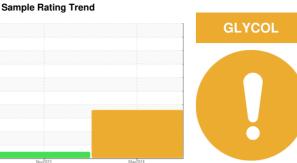


OIL ANALYSIS REPORT



Machine Id

1019 TR 289

Component

Diesel Engine

CHEVRON DELO 400 SAE 10W30 (--- GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

Moderate concentration of visible metal present. All component wear rates are normal.

Contamination

There is no indication of any contamination in the

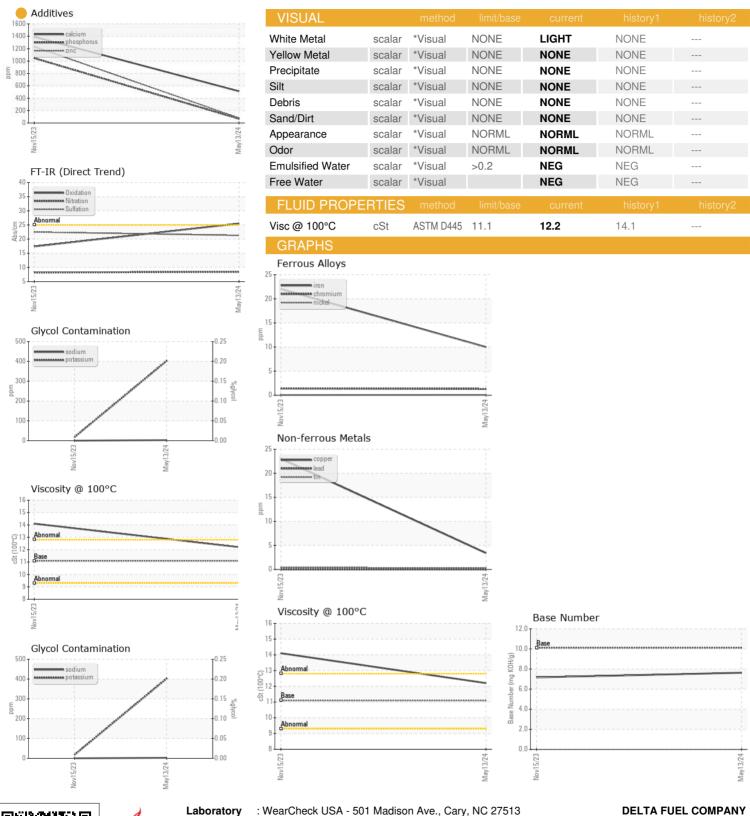
Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. The BN result indicates that there is suitable alkalinity remaining in the oil.

| | | | Nov2023 | May2024 | | |
|---|---|--|----------------------------------|---|--|--|
| | | | | | | |
| SAMPLE INFOR | MATION | method | limit/base | current | history1 | history2 |
| Sample Number | | Client Info | | PCA0101416 | PCA0101396 | |
| Sample Date | | Client Info | | 13 May 2024 | 15 Nov 2023 | |
| Machine Age | mls | Client Info | | 139822 | 118403 | |
| Oil Age | mls | Client Info | | 0 | 0 | |
| Oil Changed | | Client Info | | N/A | N/A | |
| Sample Status | | | | ATTENTION | NORMAL | |
| CONTAMINAT | ION | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | |
| Water | | WC Method | >0.2 | NEG | NEG | |
| WEAR METAL | S | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >100 | 10 | 22 | |
| Chromium | ppm | ASTM D5185m | | 1 | 1 | |
| Nickel | ppm | ASTM D5185m | | <1 | 0 | |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | |
| Silver | ppm | ASTM D5185m | >3 | 0 | <1 | |
| Aluminum | ppm | ASTM D5185m | >20 | 17 | 8 | |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | |
| Copper | ppm | ASTM D5185m | | 3 | 23 | |
| Tin | ppm | | >15 | <1 | <1 | |
| Vanadium | ppm | ASTM D5185m | 7.0 | <1 | 0 | |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185m | | 276 | 201 | |
| Barium | ppm | ASTM D5185m | | 6 | 0 | |
| Molybdenum | ppm | ASTM D5185m | | 1076 | 94 | |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | |
| Magnesium | ppm | ASTM D5185m | | <u>120</u> | 416 | |
| Calcium | ppm | ASTM D5185m | | | | |
| DI I | | ASTIVI DSTOSIII | | 512 | 1392 | |
| Phosphorus | | ASTM D5185m | 1260 | 51268 | 1392 1047 | |
| Phosphorus Zinc | ppm | | 1260 1400 | - | | |
| | ppm | ASTM D5185m | | 68 | 1047 | |
| Zinc | ppm ppm | ASTM D5185m ASTM D5185m | | 68 80 | 1047 1234 | |
| Zinc Sulfur | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m | 1400 | 68 80 2142 | 1047 1234 2765 | |
| Zinc Sulfur CONTAMINAN | ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m method | 1400 limit/base | 68 80 2142 current | 1047 1234 2765 history1 | history2 |
| Zinc Sulfur CONTAMINAN Silicon | ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m | 1400 limit/base | 68 80 2142 current | 1047 1234 2765 history1 | history2 |
| Zinc Sulfur CONTAMINAN Silicon Sodium | ppm ppm ppm NTS ppm | ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m | 1400 limit/base >25 | 68 80 2142 current 13 3 | 1047 1234 2765 history1 11 | history2 |
| Zinc Sulfur CONTAMINAN Silicon Sodium Potassium | ppm ppm ppm NTS ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m | 1400 limit/base >25 | 68 80 2142 current 13 3 402 | 1047 1234 2765 history1 11 0 | history2 |
| Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol | ppm ppm ppm NTS ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 | 1400 limit/base >25 >20 | 68 80 2142 current 13 3 402 NEG | 1047 1234 2765 history1 11 0 17 NEG | history2 |
| Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED | ppm ppm ppm NTS ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 method | limit/base >25 >20 limit/base | 68 80 2142 current 13 3 402 NEG current | 1047 1234 2765 history1 11 0 17 NEG | history2 history2 |
| Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % | ppm ppm ppm NTS ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 method *ASTM D7844 | limit/base >25 >20 limit/base >3 | 68 80 2142 current 13 3 402 NEG current 0.3 | 1047 1234 2765 history1 11 0 17 NEG history1 0.4 | history2 history2 history2 |
| Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration | ppm ppm ppm NTS ppm ppm ppm ppm % % Abs/cm Abs/.1mm | ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m *ASTM D2982 method *ASTM D7844 *ASTM D7624 *ASTM D76145 | 1400 | 68 80 2142 current 13 3 402 NEG current 0.3 8.4 | 1047 1234 2765 history1 11 0 17 NEG history1 0.4 8.2 | history2 history2 history2 |
| Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation | ppm ppm ppm NTS ppm ppm ppm ppm % % Abs/cm Abs/.1mm | ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m *ASTM D2982 method *ASTM D7844 *ASTM D7624 *ASTM D76145 | 1400 limit/base >25 >20 | 68 80 2142 current 13 3 402 NEG current 0.3 8.4 21.3 | 1047 1234 2765 history1 11 0 17 NEG history1 0.4 8.2 22.5 | history2 history2 history2 |
| Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRA | ppm ppm ppm ppm ppm ppm ppm ppm % Abs/cm Abs/.1mm | ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m *ASTM D2982 method *ASTM D7844 *ASTM D7624 *ASTM D7415 method | 1400 | 68 80 2142 current 13 3 402 NEG current 0.3 8.4 21.3 current | 1047 1234 2765 history1 11 0 17 NEG history1 0.4 8.2 22.5 | history2 history2 history2 history2 history2 |



OIL ANALYSIS REPORT







Certificate 12367

Laboratory Sample No.

: PCA0101416 Lab Number : 06189476 Unique Number : 11046228

Received : 23 May 2024 **Tested** Diagnosed

: 03 Jun 2024 : 03 Jun 2024 - Jonathan Hester

Test Package : IND 2 (Additional Tests: Glycol) To discuss this sample report, contact Customer Service at 1-800-237-1369.

 st - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

bgordon@deltafuel.com T: (318)780-3921 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

US 71107

1000 WELLS ISLAND RD

Contact: BRAD GORDON

SHREVEPORT, LA