OIL DIAGNOSTICS

# PROBLEM SUMMARY

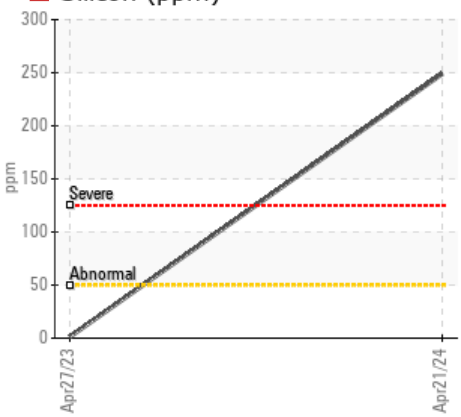
Sample Rating Trend


**DIRT**

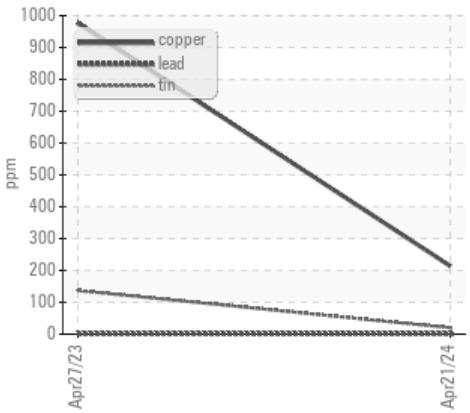
Area
## PHASE 2 PH 2
Machine Id
## HT 23
Component
**Agitator Gearbox**
Fluid
**PETRO CANADA PURITY FG SYN GEAR ISO 220 (--- LTR)**

## COMPONENT CONDITION SUMMARY

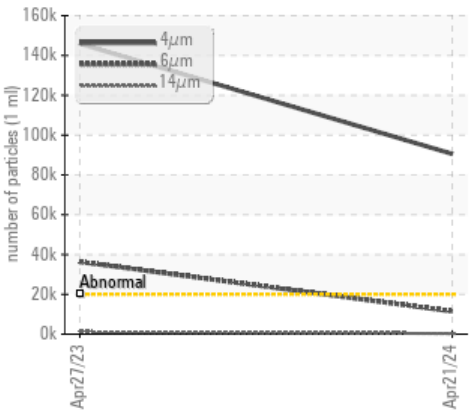
▲ Silicon (ppm)




▲ Non-ferrous Metals




▲ Particle Trend




## RECOMMENDATION

We advise that you check all areas where dirt can enter the system. We recommend an early resample to monitor this condition.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | **SEVERE** | SEVERE | --- |
|---|---|---|---|---|---|---|
| Copper | ppm | ASTM D5185m | >50 | ▲ **214** | ▲ 977 | --- |
| Tin | ppm | ASTM D5185m | >10 | ▲ **20** | ▲ 137 | --- |
| Silicon | ppm | ASTM D5185m | >50 | ▲ **249** | 1 | --- |
| Particles >4µm | | ASTM D7647 | >20000 | ▲ **90556** | ▲ 145920 | --- |
| Particles >6µm | | ASTM D7647 | >5000 | ▲ **11495** | ▲ 36333 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >21/19/16 | ▲ **24/21/15** | ▲ 24/22/17 | --- |

**Customer Id:** KRAMASIOW
**Sample No.:** PCA0119930
**Lab Number:** 06160333
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
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jhester@wearcheckusa.com

*To change component or sample information:*
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

## RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|---|---|---|---|---|
| Resample | --- | --- | ? | We recommend an early resample to monitor this condition. |
| Check Dirt Access | --- | --- | ? | We advise that you check all areas where dirt can enter the system. |

## HISTORICAL DIAGNOSIS

**WEAR**

**27 Apr 2023 Diag: Doug Bogart**

We recommend you service the filters on this component if applicable. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.Bearing and/or gear wear is indicated. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid.

**view report**

OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

Sample Rating Trend


**DIRT**

Area
## PHASE 2 PH 2
Machine Id
## HT 23
Component
**Agitator Gearbox**
Fluid
**PETRO CANADA PURITY FG SYN GEAR ISO 220 (--- LTR)**

## DIAGNOSIS

**Recommendation**
We advise that you check all areas where dirt can enter the system. We recommend an early resample to monitor this condition.

**Wear**
Bearing and/or bushing wear is indicated.

**Contamination**
There is a high amount of silt (particulates < 14 microns in size) present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material.

**Fluid Condition**
The AN level is acceptable for this fluid.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **PCA0119930** | USP247610 | --- |
| Sample Date | | Client Info | | **21 Apr 2024** | 27 Apr 2023 | --- |
| Machine Age | yrs | Client Info | | **0** | 0 | --- |
| Oil Age | yrs | Client Info | | **0** | 0 | --- |
| Oil Changed | | Client Info | | **Not Changd** | N/A | --- |
| Sample Status | | | | **SEVERE** | SEVERE | --- |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.1 | **NEG** | NEG | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >150 | **8** | 12 | --- |
| Chromium | ppm | ASTM D5185m | >10 | **0** | 0 | --- |
| Nickel | ppm | ASTM D5185m | >10 | **0** | <1 | --- |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | --- |
| Silver | ppm | ASTM D5185m | | **0** | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >25 | **0** | 0 | --- |
| Lead | ppm | ASTM D5185m | >100 | **1** | <1 | --- |
| Copper | ppm | ASTM D5185m | >50 | ▲ **214** | ▲ 977 | --- |
| Tin | ppm | ASTM D5185m | >10 | ▲ **20** | ▲ 137 | --- |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | --- |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **18** | 41 | --- |
| Barium | ppm | ASTM D5185m | | **0** | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | | **3** | 0 | --- |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | --- |
| Magnesium | ppm | ASTM D5185m | | **<1** | <1 | --- |
| Calcium | ppm | ASTM D5185m | | **<1** | <1 | --- |
| Phosphorus | ppm | ASTM D5185m | | **439** | 634 | --- |
| Zinc | ppm | ASTM D5185m | | **9** | 13 | --- |
| Sulfur | ppm | ASTM D5185m | | **6964** | 19078 | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >50 | ▲ **249** | 1 | --- |
| Sodium | ppm | ASTM D5185m | | **<1** | 0 | --- |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 2 | --- |

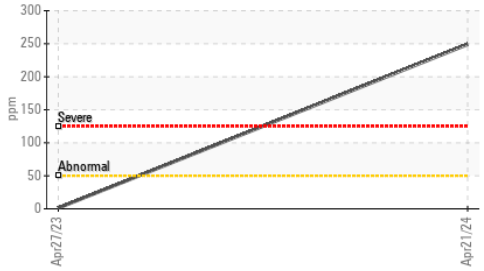
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >20000 | ▲ **90556** | ▲ 145920 | --- |
| Particles >6µm | | ASTM D7647 | >5000 | ▲ **11495** | ▲ 36333 | --- |
| Particles >14µm | | ASTM D7647 | >640 | **279** | ▲ 1173 | --- |
| Particles >21µm | | ASTM D7647 | >160 | **59** | ▲ 354 | --- |
| Particles >38µm | | ASTM D7647 | >40 | **6** | ▲ 67 | --- |
| Particles >71µm | | ASTM D7647 | >10 | **4** | 10 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >21/19/16 | ▲ **24/21/15** | ▲ 24/22/17 | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.42 | **0.91** | 2.74 | --- |

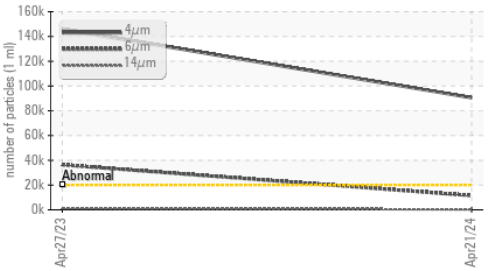
OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

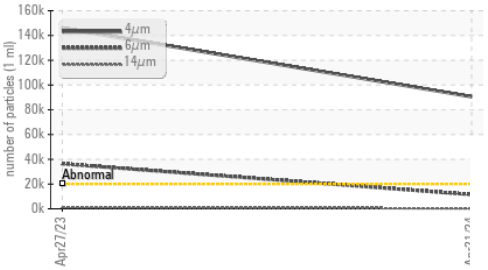
Silicon (ppm)



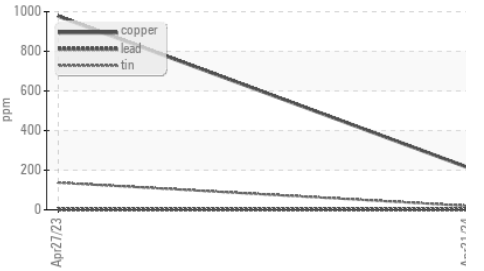

Particle Trend



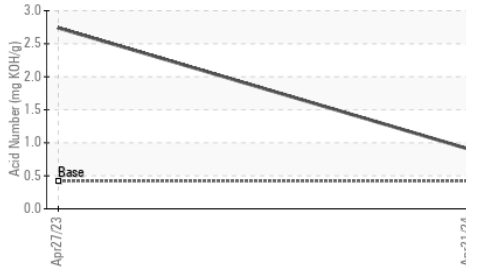

Particle Trend




Non-ferrous Metals

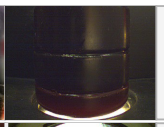
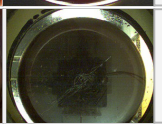



Acid Number



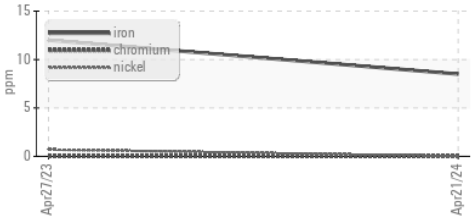

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Debris | scalar | *Visual | NONE | **NONE** | LIGHT | --- |
| Sand/Dirt | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Appearance | scalar | *Visual | NORML | **NORML** | NORML | --- |
| Odor | scalar | *Visual | NORML | **NORML** | NORML | --- |
| Emulsified Water | scalar | *Visual | >0.1 | **NEG** | NEG | --- |
| Free Water | scalar | *Visual | | **NEG** | NEG | --- |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 213 | **204** | 210 | --- |

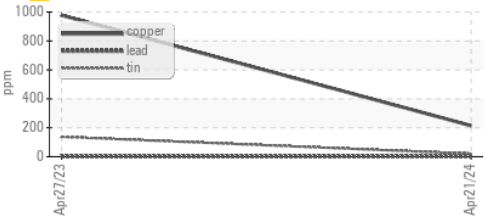
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  |  | *no image* |
| Bottom | | |  |  | *no image* |

## GRAPHS

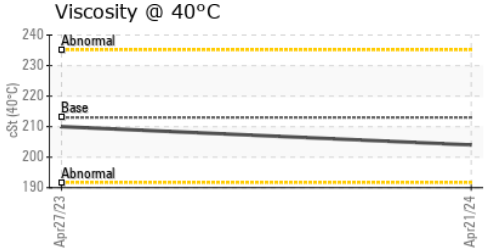
Ferrous Alloys



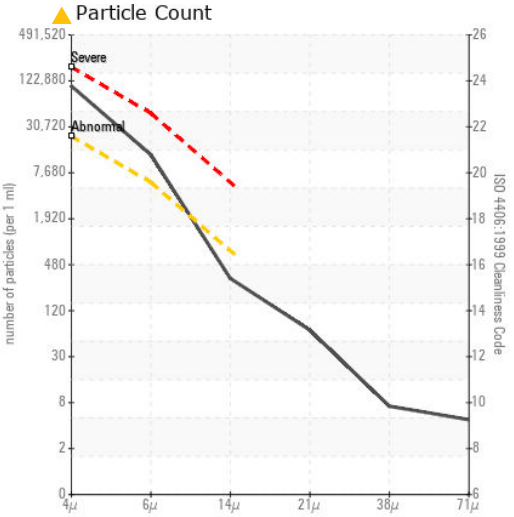

Non-ferrous Metals



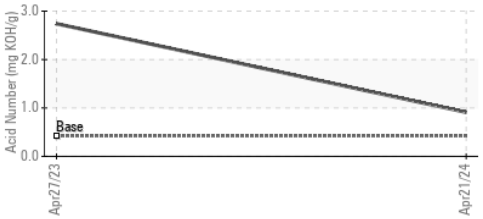

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PCA0119930
**Lab Number** : 06160333
**Unique Number** : 10995756
**Test Package** : IND 2 ( Additional Tests: PrtCount )

**Received** : 25 Apr 2024
**Tested** : 26 Apr 2024
**Diagnosed** : 30 Apr 2024 - Jonathan Hester

**KraftHeinz - Mason City - Plant 8360**
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MASON CITY, IA
US 50401
Contact: Service Manager
T:
F: (641)421-2936

*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)*