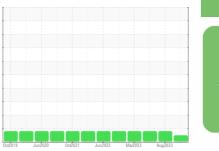


OIL ANALYSIS REPORT







NORMAL

Diesel Engine Fluid CHEVRON DELO 400 SAE 10W30 (--- GAL)

DIAGNOSIS

Machine Id 9474 Component

Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Wear

All component wear rates are normal.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Light fuel dilution occurring. No other contaminants were detected in the oil.

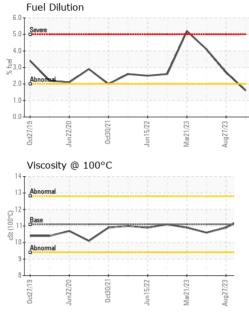
Fluid Condition

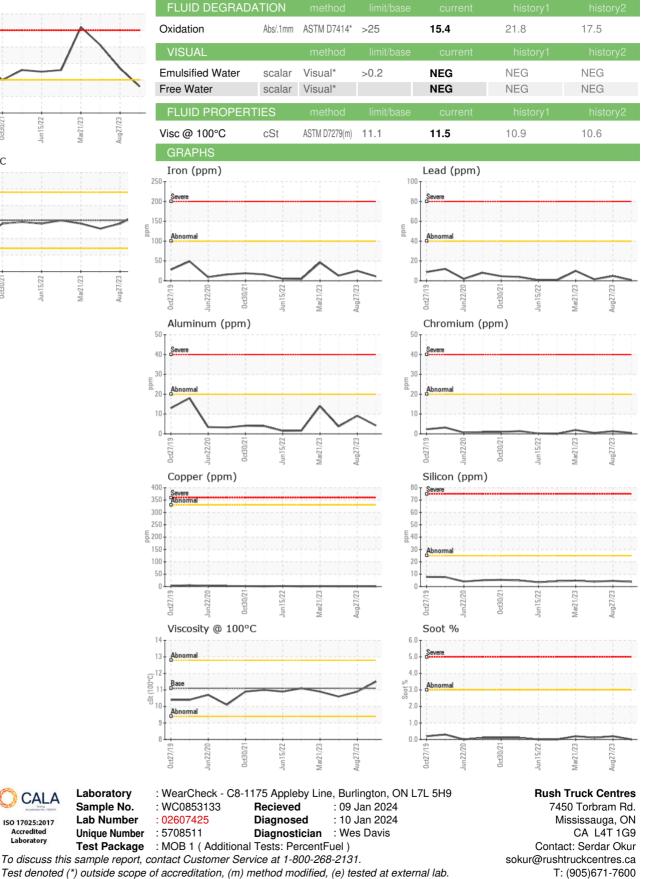
The condition of the oil is acceptable for the time in service.

| SAMPLE INFORM | IATION | method | limit/base | current | history1 | history2 |
|--|--|---|--|--|---|---|
| Sample Number | | Client Info | | WC0853133 | WC0853322 | WC0796552 |
| Sample Date | | Client Info | | 09 Dec 2023 | 27 Aug 2023 | 10 Jun 2023 |
| Machine Age | kms | Client Info | | 391078 | 344460 | 338563 |
| Oil Age | kms | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | Not Changd |
| Sample Status | | | | NORMAL | ABNORMAL | ABNORMAL |
| CONTAMINATION | N | method | limit/base | current | history1 | history2 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | 20.L | NEG | NEG | NEG |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185(m) | >100 | 11 | 25 | 13 |
| Chromium | ppm | ASTM D5185(m) | >20 | <1 | 1 | <1 |
| Nickel | ppm | ASTM D5185(m) | >4 | <1 | <1 | 0 |
| Titanium | ppm | ASTM D5185(m) | ~ 7 | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185(m) | >3 | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >20 | 4 | 9 | 4 |
| Lead | ppm | ASTM D5185(m) | >40 | 4 <1 | 5 | 2 |
| Copper | ppm | ASTM D5185(m) | >330 | <1 | 1 | <1 |
| Tin | | ASTM D5185(m) | >15 | 0 | <1 | <1 |
| Antimony | ppm ppm | ASTM D5185(m) | >15 | 0 | 0 | <1 |
| Vanadium | | ASTM D5185(m) | | 0 | 0 | 0 |
| Beryllium | ppm ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Cadmium | | ASTM D5185(m) | | 0 | 0 | 0 |
| | ppm | | line it /le e e e | - | - | - |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185(m) | | 62 | 32 | 58 |
| Barium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | | <1 | 4 | |
| Manganese | ppm | ASTM D5185(m) | | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185(m) | | 639 | 723 | 688 |
| Calcium | ppm | ASTM D5185(m) ASTM D5185(m) | 1000 | 1395 719 | 1329 713 | 1366 |
| Phosphorus | ppm | ASTIVI DS183(M) | 1260 | /14 | /13 | 722 |
| Zine | | | 1400 | | | 700 |
| Zinc | ppm | ASTM D5185(m) | 1400 | 789 | 770 | 739 |
| Sulfur | ppm ppm | ASTM D5185(m) ASTM D5185(m) | | 789 2624 | 770 2475 | 2506 |
| Sulfur Lithium | ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | | 789 2624 <1 | 770 2475 <1 | 2506 <1 |
| Sulfur Lithium CONTAMINANTS | ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method | limit/base | 789 2624 <1 current | 770 2475 <1 history1 | 2506 <1 history2 |
| Sulfur Lithium CONTAMINANTS Silicon | ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m) | | 789 2624 <1 current 4 | 770 2475 <1 history1 5 | 2506 <1 history2 4 |
| Sulfur Lithium CONTAMINANTS Silicon Sodium | ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m) ASTM D5185(m) | limit/base >25 | 789 2624 <1 current 4 2 | 770 2475 <1 <u>history1</u> 5 3 | 2506 <1 history2 4 3 |
| Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium | ppm ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) Method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | limit/base >25 >20 | 789 2624 <1 current 4 2 9 | 770 2475 <1 <u>history1</u> 5 3 18 | 2506 <1 history2 4 3 7 |
| Sulfur Lithium CONTAMINANTS Silicon Sodium | ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m) ASTM D5185(m) | limit/base >25 | 789 2624 <1 current 4 2 | 770 2475 <1 <u>history1</u> 5 3 | 2506 <1 history2 4 3 |
| Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium | ppm ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) Method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | limit/base >25 >20 | 789 2624 <1 current 4 2 9 | 770 2475 <1 <u>history1</u> 5 3 18 | 2506 <1 history2 4 3 7 |
| Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel | ppm ppm ppm ppm ppm ppm | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) | limit/base >25 >20 >2.0 | 789 2624 <1 current 4 2 9 1.6 | 770 2475 <1 history1 5 3 18 ▲ 2.7 | 2506 <1 <u>history2</u> 4 3 7 4.1 |
| Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED | ppm ppm ppm ppm ppm % | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7593* | limit/base >25 >20 >2.0 limit/base >3 | 789 2624 <1 current 4 2 9 1.6 current | 770 2475 <1 history1 5 3 18 ▲ 2.7 history1 | 2506 <1 history2 4 3 7 ▲ 4.1 history2 |
| Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % | ppm ppm ppm ppm ppm % | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7593* method ASTM D7844* | limit/base >25 >20 >2.0 limit/base >3 | 789 2624 <1 current 4 2 9 1.6 current 0 | 770 2475 <1 history1 5 3 18 2.7 history1 0.2 | 2506 <1 history2 4 3 7 ▲ 4.1 history2 0.1 |



OIL ANALYSIS REPORT





Report Id: RUSMIS [WCAMIS] 02607425 (Generated: 01/10/2024 09:30:19) Rev: 1

Validity of results and interpretation are based on the sample and information as supplied.

CALA

ISO 17025:2017 Accredited Laboratory

Contact/Location: Serdar Okur - RUSMIS

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