

OIL ANALYSIS REPORT

(EMN615) 10621C

Natural Gas Engine

CHEVRON DELO 400 NG (8 GAL)

Component

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

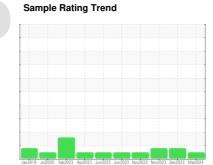
All component wear rates are normal.

Contamination

There is no indication of any contamination in the

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.





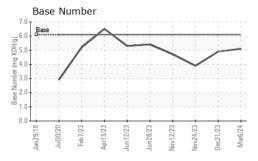
		Janzono Julzo	120 Feb 2023 Apr 2023 Jun 2	023 Junž023 Novž023 Novž023 Decž	UZJ WIBIZUZY	
SAMPLE INFORM	/ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0111544	GFL0083096	GFL0083094
Sample Date		Client Info		06 Mar 2024	21 Dec 2023	24 Nov 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	N/A	N/A
Sample Status				NORMAL	ABNORMAL	ABNORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	23	▲ 52	▲ 53
Chromium	ppm	ASTM D5185m	>4	1	3	4
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	4	5	6
Lead	ppm	ASTM D5185m	>30	<1	3	2
Copper	ppm	ASTM D5185m	>35	1	1	2
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
7.001111120					•	
Boron	ppm	ASTM D5185m		17	16	10
	ppm			17 0		10
Boron		ASTM D5185m			16	
Boron Barium	ppm	ASTM D5185m ASTM D5185m		0	16 0	0
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m		0 57	16 0 67	0 64
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 57 0	16 0 67 <1	0 64 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	800	0 57 0 586	16 0 67 <1 665	0 64 <1 715
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	800 880	0 57 0 586 1520	16 0 67 <1 665 1703	0 64 <1 715 1889
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 57 0 586 1520 726	16 0 67 <1 665 1703 811	0 64 <1 715 1889 906
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 ASTM D5185m		0 57 0 586 1520 726 965	16 0 67 <1 665 1703 811 1074	0 64 <1 715 1889 906 1144
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	880 limit/base	0 57 0 586 1520 726 965 2420	16 0 67 <1 665 1703 811 1074 2714	0 64 <1 715 1889 906 1144 2564
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	880 limit/base	0 57 0 586 1520 726 965 2420	16 0 67 <1 665 1703 811 1074 2714	0 64 <1 715 1889 906 1144 2564 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	880 limit/base	0 57 0 586 1520 726 965 2420 current	16 0 67 <1 665 1703 811 1074 2714 history1	0 64 <1 715 1889 906 1144 2564 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >+100	0 57 0 586 1520 726 965 2420 current 5	16 0 67 <1 665 1703 811 1074 2714 history1 5	0 64 <1 715 1889 906 1144 2564 history2 6 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	0 57 0 586 1520 726 965 2420 current 5 20 2	16 0 67 <1 665 1703 811 1074 2714 history1 5 3	0 64 <1 715 1889 906 1144 2564 history2 6 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >+100 >20 limit/base	0 57 0 586 1520 726 965 2420 current 5 20 2	16 0 67 <1 665 1703 811 1074 2714 history1 5 3 2	0 64 <1 715 1889 906 1144 2564 history2 6 7 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >+100 >20 limit/base	0 57 0 586 1520 726 965 2420 current 5 20 2	16 0 67 <1 665 1703 811 1074 2714 history1 5 3 2 history1 0	0 64 <1 715 1889 906 1144 2564 history2 6 7 0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76185m	limit/base >+100 >20 limit/base >20	0 57 0 586 1520 726 965 2420 current 5 20 2 current 0 10.4	16 0 67 <1 665 1703 811 1074 2714 history1 5 3 2 history1 0 12.1	0 64 <1 715 1889 906 1144 2564 history2 6 7 0 history2 0 12.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76185m	880 limit/base >+100 >20 limit/base >20 >30 limit/base	0 57 0 586 1520 726 965 2420 current 5 20 2 current 0 10.4 22.0	16 0 67 <1 665 1703 811 1074 2714 history1 5 3 2 history1 0 12.1 23.7	0 64 <1 715 1889 906 1144 2564 history2 6 7 0 history2 0 12.6 24.5

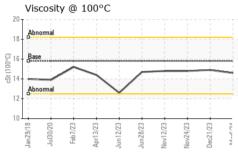
5.1

Base Number (BN) mg KOH/g ASTM D2896 6.1



OIL ANALYSIS REPORT

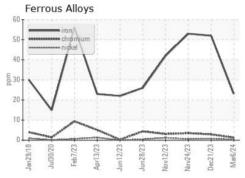


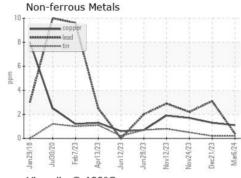


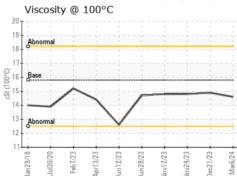
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

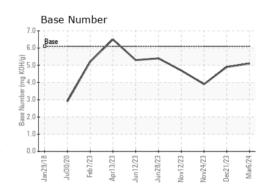
FLUID PROPI	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.8	14.6	14.9	14.8

GRAPHS













Certificate L2367

Laboratory Sample No.

: GFL0111544 Lab Number : 06113393 Unique Number : 10916890 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 08 Mar 2024 **Tested**

: 11 Mar 2024 Diagnosed : 11 Mar 2024 - Wes Davis

GFL Environmental - 074 - Douglas - Transwaste

1219 Landfill Road Douglas, GA

US 31533 Contact: CURTIS JACOBS

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. CURTIS.JACOBS@GFLENV.COM T: (912)384-6001

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)