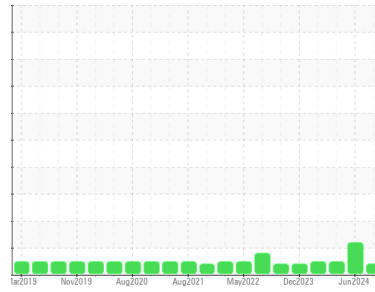




# OIL ANALYSIS REPORT

Sample Rating Trend



## VISCOSITY



Machine Id  
**C-415201**

Component  
**Compressor**

Fluid  
**ROYAL PURPLE SYNFILM GT 32 (600 GAL)**

### DIAGNOSIS

#### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

The water content is negligible. 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 oil viscosity is higher than normal. Confirm oil type. The AN level is acceptable for this fluid.

| SAMPLE INFORMATION |             | method      | limit/base | current            | history1    | history2    |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number      | Client Info |             |            | <b>RP0035218</b>   | RP0035220   | RP06120236  |
| Sample Date        | Client Info |             |            | <b>04 Jun 2024</b> | 04 Jun 2024 | 17 Mar 2024 |
| 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>N/A</b>         | N/A         | N/A         |
| Sample Status      |             |             |            | <b>ATTENTION</b>   | ABNORMAL    | NORMAL      |

| WEAR METALS |     | method      | limit/base | current  | history1 | history2 |
|-------------|-----|-------------|------------|----------|----------|----------|
| Iron        | ppm | ASTM D5185m | >50        | <b>3</b> | 1        | 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> | 0        | 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>5</b> | <1       | 2        |
| Tin         | ppm | ASTM D5185m | >15        | <b>0</b> | 0        | 0        |
| Vanadium    | ppm | ASTM D5185m |            | <b>0</b> | 0        | 0        |
| Cadmium     | ppm | ASTM D5185m |            | <b>0</b> | 0        | 0        |

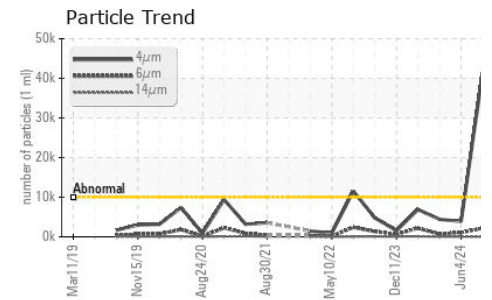
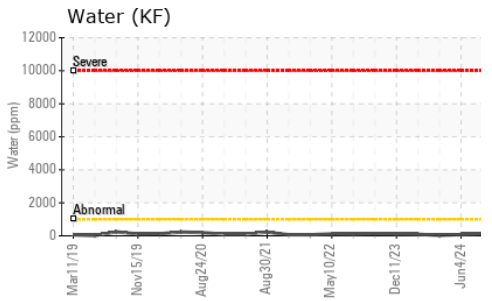
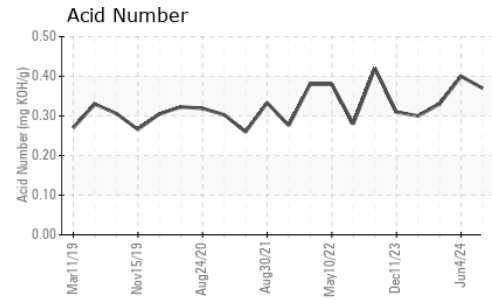
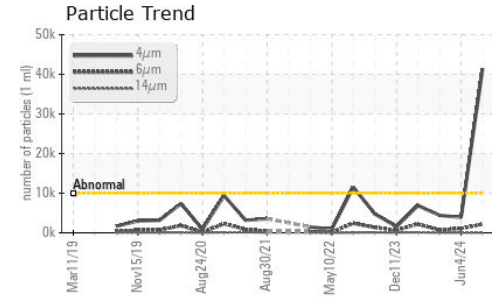
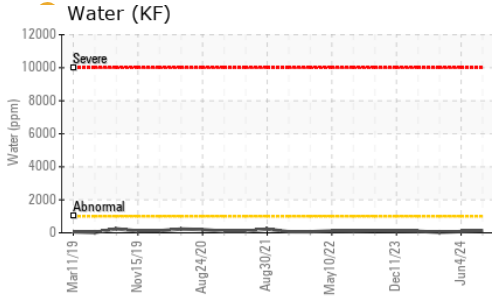
| ADDITIVES  |     | method      | limit/base | current      | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron      | ppm | ASTM D5185m |            | <b>0</b>     | 2        | 0        |
| Barium     | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 0        |
| Manganese  | ppm | ASTM D5185m |            | <b>&lt;1</b> | 0        | 0        |
| Magnesium  | ppm | ASTM D5185m |            | <b>58</b>    | 61       | 81       |
| Calcium    | ppm | ASTM D5185m |            | <b>5</b>     | 3        | 0        |
| Phosphorus | ppm | ASTM D5185m |            | <b>2</b>     | 5        | 0        |
| Zinc       | ppm | ASTM D5185m |            | <b>7</b>     | 2        | 0        |

| CONTAMINANTS |     | method      | limit/base | current      | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon      | ppm | ASTM D5185m | >25        | <b>&lt;1</b> | 2        | <1       |
| Sodium       | ppm | ASTM D5185m |            | <b>1</b>     | <1       | 2        |
| Potassium    | ppm | ASTM D5185m | >20        | <b>0</b>     | 0        | 0        |
| Water        | %   | ASTM D6304  | >0.1       | <b>0.012</b> | 0.007    | 0.003    |
| ppm Water    | ppm | ASTM D6304  | >1000      | <b>127</b>   | 77       | 34       |

