

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

129006-443

Diesel Engine Fluid CHEVRON DELO 400 XLE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

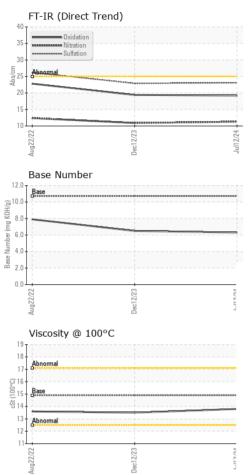
Fluid Condition

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

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0122747	GFL0096106	GFL0018779
Sample Date		Client Info		12 Jul 2024	12 Dec 2023	22 Aug 2022
Machine Age	hrs	Client Info		7015	6467	5401
Oil Age	hrs	Client Info		548	1066	610
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	27	39	30
Chromium	ppm	ASTM D5185m		2	3	2
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m	- 1	13	11	3
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m		3	5	8
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m		1	3	3
Tin	ppm		>15	0	0	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	<1	0
				U	< 1	0
	ppin		limit/base			
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 43	history1 105	history2 148
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	current 43 0	history1 105 0	history2 148 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 43 0 47	history1 105 0 66	history2 148 0 106
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 43 0 47 <1	history1 105 0 66 <1	history2 148 0 106 <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	current 43 0 47 <1 706	history1 105 0 66 <1 670	history2 148 0 106 <1 624
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		current 43 0 47 <1 706 1534	history1 105 0 66 <1 670 1505	history2 148 0 106 <1 624 1503
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	760	current 43 0 47 <1 706 1534 718	history1 105 0 66 <1 670 1505 641	history2 148 0 106 <1 624 1503 669
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	760 830	current 43 0 47 <1 706 1534 718 819	history1 105 0 66 <1 670 1505 641 825	history2 148 0 106 <1 624 1503 669 850
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	760 830 2770	Current 43 0 47 <1 706 1534 718 819 3300	history1 105 0 66 <1 670 1505 641 825 3160	history2 148 0 106 <1 624 1503 669 850 2566
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	760 830 2770 Iimit/base	current 43 0 47 <1 706 1534 718 819 3300 current	history1 105 0 66 <1 670 1505 641 825 3160 history1	history2 148 0 106 <1 624 1503 669 850 2566 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	760 830 2770	current 43 0 47 <1 706 1534 718 819 3300 current 7	history1 105 0 66 <1 670 1505 641 825 3160 history1	history2 148 0 106 <1 624 1503 669 850 2566 history2 8
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	760 830 2770 Iimit/base	current 43 0 47 <1 706 1534 718 819 3300 current	history1 105 0 66 <1 670 1505 641 825 3160 history1	history2 148 0 106 <1 624 1503 669 850 2566 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	760 830 2770 limit/base >25 >20	current 43 0 47 <1 706 1534 718 819 3300 current 7 7 8	history1 105 0 66 <1 670 1505 641 825 3160 history1 11 4 9	history2 148 0 106 <1 624 1503 669 850 2566 history2 8 7 9
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	760 830 2770 limit/base >25 >20 limit/base	current 43 0 47 <1 706 1534 718 819 3300 current 7 7 8 current	history1 105 0 66 <1 670 1505 641 825 3160 history1 11 4 9 history1	history2 148 0 106 <1 624 1503 669 850 2566 history2 8 7 9 history2
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	760 830 2770 limit/base >25 >20 limit/base >3	current 43 0 47 <1 706 1534 718 819 3300 current 7 7 8 current 0 0.5	history1 105 0 66 <1 670 1505 641 825 3160 history1 11 4 9 history1 0.5	history2 148 0 106 <1 624 1503 669 850 2566 history2 8 7 9 history2 0 0 0 0 0 2566
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	760 830 2770 imit/base >25 >20 imit/base >3 >20	current 43 0 47 <1 706 1534 718 819 3300 current 7 7 8 current 0.5 11.3	history1 105 0 66 <1 670 1505 641 825 3160 history1 11 4 9 history1 0.5 10.9	history2 148 0 106 <1 624 1503 669 850 2566 history2 8 7 9 history2 0.6 12.4
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 ASTM D5185m	760 830 2770 Imit/base >25 >20 Imit/base >3 >20 >3 >20	current 43 0 47 <1 706 1534 718 819 3300 current 7 7 8 current 0.5 11.3 23.1	history1 105 0 66 <1 670 1505 641 825 3160 history1 11 4 9 history1 0.5 10.9 22.9	history2 148 0 106 <1 624 1503 669 850 2566 history2 8 7 9 history2 0.6 12.4 26.2
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 TS ppm ppm ppm	method ASTM D5185m ASTM D7185M ASTM D7624 *ASTM D7415 method	760 830 2770 imit/base >25 20 220 imit/base >3 >20 >30 >30	current 43 0 47 <1 706 1534 718 819 3300 current 7 7 8 current 0.5 11.3 23.1 current	history1 105 0 66 <1 670 1505 641 825 3160 history1 11 4 9 history1 0.5 10.9 22.9 history1	history2 148 0 106 <1 624 1503 669 850 2566 history2 8 7 9 history2 0.6 12.4 26.2 history2
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 ASTM D5185m	760 830 2770 Imit/base >25 >20 Imit/base >3 >20 >3 >20	current 43 0 47 <1 706 1534 718 819 3300 current 7 7 8 current 0.5 11.3 23.1	history1 105 0 66 <1 670 1505 641 825 3160 history1 11 4 9 history1 0.5 10.9 22.9	history2 148 0 106 <1 624 1503 669 850 2566 history2 8 7 9 history2 0.6 12.4 26.2



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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
Dec12/23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Jull	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		method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445		13.8	13.5	13.6
	GRAPHS			-			
	Ferrous Alloys						
	40						
1/23	35 - iron						
Dec12/23	30 - nickel						
	25 -						
	§ 20-						
	15						
	10-						
	5 -		100aunut				

	Aug22/22	Dec12/23		Jul12/24			
				-			
23	Non-ferrous Metal	S					
Decl 2/23	copper						
	8 - energy tin						
	udd						
	4						
	۷						
	wg22/22	ec12/23		Jul12/24			
	Aug	Dec		Jul			
	Viscosity @ 100°C	;			Base Number	-	
	18-			12.	Base		
	17 Abnormal			10. Ş	U		
				KOH	0-		
	ç ¹⁶						
	0015 Base			<u>به</u> ۲۰۰۰ کې ۱	0-		
	(2) 16 - Base 15 - Base 37 14			.0 Juniter 1	0		
	12			L) 6. Mumper 4.	0		
				(B/HO) 8. 9. 9. 9. 9. 8. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9.	0		
	13 Abnormal 12			2.	0		
	13 Abnormal 12	:12/23		2.	0	1223	
	13 Abnormal	Dec12/23		2.	0-	Dec12/23	
	Abnormal 12 11 11 11 11 11 11 11 11 11 11 11 11			2. 	Aug22/22		
Laboratory Sample No	Abnomal 12 11 22 227 207 207 207 207 207 207 207 207	1 Madiso		, NC 27513	Aug22/22	vironmental - 62	9 - Northern A
Sample No.	: WearCheck USA - 50 : GFL0122747	1 Madiso Rece i	ved : 17	, NC 27513 Jul 2024	Aug22/22	vironmental - 62	9 - Northern / 3947 US 131
<u>(</u>	: WearCheck USA - 50 : GFL0122747 : 06238868	1 Madiso	ved :17 d :17	, NC 27513	GFL Er	vironmental - 62	9 - Northern A
Sample No. Lab Number Unique Number Test Package	: WearCheck USA - 50 : GFL0122747 : 06238868 : 11127702 : FLEET	1 Madiso Recei Teste Diagr	ved : 17 d : 17 iosed : 17	NC 27513 Jul 2024 Jul 2024 Jul 2024 - W	GFL Er	vironmental - 62	9 - Northern / 3947 US 131 Kalkaska, I IS 49646-842
Sample No. Lab Number Unique Number	: WearCheck USA - 50 : GFL0122747 : 06238868 : 11127702 : FLEET contact Customer Servi	1 Madiso Recei Teste Diagr	ved : 17 d : 17 losed : 17 200-237-1369	, NC 27513 Jul 2024 Jul 2024 Jul 2024 - W	GFL Er	ivironmental - 62 L ntact: MITCH HI	9 - Northern / 3947 US 131 Kalkaska, I IS 49646-842

Submitted By: Mitch Hershberger

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