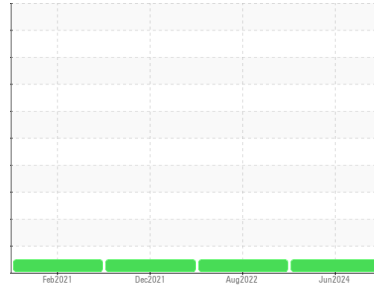


# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**CR257**  
Component  
**Left Final Drive**  
Fluid  
**PETRO CANADA ENDURATEX EP 220 (15 LTR)**

**DIAGNOSIS**

**Recommendation**

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

**Wear**

All component wear rates are normal.

**Contamination**

There is no indication of any contamination in the oil.

**Fluid Condition**

Additive levels indicate the addition of a different brand, or type of oil. 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>PC0087852</b>   | PC0064789   | PC0057070   |
| Sample Date        | Client Info |             |            | <b>04 Jun 2024</b> | 23 Aug 2022 | 03 Dec 2021 |
| Machine Age        | hrs         | Client Info |            | <b>5020</b>        | 2855        | 1900        |
| Oil Age            | hrs         | Client Info |            | <b>0</b>           | 0           | 1000        |
| Oil Changed        | Client Info |             |            | <b>Changed</b>     | Changed     | Changed     |
| Sample Status      |             |             |            | <b>NORMAL</b>      | NORMAL      | NORMAL      |

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

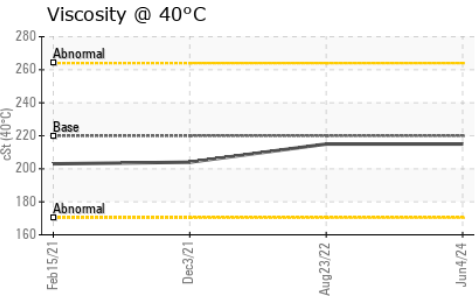
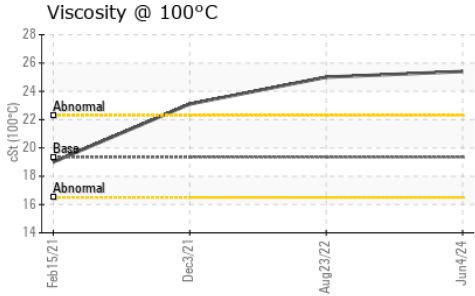
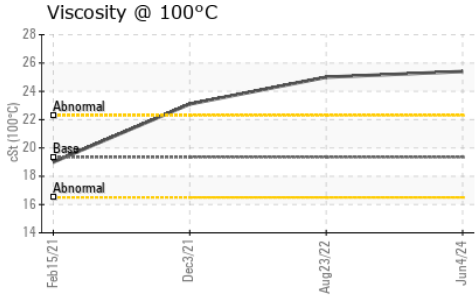
| WEAR METALS |     | method        | limit/base | current      | history1 | history2 |
|-------------|-----|---------------|------------|--------------|----------|----------|
| PQ          |     | ASTM D8184*   |            | <b>1</b>     | ---      | ---      |
| Iron        | ppm | ASTM D5185(m) | >500       | <b>69</b>    | 30       | 42       |
| Chromium    | ppm | ASTM D5185(m) | >10        | <b>&lt;1</b> | 1        | 2        |
| Nickel      | ppm | ASTM D5185(m) | >10        | <b>&lt;1</b> | <1       | <1       |
| Titanium    | ppm | ASTM D5185(m) |            | <b>&lt;1</b> | <1       | 0        |
| Silver      | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | <1       |
| Aluminum    | ppm | ASTM D5185(m) | >25        | <b>5</b>     | 3        | <1       |
| Lead        | ppm | ASTM D5185(m) | >25        | <b>0</b>     | 0        | 0        |
| Copper      | ppm | ASTM D5185(m) | >50        | <b>10</b>    | <1       | <1       |
| Tin         | ppm | ASTM D5185(m) | >10        | <b>&lt;1</b> | 0        | 0        |
| Antimony    | ppm | ASTM D5185(m) | >5         | <b>&lt;1</b> | 0        | <1       |
| 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) | 60         | <b>10</b>    | 63       | 156      |
| Barium     | ppm | ASTM D5185(m) | 0          | <b>&lt;1</b> | <1       | 1        |
| Molybdenum | ppm | ASTM D5185(m) | 0          | <b>0</b>     | 0        | <1       |
| Manganese  | ppm | ASTM D5185(m) | 0          | <b>&lt;1</b> | <1       | 1        |
| Magnesium  | ppm | ASTM D5185(m) | 0          | <b>9</b>     | 2        | <1       |
| Calcium    | ppm | ASTM D5185(m) | 0          | <b>20</b>    | 11       | 5        |
| Phosphorus | ppm | ASTM D5185(m) | 270        | <b>371</b>   | 424      | 478      |
| Zinc       | ppm | ASTM D5185(m) | 0          | <b>9</b>     | 4        | 8        |
| Sulfur     | ppm | ASTM D5185(m) | 11200      | <b>4716</b>  | 5755     | 8785     |
| Lithium    | ppm | ASTM D5185(m) |            | <b>&lt;1</b> | <1       | <1       |

| CONTAMINANTS |     | method        | limit/base | current   | history1 | history2 |
|--------------|-----|---------------|------------|-----------|----------|----------|
| Silicon      | ppm | ASTM D5185(m) | >75        | <b>20</b> | 12       | 8        |
| Sodium       | ppm | ASTM D5185(m) |            | <b>2</b>  | 3        | 3        |
| Potassium    | ppm | ASTM D5185(m) | >20        | <b>3</b>  | 1        | 1        |

| FLUID DEGRADATION |          | method     | limit/base | current     | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D974* | 0.40       | <b>0.63</b> | ---      | ---      |

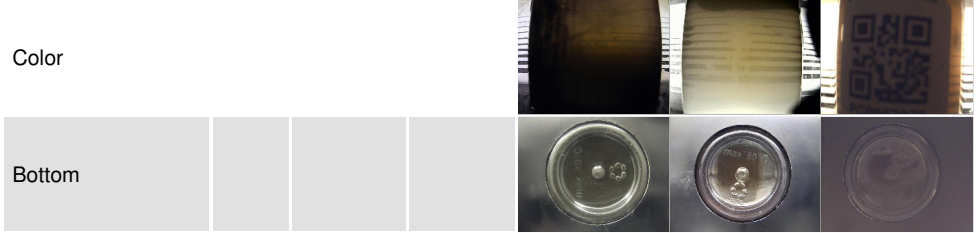
# OIL ANALYSIS REPORT



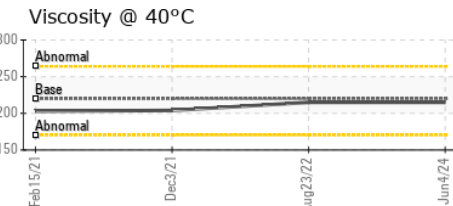
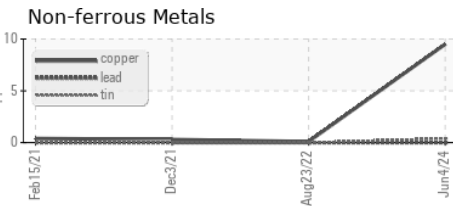
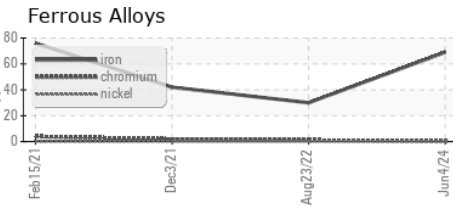
| VISUAL           | method | limit/base | current | history1 | history2 |       |
|------------------|--------|------------|---------|----------|----------|-------|
| White Metal      | scalar | Visual*    | NONE    | VLITE    | NONE     | NONE  |
| Yellow Metal     | scalar | Visual*    | NONE    | NONE     | NONE     | NONE  |
| Precipitate      | scalar | Visual*    | NONE    | NONE     | NONE     | NONE  |
| Silt             | scalar | Visual*    | NONE    | VLITE    | NONE     | NONE  |
| Debris           | scalar | Visual*    | NONE    | NONE     | NONE     | NONE  |
| Sand/Dirt        | scalar | Visual*    | NONE    | NONE     | NONE     | NONE  |
| Appearance       | scalar | Visual*    | NORML   | NORML    | HAZY     | NORML |
| Odor             | scalar | Visual*    | NORML   | NORML    | NORML    | NORML |
| Emulsified Water | scalar | Visual*    | >0.2    | 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) | 220     | 215      | 204      |      |
| Visc @ 100°C         | cSt    | ASTM D7279(m) | 19.35   | 25.4     | 25.0     | 23.1 |
| Viscosity Index (VI) | Scale  | ASTM D2270*   | 99      | 149      | 146      | 138  |

### SAMPLE IMAGES



### GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0087852  
**Lab Number** : 02648234  
**Unique Number** : 5813786  
**Test Package** : IND 2 ( Additional Tests: KV100, TAN Man, VI )

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

*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.*