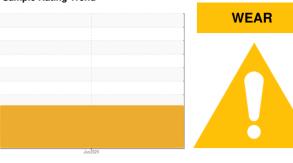


OIL ANALYSIS REPORT

Sample Rating Trend



NVH BAILER

Hydraulic System

SHELL TELLUS 46 (--- GAL)

DIAGNOSIS

Recommendation

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

🔔 Wear

The copper level is abnormal. Bearing and/or bushing wear is indicated.

Contamination

There is a high amount of particulates present in the oil.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

| | | | | Jun 2024 | | |
|--|--|--|--|--|----------------------------------|------------------------------|
| | | | | | | |
| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
| Sample Number | | Client Info | | TLC0001898 | | |
| Sample Date | | Client Info | | 20 Jun 2024 | | |
| Machine Age | hrs | Client Info | | 0 | | |
| Oil Age | hrs | Client Info | | 0 | | |
| Oil Changed | 1113 | Client Info | | N/A | | |
| Sample Status | | Oliciti iiilo | | ABNORMAL | | |
| | | | | ABITOTIMAL | | |
| CONTAMINATION | V | method | limit/base | current | history1 | history2 |
| Water | | WC Method | >0.05 | NEG | | |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >20 | 0 | | |
| Chromium | ppm | ASTM D5185m | >20 | 0 | | |
| Nickel | ppm | ASTM D5185m | >20 | 0 | | |
| Titanium | ppm | ASTM D5185m | | 0 | | |
| Silver | ppm | ASTM D5185m | | 0 | | |
| Aluminum | ppm | ASTM D5185m | >20 | 0 | | |
| Lead | ppm | ASTM D5185m | >20 | 0 | | |
| Copper | ppm | ASTM D5185m | >20 | <u> </u> | | |
| Tin | ppm | ASTM D5185m | >20 | 0 | | |
| Vanadium | ppm | ASTM D5185m | | 0 | | |
| Cadmium | ppm | ASTM D5185m | | 0 | | |
| | | | | | | |
| ADDITIVES | | method | limit/hase | current | history1 | history2 |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185m | 0.0 | 0 | | |
| Boron Barium | ppm | ASTM D5185m ASTM D5185m | 0.0 | 0 0 | | |
| Boron Barium Molybdenum | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m | 0.0 | 0 0 0 | | |
| Boron Barium Molybdenum Manganese | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0.0 | 0 0 0 <1 | | |
| Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0.0 0 0 | 0 0 0 <1 4 | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0.0 0 0 11 35 | 0 0 0 <1 4 38 | | |
| 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 | 0.0 0 0 11 35 266 | 0 0 0 <1 4 38 304 | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0.0 0 0 11 35 266 276 | 0 0 0 <1 4 38 304 344 | | |
| 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 | 0.0 0 0 11 35 266 | 0 0 0 <1 4 38 304 | | |
| 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 | 0.0 0 0 11 35 266 276 | 0 0 0 <1 4 38 304 344 | | |
| 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 | 0.0 0 0 11 35 266 276 1847 | 0 0 0 <1 4 38 304 344 1602 | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS | 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 ASTM D5185m | 0.0 0 0 11 35 266 276 1847 limit/base | 0 0 0 <1 4 38 304 344 1602 current | history1 | history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 0.0 0 0 11 35 266 276 1847 Iimit/base >15 | 0 0 0 <1 4 38 304 344 1602 current | history1 | history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 0.0 0 0 11 35 266 276 1847 Iimit/base >15 | 0 0 0 <1 4 38 304 344 1602 current 4 | history1 | history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 0.0 0 0 11 35 266 276 1847 limit/base >15 >20 | 0 0 0 <1 4 38 304 344 1602 current 4 2 2 | history1 | history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0.0 0 0 11 35 266 276 1847 limit/base >15 | 0 0 0 <1 4 38 304 344 1602 current 4 2 2 current 90322 | history1 history1 | history2 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m | 0.0 0 0 11 35 266 276 1847 limit/base >15 >20 limit/base >5000 >1300 | 0 0 0 <1 4 38 304 344 1602 current 4 2 2 current 90322 40260 | history1 history1 | history2 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D7647 ASTM D7647 | 0.0 0 0 11 35 266 276 1847 limit/base >15 >20 limit/base >5000 >1300 >160 | 0 0 0 <1 4 38 304 344 1602 current 4 2 2 current | history1 history1 | history2 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 | 0.0 0 0 11 35 266 276 1847 limit/base >15 >20 limit/base >5000 >1300 >160 >40 | 0 0 0 <1 4 38 304 344 1602 current 4 2 2 current 90322 40260 3389 720 | history1 history1 | history2 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm Particles >38µm | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 | 0.0 0 0 11 35 266 276 1847 limit/base >15 >20 limit/base >5000 >1300 >160 >40 >10 | 0 0 0 <1 4 38 304 344 1602 | history1 history1 | history2 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >5µm Particles >21µm Particles >38µm Particles >71µm | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 | 0.0 0 0 11 35 266 276 1847 limit/base >15 >20 limit/base >5000 >1300 >160 >40 >10 >3 | 0 0 0 | history1 history1 | history2 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm Particles >38µm | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 | 0.0 0 0 11 35 266 276 1847 limit/base >15 >20 limit/base >5000 >1300 >160 >40 >10 | 0 0 0 <1 4 38 304 344 1602 | history1 history1 | history2 history2 |

