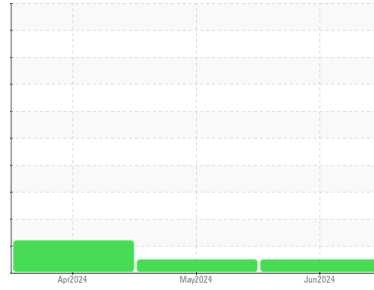


# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**NK 112613 (S/N SC329449)**  
 Component  
**Compressor**  
 Fluid  
**CIMARRON HB-150 (--- GAL)**

**DIAGNOSIS**

**Recommendation**  
 Resample at the next service interval to monitor.

**Wear**  
 All component wear rates are normal.

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

**Fluid Condition**  
 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>TO90004066</b>  | TO90004162  | TO90004021  |
| Sample Date        | Client Info     |        |            | <b>11 Jun 2024</b> | 07 May 2024 | 04 Apr 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>NORMAL</b>      | NORMAL      | ABNORMAL    |

| WEAR METALS |     | method      | limit/base | current      | history1 | history2 |
|-------------|-----|-------------|------------|--------------|----------|----------|
| Iron        | ppm | ASTM D5185m | >50        | <b>0</b>     | 2        | 5        |
| Chromium    | ppm | ASTM D5185m | >10        | <b>0</b>     | <1       | 0        |
| Nickel      | ppm | ASTM D5185m |            | <b>&lt;1</b> | <1       | 0        |
| Titanium    | ppm | ASTM D5185m |            | <b>0</b>     | <1       | 0        |
| Silver      | ppm | ASTM D5185m |            | <b>&lt;1</b> | 0        | 0        |
| Aluminum    | ppm | ASTM D5185m | >25        | <b>&lt;1</b> | 2        | 2        |
| Lead        | ppm | ASTM D5185m | >25        | <b>&lt;1</b> | <1       | 0        |
| Copper      | ppm | ASTM D5185m | >50        | <b>0</b>     | <1       | <1       |
| Tin         | ppm | ASTM D5185m | >15        | <b>1</b>     | <1       | <1       |
| Vanadium    | ppm | ASTM D5185m |            | <b>0</b>     | <1       | <1       |
| Cadmium     | ppm | ASTM D5185m |            | <b>&lt;1</b> | <1       | 0        |

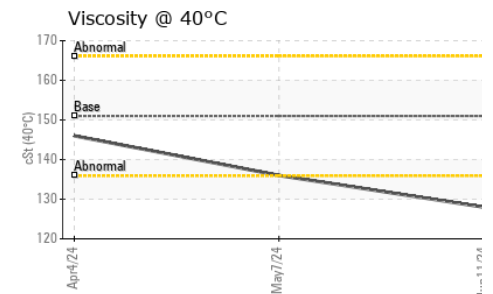
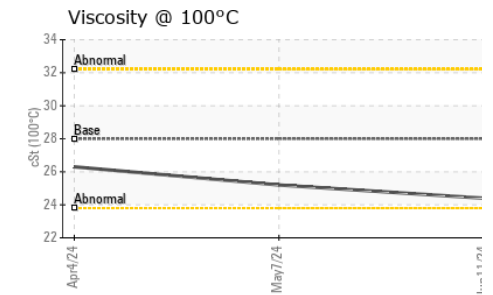
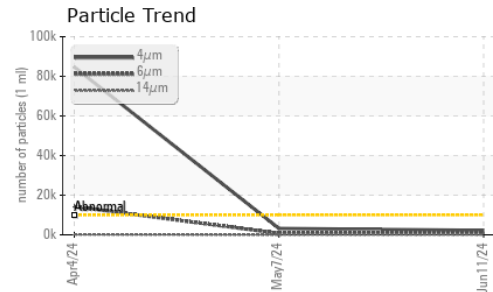
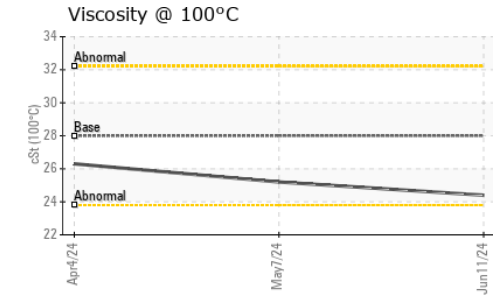
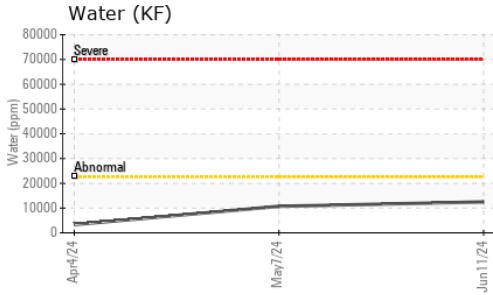
| ADDITIVES  |     | method      | limit/base | current      | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron      | ppm | ASTM D5185m | 0          | <b>0</b>     | 0        | 0        |
| Barium     | ppm | ASTM D5185m | 0          | <b>0</b>     | 1        | 0        |
| Molybdenum | ppm | ASTM D5185m | 0          | <b>0</b>     | <1       | 0        |
| Manganese  | ppm | ASTM D5185m |            | <b>&lt;1</b> | 0        | 0        |
| Magnesium  | ppm | ASTM D5185m | 0          | <b>2</b>     | <1       | <1       |
| Calcium    | ppm | ASTM D5185m | 0          | <b>2</b>     | 5        | 4        |
| Phosphorus | ppm | ASTM D5185m | 0          | <b>15</b>    | 20       | 37       |
| Zinc       | ppm | ASTM D5185m | 0          | <b>6</b>     | 4        | 1        |
| Sulfur     | ppm | ASTM D5185m | 0          | <b>492</b>   | 163      | 235      |

| CONTAMINANTS |     | method      | limit/base | current      | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon      | ppm | ASTM D5185m | >25        | <b>&lt;1</b> | 4        | 0        |
| Sodium       | ppm | ASTM D5185m |            | <b>4</b>     | 2        | 4        |
| Potassium    | ppm | ASTM D5185m | >20        | <b>6</b>     | 1        | 2        |
| Water        | %   | ASTM D6304  | >2.26      | <b>1.25</b>  | 1.07     | 0.332    |
| ppm Water    | ppm | ASTM D6304  | >22600     | <b>12500</b> | 10700    | 3329     |

| FLUID CLEANLINESS |  | method       | limit/base | current         | history1 | history2   |
|-------------------|--|--------------|------------|-----------------|----------|------------|
| Particles >4µm    |  | ASTM D7647   | >10000     | <b>2232</b>     | 3220     | ▲ 84683    |
| Particles >6µm    |  | ASTM D7647   | >2500      | <b>599</b>      | 741      | ▲ 14229    |
| Particles >14µm   |  | ASTM D7647   | >320       | <b>28</b>       | 30       | 154        |
| Particles >21µm   |  | ASTM D7647   | >80        | <b>6</b>        | 9        | 18         |
| Particles >38µm   |  | ASTM D7647   | >20        | <b>1</b>        | 4        | 0          |
| Particles >71µm   |  | ASTM D7647   | >4         | <b>0</b>        | 4        | 0          |
| Oil Cleanliness   |  | ISO 4406 (c) | >20/18/15  | <b>18/16/12</b> | 19/17/12 | ▲ 24/21/14 |

| FLUID DEGRADATION |          | method     | limit/base | current     | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D8045 |            | <b>0.23</b> | 0.16     | 0.19     |

