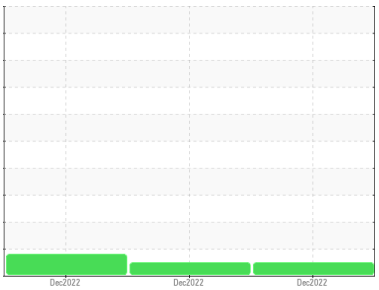
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
## FP-12 POWER END
Component
**Pump**
Fluid
**NOT GIVEN (--- GAL)**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor.

**Wear**
All component wear rates are normal.

**Contamination**
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

**Fluid Condition**
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| SAMPLE INFORMATION | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **KL0009577** | KL0009575 | KL0009573 |
| Sample Date | | Client Info | | **21 Dec 2022** | 19 Dec 2022 | 02 Dec 2022 |
| Machine Age | hrs | Client Info | | **20523** | 20476 | 20428 |
| Oil Age | hrs | Client Info | | **695** | 648 | 600 |
| Oil Changed | | Client Info | | **Not Changd** | Not Changd | N/A |
| Sample Status | | | | **NORMAL** | NORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >500 | **7** | 6 | 4 |
| Chromium | ppm | ASTM D5185m | >7 | **<1** | <1 | 0 |
| Nickel | ppm | ASTM D5185m | | **1** | 1 | 0 |
| Titanium | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | **<1** | <1 | <1 |
| Lead | ppm | ASTM D5185m | >35 | **2** | 2 | <1 |
| Copper | ppm | ASTM D5185m | >50 | **8** | 7 | 8 |
| Tin | ppm | ASTM D5185m | >5 | **2** | 2 | 2 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **7** | 9 | 9 |
| Barium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Manganese | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | | **45** | 49 | 47 |
| Calcium | ppm | ASTM D5185m | | **192** | 193 | 204 |
| Phosphorus | ppm | ASTM D5185m | | **267** | 274 | 262 |
| Zinc | ppm | ASTM D5185m | | **95** | 97 | 99 |
| Sulfur | ppm | ASTM D5185m | | **10727** | 10753 | 10582 |

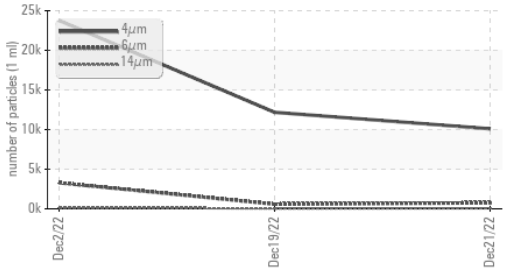
| CONTAMINANTS | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >50 | **<1** | 1 | 2 |
| Sodium | ppm | ASTM D5185m | | **12** | 15 | 16 |
| Potassium | ppm | ASTM D5185m | >20 | **<1** | 0 | 0 |

| FLUID CLEANLINESS | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **10097** | 12179 | 23771 |
| Particles >6µm | | ASTM D7647 | >1300 | **758** | 584 | ▲ 3281 |
| Particles >14µm | | ASTM D7647 | >160 | **69** | 51 | 122 |
| Particles >21µm | | ASTM D7647 | >40 | **15** | 10 | 27 |
| Particles >38µm | | ASTM D7647 | >10 | **1** | 1 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >17/14 | **17/13** | 16/13 | ▲ 19/14 |

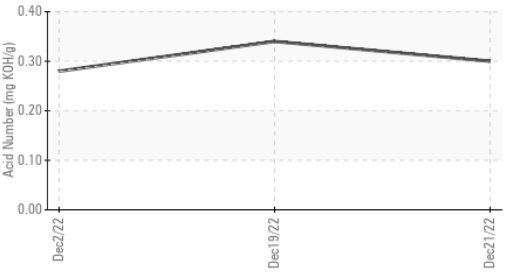
| FLUID DEGRADATION | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **0.30** | 0.34 | 0.28 |

# OIL ANALYSIS REPORT

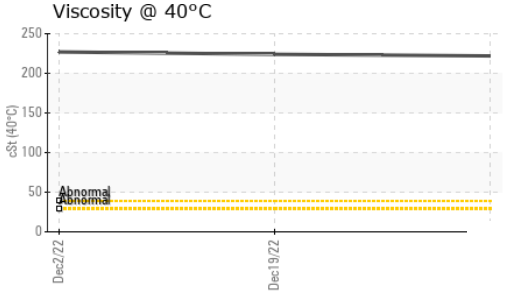
Particle Trend



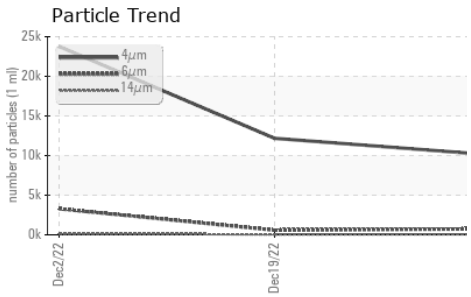

Acid Number




Viscosity @ 40°C

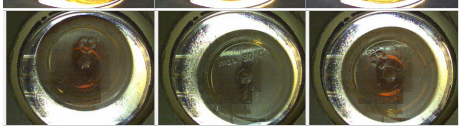



Particle Trend



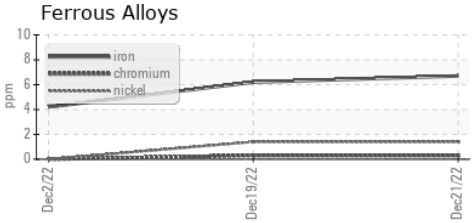

| VISUAL | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Appearance | scalar | *Visual | NORML | **NORML** | NORML | NORML |
| Odor | scalar | *Visual | NORML | **NORML** | NORML | NORML |
| Emulsified Water | scalar | *Visual | | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | | **222** | 224 | 227 |

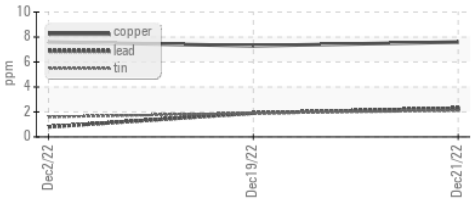
| SAMPLE IMAGES | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

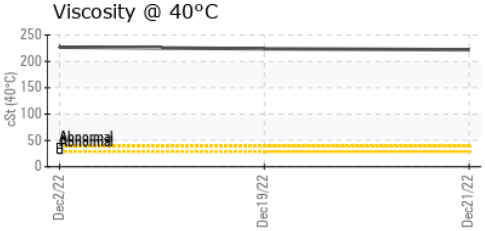
Ferrous Alloys



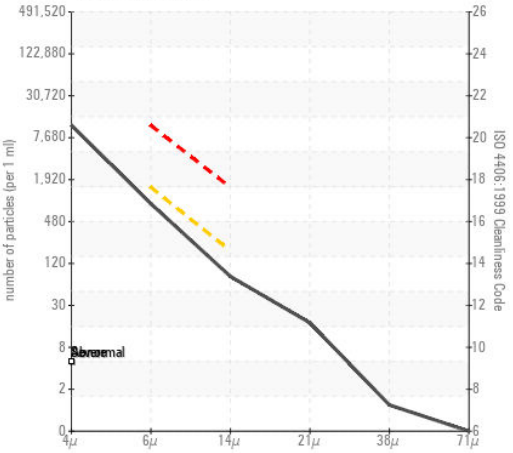

Non-ferrous Metals



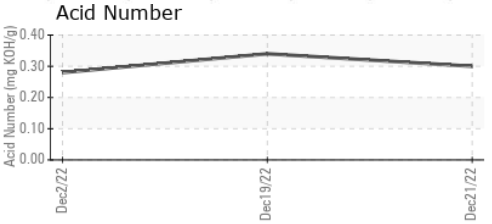

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KL0009577 **Received** : 27 Dec 2022
**Lab Number** : 05726224 **Diagnosed** : 28 Dec 2022
**Unique Number** : 10270805 **Diagnostician** : Doug Bogart
**Test Package** : MOB 2 ( Additional Tests: PrtCount )

*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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