

Machine Id
SILO #3 (S/N 233027)
Component
Circulating Hydraulic System
Fluid
PETRO CANADA HYDREX AW 46 (--- GAL)

DIAGNOSIS

Recommendation
The component was not specified, however we determined the component was a hydraulic system based on the type of fluid used. Please specify component type with your next sample. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear
Copper ppm levels are abnormal. Lead ppm levels are noted. Oil cooler core leaching or motor piston wear is indicated.

Contamination
There is a moderate 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 no longer serviceable as a result of the abnormal and/or severe wear.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|--------------------|-------------|-------------|------------|--------------------|-------------|----------|
| Sample Number | Client Info | | | PC0058413 | PC0058229 | --- |
| Sample Date | Client Info | | | 09 Jul 2024 | 06 Jul 2022 | --- |
| Machine Age | hrs | Client Info | | 111882 | 101884 | --- |
| Oil Age | hrs | Client Info | | 0 | 0 | --- |
| Oil Changed | Client Info | | | Not Chngd | Not Chngd | --- |
| Sample Status | | | | ABNORMAL | NORMAL | --- |

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

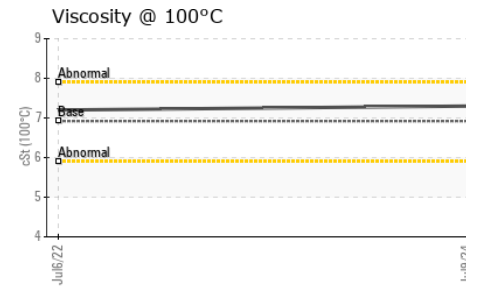
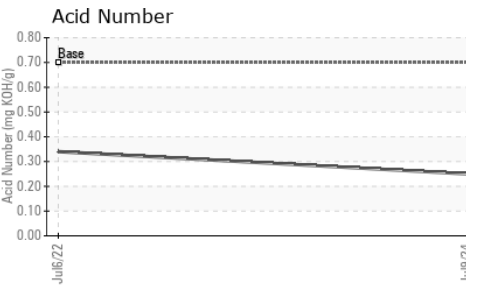
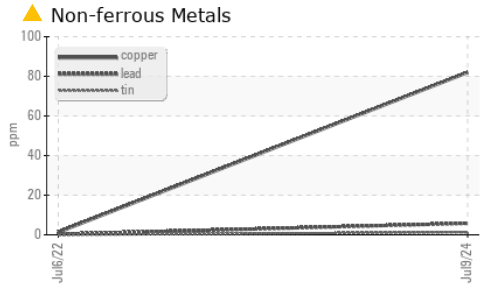
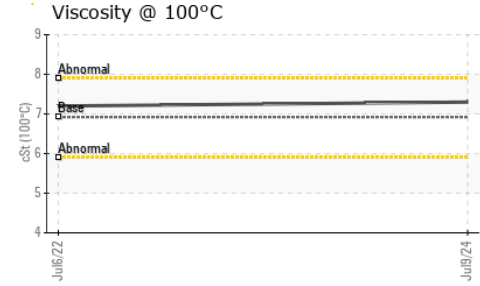
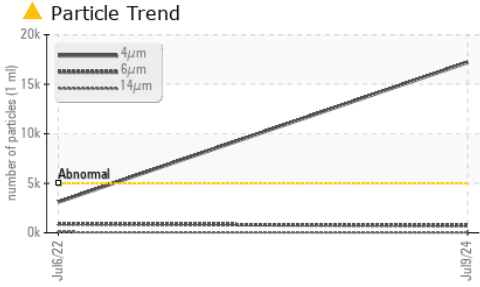
| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|---------------|------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185(m) | >20 | 1 | 2 | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | 1 | 2 | --- |
| Nickel | ppm | ASTM D5185(m) | >20 | <1 | 0 | --- |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | --- |
| Silver | ppm | ASTM D5185(m) | | 0 | 0 | --- |
| Aluminum | ppm | ASTM D5185(m) | >20 | <1 | 0 | --- |
| Lead | ppm | ASTM D5185(m) | >20 | 6 | <1 | --- |
| Copper | ppm | ASTM D5185(m) | >20 | 82 | 1 | --- |
| Tin | ppm | ASTM D5185(m) | >20 | 1 | 0 | --- |
| Antimony | ppm | ASTM D5185(m) | | 0 | 0 | --- |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | --- |
| Beryllium | ppm | ASTM D5185(m) | | 0 | 0 | --- |
| Cadmium | ppm | ASTM D5185(m) | | 0 | 0 | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|---------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185(m) | 0 | 0 | 0 | --- |
| Barium | ppm | ASTM D5185(m) | 0 | 0 | 0 | --- |
| Molybdenum | ppm | ASTM D5185(m) | 0 | 0 | 0 | --- |
| Manganese | ppm | ASTM D5185(m) | 0 | 0 | 0 | --- |
| Magnesium | ppm | ASTM D5185(m) | 0 | 0 | <1 | --- |
| Calcium | ppm | ASTM D5185(m) | 50 | 43 | 48 | --- |
| Phosphorus | ppm | ASTM D5185(m) | 330 | 301 | 322 | --- |
| Zinc | ppm | ASTM D5185(m) | 430 | 357 | 401 | --- |
| Sulfur | ppm | ASTM D5185(m) | 760 | 732 | 764 | --- |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|---------------|------------|----------|----------|----------|
| Silicon | ppm | ASTM D5185(m) | >15 | 0 | <1 | --- |
| Sodium | ppm | ASTM D5185(m) | | 0 | <1 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | 0 | 0 | --- |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|-------------------|--------------|-----------|-----------------|----------|----------|----------|
| Particles >4µm | ASTM D7647 | >5000 | 17205 | 3102 | --- | |
| Particles >6µm | ASTM D7647 | >1300 | 727 | 898 | --- | |
| Particles >14µm | ASTM D7647 | >160 | 34 | 60 | --- | |
| Particles >21µm | ASTM D7647 | >40 | 9 | 12 | --- | |
| Particles >38µm | ASTM D7647 | >10 | 1 | 1 | --- | |
| Particles >71µm | ASTM D7647 | >3 | 0 | 0 | --- | |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14 | 21/17/12 | 19/17/13 | --- | |

OIL ANALYSIS REPORT



FLUID DEGRADATION

| method | limit/base | current | history1 | history2 | |
|------------------|---------------------|---------|-------------|----------|-----|
| Acid Number (AN) | mg KOH/g ASTM D974* | 0.70 | 0.25 | 0.34 | --- |

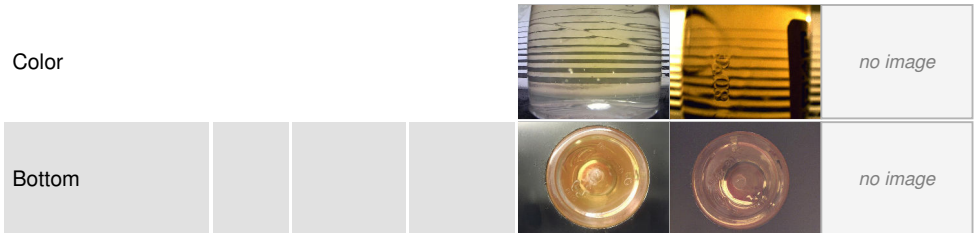
VISUAL

| 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 | VLITE | --- |
| Sand/Dirt | scalar Visual* | NONE | NONE | NONE | --- |
| Appearance | scalar Visual* | NORML | NORML | NORML | --- |
| Odor | scalar Visual* | NORML | NORML | NORML | --- |
| Emulsified Water | scalar Visual* | >0.05 | NEG | NEG | --- |
| Free Water | scalar Visual* | | NEG | NEG | --- |

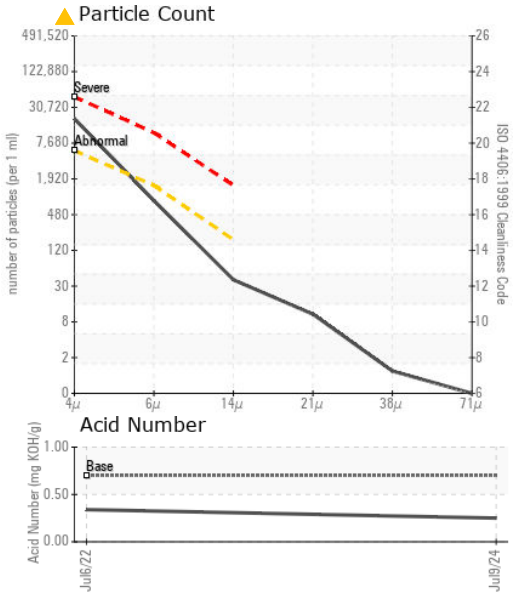
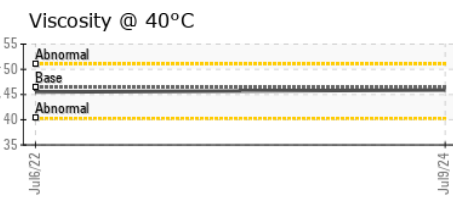
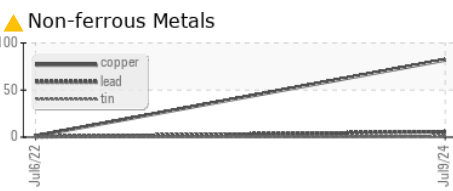
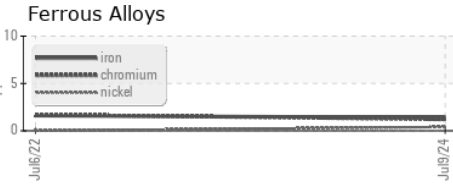
FLUID PROPERTIES

| method | limit/base | current | history1 | history2 | |
|----------------------|-------------------|---------|-------------|----------|-----|
| Visc @ 40°C | cSt ASTM D7279(m) | 46.4 | 45.9 | 45.5 | --- |
| Visc @ 100°C | cSt ASTM D7279(m) | 6.92 | 7.3 | 7.2 | --- |
| Viscosity Index (VI) | Scale ASTM D2270* | 104 | 120 | 118 | --- |

SAMPLE IMAGES



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0058413
Lab Number : **02647806**
Unique Number : 5813358
Test Package : IND 2 (Additional Tests: KV100, VI)

Received : 15 Jul 2024
Tested : 16 Jul 2024
Diagnosed : 16 Jul 2024 - Kevin Marson

ONTARIO CLEAN WATER AGENCY- SOUTH PEEL FACILITIES
 1300 LAKESHORE RD
 MISSISSAUGA, ON
 CA L5E 1E9
 Contact: Angelo Magnifico
 amagnifico@ocwa.com
 T: (905)274-1223
 F: (905)274-2076

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.