

## **OIL ANALYSIS REPORT**

### NORMA

Machine Id

# Press #5 Press #5

Component Hydraulic System

KLUBER KLUBEROIL 4 UH1-46 N (220 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.

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|---|---------|-----------------|-------------------------|---|--|
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|   |         |                 |                         |   |  |
|   |         |                 |                         |   |  |
|   |         |                 |                         |   |  |
| 1 | Jun2021 | Oct2021 Mar2022 | Sep2022 Feb2023 Jun2023 | Sep2023 Jan2024   |  |
|   |         |                 |                         |   |  |

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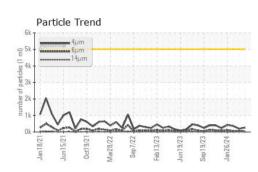
| SAMPLE INFORM    |          | method       | limit/base | current     | history1         | history2        |
|------------------|----------|--------------|------------|-------------|------------------|-----------------|
|                  |          |              | in invoase |             |                  |                 |
| Sample Number    |          | Client Info  |            | PTK0005372  | PTK0005385       | PTK0005248      |
| Sample Date      |          | Client Info  |            | 02 May 2024 | 29 Mar 2024      | 27 Feb 2024     |
| Machine Age      | hrs      | Client Info  |            | 20572       | 20008            | 19426           |
| Oil Age          | hrs      | Client Info  |            | 16094       | 15530            | 14948           |
| Oil Changed      |          | Client Info  |            | Not Changd  | Not Changd       | Not Changd      |
| Sample Status    |          |              |            | NORMAL      | NORMAL           | NORMAL          |
| CONTAMINATIO     | N        | 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        | <1          | 2                | 0               |
| Chromium         | ppm      | ASTM D5185m  | >10        | 0           | <1               | 0               |
| Nickel           | ppm      | ASTM D5185m  | >10        | 0           | 0                | 0               |
| Titanium         | ppm      | ASTM D5185m  |            | 0           | <1               | 0               |
| Silver           | ppm      | ASTM D5185m  |            | <1          | 0                | 0               |
| Aluminum         | ppm      | ASTM D5185m  | >10        | 0           | 2                | 0               |
| Lead             | ppm      | ASTM D5185m  | >10        | 0           | 0                | 0               |
| Copper           | ppm      | ASTM D5185m  | >75        | <1          | <1               | <1              |
| Tin              | ppm      | ASTM D5185m  | >10        | 0           | 0                | 0               |
| Vanadium         | ppm      | ASTM D5185m  |            | 0           | <1               | 0               |
| Cadmium          | ppm      | ASTM D5185m  |            | 0           | 0                | 0               |
| ADDITIVES        |          | method       | limit/base | current     | history1         | history2        |
| Boron            | ppm      | ASTM D5185m  |            | 0           | 0                | 0               |
| Barium           | ppm      | ASTM D5185m  |            | 0           | 0                | 2               |
| Molybdenum       | ppm      | ASTM D5185m  |            | 0           | 0                | 0               |
| Manganese        | ppm      | ASTM D5185m  |            | 0           | 0                | 0               |
| Magnesium        | ppm      | ASTM D5185m  |            | 0           | <1               | 0               |
| Calcium          | ppm      | ASTM D5185m  |            | 2           | 5                | 3               |
| Phosphorus       | ppm      | ASTM D5185m  |            | 28          | 38               | 29              |
| Zinc             | ppm      | ASTM D5185m  |            | 13          | 11               | 10              |
| Sulfur           | ppm      | ASTM D5185m  |            | 65          | 0                | 43              |
| CONTAMINANTS     | \$       | method       | limit/base | current     | history1         | history2        |
| Silicon          | ppm      | ASTM D5185m  | >20        | 3           | 3                | 2               |
| Sodium           | ppm      | ASTM D5185m  |            | 1           | 2                | <1              |
| Potassium        | ppm      | ASTM D5185m  | >20        | 0           | <1               | <1              |
| FLUID CLEANLIN   | IESS     | method       | limit/base | current     | history1         | history2        |
| Particles >4µm   |          | ASTM D7647   | >5000      | 263         | 201              | 356             |
| Particles >6µm   |          | ASTM D7647   | >1300      | 31          | 71               | 55              |
| Particles >14µm  |          | ASTM D7647   | >160       | 2           | 9                | 3               |
| Particles >21µm  |          | ASTM D7647   | >40        | 0           | 3                | 0               |
| Particles >38µm  |          | ASTM D7647   | >10        | 0           | 0                | 0               |
| Particles >71µm  |          | ASTM D7647   | >3         | 0           | 0                | 0               |
| Oil Cleanliness  |          | ISO 4406 (c) | >19/17/14  | 15/12/9     | 15/13/10         | 16/13/9         |
| FLUID DEGRADA    | ATION    | method       | limit/base | current     | history1         | history2        |
| Acid Number (AN) | mg KOH/g | ASTM D8045   |            | 0.33        | 0.33             | 0.34            |
| 0:33:26) Rev: 1  |          |              |            | (           | Contact/Location | : AJ ? - NIAPLE |
|                  |          |              |            |             |                  |                 |

