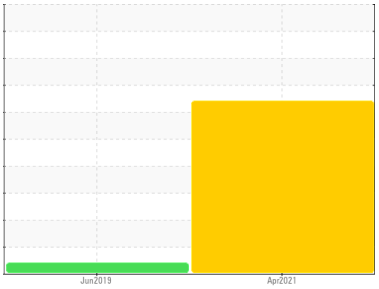
# PROBLEM SUMMARY

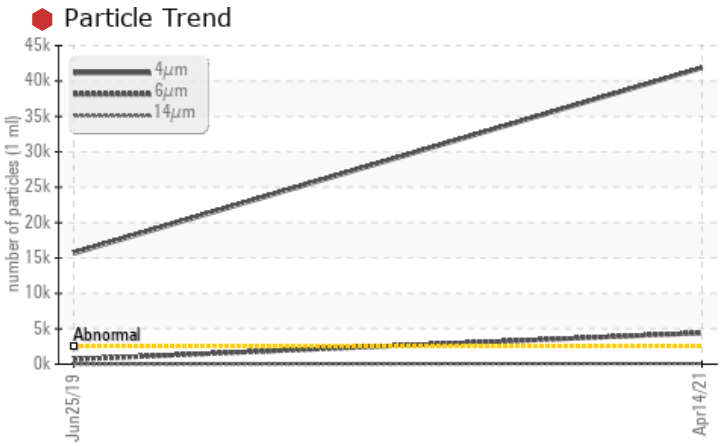
Machine Id
**OP6G1**
Component
**Turbine Bearing**
Fluid
**R&O OIL ISO 46 (--- GAL)**

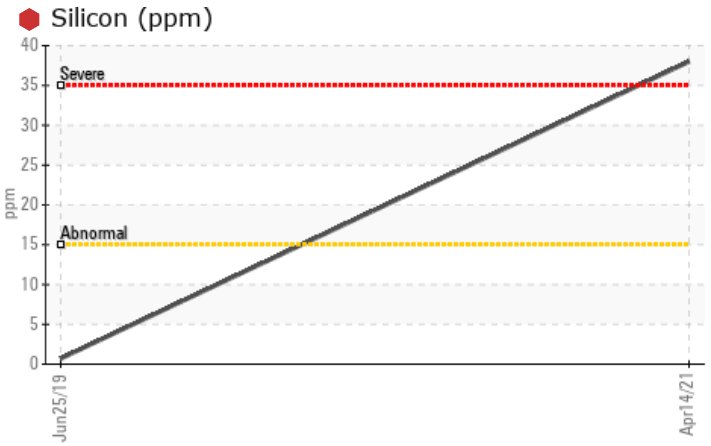
Sample Rating Trend




**DIRT**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Resample in 30-45 days to monitor this situation. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) R&O OIL ISO 46. Please confirm. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | SEVERE | ATTENTION | --- |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >15 | **38** | <1 | --- |
| Particles >4µm | | ASTM D7647 | >2500 | **41879** | 15654 | --- |
| Particles >6µm | | ASTM D7647 | >640 | **4409** | 680 | --- |
| Particles >14µm | | ASTM D7647 | >80 | **82** | 9 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >18/16/13 | **23/19/14** | 21/17/10 | --- |

**Customer Id:** ONTKEE
**Sample No.:** WC0560601
**Lab Number:** 02423523
**Test Package:** IND 2

*To manage this report scan the QR code*

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gloria.gonzalez@wearcheck.com

## RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|---|---|---|---|---|
| Change Filter | --- | --- | ? | We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. |
| Resample | --- | --- | ? | Resample in 30-45 days to monitor this situation. |
| Alert | --- | --- | ? | Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. |
| Information Required | --- | --- | ? | NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. |
| Check Breathers | --- | --- | ? | The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. |
| Check Seals | --- | --- | ? | Check seals and/or filters for points of contaminant entry. |
| Filter Fluid | --- | --- | ? | We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. |

## HISTORICAL DIAGNOSIS

ISO

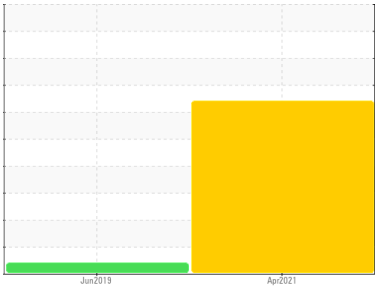
**25 Jun 2019 Diag: Wes Davis**

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. We recommend you service the filters on this component. Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) R&O OIL ISO 46. Please confirm. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. There is a light 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 ANALYSIS REPORT

Sample Rating Trend




DIRT

Machine Id
**OP6G1**
Component
**Turbine Bearing**
Fluid
**R&O OIL ISO 46 (--- GAL)**

## DIAGNOSIS

**Recommendation**

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Resample in 30-45 days to monitor this situation. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) R&O OIL ISO 46. Please confirm. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

**Wear**

All component wear rates are normal.

