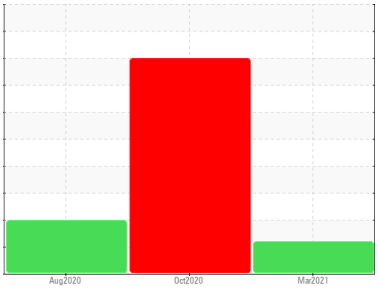
OIL DIAGNOSTICS

# PROBLEM SUMMARY

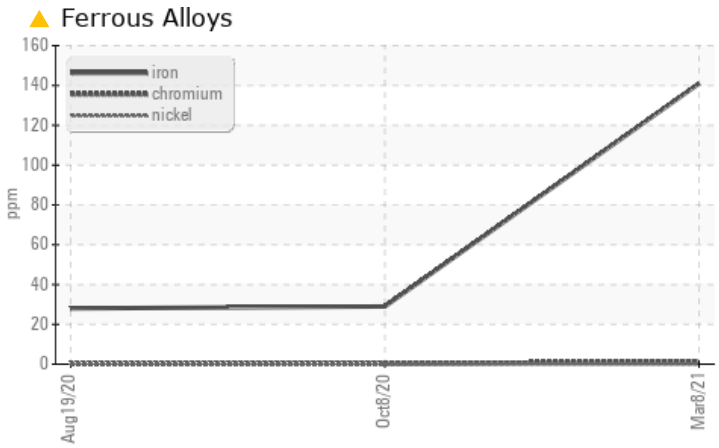
Sample Rating Trend




**WEAR**

Area
**SCOF [96394612]**
Machine Id
**EMULSIFIER 2**
Component
**Pump**
Fluid
**R&O OIL ISO 100 (--- GAL)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

No corrective action is recommended at this time. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to a high concentration of particles present in this sample.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | ABNORMAL | SEVERE | ABNORMAL |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >90 | ▲ 141 | 29 | 28 |
| Debris | scalar | *Visual | NONE | ▲ MODER | NONE | NONE |

**Customer Id:** KRASPRMO
**Sample No.:** PCA0033300
**Lab Number:** 05203106
**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

| Action | Status | Date | Done By | Description |
|---|---|---|---|---|
| Resample | --- | --- | ? | We recommend an early resample to monitor this condition. |
| Alert | --- | --- | ? | We were unable to perform a particle count due to a high concentration of particles present in this sample. |

## HISTORICAL DIAGNOSIS

**08 Oct 2020 Diag: Don Baldridge**

VISUAL METAL

The oil change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to metal particles present in this sample.Moderate concentration of visible metal present. All component wear rates are normal. No other contaminants were detected in the oil. The AN level is acceptable for this fluid.

view report

**19 Aug 2020 Diag: Don Baldridge**

ISO

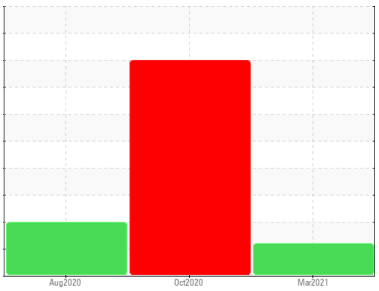
No corrective action is recommended at this time. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

Sample Rating Trend




**WEAR**

Area
## SCOF [96394612]
Machine Id
## EMULSIFIER 2
Component
**Pump**
Fluid
**R&O OIL ISO 100 (--- GAL)**

## DIAGNOSIS

**Recommendation**

No corrective action is recommended at this time. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to a high concentration of particles present in this sample.

**Wear**

The iron level is abnormal.

**Contamination**

Moderate concentration of visible dirt/debris present in the oil.

**Fluid Condition**

The AN level is acceptable for this fluid.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **PCA0033300** | PCA0030803 | PCA0027835 |
| Sample Date | | Client Info | | **08 Mar 2021** | 08 Oct 2020 | 19 Aug 2020 |
| Machine Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **Changed** | Changed | Changed |
| Sample Status | | | | **ABNORMAL** | SEVERE | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >90 | ▲ **141** | 29 | 28 |
| Chromium | ppm | ASTM D5185m | >5 | **1** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | **0** | 0 | <1 |
| Titanium | ppm | ASTM D5185m | >3 | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | **<1** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >7 | **0** | 0 | 0 |
| Lead | ppm | ASTM D5185m | >12 | **<1** | 0 | <1 |
| Copper | ppm | ASTM D5185m | >30 | **<1** | <1 | 2 |
| Tin | ppm | ASTM D5185m | >9 | **0** | 0 | <1 |
| Antimony | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

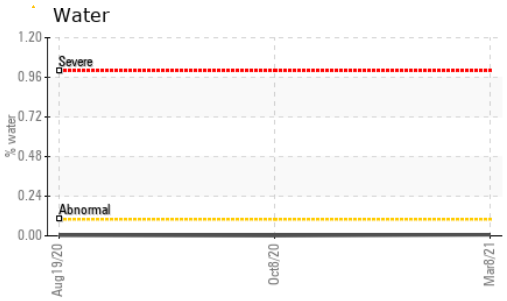
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 5 | **<1** | 2 | <1 |
| Barium | ppm | ASTM D5185m | 5 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 5 | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 5 | **0** | 0 | 0 |
| Calcium | ppm | ASTM D5185m | 5 | **<1** | 0 | 3 |
| Phosphorus | ppm | ASTM D5185m | 100 | **33** | 37 | 35 |
| Zinc | ppm | ASTM D5185m | 25 | **10** | 0 | 39 |
| Sulfur | ppm | ASTM D5185m | 1500 | **33** | 0 | 8 |

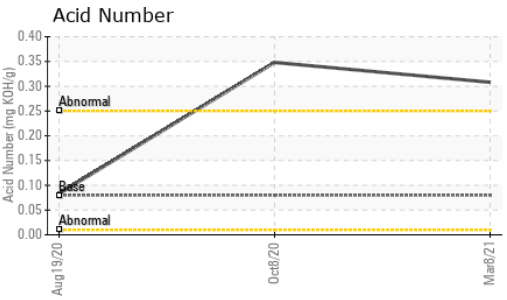
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >60 | **0** | <1 | 7 |
| Sodium | ppm | ASTM D5185m | | **2** | 0 | 3 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 0 | <1 |
| Water | % | ASTM D6304 | | **0.006** | 0.001 | 0.003 |
| ppm Water | ppm | ASTM D6304 | >.1 | **69.3** | 12.1 | 35.7 |

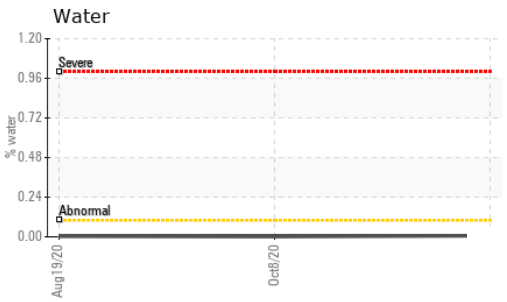
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >1300 | **---** | --- | ▲ 165158 |
| Particles >6µm | | ASTM D7647 | >320 | **---** | --- | ▲ 29711 |
| Particles >14µm | | ASTM D7647 | >80 | **---** | --- | ▲ 514 |
| Particles >21µm | | ASTM D7647 | >20 | **---** | --- | ▲ 88 |
| Particles >38µm | | ASTM D7647 | >4 | **---** | --- | ▲ 5 |
| Particles >71µm | | ASTM D7647 | >3 | **---** | --- | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >17/15/13 | **---** | --- | ▲ 25/22/16 |

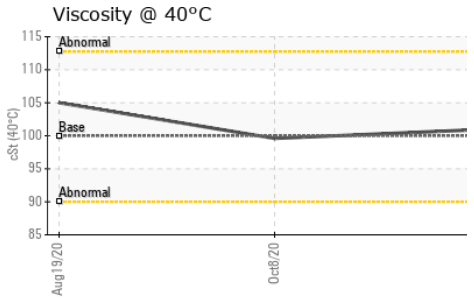
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.08 | **0.308** | 0.348 | 0.083 |

# OIL ANALYSIS REPORT



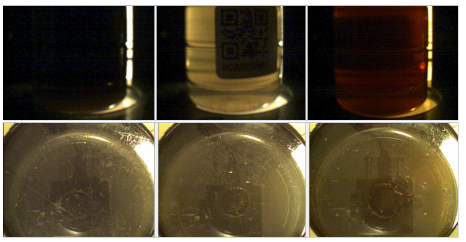



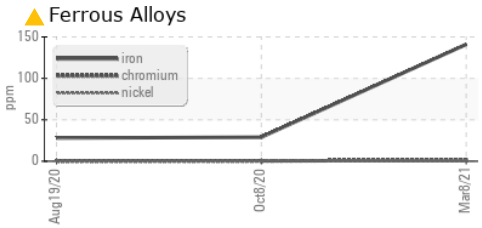

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | MODER | LIGHT |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |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

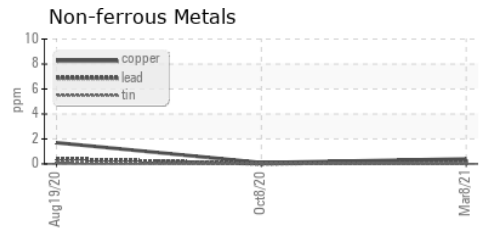
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 100 | **101** | 99.6 | 105 |

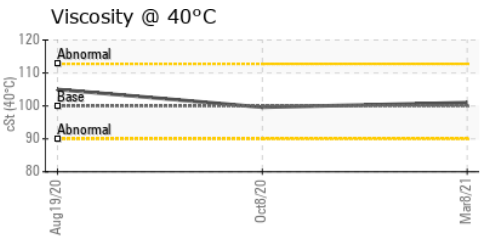
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | | | | |
| Bottom | | | | | |

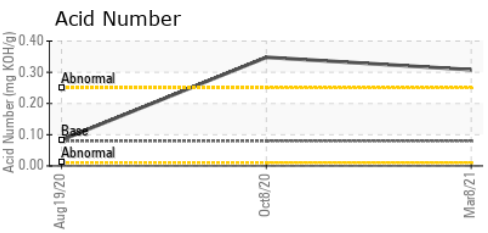


## GRAPHS




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PCA0033300 **Received** : 12 Mar 2021
**Lab Number** : 05203106 **Diagnosed** : 16 Mar 2021
**Unique Number** : 9404515 **Diagnostician** : Don Baldridge
**Test Package** : IND 2 ( Additional Tests: KF, 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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