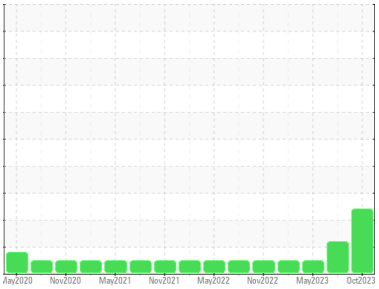
OIL DIAGNOSTICS

# PROBLEM SUMMARY

Sample Rating Trend

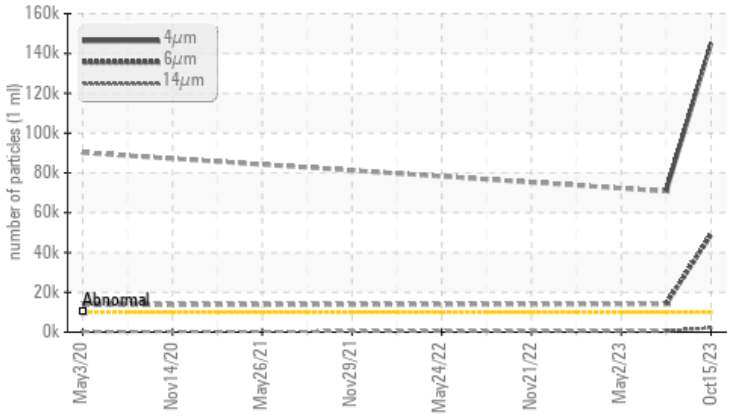



**VISCOSITY**

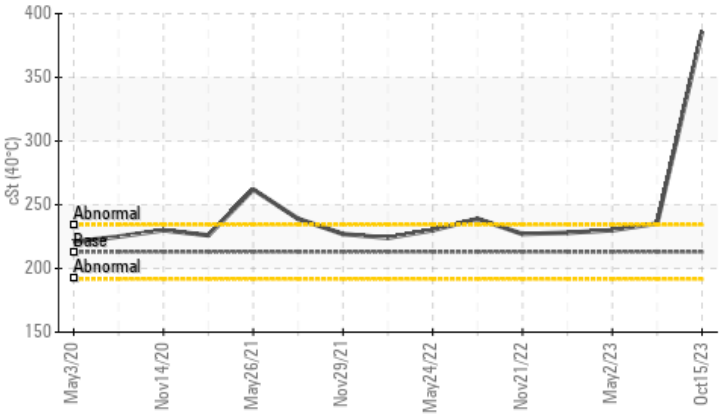
Area
**[98527366]**
Machine Id
**KR-GR-003229 - MAIN SCREW (S/N STUFF A - 11513098)**
Component
**Gearbox**
Fluid
**SCHAEFFER 293A SUPREME GEAR LUBE NO TACK 220 (7 LTR)**

## COMPONENT CONDITION SUMMARY

▲ Particle Trend




▲ Viscosity @ 40°C




## RECOMMENDATION

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

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | **ABNORMAL** | ABNORMAL | NORMAL |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >10000 | ▲ **145129** | ▲ 70801 | --- |
| Particles >6µm | | ASTM D7647 | >2500 | ▲ **48948** | ▲ 14194 | --- |
| Particles >14µm | | ASTM D7647 | >640 | ▲ **2091** | 640 | --- |
| Particles >21µm | | ASTM D7647 | >160 | ▲ **319** | 134 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >20/18/16 | ▲ **24/23/18** | ▲ 23/21/16 | --- |
| Visc @ 40°C | cSt | ASTM D445 | 213 | ▲ **386** | 235.3 | 230 |

**Customer Id:** KRAKIR
**Sample No.:** PCA0106512
**Lab Number:** 05979587
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

*To change component or sample information:*
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

## RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|---|---|---|---|---|
| Change Filter | --- | --- | ? | We recommend you service the filters on this component. |

## HISTORICAL DIAGNOSIS

**10 Aug 2023 Diag: Don Baldridge**

ISO

Resample at the next service interval to monitor.All component wear rates are normal. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

**02 May 2023 Diag: Jonathan Hester**

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

view report

**19 Feb 2023 Diag: Jonathan Hester**

NORMAL

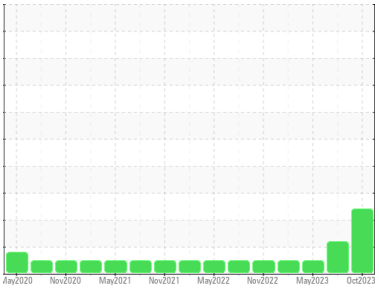
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

view report

OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

Sample Rating Trend




**VISCOSITY**

Area
**[98527366]**
Machine Id
**KR-GR-003229 - MAIN SCREW (S/N STUFF A - 11513098)**
Component
**Gearbox**
Fluid
**SCHAEFFER 293A SUPREME GEAR LUBE NO TACK 220 (7 LTR)**

## 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 oil.

**Fluid Condition**
The oil viscosity is higher than normal. Confirm oil type. The AN level is acceptable for this fluid.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **PCA0106512** | PCA0102516 | PCA0073068 |
| Sample Date | | Client Info | | **15 Oct 2023** | 10 Aug 2023 | 02 May 2023 |
| 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 | | | | **ABNORMAL** | ABNORMAL | NORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >200 | **10** | 5 | 0 |
| Chromium | ppm | ASTM D5185m | >15 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >15 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | **<1** | <1 | 0 |
| Lead | ppm | ASTM D5185m | >100 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >200 | **7** | 2 | 0 |
| Tin | ppm | ASTM D5185m | >25 | **<1** | 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 | | **0** | 27 | 45 |
| Barium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **<1** | 4 | 4 |
| Manganese | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | | **0** | <1 | <1 |
| Calcium | ppm | ASTM D5185m | | **0** | 3 | 0 |
| Phosphorus | ppm | ASTM D5185m | | **156** | 263 | 321 |
| Zinc | ppm | ASTM D5185m | | **0** | 12 | 0 |
| Sulfur | ppm | ASTM D5185m | | **1622** | 11236 | 18152 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >50 | **8** | 2 | 0 |
| Sodium | ppm | ASTM D5185m | | **<1** | 0 | 1 |
| Potassium | ppm | ASTM D5185m | >20 | **<1** | 8 | 11 |

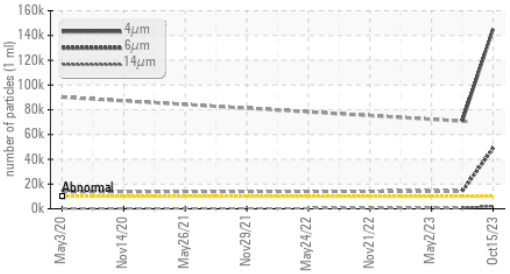
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >10000 | ▲ **145129** | ▲ 70801 | --- |
| Particles >6µm | | ASTM D7647 | >2500 | ▲ **48948** | ▲ 14194 | --- |
| Particles >14µm | | ASTM D7647 | >640 | ▲ **2091** | 640 | --- |
| Particles >21µm | | ASTM D7647 | >160 | ▲ **319** | 134 | --- |
| Particles >38µm | | ASTM D7647 | >40 | **2** | 5 | --- |
| Particles >71µm | | ASTM D7647 | >10 | **0** | 3 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >20/18/16 | ▲ **24/23/18** | ▲ 23/21/16 | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **0.40** | 0.47 | --- |

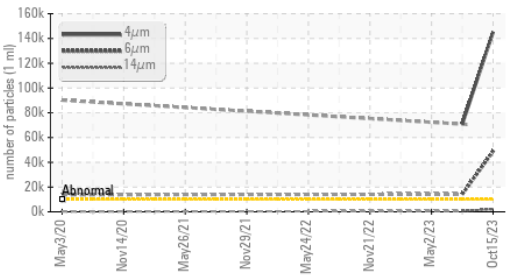
# OIL ANALYSIS REPORT

OIL DIAGNOSTICS

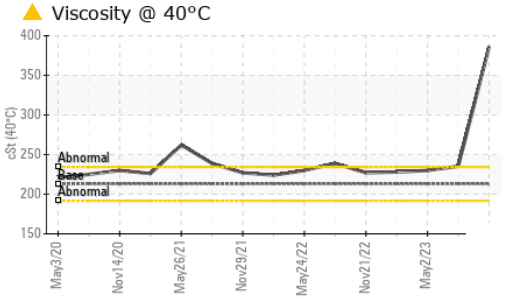
Particle Trend



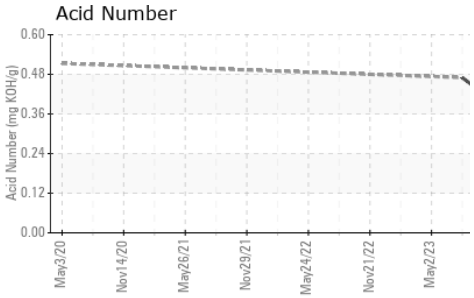

Particle Trend




Viscosity @ 40°C

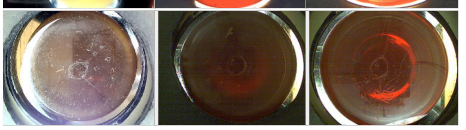



Acid Number



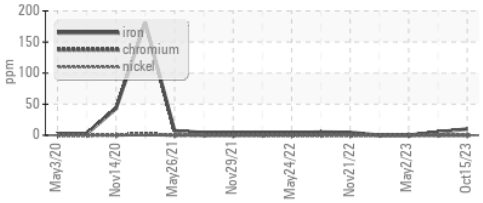

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
|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

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 213 | ▲ **386** | 235.3 | 230 |

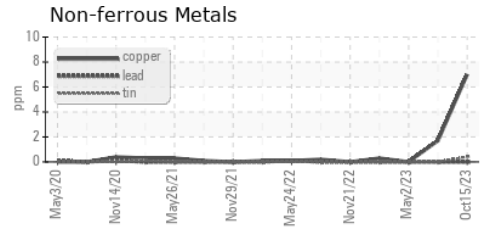
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

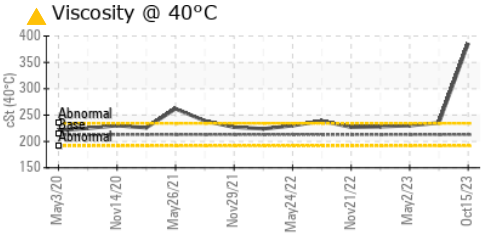
Ferrous Alloys



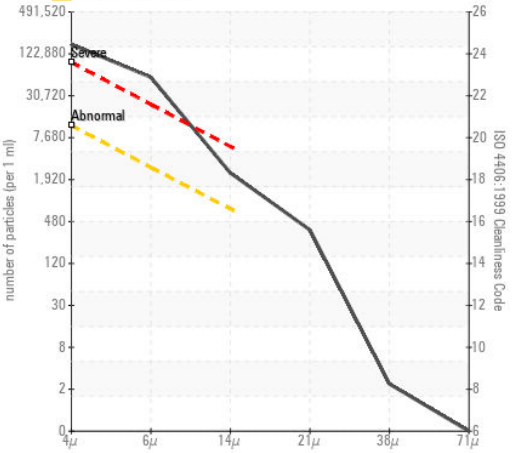

Non-ferrous Metals



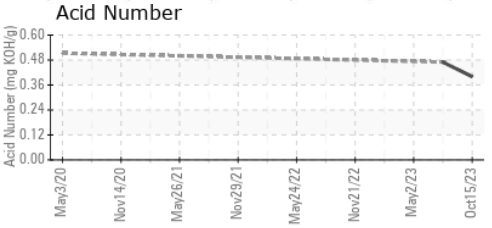

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PCA0106512 **Received** : 16 Oct 2023
**Lab Number** : 05979587 **Diagnosed** : 19 Oct 2023
**Unique Number** : 10696882 **Diagnostician** : Jonathan Hester
**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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