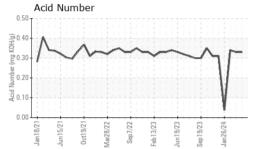
Report Id: NIAPLE [WUSCAR] 06181283 (Generated: 05/17/2024 10:33:26) Rev: 1

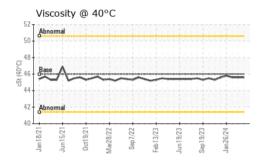
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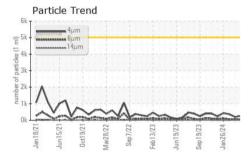


# **OIL ANALYSIS REPORT**









|      | VISUAL   |                     | method                                | limit/base  | current              | history1                                | history2                              |
|------|--|---------------------|---------------------------------------|---|----------------------|---|---------------------------------------|
| 17/1 | 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  | TIES                | method                                | limit/base  | current              | history1                                | history2                              |
|      | Visc @ 40°C  | cSt                 | ASTM D445                             | 46  | 45.6                 | 45.6                                    | 45.6                                  |
|      | SAMPLE IMAGES  | S                   | method                                | limit/base  | current              | history1                                | history2                              |
|      | Color  |                     |                                       |   |                      |   | a.                                    |
|      | Bottom   |                     |                                       |   |                      |   |                                       |
|      | MPC  |                     |                                       |   | no image             | no image                                | no image                              |
|      | GRAPHS   |                     |                                       |   |                      |   |                                       |
|      | Ferrous Alloys   |                     |                                       |   | Particle Coun        | t                                       |                                       |
|      |  |                     |                                       | 491,520   | Ι                    |   | ľ                                     |
|      | E 5  |                     |                                       | 122,880   |                      |   | -1                                    |
|      | C. Internet Dickel   |                     |                                       | 30,720  | Pevere               |   | -1                                    |
|      |  |                     | کے                                    | ₹ 7,680   | Abnormal             |   |                                       |
|      | Jan 18/21<br>Jun 15/21<br>Oct19/21<br>Mar28/22   | Sep7/22<br>Feb13/23 | Jun 19/23<br>Sep 19/23                | Jan 26/24<br>(per 1 ml  |                      |   |                                       |
|      |  | LL.                 | Ser                                   | Jar<br>cles (p  |                      |   |                                       |
|      | Non-ferrous Metal  | S                   |                                       | Jan 26/24<br>Jan 26/24<br>Jan 1 26/24   |                      | N                                       |                                       |
|      | copper   |                     |                                       |   |                      |   | -                                     |
|      | E 5-   |                     |                                       | laguna 30   |                      |   | -<br> -<br> -<br> -<br> -<br> -<br> - |
|      |  |                     |                                       | 8   |                      |   | -1                                    |
|      | 321<br>521<br>122  | 122                 | 123                                   | 42/2 2  |                      |   |                                       |
|      | Jan18/21<br>Jun15/21<br>Oct19/21<br>Mar28/22   | Sep7/22<br>Feb13/23 | Jun 19/23<br>Sep 19/23                | n26   |                      |   |                                       |
|      | Viscosity @ 40°C   |                     | , ,,                                  | 1   | 4μ 6μ<br>Acid Number | 14μ 21μ                                 | 38µ 71µ                               |
|      | 55 T 2000 C 2000 |                     |                                       | ₹0.60   | Acid Number          |   |                                       |
|      | G 50 - Base Base Base  |                     |                                       | ፵<br>ጀበ40   |                      |   |                                       |
|      | Base   |                     |                                       |   | $\sim$               |   | ~1                                    |
|      | 5 45 Queen and a second |                     | 1   1   1   1   1   1   1   1   1   1 | 03.0.01<br>04.0<br>05.0<br>02.0<br>02.0<br>02.0<br>02.0<br>02.0<br>02.0<br>02 |                      |   | V                                     |
|      | Abnormal   |                     |                                       |   |                      |   |                                       |
|      | 153<br>40<br>40<br>40<br>40<br>40<br>40<br>40<br>40<br>40<br>40<br>40<br>40<br>40  | Sep 7/22 +          | Jun 19/23 -                           | Jan 26/24   | Jan 18/21            | Mar28/22 -<br>Sep 7/22 -<br>Feb 13/23 - | Jun 19/23<br>Sep 19/23<br>Jan 26/24   |

: 17 May 2024

: 17 May 2024 - Wes Davis

11031 88TH AVE PLEASANT PRAIRIE, WI US 53158 Contact: AJ

Lab Number : 06181283 Unique Number : 11032609 Test Package : MOB 2 Certificate 12367

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)

Tested

Diagnosed

T: (909)239-7599 F:

Report Id: NIAPLE [WUSCAR] 06181283 (Generated: 05/17/2024 10:33:26) Rev: 1

Contact/Location: AJ ? - NIAPLE Page 2 of 2