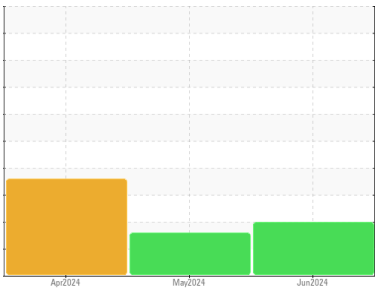
# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
## LEROI 111088
Component
**Compressor**
Fluid
**CIMARRON HB-150 (--- GAL)**

## DIAGNOSIS

**Recommendation**
Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

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

**Contamination**
There is a high amount of particulates present in the oil.

**Fluid Condition**
The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **TO90004513** | TO90004089 | TO90003963 |
| Sample Date | | Client Info | | **18 Jun 2024** | 15 May 2024 | 10 Apr 2024 |
| Machine Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **Changed** | N/A | N/A |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **14** | 12 | 2 |
| Chromium | ppm | ASTM D5185m | >10 | **<1** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | | **0** | 1 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | <1 | 2 |
| Aluminum | ppm | ASTM D5185m | >25 | **2** | 1 | <1 |
| Lead | ppm | ASTM D5185m | >25 | **0** | <1 | 0 |
| Copper | ppm | ASTM D5185m | >50 | **0** | 0 | <1 |
| Tin | ppm | ASTM D5185m | >15 | **0** | 1 | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 0 | **2** | <1 | 3 |
| Barium | ppm | ASTM D5185m | 0 | **0** | 0 | <1 |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | 0 | **<1** | 7 | <1 |
| Calcium | ppm | ASTM D5185m | 0 | **0** | 2 | 4 |
| Phosphorus | ppm | ASTM D5185m | 0 | **27** | 53 | 167 |
| Zinc | ppm | ASTM D5185m | 0 | **0** | <1 | 0 |
| Sulfur | ppm | ASTM D5185m | 0 | **599** | 674 | 1538 |

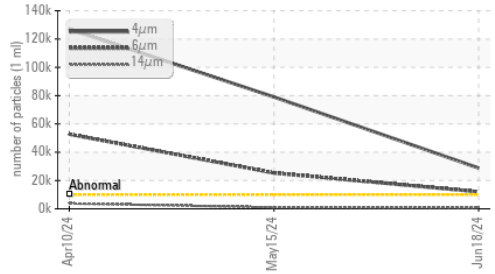
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **0** | 1 | 1 |
| Sodium | ppm | ASTM D5185m | | **6** | 8 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | **1** | 6 | 2 |
| Water | % | ASTM D6304 | >2.26 | **0.968** | 1.42 | ▲ 0.252 |
| ppm Water | ppm | ASTM D6304 | >22600 | **9680** | 14200 | ▲ 2528 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >10000 | ▲ **28841** | ▲ 79033 | ▲ 127002 |
| Particles >6µm | | ASTM D7647 | >2500 | ▲ **12055** | ▲ 25336 | ▲ 52746 |
| Particles >14µm | | ASTM D7647 | >320 | ▲ **710** | ▲ 948 | ▲ 3785 |
| Particles >21µm | | ASTM D7647 | >80 | ▲ **56** | 105 | ▲ 655 |
| Particles >38µm | | ASTM D7647 | >20 | **0** | 1 | 4 |
| Particles >71µm | | ASTM D7647 | >4 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >20/18/15 | ▲ **22/21/17** | ▲ 23/22/17 | ▲ 24/23/19 |

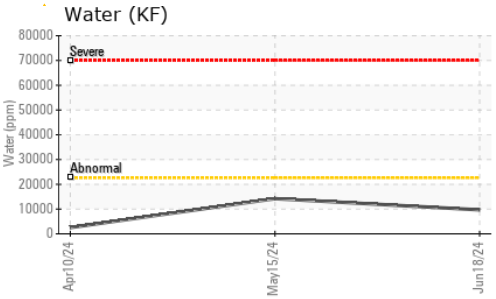
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **0.51** | 0.35 | 0.69 |

# OIL ANALYSIS REPORT

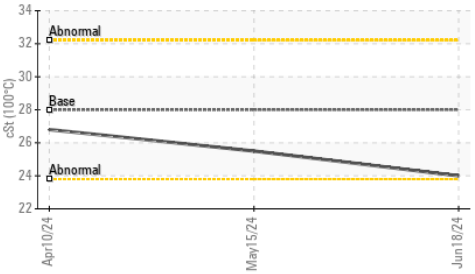
Particle Trend



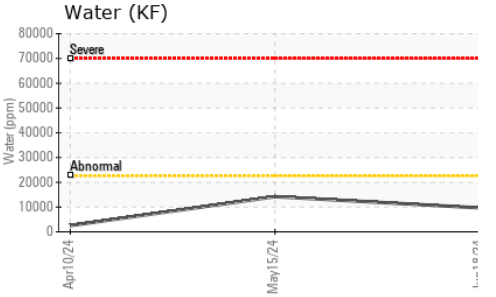

Water (KF)



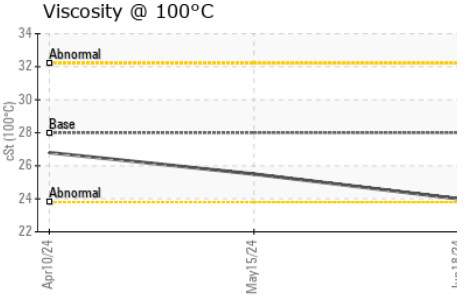

Viscosity @ 100°C




Water (KF)



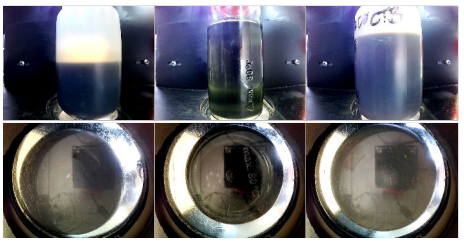

Viscosity @ 100°C




| 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** | LIGHT | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | NONE | LIGHT |
| 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 | >2.26 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

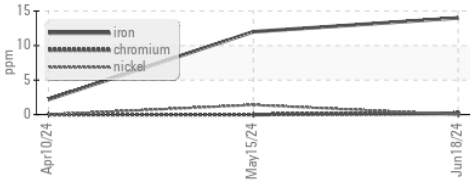
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 151 | **137** | 142 | 149 |
| Visc @ 100°C | cSt | ASTM D445 | 28 | **24.0** | 25.5 | 26.8 |
| Viscosity Index (VI) | Scale | ASTM D2270 | 224 | **208** | 215 | 217 |

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

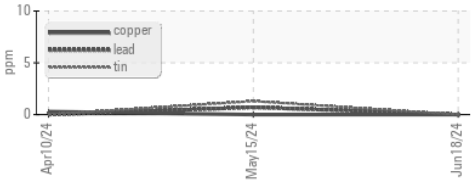


## GRAPHS

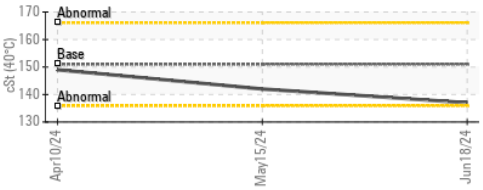
Ferrous Alloys



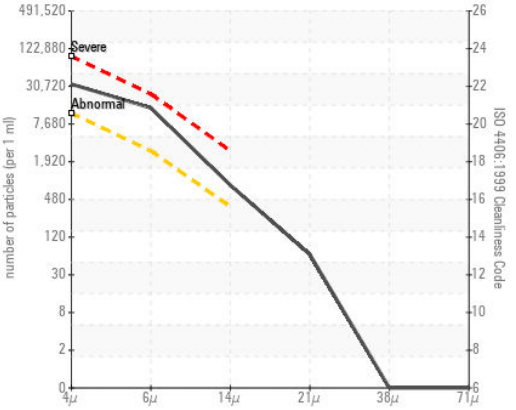

Non-ferrous Metals



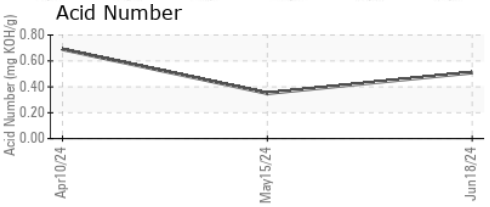

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : TO90004513
**Lab Number** : 06221299
**Unique Number** : 11099496
**Test Package** : IND 2 ( Additional Tests: KF, KV100, PrtCount, VI )

**Received** : 26 Jun 2024
**Tested** : 27 Jun 2024
**Diagnosed** : 27 Jun 2024 - Don Baldridge

*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)*

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

Report Id: CIMCAR [WUSCAR] 06221299 (Generated: 06/27/2024 17:25:29) Rev: 1

Contact/Location: CARLOS LEAL - CIMCAR