

OIL ANALYSIS REPORT



Machine Id

1193 Component Diesel Engine Fluid CHEVRON DELO 400 XLE 10W30 (--- LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

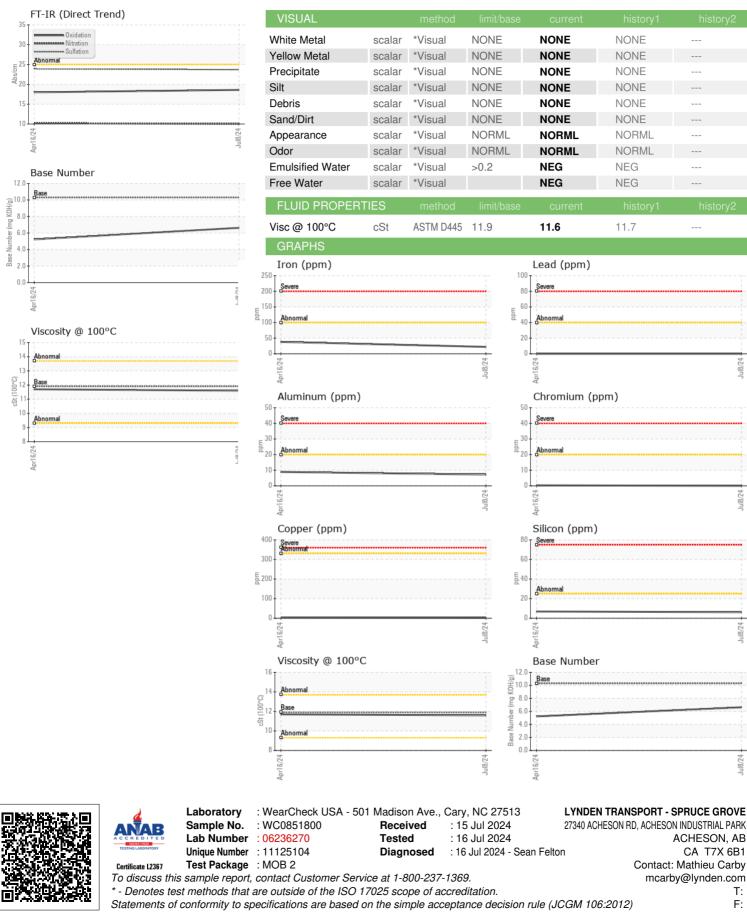
Fluid Condition

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

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0851800	WC0851841	
Sample Date		Client Info		08 Jul 2024	16 Apr 2024	
Machine Age	mls	Client Info		213422	176300	
Oil Age	mls	Client Info		40000	4000	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINATION	J	method	limit/base	current	history1	history2
Fuel	•	WC Method	>5	<1.0	<1.0	
Water		WC Method	>0.2	<1.0 NEG	<1.0 NEG	
		WC Method	>0.2			
Glycol		WC Method		NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	22	38	
Chromium	ppm	ASTM D5185m	>20	0	<1	
Nickel	ppm	ASTM D5185m	>4	0	0	
Titanium	ppm	ASTM D5185m		0	<1	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>20	7	9	
Lead	ppm	ASTM D5185m	>40	0	0	
Copper	ppm	ASTM D5185m	>330	2	4	
Tin	ppm	ASTM D5185m	>15	0	<1	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current	history1 21	history2
	ppm ppm		limit/base			
Boron Barium	ppm	ASTM D5185m	limit/base	16	21	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	limit/base	16 0 4	21 3	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	16 0 4 <1	21 3 4	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	16 0 4 <1 780	21 3 4 2 649	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		16 0 4 <1 780 1555	21 3 4 2 649 1395	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2900	16 0 4 <1 780	21 3 4 2 649	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2900 1100	16 0 4 <1 780 1555 776	21 3 4 2 649 1395 717	
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	2900 1100 1200	16 0 4 <1 780 1555 776 862	21 3 4 2 649 1395 717 820	
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	2900 1100 1200 4000 limit/base	16 0 4 <1 780 1555 776 862 3428 current	21 3 4 2 649 1395 717 820 3266	
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	2900 1100 1200 4000	16 0 4 <1 780 1555 776 862 3428 current 6	21 3 4 2 649 1395 717 820 3266 history1 7	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2900 1100 1200 4000 limit/base >25	16 0 4 <1 780 1555 776 862 3428 current	21 3 4 2 649 1395 717 820 3266 history1	 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 ASTM D5185m	2900 1100 1200 4000 limit/base >25	16 0 4 <1 780 1555 776 862 3428 <u>current</u> 6 22	21 3 4 2 649 1395 717 820 3266 history1 7 31	 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	2900 1100 1200 4000 limit/base >25 >20 limit/base	16 0 4 <1 780 1555 776 862 3428 current 6 22 16 current	21 3 4 2 649 1395 717 820 3266 history1 7 31 22 kistory1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	2900 1100 1200 4000 limit/base >25 >20 limit/base >3	16 0 4 <1 780 1555 776 862 3428 <u>current</u> 6 22 16 <u>current</u> 0.4	21 3 4 2 649 1395 717 820 3266 history1 7 31 22 history1 0.4	 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	2900 1100 1200 4000 limit/base >25 >20 limit/base >3 >20	16 0 4 <1 780 1555 776 862 3428 <i>current</i> 6 22 16 <i>current</i> 0.4 10.0	21 3 4 2 649 1395 717 820 3266 history1 7 31 22 history1 0.4 10.2	 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	2900 1100 1200 4000 imit/base >25 >20 imit/base >3 >20 >30	16 0 4 <1 780 1555 776 862 3428 <u>current</u> 6 22 16 <u>current</u> 0.4	21 3 4 2 649 1395 717 820 3266 history1 7 31 22 history1 0.4	 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	2900 1100 1200 4000 limit/base >25 >20 limit/base >3 >20	16 0 4 <1 780 1555 776 862 3428 <i>current</i> 6 22 16 <i>current</i> 0.4 10.0	21 3 4 2 649 1395 717 820 3266 history1 7 31 22 history1 0.4 10.2	 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	2900 1100 1200 4000 imit/base >25 >20 imit/base >3 >20 >30	16 0 4 <1 780 1555 776 862 3428 <u>current</u> 6 22 16 <u>current</u> 0.4 10.0 23.7	21 3 4 2 649 1395 717 820 3266 history1 7 31 22 history1 0.4 10.2 23.9	 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	2900 1100 1200 4000 imit/base >25 >20 imit/base >3 >20 >30	16 0 4 <1 780 1555 776 862 3428 current 6 22 16 current 0.4 10.0 23.7	21 3 4 2 649 1395 717 820 3266 history1 7 31 22 history1 0.4 10.2 23.9 history1	 history2 history2 history2 history2



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