

## COCA-COLA [152755]

37194902

## **Diesel Engine**

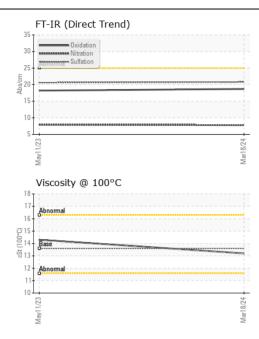
## VALVOLINE 15W40 (--- GAL)

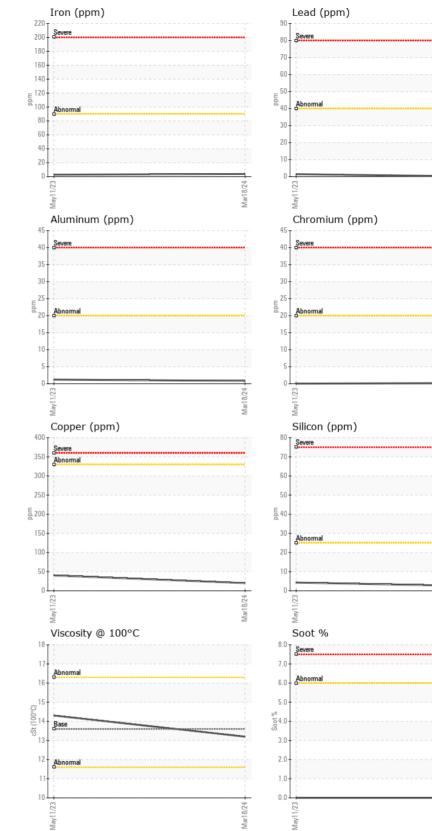
RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor.	Sample Number		Client Info		CU0022459	CU0020858	
	Sample Date		Client Info		18 Mar 2024	11 May 2023	
	Machine Age	hrs	Client Info		289	262	
	Oil Age	hrs	Client Info		0	30	
	Filter Age	hrs	Client Info		0	30	
	Oil Changed		Client Info		Changed	Changed	
	Filter Changed		Client Info		Changed	Changed	
	Sample Status				NORMAL	NORMAL	
WEAR	Iron	ppm	ASTM D5185(m)	>90	4	3	
Metal levels are typical for a new component breaking in.	Chromium	ppm	ASTM D5185(m)	>20	<1	0	
	Nickel	ppm	ASTM D5185(m)	>2	0	0	
	Titanium	ppm	ASTM D5185(m)	>2	<1	<1	
	Silver	ppm	ASTM D5185(m)	>2	0	<1	
	Aluminum	ppm	ASTM D5185(m)	>20	<1	1	
	Lead	ppm	ASTM D5185(m)	>40	0	1	
	Copper	ppm	ASTM D5185(m)	>330	20	40	
	Tin	ppm	ASTM D5185(m)	>15	<1	<1	
	Vanadium	ppm	ASTM D5185(m)		0	0	
	White Metal	scalar	Visual*	NONE	NONE		
	Yellow Metal	scalar	Visual*	NONE	NONE		
CONTAMINATION	Silicon	ppm	ASTM D5185(m)	>25	2	4	
	Potassium	ppm	ASTM D5185(m)		- <1	<1	
There is no indication of any contamination in the oil.	Fuel	pp	WC Method		<1.0	<1.0	
	Water		WC Method		NEG	NEG	
	Glycol		WC Method		NEG	NEG	
	Soot %	%	ASTM D7844*	>6	0	0	
	Nitration	Abs/cm	ASTM D7624*	>20	7.8	7.9	
	Sulfation	Abs/.1mm	ASTM D7415*	>30	20.8	20.6	
	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	NORML	
	Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	
FLUID CONDITION	Sodium	ppm	ASTM D5185(m)		3	4	
The condition of the oil is acceptable for the time in service.	Boron	ppm	ASTM D5185(m)	39	42	49	
	Barium	ppm	ASTM D5185(m)		0	0	
	Molybdenum	ppm	ASTM D5185(m)		46	38	
	Manganese	ppm	ASTM D5185(m)		<1	<1	
	Magnesium	ppm	ASTM D5185(m)		766	743	
	Calcium	ppm	ASTM D5185(m)	1554	1179	1276	
	Phosphorus	ppm	ASTM D5185(m)	899	730	835	
	Zinc	ppm	ASTM D5185(m)	1069	825	873	
	Sulfur	ppm	ASTM D5185(m)	2624	1992	2215	
	Oxidation	Abs/.1mm	ASTM D7414*	>25	18.7	18.2	
		-					

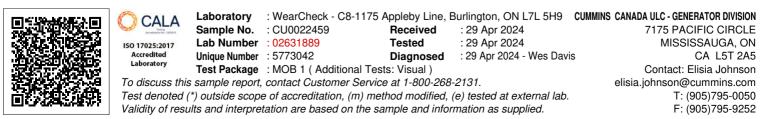
Visc @ 100°C cSt ASTM D7279(m) 13.6

14.3

13.2







Contact/Location: Elisia Johnson - CUMMISGEN Page 2 of 2