

# PROBLEM SUMMARY

Sample Rating Trend



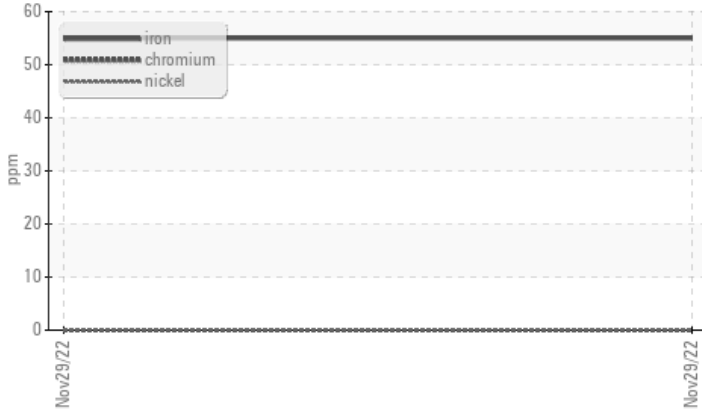
**WEAR**



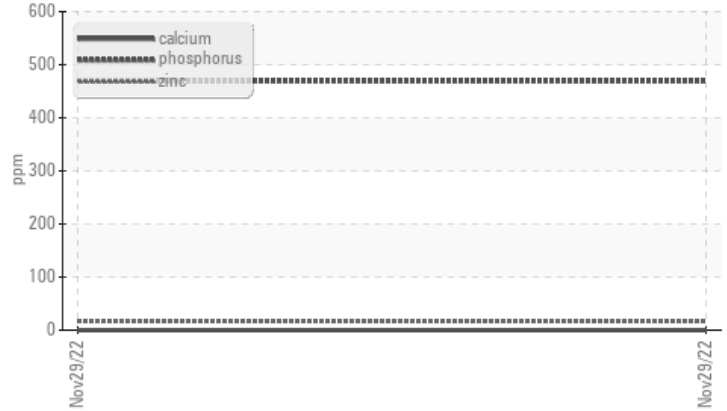
Machine Id  
**HP5**  
Component  
**Hydraulic System**  
Fluid  
**PETRO CANADA HYDREX AW 46 (430 LTR)**

## COMPONENT CONDITION SUMMARY

### ▲ Ferrous Alloys



### ▲ Additives



## RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as PETRO CANADA HYDREX AW 46, however, a fluid match indicates that this fluid is ISO 46 Environmental Oil. Please confirm the oil type and grade on your next sample. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

## PROBLEMATIC TEST RESULTS

| Sample Status |     |               |     | ATTENTION | --- | --- |
|---------------|-----|---------------|-----|-----------|-----|-----|
| Iron          | ppm | ASTM D5185(m) | >20 | ▲ 55      | --- | --- |
| Calcium       | ppm | ASTM D5185(m) | 50  | ▲ 0       | --- | --- |
| Zinc          | ppm | ASTM D5185(m) | 430 | ▲ 16      | --- | --- |

Customer Id: WESCAP  
Sample No.: PC0029859  
Lab Number: 02528645  
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
Kevin Marson +1 (289)291-4644 x4644  
[Kevin.Marson@wearcheck.com](mailto:Kevin.Marson@wearcheck.com)

To change component or sample information:  
Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

| Action               | Status | Date        | Done By | Description  |
|----------------------|--------|-------------|---------|--|
| Alert                | MISSED | Oct 02 2023 | ?       | The fluid was specified as PETRO CANADA HYDREX AW 46, however, a fluid match indicates that this fluid is ISO 46 Environmental Oil. Please confirm the oil type and grade on your next sample. |
| Information Required | MISSED | Oct 02 2023 | ?       | NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.   |
| Check Fluid Source   | MISSED | Oct 02 2023 | ?       | Confirm the source of the lubricant being utilized for top-up/fill.  |

## HISTORICAL DIAGNOSIS

Machine Id

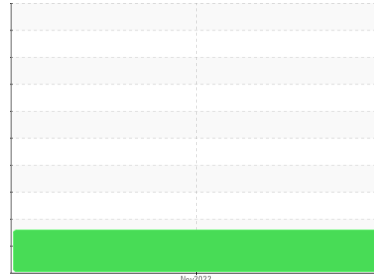
**HP5**

Component

**Hydraulic System**

Fluid

**PETRO CANADA HYDREX AW 46 (430 LTR)**



## DIAGNOSIS

### Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as PETRO CANADA HYDREX AW 46, however, a fluid match indicates that this fluid is ISO 46 Environmental Oil. Please confirm the oil type and grade on your next sample. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

### Wear

Iron ppm levels are noted. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. All other component wear rates are normal.

### Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

### 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 suitable for further service.

## SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1 | history2 |
|---------------|-------------|-------------|--------------------|----------|----------|
| Sample Number | Client Info |             | <b>PC0029859</b>   | ---      | ---      |
| Sample Date   | Client Info |             | <b>29 Nov 2022</b> | ---      | ---      |
| Machine Age   | mths        | Client Info | <b>56</b>          | ---      | ---      |
| Oil Age       | mths        | Client Info | <b>56</b>          | ---      | ---      |
| Oil Changed   | Client Info |             | <b>N/A</b>         | ---      | ---      |
| Sample Status |             |             | <b>ATTENTION</b>   | ---      | ---      |

## CONTAMINATION

|       | method    | limit/base | current    | history1 | history2 |
|-------|-----------|------------|------------|----------|----------|
| Water | WC Method | >0.05      | <b>NEG</b> | ---      | ---      |

## WEAR METALS

|           | method      | limit/base        | current      | history1 | history2 |
|-----------|-------------|-------------------|--------------|----------|----------|
| PQ        | ASTM D8184* |                   | <b>0</b>     | ---      | ---      |
| Iron      | ppm         | ASTM D5185(m) >20 | <b>▲ 55</b>  | ---      | ---      |
| Chromium  | ppm         | ASTM D5185(m) >20 | <b>0</b>     | ---      | ---      |
| Nickel    | ppm         | ASTM D5185(m) >20 | <b>0</b>     | ---      | ---      |
| Titanium  | ppm         | ASTM D5185(m)     | <b>0</b>     | ---      | ---      |
| Silver    | ppm         | ASTM D5185(m)     | <b>0</b>     | ---      | ---      |
| Aluminum  | ppm         | ASTM D5185(m) >20 | <b>0</b>     | ---      | ---      |
| Lead      | ppm         | ASTM D5185(m) >20 | <b>&lt;1</b> | ---      | ---      |
| Copper    | ppm         | ASTM D5185(m) >20 | <b>3</b>     | ---      | ---      |
| Tin       | ppm         | ASTM D5185(m) >20 | <b>0</b>     | ---      | ---      |
| Antimony  | ppm         | ASTM D5185(m)     | <b>&lt;1</b> | ---      | ---      |
| Vanadium  | ppm         | ASTM D5185(m)     | <b>0</b>     | ---      | ---      |
| Beryllium | ppm         | ASTM D5185(m)     | <b>0</b>     | ---      | ---      |
| Cadmium   | ppm         | ASTM D5185(m)     | <b>0</b>     | ---      | ---      |

## ADDITIVES

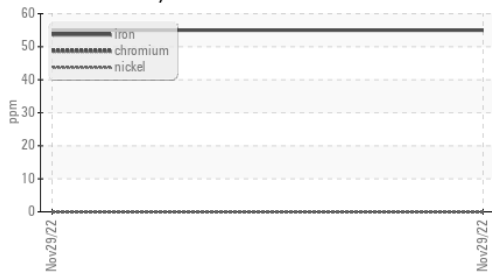
|            | method | limit/base        | current      | history1 | history2 |
|------------|--------|-------------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185(m) 0   | <b>&lt;1</b> | ---      | ---      |
| Barium     | ppm    | ASTM D5185(m) 0   | <b>0</b>     | ---      | ---      |
| Molybdenum | ppm    | ASTM D5185(m) 0   | <b>0</b>     | ---      | ---      |
| Manganese  | ppm    | ASTM D5185(m) 0   | <b>1</b>     | ---      | ---      |
| Magnesium  | ppm    | ASTM D5185(m) 0   | <b>0</b>     | ---      | ---      |
| Calcium    | ppm    | ASTM D5185(m) 50  | <b>▲ 0</b>   | ---      | ---      |
| Phosphorus | ppm    | ASTM D5185(m) 330 | <b>469</b>   | ---      | ---      |
| Zinc       | ppm    | ASTM D5185(m) 430 | <b>▲ 16</b>  | ---      | ---      |
| Sulfur     | ppm    | ASTM D5185(m) 760 | <b>886</b>   | ---      | ---      |
| Lithium    | ppm    | ASTM D5185(m)     | <b>&lt;1</b> | ---      | ---      |

## CONTAMINANTS

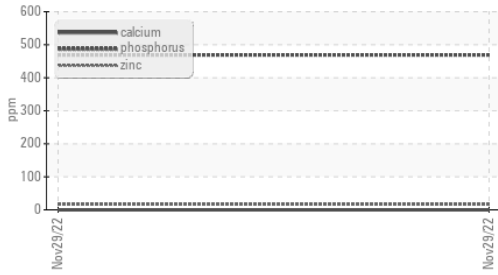
|           | method | limit/base        | current      | history1 | history2 |
|-----------|--------|-------------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185(m) >15 | <b>4</b>     | ---      | ---      |
| Sodium    | ppm    | ASTM D5185(m)     | <b>3</b>     | ---      | ---      |
| Potassium | ppm    | ASTM D5185(m) >20 | <b>&lt;1</b> | ---      | ---      |

# OIL ANALYSIS REPORT

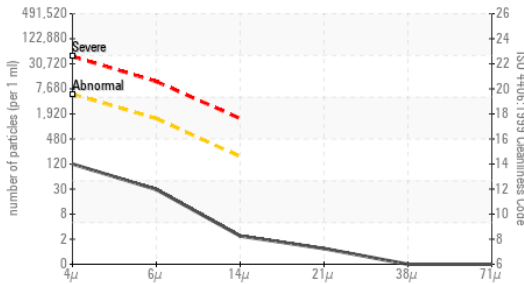
## ▲ Ferrous Alloys



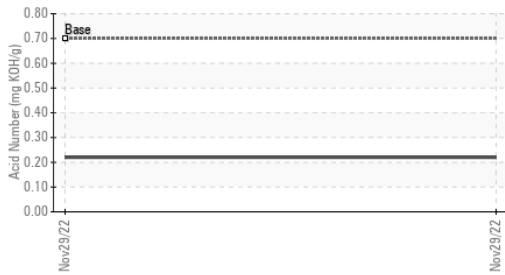
## ▲ Additives



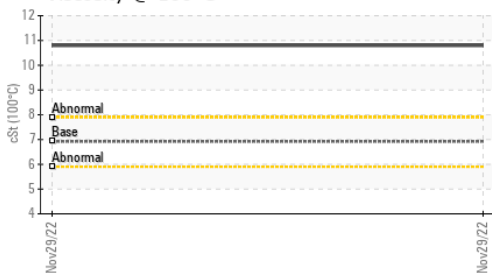
## Particle Count



## Acid Number



## Viscosity @ 100°C



| FLUID CLEANLINESS | method       | limit/base | current        | history1 | history2 |
|-------------------|--------------|------------|----------------|----------|----------|
| Particles >4µm    | ASTM D7647   | >5000      | <b>106</b>     | ---      | ---      |
| Particles >6µm    | ASTM D7647   | >1300      | <b>26</b>      | ---      | ---      |
| Particles >14µm   | ASTM D7647   | >160       | <b>2</b>       | ---      | ---      |
| Particles >21µm   | ASTM D7647   | >40        | <b>1</b>       | ---      | ---      |
| Particles >38µm   | ASTM D7647   | >10        | <b>0</b>       | ---      | ---      |
| Particles >71µm   | ASTM D7647   | >3         | <b>0</b>       | ---      | ---      |
| Oil Cleanliness   | ISO 4406 (c) | >19/17/14  | <b>14/12/9</b> | ---      | ---      |

| FLUID DEGRADATION | method   | limit/base | current | history1    | history2 |
|-------------------|----------|------------|---------|-------------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D974* | 0.70    | <b>0.22</b> | ---      |

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

| FLUID PROPERTIES     | method | limit/base    | current | history1    | history2 |
|----------------------|--------|---------------|---------|-------------|----------|
| Visc @ 40°C          | cSt    | ASTM D7279(m) | 46.4    | <b>95.9</b> | ---      |
| Visc @ 100°C         | cSt    | ASTM D7279(m) | 6.92    | <b>10.8</b> | ---      |
| Viscosity Index (VI) | Scale  | ASTM D2270*   | 104     | <b>95</b>   | ---      |

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

Color



no image

no image

Bottom



no image

no image



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0029859 **Received** : 14 Dec 2022  
**Lab Number** : **02528645** **Diagnosed** : 15 Dec 2022  
**Unique Number** : 5501643 **Diagnostician** : Kevin Marson  
**Test Package** : IND 2 ( Additional Tests: KV100, PQ, 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.

**WESTMORLAND FISHERIES**  
 64 GAUTREAU STREET  
 CAP-PELE, NB  
 CA E4N 1V3

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T:  
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