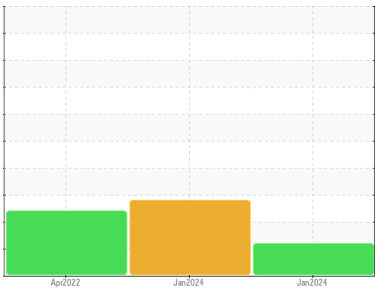
OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Area
**PASTA [98709269 AFTER]**
Machine Id
**L21 MAIN DRIVE 3 WAY**
Component
**Gearbox**
Fluid
**GEAR OIL ISO 320 (--- GAL)**

## DIAGNOSIS

**▲ Recommendation**
No corrective action is recommended at this time. Resample at the next service interval to monitor. (after).

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

**▲ Contamination**
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

**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 | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **PCA0114279** | PCA0114280 | PCA0067385 |
| Sample Date | | Client Info | | **21 Jan 2024** | 20 Jan 2024 | 04 Apr 2022 |
| Machine Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | Not Changd |
| Sample Status | | | | **ATTENTION** | ABNORMAL | ABNORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.2 | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >200 | **0** | 6 | 18 |
| Chromium | ppm | ASTM D5185m | >15 | **<1** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >15 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | <1 | 6 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >25 | **3** | 3 | 4 |
| Lead | ppm | ASTM D5185m | >100 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >200 | **0** | <1 | <1 |
| Tin | ppm | ASTM D5185m | >25 | **0** | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 50 | **0** | 0 | 0 |
| Barium | ppm | ASTM D5185m | 15 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 15 | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | 50 | **<1** | <1 | 0 |
| Calcium | ppm | ASTM D5185m | 50 | **0** | <1 | <1 |
| Phosphorus | ppm | ASTM D5185m | 350 | **466** | 426 | 161 |
| Zinc | ppm | ASTM D5185m | 100 | **9** | 113 | 172 |
| Sulfur | ppm | ASTM D5185m | 12500 | **1340** | 1134 | 4 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >50 | **17** | ▲ 189 | ▲ 207 |
| Sodium | ppm | ASTM D5185m | | **0** | 0 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | **<1** | <1 | 0 |

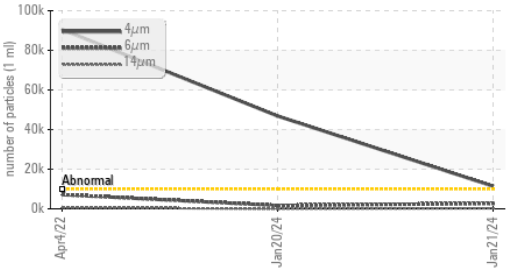
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >10000 | ▲ **11405** | ▲ 46844 | ▲ 90552 |
| Particles >6µm | | ASTM D7647 | >2500 | ▲ **2712** | 1667 | ▲ 7149 |
| Particles >14µm | | ASTM D7647 | >640 | **236** | 30 | 607 |
| Particles >21µm | | ASTM D7647 | >160 | **61** | 6 | 156 |
| Particles >38µm | | ASTM D7647 | >40 | **2** | 1 | 18 |
| Particles >71µm | | ASTM D7647 | >10 | **0** | 1 | 1 |
| Oil Cleanliness | | ISO 4406 (c) | >20/18/16 | ▲ **21/19/15** | ▲ 23/18/12 | ▲ 24/20/16 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.85 | **0.45** | 0.52 | 0.34 |

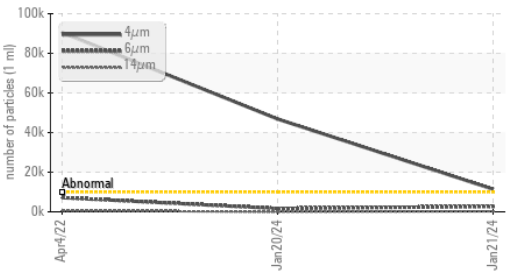
# OIL ANALYSIS REPORT

OIL DIAGNOSTICS

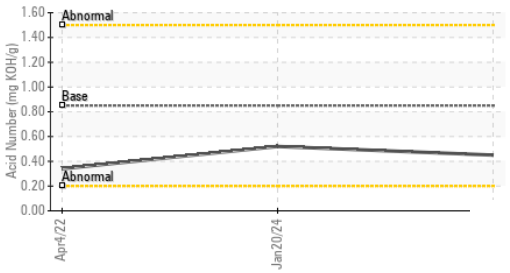
Particle Trend



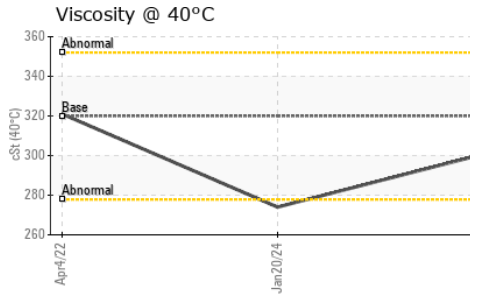

Particle Trend




Acid Number




Viscosity @ 40°C



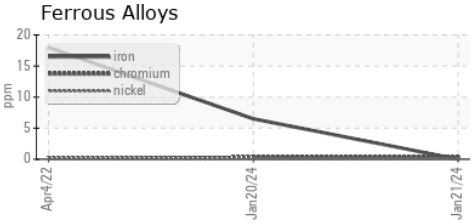

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **LIGHT** | NONE | LIGHT |
| 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 | >0.2 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 320 | **302** | ▲ 274 | 321 |

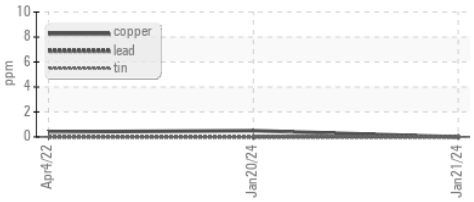
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | | | | |
| Bottom | | | | | |

## GRAPHS

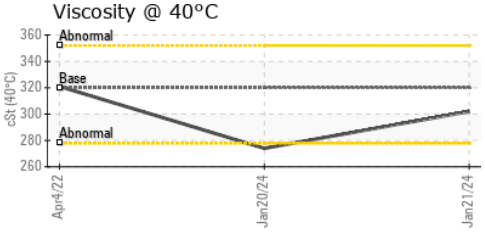
Ferrous Alloys



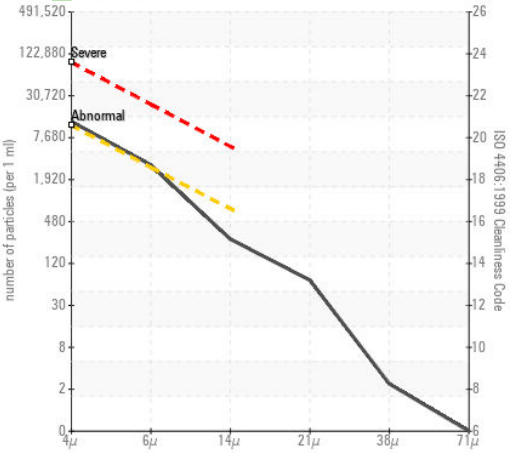

Non-ferrous Metals



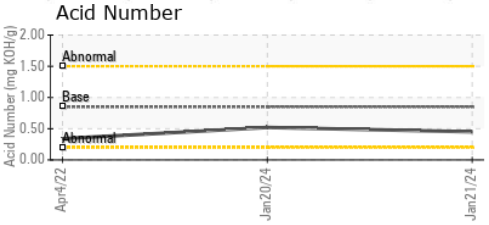

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PCA0114279 **Recieved** : 26 Jan 2024
**Lab Number** : 06071663 **Diagnosed** : 30 Jan 2024
**Unique Number** : 10848340 **Diagnostician** : Don Baldridge
**Test Package** : IND 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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