

## **OIL ANALYSIS REPORT**

# Area Metelix - M10200 A2406074

Hydraulic System AW HYDRAULIC OIL ISO 46 (--- GAL)

### Recommendation

We certify that this oil is clean, that the additives are at acceptable levels, and that it is suitable for use.

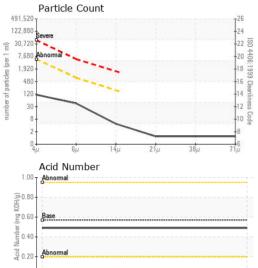
Wear Copper ppm levels are noted.

|                  |        |               |            | Jun2024      |          |          |
|------------------|--------|---------------|------------|--------------|----------|----------|
| SAMPLE INFOR     | MATION | method        | limit/base | current      | history1 | history2 |
| Batch #          |        | Client Info   |            | 2024 06 0140 |          |          |
| Department       |        | Client Info   |            | Production   |          |          |
| Sample From      |        | Client Info   |            | Machine      |          |          |
| Production Stage |        | Client Info   |            | Final        |          |          |
| Sent to WC       |        | Client Info   |            | 06/11/2024   |          |          |
| Sample Number    |        | Client Info   |            | E30002371    |          |          |
| Sample Date      |        | Client Info   |            | 11 Jun 2024  |          |          |
| Machine Age      | hrs    | Client Info   |            | 0            |          |          |
| Oil Age          | hrs    | Client Info   |            | 0            |          |          |
| Oil Changed      |        | Client Info   |            | N/A          |          |          |
| Sample Status    |        |               |            | NORMAL       |          |          |
| WEAR METALS      |        | method        | limit/base | current      | history1 | history2 |
| Iron             | ppm    | ASTM D5185(m) | >20        | 9            |          |          |
| Chromium         | ppm    | ASTM D5185(m) | >20        | 0            |          |          |
| Nickel           | ppm    | ASTM D5185(m) | >20        | 0            |          |          |
| Titanium         | ppm    | ASTM D5185(m) | 0          | 0            |          |          |
| Silver           | ppm    | ASTM D5185(m) |            | 0            |          |          |
| Aluminum         | ppm    | ASTM D5185(m) | >20        | 1            |          |          |
| Lead             | ppm    | ASTM D5185(m) | >20        | 9            |          |          |
| Copper           | ppm    | ASTM D5185(m) | >20        | 24           |          |          |
| Tin              | ppm    | ASTM D5185(m) | >20        | 0            |          |          |
| Antimony         | ppm    | ASTM D5185(m) | 20         | 0            |          |          |
| Vanadium         | ppm    | ASTM D5185(m) |            | 0            |          |          |
| Beryllium        | ppm    | ASTM D5185(m) |            | 0            |          |          |
| Cadmium          |        | ASTM D5185(m) |            | 0            |          |          |
|                  | ppm    |               |            | -            |          |          |
| ADDITIVES        |        | method        | limit/base | current      | history1 | history2 |
| Boron            | ppm    | ASTM D5185(m) | 5          | 1            |          |          |
| Barium           | ppm    | ASTM D5185(m) | 5          | <1           |          |          |
| Molybdenum       | ppm    | ASTM D5185(m) | 5          | 0            |          |          |
| Manganese        | ppm    | ASTM D5185(m) |            | <1           |          |          |
| Magnesium        | ppm    | ASTM D5185(m) | 25         | 15           |          |          |
| Calcium          | ppm    | ASTM D5185(m) | 200        | 49           |          |          |
| Phosphorus       | ppm    | ASTM D5185(m) | 300        | 384          |          |          |
| Zinc             | ppm    | ASTM D5185(m) | 370        | 344          |          |          |
| Sulfur           | ppm    | ASTM D5185(m) | 2500       | 1277         |          |          |
| Lithium          | ppm    | ASTM D5185(m) |            | <1           |          |          |
| CONTAMINANTS     | 6      | method        | limit/base | current      | history1 | history2 |
| Silicon          | ppm    | ASTM D5185(m) | >15        | 1            |          |          |
| Sodium           | ppm    | ASTM D5185(m) |            | 3            |          |          |
| Potassium        | ppm    | ASTM D5185(m) | >20        | 1            |          |          |
| Water            | %      | ASTM D6304*   | >0.05      | 0.001        |          |          |
| ppm Water        | ppm    | ASTM D6304*   | >500       | 10           |          |          |

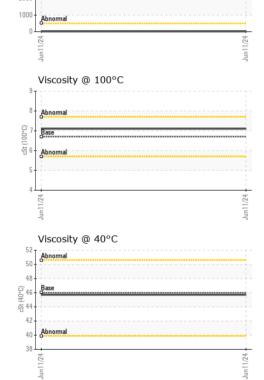
Sample Rating Trend



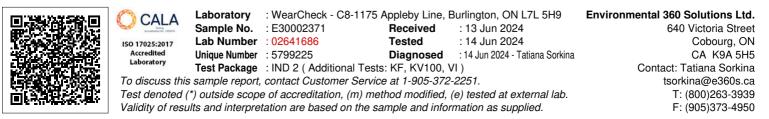
# **OIL ANALYSIS REPORT**







| FLUID CLEANLIN       | ESS      | method        | limit/base | current | history1 | history2 |
|----------------------|----------|---------------|------------|---------|----------|----------|
| Particles >4µm       |          | ASTM D7647    | >5000      | 99      |          |          |
| Particles >6µm       |          | ASTM D7647    | >640       | 38      |          |          |
| Particles >14µm      |          | ASTM D7647    | >160       | 4       |          |          |
| Particles >21µm      |          | ASTM D7647    | >40        | 1       |          |          |
| Particles >38µm      |          | ASTM D7647    | >10        | 1       |          |          |
| Particles >71µm      |          | ASTM D7647    | >3         | 1       |          |          |
| Oil Cleanliness      |          | ISO 4406 (c)  | >19/16/14  | 14/12/9 |          |          |
| FLUID DEGRADA        | TION     | method        | limit/base | current | history1 | history2 |
| Acid Number (AN)     | mg KOH/g | ASTM D974*    | 0.57       | 0.49    |          |          |
| VISUAL               |          | method        | limit/base | current | history1 | history2 |
| White Metal          | scalar   | Visual*       | NONE       | NONE    |          |          |
| Yellow Metal         | scalar   | Visual*       | NONE       | NONE    |          |          |
| Precipitate          | scalar   | Visual*       | NONE       | NONE    |          |          |
| Silt                 | scalar   | Visual*       | NONE       | NONE    |          |          |
| Debris               | scalar   | Visual*       | NONE       | NONE    |          |          |
| Sand/Dirt            | scalar   | Visual*       | NONE       | NONE    |          |          |
| Appearance           | scalar   | Visual*       | NORML      | NORML   |          |          |
| Odor                 | scalar   | Visual*       | NORML      | NORML   |          |          |
| Emulsified Water     | scalar   | Visual*       | >0.05      | NEG     |          |          |
| Free Water           | scalar   | Visual*       |            | NEG     |          |          |
| FLUID PROPERT        | IES      | method        | limit/base | current | history1 | history2 |
| Visc @ 40°C          | cSt      | ASTM D7279(m) | 46         | 45.7    |          |          |
| Visc @ 100°C         | cSt      | ASTM D7279(m) | 6.7        | 7.1     |          |          |
| Viscosity Index (VI) | Scale    | ASTM D2270*   | 97         | 114     |          |          |
| SAMPLE IMAGES        | \$       | method        | limit/base | current | history1 | history2 |
| Color                |          |               |            |         | no image | no image |
| Bottom               |          |               |            |         | no image | no image |



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Contact/Location: Tatiana Sorkina - CHECOB Page 2 of 2