

OIL ANALYSIS REPORT

KEMP QUARRIES / RIVER VALLEY OZARK **CRSH076**

Component Gearbox Fluic 150ep (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: We use 150ep fluid and put a dye in to see the sight glass clearly)

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

| | | - | | | | |
|---|---|--|--|---|---|---|
| | | Mar202 | 1 Jun2023 | Aug2023 Ja | n2024 | |
| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
| Sample Number | | Client Info | | PCA0084496 | PCA0069704 | PCA0084661 |
| Sample Date | | Client Info | | 12 Jan 2024 | 22 Aug 2023 | 26 Jun 2023 |
| Machine Age | hrs | Client Info | | 8726 | 8402 | 8175 |
| Oil Age | hrs | Client Info | | 8726 | 8175 | 120 |
| Oil Changed | | Client Info | | Changed | N/A | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| CONTAMINATI | ON | method | limit/base | current | history1 | history2 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| WEAR METAL | S | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >200 | 16 | 27 | 39 |
| Chromium | ppm | ASTM D5185m | >10 | <1 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >10 | <1 | 2 | 2 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | 2 | 6 | 9 |
| Lead | ppm | ASTM D5185m | >50 | 23 | 39 | 31 |
| Copper | ppm | ASTM D5185m | >200 | 82 | 123 | 103 |
| Tin | ppm | ASTM D5185m | >10 | 4 | 8 | 9 |
| Antimony | ppm | ASTM D5185m | >5 | | | |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | | | | | | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| | ppm | method ASTM D5185m | limit/base | current 39 | history1 35 | history2 48 |
| | ppm ppm | | limit/base | | | |
| Boron Barium | | ASTM D5185m | limit/base | 39 | 35 | 48 |
| Boron Barium Molybdenum | ppm | ASTM D5185m ASTM D5185m | limit/base | 39 0 | 35 0 | 48 0 |
| Boron Barium Molybdenum Manganese | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m | limit/base | 39 0 <1 | 35 0 0 | 48 0 0 |
| Boron Barium Molybdenum Manganese | ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | limit/base | 39 0 <1 0 | 35 0 0 <1 | 48 0 0 <1 |
| Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | limit/base | 39 0 <1 0 1 | 35 0 0 <1 0 | 48 0 0 <1 2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus | ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | limit/base | 39 0 <1 0 1 40 | 35 0 0 <1 0 15 | 48 0 0 <1 2 31 |
| 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 | limit/base | 39 0 <1 0 1 40 209 | 35 0 0 <1 0 15 273 | 48 0 0 <1 2 31 276 |
| Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | limit/base | 39 0 <1 0 1 40 209 17 | 35 0 0 <1 0 15 273 24 | 48 0 0 <1 2 31 276 21 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | | 39 0 <1 0 1 40 209 17 5209 | 35 0 0 <1 0 15 273 24 6121 | 48 0 0 <1 2 31 276 21 6569 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | limit/base | 39 0 <1 0 1 40 209 17 5209 current | 35 0 0 <1 0 15 273 24 6121 history1 | 48 0 0 <1 2 31 276 21 6569 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm ppm ppm TS | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | limit/base >50 | 39 0 <1 0 1 40 209 17 5209 current 18 | 35 0 0 <1 0 15 273 24 6121 history1 35 | 48 0 0 <1 2 31 276 21 6569 history2 42 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium | ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | limit/base >50 | 39 0 <1 0 1 40 209 17 5209 current 18 0 | 35 0 0 <1 0 15 273 24 6121 history1 35 2 | 48 0 0 <1 2 31 276 21 6569 history2 42 <1 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL | ppm | ASTM D5185m ASTM D5185m | limit/base >50 >20 | 39 0 <1 0 1 40 209 17 5209 current 18 0 3 3 current NONE | 35 0 0 (1 5 273 24 6121 history1 35 2 4 history1 NONE | 48 0 0 <1 2 31 276 21 6569 history2 42 <1 4 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | limit/base >50 >20 limit/base NONE NONE | 39 0 <1 0 1 40 209 17 5209 current 18 0 3 3 | 35 0 0 <1 0 15 273 24 6121 history1 35 2 4 history1 NONE NONE | 48 0 0 <1 2 31 276 21 6569 history2 42 <1 4 4 kistory2 NONE NONE |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal | ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm | ASTM D5185m ASTM D5185m | limit/base >50 >20 limit/base NONE NONE NONE NONE | 39 0 <1 0 1 40 209 17 5209 <i>current</i> 18 0 3 <i>current</i> NONE NONE NONE NONE | 35 0 0 <1 0 15 273 24 6121 history1 35 2 4 35 2 4 history1 NONE NONE NONE NONE | 48 0 0 <1 2 31 276 21 6569 history2 42 <1 4 4 VONE NONE NONE NONE |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt | ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm scalar | ASTM D5185m ASTM D5185m | limit/base >50 >20 limit/base NONE NONE | 39 0 <1 0 1 40 209 17 5209 <i>current</i> 18 0 3 <i>current</i> NONE NONE NONE NONE NONE | 35 0 0 <1 0 15 273 24 6121 history1 35 2 4 history1 NONE NONE | 48 0 0 <1 2 31 276 21 6569 history2 42 <1 4 4 history2 NONE NONE |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt | ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm scalar scalar scalar | ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual | limit/base >50 >20 limit/base >20 limit/base NONE NONE NONE NONE NONE | 39 0 <1 0 1 40 209 17 5209 current 18 0 3 3 current NONE NONE NONE NONE NONE NONE | 35 0 0 <1 0 15 273 24 6121 history1 35 2 4 35 2 4 history1 NONE NONE NONE NONE | 48 0 0 (1 2 31 276 21 6569 history2 42 <1 4 2 (1 4 NONE NONE NONE NONE NONE NONE |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m *Visual *Visual *Visual | limit/base >50 >20 limit/base NONE NONE NONE NONE | 39 0 <1 0 1 40 209 17 5209 <i>current</i> 18 0 3 <i>current</i> NONE NONE NONE NONE NONE | 35 0 0 (1 5 273 24 6121 history1 35 2 4 history1 NONE NONE NONE NONE NONE NONE NONE NON | 48 0 0 <1 2 31 276 21 6569 history2 42 <1 4 4 NONE NONE NONE NONE NONE NONE NONE |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual | Imit/base >50 Imit/base >20 Imit/base NONE NORML | 39 0 <1 0 1 40 209 17 5209 <i>current</i> 18 0 3 <i>current</i> 18 0 3 <i>current</i> NONE NONE NONE NONE NONE NONE NONE NON | 35 0 0 (15 273 24 6121 history1 35 2 4 history1 NONE NONE NONE NONE NONE NONE NONE NON | 48 0 0 31 276 21 6569 history2 42 42 42 41 4 history2 NONE NONE NONE NONE NONE NONE NONE NON |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D | Imit/base >50 >20 Imit/base >20 Imit/base NONE NONE | 39 0 <1 0 1 40 209 17 5209 <i>current</i> 18 0 3 <i>current</i> 18 0 3 <i>current</i> NONE NONE NONE NONE NONE NONE NONE NON | 35 0 0 (15 273 24 6121 history1 35 2 4 history1 NONE NONE NONE NONE NONE NONE NONE NON | 48 0 0 31 276 21 6569 history2 42 42 4 2 4 NONE NONE NONE NONE NONE NONE NONE NO |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D | Imit/base >50 Imit/base >20 Imit/base NONE NORML | 39 0 <1 0 1 40 209 17 5209 <i>current</i> 18 0 3 <i>current</i> 18 0 3 <i>current</i> NONE NONE NONE NONE NONE NONE NONE NON | 35 0 0 (15 273 24 6121 history1 35 2 4 history1 NONE NONE NONE NONE NONE NONE NONE NON | 48 0 0 (1 2 31 276 21 6569 history2 42 42 42 41 4 history2 NONE NONE NONE NONE NONE NONE NONE NON |

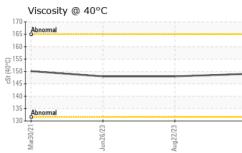
Sample Rating Trend

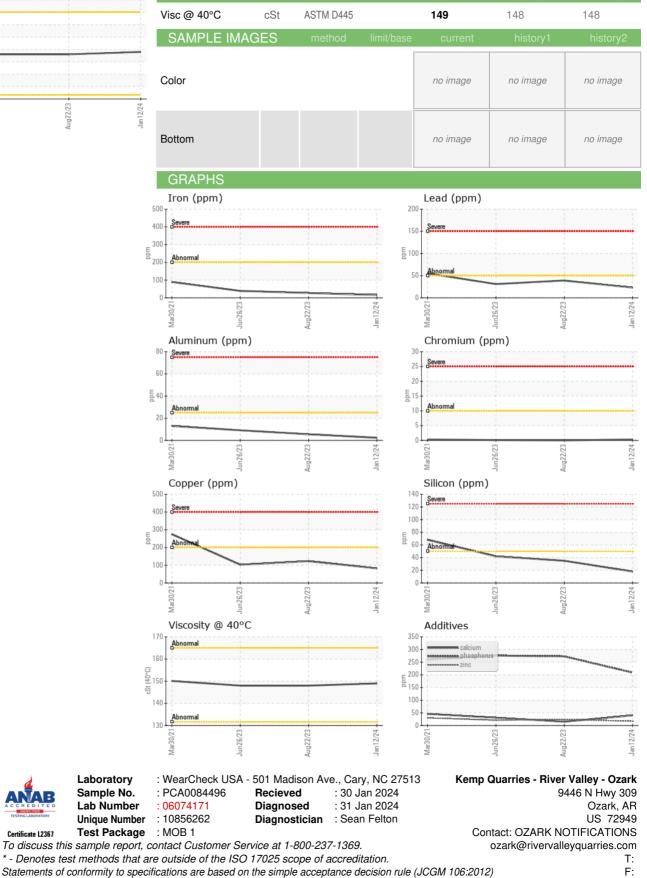
NORMAL



OIL ANALYSIS REPORT

FLUID PROPERTIES





Certificate L2367