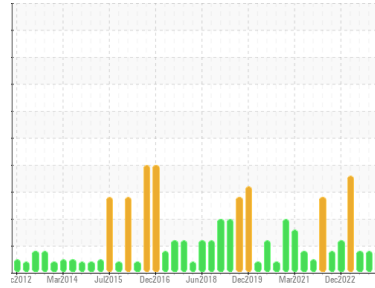




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
2 Phoenix/020 ISO Dewax/P Pump/101 Injection Pump
 Machine Id
N/A 20P101 (East) - CRANK CASE

Component
Pump
 Fluid
PETRO CANADA COMPRO COMPRESSOR FLUID 100 (5 LTR)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

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

Fluid Condition

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 | | WC | WC0883395 | WC0851464 |
| Sample Date | Client Info | | 16 Jan 2024 | 15 Dec 2023 | 15 Sep 2023 |
| Machine Age | hrs | Client Info | 0 | 0 | 0 |
| Oil Age | hrs | Client Info | 0 | 0 | 0 |
| Oil Changed | Client Info | | N/A | N/A | N/A |
| Sample Status | | | ATTENTION | ABNORMAL | ABNORMAL |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|-------|-----------|------------|------------|----------|----------|
| Water | WC Method | >.1 | NEG | NEG | NEG |

WEAR METALS

| | method | limit/base | current | history1 | history2 | |
|-----------|--------|---------------|---------|--------------|----------|----|
| Iron | ppm | ASTM D5185(m) | >90 | <1 | <1 | <1 |
| Chromium | ppm | ASTM D5185(m) | >5 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | >5 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185(m) | >3 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >3 | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >7 | <1 | <1 | <1 |
| Lead | ppm | ASTM D5185(m) | >12 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185(m) | >30 | <1 | <1 | <1 |
| Tin | ppm | ASTM D5185(m) | >9 | 0 | 0 | 0 |
| Antimony | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 | |
|------------|--------|---------------|---------|--------------|----------|------|
| Boron | ppm | ASTM D5185(m) | 0 | 0 | <1 | <1 |
| Barium | ppm | ASTM D5185(m) | 0 | 0 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 0 | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) | 0 | <1 | 0 | 0 |
| Calcium | ppm | ASTM D5185(m) | 0 | <1 | <1 | <1 |
| Phosphorus | ppm | ASTM D5185(m) | 50 | 7 | 7 | 6 |
| Zinc | ppm | ASTM D5185(m) | 0 | <1 | <1 | <1 |
| Sulfur | ppm | ASTM D5185(m) | 1500 | 3321 | 3073 | 2530 |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | <1 |

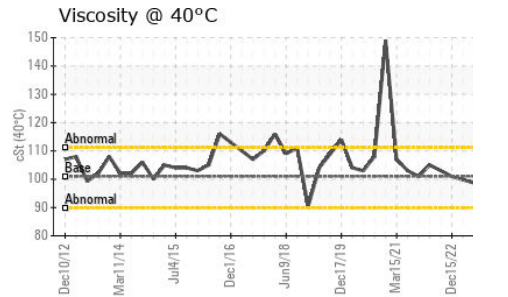
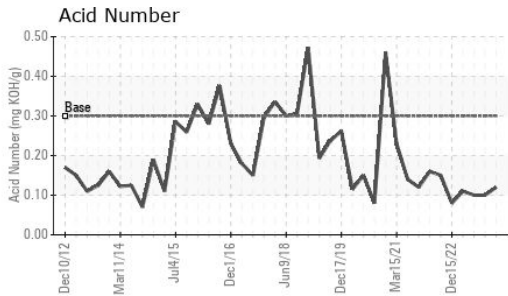
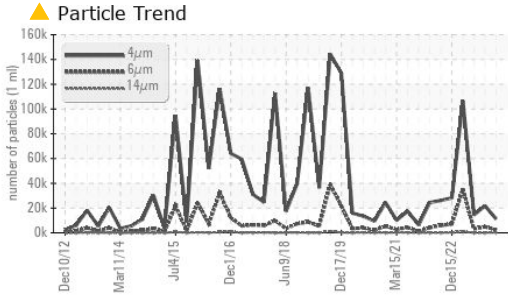
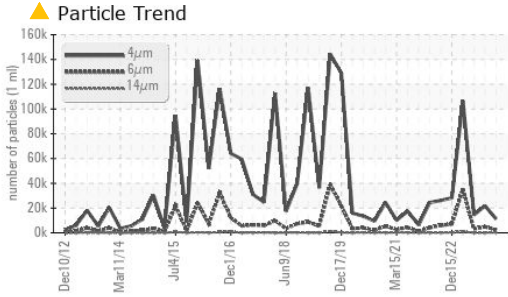
CONTAMINANTS

| | method | limit/base | current | history1 | history2 | |
|-----------|--------|---------------|---------|----------|----------|---|
| Silicon | ppm | ASTM D5185(m) | >60 | 0 | 0 | 0 |
| Sodium | ppm | ASTM D5185(m) | | 0 | <1 | 0 |
| Potassium | ppm | ASTM D5185(m) | >20 | 1 | 0 | 0 |

FLUID CLEANLINESS

| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|-------------------|------------|------------|
| Particles >4µm | ASTM D7647 | | 11240 | 21707 | 14478 |
| Particles >6µm | ASTM D7647 | >1300 | ▲ 2360 | ▲ 4903 | ▲ 3010 |
| Particles >14µm | ASTM D7647 | >160 | 134 | 88 | 68 |
| Particles >21µm | ASTM D7647 | >40 | 29 | 12 | 11 |
| Particles >38µm | ASTM D7647 | >10 | 2 | 1 | 2 |
| Particles >71µm | ASTM D7647 | >3 | 1 | 0 | 1 |
| Oil Cleanliness | ISO 4406 (c) | >--/17/14 | ▲ 21/18/14 | ▲ 22/19/14 | ▲ 21/19/13 |

OIL ANALYSIS REPORT

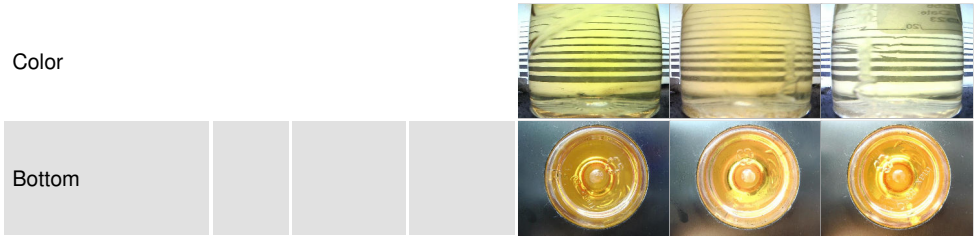


| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.3 | 0.12 | 0.10 | 0.10 |

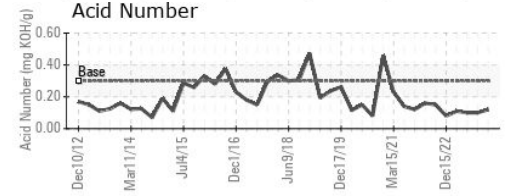
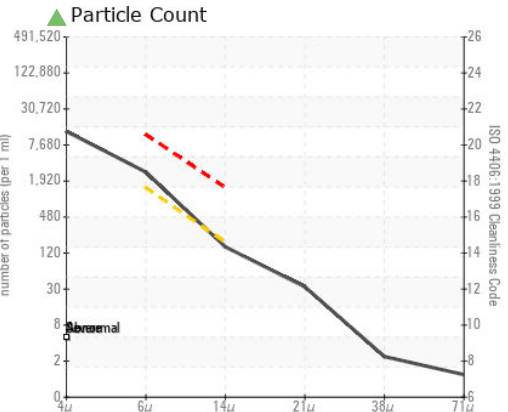
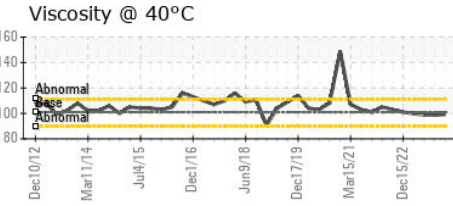
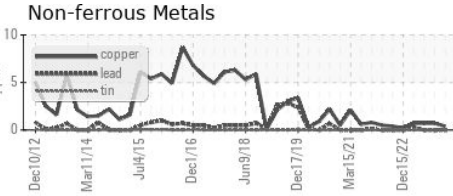
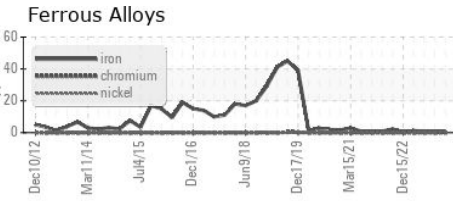
| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|---------|------------|--------------|----------|----------|
| White Metal | scalar | Visual* | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | Visual* | NONE | NONE | NONE | NONE |
| Precipitate | scalar | Visual* | NONE | NONE | NONE | NONE |
| Silt | scalar | Visual* | NONE | NONE | NONE | NONE |
| Debris | scalar | Visual* | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | Visual* | NONE | NONE | NONE | NONE |
| Appearance | scalar | Visual* | NORML | NORML | NORML | NORML |
| Odor | scalar | Visual* | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | Visual* | >.1 | NEG | NEG | NEG |
| Free Water | scalar | Visual* | | NEG | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|------------------|-----|---------------|------------|-------------|----------|----------|
| Visc @ 40°C | cSt | ASTM D7279(m) | 101.0 | 99.2 | 98.7 | 98.7 |

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



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC **Received** : 18 Jan 2024
Lab Number : **02609788** **Diagnosed** : 19 Jan 2024
Unique Number : 5710874 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: TAN Man)

Petro Canada Lubricants Inc.
 385 Southdown Road
 Mississauga, ON
 CA L5J 2Y3
 Contact: Martin Wagenaar
 martin.wagenaar@HFSinclair.com
 T: (905)403-5682
 F: (905)822-6025

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.