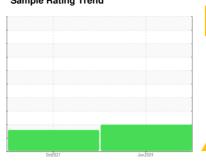


OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id 13113 **Hydraulic System**

AW HYDRAULIC OIL ISO 46 (10 GAL)

DIAGNOSIS

Recommendation

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

All component wear rates are normal.

Contamination

There is a moderate amount of particulates (2 to 100 microns in size) present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

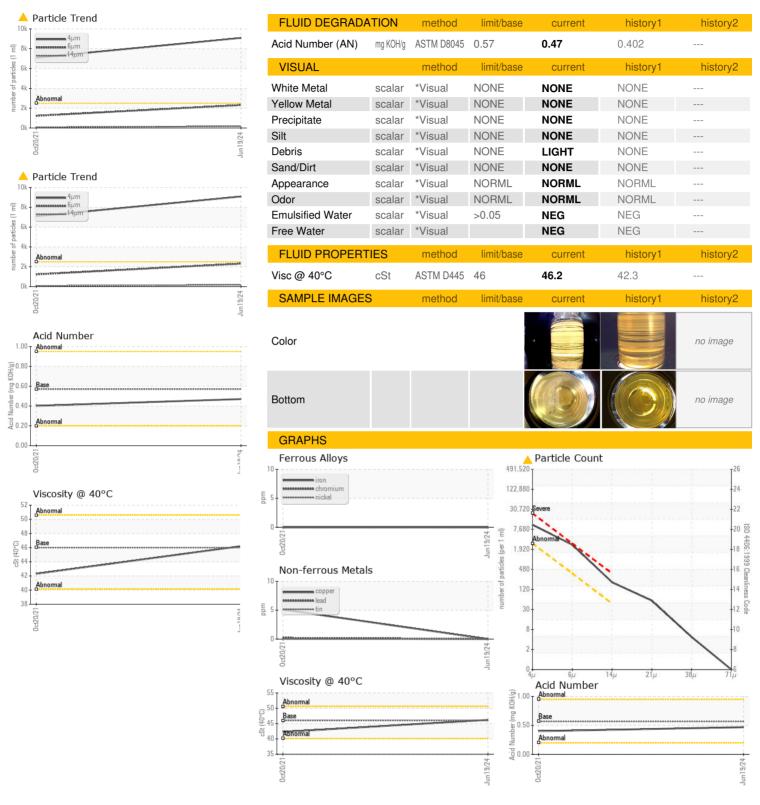
Fluid Condition

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

| | | <u>, </u> | 0et2021 | Jun2024 | | |
|--|--|--|---|---|---|-------------------------------------|
| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
| | MATION | | IIIIII/Dase | | | |
| Sample Number | | Client Info | | WC0942404 | WC0579615 | |
| Sample Date | | Client Info | | 19 Jun 2024 | 20 Oct 2021 | |
| Machine Age | hrs | Client Info | | 24 | 0 | |
| Oil Age | hrs | Client Info | | 24 | 0 | |
| Oil Changed | | Client Info | | N/A | N/A | |
| Sample Status | | | | ABNORMAL | ABNORMAL | |
| CONTAMINATION | V | method | limit/base | current | history1 | history2 |
| Water | | WC Method | >0.05 | NEG | NEG | |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >20 | 0 | 0 | |
| Chromium | ppm | ASTM D5185m | >20 | 0 | 0 | |
| Nickel | ppm | ASTM D5185m | >20 | 0 | 0 | |
| Titanium | ppm | ASTM D5185m | | 0 | <1 | |
| Silver | ppm | ASTM D5185m | | 0 | <1 | |
| Aluminum | ppm | ASTM D5185m | >20 | 0 | 0 | |
| Lead | ppm | ASTM D5185m | >20 | 0 | <1 | |
| Copper | ppm | ASTM D5185m | >20 | 0 | 5 | |
| Tin | ppm | ASTM D5185m | >20 | 0 | 0 | |
| Antimony | ppm | ASTM D5185m | | | 0 | |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | |
| Cadmium | nnm | ACTM DE10Em | | • | 0 | |
| Gadillalli | ppm | ASTM D5185m | | 0 | 0 | |
| ADDITIVES | ррпп | method | limit/base | current | | |
| ADDITIVES | | method | | current | history1 | history2 |
| ADDITIVES Boron | ppm | method ASTM D5185m | 5 | current 0 | history1 <1 | history2 |
| ADDITIVES Boron Barium | ppm ppm | method ASTM D5185m ASTM D5185m | 5 5 | current 0 0 | history1 <1 0 | history2 |
| ADDITIVES Boron Barium Molybdenum | ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m | 5 | current 0 0 0 | history1 <1 0 0 | history2 |
| ADDITIVES Boron Barium Molybdenum Manganese | ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 5 5 5 | current 0 0 0 0 | history1 <1 0 0 0 | history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 5 5 5 25 | current 0 0 0 0 0 | history1 <1 0 0 0 0 | history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 5 5 5 25 200 | current 0 0 0 0 0 0 0 61 | history1 <1 0 0 0 0 57 | history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus | ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 5 5 5 25 200 300 | current 0 0 0 0 0 0 0 61 393 | history 1 <1 0 0 0 0 0 57 368 | history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 5 5 5 25 200 | current 0 0 0 0 0 0 0 61 | history1 <1 0 0 0 0 57 | history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 5 5 5 25 200 300 370 2500 | Current 0 0 0 0 0 0 61 393 493 1404 | history1 <1 0 0 0 0 0 57 368 502 944 | history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS | ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 5 5 5 25 200 300 370 2500 limit/base | Current 0 0 0 0 0 0 0 61 393 493 1404 Current | history1 <1 0 0 0 0 57 368 502 944 history1 | history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon | ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 5 5 5 25 200 300 370 2500 limit/base | Current 0 0 0 0 0 0 61 393 493 1404 Current 0 | history1 <1 0 0 0 0 57 368 502 944 history1 <1 | history2 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 5 5 5 25 200 300 370 2500 limit/base >15 | Current 0 0 0 0 0 0 61 393 493 1404 Current 0 1 | history1 <1 0 0 0 0 57 368 502 944 history1 <1 0 | history2 history2 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 5 5 5 25 200 300 370 2500 limit/base >15 | Current 0 0 0 0 0 0 61 393 493 1404 Current 0 1 | history1 <1 0 0 0 0 57 368 502 944 history1 <1 0 <1 | history2 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 5 5 5 25 200 300 370 2500 limit/base >15 >20 | current 0 0 0 0 0 0 61 393 493 1404 current 0 1 0 current | history1 <1 0 0 0 0 57 368 502 944 history1 <1 0 <1 | history2 history2 |
| ADDITIVES 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 ppm | method ASTM D5185m | 5 5 5 25 200 300 370 2500 limit/base >15 >20 limit/base | current 0 0 0 0 0 0 61 393 493 1404 current 0 1 0 current 9088 | history1 <1 0 0 0 0 57 368 502 944 history1 <1 0 <1 history1 ▲ 7094 | history2 history2 |
| ADDITIVES 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 ppm | method ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 5 5 5 25 200 300 370 2500 limit/base >15 >20 | current 0 0 0 0 0 0 61 393 493 1404 current 0 1 0 current ▲ 9088 ▲ 2314 | history1 <1 0 0 0 0 57 368 502 944 history1 <1 0 <1 history1 ▲ 7094 ▲ 1226 | history2 history2 history2 history2 |
| ADDITIVES 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 ppm | method ASTM D5185m method ASTM D5185m | 5 5 5 25 200 300 370 2500 limit/base >15 >20 limit/base | current 0 0 0 0 0 61 393 493 1404 current 0 1 0 current △ 9088 △ 2314 ▲ 174 | history1 <1 0 0 0 0 57 368 502 944 history1 <1 0 <1 history1 △ 7094 △ 1226 △ 73 | history2 history2 history2 history2 |
| ADDITIVES 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 ppm | method ASTM D5185m method ASTM D5185m | 5 5 5 25 200 300 370 2500 limit/base >15 >20 limit/base >2500 >320 | current 0 0 0 0 0 0 61 393 493 1404 current 0 1 0 current ▲ 9088 ▲ 2314 | history1 <1 0 0 0 0 57 368 502 944 history1 <1 0 <1 history1 ▲ 7094 ▲ 1226 | history2 history2 history2 |
| ADDITIVES 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 | method ASTM D5185m method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 | 5 5 5 25 200 300 370 2500 limit/base >15 >20 limit/base >2500 >320 >40 >10 >3 | current 0 0 0 0 0 61 393 493 1404 current 0 1 0 current △ 9088 △ 2314 ▲ 174 | history1 <1 0 0 0 0 57 368 502 944 history1 <1 0 <1 history1 ▲ 7094 ▲ 1226 ▲ 73 ▲ 14 1 | history2 history2 history2 |
| ADDITIVES 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 ppm | method ASTM D5185m method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 | 5 5 5 25 200 300 370 2500 limit/base >15 >20 limit/base >2500 >320 >40 >10 >3 | Current 0 0 0 0 0 0 61 393 493 1404 Current 0 1 0 current | history1 <1 0 0 0 0 57 368 502 944 history1 <1 0 <1 history1 ▲ 7094 ▲ 1226 ▲ 73 ▲ 14 | history2 history2 history2 |



OIL ANALYSIS REPORT







Certificate 12367

Report Id: NEFSAI [WUSCAR] 06219636 (Generated: 06/27/2024 15:33:03) Rev: 1

Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0942404 Lab Number : 06219636 Unique Number : 11097833

Received Test Package : IND 2

Tested Diagnosed

: 26 Jun 2024

: 25 Jun 2024

: 26 Jun 2024 - Wes Davis

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)

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