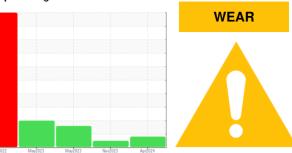


OIL ANALYSIS REPORT



Machine Id

2827148 (S/N 1424)

Component Compressor Fluid KAESER SIGMA (OEM) FG-460 (--- GAL)

DIAGNOSIS

Recommendation

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

A Wear

The aluminum level is abnormal. All other component wear rates are normal.

Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Fluid Condition

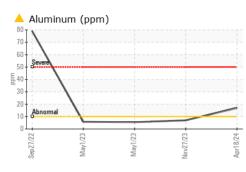
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

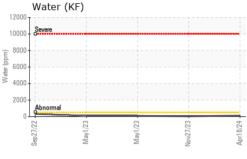
| | IATION | method | limit/base | current | history1 | history2 |
|---|--------------------------------------|---|--|---|--|---|
| Sample Number | | Client Info | | KCPA013706 | KCPA011812 | KCP53006 |
| Sample Date | | Client Info | | 18 Apr 2024 | 27 Nov 2023 | 01 May 2023 |
| Machine Age | hrs | Client Info | | 76967 | 74846 | 69785 |
| Oil Age | hrs | Client Info | | 0 | 0 | 4000 |
| Oil Changed | | Client Info | | Not Changd | N/A | Changed |
| Sample Status | | | | ABNORMAL | NORMAL | ABNORMAL |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >50 | 9 | 1 | 4 |
| Chromium | ppm | ASTM D5185m | >10 | <1 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >3 | 1 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | >3 | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | <u> </u> | 7 | 6 |
| Lead | ppm | ASTM D5185m | >10 | 1 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >50 | 7 | 4 | 8 |
| Tin | ppm | ASTM D5185m | >10 | 1 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 1 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | <1 | 0 | 3 |
| Calcium | ppm | ASTM D5185m | | 3 | 0 | 0 |
| Phosphorus | ppm | ASTM D5185m | 500 | 720 | 329 | 317 |
| | ppm | ASTM D5185m | | 413 | 139 | 0.1 |
| Zinc | ppm | | | 415 | 109 | 81 |
| - | ppm | ASTM D5185m | | 2588 | 1322 | 81 1128 |
| - | ppm | | limit/base | - | | |
| Sulfur | ppm | ASTM D5185m | limit/base | 2588 | 1322 | 1128 |
| Sulfur CONTAMINANTS | ppm | ASTM D5185m method | | 2588 current | 1322 history1 | 1128 history2 |
| Sulfur CONTAMINANTS Silicon | ppm ppm | ASTM D5185m method ASTM D5185m | | 2588 current 1 | 1322 <mark>history1</mark> 0 | 1128 history2 0 |
| Sulfur CONTAMINANTS Silicon Sodium Potassium | ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D5185m | >25 >20 | 2588 current 1 <1 | 1322 history1 0 <1 | 1128 history2 0 2 |
| Sulfur CONTAMINANTS Silicon Sodium Potassium Water | ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m | >25 >20 >0.05 | 2588 current 1 <1 1 | 1322 history1 0 <1 0 | 1128 history2 0 2 <1 |
| Sulfur CONTAMINANTS Silicon Sodium Potassium Water | ppm ppm ppm % ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 | >25 >20 >0.05 | 2588 current 1 <1 1 0.011 | 1322 history1 0 <1 0 0.004 | 1128 history2 0 2 <1 0.008 |
| Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm | ppm ppm ppm % ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 Method ASTM D7647 | >25 >20 >0.05 >500 limit/base | 2588 current 1 <1 1 0.011 111 current 1274 | 1322 history1 0 <1 0 0.004 43 history1 372 | 1128 history2 0 2 <1 0.008 85.6 history2 2327 |
| Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm | ppm ppm ppm % ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 Method ASTM D7647 ASTM D7647 | >25 >20 >0.05 >500 limit/base >1300 | 2588 current 1 <1 1 0.011 111 current 1274 256 | 1322 history1 0 <1 0 0.004 43 history1 372 82 | 1128 history2 0 2 <1 0.008 85.6 history2 2327 752 |
| Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm | ppm ppm ppm % ppm | ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 Method ASTM D7647 ASTM D7647 ASTM D7647 | >25 >20 >0.05 >500 limit/base >1300 >80 | 2588 current 1 <1 1 0.011 111 current 1274 256 19 | 1322 history1 0 <1 0 0.004 43 history1 372 82 10 | 1128 history2 0 2 <1 0.008 85.6 history2 2327 752 ▲ 117 |
| Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm | ppm ppm ppm % ppm | ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 Method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 | >25 >20 >0.05 >500 limit/base >1300 >80 >20 | 2588 current 1 <1 1 0.011 111 current 1274 256 19 7 | 1322 history1 0 <1 0 0.004 43 history1 372 82 10 3 | 1128 history2 0 2 <1 0.008 85.6 history2 2327 752 ▲ 117 ▲ 42 |
| Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm | ppm ppm ppm % ppm | ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 | >25 >20 >0.05 >500 limit/base >1300 >80 >20 >4 | 2588 current 1 <1 0.011 111 current 1274 256 19 7 1 | 1322 history1 0 <1 0 0.004 43 history1 372 82 10 3 3 1 | 1128 history2 0 2 <1 0.008 85.6 history2 2327 752 ▲ 117 42 ▲ 5 |
| Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >38µm Particles >71µm | ppm ppm ppm % ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 | >25 >20 >0.05 >500 limit/base >1300 >80 >20 >4 >3 | 2588 current 1 <1 0.011 111 current 1274 256 19 7 1 0 | 1322 history1 0 <1 0 0.004 43 history1 372 82 10 3 1 1 1 | 1128 history2 0 2 <1 0.008 85.6 history2 2327 752 ▲ 117 ▲ 42 ▲ 5 0 |
| Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm | ppm ppm ppm % ppm | ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 | >25 >20 >0.05 >500 limit/base >1300 >80 >20 >4 | 2588 current 1 <1 0.011 111 current 1274 256 19 7 1 | 1322 history1 0 <1 0 0.004 43 history1 372 82 10 3 3 1 | 1128 history2 0 2 <1 0.008 85.6 history2 2327 752 ▲ 117 42 ▲ 5 |
| Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >38µm Particles >71µm | ppm ppm ppm % ppm ESS | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 | >25 >20 >0.05 >500 limit/base >1300 >80 >20 >4 >3 | 2588 current 1 <1 0.011 111 current 1274 256 19 7 1 0 | 1322 history1 0 <1 0 0.004 43 history1 372 82 10 3 1 1 1 | 1128 history2 0 2 <1 0.008 85.6 history2 2327 752 ▲ 117 ▲ 42 ▲ 5 0 |

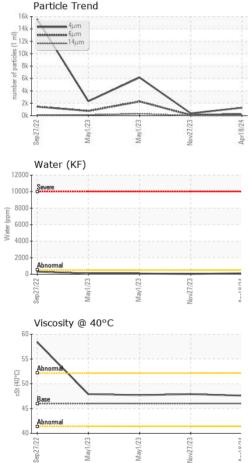
Contact/Location: Service Manager - OCECAS Page 1 of 2



OIL ANALYSIS REPORT







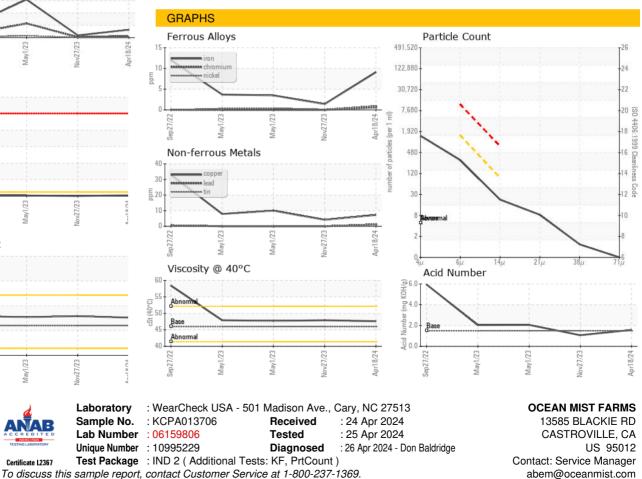
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| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|-----------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | 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 | >0.05 | 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 | 46 | 47.6 | 47.9 | 47.7 |
| SAMPLE IMAGES | S | method | limit/base | current | history1 | history2 |
| Color | | | | | | |

Coloi



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)

Report Id: OCECAS [WUSCAR] 06159806 (Generated: 04/26/2024 12:02:50) Rev: 1

Certificate 12367

Contact/Location: Service Manager - OCECAS

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