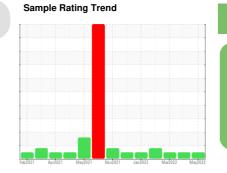
# **OIL ANALYSIS REPORT**

GUAY SON/Yavaros [CONHER] Machine Id CATERPILLAR Pacifico industrial PISA2 MP Component

Diesel Engine

CHEVRON DELO 400 SDE SAE 15W40 (100 LTR)



 $\checkmark$ 

NORMAL

# DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: Estimated hrs for no info of sample )

## Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

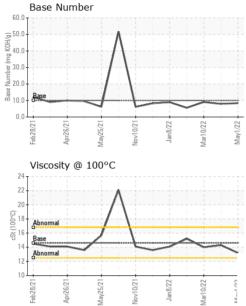
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| SAMPLE INFORM    | IATION   | method      | limit/base | current     | history1    | history2    |
|------------------|----------|-------------|------------|-------------|-------------|-------------|
| Sample Number    |          | Client Info |            | KL0009245   | KL0009227   | KL0009095   |
| Sample Date      |          | Client Info |            | 01 May 2022 | 08 Apr 2022 | 10 Mar 2022 |
| Machine Age      | hrs      | Client Info |            | 35660       | 35310       | 34960       |
| Oil Age          | hrs      | Client Info |            | 350         | 586         | 236         |
| Oil Changed      |          | Client Info |            | N/A         | N/A         | Not Changd  |
| Sample Status    |          |             |            | NORMAL      | NORMAL      | NORMAL      |
| CONTAMINATION    | N        | method      | limit/base | current     | history1    | history2    |
| Fuel             |          | WC Method   | >5         | <1.0        | <1.0        | <1.0        |
| 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       | 19          | 56          | 35          |
| Chromium         | ppm      | ASTM D5185m | >20        | <1          | 1           | <1          |
| Nickel           | ppm      | ASTM D5185m | >2         | 0           | 1           | 0           |
| Titanium         | ppm      | ASTM D5185m | >2         | 0           | <1          | <1          |
| Silver           | ppm      | ASTM D5185m | >2         | <1          | 0           | 0           |
| Aluminum         | ppm      | ASTM D5185m | >25        | 3           | 4           | 5           |
| Lead             | ppm      | ASTM D5185m | >40        | <1          | 2           | <1          |
| Copper           | ppm      | ASTM D5185m | >330       | 4           | 14          | 9           |
| Tin              | ppm      | ASTM D5185m | >15        | <1          | 2           | <1          |
| Antimony         | ppm      | ASTM D5185m |            |             |             |             |
| 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 |            | 205         | 133         | 230         |
| Barium           | ppm      | ASTM D5185m |            | 0           | 0           | 0           |
| Molybdenum       | ppm      | ASTM D5185m |            | 88          | 121         | 131         |
| Manganese        | ppm      | ASTM D5185m |            | <1          | 1           | <1          |
| Magnesium        | ppm      | ASTM D5185m |            | 594         | 773         | 693         |
| Calcium          | ppm      | ASTM D5185m |            | 1553        | 1708        | 1585        |
| Phosphorus       | ppm      | ASTM D5185m | 760        | 693         | 779         | 764         |
| Zinc             | ppm      | ASTM D5185m | 800        | 745         | 888         | 933         |
| Sulfur           | ppm      | ASTM D5185m | 3000       | 2201        | 2354        | 2395        |
| CONTAMINANTS     |          | method      | limit/base | current     | history1    | history2    |
| Silicon          | ppm      | ASTM D5185m | >25        | 7           | 7           | 5           |
| Sodium           | ppm      | ASTM D5185m |            | <1          | 2           | <1          |
| Potassium        | ppm      | ASTM D5185m | >20        | 0           | 0           | 1           |
| INFRA-RED        |          | method      | limit/base | current     | history1    | history2    |
| Soot %           | %        | *ASTM D7844 | >3         | 0.8         | 2.3         | 1.8         |
| Nitration        | Abs/cm   | *ASTM D7624 | >20        | 6.5         | 11.3        | 8.5         |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30        | 22.5        | 29.8        | 27.6        |
| FLUID DEGRADA    | TION     | method      | limit/base | current     | history1    | history2    |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25        | 14.4        | 20.6        | 17.8        |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 10         | 8.4         | 7.9         | 9.1         |
| . ,              |          |             |            |             |             |             |

Submitted By: EDUARDO GARCIA



# **OIL ANALYSIS REPORT**



| 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    | NONE     | NONE     |
| Debris           | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| 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   | >0.2       | NEG     | NEG      | NEG      |
| Free Water       | scalar | *Visual   |            | NEG     | NEG      | NEG      |
| FLUID PROPER     | TIES   | method    | limit/base | current | history1 | history2 |
| Visc @ 100°C     | cSt    | ASTM D445 | 14.6       | 13.2    | 14.3     | 14.0     |
| GRAPHS           |        |           |            |         |          |          |

Ferrous Alloys

