

Machine Id 920056-102721

Component Diesel Engine Fluid CHEVRON DELO 400 MULTIGRADE 15W40 (--- LTR)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS						
Sample Status				SEVERE	NORMAL	NORMAL
Silicon	ppm	ASTM D5185m	>30	e 51	5	5

Customer Id: GFL180 Sample No.: GFL0086309 Lab Number: 05893497 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data: Don Baldridge +1 <u>don.b505@comcast.net</u>

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com



RECOMMENDE	RECOMMENDED ACTIONS					
Action	Status	Date	Done By	Description		
Resample			?	We recommend an early resample to monitor this condition.		
Check Dirt Access			?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.		

HISTORICAL DIAGNOSIS



12 May 2023 Diag: Wes Davis

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



view report

21 Apr 2023 Diag: Wes Davis



Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

09 Mar 2023 Diag: Wes Davis





Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. There is no indication of any

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







OIL ANALYSIS REPORT

Sample Rating Trend

DIRT

Machine Id

920056-102721 Component

Diesel Engine

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

DIAGNOSIS

Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Elemental level of silicon (Si) above normal.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORI	MATION	method	limit/base	current	history 1	history 2
Sample Number		Client Info		GFL0086309	GFL0051139	GFL0073542
Sample Date		Client Info		03 Jul 2023	12 May 2023	21 Apr 2023
Machine Age	hrs	Client Info		4931	4286	4543
Oil Age	hrs	Client Info		0	0	3461
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				SEVERE	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history 1	history 2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>110	14	9	9
Chromium	ppm	ASTM D5185m	>4	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>25	6	6	3
Lead	ppm	ASTM D5185m	>45	0	0	0
Copper	ppm	ASTM D5185m	>85	5	<1	<1
Tin	ppm	ASTM D5185m	>4	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history 1	history 2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 104	history 1 156	history 2 174
ADDITIVES Boron Barium	ppm ppm	Method ASTM D5185m ASTM D5185m	limit/base 151 0.4	current 104 <1	history 1 156 0	history 2 174 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 151 0.4 250	current 104 <1 90	history 1 156 0 90	174 0 89
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 151 0.4 250	current 104 <1 90 <1	history 1 156 0 90 0	history 2 174 0 89 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 151 0.4 250 0	current 104 <1 90 <1 706	history 1 156 0 90 0 792	history 2 174 0 89 <1 747
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 151 0.4 250 0 2046	current 104 <1 90 <1 706 1371	history 1 156 0 90 0 792 1364	history 2 174 0 89 <1 747 1254
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 151 0.4 250 0 2046 1043	current 104 <1 90 <1 706 1371 789	history 1 156 0 90 0 792 1364 879	history 2 174 0 89 <1 747 1254 868
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 151 0.4 250 0 2046 1043 943	current 104 <1 90 <1 706 1371 789 948	history 1 156 0 90 0 792 1364 879 1060	history 2 174 0 89 <1 747 1254 868 1030
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 151 0.4 250 0 2046 1043 943 5012	current 104 <1 90 <1 706 1371 789 948 2744	history 1 156 0 90 0 792 1364 879 1060 3175	history 2 174 0 89 <1 747 1254 868 1030 2869
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 151 0.4 250 0 2046 1043 943 5012 limit/base	current 104 <1 90 <1 706 1371 789 948 2744	history 1 156 0 90 0 792 1364 879 1060 3175 history 1	history 2 174 0 89 <1 747 1254 868 1030 2869 history 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 151 0.4 250 0 2046 1043 943 5012 limit/base >30	current 104 <1 90 <1 706 1371 789 948 2744 current • 51	history 1 156 0 90 0 792 1364 879 1060 3175 history 1 5	history 2 174 0 89 <1 747 1254 868 1030 2869 history 2 5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	limit/base 151 0.4 250 0 2046 1043 943 5012 limit/base >30	current 104 <1 90 <1 706 1371 789 948 2744 current 51 0	history 1 156 0 90 0 792 1364 879 1060 3175 history 1 5 1	history 2 174 0 89 <1 747 1254 868 1030 2869 history 2 5 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 151 0.4 250 0 2046 1043 943 5012 limit/base >30 >20	current 104 <1 90 <1 706 1371 789 948 2744 current 51 0 9	history 1 156 0 90 0 792 1364 879 1060 3175 history 1 5 1	history 2 174 0 89 <1 747 1254 868 1030 2869 history 2 5 0 3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m ASTM D5185m	limit/base 151 0.4 250 0 2046 1043 943 5012 limit/base >30 >20 limit/base	current 104 <1 90 <1 706 1371 789 948 2744 current 51 0 9 current	history 1 156 0 90 0 792 1364 879 1060 3175 history 1 5 1 1 history 1	history 2 174 0 89 <1 747 1254 868 1030 2869 history 2 5 0 3 history 2
ADDITIVES 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	method ASTM D5185m	limit/base 151 0.4 250 0 2046 1043 943 5012 limit/base >30 s20 limit/base >3	current 104 <1 90 <1 706 1371 789 948 2744 current 51 0 9 current 0.2	history 1 156 0 90 0 792 1364 879 1060 3175 history 1 5 1 1 0.2	history 2 174 0 89 <1 747 1254 868 1030 2869 history 2 5 0 3 history 2 0.1
ADDITIVES 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	method ASTM D5185m	limit/base 151 0.4 250 0 2046 1043 943 5012 limit/base >30 limit/base >20 limit/base	current 104 <1 90 <1 706 1371 789 948 2744 current 0 9 current 0.2 8.1	history 1 156 0 90 0 792 1364 879 1060 3175 history 1 5 1 history 1 0.2 6.8	history 2 174 0 89 <1 747 1254 868 1030 2869 history 2 5 0 3 history 2 0.1 5.9
ADDITIVES 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	method ASTM D5185m	limit/base 151 0.4 250 0 2046 1043 943 5012 limit/base >30 -20 S3 >20 >30 >30	current 104 <1 90 <1 706 1371 789 948 2744 current 51 0 9 current 0.2 8.1 23.0	history 1 156 0 90 0 792 1364 879 1060 3175 history 1 5 1 5 1 0.2 6.8 21.0	history 2 174 0 89 <1 747 1254 868 1030 2869 history 2 5 0 3 history 2 0.1 5.9 20.0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415 method	limit/base 151 0.4 250 0 2046 1043 943 5012 limit/base >30 limit/base >33 >20 >30	current 104 <1 90 <1 706 1371 789 948 2744 current 0 9 current 0.2 8.1 23.0	history 1 156 0 90 0 792 1364 879 1060 3175 history 1 5 1 history 1 0.2 6.8 21.0 history 1	history 2 174 0 89 <1 747 1254 868 1030 2869 history 2 5 0 3 history 2 0.1 5.9 20.0 history 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7415 method *ASTM D7414	limit/base 151 0.4 250 0 2046 1043 943 5012 limit/base >30 limit/base >30 >20 limit/base >30 >20 S3 >20 S3 S3 S20 S3 S3 S3 S3 S20 S3 S3 S3 S3 S3 S3 S3 S3 S3 S3	current 104 <1 90 <1 706 1371 789 948 2744 Current 0 9 current 0.2 8.1 23.0 current 19.2	history 1 156 0 90 0 792 1364 879 1060 3175 history 1 5 1 0.2 6.8 21.0 history 1 15.5	history 2 174 0 89 <1 747 1254 868 1030 2869 history 2 5 0 3 history 2 0.1 5.9 20.0 history 2 14.6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI Oxidation Base Number (BN)	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm ppm ppm pp	method ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7415 method *ASTM D7414 ASTM D2896	limit/base 151 0.4 250 0 2046 1043 943 5012 limit/base >30 limit/base >30 20 s3 >20 s3 >20 limit/base >3 >20 limit/base >3 >20 limit/base	current 104 <1 90 <1 706 1371 789 948 2744 current 0 9 current 0.2 8.1 23.0 current 19.2 8.9	history 1 156 0 90 0 792 1364 879 1060 3175 history 1 5 1 5 1 0.2 6.8 21.0 history 1 15.5 8.9	history 2 174 0 89 <1 747 1254 868 1030 2869 history 2 5 0 3 history 2 0.1 5.9 20.0 history 2 14.6 8.7



OIL ANALYSIS REPORT





VISUAL		method	limit/base	current	history 1	history 2
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 PROPE	RTIES	method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	14.4	13.2	13.7	13.5
GRAPHS						
)+						
9 9 5 5 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			33			
Jun7/7 Nov22/2 Jan2/2 Jan20/2	Feb15/2	Mar9/2 Apr21/2 May12/2	Jul3/2			
Non-ferrous Metal	s					
copper lead						
17/21	5/23	9/23 1/23 2/23	3/23			

Base Number

14.0

12.0 (mg KOH/g)

10.0

8.0

0.0

Jun7/21.

Nov22/22 Jan2/23

mber 6.0

3ase 4 (2.0

Jul3/23 .

: 10 Jul 2023

: 11 Jul 2023

Apr21/23 .

Diagnostician : Don Baldridge

Mav12/23

Mar9/23

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received

Diagnosed

Feb 15/23



Test Package : FLEET Contact: FREDERICK ROGERS Certificate L2367 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)

18

17

16

13

11

Unique Number : 10549307

Laboratory

Sample No.

Lab Number

Jun7/21 Nov22/22 Jan2/23 Jan20/23

: GFL0086309

: 05893497

B

cSt (100°C)

Feb15/23 Mar9/23 Apr21/23

GFL Environmental - 180 - Tuscaloosa Hauling

an20/23

May12/23

4701 12TH ST NE

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Tuscaloosa, AL

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Т:

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