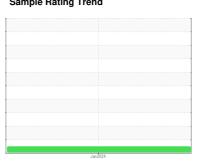


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



INTERNATIONAL 128056

Component

Diesel Engine

MOBIL DELVAC ELITE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

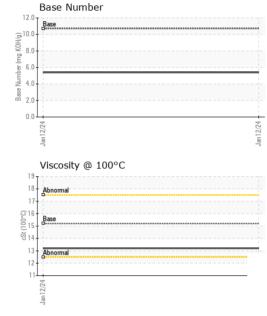
Fluid Condition

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

Sample Number Client Info 12 Jan 2024							
Sample Number Client Info 12 Jan 2024					Jan 2024		
Sample Date Client Info 12 Jan 2024	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Client Info	Sample Number		Client Info		GFL0095468		
Oil Age hrs Client Info 500			Client Info		12 Jan 2024		
Contamped Client Info Changed Normal Contamped Client Info Normal Contamped Contampe	•	hrs	Client Info		17144		
CONTAMINATION	Oil Age	hrs	Client Info		500		
CONTAMINATION method limit/base current history1 history1 Fuel WC Method >2.0 <1.0	Oil Changed		Client Info		Changed		
Fuel WC Method VC Method	Sample Status				NORMAL		
Water WC Method >0.2 NEG Glycol WC Method NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 27 Chromium ppm ASTM D5185m >20 <1 Nickel ppm ASTM D5185m >4 <1 Silver ppm ASTM D5185m >20 6 Aluminum ppm ASTM D5185m >20 6 Aluminum ppm ASTM D5185m >40 0 Silver ppm ASTM D5185m >40 0 Aluminum ppm ASTM D5185m >40 0 Copper ppm ASTM D5185m 0	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>2.0	<1.0		
WEAR METALS	Water		WC Method	>0.2	NEG		
Comparison	Glycol		WC Method		NEG		
Chromium Dpm ASTM D5185m >20	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	27		
Silver	Chromium	ppm	ASTM D5185m	>20	<1		
Silver	Nickel	ppm	ASTM D5185m	>4	<1		
Aluminum	Titanium	ppm	ASTM D5185m		<1		
Lead	Silver	ppm	ASTM D5185m	>3	0		
Copper ppm ASTM D5185m >330 1 Tin ppm ASTM D5185m >15 <1	Aluminum	ppm	ASTM D5185m	>20	6		
Tin	Lead	ppm	ASTM D5185m	>40	0		
Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history Boron ppm ASTM D5185m 80 Barium ppm ASTM D5185m 8 Molybdenum ppm ASTM D5185m 118 Manganese ppm ASTM D5185m 588 Magnesium ppm ASTM D5185m 588 Calcium ppm ASTM D5185m 722 Phosphorus ppm ASTM D5185m 3210 Sulfur ppm ASTM D5185m 3210 CONTAMINANTS method limit/base current history1 history1 Solium ppm ASTM D5185m 20 12 <td>Copper</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>330</td> <td>1</td> <td></td> <td></td>	Copper	ppm	ASTM D5185m	>330	1		
Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 80 Barium ppm ASTM D5185m 8 Molybdenum ppm ASTM D5185m 118 Manganese ppm ASTM D5185m <1	Tin	ppm	ASTM D5185m	>15	<1		
ADDITIVES method limit/base current history1 history Boron ppm ASTM D5185m 80 Barium ppm ASTM D5185m 8 Molybdenum ppm ASTM D5185m 118 Manganese ppm ASTM D5185m <1	Vanadium	ppm	ASTM D5185m		0		
Boron ppm ASTM D5185m 80 Barium ppm ASTM D5185m 8 STM D5185m 118 STM D5185m 118 STM D5185m 118 STM D5185m S88 STM D5185m S848 STM D5185m S848 SMIfur ppm ASTM D5185m S22 SMIfur ppm ASTM D5185m S210 SMIfur SMIM D5185m S25 8 SMIM D5185m S25 8 SMIM D5185m S25 SMIM D5185m S25 SMIM D5185m S26 SMIM D5185m S26 SMIM D5185m S27 SMIM D5185m S28 SMIM D5185m S28 SMIM D5185m S29 SMIM D5185m SMI	Cadmium	ppm	ASTM D5185m		0		
Barium ppm ASTM D5185m 8 Molybdenum ppm ASTM D5185m 118 Manganese ppm ASTM D5185m <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 118 Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 588 Calcium ppm ASTM D5185m 1235 Phosphorus ppm ASTM D5185m 722 Zinc ppm ASTM D5185m 848 Sulfur ppm ASTM D5185m 3210 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 8 Sodium ppm ASTM D5185m >20 12 Potassium ppm ASTM D5185m >20 12 INFRA-RED method limit/base current history1 history Soot % %	Boron	ppm	ASTM D5185m		80		
Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 588 Calcium ppm ASTM D5185m 1235 Phosphorus ppm ASTM D5185m 722 Zinc ppm ASTM D5185m 848 Sulfur ppm ASTM D5185m 3210 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >25 8 Sodium ppm ASTM D5185m 0 Potassium ppm ASTM D5185m >20 12 INFRA-RED method limit/base current history1 history Soot % % ASTM D7844 >3 0.5 Nitration Abs/.1mm *ASTM D7	Barium	ppm	ASTM D5185m		8		
Magnesium ppm ASTM D5185m 588 Calcium ppm ASTM D5185m 1235 Phosphorus ppm ASTM D5185m 722 Zinc ppm ASTM D5185m 848 Sulfur ppm ASTM D5185m 3210 Sulfur ppm ASTM D5185m 3210 Silicon ppm ASTM D5185m >25 8 Sodium ppm ASTM D5185m >25 8 Potassium ppm ASTM D5185m >20 12 INFRA-RED method limit/base current history1 history Soot % % *ASTM D7844 >3 0.5 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADAT	Molybdenum	ppm	ASTM D5185m		118		
Calcium ppm ASTM D5185m 1235 Phosphorus ppm ASTM D5185m 722 Zinc ppm ASTM D5185m 848 Sulfur ppm ASTM D5185m 3210 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >25 8 Sodium ppm ASTM D5185m 0 Potassium ppm ASTM D5185m >20 12 INFRA-RED method limit/base current history1 history Soot % % *ASTM D7844 >3 0.5 Nitration Abs/cm *ASTM D7624 >20 10.7 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRA	Manganese	ppm	ASTM D5185m		<1		
Phosphorus ppm ASTM D5185m 722 Zinc ppm ASTM D5185m 848 Sulfur ppm ASTM D5185m 3210 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >25 8 Sodium ppm ASTM D5185m 0 Potassium ppm ASTM D5185m >20 12 INFRA-RED method limit/base current history1 history Soot % % *ASTM D7844 >3 0.5 Nitration Abs/cm *ASTM D7624 >20 10.7 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADATION method limit/base current history1 history <td>Magnesium</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <td>588</td> <td></td> <td></td>	Magnesium	ppm	ASTM D5185m		588		
Zinc ppm ASTM D5185m 848 Sulfur ppm ASTM D5185m 3210 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >25 8 Sodium ppm ASTM D5185m 0 Potassium ppm ASTM D5185m >20 12 INFRA-RED method limit/base current history1 history Soot % % *ASTM D7844 >3 0.5 Nitration Abs/cm *ASTM D7624 >20 10.7 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 18.0 -		ppm	ASTM D5185m		1235		
Sulfur ppm ASTM D5185m 3210 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >25 8 Sodium ppm ASTM D5185m 0 Potassium ppm ASTM D5185m >20 12 INFRA-RED method limit/base current history1 history Soot % % *ASTM D7844 >3 0.5 Nitration Abs/cm *ASTM D7624 >20 10.7 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 18.0	Phosphorus	ppm			722		
CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >25 8 Sodium ppm ASTM D5185m 0 Potassium ppm ASTM D5185m >20 12 INFRA-RED method limit/base current history1 history Soot % % *ASTM D7844 >3 0.5 Nitration Abs/cm *ASTM D7624 >20 10.7 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 18.0	Zinc	ppm	ASTM D5185m		848		
Silicon ppm ASTM D5185m >25 8 Sodium ppm ASTM D5185m 0 Potassium ppm ASTM D5185m >20 12 INFRA-RED method limit/base current history1 history Soot % % *ASTM D7844 >3 0.5 Nitration Abs/cm *ASTM D7624 >20 10.7 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 18.0	Sulfur	ppm	ASTM D5185m		3210		
Sodium ppm ASTM D5185m 0 Potassium ppm ASTM D5185m >20 12 INFRA-RED method limit/base current history1 history Soot % % *ASTM D7844 >3 0.5 Nitration Abs/cm *ASTM D7624 >20 10.7 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 18.0	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 12 INFRA-RED method limit/base current history1 history Soot % % *ASTM D7844 >3 0.5 Nitration Abs/cm *ASTM D7624 >20 10.7 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 18.0	Silicon	ppm	ASTM D5185m	>25	8		
INFRA-RED	Sodium	ppm	ASTM D5185m		0		
Soot % % *ASTM D7844 >3 0.5 Nitration Abs/cm *ASTM D7624 >20 10.7 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 18.0	Potassium	ppm	ASTM D5185m	>20	12		
Nitration Abs/cm *ASTM D7624 >20 10.7 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 18.0	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 18.0	Soot %	%	*ASTM D7844	>3	0.5		
FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 18.0	Nitration	Abs/cm	*ASTM D7624	>20	10.7		
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	20.2		
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	18.0		
	Base Number (BN)	mg KOH/g	ASTM D2896	10.7	5.4		



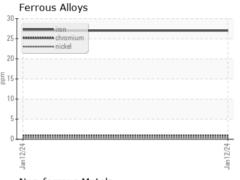
OIL ANALYSIS REPORT

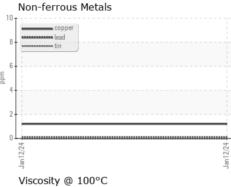


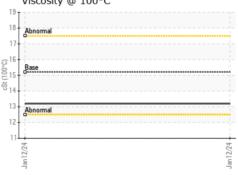
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE		
Yellow Metal	scalar	*Visual	NONE	NONE		
Precipitate	scalar	*Visual	NONE	NONE		
Silt	scalar	*Visual	NONE	NONE		
Debris	scalar	*Visual	NONE	NONE		
Sand/Dirt	scalar	*Visual	NONE	NONE		
Appearance	scalar	*Visual	NORML	NORML		
Odor	scalar	*Visual	NORML	NORML		
Emulsified Water	scalar	*Visual	>0.2	NEG		
Free Water	scalar	*Visual		NEG		
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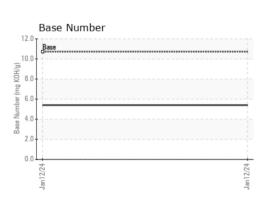
FLUID PROPE	ERITES	method	limit/base		history1	history2
Visc @ 100°C	cSt	ASTM D445	15.2	13.2		

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10846017 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0095468 : 06069340

Recieved Diagnosed

: 24 Jan 2024 : 26 Jan 2024 Diagnostician : Sean Felton

GFL Environmental - 981 - Port Arthur Hauling 1000 S Business Park Dr

Port Arthur, TX US 77640 Contact: MICHAEL KAY mkay@gflenv.com

T: (336)660-9331

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)