Acid Number (AN)

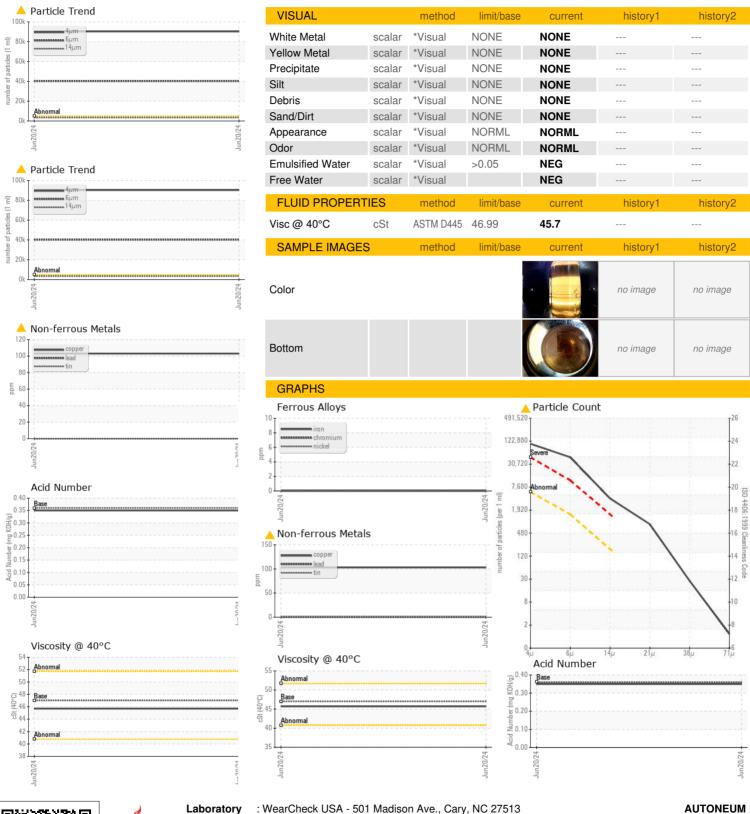
mg KOH/g ASTM D8045 0.36

0.35

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OIL ANALYSIS REPORT





Certificate 12367

Sample No.

Laboratory Lab Number : 06218207 Unique Number : 11096404

: TLC0001898 Test Package : PLANT

Received : 24 Jun 2024 **Tested** Diagnosed

: 25 Jun 2024 : 25 Jun 2024 - Don Baldridge

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.

AUTONEUM

1103 POWDERHOUSE RD AIKEN, SC

US 29803

Contact: JEFFREY WASHICK jeffrey.washick@autoneum.com

> T: F:

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)