

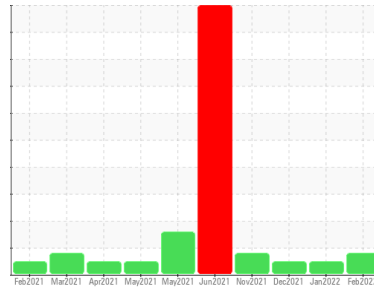


OIL ANALYSIS REPORT



Area
GUAY SON/Yavaros [CONHER]
 Machine Id
CATERPILLAR Pacifico industrial PISA2 MP
 Component
Diesel Engine
 Fluid
CHEVRON DELO 400 SDE SAE 15W40 (100 LTR)

Sample Rating Trend



SOOT



DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is an abnormal amount of solids and carbon present in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

| method | limit/base | current | history1 | history2 |
|---------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | KL0009065 | KL0009056 | KL0009022 |
| Sample Date | Client Info | 09 Feb 2022 | 08 Jan 2022 | 11 Dec 2021 |
| Machine Age | hrs | 33900 | 33600 | 33300 |
| Oil Age | hrs | 1120 | 820 | 520 |
| Oil Changed | Client Info | Not Chngd | Not Chngd | Not Chngd |
| Sample Status | | ABNORMAL | NORMAL | NORMAL |

CONTAMINATION

| method | limit/base | current | history1 | history2 | |
|--------|------------|---------|------------|----------|-----|
| Water | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | WC Method | | NEG | NEG | NEG |

WEAR METALS

| method | limit/base | current | history1 | history2 | | |
|----------|------------|-------------|----------|--------------|----|----|
| Iron | ppm | ASTM D5185m | >100 | 52 | 25 | 21 |
| Chromium | ppm | ASTM D5185m | >20 | 1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >2 | <1 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >25 | 4 | <1 | 2 |
| Lead | ppm | ASTM D5185m | >40 | 3 | <1 | <1 |
| Copper | ppm | ASTM D5185m | >330 | 27 | 28 | 44 |
| Tin | ppm | ASTM D5185m | >15 | 1 | <1 | 1 |
| Antimony | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |

ADDITIVES

| method | limit/base | current | history1 | history2 | | |
|------------|------------|-------------|----------|-------------|------|------|
| Boron | ppm | ASTM D5185m | | 62 | 213 | 208 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 109 | 118 | 120 |
| Manganese | ppm | ASTM D5185m | | 1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 710 | 725 | 710 |
| Calcium | ppm | ASTM D5185m | | 1508 | 1651 | 1610 |
| Phosphorus | ppm | ASTM D5185m | 760 | 652 | 758 | 689 |
| Zinc | ppm | ASTM D5185m | 800 | 817 | 864 | 811 |
| Sulfur | ppm | ASTM D5185m | 3000 | 2042 | 2452 | 1976 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 | | |
|-----------|------------|-------------|----------|----------------|------|------|
| Silicon | ppm | ASTM D5185m | >25 | 6 | 6 | 7 |
| Sodium | ppm | ASTM D5185m | | 1 | 0 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | <1 | <1 |
| Fuel | % | ASTM D3524 | >5 | <1.0 | <1.0 | <1.0 |

