



# OIL ANALYSIS REPORT

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

Area **Store 5 - Cross Lanes**

Machine Id **KOMATSU E-40**

Component **Hydraulic System**

Fluid **SAE 10W (--- QTS)**

## RECOMMENDATION

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current     | History1    | History2 |
|----------------|-----|-------------|-----------|-------------|-------------|----------|
| Sample Number  |     | Client Info |           | LEC0046383  | LEC0039482  | ---      |
| Sample Date    |     | Client Info |           | 04 Jun 2024 | 17 May 2023 | ---      |
| Machine Age    | hrs | Client Info |           | 3825        | 3406        | ---      |
| Oil Age        | hrs | Client Info |           | 3000        | 0           | ---      |
| Filter Age     | hrs | Client Info |           | 500         | 306         | ---      |
| Oil Changed    |     | Client Info |           | Not Changd  | Not Changd  | ---      |
| Filter Changed |     | Client Info |           | Changed     | Not Changd  | ---      |
| Sample Status  |     |             |           | ABNORMAL    | ABNORMAL    | ---      |

## WEAR

All component wear rates are normal.

| PQ           | UOM    | Method      | Limit/Abn | Current | History1 | History2 |
|--------------|--------|-------------|-----------|---------|----------|----------|
| Iron         | ppm    | ASTM D5185m | >20       | 18      | 12       | ---      |
| Chromium     | ppm    | ASTM D5185m | >10       | <1      | 0        | ---      |
| Nickel       | ppm    | ASTM D5185m | >10       | 0       | 0        | ---      |
| Titanium     | ppm    | ASTM D5185m |           | 0       | 0        | ---      |
| Silver       | ppm    | ASTM D5185m |           | 0       | 0        | ---      |
| Aluminum     | ppm    | ASTM D5185m | >10       | 2       | <1       | ---      |
| Lead         | ppm    | ASTM D5185m | >10       | 4       | 1        | ---      |
| Copper       | ppm    | ASTM D5185m | >75       | 13      | 11       | ---      |
| Tin          | ppm    | ASTM D5185m | >10       | 0       | <1       | ---      |
| Vanadium     | ppm    | ASTM D5185m |           | 0       | 0        | ---      |
| White Metal  | scalar | *Visual     | NONE      | NONE    | NONE     | ---      |
| Yellow Metal | scalar | *Visual     | NONE      | NONE    | NONE     | ---      |

## CONTAMINATION

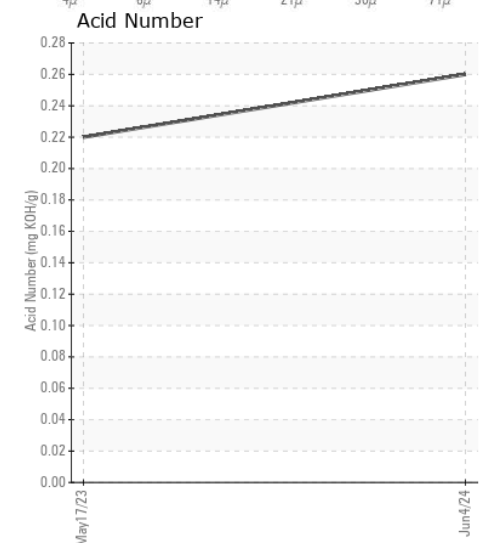
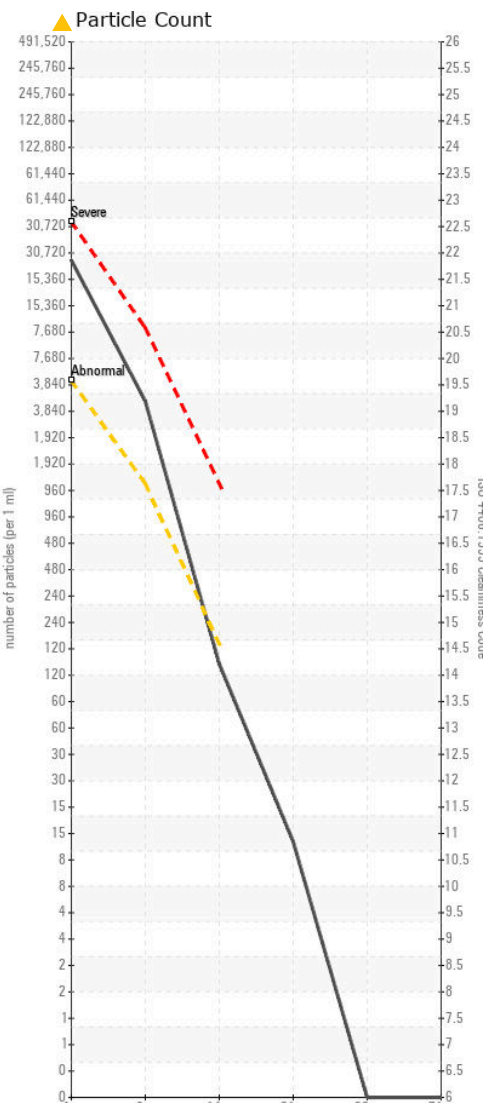
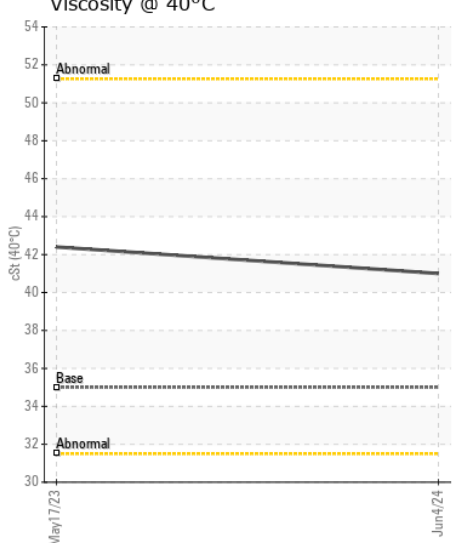
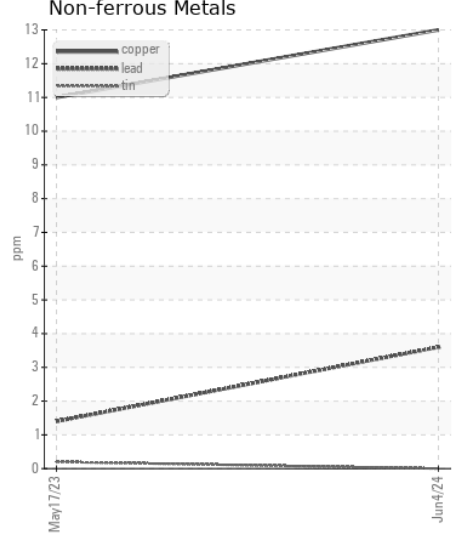
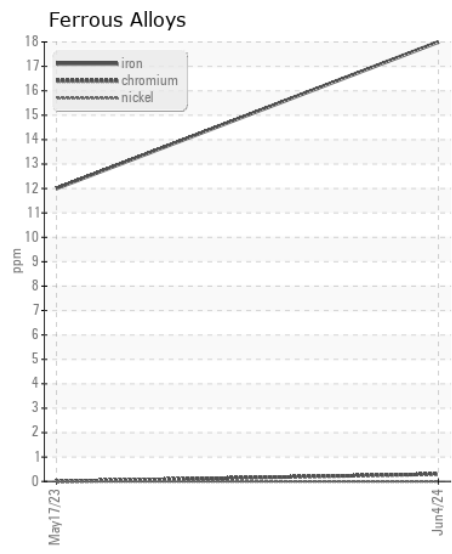
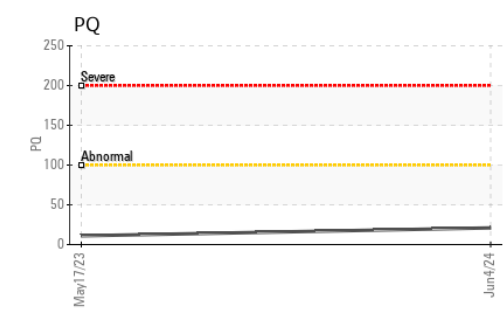
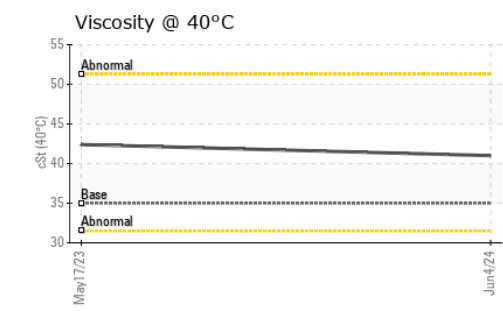
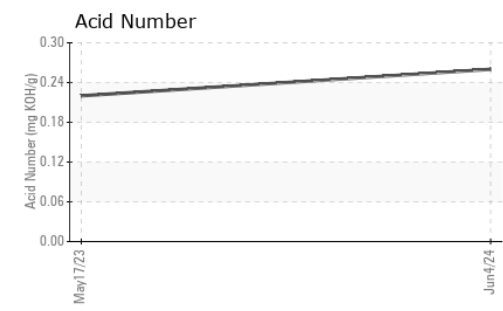
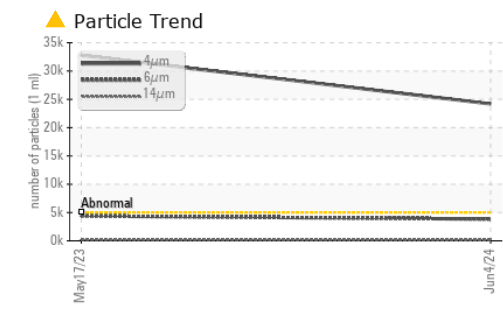
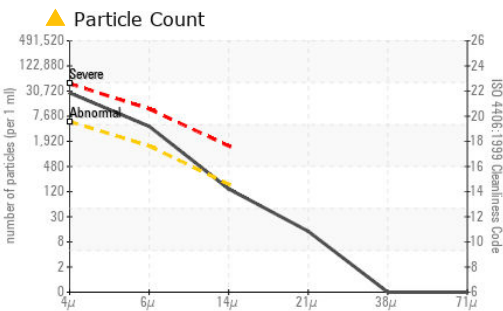
There is a high amount of silt (particulates < 14 microns in size) present in the oil.