| FLUID CLEANLINESS |  | method       | limit/base | current         | history1   | history2 |
|-------------------|--|--------------|------------|-----------------|------------|----------|
| Particles >4µm    |  | ASTM D7647   | >10000     | <b>3894</b>     | ▲ 41407    | 4410     |
| Particles >6µm    |  | ASTM D7647   | >2500      | <b>1055</b>     | 2168       | 686      |
| Particles >14µm   |  | ASTM D7647   | >320       | <b>19</b>       | 7          | 33       |
| Particles >21µm   |  | ASTM D7647   | >80        | <b>2</b>        | 0          | 10       |
| Particles >38µm   |  | ASTM D7647   | >20        | <b>0</b>        | 0          | 0        |
| Particles >71µm   |  | ASTM D7647   | >4         | <b>0</b>        | 0          | 0        |
| Oil Cleanliness   |  | ISO 4406 (c) | >20/18/15  | <b>19/17/11</b> | ▲ 23/18/10 | 19/17/12 |

| FLUID DEGRADATION |          | method     | limit/base | current     | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D8045 |            | <b>0.37</b> | 0.40     | 0.33     |

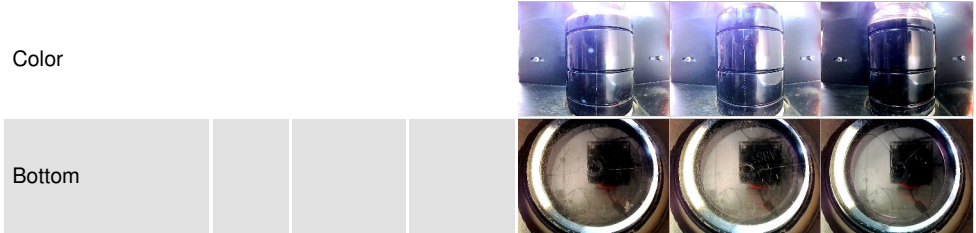
# OIL ANALYSIS REPORT



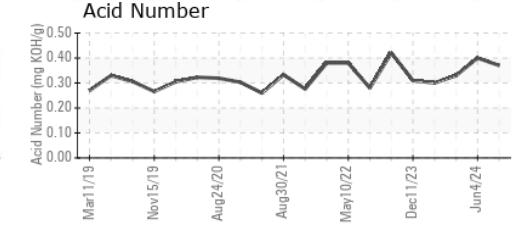
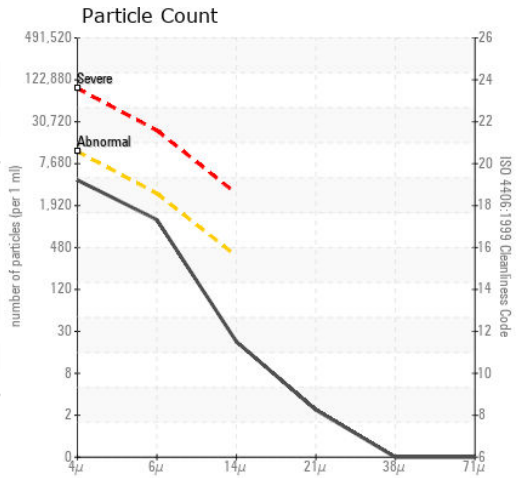
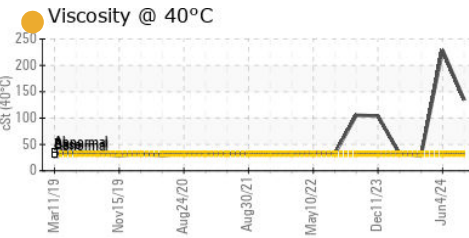
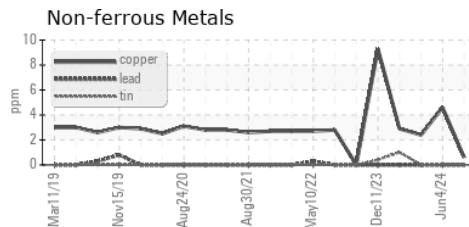
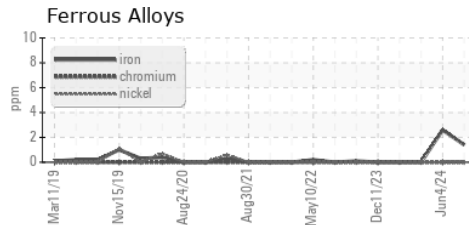
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
|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

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |      |
|------------------|--------|------------|---------|----------|----------|------|
| Visc @ 40°C      | cSt    | ASTM D445  | 32      | 134.4    | 228.8    | 29.0 |

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



## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RP0035218 **Received** : 05 Jun 2024  
**Lab Number** : 06200256 **Tested** : 13 Jun 2024  
**Unique Number** : 11062379 **Diagnosed** : 13 Jun 2024 - Jonathan Hester  
**Test Package** : IND 2 ( Additional Tests: PrtCount )

**CALUMET MONTANA REFINERY**  
 1807 3RD ST NW  
 GREAT FALLS, MT  
 US 59404  
 Contact: CODY MCRADY  
 brian.schoechert@clmt.com  
 T: (406)454-9854  
 F:

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)