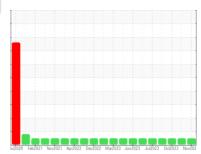


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



429061-402470

Component

Diesel Engine

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

DIAGNOSIS

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

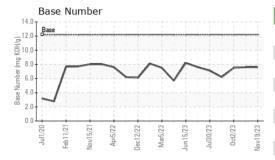
Fluid Condition

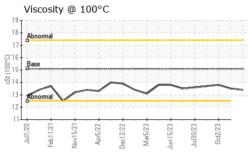
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION method limit/base current history1 Sample Number Client Info GFL0086393 GFL0086391 GFL0086376 Sample Date Client Info 8592 8541 8404 Oil Age hrs Client Info 8592 8541 8404 Oil Age hrs Client Info N/A N/A	U (GAL)						
Sample Date	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 8592 8541 8404 Oil Age hrs Client Info 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A N/A CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method NEG NEG NEG NEG NEG NEG NEG WEAR METALS method limit/base current history2 WEAR METALS method limit/base nerent history2 WEAR METALS method limit/base nerent history2 WEAR METALS method limit/base current history2 WEAR METALS method limit/base current nerent nerent WEAR MET	Sample Number		Client Info		GFL0086393	GFL0086391	GFL0086376
Oil Age hrs Client Info N/A			Client Info		19 Nov 2023	23 Oct 2023	02 Oct 2023
Oil Changed Status Client Info N/A N/A N/A N/A N/A N/A SAMAL NORMAL NEG <	Machine Age	hrs	Client Info		8592	8541	8404
Sample Status	Oil Age	hrs	Client Info		0	0	0
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 <1.0 Water WC Method NEG NEG NEG NEG Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >110 19 26 16 Chromitim ppm ASTM D5185m >4 2 2 2 Nickel ppm ASTM D5185m >2 0 <1 <1 0 Silver ppm ASTM D5185m >2 0 0 0 0 Silver ppm ASTM D5185m >25 4 3 2 2 1 1 0 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Oil Changed		Client Info		N/A	N/A	N/A
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water Glycol WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >11 0 19 26 16 Chromium ppm ASTM D5185m >4 2 2 2 Nickel ppm ASTM D5185m >2 0 <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
Second WC Method NEG NEG NEG	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >4 2 2 2 Nickel ppm ASTM D5185m >2 0 <1 <1 Titanium ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >2 4 3 2 Lead ppm ASTM D5185m >45 2 2 1 Copper ppm ASTM D5185m >44 <1 <1 <1 Tin ppm ASTM D5185m >4 <1 <1 <1 <1 Vanadium ppm ASTM D5185m >4 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	WEAR METAL	.S	method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >2 0 <1 <1 Titanium ppm ASTM D5185m <1	Iron	ppm	ASTM D5185m	>110	19	26	16
Titanium ppm ASTM D5185m <1	Chromium	ppm	ASTM D5185m	>4	2	2	2
Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >25 4 3 2 Lead ppm ASTM D5185m >45 2 2 1 Copper ppm ASTM D5185m >4 <1	Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Aluminum	Titanium	ppm	ASTM D5185m		<1	<1	0
Lead	Silver	ppm	ASTM D5185m	>2	0	0	0
Copper ppm ASTM D5185m >85 9 1 <1	Aluminum	ppm	ASTM D5185m	>25	4	3	2
Tin ppm ASTM D5185m >4 <1	Lead	ppm	ASTM D5185m	>45	2	2	1
Vanadium ppm ASTM D5185m <1	Copper	ppm	ASTM D5185m	>85	9	1	<1
Cadmium ppm ASTM D5185m 0 <1	Tin	ppm	ASTM D5185m	>4	<1	<1	<1
ADDITIVES	Vanadium	ppm	ASTM D5185m		<1	0	<1
Boron ppm ASTM D5185m 0 3 0	Cadmium	ppm	ASTM D5185m		0	<1	0
Barium ppm ASTM D5185m 0 3 0 Molybdenum ppm ASTM D5185m 60 74 59 Manganese ppm ASTM D5185m <1 <1 <1 Magnesium ppm ASTM D5185m 782 955 789 Calcium ppm ASTM D5185m 1275 14447 1191 Phosphorus ppm ASTM D5185m 1360 899 1282 1007 Zinc ppm ASTM D5185m 1480 1225 1449 1226 Sulfur ppm ASTM D5185m 2725 4146 3074 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 10 9 6 Sodium ppm ASTM D5185m >20 6 4 4 Potassium ppm ASTM D5185m >20 6 4 3 INFRA-RED<	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 74 59 Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m		36	18	22
Manganese ppm ASTM D5185m <1 <1 <1 <1 <1 <1 Magnesium ppm ASTM D5185m 782 955 789 Calcium ppm ASTM D5185m 1275 1447 1191 <td>Barium</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>0</th> <td>3</td> <td>0</td>	Barium	ppm	ASTM D5185m		0	3	0
Magnesium ppm ASTM D5185m 782 955 789 Calcium ppm ASTM D5185m 1275 1447 1191 Phosphorus ppm ASTM D5185m 1360 899 1282 1007 Zinc ppm ASTM D5185m 1480 1225 1449 1226 Sulfur ppm ASTM D5185m 2725 4146 3074 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 10 9 6 Sodium ppm ASTM D5185m >30 10 9 6 Sodium ppm ASTM D5185m >20 6 4 4 Potassium ppm ASTM D5185m >20 6 4 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 9.1 8.5	Molybdenum	ppm			60	74	59
Calcium ppm ASTM D5185m 1275 1447 1191 Phosphorus ppm ASTM D5185m 1360 899 1282 1007 Zinc ppm ASTM D5185m 1480 1225 1449 1226 Sulfur ppm ASTM D5185m 2725 4146 3074 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 10 9 6 Sodium ppm ASTM D5185m >20 6 4 4 Potassium ppm ASTM D5185m >20 6 4 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.3 0.3 Nitration Abs/.1mm *ASTM D7415 >30 22.4 20.4 19.0 FLUID DEGRADATION method limit/base <	Manganese	ppm	ASTM D5185m		<1	<1	<1
Phosphorus ppm ASTM D5185m 1360 899 1282 1007 Zinc ppm ASTM D5185m 1480 1225 1449 1226 Sulfur ppm ASTM D5185m 2725 4146 3074 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 10 9 6 Sodium ppm ASTM D5185m >30 10 9 6 Sodium ppm ASTM D5185m >20 6 4 4 Potassium ppm ASTM D5185m >20 6 4 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.3 0.3 Nitration Abs/.1mm *ASTM D7415 >30 22.4 20.4 19.0 FLUID DEGRADATION method limit/base <th>Magnesium</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th>782</th> <th>955</th> <th>789</th>	Magnesium	ppm	ASTM D5185m		782	955	789
Zinc ppm ASTM D5185m 1480 1225 1449 1226 Sulfur ppm ASTM D5185m 2725 4146 3074 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 10 9 6 Sodium ppm ASTM D5185m >20 6 4 4 Potassium ppm ASTM D5185m >20 6 4 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 9.1 8.5 7.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 20.4 19.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D741	Calcium	ppm	ASTM D5185m		1275	1447	1191
Sulfur ppm ASTM D5185m 2725 4146 3074 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 10 9 6 Sodium ppm ASTM D5185m 4 4 4 Potassium ppm ASTM D5185m >20 6 4 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 9.1 8.5 7.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 20.4 19.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 16.2 14.8	Phosphorus	ppm	ASTM D5185m	1360	899	1282	1007
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 10 9 6 Sodium ppm ASTM D5185m 4 4 4 Potassium ppm ASTM D5185m >20 6 4 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 9.1 8.5 7.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 20.4 19.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 16.2 14.8	Zinc	ppm	ASTM D5185m	1480	1225	1449	1226
Silicon ppm ASTM D5185m >30 10 9 6 Sodium ppm ASTM D5185m 4 4 4 4 Potassium ppm ASTM D5185m >20 6 4 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 9.1 8.5 7.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 20.4 19.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 16.2 14.8	Sulfur	ppm	ASTM D5185m		2725	4146	3074
Sodium ppm ASTM D5185m 4 4 4 4 Potassium ppm ASTM D5185m >20 6 4 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 9.1 8.5 7.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 20.4 19.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 16.2 14.8	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 6 4 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 9.1 8.5 7.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 20.4 19.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 16.2 14.8	Silicon	ppm	ASTM D5185m	>30	10	9	6
INFRA-RED	Sodium	ppm	ASTM D5185m		4	4	4
Soot % % *ASTM D7844 >3 0.4 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 9.1 8.5 7.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 20.4 19.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 16.2 14.8	Potassium	ppm	ASTM D5185m	>20	6	4	3
Nitration Abs/cm *ASTM D7624 >20 9.1 8.5 7.4 Sulfation Abs/.1mm *ASTM D7615 >30 22.4 20.4 19.0 FLUID DEGRADATION method limit/base current bistory1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 16.2 14.8	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 22.4 20.4 19.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 16.2 14.8	Soot %	%	*ASTM D7844	>3	0.4	0.3	0.3
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 16.2 14.8	Nitration	Abs/cm	*ASTM D7624	>20	9.1	8.5	7.4
Oxidation Abs/.1mm *ASTM D7414 >25 18.9 16.2 14.8	Sulfation	Abs/.1mm	*ASTM D7415	>30	22.4	20.4	19.0
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 12.2 7.6 7.6 7.5	Oxidation	Abs/.1mm	*ASTM D7414	>25	18.9	16.2	14.8
	Base Number (BN)	mg KOH/g	ASTM D2896	12.2	7.6	7.6	7.5



OIL ANALYSIS REPORT

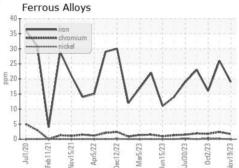


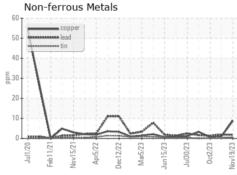


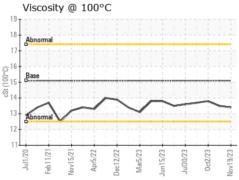
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

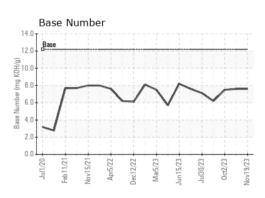
FLUID PROPE	ERITES	metnoa	ilmit/base	current	nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	15.1	13.4	13.5	13.8

GRAPHS













Certificate L2367

Laboratory

Sample No. Lab Number Unique Number : 10752091 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0086393 : 06012947

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

Received : 20 Nov 2023 Diagnosed : 21 Nov 2023 Diagnostician : Wes Davis

GFL Environmental - 816 - WCA of South Arkansas 3083 Smackover Hwy

El Dorado, AR US 71730

Contact: Mike Howell mike.howell@gflenv.com T:

* - 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)

F: