

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id 925056

Fluid

Component
Diesel Engine

DIESEL ENGINE OIL SAE 40 (38 QTS)

DIAGNOSIS Recommendation

Resample at the next service interval to monitor.

Please specify the brand, type, and viscosity of the oil on your next sample.

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		mathad	limit/booo	ourroat	biotory (1	biotom/0
			limit/base	current	history1	history2
Sample Number		Client Info		GFL0071571	GFL0071540	GFL0061718
Sample Date		Client Info		30 Aug 2023	09 May 2023	31 Jan 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		600	600	600
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	24	9	10
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	1	2	<1
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	5	2	2
Lead	ppm	ASTM D5185m	>40	3	1	1
Copper	ppm	ASTM D5185m	>330	7	7	<1
Tin	ppm	ASTM D5185m	>15	<1	1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	2	7	7
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	60	63	64
Manganese	ppm	ASTM D5185m		<1		
•		ASTIVI DOTODITI		<1	<1	<1
Magnesium		ASTM D5185m	450	837	<1 916	<1 876
Magnesium Calcium	ppm	ASTM D5185m	450 3000			
Calcium	ppm ppm	ASTM D5185m ASTM D5185m	3000	837 1075	916 1063	876 1167
Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	3000 1150	837 1075 916	916 1063 1010	876
Calcium Phosphorus Zinc	ppm ppm	ASTM D5185m ASTM D5185m	3000	837 1075	916 1063	876 1167 981
Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3000 1150 1350	837 1075 916 1162	916 1063 1010 1259	876 1167 981 1223
Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	3000 1150 1350 4250 limit/base	837 1075 916 1162 2433	916 1063 1010 1259 3512 history1	876 1167 981 1223 2885
Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3000 1150 1350 4250 limit/base >25	837 1075 916 1162 2433 current 7	916 1063 1010 1259 3512 history1 6	876 1167 981 1223 2885 history2 4
Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon Sodium	ppm ppm ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3000 1150 1350 4250 limit/base >25 >216	837 1075 916 1162 2433 current 7 6	916 1063 1010 1259 3512 history1 6 5	876 1167 981 1223 2885 history2 4 4
Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon Sodium Potassium	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3000 1150 1350 4250 limit/base >25 >216 >20	837 1075 916 1162 2433 current 7 6 6	916 1063 1010 1259 3512 history1 6 5 4	876 1167 981 1223 2885 history2 4 4 3
Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3000 1150 1350 4250 limit/base >25 >216 >20 limit/base	837 1075 916 1162 2433 current 7 6 6 6 Current	916 1063 1010 1259 3512 history1 6 5 4 4 history1	876 1167 981 1223 2885 history2 4 4 3 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3000 1150 1350 4250 limit/base >25 >216 >20 limit/base >4	837 1075 916 1162 2433 current 7 6 6 6 6 current 0.7	916 1063 1010 1259 3512 history1 6 5 4 4 history1 0.3	876 1167 981 1223 2885 history2 4 4 3 history2 0.4
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm TS ppm ppm ppm % Abs/cm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3000 1150 1350 4250 limit/base >25 >216 >20 limit/base >4 >20	837 1075 916 1162 2433 current 7 6 6 6 current 0.7 10.1	916 1063 1010 1259 3512 history1 6 5 4 history1 0.3 8.1	876 1167 981 1223 2885 history2 4 4 3 <u>history2</u> 0.4 9.7
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	3000 1150 1350 4250 limit/base >25 >216 >20 limit/base >4 >20 >30	837 1075 916 1162 2433 current 7 6 6 6 6 current 0.7 10.1 22.5	916 1063 1010 1259 3512 history1 6 5 4 history1 0.3 8.1 20.2	876 1167 981 1223 2885 history2 4 4 3 <u>history2</u> 0.4 9.7 21.8
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7415	3000 1150 1350 4250 Iimit/base >25 >216 >20 Iimit/base >30 Iimit/base	837 1075 916 1162 2433 <i>current</i> 7 6 6 6 6 <i>current</i> 0.7 10.1 22.5 <i>current</i>	916 1063 1010 1259 3512 history1 6 5 4 history1 0.3 8.1 20.2 history1	876 1167 981 1223 2885 history2 4 4 4 3 history2 0.4 9.7 21.8 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	3000 1150 1350 4250 Imit/base >25 >216 >20 Imit/base >30 Imit/base	837 1075 916 1162 2433 current 7 6 6 6 6 current 0.7 10.1 22.5	916 1063 1010 1259 3512 history1 6 5 4 history1 0.3 8.1 20.2	876 1167 981 1223 2885 history2 4 4 3 history2 0.4 9.7 21.8

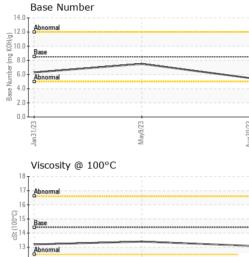


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Jan31/23

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
May9/23 Aug30/23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Mar	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	ERTIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	14.4	13.1	13.4	13.2
	GRAPHS						
	Ferrous Alloys						
/23	iron						
May9/23	20 - nickel		/				
	15 -						
	udd	/					
	10						
	5-						
				1			
	23			23			
	Jan 31/23	May9/23		Aug30/23			
	,			Aı			
	Non-ferrous Meta	1IS					
	copper						
	8 - lead						
	6						
	udd						
	4						
				and all all all all all all all all all al			
	2	No. of Lot of Lo	AND DESCRIPTION OF THE OWNER.				
	0						
	131/23	May9/23		ug30/23			
	Jan	Ma		Aug			
	Viscosity @ 100°	С			Base Number		
	17- Abnormal			14.0	Abnormal		
	16						
				(b)HOX 10.0 (b)HOX 10.0 (b) HOX 8.0 (b) HOX 8.0 (c) HO	Base	1	
	(2) 15 Base 14			E 8.0			
	ಸ್ ¹⁴			qu 6.0	Abnormal		
	13 Abnormal			88 4.0	-		
	12			2.0			
	11			0.0			
	Jan 31/23	May9/23		Aug30/23	Jan 3 1/2 3	May9/23	
	Janû	May		Aug3	Janû	May	
Laboratory Sample No. Lab Number Unique Number	: WearCheck USA - : GFL0071571 : 05939477 : 10630089		d : 31 / ed : 01 9			vironmental - 03 1	5 - Greensbo 236 Elon Pla High Point, I US 272

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Submitted By: JORGE COSTA

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