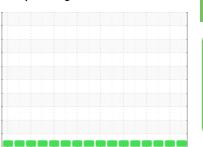


OIL ANALYSIS REPORT

Sample Rating Trend







920018-192568

Component

Diesel Engine

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

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

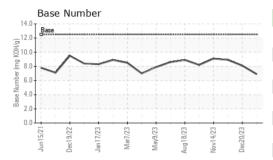
Fluid Condition

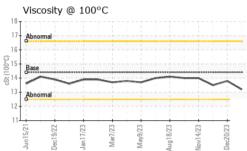
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Date			Jun2021 Dec	ZUZZ JanZUZ3 MarZ0Z3	May2023 Aug2023 Nov2023	Uec2UZ3	
Sample Date	SAMPLE INFO	RMATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 8777 8632 8592 289 Oil Age hrs Client Info 145 329 289 Oil Changed Client Info Not Changed NoRMAL NOR	Sample Number		Client Info		GFL0103439	GFL0098447	GFL0098445
Oil Age hrs Client Info 145 329 289 Oil Changed Client Info Not Changed Not Change	Sample Date		Client Info		23 Jan 2024	20 Dec 2023	12 Dec 2023
Cilient Info	Machine Age	hrs	Client Info		8777	8632	8592
NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 history2 history2 history3 history2 history3 history4 history4 history4 history4 history5 history5 history4 history5 history	Oil Age	hrs	Client Info		145	329	289
Fuel	Oil Changed		Client Info		Not Changd	Changed	Not Changd
Fuel	Sample Status				NORMAL		
Water WC Method >0.2 NEG NEG NEG Glycol WC Method Imitibase Current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >12.0 5 11 2 Chromium ppm ASTM D5185m >20 0 <1 <1 Nickel ppm ASTM D5185m >5 <1 <1 <1 Silver ppm ASTM D5185m >2 0 0 <1 Aluminum ppm ASTM D5185m >20 3 3 2 Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >15 <1 0 <1 Tin ppm ASTM D5185m >15 <1 0 <1 Vanadium ppm ASTM D5185m >15 <1 0 <1 <th>CONTAMINA</th> <th>ATION</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	CONTAMINA	ATION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Irron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 0 <1	WEAR META	ALS	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>120	5	11	2
Titanium	Chromium	ppm	ASTM D5185m	>20	0	<1	0
Description	Nickel	ppm	ASTM D5185m	>5	<1	<1	<1
Aluminum	Titanium	ppm	ASTM D5185m	>2	0	0	0
Lead	Silver	ppm	ASTM D5185m	>2	0	0	<1
Lead	Aluminum	ppm	ASTM D5185m	>20	3	3	2
Tin ppm ASTM D5185m >15 <1 0 <1 Vanadium ppm ASTM D5185m >15 <1 0 0 Cadmium ppm ASTM D5185m	Lead	ppm	ASTM D5185m	>40	0	0	0
Tin	Copper	ppm	ASTM D5185m	>330	0	<1	4
Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 151 39 60 50 Barium ppm ASTM D5185m 0.4 0 0 0 Molybdenum ppm ASTM D5185m 250 72 78 72 Manganese ppm ASTM D5185m 250 72 78 72 Magnesium ppm ASTM D5185m 0 850 859 852 Calcium ppm ASTM D5185m 2046 1051 1166 1102 Phosphorus ppm ASTM D5185m 2046 1051 1131 1172 Sulfur ppm ASTM D5185m 943 1177 1131 1172 Sulfur ppm ASTM D5185m >25 5 6				>15	<1	0	<1
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 151 39 60 50 Barium ppm ASTM D5185m 0.4 0 0 0 Molybdenum ppm ASTM D5185m 250 72 78 72 Manganese ppm ASTM D5185m 250 72 78 72 Magnesium ppm ASTM D5185m 0 850 859 852 Calcium ppm ASTM D5185m 2046 1051 1166 1102 Phosphorus ppm ASTM D5185m 1043 943 843 1006 Zinc ppm ASTM D5185m 943 1177 1131 1172 Sulfur ppm ASTM D5185m >21 2934 2875 3015 CONTAMINANTS method limit/base current	Vanadium		ASTM D5185m		<1	0	0
Boron	Cadmium		ASTM D5185m				0
Barium ppm ASTM D5185m 0.4 0 0 0 Molybdenum ppm ASTM D5185m 250 72 78 72 Manganese ppm ASTM D5185m 250 72 78 72 Manganese ppm ASTM D5185m 20 1 0 <1 Magnesium ppm ASTM D5185m 0 850 859 852 Calcium ppm ASTM D5185m 2046 1051 1166 1102 Phosphorus ppm ASTM D5185m 2046 1051 1166 1102 Phosphorus ppm ASTM D5185m 943 1177 1131 1172 Sulfur ppm ASTM D5185m 5012 2934 2875 3015 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 6 4 Sodium ppm ASTM D	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 250 72 78 72 Manganese ppm ASTM D5185m 250 72 78 72 Magnesium ppm ASTM D5185m 0 850 859 852 Calcium ppm ASTM D5185m 2046 1051 1166 1102 Phosphorus ppm ASTM D5185m 1043 943 843 1006 Zinc ppm ASTM D5185m 943 1177 1131 1172 Sulfur ppm ASTM D5185m 5012 2934 2875 3015 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 6 4 Sodium ppm ASTM D5185m 3 2 4 Potassium ppm ASTM D5185m >20 <1 2 2 INFRA-RED method limit/base current	Boron	ppm	ASTM D5185m	151	39	60	50
Manganese ppm ASTM D5185m <1 0 <1 Magnesium ppm ASTM D5185m 0 850 859 852 Calcium ppm ASTM D5185m 2046 1051 1166 1102 Phosphorus ppm ASTM D5185m 1043 943 843 1006 Zinc ppm ASTM D5185m 943 1177 1131 1172 Sulfur ppm ASTM D5185m 5012 2934 2875 3015 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 6 4 Sodium ppm ASTM D5185m >20 <1	Barium	ppm	ASTM D5185m	0.4	0	0	0
Magnesium ppm ASTM D5185m 0 850 859 852 Calcium ppm ASTM D5185m 2046 1051 1166 1102 Phosphorus ppm ASTM D5185m 1043 943 843 1006 Zinc ppm ASTM D5185m 943 1177 1131 1172 Sulfur ppm ASTM D5185m 5012 2934 2875 3015 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 6 4 Sodium ppm ASTM D5185m >20 <1 2 2 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7624 >20 5.7 7.6 5.8 Sulfation Abs/.mm *ASTM D7415 >30 17.2 19.5 18.2 FLUID DEGRADATION *ASTM D7414 >25 </td <td>Molybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td>250</td> <th>72</th> <td>78</td> <td>72</td>	Molybdenum	ppm	ASTM D5185m	250	72	78	72
Calcium ppm ASTM D5185m 2046 1051 1166 1102 Phosphorus ppm ASTM D5185m 1043 943 843 1006 Zinc ppm ASTM D5185m 943 1177 1131 1172 Sulfur ppm ASTM D5185m 5012 2934 2875 3015 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 6 4 Sodium ppm ASTM D5185m >20 <1							



OIL ANALYSIS REPORT

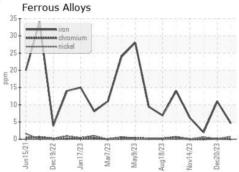


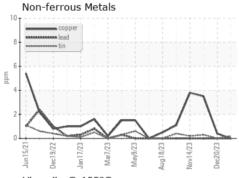


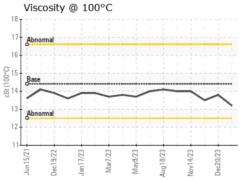
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

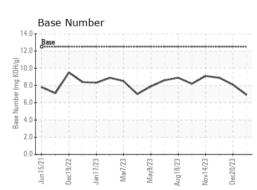
FLUID PROPERTIES		method				history2	
Visc @ 100°C	cSt	ASTM D445	14.4	13.2	13.8	13.5	

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number **Unique Number** Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0103439 : 06074387 : 10856478

Recieved : 30 Jan 2024 Diagnosed Diagnostician : Sean Felton

: 31 Jan 2024

GFL Environmental - 180 - Tuscaloosa Hauling

4701 12TH ST NE Tuscaloosa, AL US 35404

Contact: FREDERICK ROGERS

fred.rogers@gflenv.com

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

F: