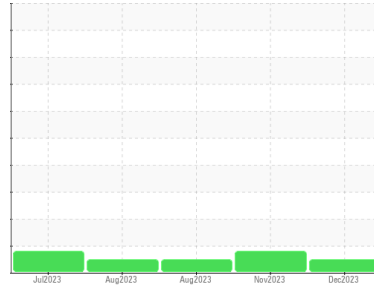




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
413135
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- 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 condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0875110	WC0875101	GFL0091069
Sample Date	Client Info		13 Dec 2023	27 Nov 2023	23 Aug 2023
Machine Age	hrs	Client Info	21854	1243	21854
Oil Age	hrs	Client Info	20611	543	0
Oil Changed	Client Info		N/A	Changed	Not Chngd
Sample Status			NORMAL	ABNORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>120	5	16	3
Chromium	ppm	ASTM D5185(m)	>20	0	<1	0
Nickel	ppm	ASTM D5185(m)	>5	2	1	0
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	1	3	<1
Lead	ppm	ASTM D5185(m)	>40	1	8	<1
Copper	ppm	ASTM D5185(m)	>330	62	▲ 293	10
Tin	ppm	ASTM D5185(m)	>15	0	<1	0
Antimony	ppm	ASTM D5185(m)		0	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	250	21	5	7
Barium	ppm	ASTM D5185(m)	10	<1	<1	0
Molybdenum	ppm	ASTM D5185(m)	100	60	59	58
Manganese	ppm	ASTM D5185(m)		0	<1	<1
Magnesium	ppm	ASTM D5185(m)	450	940	942	956
Calcium	ppm	ASTM D5185(m)	3000	1018	1053	1052
Phosphorus	ppm	ASTM D5185(m)	1150	997	978	1063
Zinc	ppm	ASTM D5185(m)	1350	1179	1195	1168
Sulfur	ppm	ASTM D5185(m)	4250	2635	2442	2657
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

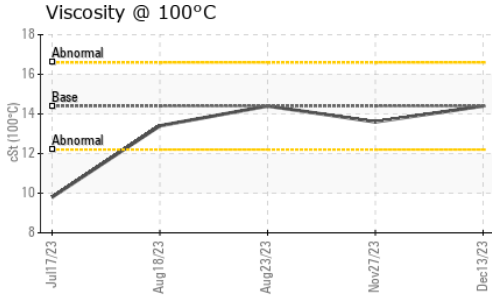
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	3	5	4
Sodium	ppm	ASTM D5185(m)	>158	1	1	1
Potassium	ppm	ASTM D5185(m)	>20	1	8	<1

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>4	0	0.2	0
Nitration	Abs/cm	ASTM D7624*	>20	5.4	9.2	4.6
Sulfation	Abs./1mm	ASTM D7415*	>30	18.3	20.1	18.8



OIL ANALYSIS REPORT

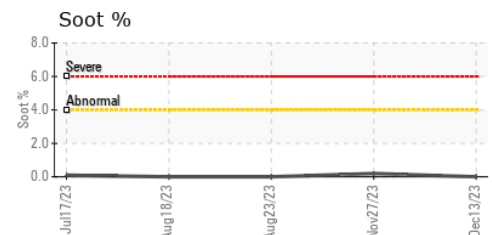
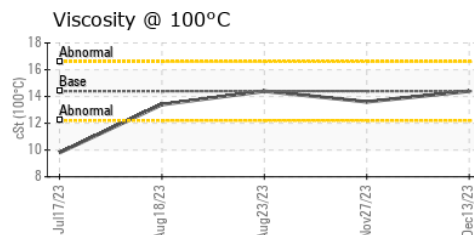
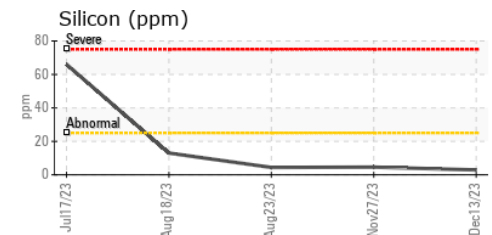
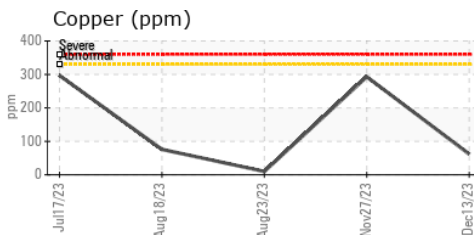
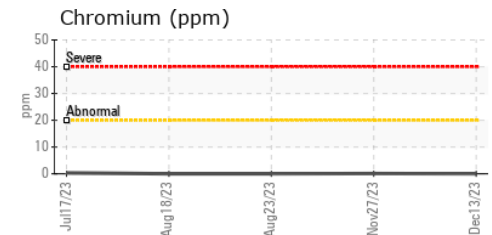
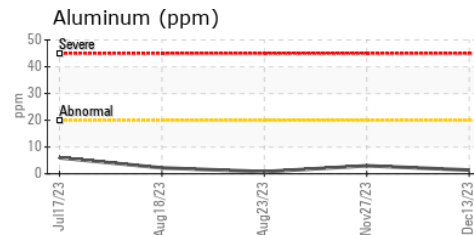
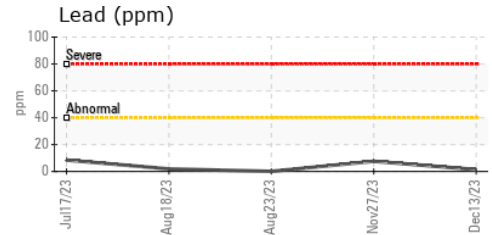
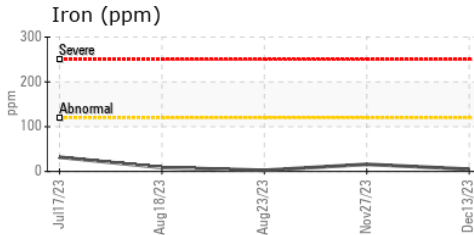


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	13.6	16.3	12.8

VISUAL		method	limit/base	current	history1	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	VLITE	---	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	---	NONE
Appearance	scalar	Visual*	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	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	14.4	13.6	14.4

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0875110 **Received** : 14 Dec 2023
Lab Number : **02603053** **Diagnosed** : 14 Dec 2023
Unique Number : 5696138 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: Visual)

GFL Environmental - 217 - Aurora
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 AURORA, ON
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 Contact: Mike Havens
 MHavens@gflenv.com
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 F: (905)713-2445

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.