

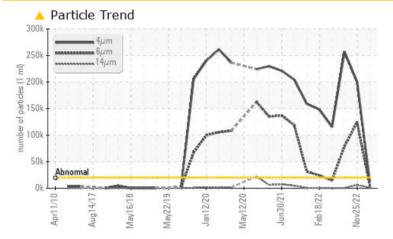
## **PROBLEM SUMMARY**

# STORK TOPSIDE GEARBOX 6 (S/N 401 109 011-1-22)

Gearbox

PETRO CANADA ENDURATEX EP 680 (15 LTR)

#### COMPONENT CONDITION SUMMARY



#### RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

| PROBLEMATIC TEST RESULTS |              |           |           |              |            |  |  |
|--------------------------|--------------|-----------|-----------|--------------|------------|--|--|
| Sample Status            |              |           | ATTENTION | ABNORMAL     | ABNORMAL   |  |  |
| Particles >6µm           | ASTM D7647   | >5000     | <u> </u>  | 124582       | ▲ 79091    |  |  |
| Particles >14µm          | ASTM D7647   | >640      | <u> </u>  | <b>6</b> 175 | 539        |  |  |
| Particles >21µm          | ASTM D7647   | >160      | <u> </u>  | <u> </u>     | 88         |  |  |
| Particles >38µm          | ASTM D7647   | >40       | <u> </u>  | <b>5</b> 3   | 6          |  |  |
| Oil Cleanliness          | ISO 4406 (c) | >21/19/16 | <u> </u>  | 🔺 25/24/20   | ▲ 25/23/16 |  |  |

Customer Id: HORBEL Sample No.: WC0842440 Lab Number: 05966257 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Doug Bogart +1 (800)237-1369 x4016 dougb@wearcheckusa.com

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



#### **RECOMMENDED ACTIONS**

There are no recommended actions for this sample.

#### **HISTORICAL DIAGNOSIS**

#### 25 Nov 2022 Diag: Jonathan Hester



We recommend you service the filters on this component. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

#### 18 Oct 2022 Diag: Jonathan Hester



We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

02 Oct 2022 Diag: Doug Bogart

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.





view report





## **OIL ANALYSIS REPORT**

#### Machine Id STORK TOPSIDE GEARBOX 6 (S/N 401 109 011-1-22) Component

Gearbox Fluid

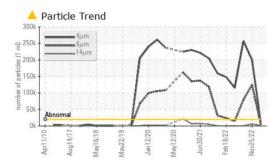
### PETRO CANADA ENDURATEX EP 680 (15 LTR)

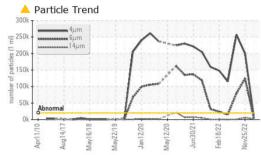


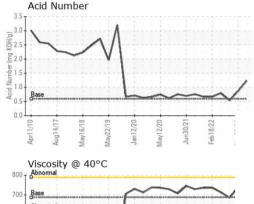
|   | current histo   | ry1 history2                                      |
|---|---|---|
| No construction is recommended at this time.  | 0842440 WC07437   | 723 WC0735957                                     |
| No corrective action is recommended at this time. Sample Date Client Info 25 S  | Sep 2023 25 Nov 2   | 022 18 Oct 2022                                   |
| Resample at the next service interval to monitor. Machine Age hrs Client Info 0   | 0   | 0   |
| Near     Oil Age     hrs     Client Info     0  | 0   | 0   |
| All component wear rates are normal. Oil Changed Client Info N/A  | N/A   | N/A   |
| Contamination Sample Status ATT   | ENTION ABNORM   | ABNORMAL  |
| There is a moderate amount of particulates present n the oil.   | current histo   | ry1 history2                                      |
| Iuid Condition Iron ppm ASTM D5185m >200 9  | 2   | <1  |
| he AN level is acceptable for this fluid. The Chromium ppm ASTM D5185m >15 0  | 0   | 0   |
| ondition of the oil is suitable for further service. Nickel ppm ASTM D5185m >15 <   | 1 <1  | <1  |
| Titanium ppm ASTM D5185m 0  | 0   | <1  |
| Silver ppm ASTM D5185m 0  | 0   | <1  |
| Aluminum     ppm     ASTM D5185m     >25     0  | 0   | 0   |
| Lead ppm ASTM D5185m >100 0   | 0   | 0   |
| Copper     ppm     ASTM D5185m     >200     8   | 68  | 2   |
| Tin ppm ASTM D5185m >25 <   | <b>1</b> 5  | 0   |
| Vanadium ppm ASTM D5185m 0  | 0   | <1  |
| Cadmium ppm ASTM D5185m 0   | 0   | 0   |
| ADDITIVES method limit/base   | current histo   | ry1 history2                                      |
| Boron ppm ASTM D5185m 55 0  | 6   | 0   |
| Barium ppm ASTM D5185m 0 0  | 4   | 0   |
| Molybdenum ppm ASTM D5185m 0 0  | 3   | <1  |
| Manganese ppm ASTM D5185m 0 0   | 0   | 1   |
| Magnesium ppm ASTM D5185m 0 0   | 0   | 1   |
| Calcium ppm ASTM D5185m 6 0   | 16  | 0   |
| Phosphorus ppm ASTM D5185m 250 2  | 318   | 13  |
| Zinc ppm ASTM D5185m 2 4  | 6   | 0   |
| Sulfur ppm ASTM D5185m 9410 2   | <b>843</b> 4203   | 2030  |
| CONTAMINANTS method limit/base  | current histo   | ry1 history2                                      |
| Silicon ppm ASTM D5185m >50 1   | <1  | 2   |
| Sodium ppm ASTM D5185m 0  | 0   | <1  |
| Potassium ppm ASTM D5185m >20 <   | 1 0   | 0   |
|   | current histo   | ry1 history2                                      |
| FLUID CLEANLINESS method limit/base   |   |   |
|   | <b>2745 (</b> 19949)  | 5 🔺 257029  |
| Particles >4μm     ASTM D7647     >20000     1  | 2745 ▲ 19949   943 ▲ 12458  |   |
| Particles >4μm     ASTM D7647     >20000     1  | 943 🔺 12458   |   |
| Particles >4μm   ASTM D7647   >20000   1     Particles >6μm   ASTM D7647   >5000   Δ 6     Particles >14μm   ASTM D7647   >640   1  | 943 🔺 12458   | 2 🔺 79091   |
| Particles >4μm   ASTM D7647   >20000   1     Particles >6μm   ASTM D7647   >5000   Δ 6     Particles >14μm   ASTM D7647   >640   1  | 943 ▲ 12458   182 ▲ 6175   98 ▲ 777                               | 2 <b>A</b> 79091<br>539                           |
| Particles >4μm   ASTM D7647   >20000   1     Particles >6μm   ASTM D7647   >5000   ▲ 6     Particles >14μm   ASTM D7647   >640   ▲ 1     Particles >21μm   ASTM D7647   >100   ▲ 3                                      | 943 ▲ 12458.   182 ▲ 6175   98 ▲ 777   1 ▲ 53                     | 2   |
| Particles >4 $\mu$ mASTM D7647>200001Particles >6 $\mu$ mASTM D7647>50006Particles >14 $\mu$ mASTM D7647>6401Particles >21 $\mu$ mASTM D7647>1603Particles >38 $\mu$ mASTM D7647>406Particles >71 $\mu$ mASTM D7647>106 | 943 ▲ 12458.   182 ▲ 6175   98 ▲ 777   1 ▲ 53                     | 2 A 79091<br>539<br>88<br>6<br>1                  |
| Particles >4 $\mu$ mASTM D7647>200001Particles >6 $\mu$ mASTM D7647>50006Particles >14 $\mu$ mASTM D7647>6401Particles >21 $\mu$ mASTM D7647>1603Particles >38 $\mu$ mASTM D7647>406Particles >71 $\mu$ mASTM D7647>106 | 943   ▲ 12458.     182   ▲ 6175     98   ▲ 777     1   ▲ 53     4 | 2 ▲ 79091<br>539<br>88<br>6<br>1<br>20 ▲ 25/23/16 |



## **OIL ANALYSIS REPORT**



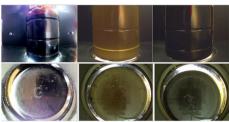




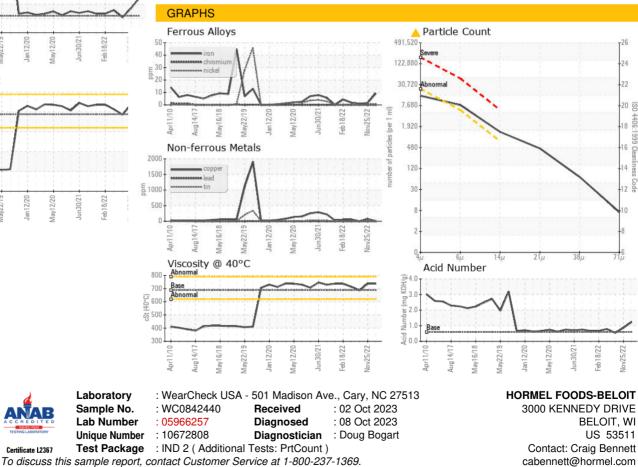
| Vis<br>800 - Abn | cosity<br>omal | @ 40 | 0°C |        |       |   |   |
|------------------|----------------|------|-----|--------|-------|---|---|
| 700 Base         |                |      |     | $\sim$ | <br>~ | - |   |
| 600 Abn          | ormal          |      |     |        |       |   | - |
| 600 - <b>9</b>   |                |      |     |        |       |   |   |
| 400              | $\checkmark$   | _    |     |        |       |   |   |
| 300              |                |      |     |        |       |   |   |

| VISUAL           |               | method    | limit/base | current | history1 | history2 |
|------------------|---------------|-----------|------------|---------|----------|----------|
| White Metal      | scalar        | *Visual   | NONE       | NONE    | NONE     | LIGHT    |
| 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    | LIGHT    |
| Sand/Dirt        | scalar        | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Appearance       | scalar        | *Visual   | NORML      | NORML   | NORML    | 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 PROPERT    | IES           | method    | limit/base | current | history1 | history2 |
| Visc @ 40°C      | cSt           | ASTM D445 | 688        | 737     | 737      | 686      |
| SAMPLE IMAGES    | SAMPLE IMAGES |           | limit/base | current | history1 | history2 |
|                  |               |           |            |         |          |          |

Color



Bottom



\* - 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)



Certificate L2367

Contact/Location: Craig Bennett - HORBEL

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T: