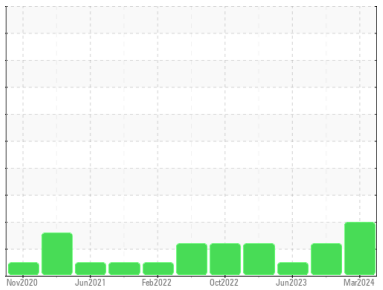
# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Area
**DICK LAVY**
Machine Id
**DICK LAVY 4824**
Component
**Transmission (Manual)**
Fluid
**Transmission (Manual) Oil (--- GAL)**

## DIAGNOSIS

**Recommendation**
We recommend you service the filters on this component. Resample at the next service interval to monitor.

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

**Contamination**
There is a high amount of particulates present in the fluid.

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

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0900783** | WC0876002 | WC0828778 |
| Sample Date | | Client Info | | **05 Mar 2024** | 23 Oct 2023 | 12 Jun 2023 |
| Machine Age | mls | Client Info | | **499509** | 448291 | 390395 |
| Oil Age | mls | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | NORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >200 | **48** | 44 | 34 |
| Chromium | ppm | ASTM D5185m | >5 | **0** | <1 | 0 |
| Nickel | ppm | ASTM D5185m | >5 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **<1** | <1 | 0 |
| Silver | ppm | ASTM D5185m | >7 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | **7** | 4 | 4 |
| Lead | ppm | ASTM D5185m | >45 | **<1** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >225 | **40** | 30 | 20 |
| Tin | ppm | ASTM D5185m | >10 | **<1** | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **17** | 11 | 10 |
| Barium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **0** | <1 | <1 |
| Manganese | ppm | ASTM D5185m | | **8** | 6 | 6 |
| Magnesium | ppm | ASTM D5185m | | **2** | 2 | 4 |
| Calcium | ppm | ASTM D5185m | | **475** | 496 | 487 |
| Phosphorus | ppm | ASTM D5185m | | **524** | 534 | 493 |
| Zinc | ppm | ASTM D5185m | | **98** | 84 | 84 |
| Sulfur | ppm | ASTM D5185m | | **3245** | 3089 | 3105 |

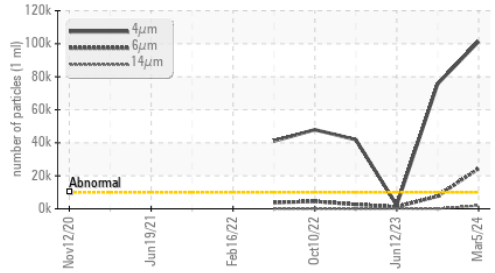
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >125 | **33** | 36 | 34 |
| Sodium | ppm | ASTM D5185m | | **15** | 0 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | **2** | 2 | 1 |
| Water | % | ASTM D6304 | >0.1 | **0.049** | 0.022 | 0.021 |
| ppm Water | ppm | ASTM D6304 | >1000 | **493** | 227 | 214.7 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >10000 | ▲ **101305** | ▲ 75730 | 2210 |
| Particles >6µm | | ASTM D7647 | >2500 | ▲ **24406** | ▲ 7664 | 1204 |
| Particles >14µm | | ASTM D7647 | >320 | ▲ **1975** | 90 | 205 |
| Particles >21µm | | ASTM D7647 | >80 | ▲ **410** | 17 | 69 |
| Particles >38µm | | ASTM D7647 | >20 | **14** | 0 | 11 |
| Particles >71µm | | ASTM D7647 | >4 | **1** | 0 | 1 |
| Oil Cleanliness | | ISO 4406 (c) | >20/18/15 | ▲ **24/22/18** | ▲ 23/20/14 | 18/17/15 |

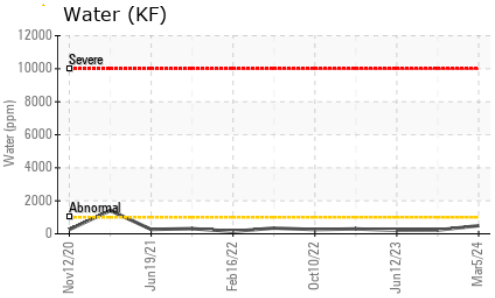
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **1.05** | 0.88 | 0.88 |

# OIL ANALYSIS REPORT

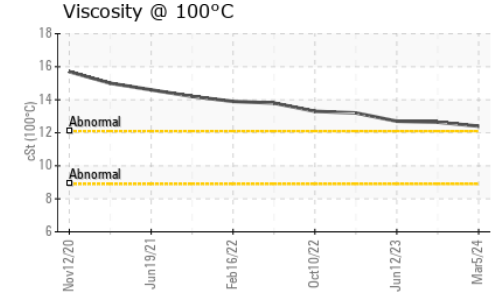
Particle Trend



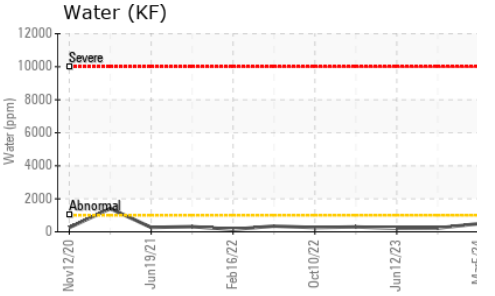

Water (KF)



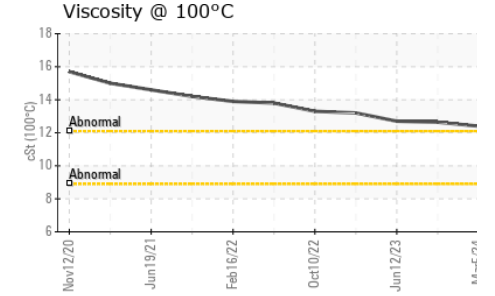

Viscosity @ 100°C




Water (KF)

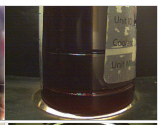



Viscosity @ 100°C



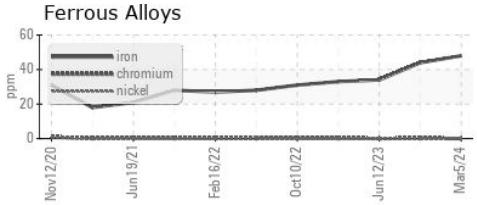

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | LIGHT |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | >0.1 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | | **79.0** | 79.6 | 80.0 |
| Visc @ 100°C | cSt | ASTM D445 | | **12.4** | 12.64 | 12.7 |
| Viscosity Index (VI) | Scale | ASTM D2270 | | **154** | 157 | 158 |

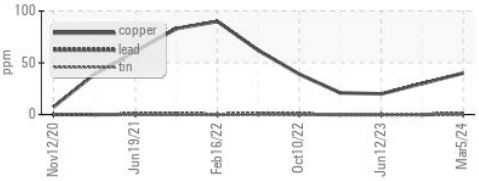
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  |  |  |
| Bottom | | |  |  |  |

## GRAPHS

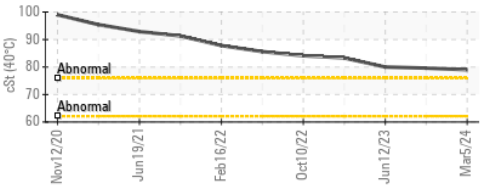
Ferrous Alloys



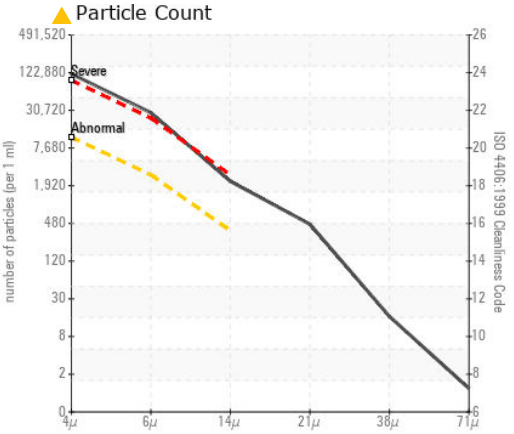

Non-ferrous Metals



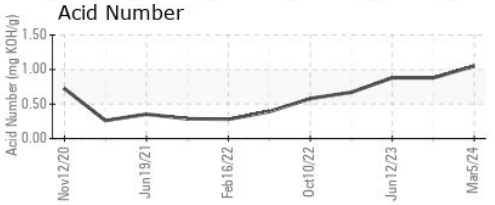

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0900783 **Received** : 18 Apr 2024
**Lab Number** : 06153100 **Tested** : 19 Apr 2024
**Unique Number** : 10983178 **Diagnosed** : 22 Apr 2024 - Angela Borella
**Test Package** : MOB 2 ( Additional Tests: KF, KV100, PrtCount, VI )

*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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