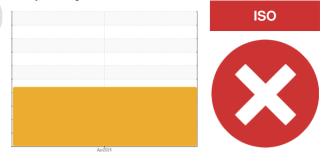




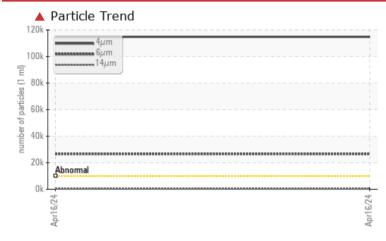
PROBLEM SUMMARY



Machine Id

30TP701B Component Inboard Bearing Fluid R&O OIL ISO 68 (--- GAL)

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 recommend you service the filters on this component. 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 68. Please confirm.

NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Customer Id: PETMIS Sample No.: WC22119793 Lab Number: 02630183 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Wes Davis +1 905-569-8600 x223 wesd@wearcheck.ca

To change component or sample information: Gloria Gonzalez +1 (289)291-4643 x4643 gloria.gonzalez@wearcheck.com

PROBLEMATIC TEST RESULTS

| Sample Status | | SEVER | E | |
|-----------------|--------------|------------------|------------|--|
| Particles >4µm | ASTM D7647 | >10000 🔺 1147 | '92 | |
| Particles >6µm | ASTM D7647 | >2500 🔺 2663 | | |
| Particles >14µm | ASTM D7647 | >160 🔺 341 | | |
| Oil Cleanliness | ISO 4406 (c) | >20/18/14 🔺 24/2 | 2/16 | |

| RECOMMENDED A | CTIONS | | | |
|----------------------|--------|-------------|---------|---|
| Action | Status | Date | Done By | Description |
| Change Filter | MISSED | Apr 22 2024 | ? | We recommend you service the filters on this component. |
| Resample | MISSED | Apr 22 2024 | ? | Resample in 30-45 days to monitor this situation. |
| Alert | MISSED | Apr 22 2024 | ? | 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 | MISSED | Apr 22 2024 | ? | NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. |
| Check Breathers | MISSED | Apr 22 2024 | ? | 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 | MISSED | Apr 22 2024 | ? | Check seals and/or filters for points of contaminant entry. |

HISTORICAL DIAGNOSIS



OIL ANALYSIS REPORT



Machine Id

30TP701B Component Inboard Bearing Fluid R&O OIL ISO 68 (--- 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 recommend you service the filters on this component. 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 68. 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

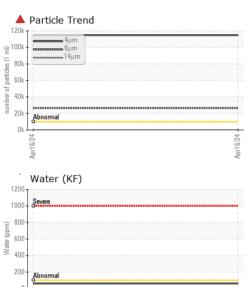
There is a high amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible.

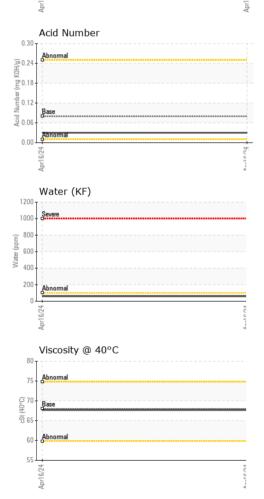
Fluid Condition

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 INFORM | 1ATION | method | limit/base | current | history1 | history2 |
|---|--|---|--|---|--|--|
| Sample Number | | Client Info | | WC22119793 | | |
| Sample Date | | Client Info | | 16 Apr 2024 | | |
| Machine Age | hrs | Client Info | | 0 | | |
| Oil Age | hrs | Client Info | | 0 | | |
| Oil Changed | | Client Info | | N/A | | |
| Sample Status | | | | SEVERE | | |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185(m) | >20 | 3 | | |
| Chromium | ppm | ASTM D5185(m) | >20 | 0 | | |
| Nickel | ppm | ASTM D5185(m) | >20 | 0 | | |
| Titanium | ppm | ASTM D5185(m) | | 0 | | |
| Silver | ppm | ASTM D5185(m) | | 0 | | |
| Aluminum | ppm | ASTM D5185(m) | >20 | <1 | | |
| Lead | ppm | ASTM D5185(m) | >20 | 0 | | |
| Copper | ppm | ASTM D5185(m) | >20 | 1 | | |
| Tin | ppm | ASTM D5185(m) | >20 | 3 | | |
| Antimony | ppm | ASTM D5185(m) | | 0 | | |
| Vanadium | ppm | ASTM D5185(m) | | 0 | | |
| Beryllium | ppm | ASTM D5185(m) | | 0 | | |
| Cadmium | ppm | ASTM D5185(m) | | 0 | | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185(m) | 5 | 0 | | |
| Barium | ppm | ASTM D5185(m) | 5 | 0 | | |
| Molybdenum | ppm | ASTM D5185(m) | 5 | 0 | | |
| Manganese | 0000 | ASTM D5185(m) | | 0 | | |
| 0 | ppm | ASTIVI DOTOO(III) | | • | | |
| Magnesium | ppm | ASTM D5185(m) ASTM D5185(m) | 5 | ۰ <1 | | |
| 0 | | () | 5 5 | - | | |
| Magnesium | ppm | ASTM D5185(m) | | <1 | | |
| Magnesium Calcium | ppm ppm | ASTM D5185(m) ASTM D5185(m) | 5 | <1 <1 | | |
| Magnesium Calcium Phosphorus | ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | 5 100 | <1 <1 5 | | |
| Magnesium Calcium Phosphorus Zinc | ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | 5 100 25 | <1 <1 5 3 | | |
| Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | 5 100 25 | <1 <1 5 3 651 | | |
| Magnesium Calcium Phosphorus Zinc Sulfur Lithium | ppm ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | 5 100 25 1500 limit/base | <1 <1 5 3 651 <1 | | |
| Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS | ppm ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | 5 100 25 1500 limit/base >15 | <1 <1 5 3 651 <1 current | | |
| Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon | ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | 5 100 25 1500 limit/base >15 | <1 <1 5 3 651 <1 current 0 | | |
| Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) Method ASTM D5185(m) ASTM D5185(m) | 5 100 25 1500 limit/base >15 | <1 <1 5 3 651 <1 <u>current</u> 0 0 | | |
| Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | 5 100 25 1500 limit/base >15 >20 | <1 <1 5 3 651 <1 <u>current</u> 0 0 <1 | history1 | history2 |
| Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water | ppm ppm ppm ppm ppm ppm ppm ppm % ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | 5 100 25 1500 limit/base >15 >20 | <1 <1 5 3 651 <1 <u>current</u> 0 0 <1 0.006 | history1 | history2 |
| Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water | ppm ppm ppm ppm ppm ppm ppm ppm % ppm | ASTM D5185(m) ASTM D5304* | 5 100 25 1500 limit/base >15 >20 >2 | <1 <1 5 3 651 <1 <u>current</u> 0 0 <1 0.006 61 | history1 | history2 |
| Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm | ppm ppm ppm ppm ppm ppm ppm ppm % ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D6304* ASTM D6304* | 5 100 25 1500 limit/base >15 >20 >2 limit/base >10000 | <1 <1 5 3 651 <1 0 0 0 <1 0.006 61 current | history1 history1 | history2 history2 |
| Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm | ppm ppm ppm ppm ppm ppm ppm ppm % ppm | ASTM D5185(m) ASTM D5304* ASTM D6304* | 5 100 25 1500 limit/base >15 >20 >2 | <1 <1 5 3 651 <1 0 0 <1 0.006 61 current 114792 | history1 history1 | history2 history2 |
| Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >14µm | ppm ppm ppm ppm ppm ppm ppm ppm % ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5304* ASTM D6304* ASTM D6304* ASTM D7647 ASTM D7647 ASTM D7647 | 5 100 25 1500 limit/base >15 >20 >2 2 limit/base >10000 >2500 >160 | <1 <1 <1 5 3 651 <1 0 0 <1 0.006 61 current 26635 341 | history1 history1 | history2 history2 |
| Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm | ppm ppm ppm ppm ppm ppm ppm ppm % ppm | ASTM D5185(m) ASTM D5047 ASTM D7647 ASTM D7647 ASTM D7647 | 5 100 25 1500 limit/base >15 >20 >2 limit/base >10000 >2500 >160 >40 | <1 <1 <1 5 3 651 <1 0 0 <1 0.006 61 current ▲ 114792 ▲ 26635 ▲ 341 ● 62 | history1 history1 | history2 history2 |
| Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >14µm | ppm ppm ppm ppm ppm ppm ppm ppm % ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5304* ASTM D6304* ASTM D6304* ASTM D7647 ASTM D7647 ASTM D7647 | 5 100 25 1500 limit/base >15 >20 >2 2 limit/base >10000 >2500 >160 | <1 <1 <1 5 3 651 <1 0 0 <1 0.006 61 current 26635 341 | history1 history1 | history2 history2 |







