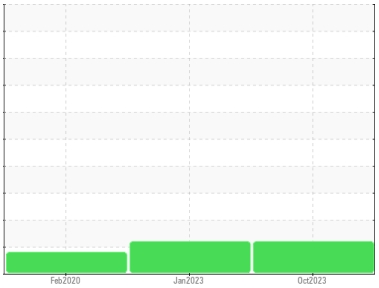
OIL DIAGNOSTICS

# PROBLEM SUMMARY

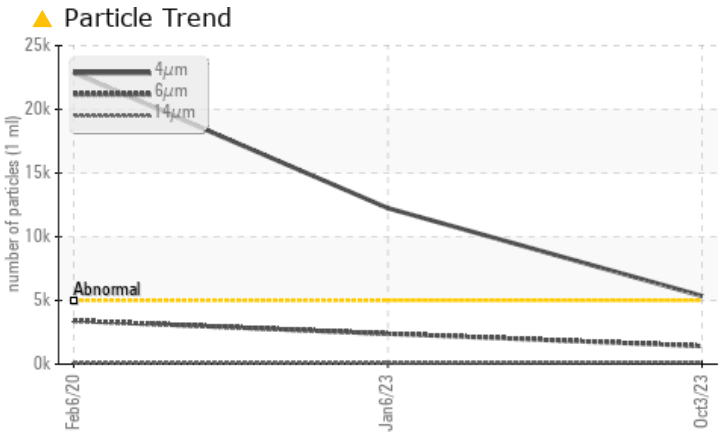
Sample Rating Trend




ISO

Machine Id
**816**
Component
**Hydraulic System**
Fluid
**SHELL TELLUS S2 MX 46 (--- GAL)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

No corrective action is recommended at this time.
Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | ATTENTION | ABNORMAL | ABNORMAL |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | **5353** | 12245 | 22869 |
| Particles >6µm | | ASTM D7647 | >1300 | **1419** | 2388 | 3411 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | **20/18/14** | 21/18/14 | 22/19/14 |

**Customer Id:** AISCRO
**Sample No.:** PCA0108019
**Lab Number:** 05975710
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Don Baldridge +1
don.b505@comcast.net

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

## RECOMMENDED ACTIONS

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

**06 Jan 2023 Diag: Don Baldridge**

ISO

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

**view report**

**06 Feb 2020 Diag: Doug Bogart**

ISO

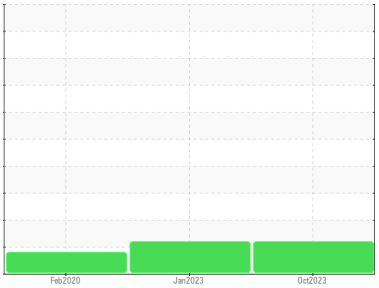
We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

**view report**

OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
**816**
Component
**Hydraulic System**
Fluid
**SHELL TELLUS S2 MX 46 (--- GAL)**

## DIAGNOSIS

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

**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 | | **PCA0108019** | PCA0090065 | PCA0015672 |
| Sample Date | | Client Info | | **03 Oct 2023** | 06 Jan 2023 | 06 Feb 2020 |
| 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 | | | | **ATTENTION** | ABNORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >20 | **0** | 0 | 1 |
| Chromium | ppm | ASTM D5185m | >20 | **0** | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >20 | **0** | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Lead | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >20 | **<1** | 0 | 9 |
| Tin | ppm | ASTM D5185m | >20 | **0** | 0 | <1 |
| Antimony | ppm | ASTM D5185m | | **---** | --- | 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 | **0** | 0 | <1 |
| Barium | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | 0 | <1 |
| Manganese | ppm | ASTM D5185m | 0 | **<1** | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 70 | **<1** | 0 | 22 |
| Calcium | ppm | ASTM D5185m | 10 | **38** | 41 | 64 |
| Phosphorus | ppm | ASTM D5185m | 300 | **265** | 275 | 221 |
| Zinc | ppm | ASTM D5185m | 325 | **319** | 323 | 302 |
| Sulfur | ppm | ASTM D5185m | 665 | **665** | 796 | 2823 |

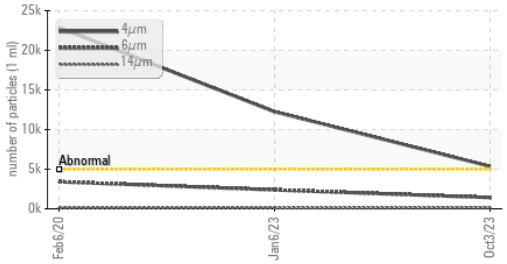
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >15 | **0** | 0 | 1 |
| Sodium | ppm | ASTM D5185m | | **<1** | <1 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | ▲ **5353** | ▲ 12245 | ▲ 22869 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **1419** | ▲ 2388 | ▲ 3411 |
| Particles >14µm | | ASTM D7647 | >160 | **135** | 83 | 96 |
| Particles >21µm | | ASTM D7647 | >40 | **37** | 21 | 25 |
| Particles >38µm | | ASTM D7647 | >10 | **2** | 1 | 2 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ▲ **20/18/14** | ▲ 21/18/14 | ▲ 22/19/14 |

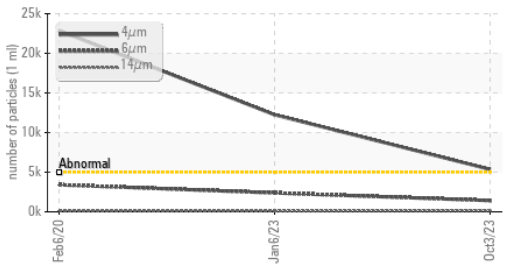
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.35 | **0.26** | 0.33 | 0.191 |

# OIL ANALYSIS REPORT

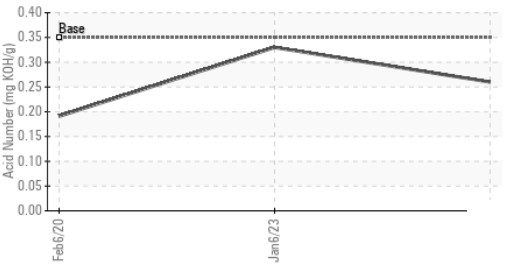
Particle Trend



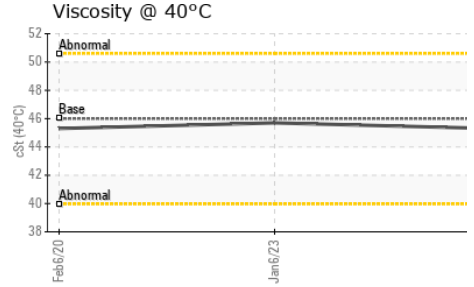

Particle Trend




Acid Number



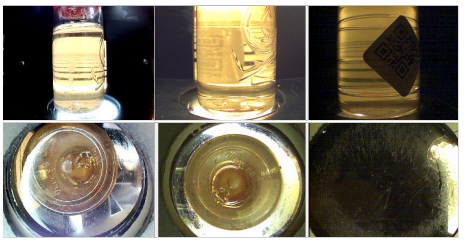

Viscosity @ 40°C




| 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 | **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 | >0.05 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

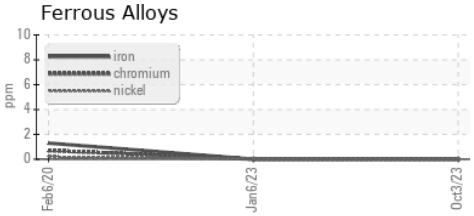
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 46.0 | **45.3** | 45.7 | 45.3 |

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

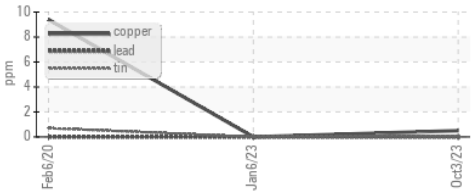


## GRAPHS

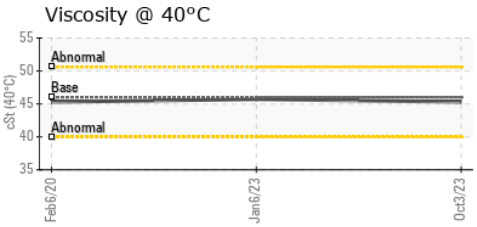
Ferrous Alloys



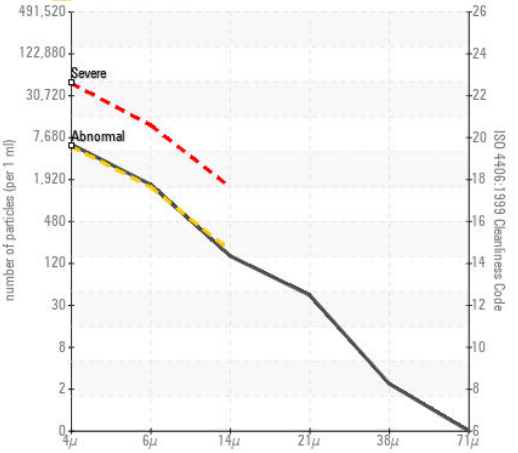

Non-ferrous Metals



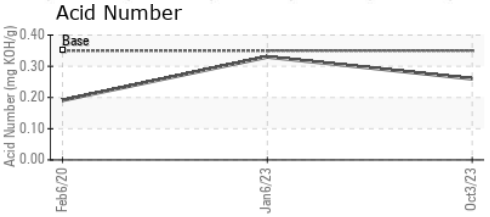

Viscosity @ 40°C




Particle Count




Acid Number




**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PCA0108019
**Lab Number** : 05975710
**Unique Number** : 10687660
**Test Package** : IND 2

**Received** : 11 Oct 2023
**Diagnosed** : 13 Oct 2023
**Diagnostician** : Don Baldridge

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)*


**AISIN CHEMICAL**
1004 INDUSTRIAL WAY
CROTHERSVILLE, IN
US 47229
Contact: AL TANNER
atanner@aisinchemin.com
T:
F: