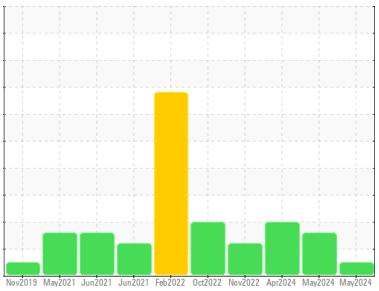
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
**DR170**
Component
**Hydraulic System**
Fluid
**PETRO CANADA ENVIRON MV 46 (--- GAL)**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

**Wear**
All 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**
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 | | **PC0087847** | PC0087904 | PC0077067 |
| Sample Date | | Client Info | | **27 May 2024** | 01 May 2024 | 03 Apr 2024 |
| Machine Age | hrs | Client Info | | **16728** | 16602 | 16457 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **Not Changd** | Not Changd | Changed |
| Sample Status | | | | **NORMAL** | ABNORMAL | ABNORMAL |

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

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >20 | **4** | 4 | 4 |
| Chromium | ppm | ASTM D5185(m) | >10 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | >10 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >10 | **<1** | <1 | <1 |
| Lead | ppm | ASTM D5185(m) | >10 | **2** | 1 | 2 |
| Copper | ppm | ASTM D5185(m) | >75 | **<1** | <1 | <1 |
| Tin | ppm | ASTM D5185(m) | >10 | **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 |

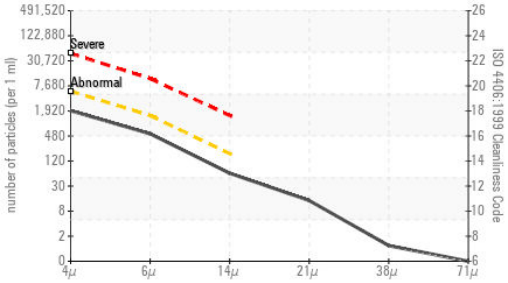
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 0 | **<1** | <1 | <1 |
| Barium | ppm | ASTM D5185(m) | 0 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 0 | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185(m) | 0 | **0** | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) | 0 | **1** | 2 | 2 |
| Calcium | ppm | ASTM D5185(m) | 0 | **8** | 9 | 9 |
| Phosphorus | ppm | ASTM D5185(m) | 650 | **563** | 563 | 578 |
| Zinc | ppm | ASTM D5185(m) | 0 | **50** | 50 | 53 |
| Sulfur | ppm | ASTM D5185(m) | 1420 | **1523** | 1495 | 1549 |
| Lithium | ppm | ASTM D5185(m) | | **1** | 1 | 1 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >20 | **0** | 0 | 0 |
| Sodium | ppm | ASTM D5185(m) | | **2** | 2 | 2 |
| Potassium | ppm | ASTM D5185(m) | >20 | **<1** | <1 | <1 |

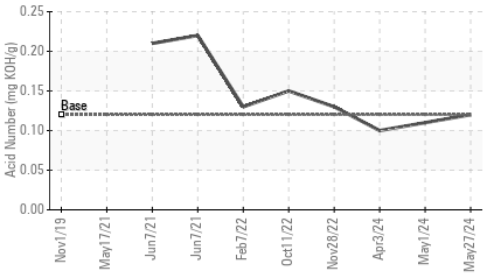
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | **1702** | 8587 | 9905 |
| Particles >6µm | | ASTM D7647 | >1300 | **476** | 2829 | 3500 |
| Particles >14µm | | ASTM D7647 | >160 | **54** | 217 | 289 |
| Particles >21µm | | ASTM D7647 | >40 | **12** | 38 | 61 |
| Particles >38µm | | ASTM D7647 | >10 | **1** | 1 | 4 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 1 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | **18/16/13** | 20/19/15 | 20/19/15 |

# OIL ANALYSIS REPORT

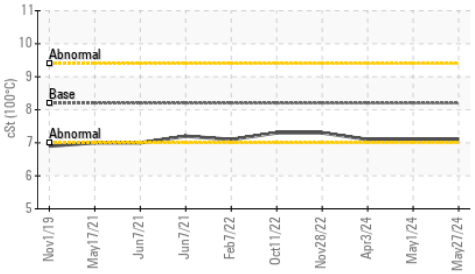
Particle Count



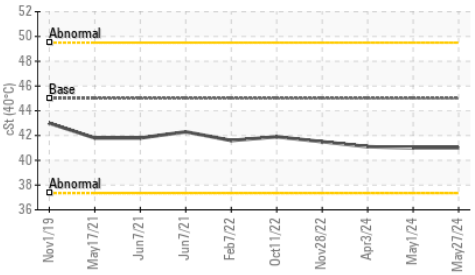

Acid Number



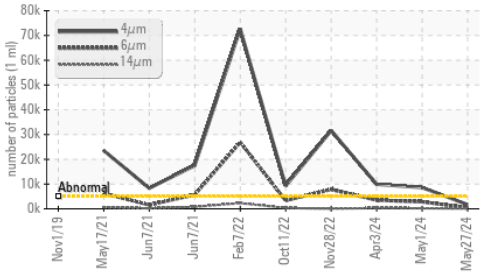

Viscosity @ 100°C




Viscosity @ 40°C




Particle Trend




| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.12 | **0.12** | 0.11 | 0.10 |

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | Visual* | NONE | **NONE** | VLITE | NONE |
| Precipitate | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Silt | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Debris | scalar | Visual* | NONE | **NONE** | NONE | VLITE |
| Sand/Dirt | scalar | Visual* | NONE | **VLITE** | NONE | NONE |
| Appearance | scalar | Visual* | NORML | **NORML** | NORML | NORML |
| Odor | scalar | Visual* | NORML | **NORML** | NORML | NORML |
| Emulsified Water | scalar | Visual* | >0.1 | **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) | 45.0 | **41.0** | 41.0 | 41.1 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 8.2 | **7.1** | 7.1 | 7.1 |
| Viscosity Index (VI) | Scale | ASTM D2270* | 158 | **135** | 135 | 134 |

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

ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : PC0087847
**Lab Number** : 02640785
**Unique Number** : 5789947
**Test Package** : IND 2 ( Additional Tests: KV100, TAN Man, VI )

**Received** : 10 Jun 2024
**Tested** : 11 Jun 2024
**Diagnosed** : 11 Jun 2024 - Kevin Marson

*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.*


Green Infrastructure and Partners Inc (GIPI) - 286 - Shoring & Foundations
151 Ram Forest Rd,
Stouffville, ON
CA L4A 2G8
Contact: Shannon Abbott
sabbott@gipi.com
T: (905)750-5900
F: