

# **OIL ANALYSIS REPORT**

# Sample Rating Trend





Machine Id 813023 Component Diesel Engine Fluid

**DIESEL ENGINE OIL SAE 40 (24 QTS)** 

# 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

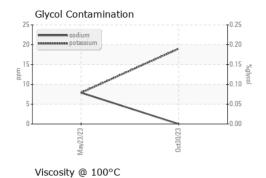
# **Fluid Condition**

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

			May2023	Oct2023		
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0092708	GFL0072430	
Sample Date		Client Info		30 Oct 2023	23 May 2023	
Machine Age	hrs	Client Info		3398	0	
Oil Age	hrs	Client Info		614	1350	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	59	56	
Chromium	ppm	ASTM D5185m	>20	2	2	
Nickel	ppm	ASTM D5185m	>5	6	5	
Titanium	ppm		>2	0	<1	
Silver	ppm	ASTM D5185m	>2	0	<1	
Aluminum	ppm	ASTM D5185m	>20	4	6	
Lead	ppm	ASTM D5185m	>40	<1	9	
Copper	ppm		>330	50	109	
Tin	ppm	ASTM D5185m	>15	2	4	
Vanadium	ppm	ASTM D5185m	7.10	0	<1	
Cadmium	ppm	ASTM D5185m		<1	0	
ADDITIVES	1-1-	method	limit/base	current	history1	history2
Boron Barium	ppm	ASTM D5185m	250	3	9	
			10	0	0	
	ppm	ASTM D5185m	100	00	CF	
Molybdenum	ppm	ASTM D5185m	100	68	65	
Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m		2	3	
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	450	2 949	3 907	
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	450 3000	2 949 1259	3 907 1191	
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	450 3000 1150	2 949 1259 987	3 907 1191 962	
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	450 3000 1150 1350	2 949 1259 987 1274	3 907 1191 962 1232	
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	450 3000 1150	2 949 1259 987	3 907 1191 962	
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	450 3000 1150 1350	2 949 1259 987 1274	3 907 1191 962 1232	
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	450 3000 1150 1350 4250	2 949 1259 987 1274 2564	3 907 1191 962 1232 2630	
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	450 3000 1150 1350 4250 limit/base >25	2 949 1259 987 1274 2564	3 907 1191 962 1232 2630 history1	    history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	450 3000 1150 1350 4250 limit/base >25	2 949 1259 987 1274 2564 current	3 907 1191 962 1232 2630 history1	   history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	450 3000 1150 1350 4250 limit/base >25 >216	2 949 1259 987 1274 2564 current 9	3 907 1191 962 1232 2630 history1 16	   history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	450 3000 1150 1350 4250 limit/base >25 >216	2 949 1259 987 1274 2564 current 9 0	3 907 1191 962 1232 2630 history1 16 8	   history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m METHOD ASTM D5185m	450 3000 1150 1350 4250 limit/base >25 >216 >20	2 949 1259 987 1274 2564 current 9 0 19 NEG	3 907 1191 962 1232 2630 history1 16 8 8 NEG	history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D2982  method	450 3000 1150 1350 4250 limit/base >25 >216 >20	2 949 1259 987 1274 2564 current 9 0 19 NEG	3 907 1191 962 1232 2630 history1 16 8 8 NEG	history2 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m *ASTM D5185m	450 3000 1150 1350 4250 limit/base >25 >216 >20	2 949 1259 987 1274 2564 current 9 0 19 NEG current	3 907 1191 962 1232 2630 history1 16 8 NEG history1	history2 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D2982 *ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D76145	450 3000 1150 1350 4250 limit/base >25 >216 >20	2 949 1259 987 1274 2564 current 9 0 19 NEG current 1.3	3 907 1191 962 1232 2630 history1 16 8 NEG history1 1.3 12.1	history2 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol 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 D2982 *ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D76145	450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base >4 >20 >30	2 949 1259 987 1274 2564 current 9 0 19 NEG current 1.3 12.6 24.7	3 907 1191 962 1232 2630 history1 16 8 8 NEG history1 1.3 12.1 23.8	history2 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm	ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D2982 *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844	450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base >4 >20 >30 limit/base	2 949 1259 987 1274 2564 current 9 0 19 NEG current 1.3 12.6 24.7 current	3 907 1191 962 1232 2630 history1 16 8 NEG history1 1.3 12.1 23.8 history1	history2 history2 history2 history2



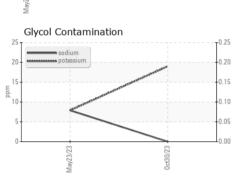
# **OIL ANALYSIS REPORT**



VISUAL		method				history2	
White Metal	scalar	*Visual	NONE	NONE	NONE		
Yellow Metal	scalar	*Visual	NONE	NONE	NONE		
Precipitate	scalar	*Visual	NONE	NONE	NONE		
Silt	scalar	*Visual	NONE	NONE	NONE		
Debris	scalar	*Visual	NONE	NONE	NONE		
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE		
Appearance	scalar	*Visual	NORML	NORML	NORML		
Odor	scalar	*Visual	NORML	NORML	NORML		
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG		
Free Water	scalar	*Visual		NEG	NEG		

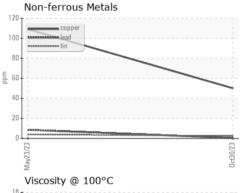
18 T																					
17-	Abnormal																				
16-	T																				
15-	Base																				
15-		 		-	-	-	-		-	-	-	-	-	-		-	-	-		-	
13-	Abnormal	-	_	_	_	_	_	_	_		-							-		-	
12-																					
11	m			_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	
	23/2:																				

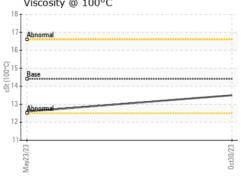


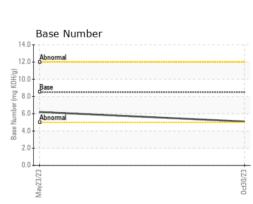


# Ferrous Alloys

**GRAPHS** 











Laboratory

Sample No. Lab Number Unique Number : 10724872

: GFL0092708 : 05996512

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

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received Diagnosed Diagnostician : Don Baldridge Test Package : FLEET ( Additional Tests: Glycol )

: 02 Nov 2023 : 04 Nov 2023

US 27893-8501 Contact: SPENCER LIGGON

spencer.liggon@gflenv.com T: (800)207-6618

2810 Contentnea Road S

\* - 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)

Report Id: GFL005 [WUSCAR] 05996512 (Generated: 11/04/2023 09:57:06) Rev: 1

GFL Environmental - 005 - Wilson/Tri-East(CNG)

Wilson, NC