

WEAR NORMAL CONTAMINATION NORMAL **FLUID CONDITION** NORMAL

Machine Id 933013 onen Natural Gas Engine

DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor	Sample Number		Client Info		GFL0119226	GFL0079549	GFL0079534
Resample at the next service interval to monitor.	Sample Date		Client Info		29 May 2024	10 May 2023	20 Apr 2023
	Machine Age	hrs	Client Info		3442	2019	1175
	Oil Age	hrs	Client Info		0	0	0
	Filter Age	hrs	Client Info		0	0	0
	Oil Changed		Client Info		Changed	Not Changd	Changed
	Filter Changed		Client Info		Changed	Not Changd	Changed
	Sample Status				NORMAL	NORMAL	ABNORMAL
WEAR	Iron	ppm	ASTM D5185(m)	>50	24	11	5 3
	Chromium	ppm	ASTM D5185(m)	>5	<1	<1	1
All component wear rates are normal.	Nickel	ppm	ASTM D5185(m)	>4	<1	<1	2
	Titanium	ppm	ASTM D5185(m)	>5	0	<1	<1
	Silver	ppm	ASTM D5185(m)	>3	0	0	<1
	Aluminum	ppm	ASTM D5185(m)	>25	8	3	13
	Lead	ppm	ASTM D5185(m)	>40	2	<1	2
	Copper	ppm	ASTM D5185(m)	>150	2	2	16
	Tin	ppm	ASTM D5185(m)	>4	<1	<1	2
	Vanadium	ppm	ASTM D5185(m)		0	0	0
	White Metal	scalar	Visual*	NONE	NONE		
	Yellow Metal	scalar	Visual*	NONE	NONE		
	Ciliana			05	•	0	• • • •
CONTAMINATION	Shicon	ppm	ASTM D5185(m)	>25	5 11	0	A 30
Elevated aluminum (AI) and/or lead (Pb) and potassium (K) levels in	Wator	ppm	MC Mothod	>20	NEG	NEG	4 NEG
your metals analysis are likely a result of solder flux release into the	Soot %	0/		>0.1	nea o	n LG	nLG
Iubricant and is common on new equipment/components. There is no	Nitration	/o Abe/cm	ASTM D7624*	>20	12.5	7.6	12.8
	Sulfation	Abe/ 1mm	ASTM D7/15*	>20	26.5	10.7	26.4
	Silt	scalar	Vigual*	NONE	NONE	10.7	20.4
	Debris	scalar	Visual*	NONE	VLITE		
	Sand/Dirt	scalar	Visual*	NONE	NONE		
	Appearance	scalar	Visual*	NORML	NORML		
	Odor	scalar	Visual*	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	NEG
					•••••		
FLUID CONDITION	Sodium	ppm	ASTM D5185(m)	>158	9	6	7
The condition of the oil is acceptable for the time in service	Boron	ppm	ASTM D5185(m)	250	12	29	7
	Barium	ppm	ASTM D5185(m)	10	<1	0	2
	Molybdenum	ppm	ASTM D5185(m)	100	59	48	57
	Manganese	ppm	ASTM D5185(m)		1	1	11
	Magnesium	ppm	ASTM D5185(m)	450	606	592	789
	Calcium	ppm	ASTM D5185(m)	3000	1758	1525	1369
	Phosphorus	ppm	ASTM D5185(m)	1150	794	819	800
	Zinc	ppm	ASTM D5185(m)	1350	965	877	901
	Sulfur	ppm	ASTM D5185(m)	4250	2014	2074	1950
	Oxidation	Abs/.1mm	ASTM D7414*	>25	22.2	16.1	24.4

Visc @ 100°C cSt ASTM D7279(m) 14.4

14.2 14.2

14.4





GFL Environmental - 253 - TOR APT Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 CALA Sample No. Received : 05 Jun 2024 15 Bermondsey Road - Building B : GFL0119226 Lab Number : 02639807 Tested Toronto, ON : 05 Jun 2024 ISO 17025:2017 Accredited Laboratory Unique Number : 5788969 Diagnosed : 05 Jun 2024 - Wes Davis CA M4B 1Y9 Test Package : MOB 1 (Additional Tests: Visual) Contact: Natalia Stalynska To discuss this sample report, contact Customer Service at 1-800-268-2131. nstalynska@gflenv.com Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Т: Validity of results and interpretation are based on the sample and information as supplied.

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