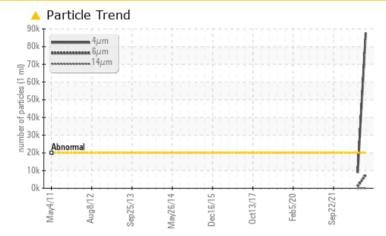


PROBLEM SUMMARY

Area Banbury 1 Machine Id BB01 Philly Component

Gearbox Fluid SHELL OMALA S2 G 320 (720 GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

| PROBLEMATIC TEST RESULTS | | | | | | | |
|--------------------------|--------------|-----------|----------|----------|--------|--|--|
| Sample Status | | | ABNORMAL | NORMAL | NORMAL | | |
| Particles >4µm | ASTM D7647 | >20000 | <u> </u> | 8866 | | | |
| Particles >6µm | ASTM D7647 | >5000 | <u> </u> | 1112 | | | |
| Oil Cleanliness | ISO 4406 (c) | >21/19/16 | <u> </u> | 20/17/11 | | | |

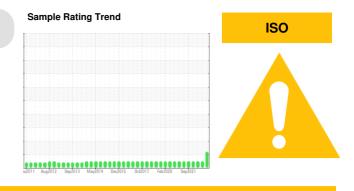
Customer Id: GOONAP Sample No.: WC0841265 Lab Number: 02579782 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Wes Davis +1 905-569-8600 x223 wesd@wearcheck.ca

To change component or sample information: Gloria Gonzalez +1 (289)291-4643 x4643 <u>gloria.gonzalez@wearcheck.com</u>



| RECOMMENDED ACTIONS | | | | | | |
|---------------------|--------|------|---------|---|--|--|
| Action | Status | Date | Done By | Description | | |
| Change Filter | | | ? | We recommend you service the filters on this component. | | |
| Resample | | | ? | We recommend an early resample to monitor this condition. | | |

HISTORICAL DIAGNOSIS



05 Feb 2023 Diag: Wes Davis

Resample at the next service interval to monitor.All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



view report

27 Oct 2022 Diag: Wes Davis



 \checkmark

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

05 Nov 2021 Diag: Wes Davis





Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.







OIL ANALYSIS REPORT

Area Banbury 1 BB01 Philly

Component Gearbox Fluic SHELL OMALA S2 G 320 (720 GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear

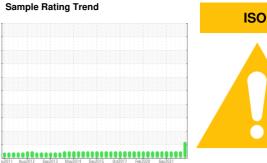
All component wear rates are normal.

Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

Fluid Condition

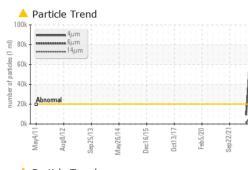
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

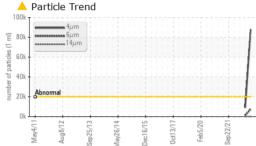


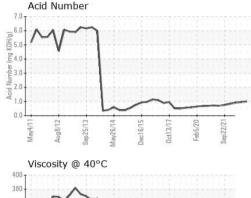
| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
|--------------------|------------|--------------------------------|------------|-------------------|-------------|-----------------|
| Sample Number | | Client Info | | WC0841265 | WC0754390 | WC0664079 |
| Sample Date | | Client Info | | 25 Aug 2023 | 05 Feb 2023 | 27 Oct 2022 |
| Machine Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | ABNORMAL | NORMAL | NORMAL |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185(m) | >200 | 8 | 7 | 7 |
| Chromium | ppm | ASTM D5185(m) | >15 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | >15 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >25 | <1 | <1 | <1 |
| Lead | ppm | ASTM D5185(m) | >100 | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185(m) | >200 | 3 | 4 | 4 |
| Tin | ppm | ASTM D5185(m) | >25 | 0 | 0 | 0 |
| Antimony | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | . • | 0 | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | nnm | ASTM D5185(m) | 5.5 | 2 | 2 | <1 |
| Barium | ppm | ASTM D5185(m) | 0.4 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) ASTM D5185(m) | 0.4 | 7 | 7 | 7 |
| Manganese | ppm ppm | ASTM D5185(m) | 0.5 | 0 | 0 | 0 |
| Manganese | | ASTM D5185(m) | 23 | ۰ <1 | 0 | <1 |
| Calcium | ppm | ASTM D5185(m) | 13 | 5 | 3 | 4 |
| | ppm | | 450 | 295 | 310 | 312 |
| Phosphorus Zinc | ppm | ASTM D5185(m) ASTM D5185(m) | 9.9 | 295 13 | 13 | 14 |
| Sulfur | ppm | | | 7972 | 8309 | |
| | ppm | ASTM D5185(m) | 8181 | | | 7953 |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | <1 |
| CONTAMINANTS | \$ | method | limit/base | current | history1 | history2 |
| Silicon | ppm | ASTM D5185(m) | | 2 | 2 | 2 |
| Sodium | ppm | ASTM D5185(m) | | <1 | <1 | <1 |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | 0 | <1 |
| FLUID CLEANLIN | IESS | method | limit/base | current | history1 | history2 |
| Particles >4µm | | ASTM D7647 | >20000 | A 87815 | 8866 | |
| Particles >6µm | | ASTM D7647 | >5000 | <u> </u> | 1112 | |
| Particles >14µm | | ASTM D7647 | >640 | 62 | 14 | |
| Particles >21µm | | ASTM D7647 | >160 | 17 | 2 | |
| Particles >38µm | | ASTM D7647 | >40 | 2 | 0 | |
| Particles >71µm | | ASTM D7647 | >10 | 1 | 0 | |
| Oil Cleanliness | | ISO 4406 (c) | >21/19/16 | 4 24/20/13 | 20/17/11 | |
| FLUID DEGRAD | ATION | method | limit/base | current | history1 | history2 |
| Acid Number (AN) | mg KOH/g | ASTM D974* | | 1.00 | 0.95 | 0.91 |
| 3:32:29) Rev: 1 | | | | | | Submitted By: ? |

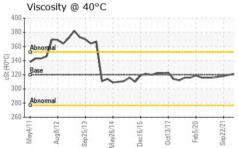


OIL ANALYSIS REPORT









| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|---------------|---------------|------------|---------|----------|----------|
| White Metal | scalar | Visual* | NONE | NONE | 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 | NONE | NONE |
| 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 PROPERTIES | | method | limit/base | current | history1 | history2 |
| Visc @ 40°C | cSt | ASTM D7279(m) | 320 | 319 | 320 | 321 |
| SAMPLE IMAGES | SAMPLE IMAGES | | limit/base | current | history1 | history2 |
| Color | | | | | | |
| Bottom | | | | | | |

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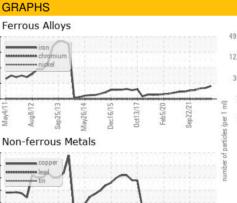
400

() 350 () 350 () 350 () 350 B Abno

250

Mav4/1 Aug 8/17

Maw4/1



Jec16/15

Dec16/15

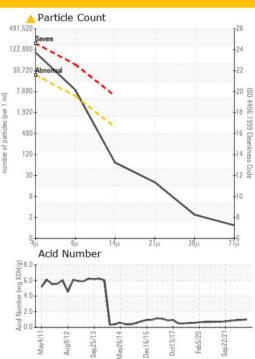
Feb5/20. Sep22/21-

Sep25/

Sep25/13

Mav26/1

Viscosity @ 40°C



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 CALA Sample No. : WC0841265 Received : 31 Aug 2023 : 01 Sep 2023 Lab Number : 02579782 Diagnosed ISO 17025:2017 Accredited Laboratory : 5632842 Diagnostician : Wes Davis Unique Number Test Package : IND 2 (Additional Tests: TAN Man) 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.

Goodyear Napanee 388 GOODYEAR ROAD NAPANEE, ON CA K7R 3L2 Contact: Steve Cote steve.cote@goodyear.com T: (613)354-7739 F: (613)354-7798

Report Id: GOONAP [WCAMIS] 02579782 (Generated: 09/01/2023 08:32:29) Rev: 1

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Submitted By: ?

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