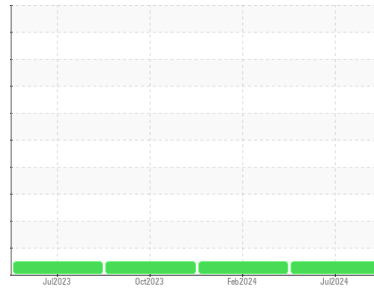




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area

**PSA**

Machine Id

**[PSA] PSA-C-0401 CMPSR, TAIL GAS, PSA UNIT**

Component

**Compressor**

Fluid

**BELRAY Turbine Oil 150 (--- QTS)**

## 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.

### Fluid Condition

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

| SAMPLE INFORMATION |             | method      | limit/base | current            | history1    | history2    |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number      | Client Info |             |            | <b>RP0042807</b>   | RP0038946   | RP0034760   |
| Sample Date        | Client Info |             |            | <b>12 Jul 2024</b> | 06 Feb 2024 | 17 Oct 2023 |
| Machine Age        | hrs         | Client Info |            | <b>0</b>           | 0           | 0           |
| Oil Age            | hrs         | Client Info |            | <b>0</b>           | 0           | 0           |
| Oil Changed        | Client Info |             |            | <b>Not Changed</b> | Not Changed | Not Changed |
| Sample Status      |             |             |            | <b>NORMAL</b>      | NORMAL      | NORMAL      |

| WEAR METALS |     | method      | limit/base | current   | history1 | history2 |
|-------------|-----|-------------|------------|-----------|----------|----------|
| Iron        | ppm | ASTM D5185m | >50        | <b>12</b> | 0        | 0        |
| Chromium    | ppm | ASTM D5185m | >10        | <b>0</b>  | 0        | 0        |
| Nickel      | ppm | ASTM D5185m |            | <b>0</b>  | 0        | 0        |
| Titanium    | ppm | ASTM D5185m |            | <b>0</b>  | <1       | 0        |
| Silver      | ppm | ASTM D5185m |            | <b>0</b>  | 0        | 0        |
| Aluminum    | ppm | ASTM D5185m | >25        | <b>0</b>  | 0        | 0        |
| Lead        | ppm | ASTM D5185m | >25        | <b>0</b>  | 0        | 0        |
| Copper      | ppm | ASTM D5185m | >50        | <b>0</b>  | 0        | 1        |
| Tin         | ppm | ASTM D5185m | >15        | <b>0</b>  | <1       | <1       |
| Vanadium    | ppm | ASTM D5185m |            | <b>0</b>  | <1       | 0        |
| Cadmium     | ppm | ASTM D5185m |            | <b>0</b>  | 0        | 0        |

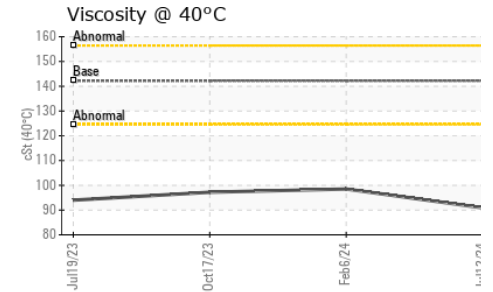
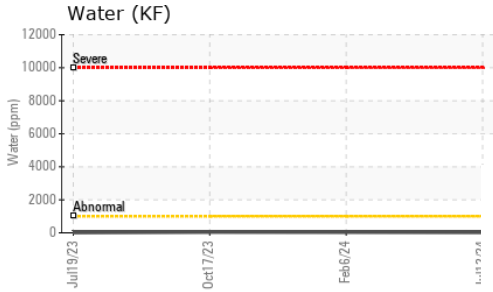
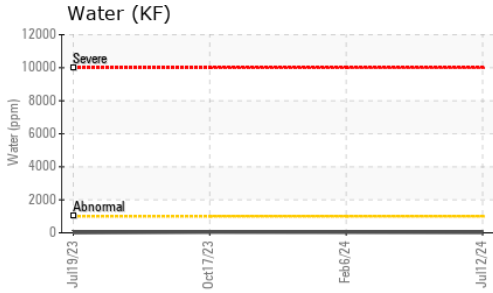
| ADDITIVES  |     | method      | limit/base | current      | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron      | ppm | ASTM D5185m |            | <b>2</b>     | 0        | 0        |
| Barium     | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm | ASTM D5185m |            | <b>2</b>     | <1       | 0        |
| Manganese  | ppm | ASTM D5185m |            | <b>&lt;1</b> | 0        | <1       |
| Magnesium  | ppm | ASTM D5185m |            | <b>6</b>     | 0        | 0        |
| Calcium    | ppm | ASTM D5185m |            | <b>34</b>    | 9        | 6        |
| Phosphorus | ppm | ASTM D5185m |            | <b>44</b>    | 24       | 2        |
| Zinc       | ppm | ASTM D5185m |            | <b>18</b>    | 1        | 0        |

| CONTAMINANTS |     | method      | limit/base | current      | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon      | ppm | ASTM D5185m | >25        | <b>7</b>     | 0        | <1       |
| Sodium       | ppm | ASTM D5185m |            | <b>2</b>     | <1       | 2        |
| Potassium    | ppm | ASTM D5185m | >20        | <b>0</b>     | 0        | 0        |
| Water        | %   | ASTM D6304  | >0.1       | <b>0.001</b> | 0.003    | 0.003    |
| ppm Water    | ppm | ASTM D6304  | >1000      | <b>12</b>    | 30       | 38.8     |

| FLUID DEGRADATION |          | method     | limit/base | current      | history1 | history2 |
|-------------------|----------|------------|------------|--------------|----------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D8045 |            | <b>0.148</b> | 0.091    | 0.08     |

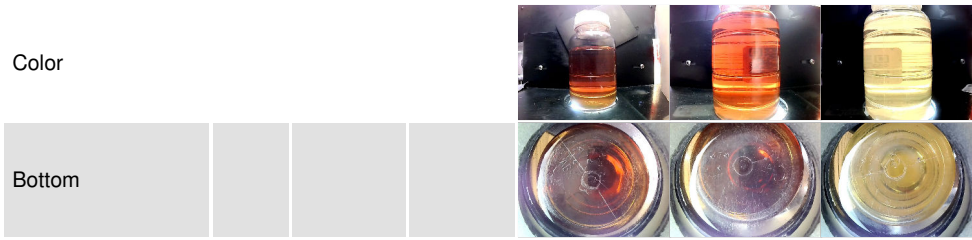
| VISUAL           |        | method  | limit/base | current      | history1 | history2 |
|------------------|--------|---------|------------|--------------|----------|----------|
| White Metal      | scalar | *Visual | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Precipitate      | scalar | *Visual | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Silt             | scalar | *Visual | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Debris           | scalar | *Visual | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Sand/Dirt        | scalar | *Visual | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Appearance       | scalar | *Visual | NORML      | <b>NORML</b> | NORML    | NORML    |
| Odor             | scalar | *Visual | NORML      | <b>NORML</b> | NORML    | NORML    |
| Emulsified Water | scalar | *Visual | >0.1       | <b>NEG</b>   | NEG      | NEG      |
| Free Water       | scalar | *Visual |            | <b>NEG</b>   | NEG      | NEG      |

# OIL ANALYSIS REPORT

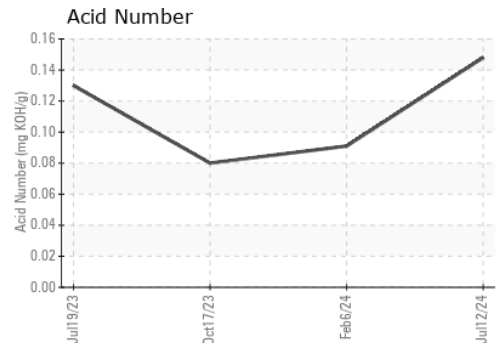
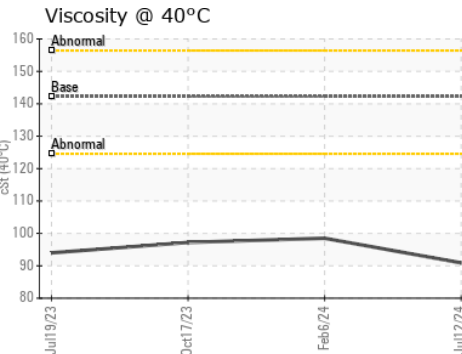
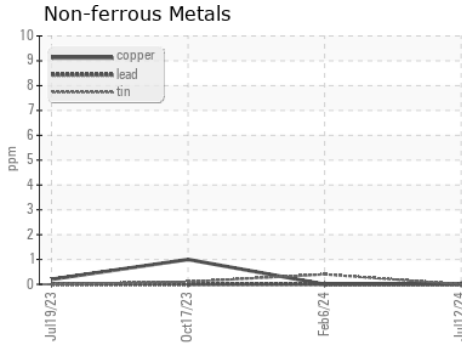
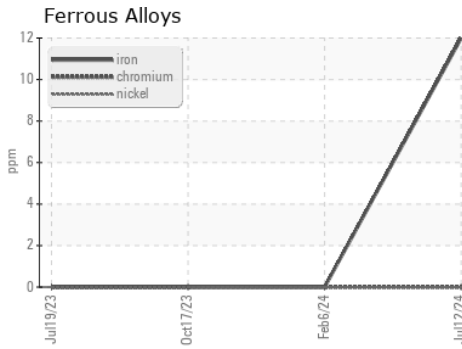


| FLUID PROPERTIES |     | method    | limit/base | current     | history1 | history2 |
|------------------|-----|-----------|------------|-------------|----------|----------|
| Visc @ 40°C      | cSt | ASTM D445 | 142.2      | <b>90.9</b> | 98.5     | 97.2     |

| SAMPLE IMAGES |  | method | limit/base | current | history1 | history2 |
|---------------|--|--------|------------|---------|----------|----------|
|---------------|--|--------|------------|---------|----------|----------|



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RP0042807  
**Lab Number** : **06237867**  
**Unique Number** : 11126701  
**Test Package** : IND 2

**Received** : 16 Jul 2024  
**Tested** : 17 Jul 2024  
**Diagnosed** : 18 Jul 2024 - Don Baldrige

**CALUMET**  
 3333 MIDWAY AVENUE  
 SHREVEPORT, LA  
 US 71109  
 Contact: NICHOLAS LESAGE  
 nicholas.lesage@clmt.com

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)