

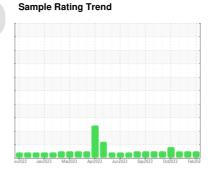
OIL ANALYSIS REPORT



(62A0X13) ALEXANDER CITY 723009-234528

Component **Diesel Engine**

CHEVRON DELO 400 MULTIGRADE 15W40 (--- LTR)





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

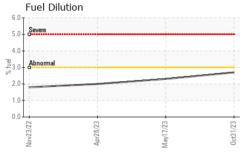
Fluid Condition

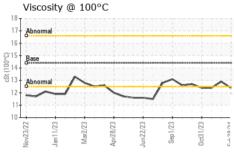
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

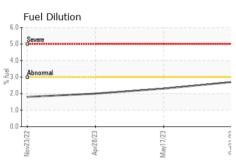
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0089906	GFL0079754	GFL0089916
Sample Date		Client Info		28 Feb 2024	13 Dec 2023	30 Nov 2023
Machine Age	hrs	Client Info		25232	24709	24591
Oil Age	hrs	Client Info		0	24709	24591
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	7	7	10
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	2	2	2
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	10	9	12
Lead	ppm	ASTM D5185m	>40	0	1	<1
Copper	ppm	ASTM D5185m	>330	4	1	1
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		ام مطلم مما	1::-		111	histow.0
ADDITIVES		method				history2
Boron	ppm	ASTM D5185m	151	current 38	nistory1 17	nistory2 14
	ppm					
Boron		ASTM D5185m	151	38	17	14
Boron Barium	ppm	ASTM D5185m ASTM D5185m	151 0.4	38 0	17 0	14
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	151 0.4	38 0 62	17 0 58	14 0 63
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	151 0.4 250	38 0 62 <1	17 0 58 0	14 0 63
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	151 0.4 250	38 0 62 <1 814	17 0 58 0 831	14 0 63 0 982
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	151 0.4 250 0 2046	38 0 62 <1 814 1055	17 0 58 0 831 970	14 0 63 0 982 1178
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	151 0.4 250 0 2046 1043	38 0 62 <1 814 1055 931	17 0 58 0 831 970 821	14 0 63 0 982 1178 1152
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	151 0.4 250 0 2046 1043 943	38 0 62 <1 814 1055 931 1077	17 0 58 0 831 970 821 1136	14 0 63 0 982 1178 1152 1413
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	151 0.4 250 0 2046 1043 943 5012 limit/base	38 0 62 <1 814 1055 931 1077 2945	17 0 58 0 831 970 821 1136 3016	14 0 63 0 982 1178 1152 1413 3610
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	151 0.4 250 0 2046 1043 943 5012 limit/base	38 0 62 <1 814 1055 931 1077 2945 current	17 0 58 0 831 970 821 1136 3016	14 0 63 0 982 1178 1152 1413 3610 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	151 0.4 250 0 2046 1043 943 5012 limit/base	38 0 62 <1 814 1055 931 1077 2945 current	17 0 58 0 831 970 821 1136 3016 history1	14 0 63 0 982 1178 1152 1413 3610 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	151 0.4 250 0 2046 1043 943 5012 limit/base >25	38 0 62 <1 814 1055 931 1077 2945 current 4	17 0 58 0 831 970 821 1136 3016 history1 6	14 0 63 0 982 1178 1152 1413 3610 history2 6 4
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	151 0.4 250 0 2046 1043 943 5012 limit/base >25	38 0 62 <1 814 1055 931 1077 2945 current 4 6	17 0 58 0 831 970 821 1136 3016 history1 6 1	14 0 63 0 982 1178 1152 1413 3610 history2 6 4 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	151 0.4 250 0 2046 1043 943 5012 limit/base >25 >20 >3.0	38 0 62 <1 814 1055 931 1077 2945 current 4 6 0 <1.0	17 0 58 0 831 970 821 1136 3016 history1 6 1 1	14 0 63 0 982 1178 1152 1413 3610 history2 6 4 <1 <1.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm	ASTM D5185m	151 0.4 250 0 2046 1043 943 5012 limit/base >25 >20 >3.0	38 0 62 <1 814 1055 931 1077 2945 current 4 6 0 <1.0	17 0 58 0 831 970 821 1136 3016 history1 6 1 1 <1.0	14 0 63 0 982 1178 1152 1413 3610 history2 6 4 <1 <1.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm	ASTM D5185m	151 0.4 250 0 2046 1043 943 5012 limit/base >25 >20 >3.0 limit/base	38 0 62 <1 814 1055 931 1077 2945 current 4 6 0 <1.0	17 0 58 0 831 970 821 1136 3016 history1 6 1 <1.0 history1 1.2	14 0 63 0 982 1178 1152 1413 3610 history2 6 4 <1 <1.0 history2 1.9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624	151 0.4 250 0 2046 1043 943 5012 limit/base >25 >20 >3.0 limit/base	38 0 62 <1 814 1055 931 1077 2945 current 4 6 0 <1.0 current 1 6.8	17 0 58 0 831 970 821 1136 3016 history1 6 1 -<1.0 history1 1.2 7.2	14 0 63 0 982 1178 1152 1413 3610 history2 6 4 <1 <1.0 history2 1.9 9.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624 *ASTM D76185m TMETHOD	151 0.4 250 0 2046 1043 943 5012 limit/base >25 >20 >3.0 limit/base >4 >20 >30	38 0 62 <1 814 1055 931 1077 2945 current 4 6 0 <1.0 current 1 6.8 18.3 current	17 0 58 0 831 970 821 1136 3016 history1 6 1 1 <1.0 history1 1.2 7.2 18.1 history1	14 0 63 0 982 1178 1152 1413 3610 history2 6 4 <1 <1.0 history2 1.9 9.0 19.2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624	151 0.4 250 0 2046 1043 943 5012 limit/base >25 >20 >3.0 limit/base >4 >20 >30 limit/base	38 0 62 <1 814 1055 931 1077 2945 current 4 6 0 <1.0 current 1 6.8 18.3	17 0 58 0 831 970 821 1136 3016 history1 6 1 <1.0 history1 1.2 7.2 18.1	14 0 63 0 982 1178 1152 1413 3610 history2 6 4 <1 <1.0 history2 1.9 9.0 19.2



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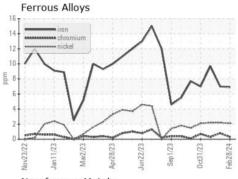


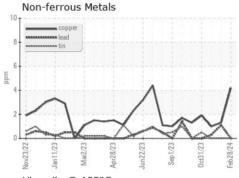


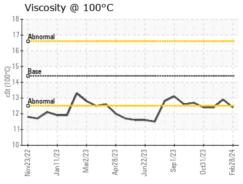
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

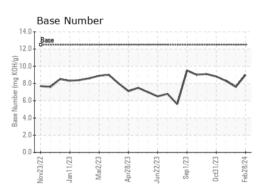
FLUID PROPERTIES		method				history2	
Visc @ 100°C	cSt	ASTM D445	14.4	12.4	12.9	12.4	

GRAPHS













Report Id: GFL172 [WUSCAR] 06111298 (Generated: 03/11/2024 15:55:10) Rev: 1

Laboratory Sample No.

: GFL0089906 Lab Number : 06111298 Unique Number : 10914795

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 07 Mar 2024 **Tested**

: 11 Mar 2024 Diagnosed : 11 Mar 2024 - Jonathan Hester Test Package: FLEET (Additional Tests: FUELDILUTION, PercentFuel)

Multiple Sites Montgomery, AL US 36108

GFL Environmental - 172 - Montgomery-Alexander City-Tallahassee

Contact: RICHARD HATFIELD rhatfield@gflenv.com

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)

Submitted By: Lisa Reeves

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