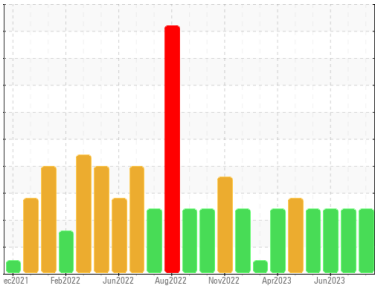
OIL DIAGNOSTICS

# PROBLEM SUMMARY

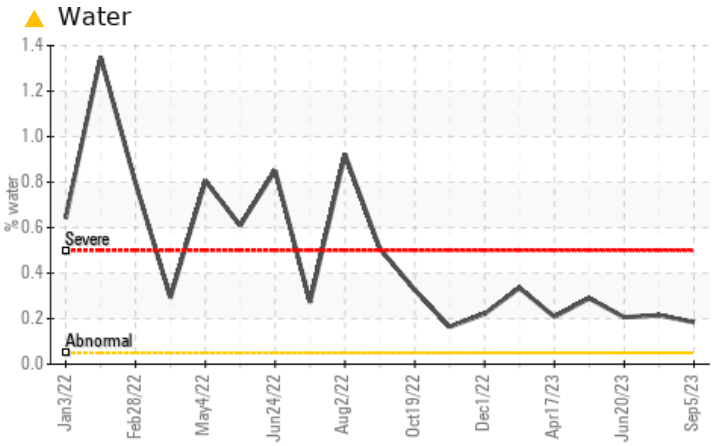
Sample Rating Trend



**WATER**

Area
**[98405897]**
Machine Id
**KR-GR-003106 - DUMPER 3B - SOUTH (S/N INJECT B - 11513037)**
Component
**Hydraulic System**
Fluid
**AW HYDRAULIC OIL ISO 68 (--- GAL)**

## COMPONENT CONDITION SUMMARY




## 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 | ABNORMAL |
|---|---|---|---|---|---|---|
| Water | % | ASTM D6304 | >0.05 | ▲ **0.184** | ▲ 0.215 | ▲ 0.206 |
| ppm Water | ppm | ASTM D6304 | >500 | ▲ **1840** | ▲ 2150 | ▲ 2060 |
| Appearance | scalar | *Visual | NORML | ▲ **HAZY** | ▲ HAZY | ▲ HAZY |

**Customer Id:** KRAKIR
**Sample No.:** PCA0102530
**Lab Number:** 05945694
**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

**17 Jul 2023 Diag: Doug Bogart**

WATER

We advise that you check for the source of water entry. Resample at the next service interval to monitor.All component wear rates are normal. There is a light concentration of water present in the oil. The condition of the oil is acceptable for the time in service.

view report

**20 Jun 2023 Diag: Don Baldridge**

WATER

We advise that you check for the source of water entry. We recommend you service the filters on this component. Resample at the next service interval to monitor.All component wear rates are normal. Appearance is hazy. There is a light concentration of water present in the oil. The condition of the oil is acceptable for the time in service.

view report

**08 May 2023 Diag: Don Baldridge**

WATER

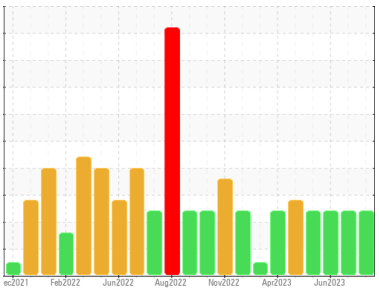
We advise that you check for the source of water entry. We recommend you service the filters on this component. Resample at the next service interval to monitor.All component wear rates are normal. Appearance is hazy. There is a moderate concentration of water present in the oil. The condition of the oil is acceptable for the time in service.

view report

OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

Sample Rating Trend




**WATER**

Area
**[98405897]**
Machine Id
**KR-GR-003106 - DUMPER 3B - SOUTH (S/N INJECT B - 11513037)**
Component
**Hydraulic System**
Fluid
**AW HYDRAULIC OIL ISO 68 (--- 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**
Appearance is hazy. There is a light concentration of water present in the oil. The amount and size of particulates present in the system are 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 | | **PCA0102530** | PCA0096603 | PCA0099349 |
| Sample Date | | Client Info | | **05 Sep 2023** | 17 Jul 2023 | 20 Jun 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 | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >20 | **<1** | 4 | 2 |
| Chromium | ppm | ASTM D5185m | >20 | **0** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >20 | **1** | <1 | <1 |
| Lead | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >20 | **1** | <1 | 1 |
| Tin | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | <1 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 5 | **0** | 0 | 0 |
| Barium | ppm | ASTM D5185m | 5 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 5 | **0** | <1 | <1 |
| Manganese | ppm | ASTM D5185m | | **0** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 25 | **0** | 2 | <1 |
| Calcium | ppm | ASTM D5185m | 200 | **15** | 21 | 24 |
| Phosphorus | ppm | ASTM D5185m | 300 | **429** | 413 | 434 |
| Zinc | ppm | ASTM D5185m | 370 | **159** | 158 | 179 |
| Sulfur | ppm | ASTM D5185m | 2500 | **1618** | 1640 | 1748 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >15 | **1** | 1 | 2 |
| Sodium | ppm | ASTM D5185m | | **3** | 3 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Water | % | ASTM D6304 | >0.05 | ▲ **0.184** | ▲ 0.215 | ▲ 0.206 |
| ppm Water | ppm | ASTM D6304 | >500 | ▲ **1840** | ▲ 2150 | ▲ 2060 |

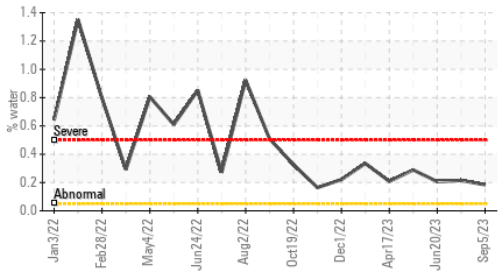
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >10000 | **1583** | --- | --- |
| Particles >6µm | | ASTM D7647 | >2500 | **863** | --- | --- |
| Particles >14µm | | ASTM D7647 | >640 | **147** | --- | --- |
| Particles >21µm | | ASTM D7647 | >160 | **49** | --- | --- |
| Particles >38µm | | ASTM D7647 | >40 | **8** | --- | --- |
| Particles >71µm | | ASTM D7647 | >10 | **1** | --- | --- |
| Oil Cleanliness | | ISO 4406 (c) | >20/18/16 | **18/17/14** | --- | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.57 | **0.34** | --- | --- |

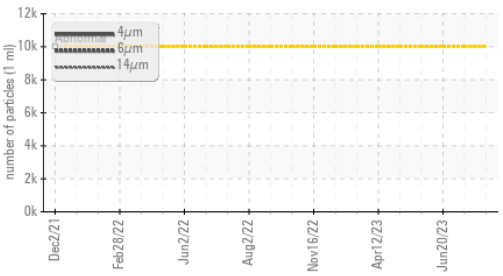
# OIL ANALYSIS REPORT

OIL DIAGNOSTICS

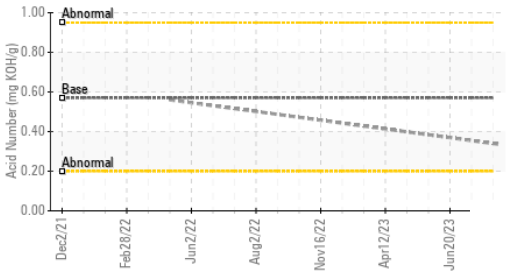
Water



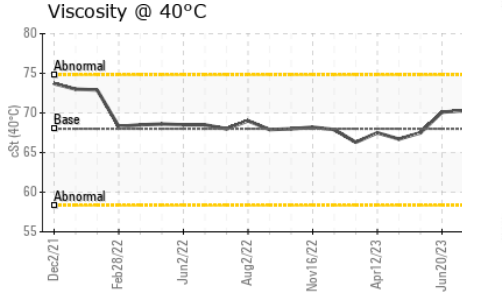

Particle Trend



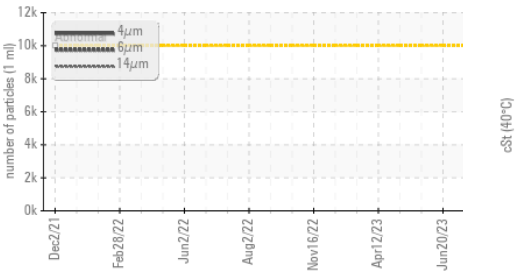

Acid Number




Viscosity @ 40°C

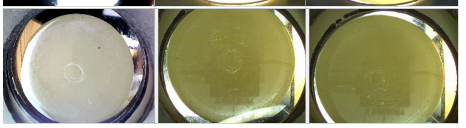



Particle Trend



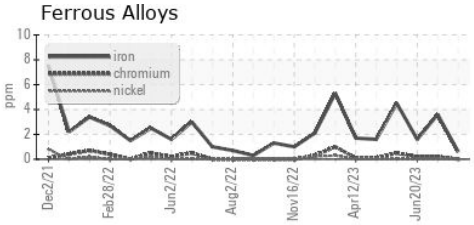

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | NONE | LIGHT |
| Sand/Dirt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Appearance | scalar | *Visual | NORML | ▲ **HAZY** | ▲ HAZY | ▲ HAZY |
| Odor | scalar | *Visual | NORML | **NORML** | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.05 | **0.2%** | 0.2% | 0.2% |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 68 | **67.3** | 70.3 | 70.1 |

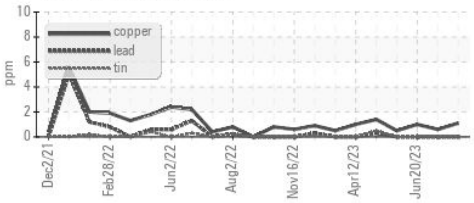
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

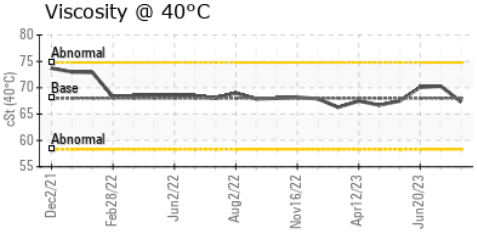
Ferrous Alloys



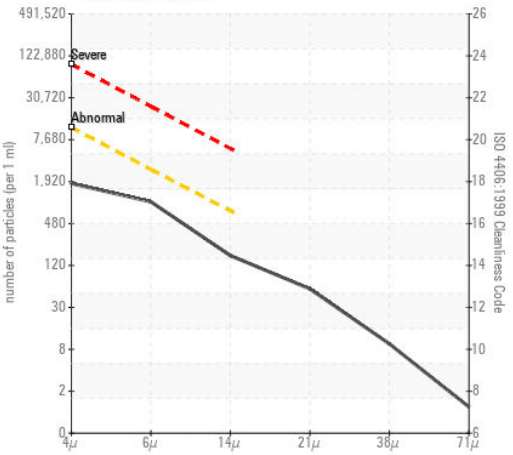

Non-ferrous Metals



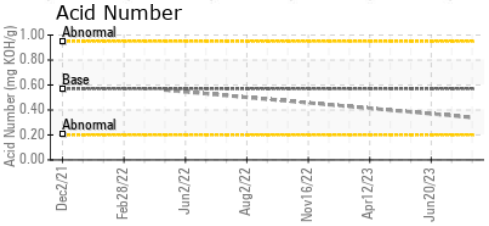

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PCA0102530 **Received** : 08 Sep 2023
**Lab Number** : 05945694 **Diagnosed** : 15 Sep 2023
**Unique Number** : 10636306 **Diagnostician** : Jonathan Hester
**Test Package** : IND 2 ( Additional Tests: KF )

*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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