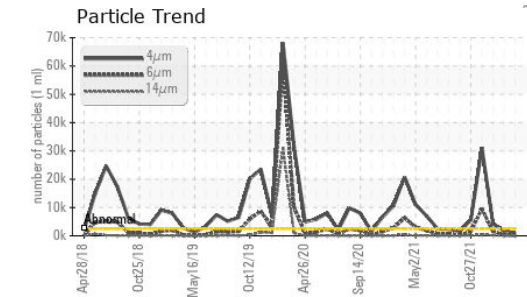
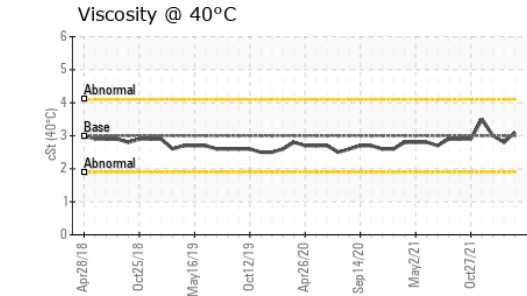
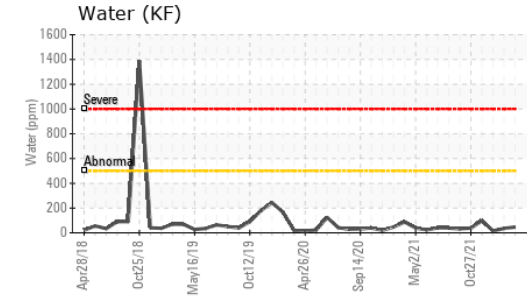
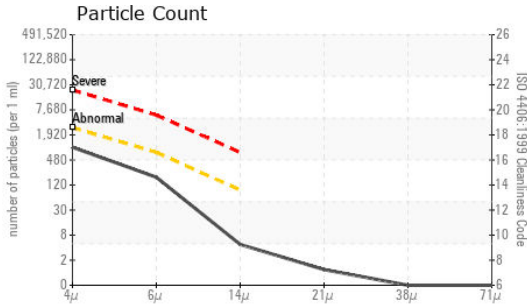
| DISTILLATION | | method | limit/base | current | history1 | history2 |
|------------------------|----|-------------|------------|------------|----------|----------|
| Initial Boiling Point | °C | ASTM D2887* | 165 | 173 | 172 | 174 |
| 5% Distillation Point | °C | ASTM D2887* | | 197 | 196 | 196 |
| 10% Distill Point | °C | ASTM D2887* | 201 | 209 | 209 | 208 |
| 15% Distillation Point | °C | ASTM D2887* | | 218 | 218 | 217 |
| 20% Distill Point | °C | ASTM D2887* | 216 | 227 | 227 | 226 |
| 30% Distill Point | °C | ASTM D2887* | 230 | 243 | 242 | 243 |
| 40% Distill Point | °C | ASTM D2887* | 243 | 256 | 255 | 257 |
| 50% Distill Point | °C | ASTM D2887* | 255 | 268 | 268 | 271 |
| 60% Distill Point | °C | ASTM D2887* | 267 | 282 | 281 | 287 |
| 70% Distill Point | °C | ASTM D2887* | 280 | 295 | 295 | 303 |
| 80% Distill Point | °C | ASTM D2887* | 295 | 311 | 310 | 321 |
| 85% Distillation Point | °C | ASTM D2887* | | 321 | 321 | 334 |
| 90% Distill Point | °C | ASTM D2887* | 310 | 332 | 331 | 347 |
| 95% Distillation Point | °C | ASTM D2887* | | 350 | 350 | 370 |
| Final Boiling Point | °C | ASTM D2887* | 341 | 371 | 365 | 391 |

| IGNITION QUALITY | | method | limit/base | current | history1 | history2 |
|------------------|--|-------------|------------|-----------|----------|----------|
| API Gravity | | ASTM D1298* | 37.7 | 36 | 36 | 36 |
| Cetane Index | | ASTM D4737* | <40.0 | 49 | 49 | 50 |

| 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 | 0 | <1 |
| Potassium | ppm | ASTM D5185(m) | <0.1 | <1 | <1 | 0 |
| Water | % | ASTM D6304* | <0.05 | 0.004 | 0.003 | 0.002 |
| ppm Water | ppm | ASTM D6304* | <500 | 46.5 | 35.7 | 15.8 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|-------------------|--|--------------|------------|----------------|----------|------------|
| Particles >4µm | | ASTM D7647 | >2500 | 851 | 1774 | ▲ 4179 |
| Particles >6µm | | ASTM D7647 | >640 | 163 | 401 | ▲ 1515 |
| Particles >14µm | | ASTM D7647 | >80 | 4 | 20 | ▲ 165 |
| Particles >21µm | | ASTM D7647 | >20 | 1 | 7 | ▲ 41 |
| Particles >38µm | | ASTM D7647 | >4 | 0 | 2 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >18/16/13 | 17/15/9 | 18/16/11 | ▲ 19/18/15 |

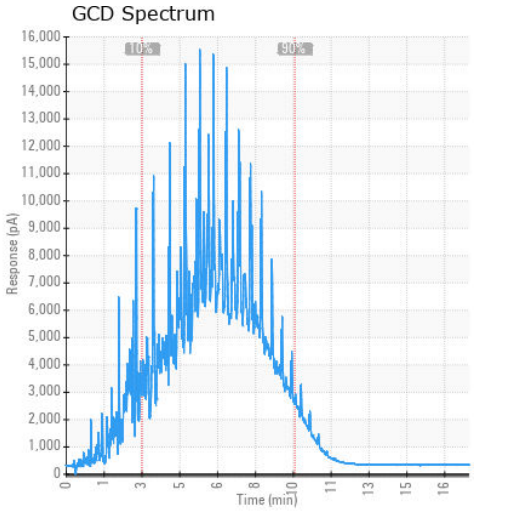
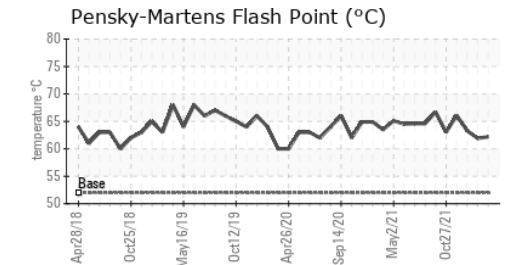
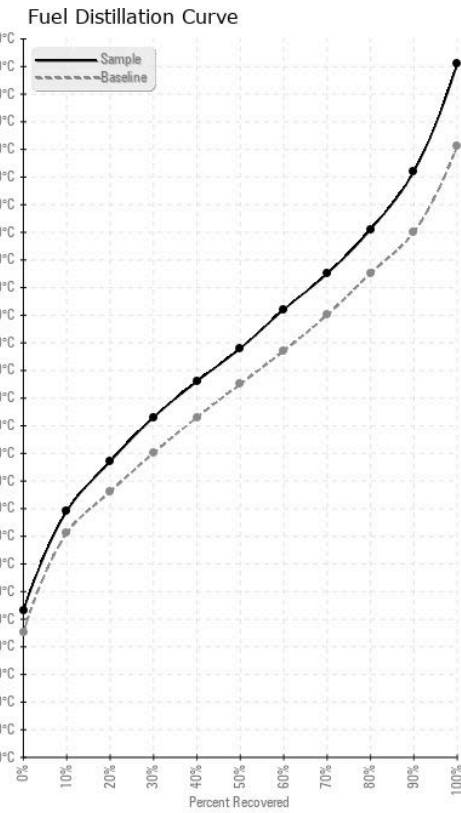
FUEL REPORT



| 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 | <1 | <1 | <1 |
| Calcium | ppm | ASTM D5185(m) | <0.1 | 0 | 0 | <1 |
| Magnesium | ppm | ASTM D5185(m) | <0.1 | <1 | 0 | <1 |
| Phosphorus | ppm | ASTM D5185(m) | <0.1 | 0 | 0 | <1 |
| Zinc | ppm | ASTM D5185(m) | <0.1 | 0 | 0 | <1 |

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

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC
Received : 25 Sep 2023
Lab Number : 02585064
Diagnosed : 27 Sep 2023
Unique Number : 5646129
Diagnostician : Kevin Marson
Test Package : FUEL (Additional Tests: CC Flash, GC-PercFuel, PrtCount)

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 St. John's, NL
 CA A1C 1B6
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 joshhynes@suncor.com
 T: (709)778-3575
 F: (709)724-2835

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.