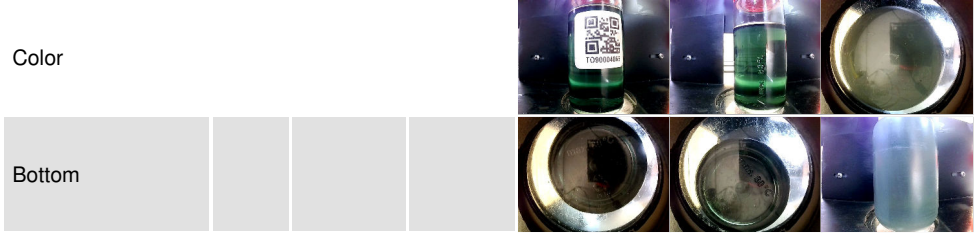
# OIL ANALYSIS REPORT



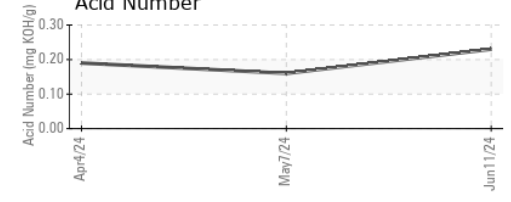
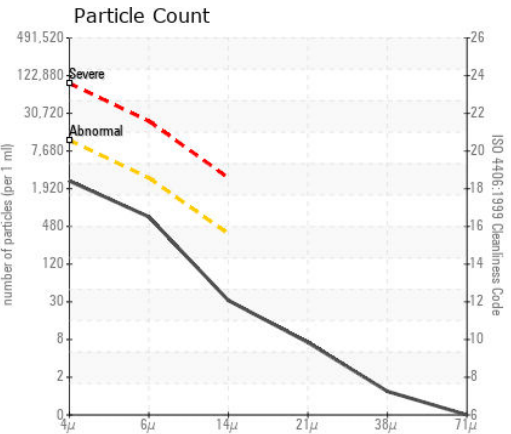
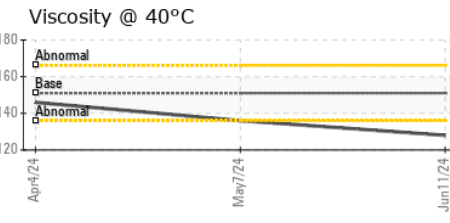
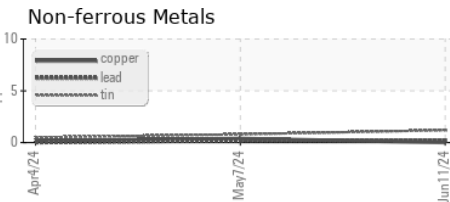
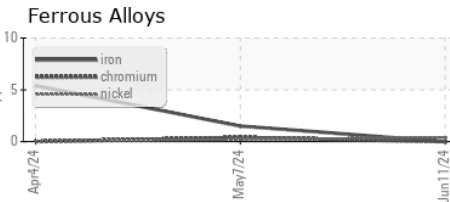
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| 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    | >2.26   | NEG      | NEG      |
| Free Water       | scalar | *Visual    |         | NEG      | NEG      |

| FLUID PROPERTIES     | method | limit/base | current | history1 | history2 |
|----------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C          | cSt    | ASTM D445  | 151     | 128      | 136      |
| Visc @ 100°C         | cSt    | ASTM D445  | 28      | 24.4     | 25.2     |
| Viscosity Index (VI) | Scale  | ASTM D2270 | 224     | 224      | 220      |

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



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TO90004066 **Received** : 20 Jun 2024  
**Lab Number** : 06216320 **Tested** : 24 Jun 2024  
**Unique Number** : 11089184 **Diagnosed** : 24 Jun 2024 - Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF, KV100, PrtCount, VI )

**CIMARRON ENERGY - CARLSBAD**  
 4425 GRANDI RD, UNIT F  
 CARLSBAD, NM  
 UM 88220-8923  
 Contact: CARLOS LEAL  
 cleal@cimarron.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)