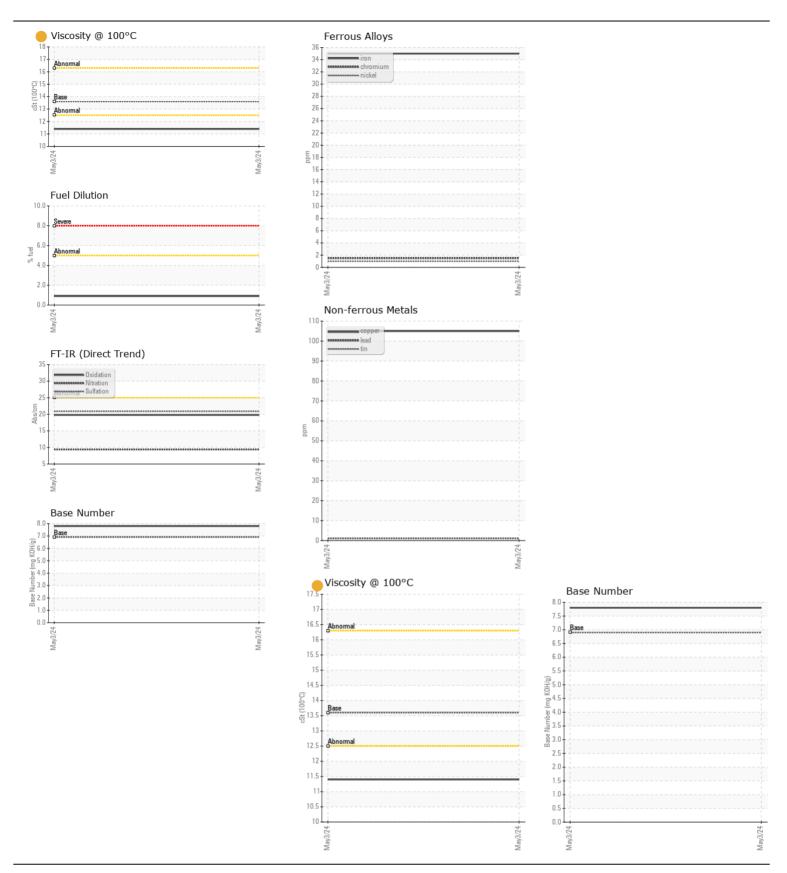
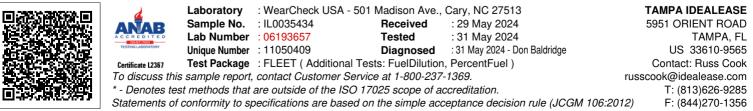


Machine Id 2302 Diesel Engine VALVOLINE 15W40 (--- GAL)

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor.	Sample Number		Client Info		IL0035434		
	Sample Date		Client Info		03 May 2024		
	Machine Age	mls	Client Info		3128		
	Oil Age	mls	Client Info		0		
	Filter Age	mls	Client Info		0		
	Oil Changed		Client Info		Not Changd		
	Filter Changed		Client Info		Not Changd		
	Sample Status				ATTENTION		
WEAR	Iron	ppm	ASTM D5185m	<100	35		
All component wear rates are normal.	Chromium	ppm	ASTM D5185m		2		
	Nickel		ASTM D5185m		1		
	Titanium	ppm	ASTM D5185m	>4			
	Silver	ppm		. 0	<1		
		ppm	ASTM D5185m		1		
	Aluminum	ppm	ASTM D5185m		5		
	Lead	ppm	ASTM D5185m		1		
	Copper	ppm	ASTM D5185m		105		
	Tin	ppm	ASTM D5185m	>15	1		
	Vanadium	ppm	ASTM D5185m	NONE	<1		
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	21		
Fuel content negligible. There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185m	>20	11		
	Fuel	%	ASTM D3524	>5	0.9		
	Water		WC Method	>0.2	NEG		
	Glycol		WC Method		NEG		
	Soot %	%	*ASTM D7844	>3	0.2		
	Nitration	Abs/cm	*ASTM D7624	>20	9.4		
	Sulfation	Abs/.1mm	*ASTM D7415	>30	20.9		
	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		
FLUID CONDITION	Sodium	ppm	ASTM D5185m		7		
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.	Boron	ppm	ASTM D5185m		48		
	Barium	ppm	ASTM D5185m		2		
	Molybdenum	ppm	ASTM D5185m		47		
	Manganese	ppm	ASTM D5185m		5		
	Magnesium	ppm	ASTM D5185m		786		
	Calcium	ppm	ASTM D5185m		1183		
	Phosphorus	ppm	ASTM D5185m		757		
	Zinc	ppm	ASTM D5185m		901		
	Sulfur	ppm	ASTM D5185m		2648		
	Oxidation	Abs/.1mm	*ASTM D7414	>25	19.8		
	Base Number (BN)	mg KOH/g	ASTM D2896	6.9	7.8		
	Visc @ 100°C	cSt	ASTM D445	13.6	11.4		





Contact/Location: Russ Cook - IDETAMFL Page 2 of 2