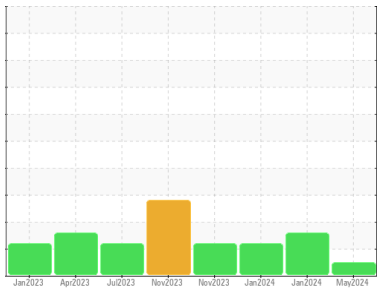
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
## KD2 HP NOX PUMP
Component
**Hydraulic System**
Fluid
**MOBIL DELVAC 1 5W40 (--- GAL)**

## DIAGNOSIS

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

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

**Contamination**
There is no indication of any contamination in the component. The amount and size of particulates present in the system 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 | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **USP0012885** | USP0007089 | USP0007087 |
| Sample Date | | Client Info | | **30 May 2024** | 25 Jan 2024 | 25 Jan 2024 |
| Machine Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **NORMAL** | ABNORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >20 | **2** | 1 | 0 |
| Chromium | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | **2** | 2 | 0 |
| Lead | ppm | ASTM D5185m | >20 | **1** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >20 | **<1** | 0 | 0 |
| Tin | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 291 | **111** | 140 | 0 |
| Barium | ppm | ASTM D5185m | 0.0 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 8.0 | **41** | 44 | 0 |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 624 | **844** | 882 | 0 |
| Calcium | ppm | ASTM D5185m | 2158 | **968** | 962 | 0 |
| Phosphorus | ppm | ASTM D5185m | 1132 | **1057** | 1040 | 386 |
| Zinc | ppm | ASTM D5185m | 1300 | **1251** | 1232 | 0 |
| Sulfur | ppm | ASTM D5185m | 3616 | **3717** | 3133 | 6 |

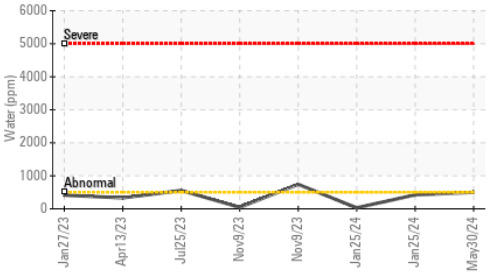
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >15 | **2** | 4 | 20 |
| Sodium | ppm | ASTM D5185m | | **<1** | 0 | <1 |
| Potassium | ppm | ASTM D5185m | >20 | **<1** | 0 | 0 |
| Water | % | ASTM D6304 | >0.05 | **0.050** | 0.042 | 0.003 |
| ppm Water | ppm | ASTM D6304 | >500 | **500** | 422 | 30 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | **3223** | ▲ 22478 | ▲ 19494 |
| Particles >6µm | | ASTM D7647 | >1300 | **528** | ▲ 4979 | ▲ 3509 |
| Particles >14µm | | ASTM D7647 | >160 | **22** | ▲ 198 | 114 |
| Particles >21µm | | ASTM D7647 | >40 | **7** | 36 | 24 |
| Particles >38µm | | ASTM D7647 | >10 | **1** | 1 | 2 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 1 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | **19/16/12** | ▲ 22/19/15 | ▲ 21/19/14 |

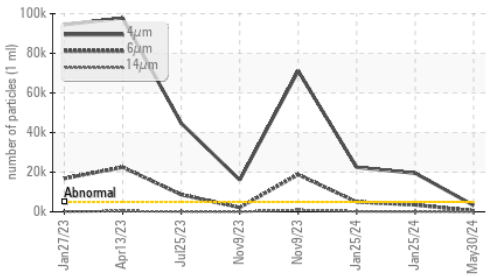
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **1.08** | 0.94 | 0.64 |

# OIL ANALYSIS REPORT

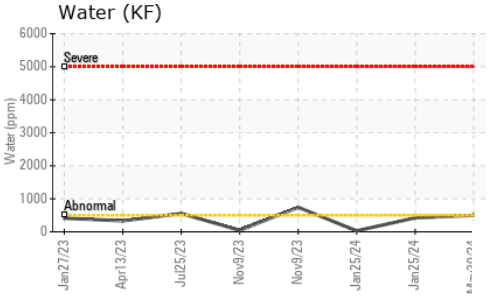
Water (KF)



