

### **OIL ANALYSIS REPORT**

#### Sample Rating Trend

#### NORMAL

# 4 LOW PRESSURE KILL FLOOR HPU (S/N U070701040)

Hydraulic System

USPI FG HYD 46 (--- LTR)

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

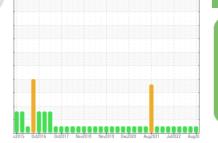
All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

#### **Fluid Condition**

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

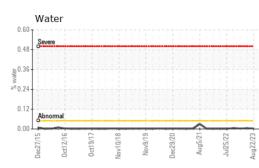


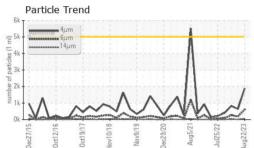


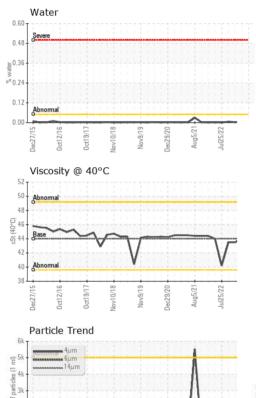
| SAMPLE INFORM   | IATION | method       | limit/base | current     | history1    | history2    |
|-----------------|--------|--------------|------------|-------------|-------------|-------------|
| Sample Number   |        | Client Info  |            | USPM29367   | USPM28246   | USPM26352   |
| Sample Date     |        | Client Info  |            | 22 Aug 2023 | 24 May 2023 | 26 Jan 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        | 0           | 0           | 0           |
| Chromium        | ppm    | ASTM D5185m  | >20        | 0           | 0           | 0           |
| Nickel          | ppm    | ASTM D5185m  | >20        | 0           | 0           | 0           |
| Titanium        | ppm    | ASTM D5185m  |            | 0           | 0           | 0           |
| Silver          | ppm    | ASTM D5185m  |            | 0           | 0           | 0           |
| Aluminum        | ppm    | ASTM D5185m  | >20        | <1          | 0           | <1          |
| Lead            | ppm    |              | >20        | 0           | 0           | 0           |
| Copper          | ppm    | ASTM D5185m  |            | 0           | 0           | 0           |
| Tin             | ppm    | ASTM D5185m  |            | 0           | 0           | 0           |
| Vanadium        | ppm    | ASTM D5185m  | 20         | <1          | 0           | 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           | 0           |
| Molybdenum      | ppm    | ASTM D5185m  |            | 0           | 0           | 0           |
| Manganese       | ppm    | ASTM D5185m  |            | <1          | 0           | 0           |
| Magnesium       | ppm    | ASTM D5185m  |            | 0           | 0           | <1          |
| Calcium         | ppm    | ASTM D5185m  |            | 0           | 0           | 0           |
| Phosphorus      | ppm    | ASTM D5185m  | 725        | 539         | 489         | 449         |
| Zinc            | ppm    | ASTM D5185m  |            | 0           | 0           | 0           |
| Sulfur          | ppm    | ASTM D5185m  | 625        | 624         | 601         | 443         |
| CONTAMINANTS    |        | method       | limit/base | current     | history1    | history2    |
| Silicon         | ppm    | ASTM D5185m  | >15        | <1          | <1          | <1          |
| Sodium          | ppm    | ASTM D5185m  |            | 0           | 0           | 0           |
| Potassium       | ppm    | ASTM D5185m  | >20        | <1          | <1          | 0           |
| Water           | %      | ASTM D6304   | >0.05      | 0.003       | 0.005       | 0.003       |
| ppm Water       | ppm    | ASTM D6304   | >500       | 39.0        | 58.7        | 31.9        |
| FLUID CLEANLIN  | ESS    | method       | limit/base | current     | history1    | history2    |
| Particles >4µm  |        | ASTM D7647   | >5000      | 1883        | 638         | 821         |
| Particles >6µm  |        | ASTM D7647   | >1300      | 604         | 183         | 262         |
| Particles >14µm |        | ASTM D7647   | >160       | 62          | 15          | 22          |
| Particles >21µm |        | ASTM D7647   |            | 15          | 5           | 5           |
| Particles >38µm |        | ASTM D7647   | >10        | 0           | 0           | 1           |
| Particles >71µm |        | ASTM D7647   |            | 0           | 0           | 0           |
| Oil Cleanliness |        | ISO 4406 (c) | >19/17/14  | 18/16/13    | 16/15/11    | 17/15/12    |
|                 |        |              |            |             |             |             |
| FLUID DEGRADA   | TION   | method       | limit/base | current     | history1    | history2    |



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| 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      | cSt    | ASTM D445 | 44         | 43.9  | 44.1     | 43.5     |
| SAMPLE IMAGE     | S      | method    | limit/base | current   | history1 | history2 |
| Color            |        |           |            | ydraulic -<br>Piore HUP<br>Mit Dir ensure<br>Alter analysis<br>Alter analysis<br>Alter analysis<br>Alter analysis<br>Alter analysis<br>Alter analysis<br>Alter analysis |          |          |
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