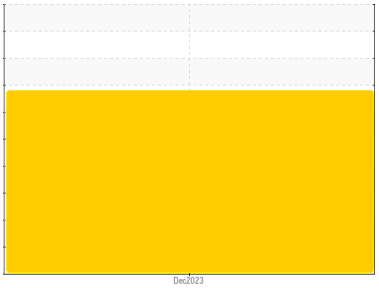
# PROBLEM SUMMARY

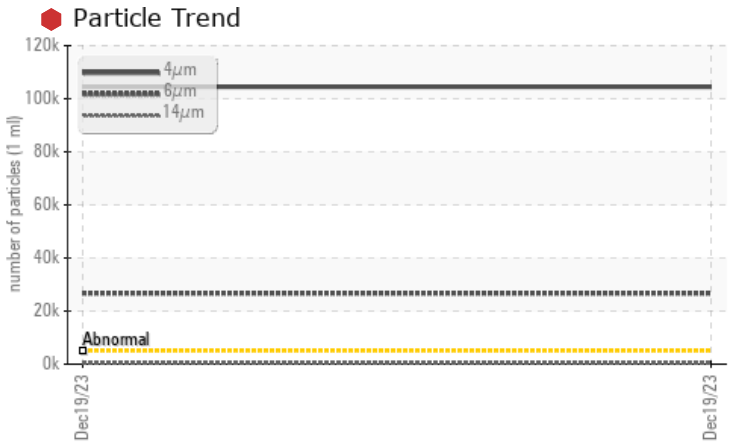
Sample Rating Trend

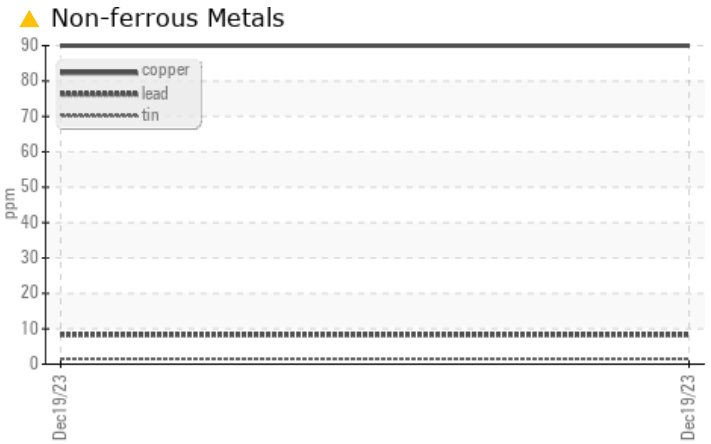


ISO

Machine Id
## PRESS #5 PP4
Component
**Hydraulic System**
Fluid
**PETRO CANADA HYDREX AW 68 (3000 GAL)**

## COMPONENT CONDITION SUMMARY

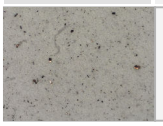



## RECOMMENDATION

We advise that you check for visible metal particles in the oil. 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. Confirm the source of the lubricant being utilized for top-up/fill. Resample in 30-45 days to monitor this situation. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using Advanced Oil Monitoring (AOM) kits for this system. The AOM test package includes advanced level testing to determine the suitability of turbine and large industrial compressor oils for continued use.

## PROBLEMATIC TEST RESULTS

| | | | | | | |
|---|---|---|---|---|---|---|
| Sample Status | | | | **SEVERE** | --- | --- |
| Particles >4µm | | ASTM D7647 | >5000 | **104485** | --- | --- |
| Particles >6µm | | ASTM D7647 | >1300 | **26712** | --- | --- |
| Particles >14µm | | ASTM D7647 | >160 | **349** | --- | --- |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | **24/22/16** | --- | --- |
| White Metal | scalar | Visual* | NONE | **VLITE** | --- | --- |
| PrtFilter | | | |  | *no image* | *no image* |

**Customer Id:** EXTWOO
**Sample No.:** PC0076130
**Lab Number:** 02604640
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
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Kevin.Marson@wearcheck.com

*To change component or sample information:*
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gloria.gonzalez@wearcheck.com