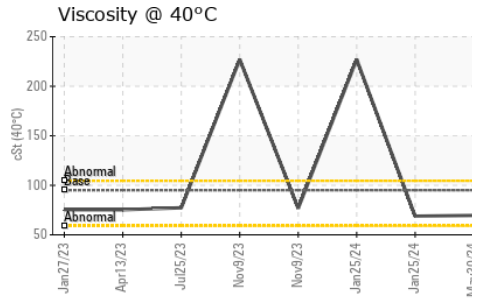

Particle Trend



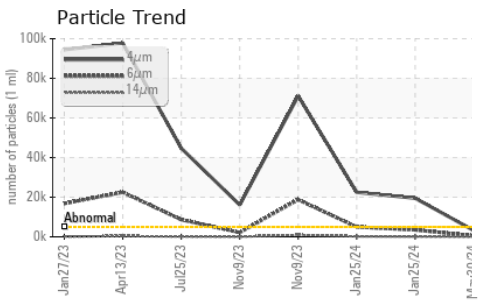

Water (KF)




Viscosity @ 40°C




Particle Trend



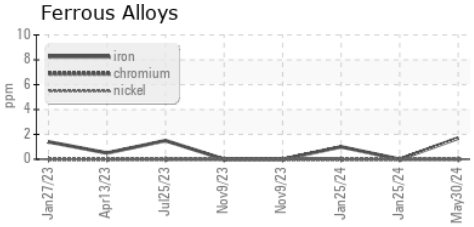

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | LIGHT | 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 | >0.05 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 95 | **69.6** | 68.8 | 227 |

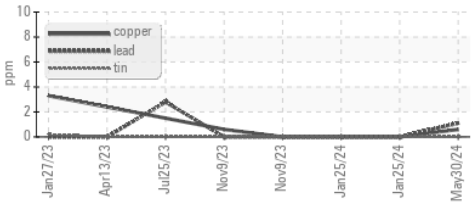
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

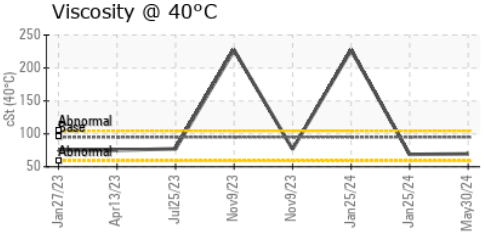
Ferrous Alloys



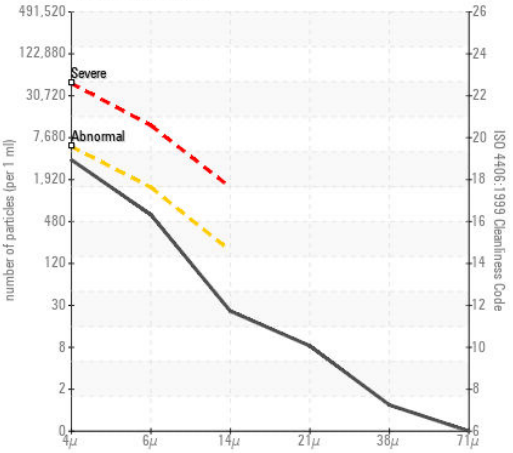

Non-ferrous Metals



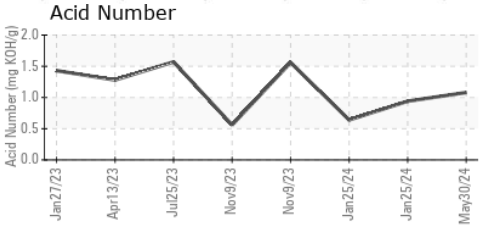

Viscosity @ 40°C




Particle Count




Acid Number




**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : USP0012885
**Lab Number** : 06196721
**Unique Number** : 11058844
**Test Package** : IND 2

**Received** : 31 May 2024
**Tested** : 03 Jun 2024
**Diagnosed** : 03 Jun 2024 - Doug Bogart

Certificate L2367

*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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Report Id: NRGDOV [WUSCAR] 06196721 (Generated: 06/04/2024 06:56:00) Rev: 1

Contact/Location: ERNIE JUST - NRGDOV