





### Machine Id **3590C** Component Natural Gas Engine Fluid CHEVRON DELO 400 NG (7 GAL)

# COMPONENT CONDITION SUMMARY



## RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS										
Sample Status				ATTENTION	ABNORMAL	NORMAL				
Visc @ 100°C	cSt	ASTM D445	15.8	<u> </u>	14.4	14.4				

Customer Id: GFL074 Sample No.: GFL0083142 Lab Number: 05964031 Test Package: FLEET



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### **RECOMMENDED ACTIONS**

There are no recommended actions for this sample.

### **HISTORICAL DIAGNOSIS**

### 08 Aug 2023 Diag: Jonathan Hester

COOL CHEMICALS



We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.All component wear rates are normal. Sodium and/or potassium levels are high. The BN result indicates that there is suitable alkalinity remaining in the oil.



#### 16 Jun 2023 Diag: Wes Davis

NORMAL



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

### WEAR



### 24 May 2023 Diag: Don Baldridge

No corrective action is recommended at this time. Resample at the next service interval to monitor. The copper level is abnormal. All other 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

VISCOSITY

### Machine Id **3590C** Component Natural Gas Engine Fluid CHEVRON DELO 400 NG (7 GAL)

## DIAGNOSIS

### A Recommendation

No corrective action is recommended at this time. 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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0083142	GFL0083112	GFL0083161
Sample Date		Client Info		25 Sep 2023	08 Aug 2023	16 Jun 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Not Changd	Not Changd
Sample Status				ATTENTION	ABNORMAL	NORMAL
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	24	42	16
Chromium	ppm	ASTM D5185m	>4	1	2	1
Nickel	ppm	ASTM D5185m	>2	0	2	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>9	6	4	3
Lead	ppm	ASTM D5185m	>30	<1	<1	1
Copper	ppm	ASTM D5185m	>35	13	30	12
Tin	ppm	ASTM D5185m	>4	2	0	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		2	5	31
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m		2 0	5 2	31 0
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		2 0 70	5 2 71	31 0 60
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		2 0 70 2	5 2 71 1	31 0 60 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		2 0 70 2 966	5 2 71 1 558	31 0 60 <1 604
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		2 0 70 2 966 1287	5 2 71 1 558 1640	31 0 60 <1 604 1675
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	800	2 0 70 2 966 1287 1075	5 2 71 1 558 1640 689	31 0 60 <1 604 1675 773
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	800 880	2 0 70 2 966 1287 1075 1362	5 2 71 1 558 1640 689 976	31 0 60 <1 604 1675 773 995
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	800 880	2 0 70 2 966 1287 1075 1362 2671	5 2 71 1 558 1640 689 976 2743	31 0 60 <1 604 1675 773 995 2998
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	800 880 limit/base	2 0 70 2 966 1287 1075 1362 2671 current	5 2 71 1 558 1640 689 976 2743 history1	31 0 60 <1 604 1675 773 995 2998 history2
Boron Barium Molybdenum Magnese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	800 880 limit/base >+100	2 0 70 2 966 1287 1075 1362 2671 current 7	5 2 71 1 558 1640 689 976 2743 history1 8	31 0 60 <1 604 1675 773 995 2998 history2 5
Boron Barium Molybdenum Magnese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   FS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	800 880 limit/base >+100	2 0 70 2 966 1287 1075 1362 2671 current 7 5	5 2 71 1 558 1640 689 976 2743 history1 8 8 ▲ 148	31 0 60 <1 604 1675 773 995 2998 history2 5 14
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	ASTM D5185m ASTM D5185m	800 880 880 limit/base >+100 >20	2 0 70 2 966 1287 1075 1362 2671 current 7 5 4	5 2 71 1 558 1640 689 976 2743 2743 history1 8 8 148 4	31 0 60 <1 604 1675 773 995 2998 history2 5 14 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	800 880 limit/base >+100 >20 limit/base	2 0 70 2 966 1287 1075 1362 2671 current 7 5 4 2 0 2 1 2 0 1 2 0 1 2 0 1 2 0 1 2 0 1 2 0 1 2 1 2	5 2 71 1 558 1640 689 976 2743 history1 8 & 148 4 4	31 0 60 <1 604 1675 773 995 2998 history2 5 14 2 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm   ppm	ASTM D5185m ASTM D5185m	800 880 limit/base >+100 >20 limit/base	2 0 70 2 966 1287 1075 1362 2671 current 7 5 4 4 current 0.2	5 2 71 1 558 1640 689 976 2743 history1 8 ▲ 148 4 history1 0	31 0 60 <1 604 1675 773 995 2998 history2 5 14 2 2 history2 0.1
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 ASTM D5185m	800 880 880 >+100 >20 Iimit/base >20 S20	2 0 70 2 966 1287 1075 1362 2671 current 7 5 4 current 0.2 27.9	5 2 71 1 558 1640 689 976 2743 vistory1 8 148 4 4 vistory1 0 0 11.7	31 0 60 <1 604 1675 773 995 2998 history2 5 14 2 2 history2 0.1 9.1
Boron Barium Molybdenum Magnese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	800 880 201 201 201 202 202 202 202 202 202 20	2 0 70 2 966 1287 1075 1362 2671 <i>current</i> 7 5 4 4 <i>current</i> 0.2 27.9 10.5	5 2 71 558 1640 689 976 2743 history1 8 ▲ 148 4 • history1 0 0 11.7 22.2	31 0 60 <1 604 1675 773 995 2998 history2 5 14 2 2 history2 0.1 9.1 19.1
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 ASTM D7844 *ASTM D7844	800 880 880 >+100 >20 Iimit/base >20 Iimit/base >20 >30	2 0 70 2 966 1287 1075 1362 2671 current 7 5 4 current 0.2 27.9 10.5 current	5 2 71 1 558 1640 689 976 2743 A istory1 8 148 4 4 history1 0 11.7 22.2 history1	31 0 60 <1 604 1675 773 995 2998 history2 5 14 2 2 history2 0.1 9.1 19.1 19.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAC	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm ppm ppm pp	ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7844 *ASTM D7415	800 880 880 >+100 >20 Iimit/base >20 >30 Iimit/base >25	2 0 70 2 966 1287 1075 1362 2671 <i>current</i> 7 5 4 <i>current</i> 0.2 27.9 10.5 <i>current</i>	5 2 71 1 558 1640 689 976 2743 history1 8 ▲ 148 4 148 4 history1 0 11.7 22.2 history1 17.3	31 0 60 <1 604 1675 773 995 2998 history2 5 14 2 2 history2 0.1 9.1 19.1 19.1 19.1 16.0



10.0

Aug13/15 1/9/lm

lan1

Base N

# **OIL ANALYSIS REPORT**

scalar

VISUAL





limit/base

NONE

current

NONE

history1

NONE

history2

NONE

method

\*Visual



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