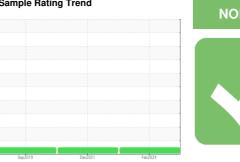


# **OIL ANALYSIS REPORT**

Sample Rating Trend



**NORMAL** 

# L-2 SAT REDUCTION

Component

Gearbox

PETRO CANADA ENDURATEX EP 150 (13 LTR)

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the

### **Fluid Condition**

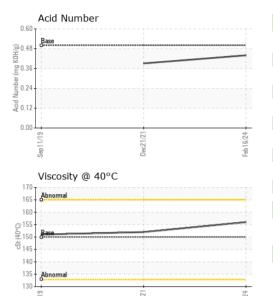
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

|   | ,                |          | Sep         | 2019       | Dec2021 Feb203 | 24          |             |
|---|------------------|----------|-------------|------------|----------------|-------------|-------------|
| Sample Date   | SAMPLE INFOR     | MATION   | method      | limit/base | current        | history1    | history2    |
| Machine Age         hrs         Client Info         0         0         0         0           Oil Age         hrs         Client Info         0         0         0         0           Oil Changed         Client Info         N/A         N/A         N/A         N/A           Sample Status         Client Info         N/A         N/A         N/A         N/A           Contradition of the property of | Sample Number    |          | Client Info |            | PCA0030536     | PCA0030568  | PCA0006592  |
| Oil Age         hrs         Client Info         N/A         N/A         N/A         N/A           Sample Status         Client Info         N/A         N/A         N/A         N/A           CONTAMINATION         method         limit/base         current         history1         history2           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >200         60         36         28           Chromium         ppm         ASTM D5185m         >15         <1         <1         <1         <1         NIST         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1   | Sample Date      |          | Client Info |            | 16 Feb 2024    | 21 Dec 2021 | 11 Sep 2019 |
| Oil Changed Sample Status         Client Info         N/A NORMAL   | Machine Age      | hrs      | Client Info |            | 0              | 0           | 0           |
| Oil Changed Sample Status         Client Info         N/A         N/A <t< th=""><th>Oil Age</th><th>hrs</th><th>Client Info</th><th></th><th>0</th><th>0</th><th>0</th></t<>  | Oil Age          | hrs      | Client Info |            | 0              | 0           | 0           |
| CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method         >0.2         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >200         60         36         28           Chromium         ppm         ASTM D5185m         >15         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1<  | -                |          | Client Info |            | N/A            | N/A         | N/A         |
| Water         WC Method         >0.2         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >200         60         36         28           Chromium         ppm         ASTM D5185m         >15         <1   | Sample Status    |          |             |            | NORMAL         | NORMAL      | NORMAL      |
| WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >200         60         36         28           Chromium         ppm         ASTM D5185m         >15         <1         <1         <1           Nickel         ppm         ASTM D5185m         >15         0         0         0           Silver         ppm         ASTM D5185m         >10         <1         0           Aluminum         ppm         ASTM D5185m         >25         2         3         <1           Lead         ppm         ASTM D5185m         >20         <1         1         1           Copper         ppm         ASTM D5185m         >20         <1         2         1           Tin         ppm         ASTM D5185m         >20         <1         2         1           Antimony         ppm         ASTM D5185m         >5          <1         0           Vanadium         ppm         ASTM D5185m         >5          <1         0           Cadmium         ppm         ASTM D5185m         0         <1         0         <1 </th <th>CONTAMINAT</th> <th>ION</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>   | CONTAMINAT       | ION      | method      | limit/base | current        | history1    | history2    |
| Iron  | Water            |          | WC Method   | >0.2       | NEG            | NEG         | NEG         |
| Chromium         ppm         ASTM D5185m         >15         <1   | WEAR METAL       | .S       | method      | limit/base | current        | history1    | history2    |
| Nickel  | Iron             | ppm      | ASTM D5185m | >200       | 60             | 36          | 28          |
| Titanium         ppm         ASTM D5185m         6         6         4           Silver         ppm         ASTM D5185m         0         <1         0           Aluminum         ppm         ASTM D5185m         >25         2         3         <1           Lead         ppm         ASTM D5185m         >100         0         <1         1           Copper         ppm         ASTM D5185m         >200         <1         2         1           Tin         ppm         ASTM D5185m         >25         0         <1         0           Antimony         ppm         ASTM D5185m         >5          <1         0           Vanadium         ppm         ASTM D5185m         0         <1         0         0           Cadmium         ppm         ASTM D5185m         0         0         <1         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         <1         0         0           Barium         ppm         ASTM D5185m         0         <1         0         0           M   | Chromium         | ppm      | ASTM D5185m | >15        | <1             | <1          | <1          |
| Silver         ppm         ASTM D5185m         0         <1   | Nickel           | ppm      | ASTM D5185m | >15        | 0              | 0           | 0           |
| Aluminum         ppm         ASTM D5185m         >25         2         3         <1   | Titanium         | ppm      | ASTM D5185m |            | 6              | 6           | 4           |
| Lead         ppm         ASTM D5185m         >100         0         <1  | Silver           | ppm      | ASTM D5185m |            | 0              | <1          | 0           |
| Copper         ppm         ASTM D5185m         >200         <1  | Aluminum         | ppm      | ASTM D5185m | >25        | 2              | 3           | <1          |
| Tin ppm ASTM D5185m >25   | Lead             | ppm      | ASTM D5185m | >100       | 0              | <1          | 1           |
| Antimony         ppm         ASTM D5185m         >5          <1   | Copper           | ppm      | ASTM D5185m | >200       | <1             | 2           | 1           |
| Vanadium         ppm         ASTM D5185m         0         <1   | Tin              | ppm      | ASTM D5185m | >25        | 0              | <1          | 0           |
| Cadmium         ppm         ASTM D5185m         0         0         <1  | Antimony         | ppm      | ASTM D5185m | >5         |                | <1          | 0           |
| ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         55         81         73         59           Barium         ppm         ASTM D5185m         0         <1         0         0           Molybdenum         ppm         ASTM D5185m         0         0         <1         0           Manganese         ppm         ASTM D5185m         0         0         <1         <1           Magnesium         ppm         ASTM D5185m         2         <1         0         0           Calcium         ppm         ASTM D5185m         250         272         267         250           Zinc         ppm         ASTM D5185m         3         0         0         7           Sulfur         ppm         ASTM D5185m         7500         5914         6549         5828           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         6         4         3           Sodium         ppm         ASTM D5185m         >20         1  | Vanadium         | ppm      | ASTM D5185m |            | 0              | <1          | 0           |
| Boron         ppm         ASTM D5185m         55         81         73         59           Barium         ppm         ASTM D5185m         0         <1   | Cadmium          | ppm      | ASTM D5185m |            | 0              | 0           | <1          |
| Barium         ppm         ASTM D5185m         0         <1   | ADDITIVES        |          | method      | limit/base | current        | history1    | history2    |
| Molybdenum         ppm         ASTM D5185m         0         0         <1   | Boron            | ppm      | ASTM D5185m | 55         | 81             | 73          | 59          |
| Manganese         ppm         ASTM D5185m         0         0         <1  | Barium           | ppm      | ASTM D5185m | 0          | <1             | 0           | 0           |
| Magnesium         ppm         ASTM D5185m         2         <1  | Molybdenum       | ppm      | ASTM D5185m | 0          | 0              | <1          | 0           |
| Calcium         ppm         ASTM D5185m         6         7         21         21           Phosphorus         ppm         ASTM D5185m         250         272         267         250           Zinc         ppm         ASTM D5185m         3         0         0         7           Sulfur         ppm         ASTM D5185m         7500         5914         6549         5828           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         6         4         3           Sodium         ppm         ASTM D5185m         0         0         <1           Potassium         ppm         ASTM D5185m         >20         1         <1         2           FLUID DEGRADATION         method         limit/base         current         history1         history2  | Manganese        | ppm      | ASTM D5185m | 0          | 0              | <1          | <1          |
| Phosphorus         ppm         ASTM D5185m         250         272         267         250           Zinc         ppm         ASTM D5185m         3         0         0         7           Sulfur         ppm         ASTM D5185m         7500         5914         6549         5828           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         6         4         3           Sodium         ppm         ASTM D5185m         0         0         <1           Potassium         ppm         ASTM D5185m         >20         1         <1         2           FLUID DEGRADATION         method         limit/base         current         history1         history2  | Magnesium        | ppm      | ASTM D5185m | 2          | <1             | 0           | 0           |
| Zinc         ppm         ASTM D5185m         3         0         0         7           Sulfur         ppm         ASTM D5185m         7500         5914         6549         5828           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         6         4         3           Sodium         ppm         ASTM D5185m         0         0         <1  | Calcium          | ppm      | ASTM D5185m | 6          | 7              | 21          | 21          |
| Sulfur         ppm         ASTM D5185m         7500         5914         6549         5828           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         6         4         3           Sodium         ppm         ASTM D5185m         0         0         <1           Potassium         ppm         ASTM D5185m         >20         1         <1         2           FLUID DEGRADATION         method         limit/base         current         history1         history2  | Phosphorus       | ppm      | ASTM D5185m | 250        | 272            | 267         | 250         |
| CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         6         4         3           Sodium         ppm         ASTM D5185m         0         0         <1           Potassium         ppm         ASTM D5185m         >20         1         <1         2           FLUID DEGRADATION         method         limit/base         current         history1         history2   | Zinc             | ppm      | ASTM D5185m | 3          | 0              | 0           | 7           |
| Silicon         ppm         ASTM D5185m         >50         6         4         3           Sodium         ppm         ASTM D5185m         0         0         <1   | Sulfur           | ppm      | ASTM D5185m | 7500       | 5914           | 6549        | 5828        |
| Sodium         ppm         ASTM D5185m         0         0         <1   | CONTAMINAN       | ITS      | method      | limit/base | current        | history1    | history2    |
| Potassium ppm ASTM D5185m >20 <b>1</b> <1 2  FLUID DEGRADATION method limit/base current history1 history2  | Silicon          | ppm      | ASTM D5185m | >50        | 6              | 4           | 3           |
| FLUID DEGRADATION method limit/base current history1 history2   | Sodium           | ppm      | ASTM D5185m |            | 0              | 0           | <1          |
| ·   | Potassium        | ppm      | ASTM D5185m | >20        | 1              | <1          | 2           |
| Acid Number (AN)         mg KOH/g         ASTM D8045         0.5         0.44         0.391   | FLUID DEGRAI     | DATION   | method      | limit/base | current        | history1    | history2    |
|   | Acid Number (AN) | mg KOH/g | ASTM D8045  | 0.5        | 0.44           | 0.391       |             |

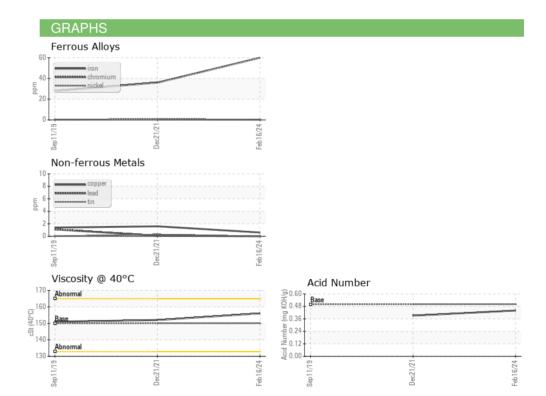


Sep1

# **OIL ANALYSIS REPORT**



| VISUAL                  |        | method    | limit/base | current | history1 | history2 |
|-------------------------|--------|-----------|------------|---------|----------|----------|
| White Metal             | scalar | *Visual   | NONE       | LIGHT   | 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    | LIGHT    | NONE     |
| Sand/Dirt               | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Appearance              | scalar | *Visual   | NORML      | NORML   | NORML    | NORML    |
| Odor                    | scalar | *Visual   | NORML      | NORML   | NORML    | NORML    |
| <b>Emulsified Water</b> | scalar | *Visual   | >0.2       | NEG     | NEG      | NEG      |
| Free Water              | scalar | *Visual   |            | NEG     | NEG      | NEG      |
| FLUID PROPE             | RTIES  | method    | limit/base | current | history1 | history2 |
| Visc @ 40°C             | cSt    | ASTM D445 | 150.0      | 156     | 152      | 151      |
| SAMPLE IMAG             | ES     | method    | limit/base | current | history1 | history2 |
| Color                   |        |           |            |         |          |          |
| Bottom                  |        |           |            |         |          |          |







Certificate L2367

Laboratory Sample No. Lab Number : 06096339

: PCA0030536

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Unique Number : 10889192 Diagnosed Test Package : IND 2

Received : 21 Feb 2024 **Tested** : 22 Feb 2024

: 22 Feb 2024 - Wes Davis

**CERTAINTEED CORP** 

701 E WASHINGTON ST JACKSON, MI US 49203

Contact: SIDNEY CHAPPELL SIDNEY.A.CHAPPELL@SAINT-GOBAIN.COM

Contact/Location: SIDNEY CHAPPELL - CERJAC

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)

F: (517)787-8974

T: