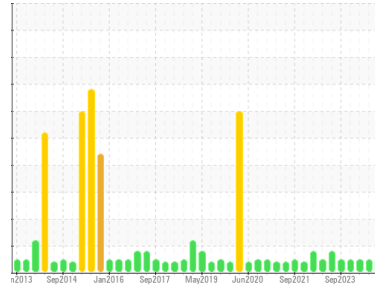




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**2 Phoenix/020 ISO Dewax/P Pump/101 Injection Pump**  
 Machine Id  
**N/A 20GP101 (East)**

Component  
**Gearbox**  
 Fluid

**PETRO CANADA ENDURATEX EP 150 (2 LTR)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### 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 |             | <b>WC0912448</b>   | WC203050    | WC0883394   |
| Sample Date   | Client Info |             | <b>12 Mar 2024</b> | 16 Jan 2024 | 15 Dec 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>N/A</b>         | N/A         | N/A         |
| Sample Status |             |             | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## CONTAMINATION

|       | method    | limit/base | current    | history1 | history2 |
|-------|-----------|------------|------------|----------|----------|
| Water | WC Method | >0.2       | <b>NEG</b> | NEG      | NEG      |

## WEAR METALS

|           | method | limit/base    | current | history1     | history2 |    |
|-----------|--------|---------------|---------|--------------|----------|----|
| Iron      | ppm    | ASTM D5185(m) | >200    | <b>8</b>     | 5        | 10 |
| Chromium  | ppm    | ASTM D5185(m) | >15     | <b>0</b>     | 0        | 0  |
| Nickel    | ppm    | ASTM D5185(m) | >15     | <b>&lt;1</b> | <1       | 0  |
| Titanium  | ppm    | ASTM D5185(m) |         | <b>0</b>     | 0        | 0  |
| Silver    | ppm    | ASTM D5185(m) |         | <b>0</b>     | 0        | <1 |
| Aluminum  | ppm    | ASTM D5185(m) | >25     | <b>&lt;1</b> | <1       | 1  |
| Lead      | ppm    | ASTM D5185(m) | >100    | <b>0</b>     | 0        | 0  |
| Copper    | ppm    | ASTM D5185(m) | >200    | <b>&lt;1</b> | <1       | <1 |
| Tin       | ppm    | ASTM D5185(m) | >25     | <b>0</b>     | 0        | 0  |
| Antimony  | ppm    | ASTM D5185(m) | >5      | <b>0</b>     | 0        | 0  |
| Vanadium  | ppm    | ASTM D5185(m) |         | <b>0</b>     | 0        | 0  |
| Beryllium | ppm    | ASTM D5185(m) |         | <b>0</b>     | 0        | 0  |
| Cadmium   | ppm    | ASTM D5185(m) |         | <b>0</b>     | 0        | 0  |

## ADDITIVES

|            | method | limit/base    | current | history1     | history2 |      |
|------------|--------|---------------|---------|--------------|----------|------|
| Boron      | ppm    | ASTM D5185(m) | 55      | <b>63</b>    | 39       | 53   |
| Barium     | ppm    | ASTM D5185(m) | 0       | <b>0</b>     | <1       | 1    |
| Molybdenum | ppm    | ASTM D5185(m) | 0       | <b>0</b>     | 0        | 0    |
| Manganese  | ppm    | ASTM D5185(m) | 0       | <b>0</b>     | 0        | 0    |
| Magnesium  | ppm    | ASTM D5185(m) | 2       | <b>1</b>     | 2        | 2    |
| Calcium    | ppm    | ASTM D5185(m) | 6       | <b>4</b>     | 4        | 7    |
| Phosphorus | ppm    | ASTM D5185(m) | 250     | <b>246</b>   | 197      | 241  |
| Zinc       | ppm    | ASTM D5185(m) | 3       | <b>2</b>     | 2        | 4    |
| Sulfur     | ppm    | ASTM D5185(m) | 7500    | <b>4973</b>  | 4365     | 4410 |
| Lithium    | ppm    | ASTM D5185(m) |         | <b>&lt;1</b> | <1       | <1   |

## CONTAMINANTS

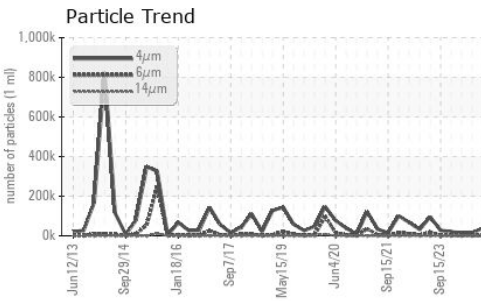
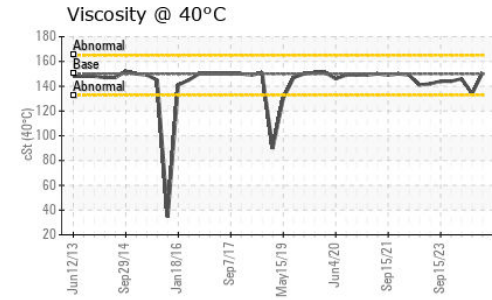
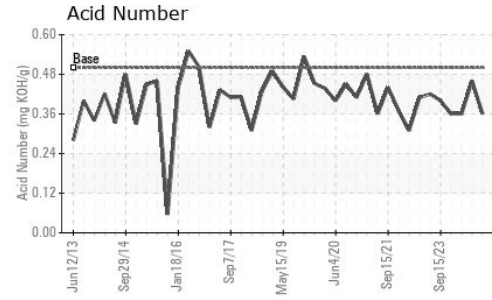
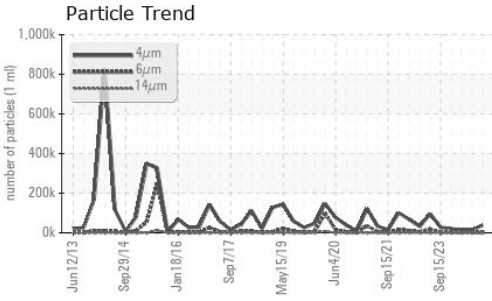
|           | method | limit/base    | current | history1     | history2 |    |
|-----------|--------|---------------|---------|--------------|----------|----|
| Silicon   | ppm    | ASTM D5185(m) | >50     | <b>2</b>     | 3        | 6  |
| Sodium    | ppm    | ASTM D5185(m) |         | <b>&lt;1</b> | <1       | <1 |
| Potassium | ppm    | ASTM D5185(m) | >20     | <b>&lt;1</b> | <1       | 0  |

## FLUID CLEANLINESS

|                 | method       | limit/base | current         | history1 | history2 |
|-----------------|--------------|------------|-----------------|----------|----------|
| Particles >4µm  | ASTM D7647   |            | <b>38074</b>    | 14826    | 14836    |
| Particles >6µm  | ASTM D7647   | >5000      | <b>1449</b>     | 2075     | 729      |
| Particles >14µm | ASTM D7647   | >640       | <b>14</b>       | 90       | 13       |
| Particles >21µm | ASTM D7647   | >160       | <b>5</b>        | 20       | 3        |
| Particles >38µm | ASTM D7647   | >40        | <b>2</b>        | 4        | 1        |
| Particles >71µm | ASTM D7647   | >10        | <b>2</b>        | 2        | 0        |
| Oil Cleanliness | ISO 4406 (c) | >--/19/16  | <b>22/18/11</b> | 21/18/14 | 21/17/11 |



# OIL ANALYSIS REPORT

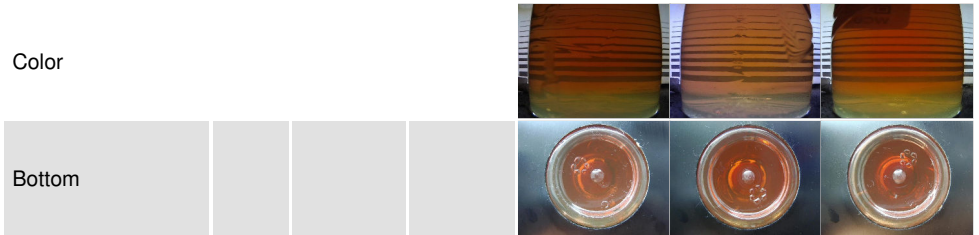


| FLUID DEGRADATION |          | method     | limit/base | current     | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D974* | 0.5        | <b>0.36</b> | 0.46     | 0.36     |

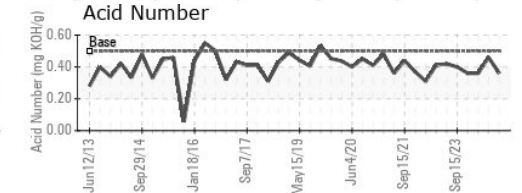
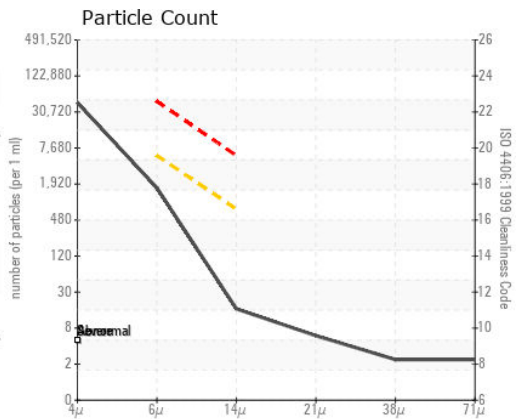
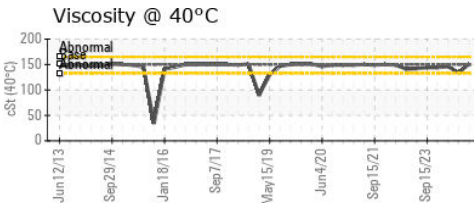
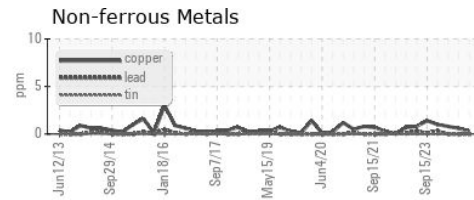
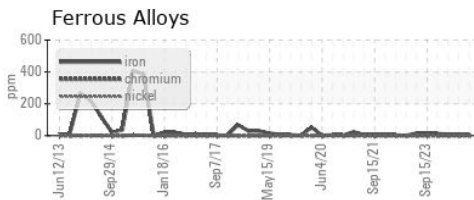
| VISUAL           |        | method  | limit/base | current      | history1 | history2 |
|------------------|--------|---------|------------|--------------|----------|----------|
| White Metal      | scalar | Visual* | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Yellow Metal     | scalar | Visual* | NONE       | <b>NONE</b>  | VLITE    | NONE     |
| Precipitate      | scalar | Visual* | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Silt             | scalar | Visual* | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Debris           | scalar | Visual* | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Sand/Dirt        | scalar | Visual* | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Appearance       | scalar | Visual* | NORML      | <b>NORML</b> | NORML    | NORML    |
| Odor             | scalar | Visual* | NORML      | <b>NORML</b> | NORML    | NORML    |
| Emulsified Water | scalar | Visual* | >0.2       | <b>NEG</b>   | .2%      | NEG      |
| Free Water       | scalar | Visual* |            | <b>NEG</b>   | NEG      | NEG      |

| FLUID PROPERTIES |     | method        | limit/base | current    | history1 | history2 |
|------------------|-----|---------------|------------|------------|----------|----------|
| Visc @ 40°C      | cSt | ASTM D7279(m) | 150.0      | <b>151</b> | 134      | 146      |

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



## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0912448 **Received** : 13 Mar 2024  
**Lab Number** : **02621842** **Tested** : 14 Mar 2024  
**Unique Number** : 5746961 **Diagnosed** : 14 Mar 2024 - Wes Davis  
**Test Package** : IND 2

**Petro Canada Lubricants Inc.**  
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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.