|                  |        |              |           |            |            |     |
|------------------|--------|--------------|-----------|------------|------------|-----|
| Silicon          | ppm    | ASTM D5185m  | >20       | 6          | 5          | --- |
| Potassium        | ppm    | ASTM D5185m  | >20       | 2          | <1         | --- |
| Water            |        | WC Method    | >0.1      | NEG        | NEG        | --- |
| Particles >4µm   |        | ASTM D7647   | >5000     | ▲ 24189    | ▲ 32778    | --- |
| Particles >6µm   |        | ASTM D7647   | >1300     | ▲ 3834     | ▲ 4387     | --- |
| Particles >14µm  |        | ASTM D7647   | >160      | 123        | 163        | --- |
| Particles >21µm  |        | ASTM D7647   | >40       | 12         | 24         | --- |
| Particles >38µm  |        | ASTM D7647   | >10       | 0          | 1          | --- |
| Particles >71µm  |        | ASTM D7647   | >3        | 0          | 0          | --- |
| Oil Cleanliness  |        | ISO 4406 (c) | >19/17/14 | ▲ 22/19/14 | ▲ 22/19/15 | --- |
| Silt             | scalar | *Visual      | NONE      | NONE       | NONE       | --- |
| Debris           | scalar | *Visual      | NONE      | NONE       | NONE       | --- |
| Sand/Dirt        | scalar | *Visual      | NONE      | NONE       | NONE       | --- |
| Appearance       | scalar | *Visual      | NORML     | NORML      | NORML      | --- |
| Odor             | scalar | *Visual      | NORML     | NORML      | NORML      | --- |
| Emulsified Water | scalar | *Visual      | >0.1      | NEG        | NEG        | --- |

## FLUID CONDITION

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

|                  |          |             |      |      |      |     |
|------------------|----------|-------------|------|------|------|-----|
| Sodium           | ppm      | ASTM D5185m |      | 0    | 0    | --- |
| Boron            | ppm      | ASTM D5185m |      | 1    | 0    | --- |
| Barium           | ppm      | ASTM D5185m |      | 0    | 7    | --- |
| Molybdenum       | ppm      | ASTM D5185m |      | <1   | <1   | --- |
| Manganese        | ppm      | ASTM D5185m |      | <1   | 0    | --- |
| Magnesium        | ppm      | ASTM D5185m |      | 12   | 11   | --- |
| Calcium          | ppm      | ASTM D5185m |      | 123  | 124  | --- |
| Phosphorus       | ppm      | ASTM D5185m |      | 266  | 264  | --- |
| Zinc             | ppm      | ASTM D5185m |      | 249  | 217  | --- |
| Sulfur           | ppm      | ASTM D5185m |      | 775  | 821  | --- |
| Acid Number (AN) | mg KOH/g | ASTM D8045  |      | 0.26 | 0.22 | --- |
| Visc @ 40°C      | cSt      | ASTM D445   | 35.0 | 41.0 | 42.4 | --- |



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0046383 **Received** : 19 Jun 2024  
**Lab Number** : 06214544 **Tested** : 20 Jun 2024  
**Unique Number** : 11087408 **Diagnosed** : 21 Jun 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: PQ )

**APEX PIPELINE**  
 P.O. BOX 580  
 NITRO, WV  
 US 25143  
 Contact: KELLY TUCKER

Certificate L2367  
 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)

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