

OIL ANALYSIS REPORT

Machine Id **FREIGHTLINER 1168**

Diesel Engine Fluid CHEVRON DELO 400 XLE 10W30 (40 LTR)

Recommendation

Resample at the next service interval to monitor.

Wear

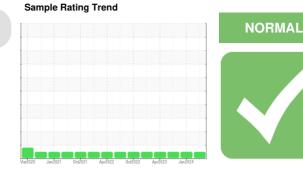
All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

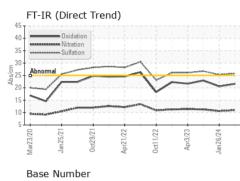
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

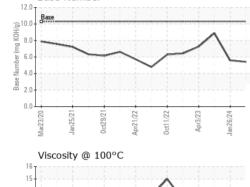


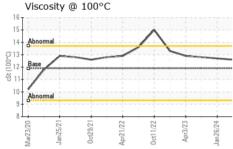
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0733177	WC0733161	WC0733085
Sample Date		Client Info		26 Apr 2024	26 Jan 2024	09 Jun 2023
Machine Age	mls	Client Info		649928	611940	577231
Oil Age	mls	Client Info		40000	40000	40000
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	21	20	22
Chromium	ppm	ASTM D5185m	>5	1	1	2
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	9	7	11
Lead	ppm	ASTM D5185m	>30	<1	<1	0
Copper	ppm	ASTM D5185m	>150	5	4	5
Tin	ppm	ASTM D5185m	>5	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 23	history1 16	history2 23
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	23	16	23
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	23 0	16 0	23 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	23 0 <1	16 0 2	23 0 2
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		23 0 <1 <1	16 0 2 <1	23 0 2 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		23 0 <1 <1 805	16 0 2 <1 769	23 0 2 <1 768
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2900	23 0 <1 <1 805 1519	16 0 2 <1 769 1352	23 0 2 <1 768 1444
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	23 0 <1 <1 805 1519 793	16 0 2 <1 769 1352 749	23 0 2 <1 768 1444 756
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	23 0 <1 <1 805 1519 793 921	16 0 2 <1 769 1352 749 872	23 0 2 <1 768 1444 756 904
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 limit/base	23 0 <1 <1 805 1519 793 921 3528	16 0 2 <1 769 1352 749 872 2926	23 0 2 <1 768 1444 756 904 3204
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	2900 1100 1200 4000 limit/base	23 0 <1 <1 805 1519 793 921 3528 current	16 0 2 <1 769 1352 749 872 2926 history1	23 0 2 <1 768 1444 756 904 3204 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 method ASTM D5185m	2900 1100 1200 4000 limit/base >20	23 0 <1 <1 805 1519 793 921 3528 current 6	16 0 2 <1 769 1352 749 872 2926 history1 6	23 0 2 <1 768 1444 756 904 3204 history2 6
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 method ASTM D5185m	2900 1100 1200 4000 limit/base >20	23 0 <1 <1 805 1519 793 921 3528 current 6 5	16 0 2 <1 769 1352 749 872 2926 history1 6 2	23 0 2 <1 768 1444 756 904 3204 history2 6 3
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	2900 1100 1200 4000 limit/base >20	23 0 <1 <1 805 1519 793 921 3528 current 6 5 9	16 0 2 <1 769 1352 749 872 2926 history1 6 2 2 8	23 0 2 <1 768 1444 756 904 3204 history2 6 3 13
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 ppm	ASTM D5185m ASTM D5185m	2900 1100 1200 4000 limit/base >20 >20 limit/base >3	23 0 <1 <1 805 1519 793 921 3528 <u>current</u> 6 5 9 <u>current</u> 1	16 0 2 <1 769 1352 749 872 2926 history1 6 2 8 8 history1 1.1	23 0 2 <1 768 1444 756 904 3204 history2 6 3 13 history2 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2900 1100 1200 4000 limit/base >20 >20 limit/base >3	23 0 <1 (1 805 1519 793 921 3528 current 6 5 9 9	16 0 2 <1 769 1352 749 872 2926 history1 6 2 8 8	23 0 2 <1 768 1444 756 904 3204 history2 6 3 13 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 >20 20 limit/base >3 >20	23 0 <1 <1 805 1519 793 921 3528 current 6 5 9 current 1 1	16 0 2 <1 769 1352 749 872 2926 history1 6 2 2 8 <i>history1</i> 1.1 1.1	23 0 2 <1 768 1444 756 904 3204 history2 6 3 13 history2 1 1 11.3
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 D7624 *ASTM D7615	2900 1100 1200 4000 20 20 20 20 20 1imit/base >3 20 20 30 20 30	23 0 <1 <1 805 1519 793 921 3528 current 6 5 9 current 1 11.0 25.8 current	16 0 2 <1 769 1352 749 872 2926 history1 6 2 2 8 history1 1.1 10.6 25.3 history1	23 0 2 <1 768 1444 756 904 3204 history2 6 3 13 history2 1 1 11.3 26.7 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 Iinit/base >20 Iinit/base >3 >20 >3 >20	23 0 <1 <1 805 1519 793 921 3528 <u>current</u> 6 5 9 <u>current</u> 1 1 11.0 25.8	16 0 2 <1 769 1352 749 872 2926 history1 6 2 2 8 <u>history1</u> 1.1 1.0.6 25.3	23 0 2 <1 768 1444 756 904 3204 history2 6 3 13 history2 1 1 11.3 26.7



OIL ANALYSIS REPORT







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	0ct29/21	@ 100°C	@ 100°C	@ 100°C	@ 100°C	@ 100°C @ 100°C @ 100°C @ 100°C USA - 501 Madison Ave., Cary, NC 27513	USA - 501 Madison Ave., Cary, NC 27513	(a) 100°C (b) 100°C (c) 100°C	(a) 100°C (b) 100°C (c) 100°C	(a) 100°C (b) 100°C (c) 100°C	(a) $\frac{1}{2}$ \frac

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - 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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Certificate L2367

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