

PROBLEM SUMMARY

Sample Rating Trend

WATER

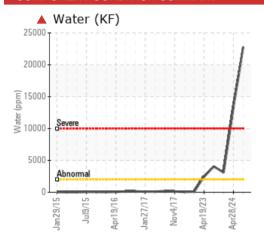
RP-101

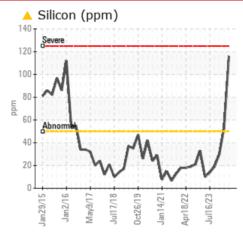
B57035 CAKE TRANSFER SCREW

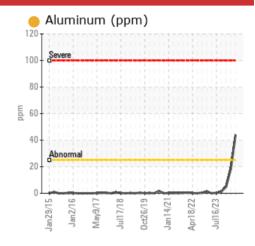
Gearbox

PETRO CANADA ENDURATEX EP 320 (--- GAL)

COMPONENT CONDITION SUMMARY







RECOMMENDATION

We advise that you check all areas where dirt can enter the system. We advise that you check for the source of water entry. We advise that you follow the water drain-off procedure for this component. We recommend an early resample to monitor this condition. There is too much water present in this sample to perform a particle count.

| PROBLEMATIC TEST RESULTS | | | | | | | | | |
|--------------------------|--------|-------------|-------|--------------|---------------|---------------|--|--|--|
| Sample Status | | | | SEVERE | SEVERE | ABNORMAL | | | |
| Silicon | ppm | ASTM D5185m | >50 | <u> </u> | ▲ 53 | 30 | | | |
| Water | % | ASTM D6304 | >0.2 | 2.28 | 1.33 | ▲ 0.309 | | | |
| ppm Water | ppm | ASTM D6304 | >2000 | 22800 | 1 3300 | △ 3090 | | | |
| Emulsified Water | scalar | *Visual | >0.2 | 0.2% | ▲ 0.2% | △ 0.2% | | | |

Customer Id: HORAUS Sample No.: WC0943447 Lab Number: 06234862 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:

Don Baldridge +1 don.b505@comcast.net

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

| RECOMMENDED ACTIONS | | | | | | | |
|---------------------|--------|------|---------|---|--|--|--|
| Action | Status | Date | Done By | Description | | | |
| Water Drain-off | | | ? | We advise that you follow the water drain-off procedure for this component. | | | |
| Resample | | | ? | We recommend an early resample to monitor this condition. | | | |
| Check Dirt Access | | | ? | We advise that you check all areas where dirt can enter the system. | | | |
| Check Water Access | | | ? | We advise that you check for the source of water entry. | | | |

HISTORICAL DIAGNOSIS

WATER



28 Apr 2024 Diag: Don Baldridge

We advise that you check all areas where dirt can enter the system. We advise that you check for the source of water entry. We advise that you follow the water drain-off procedure for this component. We recommend an early resample to monitor this condition. There is too much water present in this sample to perform a particle count. All component wear rates are normal. Appearance is milky. There is a high concentration of water present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The AN level is acceptable for this fluid.



WATER



05 Jan 2024 Diag: Doug Bogart

We advise that you check for the source of water entry. Resample at the next service interval to monitor. There is too much water present in this sample to perform a particle count. Gear wear is indicated. Appearance is milky. There is a moderate concentration of water present in the oil. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.



WATER



13 Oct 2023 Diag: Don Baldridge

We advise that you check for the source of water entry. Resample at the next service interval to monitor. There is too much water present in this sample to perform a particle count.All component wear rates are normal. Appearance is milky. There is a moderate concentration of water present in the oil. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.





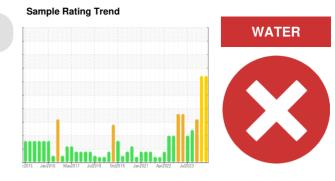
OIL ANALYSIS REPORT

RP-101

B57035 CAKE TRANSFER SCREW

Gearbox

PETRO CANADA ENDURATEX EP 320 (--- GAL)



DIAGNOSIS

Recommendation

We advise that you check all areas where dirt can enter the system. We advise that you check for the source of water entry. We advise that you follow the water drain-off procedure for this component. We recommend an early resample to monitor this condition. There is too much water present in this sample to perform a particle count.

All component wear rates are normal.

Contamination

Appearance is milky. There is a high concentration of water present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate aluminasilicate (coarse dirt) ingress.

Fluid Condition

The AN level is acceptable for this fluid.

| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
|--|--|---|--|---|--|---|
| Sample Number | | Client Info | | WC0943447 | WC0930371 | WC0880543 |
| Sample Date | | Client Info | | 09 Jul 2024 | 28 Apr 2024 | 05 Jan 2024 |
| Machine Age | mths | Client Info | | 0 | 0 | 0 |
| Oil Age | mths | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | SEVERE | SEVERE | ABNORMAL |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >200 | 120 | 112 | △ 299 |
| Chromium | ppm | ASTM D5185m | >15 | 0 | 0 | 1 |
| Nickel | ppm | ASTM D5185m | >15 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | 44 | 1 8 | 5 |
| Lead | ppm | ASTM D5185m | >100 | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185m | >200 | <1 | <1 | 2 |
| Tin | ppm | ASTM D5185m | >25 | <1 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | | | | | | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| ADDITIVES Boron | ppm | method ASTM D5185m | limit/base | current 29 | history1 | history2 29 |
| | ppm | | | | | • |
| Boron | | ASTM D5185m | 55 | 29 | 38 | 29 |
| Boron Barium | ppm | ASTM D5185m ASTM D5185m | 55 0 0 | 29 0 | 38 0 | 29 |
| Boron Barium Molybdenum | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m | 55 0 0 | 29 0 0 1 2 | 38 0 0 | 29 0 0 |
| Boron Barium Molybdenum Manganese | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 55 0 0 0 | 29 0 0 1 | 38 0 0 1 | 29 0 0 4 |
| Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 55 0 0 0 0 | 29 0 0 1 2 | 38 0 0 1 <1 | 29 0 0 4 9 |
| Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 55 0 0 0 0 0 | 29 0 0 1 2 286 | 38 0 0 1 <1 130 | 29 0 0 4 9 93 558 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus | ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 55 0 0 0 0 0 0 240 | 29 0 0 1 2 286 379 | 38 0 0 1 <1 130 391 | 29 0 0 4 9 93 558 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 55 0 0 0 0 0 0 240 | 29 0 0 1 2 286 379 26 | 38 0 0 1 <1 130 391 41 | 29 0 0 4 9 93 558 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 55 0 0 0 0 0 0 240 1 13700 | 29 0 0 1 2 286 379 26 18195 | 38 0 0 1 <1 130 391 41 5991 | 29 0 0 4 9 93 558 122 7266 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 55 0 0 0 0 0 0 240 1 13700 limit/base | 29 0 0 1 2 286 379 26 18195 | 38 0 0 1 <1 130 391 41 5991 history1 | 29 0 0 4 9 93 558 122 7266 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 55 0 0 0 0 0 0 240 1 13700 limit/base | 29 0 0 1 2 286 379 26 18195 current | 38 0 0 1 <1 130 391 41 5991 history1 ▲ 53 | 29 0 0 4 9 93 558 122 7266 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 55 0 0 0 0 0 240 1 13700 limit/base | 29 0 0 1 2 286 379 26 18195 current ▲ 116 27 | 38 0 0 1 <1 130 391 41 5991 history1 ▲ 53 11 | 29 0 0 4 9 93 558 122 7266 history2 30 10 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 55 0 0 0 0 0 240 1 13700 limit/base >50 | 29 0 0 1 2 286 379 26 18195 current ▲ 116 27 16 | 38 0 0 1 <1 130 391 41 5991 history1 ▲ 53 11 6 | 29 0 0 4 9 93 558 122 7266 history2 30 10 5 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 55 0 0 0 0 0 240 1 13700 limit/base >50 >20 >0.2 | 29 0 0 1 2 286 379 26 18195 current ▲ 116 27 16 ▲ 2.28 | 38 0 0 1 <1 130 391 41 5991 history1 ▲ 53 11 6 ▲ 1.33 | 29 0 0 4 9 93 558 122 7266 history2 30 10 5 |



OIL ANALYSIS REPORT







Certificate 12367

Laboratory Sample No.

Lab Number : 06234862 Unique Number : 11123696

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0943447 Received : 12 Jul 2024 **Tested** : 15 Jul 2024

Diagnosed : 15 Jul 2024 - Don Baldridge

Test Package : IND 2 (Additional Tests: KF, PrtCount) To discuss this sample report, contact Customer Service at 1-800-237-1369.

 st - 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)

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