



|                 |                 |
|-----------------|-----------------|
| WEAR            | <b>ABNORMAL</b> |
| CONTAMINATION   | <b>ABNORMAL</b> |
| FLUID CONDITION | <b>NORMAL</b>   |

Area  
**[16W16187]**

Machine Id  
**HAMM HD120IVVHF H3040034**

Component  
**Hydraulic System**

Fluid  
**WIRTGEN GROUP HYDRAULIC OIL HVLP 46 (20 GAL)**

### RECOMMENDATION

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. ( Customer Sample Comment: 16W16187 )

| Test           | UOM | Method      | Limit/Abn | Current            | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|----------|----------|
| Sample Number  |     | Client Info |           | <b>JR0207186</b>   | ---      | ---      |
| Sample Date    |     | Client Info |           | <b>17 May 2024</b> | ---      | ---      |
| Machine Age    | hrs | Client Info |           | <b>118</b>         | ---      | ---      |
| Oil Age        | hrs | Client Info |           | <b>118</b>         | ---      | ---      |
| Filter Age     | hrs | Client Info |           | <b>118</b>         | ---      | ---      |
| Oil Changed    |     | Client Info |           | <b>Not Chngd</b>   | ---      | ---      |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | ---      | ---      |
| Sample Status  |     |             |           | <b>ABNORMAL</b>    | ---      | ---      |

### WEAR

The iron level is abnormal.

| Test         | UOM    | Method      | Limit/Abn | Current      | History1 | History2 |
|--------------|--------|-------------|-----------|--------------|----------|----------|
| PQ           |        | ASTM D8184  |           | <b>34</b>    | ---      | ---      |
| Iron         | ppm    | ASTM D5185m | >20       | <b>▲ 37</b>  | ---      | ---      |
| Chromium     | ppm    | ASTM D5185m | >10       | <b>&lt;1</b> | ---      | ---      |
| Nickel       | ppm    | ASTM D5185m | >10       | <b>0</b>     | ---      | ---      |
| Titanium     | ppm    | ASTM D5185m |           | <b>0</b>     | ---      | ---      |
| Silver       | ppm    | ASTM D5185m |           | <b>0</b>     | ---      | ---      |
| Aluminum     | ppm    | ASTM D5185m | >10       | <b>&lt;1</b> | ---      | ---      |
| Lead         | ppm    | ASTM D5185m | >10       | <b>2</b>     | ---      | ---      |
| Copper       | ppm    | ASTM D5185m | >75       | <b>4</b>     | ---      | ---      |
| Tin          | ppm    | ASTM D5185m | >10       | <b>0</b>     | ---      | ---      |
| Vanadium     | ppm    | ASTM D5185m |           | <b>0</b>     | ---      | ---      |
| White Metal  | scalar | *Visual     | NONE      | <b>NONE</b>  | ---      | ---      |
| Yellow Metal | scalar | *Visual     | NONE      | <b>NONE</b>  | ---      | ---      |

### CONTAMINATION

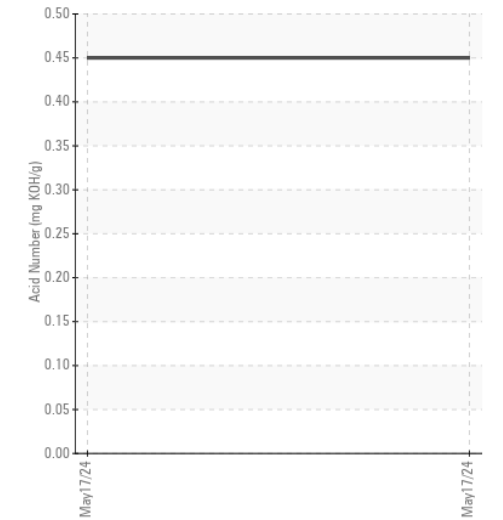
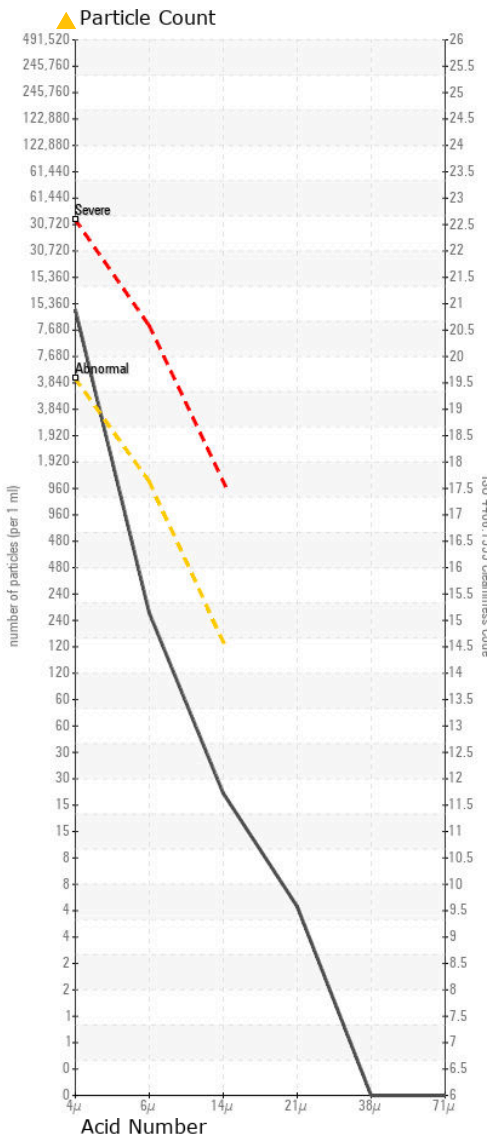
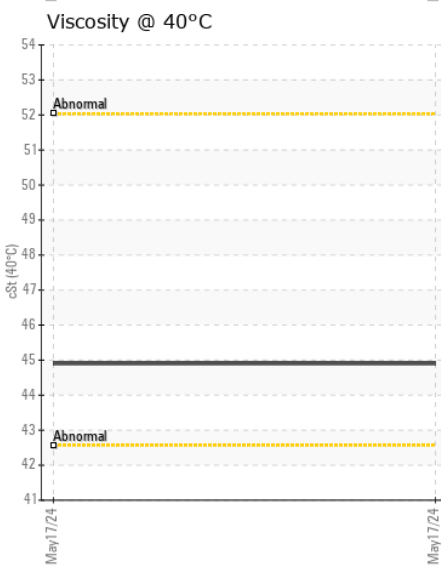
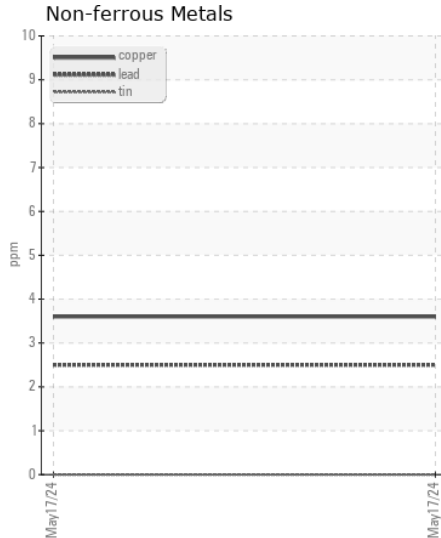
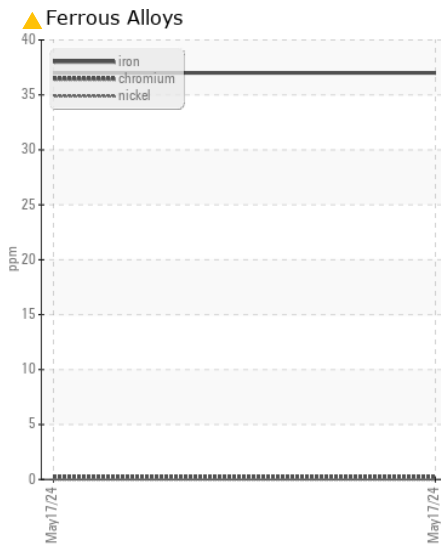
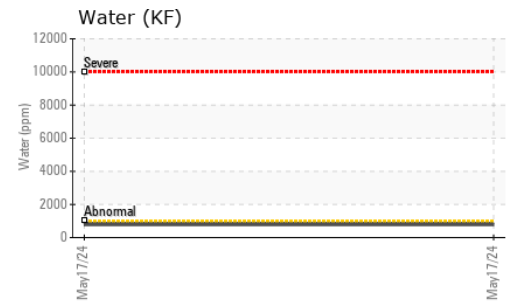
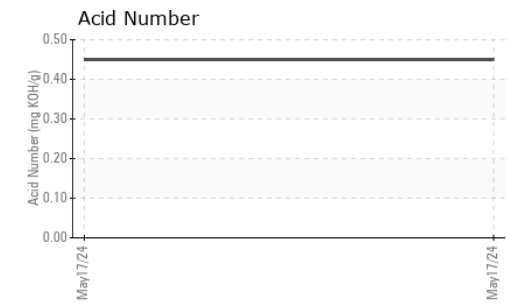
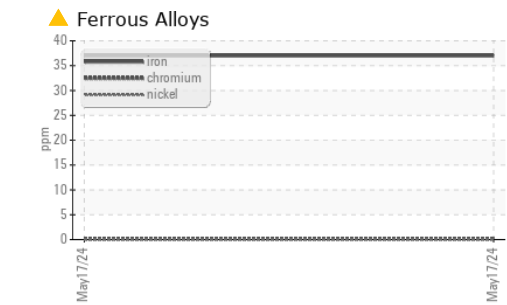
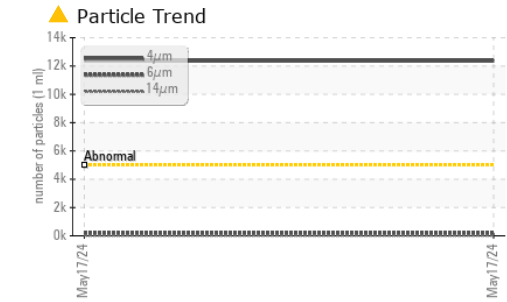
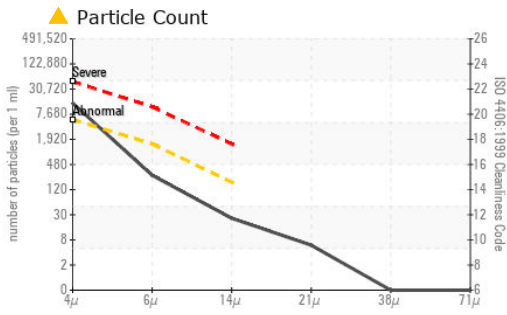
There is a high amount of silt (particulates < 6 microns in size) present in the oil.

|                  |        |              |           |                   |     |     |
|------------------|--------|--------------|-----------|-------------------|-----|-----|
| Silicon          | ppm    | ASTM D5185m  | >20       | <b>4</b>          | --- | --- |
| Potassium        | ppm    | ASTM D5185m  | >20       | <b>0</b>          | --- | --- |
| Water            | %      | ASTM D6304   | >0.1      | <b>0.079</b>      | --- | --- |
| ppm Water        | ppm    | ASTM D6304   | >1000     | <b>790</b>        | --- | --- |
| Particles >4µm   |        | ASTM D7647   | >5000     | <b>▲ 12356</b>    | --- | --- |
| Particles >6µm   |        | ASTM D7647   | >1300     | <b>233</b>        | --- | --- |
| Particles >14µm  |        | ASTM D7647   | >160      | <b>22</b>         | --- | --- |
| Particles >21µm  |        | ASTM D7647   | >40       | <b>5</b>          | --- | --- |
| Particles >38µm  |        | ASTM D7647   | >10       | <b>0</b>          | --- | --- |
| Particles >71µm  |        | ASTM D7647   | >3        | <b>0</b>          | --- | --- |
| Oil Cleanliness  |        | ISO 4406 (c) | >19/17/14 | <b>▲ 21/15/12</b> | --- | --- |
| Silt             | scalar | *Visual      | NONE      | <b>NONE</b>       | --- | --- |
| Debris           | scalar | *Visual      | NONE      | <b>NONE</b>       | --- | --- |
| Sand/Dirt        | scalar | *Visual      | NONE      | <b>NONE</b>       | --- | --- |
| Appearance       | scalar | *Visual      | NORML     | <b>HAZY</b>       | --- | --- |
| Odor             | scalar | *Visual      | NORML     | <b>NORML</b>      | --- | --- |
| Emulsified Water | scalar | *Visual      | >0.1      | <b>0.2%</b>       | --- | --- |

### FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oils additive package is suitable for further service.

|                  |          |             |  |              |     |     |
|------------------|----------|-------------|--|--------------|-----|-----|
| Sodium           | ppm      | ASTM D5185m |  | <b>2</b>     | --- | --- |
| Boron            | ppm      | ASTM D5185m |  | <b>0</b>     | --- | --- |
| Barium           | ppm      | ASTM D5185m |  | <b>0</b>     | --- | --- |
| Molybdenum       | ppm      | ASTM D5185m |  | <b>0</b>     | --- | --- |
| Manganese        | ppm      | ASTM D5185m |  | <b>&lt;1</b> | --- | --- |
| Magnesium        | ppm      | ASTM D5185m |  | <b>42</b>    | --- | --- |
| Calcium          | ppm      | ASTM D5185m |  | <b>4</b>     | --- | --- |
| Phosphorus       | ppm      | ASTM D5185m |  | <b>266</b>   | --- | --- |
| Zinc             | ppm      | ASTM D5185m |  | <b>328</b>   | --- | --- |
| Sulfur           | ppm      | ASTM D5185m |  | <b>835</b>   | --- | --- |
| Acid Number (AN) | mg KOH/g | ASTM D8045  |  | <b>0.45</b>  | --- | --- |
| Visc @ 40°C      | cSt      | ASTM D445   |  | <b>44.9</b>  | --- | --- |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : JR0207186

Lab Number : 06187540

Unique Number : 11044292

Test Package : CONST ( Additional Tests: KF, PQ )

Received : 22 May 2024

Tested : 31 May 2024

Diagnosed : 31 May 2024 - Jonathan Hester

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)

JRE - CASTLE HAYNE

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