

NORMAL WEAR NORMAL CONTAMINATION **FLUID CONDITION** NORMAL

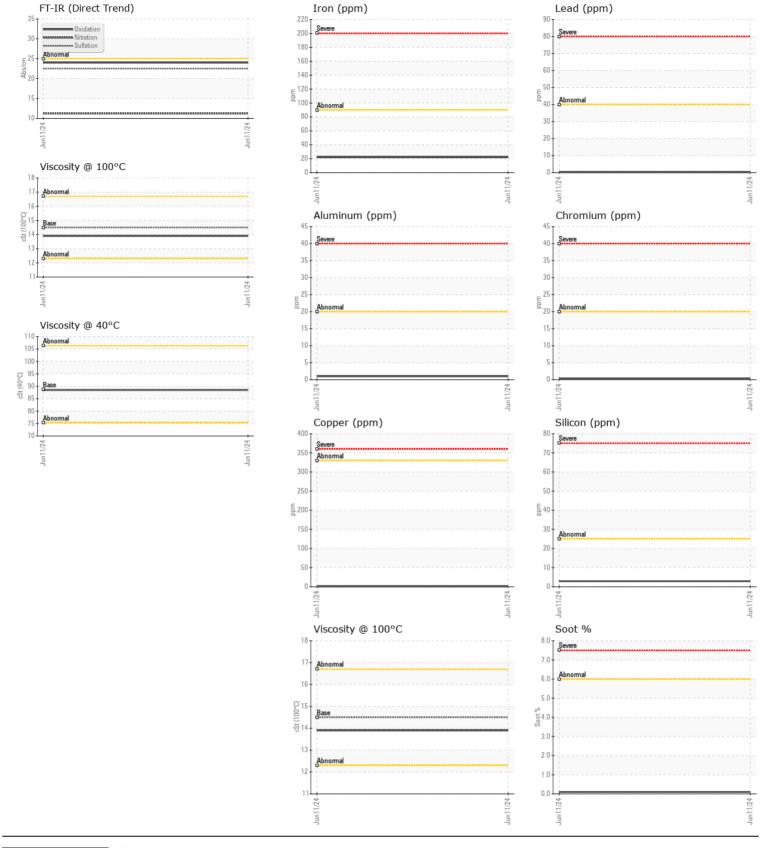
CN BRAMPTON [157297]

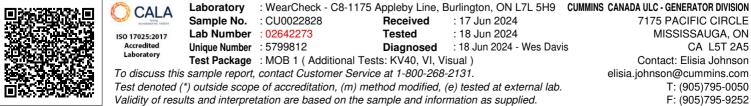
74931474

Diesel Engine

VALVOLINE PREMIUM BLUE EXTREME 5W40 (--- GAL)

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor.	Sample Number		Client Info		CU0022828		
	Sample Date		Client Info		11 Jun 2024		
	Machine Age	hrs	Client Info		3534		
	Oil Age	hrs	Client Info		0		
	Filter Age	hrs	Client Info		0		
	Oil Changed		Client Info		Changed		
	Filter Changed		Client Info		Changed		
	Sample Status				NORMAL		
WEAR	Iron	ppm	ASTM D5185(m)	<u>_90</u>	22		
	Chromium	ppm	ASTM D5185(m)		<1		
All component wear rates are normal.	Nickel	ppm	ASTM D5185(m)	>2	<1		
	Titanium	ppm	ASTM D5185(m)		0		
	Silver	ppm	ASTM D5185(m)		0		
	Aluminum	ppm	ASTM D5185(m)		1		
	Lead	ppm	ASTM D5185(m)	>20 >40	۱ <1		
	Copper	ppm	ASTM D5185(m)		<1		
	Tin	ppm		>15	0		
	Vanadium	ppm	ASTM D5185(m)	210	0		
	White Metal	scalar	Visual*	NONE	VLITE		
	Yellow Metal	scalar	Visual*	NONE	NONE		
CONTAMINATION	Silicon	ppm	ASTM D5185(m)	>25	3		
	Potassium	ppm	ASTM D5185(m)	>20	0		
There is no indication of any contamination in the oil.	Fuel		WC Method	>3.0	<1.0		
	Water		WC Method	>0.2	NEG		
	Glycol		WC Method		NEG		
	Soot %	%	ASTM D7844*	>6	0.1		
	Nitration	Abs/cm	ASTM D7624*	>20	11.2		
	Sulfation	Abs/.1mm	ASTM D7415*	>30	22.5		
	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		
	Emulsified Water	scalar	Visual*	>0.2	NEG		
	Codium				4	[
LUID CONDITION	Sodium	ppm	ASTM D5185(m) ASTM D5185(m)		4 36		
The condition of the oil is acceptable for the time in service.	Boron Barium	ppm	()		36 0		
	Molybdenum	ppm	ASTM D5185(m) ASTM D5185(m)		64		
	Manganese	ppm ppm	ASTM D5185(m) ASTM D5185(m)		04 <1		
	Magnesium		ASTM D5185(m)		1102		
	Calcium	ppm ppm	ASTM D5185(m) ASTM D5185(m)		845		
	Phosphorus	ppm	ASTM D5185(m)		952		
	Zinc	ppm	ASTM D5185(m) ASTM D5185(m)		952 1224		
	Sulfur	ppm	ASTM D5185(m)		2637		
	Oxidation	Abs/.1mm	ASTM D5165(III) ASTM D7414*	>25	2637		
	Visc @ 40°C	cSt	ASTM D7414 ASTM D7279(m)		24.0 88.5		
	Visc @ 40°C Visc @ 100°C	cSt		00.0 14.5	88.5 13.9		
	Viscosity Index (VI)	Scale	ASTM D2270*	170	161		





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