

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

124006-869

Component Diesel Engine Fluid CHEVRON DELO 400 XLE 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.

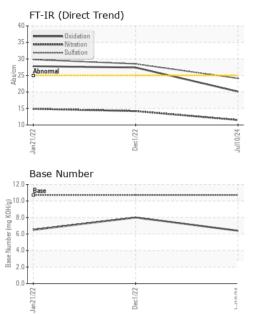
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0122751	GFL0060820	GFL0042782
Sample Date		Client Info		10 Jul 2024	01 Dec 2022	21 Jan 2022
Machine Age	hrs	Client Info		14100	12910	12937
Oil Age	hrs	Client Info		1163	600	601
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
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	>100	18	36	39
Chromium	ppm	ASTM D5185m	>20	1	5	4
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		14	2	12
Silver	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum	ppm	ASTM D5185m	>20	3	8	10
Lead	ppm	ASTM D5185m	>40	0	1	1
Copper	ppm	ASTM D5185m	>330	1	1	2
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		<1	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		111	183	70
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		60	108	59
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		679	661	716
Calcium	ppm	ASTM D5185m		1572	1608	1563
Phosphorus	ppm	ASTM D5185m	700			
	pp	ASTIVI DOTODITI	760	683	719	716
Zinc	ppm	ASTM D5185m	830	683 901	719 879	716 862
Zinc Sulfur			830			
-	ppm ppm	ASTM D5185m	830	901	879	862
Sulfur	ppm ppm	ASTM D5185m ASTM D5185m	830 2770	901 2851	879 3065	862 2593
Sulfur CONTAMINAN	ppm ppm TS	ASTM D5185m ASTM D5185m method	830 2770 limit/base	901 2851 current	879 3065 history1	862 2593 history2
Sulfur CONTAMINAN Silicon	ppm ppm TS ppm	ASTM D5185m ASTM D5185m method ASTM D5185m	830 2770 limit/base >25	901 2851 current 5	879 3065 history1 5	862 2593 history2 8
Sulfur CONTAMINAN Silicon Sodium	ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	830 2770 limit/base >25	901 2851 current 5 4	879 3065 history1 5 7	862 2593 history2 8 6
Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	830 2770 limit/base >25 >20	901 2851 current 5 4 10	879 3065 history1 5 7 11	862 2593 history2 8 6 24
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m Method	830 2770 imit/base >25 >20 imit/base >3	901 2851 current 5 4 10 current	879 3065 history1 5 7 11 history1	862 2593 history2 8 6 24 history2
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844	830 2770 imit/base >25 >20 imit/base >3	901 2851 current 5 4 10 current 0.6	879 3065 history1 5 7 11 history1 0.7	862 2593 history2 8 6 24 24 history2 0.9
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624	830 2770 imit/base >25 >20 imit/base >3 >20	901 2851 current 5 4 10 current 0.6 11.5	879 3065 history1 5 7 11 history1 0.7 14.2	862 2593 history2 8 6 24 24 history2 0.9 14.9
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624	830 2770 limit/base >25 >20 limit/base >3 >20 >30	901 2851 5 4 10 current 0.6 11.5 24.1	879 3065 history1 5 7 11 history1 0.7 14.2 28.5	862 2593 history2 8 6 24 history2 0.9 14.9 29.8
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415	830 27770 imit/base >25 >20 imit/base >3 >20 >30 imit/base	901 2851 current 5 4 10 current 0.6 11.5 24.1 current	879 3065 history1 5 7 11 history1 0.7 14.2 28.5 history1	862 2593 history2 8 6 24 history2 0.9 14.9 29.8 history2

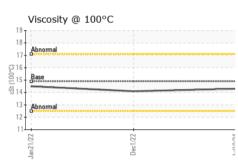
Report Id: GFL629 [WUSCAR] 06235602 (Generated: 07/16/2024 08:52:16) Rev: 1

Submitted By: Mitch Hershberger



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d)	VISUAL		method	limit/base	curren	nt 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
Dec1/22 Jul10/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Jul	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
1	Free Water	scalar	*Visual		NEG	NEG	NEG
	FLUID PROPE	ERTIES	method	limit/base	curren	nt history1	history2
	Visc @ 100°C	cSt	ASTM D445	14.9	14.3	14.1	14.5
	GRAPHS						
	Ferrous Alloys						
	40 ar						
Dec1/22	35 - chromium						
<u> </u>	30 - 25						
	Ē 20						
	15						
	10						
	5-	and the second					
	0		************************				
	Jan 21/22	Dec1/22		Jul10/24			
	Jan 2	Dei		Jul			
	Non-ferrous Meta	ls					
Dec1/22	10 copper]						
ă	8 - Bessessesses lead						
	un un						
	6						
	8						
	2						
	0		Teletistetetetetetetetet				
		122 -		0/24			
	Jan 21/22	Dec1/22		Jul10/24			
	Viscosity @ 100°	С			Paco Nun	abar	
	19 T			12.0	Base Nun	nder	
	18 - Abnormal			10.0	Base		
		UUUUUUUUUU 		(B/H)			
	ĵ; 200			-0.8 Base Number (mg KOH/g)			
	C 16 00 15 8 Base 7 14			L 6.0			
	13 Abnormal						
	12			2.0	1		
	11	22		-0.0	22		
	Jan 21/22	Dec1/22		Jul10/24	Jan 21/22	Dec1/22	
	Ť	_		7	ŗ		
Laboratory	: WearCheck USA - 50)1 Madiso	n Ave Carv	/ NC 27513	GF	L Environmental - 6	29 - Northern A
Sample No.	: GFL0122751	Recei		5 Jul 2024	ur ur		3947 US 131
	r : 06235602	Teste					Kalkaska, M
	r :11124436	Diagn					JS 49646-842
rtificate L2367 Test Package				•		Contact: MITCH H	ERSHBERGE
discuss this sample repor Denotes test methods tha						Т	: (231)624-08
tements of conformity to s					ule (JCGN		. , .

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

Submitted By: Mitch Hershberger

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