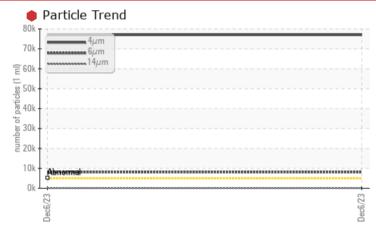


PROBLEM SUMMARY

Area ORIN CONTRACTORS Machine Id 100-013

Component Hydraulic System Fluid PETRO CANADA 46W (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

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.

PROBLEMATIC TEST RESULTS Sample Status Severe --Particles Average Av

| Sample Status | | | SEVERE | |
|-----------------|--------------|-----------|----------------|------|
| Particles >4µm | ASTM D7647 : | >5000 | • 76981 | |
| Particles >6µm | ASTM D7647 | >1300 | <u> </u> | |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14 | • 23/20/14 | |

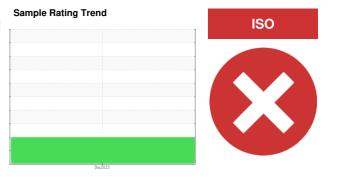
Customer Id: RONVAU Sample No.: WC0872909 Lab Number: 02603256 Test Package: MOBCE



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 <u>gloria.gonzalez@wearcheck.com</u>



| 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. | | |
| 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. | | |

HISTORICAL DIAGNOSIS



OIL ANALYSIS REPORT

ORIN CONTRACTORS 100-013 Component

Hydraulic System PETRO CANADA 46W (--- GAL)

DIAGNOSIS

Recommendation

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.

Wear

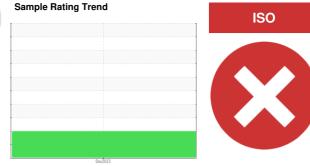
All component wear rates are normal.

Contamination

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

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.



| Dec2023 | | | | | | | |
|-----------------|-------|---------------|------------|----------------|----------|----------|--|
| SAMPLE INFORMA | ATION | method | limit/base | current | history1 | history2 | |
| Sample Number | | Client Info | | WC0872909 | | | |
| Sample Date | | Client Info | | 06 Dec 2023 | | | |
| | 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 | >0.1 | NEG | | | |
| WEAR METALS | | method | limit/base | current | history1 | history2 | |
| Iron | ppm | ASTM D5185(m) | >20 | 9 | | | |
| Chromium | ppm | ASTM D5185(m) | >10 | 0 | | | |
| Nickel | ppm | ASTM D5185(m) | >10 | <1 | | | |
| Titanium | ppm | ASTM D5185(m) | | 0 | | | |
| Silver | ppm | ASTM D5185(m) | | <1 | | | |
| Aluminum | ppm | ASTM D5185(m) | >10 | 4 | | | |
| Lead | ppm | ASTM D5185(m) | >10 | 4 | | | |
| Copper | ppm | ASTM D5185(m) | >75 | 26 | | | |
| Tin | ppm | ASTM D5185(m) | >10 | 1 | | | |
| 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) | | <1 | | | |
| | ppm | ASTM D5185(m) | | <1 | | | |
| Molybdenum | ppm | ASTM D5185(m) | | 0 | | | |
| | ppm | ASTM D5185(m) | | 0 | | | |
| | ppm | ASTM D5185(m) | | 156 | | | |
| | ppm | ASTM D5185(m) | | 243 | | | |
| | ppm | ASTM D5185(m) | | 460 | | | |
| | ppm | ASTM D5185(m) | | 583 | | | |
| - ·· | ppm | ASTM D5185(m) | | 1122 | | | |
| | ppm | ASTM D5185(m) | | <1 | | | |
| CONTAMINANTS | | method | limit/base | current | history1 | history2 | |
| Silicon | ppm | ASTM D5185(m) | >20 | 2 | | | |
| Sodium | ppm | ASTM D5185(m) | | 1 | | | |
| Potassium | ppm | ASTM D5185(m) | >20 | 0 | | | |
| FLUID CLEANLINE | SS | method | limit/base | current | history1 | history2 | |
| Particles >4µm | | ASTM D7647 | >5000 | • 76981 | | | |
| Particles >6µm | | ASTM D7647 | >1300 | <u> </u> | | | |
| Particles >14µm | | ASTM D7647 | >160 | 125 | | | |
| Particles >21µm | | ASTM D7647 | | 29 | | | |
| Particles >38µm | | ASTM D7647 | >10 | 3 | | | |
| Particles >71µm | | ASTM D7647 | >3 | 1 | | | |
| | | | | | | | |

ISO 4406 (c) >19/17/14 **23/20/14**

Oil Cleanliness

Contact/Location: Service Team - RONVAU



/0k 60k 30k 30k 20k

(1 ml) 60k 50k 40k 30k 20k

0.80-L 0.70 (B/H0.60 y BE 0.50 <u>ن</u> 0.40 ق

j 0.30 1 pige 0.20 0.10 0.00 Dec6/23

OIL ANALYSIS REPORT

| | FLUID DEGRAD | | method | limit/base | current | history1 | history2 |
|--------------------|--|----------|--------------------|---|--------------------|----------|-------------|
| 4μm 4μm 14μm | Acid Number (AN) | mg KOH/g | ASTM D974* | | 0.72 | | |
| - 11μm | VISUAL | | method | limit/base | current | history1 | history2 |
| | White Metal | scalar | Visual* | NONE | NONE | | |
| | Yellow Metal | scalar | Visual* | NONE | NONE | | |
| Abnormal | Precipitate | scalar | Visual* | NONE | NONE | | |
| Dec6/23 | Silt Debris | scalar | Visual* | NONE | NONE | | |
| Dec | 200110 | scalar | Visual* | NONE | NONE | | |
| Particle Trend | Sand/Dirt | scalar | | NONE | NONE | | |
| 4µm | Appearance | scalar | Visual* | NORML | NORML | | |
| | Odor | scalar | Visual* | NORML | NORML | | |
| | Emulsified Water Free Water | scalar | Visual* Visual* | >0.1 | NEG NEG | | |
| | | scalar | VISUAI | | NEG | | |
| | FLUID PROPER | TIES | method | limit/base | current | history1 | history |
| Abnermal | Visc @ 40°C | cSt | ASTM D7279(m) | | 44.0 | | |
| Dec6/23 | SAMPLE IMAGE | S | method | limit/base | current | history1 | history |
| Acid Number | Color | | | | | no image | no image |
| | Bottom | | | | | no image | no image |
| | GRAPHS | | | | | | |
| Dec6/23 - | ື Ferrous Alloys | | | | Particle Count | | |
| | 10 iron | | | 491,520 | Ī | | I |
| Viscosity @ 40°C | E 5 | | | 122,880 | | | |
| Abnormal | | | | 30,720 | Detele | | |
| | 0 | | | = 7,680 | Abnormal | | - |
| | Dec6/23 | | | (per 1 ml) (per 1 ml) | · \. | | - - - |
| | | | | E C | | | |
| | Non-ferrous Meta | ls | | othed to | `` | \ | |
| Abnormal | copper | | | | | | |
| | | | | ² 30 | - | | |
| Dec6/23 | 10+ | | | 8 | - | | |
| | 0 2 3 | | | | | | |
| | Dec6/23 | | | Dec6/23 | | | |
| | Viscosity @ 40°C | | | 4 | ہوں Acid Number | 14μ 21μ | 38µ 71j |
| | 55 Abnormal | | | (^B H0.80 | | | |
| | 250 - 9 | | | ¥ 0.60 | | | |
| | G 50 + 000000000000000000000000000000000 | | | (PH 0.80 D) 0.60 (PH 0.20 (PH 0.20 | | | |
| | ³⁵ 40 Abnormal | | | 0.20 Acid Nur | | | |
| | Dec6/23 | | | Dec6/23 | 6/23 | | |
| | Deci | | | Deci | Dec6/23 | | |
| | y : WearCheck - C8-1 | | | | | | |
| Laborator | | | | | | | |

Report Id: RONVAU [WCAMIS] 02603256 (Generated: 12/15/2023 09:13:51) Rev: 1

Contact/Location: Service Team - RONVAU Page 4 of 4

T:

F:

service.team@roni.ca

CA L4K 4P3