

OIL ANALYSIS REPORT



Machine Id

RED BUD 1 - RED BUD Component Hydraulic System

AW HYDRAULIC OIL ISO 46 (--- GAL)

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Fluid Condition

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

| | | | | | | | | ۱ |
|---------|--------|-----|-----|---------|---------|---------|---------|----|
| Dec2023 | ul2022 | 021 | May | Óct2019 | Feb2019 | Jun2018 | Dec2017 | 17 |

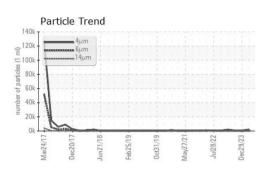
| SAMPLE INFORM | 1ATION | method | limit/base | current | history1 | history2 |
|------------------|----------|--------------|------------|-------------|-----------------|-------------|
| Sample Number | | Client Info | | PTK0005334 | PTK0005338 | PTK0004693 |
| Sample Date | | Client Info | | 02 Apr 2024 | 29 Dec 2023 | 27 Sep 2023 |
| 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 | | | | NORMAL | NORMAL | NORMAL |
| CONTAMINATION | J | 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 | >20 | 0 | 0 | 0 |
| Chromium | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >10 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Lead | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Tin | ppm | ASTM D5185m | >10 | <1 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | - | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185m | 5 | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | 5 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 5 | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 25 | 4 | <1 | 6 |
| Calcium | ppm | ASTM D5185m | 200 | 66 | 60 | 62 |
| Phosphorus | ppm | ASTM D5185m | 300 | 373 | 312 | 323 |
| Zinc | ppm | ASTM D5185m | 370 | 434 | 385 | 396 |
| Sulfur | ppm | ASTM D5185m | 2500 | 2022 | 1537 | 1672 |
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
| Silicon | ppm | ASTM D5185m | >20 | <1 | <1 | <1 |
| Sodium | ppm | ASTM D5185m | | 2 | <1 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 0 | <1 |
| FLUID CLEANLIN | ESS | method | limit/base | current | history1 | history2 |
| Particles >4µm | | ASTM D7647 | | 2034 | 771 | 787 |
| Particles >6µm | | ASTM D7647 | >2500 | 466 | 147 | 213 |
| Particles >14µm | | ASTM D7647 | >320 | 24 | 10 | 19 |
| Particles >21µm | | ASTM D7647 | >80 | 5 | 4 | 5 |
| Particles >38µm | | ASTM D7647 | >20 | 0 | 0 | 0 |
| Particles >71µm | | ASTM D7647 | >4 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >18/15 | 16/12 | 14/10 | 15/11 |
| FLUID DEGRADA | TION | method | limit/base | current | history1 | history2 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.57 | 0.33 | 0.28 | 0.32 |
| 1:58:55) Boy: 1 | 0 - 0 | | | | l ocation: BICK | |

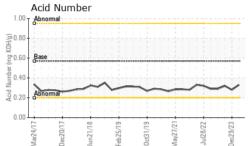
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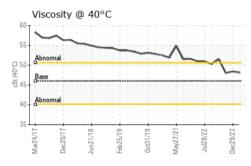
Contact/Location: RICK FAUE - VIKMIN

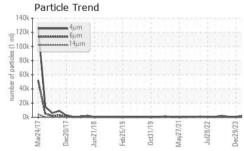


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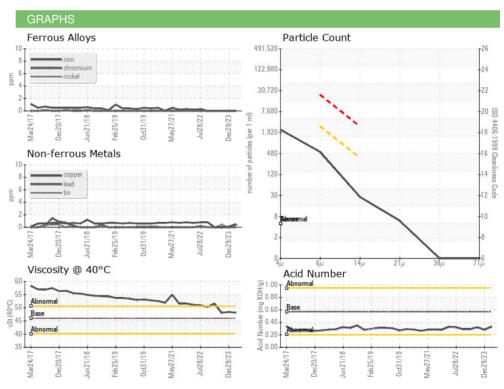








| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|-----------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | scalar | *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 |
| FLUID PROPERT | IES | method | limit/base | current | history1 | history2 |
| Visc @ 40°C | cSt | ASTM D445 | 46 | 48.1 | 48.4 | 48.0 |
| SAMPLE IMAGES | 6 | method | limit/base | current | history1 | history2 |
| Color | | | | a. | • | |
| Bottom | | | | | | |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 VIKING MATERIALS Sample No. : PTK0005334 Received : 24 Jun 2024 3225 COMO AVE Lab Number : 06218213 Tested : 25 Jun 2024 MINNEAPOLIS, MN Unique Number : 11096410 Diagnosed : 25 Jun 2024 - Wes Davis US 55414 Test Package : MOB 2 Contact: RICK FAUE Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. rickf@vikingmaterials.com T: (612)617-5800 * - 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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