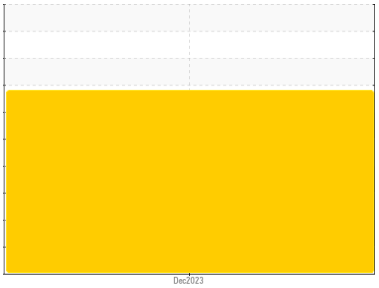
## RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|---|---|---|---|---|
| Change Filter | --- | --- | ? | We recommend you service the filters on this component. |
| Resample | --- | --- | ? | Resample in 30-45 days to monitor this situation. |
| Contact Required | --- | --- | ? | Please contact your representative for information regarding the proper sampling kits for your service. |
| Alert | --- | --- | ? | NOTE: We recommend using Advanced Oil Monitoring (AOM) kits for this system. The AOM test package includes advanced level testing to determine the suitability of turbine and large industrial compressor oils for continued use. |
| 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 Fluid Source | --- | --- | ? | Confirm the source of the lubricant being utilized for top-up/fill. |
| Check For Visual Metal | --- | --- | ? | We advise that you check for visible metal particles in the oil. |
| Check Seals | --- | --- | ? | Check seals and/or filters for points of contaminant entry. |

## HISTORICAL DIAGNOSIS

# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
## PRESS #5 PP4
Component
**Hydraulic System**
Fluid
**PETRO CANADA HYDREX AW 68 (3000 GAL)**

## DIAGNOSIS

**Recommendation**

We advise that you check for visible metal particles in the oil. 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. Confirm the source of the lubricant being utilized for top-up/fill. Resample in 30-45 days to monitor this situation. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using Advanced Oil Monitoring (AOM) kits for this system. The AOM test package includes advanced level testing to determine the suitability of turbine and large industrial compressor oils for continued use.

**Wear**

Copper ppm levels are noted. Light concentration of visible metal present.

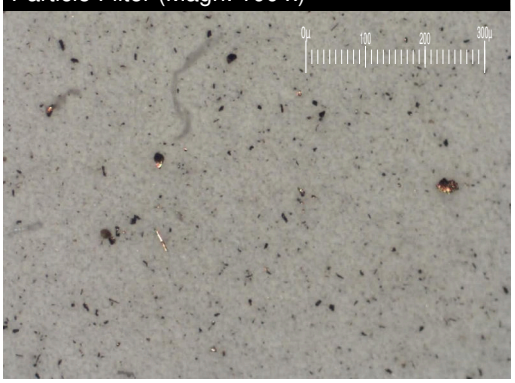
**Contamination**

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

**Fluid Condition**

Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service (unconfirmed). The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Particle Filter (Magn: 100 x)



| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **PC0076130** | --- | --- |
| Sample Date | | Client Info | | **19 Dec 2023** | --- | --- |
| Machine Age | hrs | Client Info | | **0** | --- | --- |
| Oil Age | hrs | Client Info | | **0** | --- | --- |
| Oil Changed | | Client Info | | **N/A** | --- | --- |
| Sample Status | | | | **SEVERE** | --- | --- |

| CONTAMINATION | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Water | WC Method | >0.05 | **NEG** | --- | --- |

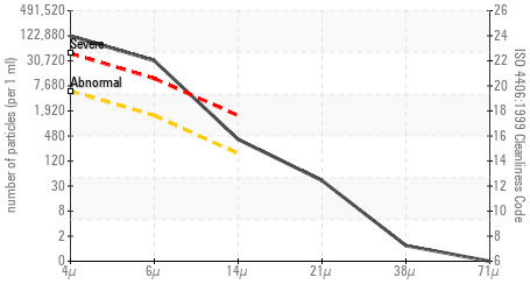
| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| PQ | | ASTM D8184* | | **0** | --- | --- |
| Iron | ppm | ASTM D5185(m) | >20 | **37** | --- | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | **<1** | --- | --- |
| Nickel | ppm | ASTM D5185(m) | >20 | **<1** | --- | --- |
| Titanium | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Silver | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Aluminum | ppm | ASTM D5185(m) | >20 | **8** | --- | --- |
| Lead | ppm | ASTM D5185(m) | >20 | **8** | --- | --- |
| Copper | ppm | ASTM D5185(m) | >20 | ▲ **90** | --- | --- |
| Tin | ppm | ASTM D5185(m) | >20 | **2** | --- | --- |
| 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) | 0 | **<1** | --- | --- |
| Barium | ppm | ASTM D5185(m) | 0 | **<1** | --- | --- |
| Molybdenum | ppm | ASTM D5185(m) | 0 | **0** | --- | --- |
| Manganese | ppm | ASTM D5185(m) | 0 | **<1** | --- | --- |
| Magnesium | ppm | ASTM D5185(m) | 0 | ▲ **70** | --- | --- |
| Calcium | ppm | ASTM D5185(m) | 50 | **109** | --- | --- |
| Phosphorus | ppm | ASTM D5185(m) | 330 | **590** | --- | --- |
| Zinc | ppm | ASTM D5185(m) | 430 | **553** | --- | --- |
| Sulfur | ppm | ASTM D5185(m) | 760 | ▲ **1989** | --- | --- |
| Lithium | ppm | ASTM D5185(m) | | **<1** | --- | --- |

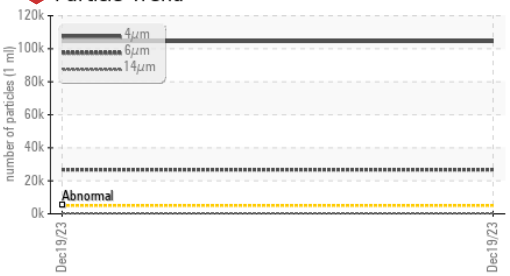
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >15 | **2** | --- | --- |
| Sodium | ppm | ASTM D5185(m) | | **3** | --- | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | **1** | --- | --- |

# OIL ANALYSIS REPORT

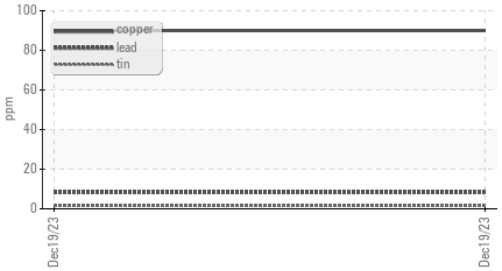
Particle Count



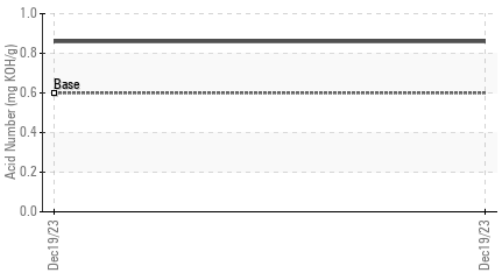

Particle Trend



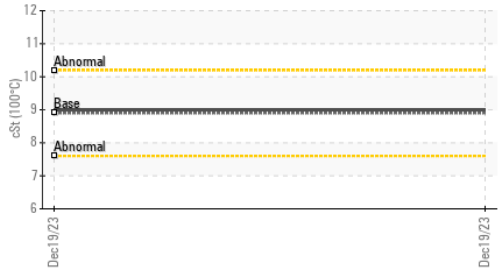

Non-ferrous Metals




Acid Number




Viscosity @ 100°C

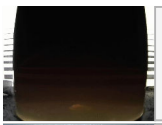



| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | **104485** | --- | --- |
| Particles >6µm | | ASTM D7647 | >1300 | **26712** | --- | --- |
| Particles >14µm | | ASTM D7647 | >160 | **349** | --- | --- |
| Particles >21µm | | ASTM D7647 | >40 | **36** | --- | --- |
| Particles >38µm | | ASTM D7647 | >10 | **1** | --- | --- |
| Particles >71µm | | ASTM D7647 | >3 | **0** | --- | --- |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | **24/22/16** | --- | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.60 | **0.86** | --- | --- |

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

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D7279(m) | 67.4 | **66.1** | --- | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 8.9 | **9** | --- | --- |
| Viscosity Index (VI) | Scale | ASTM D2270* | 105 | **111** | --- | --- |

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

ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : PC0076130 **Recieved** : 21 Dec 2023
**Lab Number** : 02604640 **Diagnosed** : 22 Dec 2023
**Unique Number** : 5697725 **Diagnostician** : Kevin Marson
**Test Package** : IND 2 ( Additional Tests: Bottom, BottomAnalysis, FilterPatch, KV100, PQ, PrtFilter, TAN Man, VI )

*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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