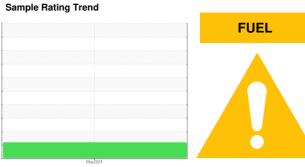


# **OIL ANALYSIS REPORT**



Machine Id
2333
Component
Diesel Engine

CHEVRON DELO 400 SDE SAE 15W40 (--- GAL)

## DIAGNOSIS

#### Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

#### Wear

Metal levels are typical for a new component breaking in.

## 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.

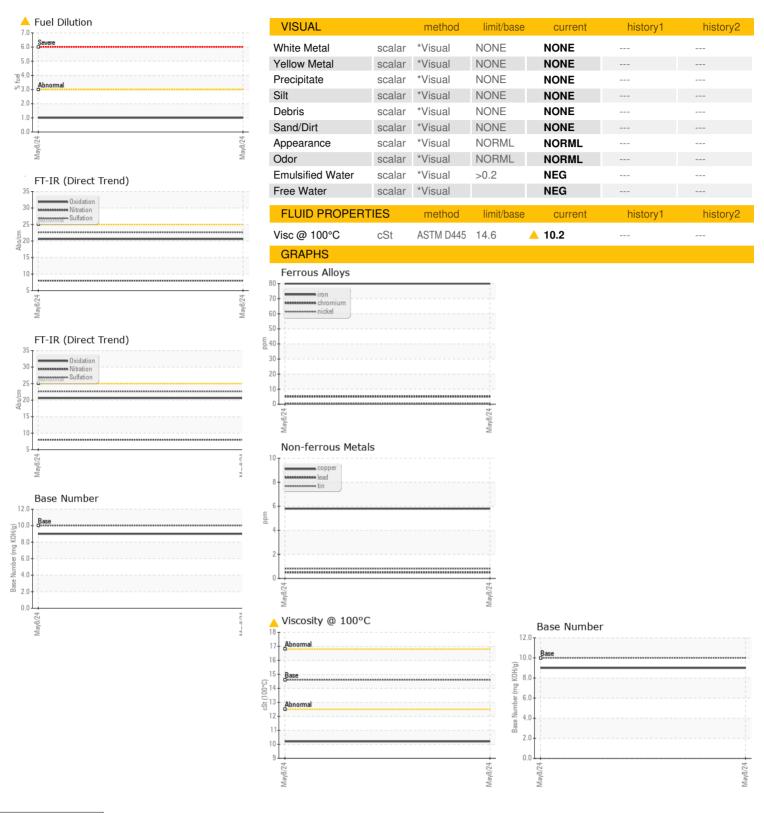
## Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The condition of the oil is suitable for further service.

GAL)		L		May2024		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0859276		
Sample Date		Client Info		08 May 2024		
Machine Age	mls	Client Info		20959		
Oil Age	mls	Client Info		0		
Oil Changed	0	Client Info		Changed		
Sample Status				ABNORMAL		
CONTAMINATIO	V	method	limit/base	current	history1	history2
Water	•	WC Method	>0.2	NEG		
Glycol		WC Method	>0.2	NEG		
Glycol		VVC IVIELLIOU		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	80		
Chromium	ppm	ASTM D5185m	>20	5		
Nickel	ppm	ASTM D5185m	>2	<1		
Titanium	ppm	ASTM D5185m	>2	1		
Silver	ppm	ASTM D5185m	>2	0		
Aluminum	ppm	ASTM D5185m	>20	24		
Lead	ppm	ASTM D5185m	>40	<1		
Copper	ppm	ASTM D5185m	>330	6		
Tin	ppm	ASTM D5185m	>15	<1		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		<1		
ADDITIVE O						
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	limit/base	current 67	history1	history2
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	67		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	67 6		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	67 6 47		
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	67 6 47 3		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	67 6 47 3 536		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		67 6 47 3 536 1592		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	760	67 6 47 3 536 1592 829		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	760 800	67 6 47 3 536 1592 829 931		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	760 800 3000	67 6 47 3 536 1592 829 931 2801		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	760 800 3000 limit/base	67 6 47 3 536 1592 829 931 2801		     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	760 800 3000 limit/base	67 6 47 3 536 1592 829 931 2801 current		     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	760 800 3000 limit/base >25	67 6 47 3 536 1592 829 931 2801 current 15		history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	760 800 3000 limit/base >25 >20	67 6 47 3 536 1592 829 931 2801 current 15 2 88		history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	760 800 3000 limit/base >25 >20 >3.0	67 6 47 3 536 1592 829 931 2801  current 15 2 88  1.0  current		history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm	ASTM D5185m	760 800 3000 limit/base >25 >20 >3.0 limit/base >6	67 6 47 3 536 1592 829 931 2801 current 15 2 88 ▲ 1.0 current 0.5		history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	760 800 3000 limit/base >25 >20 >3.0 limit/base >6	67 6 47 3 536 1592 829 931 2801  current 15 2 88  1.0  current	history1 history1	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624	760 800 3000 limit/base >25 >20 >3.0 limit/base >6 >20 >30	67 6 47 3 536 1592 829 931 2801 current 15 2 88 ▲ 1.0 current 0.5 8.0 22.6		history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm	ASTM D5185m ASTM D78185m ASTM D78144 *ASTM D7844 *ASTM D7844 *ASTM D7844	760 800 3000  limit/base >25 >20 >3.0  limit/base >6 >20 >30 limit/base	67 6 47 3 536 1592 829 931 2801	history1 history1 history1 history1	history2 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624	760 800 3000 limit/base >25 >20 >3.0 limit/base >6 >20 >30	67 6 47 3 536 1592 829 931 2801 current 15 2 88 ▲ 1.0 current 0.5 8.0 22.6		history2 history2



## **OIL ANALYSIS REPORT**







Certificate 12367

Laboratory Sample No.

: WC0859276 Lab Number : 06176619 Unique Number : 11022672

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received **Tested** 

: 15 May 2024

Diagnosed : 15 May 2024 - Wes Davis

: 10 May 2024

Test Package: FLEET (Additional Tests: FuelDilution, PercentFuel) 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. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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Submitted By: Eddy Smith

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