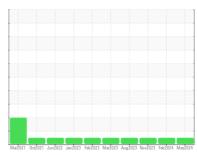


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id **228021-1228**

Diesel Engine

CHEVRON DELO 400 XLE 15W40 (5 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

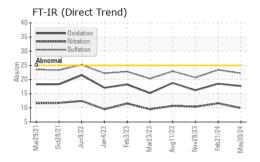
Fluid Condition

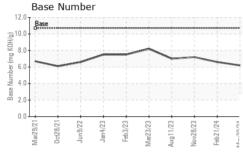
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

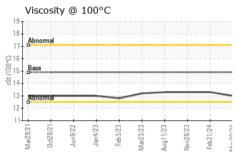
			Mar2021 Oct2	021 Jun2022 Jan2023 Feb2	023 Mar2023 Aug2023 Nov2023 Feb2	024 May2024	
Sample Date	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 6979 6490 6166 Oil Age hrs Client Info 6490 5792 0 Oil Changed Client Info Not Changed	Sample Number		Client Info		GFL0104712	GFL0096283	GFL0096273
Oil Age hrs Client Info 6490 5792 0 Oil Changed Client Info Not Changd Not Changed Not Changed Sample Status Normal Normal Normal Normal Normal CONTAMINATION method limit base current history1 history2 Euel WC Method >2.0 >1.0 <1.0	Sample Date		Client Info		30 May 2024	21 Feb 2024	28 Nov 2023
Oil Changed Sample Status	Machine Age	hrs	Client Info		6979	6490	6166
CONTAMINATION	Oil Age	hrs	Client Info		6490	5792	0
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >2.0 <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 >100 29 56 19 Chromium ppm ASTM D5185m >20 0 <1 <1 Nickel ppm ASTM D5185m >4 0 <1 0 Titatanium ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >30 0 0 0 Copper ppm ASTM D5185m >30 0 1 1 0 <th>Oil Changed</th> <th></th> <th>Client Info</th> <th></th> <th>Not Changd</th> <th>Changed</th> <th>Not Changd</th>	Oil Changed		Client Info		Not Changd	Changed	Not Changd
Fuel WC Method >2.0 <1.0 <1.0 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG Neg	Sample Status				NORMAL	NORMAL	NORMAL
Water WC Method >0.2 NEG NEG NEG NEG Glycol WC Method Imit/base current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 29 56 19 Chromium ppm ASTM D5185m >20 0 <1 0 Nickel ppm ASTM D5185m >4 0 <1 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 7 11 6 Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >15 0 <1 0 Vanadium ppm ASTM D5185m >15 0 <1 0 Cadmium ppm ASTM D5185m 0 <1 0	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>2.0	<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 >20 0 -1 -1 Nickel ppm ASTM D5185m >4 0 -1 0 Tittanium ppm ASTM D5185m >3 0 0 0 Sliver ppm ASTM D5185m >20 7 11 6 Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >330 -1 1 -1 Tin ppm ASTM D5185m >15 0 -1 0 Vanadium ppm ASTM D5185m 0 -1 0 0 ACadmium ppm ASTM D5185m 0 -1 0 0 Boron ppm ASTM D5185m 0 -1 2 0 Molydednum ppm ASTM D5185m 0 -1 2	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	29	56	19
Titanium ppm ASTM D5185m 6 11 11 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 7 11 6 Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >33 <1 1 <1 Tin ppm ASTM D5185m >33 <1 1 <1 Vanadium ppm ASTM D5185m >15 0 <1 0 Vanadium ppm ASTM D5185m >1 <1 <1 0 Cadmium ppm ASTM D5185m 0 <1 0 <1 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 205 103 109 Barium ppm ASTM D5185m 0 <1 2	Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Stiver	Nickel	ppm	ASTM D5185m	>4	0	<1	0
Aluminum ppm ASTM D5185m >20 7 11 6 Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >330 <1 1 <1 Tin ppm ASTM D5185m >15 0 <1 0 Vanadium ppm ASTM D5185m <1 <1 0 0 Cadmium ppm ASTM D5185m 0 <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1 2 Molybdenum ppm ASTM D5185m 0 <1 2 Molybdenum ppm ASTM D5185m 60 59 51 Manganesium ppm ASTM D5185m 526 636 656 Calcium ppm ASTM D5185m 526 636 656 Calcium ppm	Titanium	ppm	ASTM D5185m		6	11	
Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >330 <1							_
Copper ppm ASTM D5185m >330 <1	Aluminum	ppm	ASTM D5185m	>20	7	11	6
Tin ppm ASTM D5185m >15 0 <1	Lead	ppm	ASTM D5185m	>40	0		0
Vanadium ppm ASTM D5185m <1	• •	ppm		>330			
Cadmium ppm ASTM D5185m 0 <1		ppm		>15			_
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 205 103 109 Barium ppm ASTM D5185m 0 <1 2 Molybdenum ppm ASTM D5185m 60 59 51 Manganese ppm ASTM D5185m <1 1 0 Magnesium ppm ASTM D5185m 526 636 656 Calcium ppm ASTM D5185m 760 841 766 686 Phosphorus ppm ASTM D5185m 2770 3354 2973 2908 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 9 7 Sodium ppm ASTM D5185m >25 <1 9 7 Sodium ppm ASTM D5185m >20 5 14 10 INFRA-RED <th></th> <th>ppm</th> <th></th> <th></th> <th></th> <th></th> <th></th>		ppm					
Boron	Cadmium	ppm	ASTM D5185m		0	<1	0
Barium ppm ASTM D5185m 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 59 51 Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m		205	103	109
Manganese ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m		0	<1	2
Magnesium ppm ASTM D5185m 526 636 656 Calcium ppm ASTM D5185m 1520 1416 1436 Phosphorus ppm ASTM D5185m 760 841 766 686 Zinc ppm ASTM D5185m 830 962 857 797 Sulfur ppm ASTM D5185m 2770 3354 2973 2908 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 9 7 Sodium ppm ASTM D5185m 2 <1 1 Potassium ppm ASTM D5185m 20 5 14 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 0.7 0.4 Nitration Abs/:nm *ASTM D7415 >30 22.2 23.4<	Molybdenum	ppm	ASTM D5185m		60	59	
Calcium ppm ASTM D5185m 1520 1416 1436 Phosphorus ppm ASTM D5185m 760 841 766 686 Zinc ppm ASTM D5185m 830 962 857 797 Sulfur ppm ASTM D5185m 2770 3354 2973 2908 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 9 7 Sodium ppm ASTM D5185m 2 <1 1 Potassium ppm ASTM D5185m >20 5 14 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 0.7 0.4 Nitration Abs/.1mm *ASTM D7415 >30 22.2 23.4 20.7 FLUID DEGRADATION *ASTM D7414 >25 17	•	ppm	ASTM D5185m		<1	1	
Phosphorus ppm ASTM D5185m 760 841 766 686 Zinc ppm ASTM D5185m 830 962 857 797 Sulfur ppm ASTM D5185m 2770 3354 2973 2908 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 9 7 Sodium ppm ASTM D5185m 2 <1 1 Potassium ppm ASTM D5185m >20 5 14 10 INFRA-RED method limit/base current history1 history2 Soot % "ASTM D7844 >3 0.7 0.7 0.4 Nitration Abs/cm "ASTM D7624 >20 9.9 11.6 10.4 Sulfation Abs/.1mm "ASTM D7415 >30 22.2 23.4 20.7 FLUID DEGRADATION method limit/base		ppm					
Zinc ppm ASTM D5185m 830 962 857 797 Sulfur ppm ASTM D5185m 2770 3354 2973 2908 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 9 7 Sodium ppm ASTM D5185m 2 <1 1 Potassium ppm ASTM D5185m >20 5 14 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 0.7 0.4 Nitration Abs/cm *ASTM D7624 >20 9.9 11.6 10.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.2 23.4 20.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D		ppm					
Sulfur ppm ASTM D5185m 2770 3354 2973 2908 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 9 7 Sodium ppm ASTM D5185m 2 <1 1 Potassium ppm ASTM D5185m >20 5 14 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 0.7 0.4 Nitration Abs/cm *ASTM D7624 >20 9.9 11.6 10.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.2 23.4 20.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.7 18.5 16.2					-		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 9 7 Sodium ppm ASTM D5185m 2 <1 1 Potassium ppm ASTM D5185m >20 5 14 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 0.7 0.4 Nitration Abs/cm *ASTM D7624 >20 9.9 11.6 10.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.2 23.4 20.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.7 18.5 16.2	-						
Silicon ppm ASTM D5185m >25 <1							
Sodium ppm ASTM D5185m 2 <1						•	· ·
Potassium ppm ASTM D5185m >20 5 14 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 0.7 0.4 Nitration Abs/cm *ASTM D7624 >20 9.9 11.6 10.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.2 23.4 20.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.7 18.5 16.2		• • •		>25			
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 0.7 0.4 Nitration Abs/cm *ASTM D7624 >20 9.9 11.6 10.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.2 23.4 20.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.7 18.5 16.2							
Soot % % *ASTM D7844 >3 0.7 0.7 0.4 Nitration Abs/cm *ASTM D7624 >20 9.9 11.6 10.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.2 23.4 20.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.7 18.5 16.2	Potassium	ppm	ASTM D5185m	>20	5	14	10
Nitration Abs/cm *ASTM D7624 >20 9.9 11.6 10.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.2 23.4 20.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.7 18.5 16.2	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 22.2 23.4 20.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.7 18.5 16.2							
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.7 18.5 16.2				>20			
Oxidation Abs/.1mm *ASTM D7414 >25 17.7 18.5 16.2	Sulfation	Abs/.1mm	*ASTM D7415	>30	22.2	23.4	20.7
	FLUID DEGRA	OATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 10.7 6.2 6.6 7.2	Oxidation	Abs/.1mm	*ASTM D7414	>25	17.7	18.5	16.2
	Base Number (BN)	mg KOH/g	ASTM D2896	10.7	6.2	6.6	7.2



OIL ANALYSIS REPORT



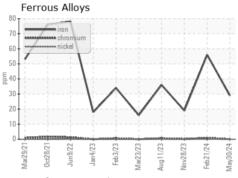


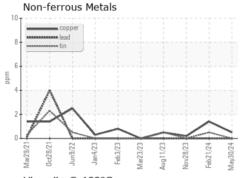


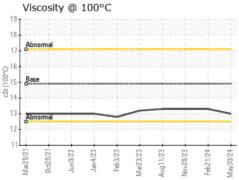
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

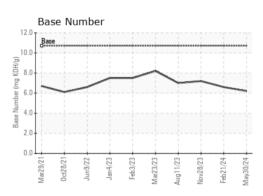
FLUID PROPI	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	14.9	13.0	13.3	13.3

GRAPHS













Certificate 12367

Laboratory Sample No.

Lab Number : 06198810

Test Package : FLEET

: GFL0104712 Unique Number : 11060933

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

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

: 04 Jun 2024 **Tested** : 05 Jun 2024

Diagnosed : 05 Jun 2024 - Wes Davis

10164 M-32 Elmira, MI US 49730 Contact: ANDY GROBASKI andyg@americanwaste.org

GFL Environmental - 624 - Elmira Hauling

* - 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) T: (989)370-2941