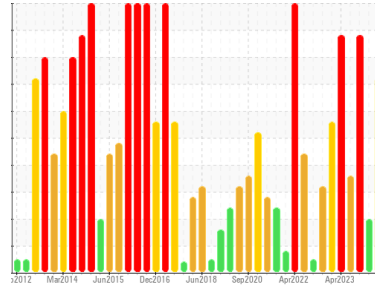




# PROBLEM SUMMARY

Area  
**TUMBLE**  
 Machine Id  
**B37182 - E. AMFEC HYD RES (S/N 960786)**  
 Component  
**Hydraulic System**  
 Fluid  
**PETRO CANADA PURITY FG AW HYDRAULIC 46 (175 GAL)**

Sample Rating Trend

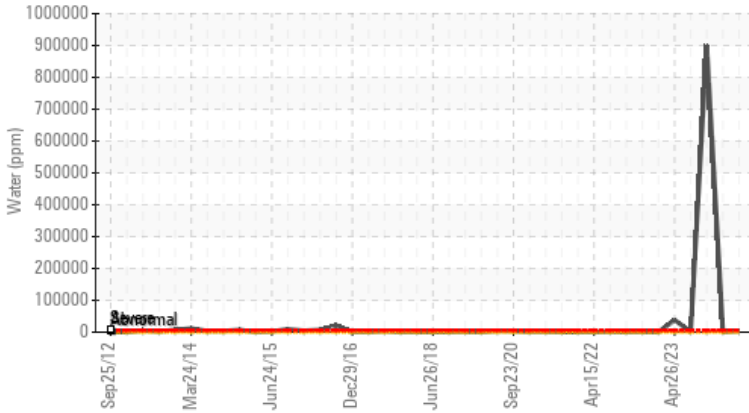


WATER



## COMPONENT CONDITION SUMMARY

▲ Water (KF)



## RECOMMENDATION

We advise that you follow the water drain-off procedure for this component, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. There is too much water present in this sample to perform a particle count.

## PROBLEMATIC TEST RESULTS

| Sample Status    |        |            |       | SEVERE         | ABNORMAL | SEVERE   |
|------------------|--------|------------|-------|----------------|----------|----------|
| Water            | %      | ASTM D6304 | >0.05 | ▲ <b>0.375</b> | 0.006    | ▲ 90.0   |
| ppm Water        | ppm    | ASTM D6304 | >500  | ▲ <b>3750</b>  | 68       | ▲ 900000 |
| Emulsified Water | scalar | *Visual    | >0.05 | ▲ <b>0.2%</b>  | NEG      | ▲ 0.2%   |
| Free Water       | scalar | *Visual    |       | ▲ <b>2.0</b>   | NEG      | ▲ >10%   |

Customer Id: OSCOSC  
 Sample No.: WC0947164  
 Lab Number: 06239141  
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Don Baldrige +1  
[don.b505@comcast.net](mailto:don.b505@comcast.net)

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   |
|-----------------|--------|------|---------|---|
| Water Drain-off | ---    | ---  | ?       | We advise that you follow the water drain-off procedure for this component, and use off-line filtration to improve the cleanliness of the system fluid. |
| Resample        | ---    | ---  | ?       | We recommend an early resample to monitor this condition.   |

HISTORICAL DIAGNOSIS



**12 Apr 2024 Diag: Wes Davis**

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

[view report](#)



**11 Oct 2023 Diag: Doug Bogart**

We advise that you follow the water drain-off procedure for this component. We recommend an early resample to monitor this condition. All component wear rates are normal. Insufficient sample was received to conduct all the routine laboratory tests. Sample consists almost entirely of free water. The condition of the oils additive package appear suitable for further service.

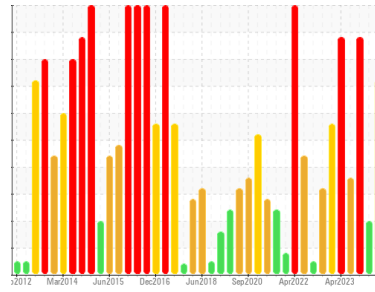
[view report](#)





# OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Area  
**TUMBLE**  
Machine Id  
**B37182 - E. AMFEC HYD RES (S/N 960786)**  
Component  
**Hydraulic System**  
Fluid  
**PETRO CANADA PURITY FG AW HYDRAULIC 46 (175 GAL)**

## DIAGNOSIS

### ▲ Recommendation

We advise that you follow the water drain-off procedure for this component, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. There is too much water present in this sample to perform a particle count.

### Wear

All component wear rates are normal.

### ▲ Contamination

Appearance is milky. There is a moderate concentration of water present in the oil. Free water present.

### Fluid Condition

The AN level is acceptable for this fluid. The oil is no longer serviceable due to the presence of contaminants.

## SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1    | history2    |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info |             | <b>WC0947164</b>   | WC0914014   | WC0856688   |
| Sample Date   | Client Info |             | <b>10 Jul 2024</b> | 12 Apr 2024 | 11 Oct 2023 |
| Machine Age   | hrs         | Client Info | <b>0</b>           | 0           | 0           |
| Oil Age       | hrs         | Client Info | <b>0</b>           | 0           | 0           |
| Oil Changed   | Client Info |             | <b>Not Chngd</b>   | N/A         | N/A         |
| Sample Status |             |             | <b>SEVERE</b>      | ABNORMAL    | SEVERE      |

## WEAR METALS

|          | method | limit/base      | current | history1 | history2 |
|----------|--------|-----------------|---------|----------|----------|
| Iron     | ppm    | ASTM D5185m >20 | <1      | 0        | 0        |
| Chromium | ppm    | ASTM D5185m >20 | 0       | 0        | 0        |
| Nickel   | ppm    | ASTM D5185m >20 | 0       | 0        | 0        |
| Titanium | ppm    | ASTM D5185m     | 0       | 0        | 0        |
| Silver   | ppm    | ASTM D5185m     | 0       | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m >20 | 0       | 0        | 0        |
| Lead     | ppm    | ASTM D5185m >20 | 0       | <1       | 0        |
| Copper   | ppm    | ASTM D5185m >20 | 0       | <1       | <1       |
| Tin      | ppm    | ASTM D5185m >20 | 0       | <1       | 0        |
| Vanadium | ppm    | ASTM D5185m     | 0       | 0        | 0        |
| Cadmium  | ppm    | ASTM D5185m     | 0       | 0        | 0        |

## ADDITIVES

|            | method | limit/base  | current    | history1 | history2 |
|------------|--------|-------------|------------|----------|----------|
| Boron      | ppm    | ASTM D5185m | 0          | 0        | 0        |
| Barium     | ppm    | ASTM D5185m | 0          | 0        | 0        |
| Molybdenum | ppm    | ASTM D5185m | 0          | 0        | 0        |
| Manganese  | ppm    | ASTM D5185m | 0          | <1       | 0        |
| Magnesium  | ppm    | ASTM D5185m | 0          | 0        | 0        |
| Calcium    | ppm    | ASTM D5185m | 0          | 0        | 0        |
| Phosphorus | ppm    | ASTM D5185m | <b>460</b> | 469      | 383      |
| Zinc       | ppm    | ASTM D5185m | 0          | 0        | 0        |
| Sulfur     | ppm    | ASTM D5185m | <b>601</b> | 564      | 461      |

## CONTAMINANTS

|           | method | limit/base       | current        | history1 | history2        |
|-----------|--------|------------------|----------------|----------|-----------------|
| Silicon   | ppm    | ASTM D5185m >15  | <b>2</b>       | 2        | 1               |
| Sodium    | ppm    | ASTM D5185m      | <b>2</b>       | 2        | 1               |
| Potassium | ppm    | ASTM D5185m >20  | <b>0</b>       | <1       | 2               |
| Water     | %      | ASTM D6304 >0.05 | <b>▲ 0.375</b> | 0.006    | <b>▲ 90.0</b>   |
| ppm Water | ppm    | ASTM D6304 >500  | <b>▲ 3750</b>  | 68       | <b>▲ 900000</b> |

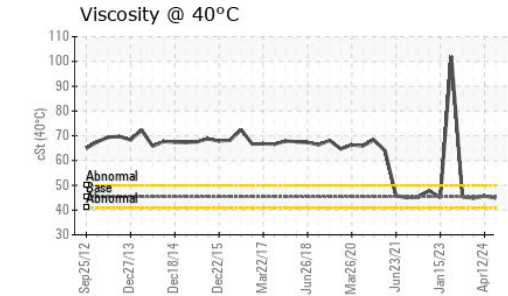
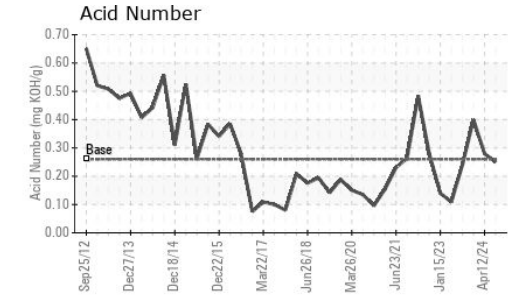
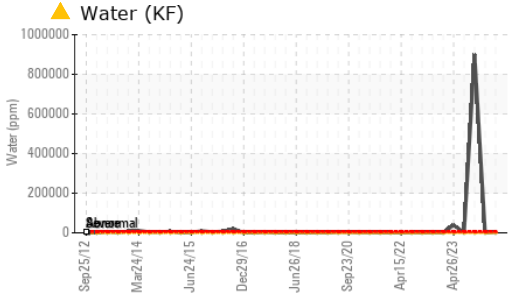
## FLUID CLEANLINESS

|                 | method       | limit/base | current | history1   | history2 |
|-----------------|--------------|------------|---------|------------|----------|
| Particles >4µm  | ASTM D7647   | >10000     | ---     | ● 10773    | ---      |
| Particles >6µm  | ASTM D7647   | >1300      | ---     | ▲ 3753     | ---      |
| Particles >14µm | ASTM D7647   | >160       | ---     | ▲ 406      | ---      |
| Particles >21µm | ASTM D7647   | >40        | ---     | ● 79       | ---      |
| Particles >38µm | ASTM D7647   | >10        | ---     | 7          | ---      |
| Particles >71µm | ASTM D7647   | >3         | ---     | 2          | ---      |
| Oil Cleanliness | ISO 4406 (c) | >20/17/14  | ---     | ▲ 21/19/16 | ---      |

## FLUID DEGRADATION

|                  | method   | limit/base      | current     | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 0.26 | <b>0.25</b> | 0.28     | ---      |

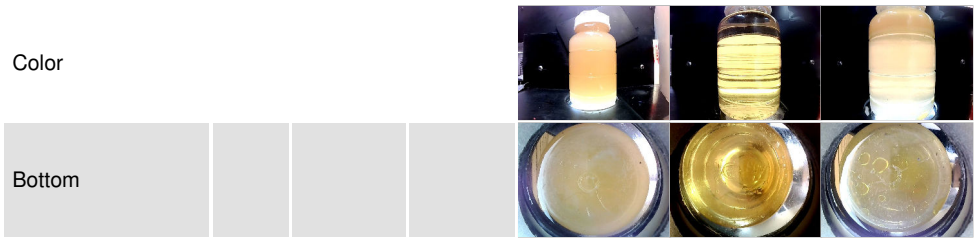
# OIL ANALYSIS REPORT



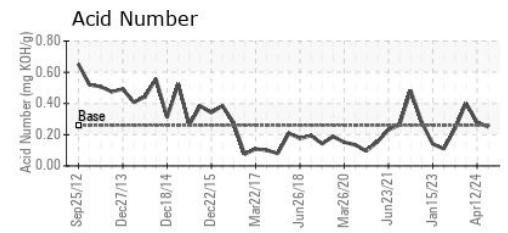
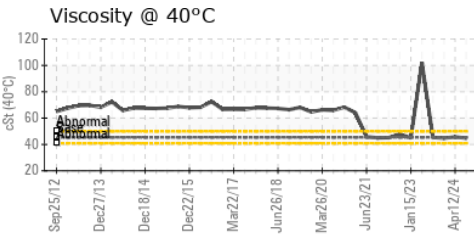
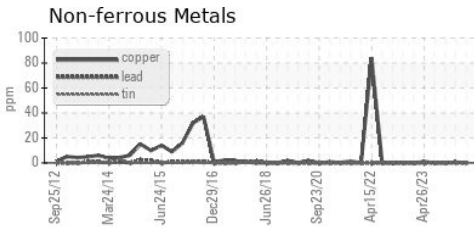
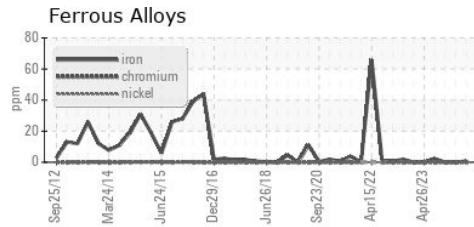
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Silt             | scalar | *Visual    | NONE    | NONE     | NONE     |
| Debris           | scalar | *Visual    | NONE    | NONE     | LIGHT    |
| Sand/Dirt        | scalar | *Visual    | NONE    | NONE     | NONE     |
| Appearance       | scalar | *Visual    | NORML   | ● MILKY  | ● HAZY   |
| Odor             | scalar | *Visual    | NORML   | NORML    | NORML    |
| Emulsified Water | scalar | *Visual    | >0.05   | ▲ 0.2%   | ▲ 0.2%   |
| Free Water       | scalar | *Visual    |         | ▲ 2.0    | ▲ >10%   |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C      | cSt    | ASTM D445  | 45.36   | 44.8     | 45.7     |

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



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0947164      **Received** : 17 Jul 2024  
**Lab Number** : 06239141      **Tested** : 19 Jul 2024  
**Unique Number** : 11127975      **Diagnosed** : 19 Jul 2024 - Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF )

**OSCEOLA FOODS (HORMEL)**  
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 OSCEOLA, IA  
 US 50213  
 Contact: WADE MYERS  
 wlmyers@hormel.com  
 T: (641)342-8043  
 F: (641)342-8047

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.  
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)