OIL ANALYSIS REPORT

| | FLUID DEGRAD | ATION | method | limit/base | current | history1 | history |
|---|------------------|---------------------------------------|------------------------------------|---|--|-------------------------------|---|
| | Acid Number (AN) | mg KOH/g | ASTM D974* | 0.08 | 0.03 | | |
| | VISUAL | | method | limit/base | current | history1 | history |
| | White Metal | scalar | Visual* | NONE | NONE | | |
| | Yellow Metal | scalar | Visual* | NONE | NONE | | |
| | Precipitate | scalar | Visual* | NONE | NONE | | |
| 3/24 | Silt | scalar | Visual* | NONE | NONE | | |
| Apr16/24 | Debris | scalar | Visual* | NONE | VLITE | | |
| | Sand/Dirt | scalar | Visual* | NONE | NONE | | |
| | Appearance | scalar | Visual* | NORML | NORML | | |
| | Odor | scalar | Visual* | NORML | NORML | | |
| | Emulsified Water | scalar | Visual* | >2 | .2% | | |
| | Free Water | scalar | Visual* | | NEG | | |
| | FLUID PROPER | TIES | method | limit/base | current | history1 | history |
| | Visc @ 40°C | cSt | ASTM D7279(m) | 68 | 67.7 | | |
| Apr16/24 - | SAMPLE IMAGE | S | method | limit/base | current | history1 | history |
| Ap | | | | | | | |
| | Color | | | | | no image | no imag |
| | Bottom | | | | | no image | no imag |
| | | | | | | | |
| | GRAPHS | | | | | | |
| (c. 3 t. | Ferrous Alloys | | | 491,52 | Particle Count | I | |
| A. | iron | | | | | | |
| | E 5- | | | 122,88 | Severe | | |
| | | | | 30,72 | Abnormal | | |
| | 0 | ******* | | ± € 7,68 | | | |
| | Apr16/24 | | | Apr16/24 particles (per 1 ml) 760'/ | | . | |
| | < | | | V saloiti 48 | | | |
| | Non forrous Moto | | | | | | |
| | Non-ferrous Meta | 115 | | | | ~ | |
| | 10 copper | 115 | | | | /. | |
| e constantino de la c | ¹⁰ T | 115 | | 4 |)- | | |
| COTT | E 5 | 115 | | and a second sec |)- | | |
| And C CHA | E 5 | | | to 12 gunne 3 |) -) - | | |
| P F. D. B. | E 5 | | | to 12 gunne 3 |) -) - 3 - | | |
| A L L L L L L L L L L L L L L L L L L L | ue s | | | Apr16/24 | 0- - - - - - - - - - - - - - | 14μ 21μ | 38µ 7 |
| AACDAA | Viscosity @ 40°C | | | Apr16/24 | 0- - - - - - - - - - - - - - | 14μ 21μ | 38µ 7 |
| And COA | Viscosity @ 40°C | | | Apr16/24 | 0- - - - - - - - - - - - - - | 14µ 21µ | 38µ 7 |
| Protocola | Viscosity @ 40°C | | | Apr16/24 | 0- - - - - - - - - - - - - - | 14μ 21μ | 38µ 7 |
| υ | Viscosity @ 40°C | | | Apr16/24 | 0- - - - - - - - - - - - - - | 14µ 21µ | 38µ 7 |
| The form | Viscosity @ 40°C | | | 40 unmper Whot (B254 Whot (B254 Value (Inter Value (Inter)) (Inter Value (Inter Value (Inter Value (Inter Value (Inter Val | Acid Number | 14μ 21μ | 38µ 7 |
| | Viscosity @ 40°C | | | 40 unmper Whot (B254 Whot (B254 Value (Inter Value (Inter)) (Inter Value (Inter Value (Inter Value (Inter Value (Inter Val | Acid Number | 14μ 21μ | 38µ 7 |
| Autona | Viscosity @ 40°C | | | Apr16/24 Apr16/24 Apr16/24 010 Add Number (mp K0H/g) 010 Add Number (mp K0H/g) | Acid Number Abnormal Abnormal Abnormal | | |
| Laboratory Sample No. | Viscosity @ 40°C | 75 Appleby Recei | i ved : 19 | (0) (0, 0, 3) (0) (0, 0, 12) (0) (0, 12) (0) (0) (0, 12) (0) | Acid Number Abnormal Abnormal Abnormal | Petro Canada L 385 Sc | ubricants |
| Sample No. 5:2017 Lab Number | Viscosity @ 40°C | 75 Appleby Recei Teste | ived : 19 d : 22 | (0)(0.0.3) (0)(0.0.2) (0)(0.0.2) (0)(0.0.3) (0)(0.0.2) (0)(0.0.3) (0)(0.0.2) (0)(0.0.3) (0)(0)(0.0.3) (0)(0)(0.0.3) (0)(0)(0.0.3) (0)(0)(0.0.3) (0)(0)(0)(0.0.3) (0)(0)(0)(0.0.3) (0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(| Acid Number Acid Number Abnormal Abnormal Abnormal Abnormal | Petro Canada L 385 Sc | ubricants buthdown R ississauga, |
| Sample No. 5:2017 Lab Number Unique Number | Viscosity @ 40°C | 75 Appleby Recei Teste Diagr | ived : 19 d : 22 | (0) (0, 0, 3) (0) (0, 0, 12) (0) (0, 12) (0) (0) (0) (0, 12) (0) | Acid Number Acid Number Abnormal Abnormal Abnormal Abnormal | Petro Canada L 385 Sc M | ubricants buthdown R ississauga, CA L5J |
| Sample No. 5:2017 Lab Number ited Unique Number tory Test Package | Viscosity @ 40°C | 75 Appleby Recei Teste Diagr | ived : 19 id : 22 nosed : 22 | (0)(0.0.3) (0)(0.0.2) (0)(0.0.4) (0)(0)(0.0.4) (0)(0)(0.4) (0)(0)(0.4) (0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(| Acid Number Acid Number Abnormal Abnormal Abnormal Abnormal | Petro Canada L 385 Sc M | .ubricants buthdown R ississauga, CA L5J ct: Kyle Blez |

Report Id: PETMIS [WCAMIS] 02630183 (Generated: 04/22/2024 14:17:47) Rev: 1

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Contact/Location: Kyle Blezard - PETMIS