



OIL ANALYSIS REPORT

| | |
|-----------------|--------|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Machine Id
KOMATSU TH04 - PCS
Component
Diesel Engine
Fluid
CHEVRON DELO 400 SDE SAE 15W40 (26 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | KL0014752 | KL0013781 | KL0014082 |
| Sample Date | | Client Info | | 09 Jul 2024 | 10 Apr 2024 | 10 Jan 2024 |
| Machine Age | hrs | Client Info | | 11747 | 11522 | 11104 |
| Oil Age | hrs | Client Info | | 693 | 468 | 50 |
| Filter Age | hrs | Client Info | | 693 | 468 | 50 |
| Oil Changed | | Client Info | | Not Chngd | Not Chngd | Changed |
| Filter Changed | | Client Info | | Not Chngd | Not Chngd | Changed |
| Sample Status | | | | NORMAL | ATTENTION | ABNORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|-------|------|
| Iron | ppm | ASTM D5185m | >100 | 8 | 32 | 43 |
| Chromium | ppm | ASTM D5185m | >20 | 0 | 2 | 2 |
| Nickel | ppm | ASTM D5185m | >4 | 0 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | 4 | 4 |
| Lead | ppm | ASTM D5185m | >40 | 0 | <1 | 0 |
| Copper | ppm | ASTM D5185m | >330 | <1 | 5 | 7 |
| Tin | ppm | ASTM D5185m | >15 | 0 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | LIGHT | LIGHT | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

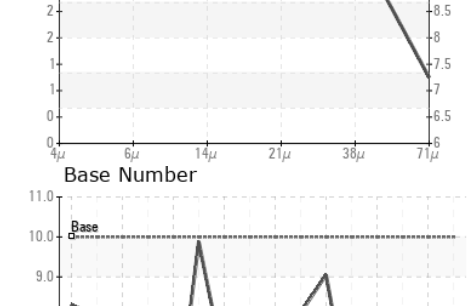
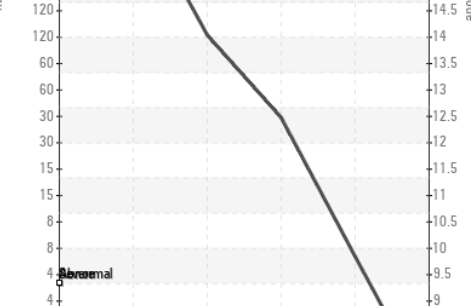
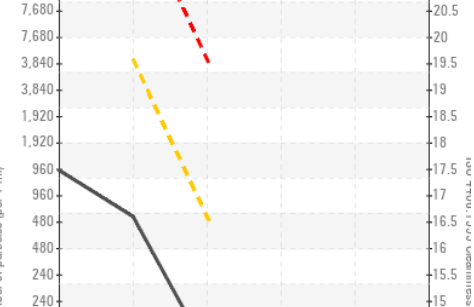
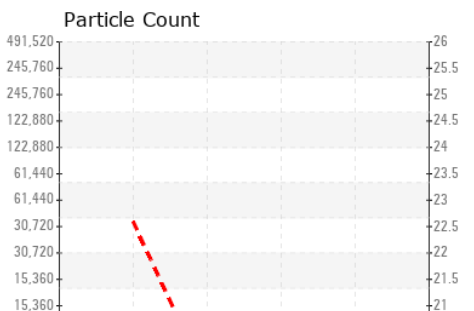
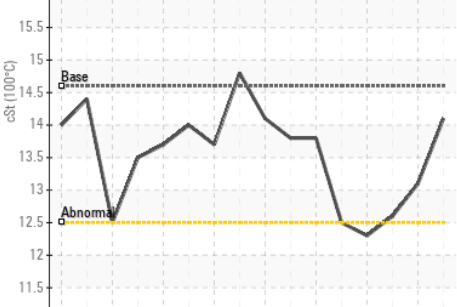
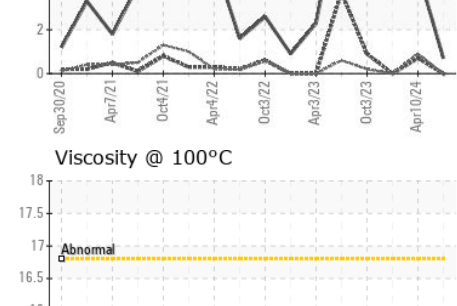
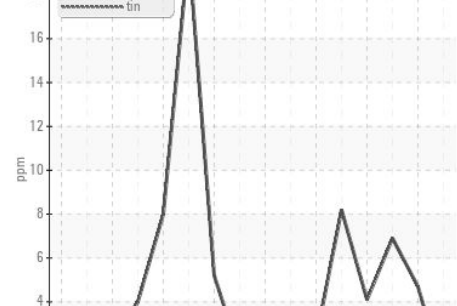
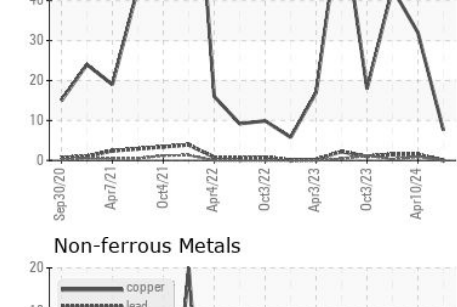
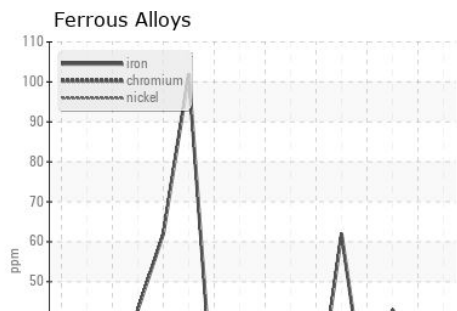
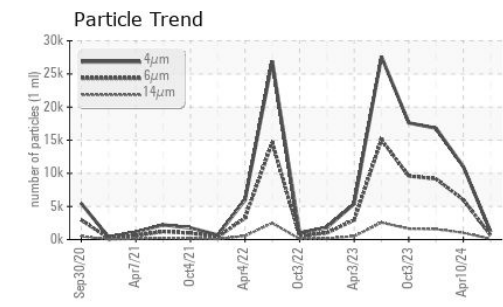
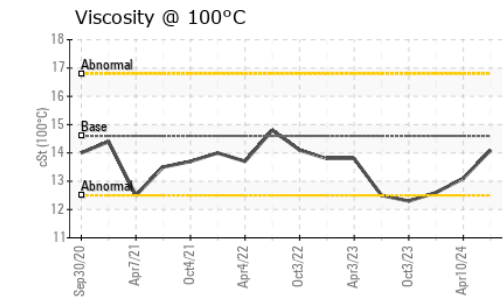
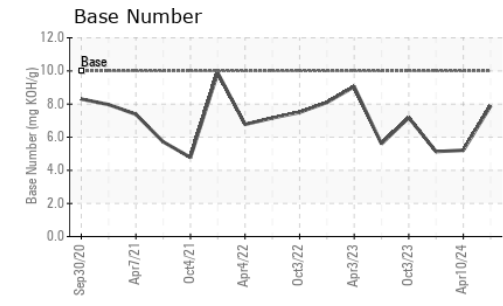
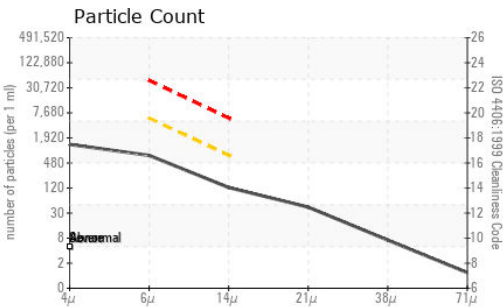
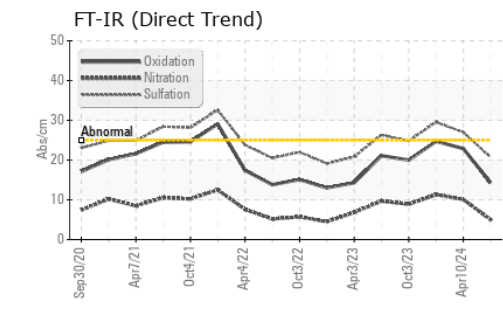
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

| | | | | | | |
|------------------|----------|--------------|--------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 5 | 8 | 6 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 2 | 0 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.4 | 1.8 | 2.6 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 5.0 | 10.1 | 11.3 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 20.7 | 27.0 | 29.5 |
| Particles >4µm | | ASTM D7647 | | 1175 | 11014 | 16808 |
| Particles >6µm | | ASTM D7647 | >5000 | 640 | 6000 | 9156 |
| Particles >14µm | | ASTM D7647 | >640 | 109 | 1021 | 1558 |
| Particles >21µm | | ASTM D7647 | >160 | 37 | 344 | 525 |
| Particles >38µm | | ASTM D7647 | >40 | 6 | 53 | 81 |
| Particles >71µm | | ASTM D7647 | >10 | 1 | 5 | 8 |
| Oil Cleanliness | | ISO 4406 (c) | >19/16 | 16/14 | 20/17 | 20/18 |
| 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 | >0.2 | NEG | NEG | NEG |

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium | ppm | ASTM D5185m | | 1 | 3 | 2 |
| Boron | ppm | ASTM D5185m | | 391 | 252 | 98 |
| Barium | ppm | ASTM D5185m | | 0 | 1 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 86 | 88 | 86 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | 1 |
| Magnesium | ppm | ASTM D5185m | | 391 | 376 | 382 |
| Calcium | ppm | ASTM D5185m | | 1539 | 1458 | 1291 |
| Phosphorus | ppm | ASTM D5185m | 760 | 1119 | 1095 | 929 |
| Zinc | ppm | ASTM D5185m | 800 | 1358 | 1250 | 1175 |
| Sulfur | ppm | ASTM D5185m | 3000 | 4368 | 3774 | 2855 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 14.3 | 22.9 | 24.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10 | 7.89 | 5.21 | 5.13 |
| Visc @ 100°C | cSt | ASTM D445 | 14.6 | 14.1 | 13.1 | 12.6 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0014752
Lab Number : 06238003
Unique Number : 11126837
Test Package : MOB 2 (Additional Tests: PrtCount)

Received : 16 Jul 2024
Tested : 17 Jul 2024
Diagnosed : 18 Jul 2024 - Don Baldridge

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)

PIKES PEAK PERFORMANCE PRODUCTS
 7888 BULLET RD
 PEYTON, CO
 US 80831
 Contact: SCOTT RIGGS
 sriggs.pikespeakperformance@gmail.com
 T: (303)434-0126
 F: x: