

# **OIL ANALYSIS REPORT**



# Machine Id **A-5** Component **Diesel Engine** Fluid **CHEVRON DELO 400 LE 15W40 (--- QTS)**

### DIAGNOSIS

# Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next 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	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0871807	WC0871814	
Sample Date		Client Info		01 Apr 2024	03 Jan 2024	
Machine Age	hrs	Client Info		15530	15235	
Oil Age	hrs	Client Info		296	300	
Oil Changed		Client Info		N/A	N/A	
Sample Status				NORMAL	ABNORMAL	
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	35	69	
Chromium	ppm	ASTM D5185m	>20	<1	1	
Nickel	ppm	ASTM D5185m	>4	<1	2	
Titanium	ppm	ASTM D5185m		2	<1	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>20	2	4	
Lead	ppm	ASTM D5185m	>40	4	17	
Copper	ppm	ASTM D5185m	>330	4	11	
Tin	ppm	ASTM D5185m	>15	1	2	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	<1	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 238	history1 197	history2
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	238	197	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	238 0	197 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	238 0 116	197 0 138	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	238 0 116 <1	197 0 138 1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	238 0 116 <1 659	197 0 138 1 703	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		238 0 116 <1 659 1636	197 0 138 1 703 1653	  
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	1200	238 0 116 <1 659 1636 732	197 0 138 1 703 1653 712	   
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	1200 1300	238 0 116 <1 659 1636 732 833	197 0 138 1 703 1653 712 950	   
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	1200 1300 3200	238 0 116 <1 659 1636 732 833 2856	197 0 138 1 703 1653 712 950 2568	
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	1200 1300 3200 limit/base	238 0 116 <1 659 1636 732 833 2856 current	197 0 138 1 703 1653 712 950 2568 history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	1200 1300 3200 limit/base	238 0 116 <1 659 1636 732 833 2856 current 6	197 0 138 1 703 1653 712 950 2568 history1 9	    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	1200 1300 3200 limit/base >25	238 0 116 <1 659 1636 732 833 2856 current 6 2	197 0 138 1 703 1653 712 950 2568 history1 9 <	    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1200 1300 3200 limit/base >25 >20	238 0 116 <1 659 1636 732 833 2856 current 6 2 2 <1	197 0 138 1 703 1653 712 950 2568 history1 9 <1 2	    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1200 1300 3200 limit/base >25 >20	238 0 116 <1 659 1636 732 833 2856 current 6 2 <1	197 0 138 1 703 1653 712 950 2568 history1 9 <1 2 2	     history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1200 1300 3200 limit/base >25 >20 limit/base >3	238 0 116 <1 659 1636 732 833 2856 <u>current</u> 6 2 <1 <u>current</u> 2.1	197 0 138 1 703 1653 712 950 2568 history1 9 <1 2 2 history1 ▲ 3.2	     history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1200 1300 3200 limit/base >25 >20 limit/base >3 >20	238 0 116 <1 659 1636 732 833 2856 current 6 2 2 <1 current 2.1 10.7	197 0 138 1 703 1653 712 950 2568 history1 9 2568 1 2568 history1 2 3 2 3 2 3 2 3 2 3 2 3 2 3 3 2 1 2 2	    history2   history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1200 1300 3200 <b>Iinit/base</b> >25 >20 <b>Iinit/base</b> >3 >20 >3 >20	238 0 116 <1 659 1636 732 833 2856 <b>current</b> 6 2 <1 <b>current</b> 2.1 10.7 27.1	197 0 138 1 703 1653 712 950 2568 history1 9 <1 2 2 history1 ▲ 3.2 12.2 30.7	    history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	1200 1300 3200 limit/base >25 >20 s20 limit/base >3 >20 >30 >30	238 0 116 <1 659 1636 732 833 2856 Current 6 2 2 <1 Current 2.1 10.7 27.1 Current	197 0 138 1 703 1653 712 950 2568 history1 9 <12 2 history1 ▲ 3.2 12.2 30.7	    history2  history2  history2  history2



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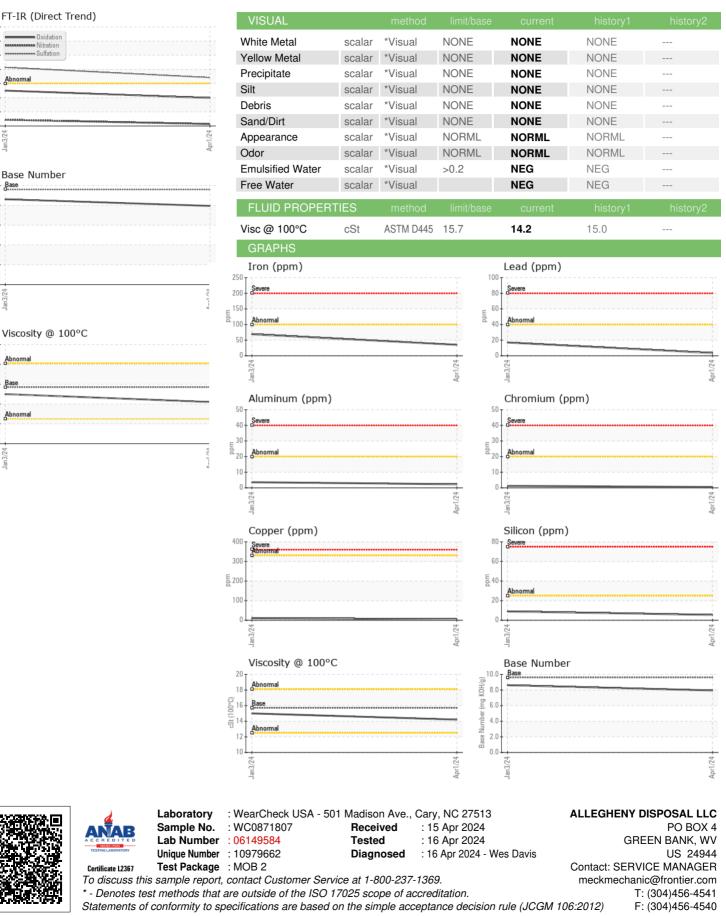
10 Jan3/24

(mg KOH/g) 8

mbe 4.

Base 2 Base

# **OIL ANALYSIS REPORT**



Contact/Location: SERVICE MANAGER - ALLGRELF