

OIL ANALYSIS REPORT

Machine Id **MERCURY MARINE**

Component Transmission (Auto)

Fluid

CASTROL TRANSMAX SYNTHETIC MV ATF (45 GAL)

Recommendation

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

Wear

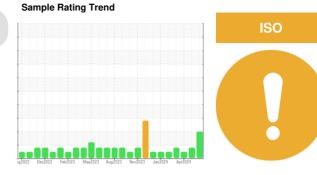
All component wear rates are normal.

Contamination

There is a moderate amount of particulates present in the fluid.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.



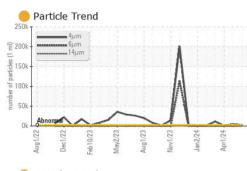
| | IATION | method | limit/base | current | history1 | history2 |
|---|--------------------------|---|---|--|--|---|
| Sample Number | | Client Info | | WC0921226 | WC0921221 | WC0921216 |
| Sample Date | | Client Info | | 03 Jun 2024 | 01 May 2024 | 01 Apr 2024 |
| Machine Age | mths | Client Info | | 0 | 0 | 0 |
| Oil Age | mths | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | ATTENTION | ATTENTION | NORMAL |
| CONTAMINATION | N | method | limit/base | current | history1 | history2 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >160 | 0 | <1 | 1 |
| Chromium | ppm | ASTM D5185m | >5 | <1 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >5 | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >50 | 4 | 5 | 5 |
| Lead | ppm | ASTM D5185m | | <1 | 0 | 2 |
| Copper | ppm | ASTM D5185m | >225 | <1 | <1 | 1 |
| Tin | ppm | ASTM D5185m | | <1 | 0 | 1 |
| Vanadium | ppm | ASTM D5185m | - | 0 | <1 | <1 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185m | 100 | 95 | 94 | 87 |
| Barium | ppm | ASTM D5185m | 0 | 29 | 37 | 34 |
| Molybdenum | ppm | ASTM D5185m | 0 | 0 | 0 | <1 |
| Manganese | ppm | ASTM D5185m | 10 | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 0 | <1 | <1 | 2 |
| Calcium | ppm | ASTM D5185m | 370 | 71 | 73 | 80 |
| Phosphorus | ppm | ASTM D5185m | 300 | 208 | 207 | 238 |
| | 1-1- | | | | | |
| | mag | ASTM D5185m | 0 | 6 | | 10 |
| Zinc | ppm ppm | ASTM D5185m ASTM D5185m | 0 1600 | 6 895 | 0 996 | 10 954 |
| Zinc | ppm | | | | 0 | |
| Zinc Sulfur CONTAMINANTS | ppm | ASTM D5185m method | 1600 limit/base | 895 current | 0 996 history1 | 954 history2 |
| Zinc Sulfur CONTAMINANTS Silicon | ppm ppm | ASTM D5185m method ASTM D5185m | 1600 limit/base | 895 current 1 | 0 996 history1 1 | 954 history2 2 |
| Zinc Sulfur CONTAMINANTS Silicon Sodium | ppm ppm ppm | ASTM D5185m method | 1600 limit/base | 895 current | 0 996 history1 | 954 history2 |
| Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium | ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m | 1600 limit/base >20 >20 | 895 current 1 3 1 | 0 996 history1 1 3 <1 | 954 history2 2 3 2 |
| Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN | ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method | 1600 limit/base >20 >20 limit/base | 895 current 1 3 1 current | 0 996 history1 1 3 <1 <1 history1 | 954 history2 2 3 2 history2 |
| Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm | ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D7647 | 1600 limit/base >20 >20 limit/base >2500 | 895 current 1 3 1 current 2731 | 0 996 history1 1 3 <1 <1 history1 4573 | 954 history2 2 3 2 history2 489 |
| Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm | ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D7647 ASTM D7647 | 1600 imit/base >20 >20 imit/base >2500 >640 | 895 current 1 3 1 current 2731 877 | 0 996 history1 1 3 <1 (1) history1 4573 114 | 954 history2 2 3 2 history2 489 105 |
| Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm | ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 | 1600 imit/base >20 >20 imit/base >2500 >640 >80 | 895 current 1 3 1 current 2731 877 96 | 0 996 history1 1 3 <1 <1 history1 4573 114 6 | 954 history2 2 3 2 history2 489 105 9 |
| Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm | ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 | 1600 imit/base >20 >20 imit/base >2500 >640 >80 >20 | 895 current 1 3 1 current 2731 877 96 24 | 0 996 history1 1 3 <1 *1 *1 *1 *1 *1 *1 *1 *1 *1 *1 *1 *1 *1 | 954 history2 2 3 2 history2 489 105 9 1 |
| Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm | ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 | 1600 imit/base >20 >20 imit/base >2500 >640 >80 >20 >4 | 895 current 1 3 1 current 2731 877 96 24 2 | 0 996 history1 1 3 <1 *1 *1 4573 114 6 1 1 0 | 954 history2 2 3 2 history2 489 105 9 1 0 |
| Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >6µm Particles >21µm Particles >38µm Particles >71µm | ppm ppm ppm ppm | ASTM D5185m Method ASTM D5185m ASTM D5185m Method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 | 1600 imit/base >20 >20 imit/base >2500 >640 >80 >20 >4 >3 | 895 current 1 3 1 current 2731 877 96 24 2 0 | 0 996 history1 1 3 <1 * history1 4573 114 6 1 1 0 0 0 | 954 history2 2 3 2 history2 489 105 9 1 0 0 0 |
| Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm Particles >71µm Oil Cleanliness | ppm ppm ppm ESS | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 | 1600 imit/base >20 >20 imit/base >2500 >640 >80 >20 >4 | 895 current 1 3 1 current 2731 877 96 24 2 | 0 996 history1 1 3 <1 *1 *1 4573 114 6 1 1 0 | 954 history2 2 3 2 history2 489 105 9 1 0 |
| Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >6µm Particles >21µm Particles >38µm Particles >71µm | ppm ppm ppm ESS | ASTM D5185m Method ASTM D5185m ASTM D5185m Method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 | 1600 imit/base >20 >20 imit/base >2500 >640 >80 >20 >4 >3 | 895 current 1 3 1 current 2731 96 24 2 0 19/17/14 | 0 996 history1 1 3 <1 * history1 4573 114 6 1 1 0 0 0 | 954 history2 2 3 2 history2 489 105 9 1 0 0 0 |

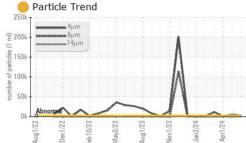
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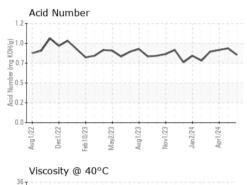
Contact/Location: Kristina Smith - HAWCHANC Page 1 of 2

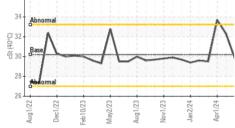


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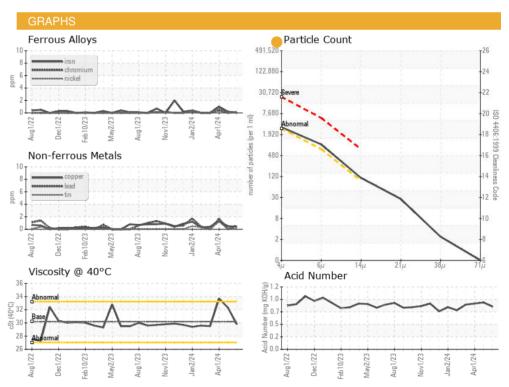








| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------------------|------------|---------------------|--------------------|-----------------|------------------|------------------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *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 | >0.1 | NEG | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG | NEG |
| | | | 11 1. 4 | | | |
| FLUID PROPERT | IES | | | | | history2 |
| FLUID PROPERT Visc @ 40°C | IES cSt | Method ASTM D445 | limit/base 30.2 | current 29.8 | history1 32.3 | history2 33.7 |
| | cSt | | | | | |
| Visc @ 40°C | cSt | ASTM D445 | 30.2 | 29.8 | 32.3 | 33.7 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 HAWE HYDRAULICS - HUNTERSVILLE Sample No. : WC0921226 Received : 04 Jun 2024 13020 JAMESBURG DR SUITE A Lab Number : 06199078 Tested : 05 Jun 2024 HUNTERSVILLE, NC Unique Number : 11061201 Diagnosed : 06 Jun 2024 - Don Baldridge US 28078 Test Package : IND 2 (Additional Tests: PrtCount) Contact: Kristina Smith Certificate 12367 k.smith@hawe.com To discuss this sample report, contact Customer Service at 1-800-237-1369. T: (704)927-5610 * - 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) F: (704)509-6302

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