

## **OIL ANALYSIS REPORT**

# LOG LINE LINE 1 MAIN HEADER HPU RESERVOIR (S/N DE105H62)

Component **Hydraulic System** 

AW HYDRAULIC OIL ISO 68 (--- GAL)

### DIAGNOSIS

#### Recommendation

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

#### 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.

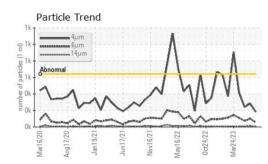


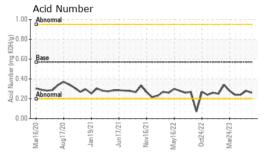
Sample Rating Trend

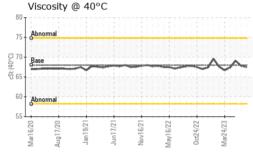
| SAMPLE INFORM    | <b>IATION</b> | method       | limit/base | current     | history1    | history2    |
|------------------|---------------|--------------|------------|-------------|-------------|-------------|
| Sample Number    |               | Client Info  |            | WC0782949   | WC0782946   | WC0782901   |
| Sample Date      |               | Client Info  |            | 17 Jul 2023 | 26 Jun 2023 | 27 May 2023 |
| Machine Age      | hrs           | Client Info  |            | 0           | 0           | 0           |
| Oil Age          | hrs           | Client Info  |            | 0           | 0           | 0           |
| Oil Changed      |               | Client Info  |            | N/A         | N/A         | N/A         |
| Sample Status    |               |              |            | NORMAL      | NORMAL      | NORMAL      |
| WEAR METALS      |               | method       | limit/base | current     | history1    | history2    |
| Iron             | ppm           | ASTM D5185m  | >20        | 1           | 2           | 1           |
| Chromium         | ppm           | ASTM D5185m  | >20        | 0           | 0           | 0           |
| Nickel           | ppm           | ASTM D5185m  | >20        | 0           | <1          | 0           |
| Titanium         | ppm           | ASTM D5185m  |            | 0           | 0           | <1          |
| Silver           | ppm           | ASTM D5185m  |            | 0           | 0           | 0           |
| Aluminum         | ppm           | ASTM D5185m  | >20        | 0           | <1          | 0           |
| Lead             | ppm           | ASTM D5185m  | >20        | <1          | 0           | 0           |
| Copper           | ppm           | ASTM D5185m  |            | <1          | 1           | 1           |
| Tin              | ppm           | ASTM D5185m  | >20        | 0           | 0           | 0           |
| Vanadium         | ppm           | ASTM D5185m  |            | 0           | 0           | 0           |
| Cadmium          | ppm           | ASTM D5185m  |            | 0           | 0           | 0           |
|                  | PP            |              |            | -           |             | -           |
| ADDITIVES        |               | method       | limit/base | current     | history1    | history2    |
| Boron            | ppm           | ASTM D5185m  | 5          | <1          | 0           | 0           |
| Barium           | ppm           | ASTM D5185m  | 5          | 2           | 0           | 0           |
| Molybdenum       | ppm           | ASTM D5185m  | 5          | 1           | <1          | <1          |
| Manganese        | ppm           | ASTM D5185m  |            | 0           | <1          | 0           |
| Magnesium        | ppm           | ASTM D5185m  | 25         | 6           | 6           | 8           |
| Calcium          | ppm           | ASTM D5185m  | 200        | 74          | 71          | 68          |
| Phosphorus       | ppm           | ASTM D5185m  | 300        | 352         | 350         | 364         |
| Zinc             | ppm           | ASTM D5185m  | 370        | 457         | 453         | 453         |
| Sulfur           | ppm           | ASTM D5185m  | 2500       | 996         | 1076        | 771         |
| CONTAMINANTS     | 3             | method       | limit/base | current     | history1    | history2    |
| Silicon          | ppm           | ASTM D5185m  | >15        | <1          | 0           | <1          |
| Sodium           | ppm           | ASTM D5185m  |            | 0           | <1          | 2           |
| Potassium        | ppm           | ASTM D5185m  | >20        | <1          | <1          | 1           |
| FLUID CLEANLIN   | IESS          | method       | limit/base | current     | history1    | history2    |
| Particles >4µm   |               | ASTM D7647   | >640       | 184         | 284         | 241         |
| Particles >6µm   |               | ASTM D7647   | >160       | 56          | 101         | 74          |
| Particles >14µm  |               | ASTM D7647   | >20        | 6           | 13          | 9           |
| Particles >21µm  |               | ASTM D7647   | >4         | 2           | 3           | 2           |
| Particles >38µm  |               | ASTM D7647   | >3         | 0           | 0           | 0           |
| Particles >71µm  |               | ASTM D7647   | >3         | 0           | 0           | 0           |
| Oil Cleanliness  |               | ISO 4406 (c) | >16/14/11  | 15/13/10    | 15/14/11    | 15/13/10    |
| FLUID DEGRADA    |               | method       | limit/base | current     | history1    | history2    |
| Acid Number (AN) | mg KOH/g      | ASTM D8045   | 0.57       | 0.26        | 0.28        | 0.24        |

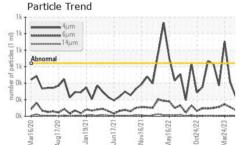


## **OIL ANALYSIS REPORT**

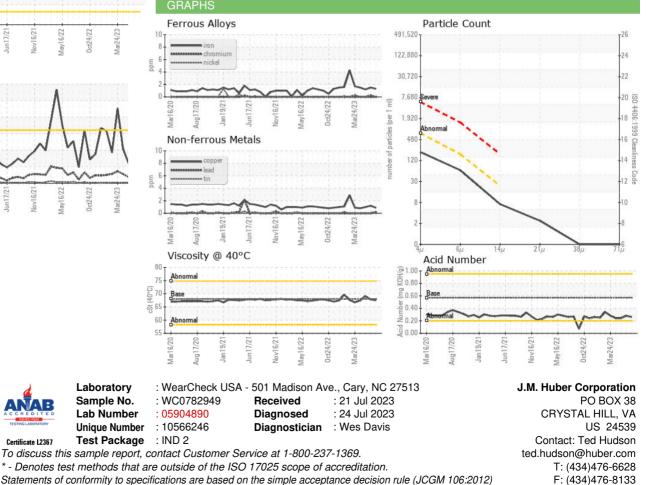








| VISUAL           |          | method              | limit/base       | current | history1         | history2         |
|------------------|----------|---------------------|------------------|---------|------------------|------------------|
| White Metal      | scalar   | *Visual             | NONE             | 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             | >0.05            | NEG     | NEG              | NEG              |
| Free Water       | scalar   | *Visual             |                  | NEG     | NEG              | NEG              |
| FLUID PROPERTIES |          | method              | limit/base       | current | history1         | history2         |
| Visc @ 40°C      | <u>.</u> |                     | ~~               | 07 F    |                  |                  |
| 130 @ 10 0       | cSt      | ASTM D445           | 68               | 67.5    | 67.8             | 69.1             |
| SAMPLE IMAGES    |          | ASTM D445<br>method | 68<br>limit/base | current | 67.8<br>history1 | 69.1<br>history2 |
| -                |          |                     |                  |         |                  |                  |



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: Ted Hudson - JMHCRY