**Contamination**

Silicon ppm levels are severely high. Particles >4µm are severely high. Particles >6µm are abnormally high. Particles >14µm are notably high. Elemental level of silicon (Si) above normal indicating ingress of seal material. The water content is negligible.

**Fluid Condition**

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0560601** | WC | --- |
| Sample Date | | Client Info | | **14 Apr 2021** | 25 Jun 2019 | --- |
| Machine Age | hrs | Client Info | | **0** | 0 | --- |
| Oil Age | hrs | Client Info | | **0** | 0 | --- |
| Oil Changed | | Client Info | | **N/A** | N/A | --- |
| Sample Status | | | | **SEVERE** | ATTENTION | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >15 | **3** | 2 | --- |
| Chromium | ppm | ASTM D5185(m) | >4 | **0** | 0 | --- |
| Nickel | ppm | ASTM D5185(m) | >2 | **<1** | 0 | --- |
| Titanium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Silver | ppm | ASTM D5185(m) | | **<1** | 0 | --- |
| Aluminum | ppm | ASTM D5185(m) | >10 | **<1** | <1 | --- |
| Lead | ppm | ASTM D5185(m) | | **2** | <1 | --- |
| Copper | ppm | ASTM D5185(m) | >5 | **<1** | 0 | --- |
| Tin | ppm | ASTM D5185(m) | >5 | **1** | 0 | --- |
| Antimony | ppm | ASTM D5185(m) | | **<1** | 0 | --- |
| Vanadium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Beryllium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Cadmium | ppm | ASTM D5185(m) | | **0** | <1 | --- |

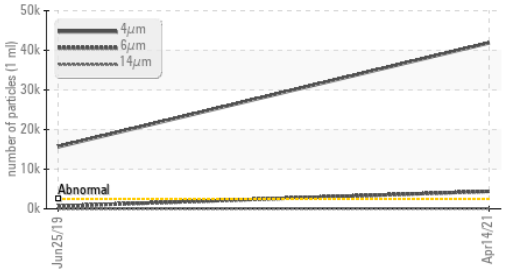
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 5 | **<1** | 0 | --- |
| Barium | ppm | ASTM D5185(m) | 5 | **0** | 0 | --- |
| Molybdenum | ppm | ASTM D5185(m) | 5 | **0** | 0 | --- |
| Manganese | ppm | ASTM D5185(m) | | **<1** | <1 | --- |
| Magnesium | ppm | ASTM D5185(m) | 5 | **<1** | <1 | --- |
| Calcium | ppm | ASTM D5185(m) | 5 | **2** | 4 | --- |
| Phosphorus | ppm | ASTM D5185(m) | 100 | **1** | <1 | --- |
| Zinc | ppm | ASTM D5185(m) | 25 | **1** | 1 | --- |
| Sulfur | ppm | ASTM D5185(m) | 1500 | **2058** | 2018 | --- |
| Lithium | ppm | ASTM D5185(m) | | **<1** | 0 | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >15 | **38** | <1 | --- |
| Sodium | ppm | ASTM D5185(m) | | **2** | 0 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | **<1** | 0 | --- |
| Water | % | ASTM D6304* | >0.03 | **0.00** | NEG | --- |
| ppm Water | ppm | ASTM D6304* | >300 | **0.00** | --- | --- |

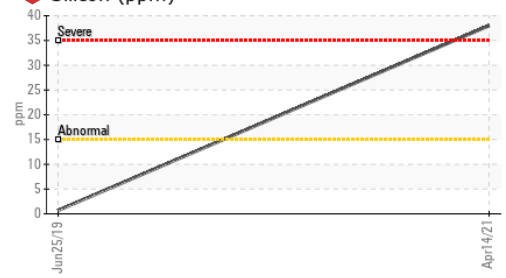
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >2500 | **41879** | 15654 | --- |
| Particles >6µm | | ASTM D7647 | >640 | **4409** | 680 | --- |
| Particles >14µm | | ASTM D7647 | >80 | **82** | 9 | --- |
| Particles >21µm | | ASTM D7647 | >20 | **12** | 0 | --- |
| Particles >38µm | | ASTM D7647 | >4 | **0** | 0 | --- |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >18/16/13 | **23/19/14** | 21/17/10 | --- |

# OIL ANALYSIS REPORT

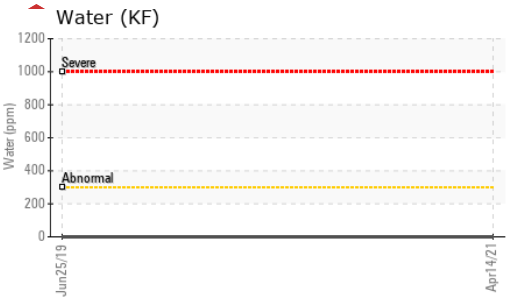
Particle Trend



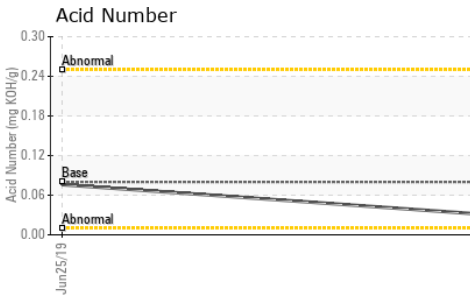

Silicon (ppm)



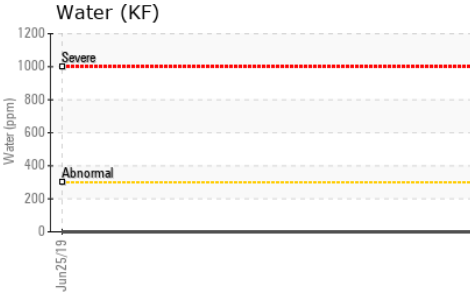

Water (KF)




Acid Number



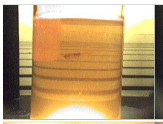
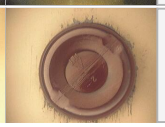

Water (KF)




| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.08 | **0.03** | 0.076 | --- |

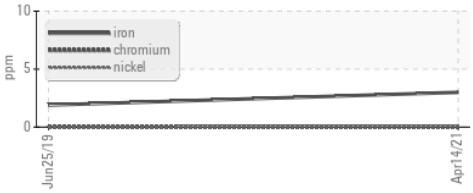
| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Yellow Metal | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Precipitate | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Silt | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Debris | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Sand/Dirt | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Appearance | scalar | Visual* | NORML | **NORML** | NORML | --- |
| Odor | scalar | Visual* | NORML | **NORML** | NORML | --- |
| Emulsified Water | scalar | Visual* | >0.03 | **NEG** | NEG | --- |
| Free Water | scalar | Visual* | | **NEG** | NEG | --- |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D7279(m) | 46 | **44.3** | 46.6 | --- |

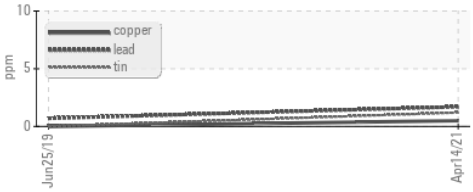
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  |  | *no image* |
| Bottom | | |  |  | *no image* |

## GRAPHS

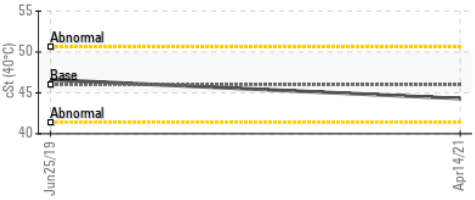
Ferrous Alloys



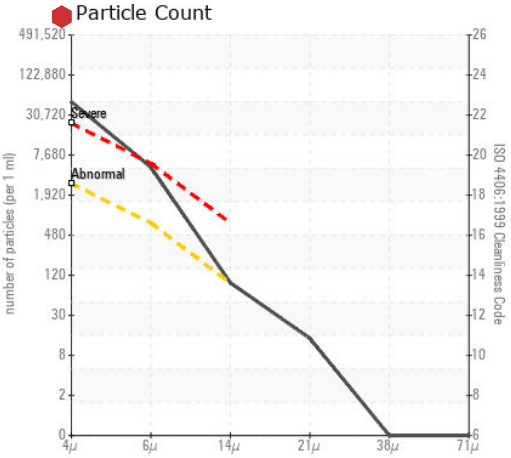

Non-ferrous Metals



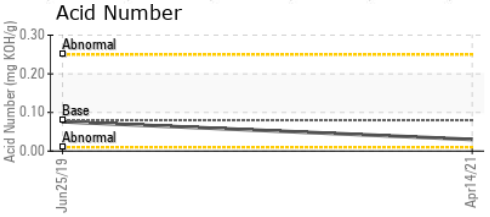

Viscosity @ 40°C




Particle Count




Acid Number




ISO 17025:2017 Accredited Laboratory

| | | | |
|---|---|---|---|
| **Laboratory** | : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 | | |
| **Sample No.** | : WC0560601 | **Received** | : 26 May 2021 |
| **Lab Number** | : 02423523 | **Diagnosed** | : 27 May 2021 |
| **Unique Number** | : 5227023 | **Diagnostician** | : Kevin Marson |
| **Test Package** | : IND 2 | | |

*To discuss this sample report, contact Customer Service at 1-800-268-2131.*
*Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.*
*Validity of results and interpretation are based on the sample and information as supplied.*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