INFRA-RED

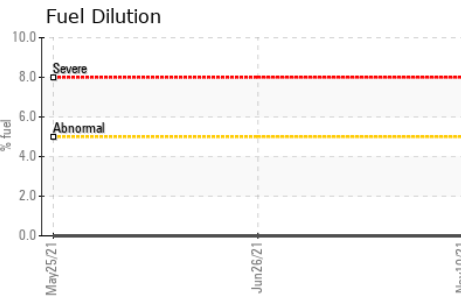
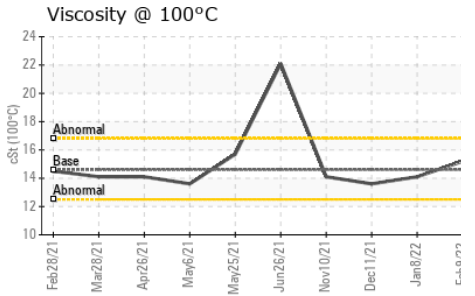
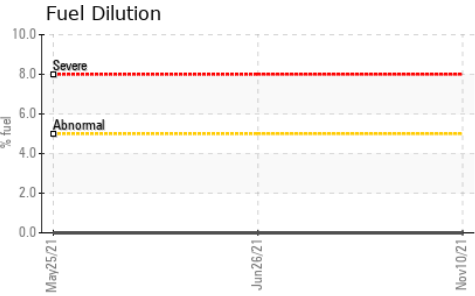
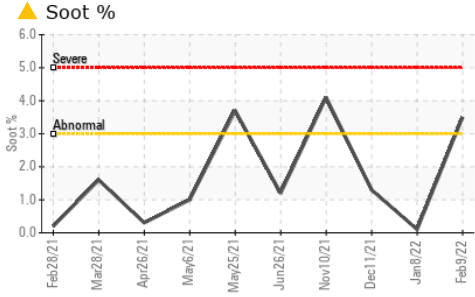
| method | limit/base | current | history1 | history2 | | |
|-----------|------------|-------------|----------|--------------|------|------|
| Soot % | % | *ASTM D7844 | >3 | ▲ 3.5 | 0.1 | 1.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 12.3 | 9.7 | 8.2 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 31.9 | 20.8 | 26.2 |

FLUID DEGRADATION

| method | limit/base | current | history1 | history2 | | |
|------------------|------------|-------------|----------|-------------|------|------|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 20.9 | 15.7 | 17.2 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10 | 5.6 | 8.9 | 8.3 |



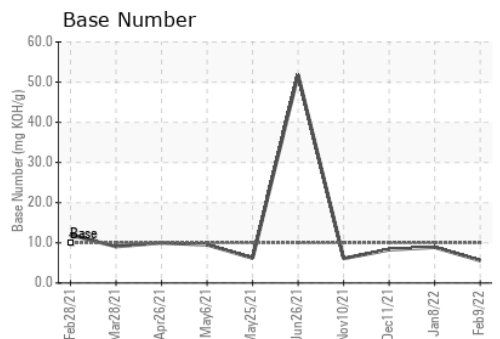
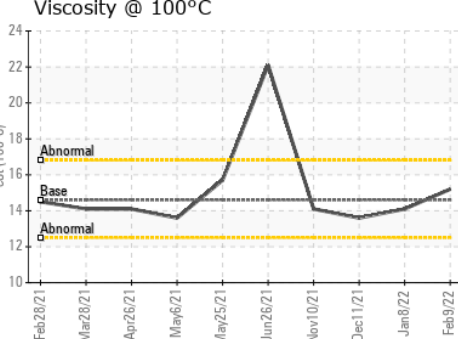
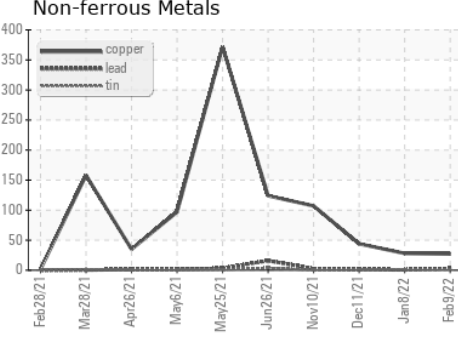
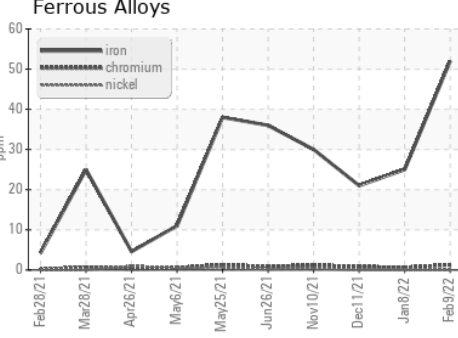
OIL ANALYSIS REPORT



| 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 | >0.2 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 14.6 | 15.2 | 14.1 |

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0009065 **Received** : 15 Feb 2022
Lab Number : 05468442 **Tested** : 16 Feb 2022
Unique Number : 9852655 **Diagnosed** : 16 Feb 2022 - Don Baldrige
Test Package : FLEET (Additional Tests: FuelDilution)

CONOR
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 HERMOSILLO,
 MX 83140
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 F: x:

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)