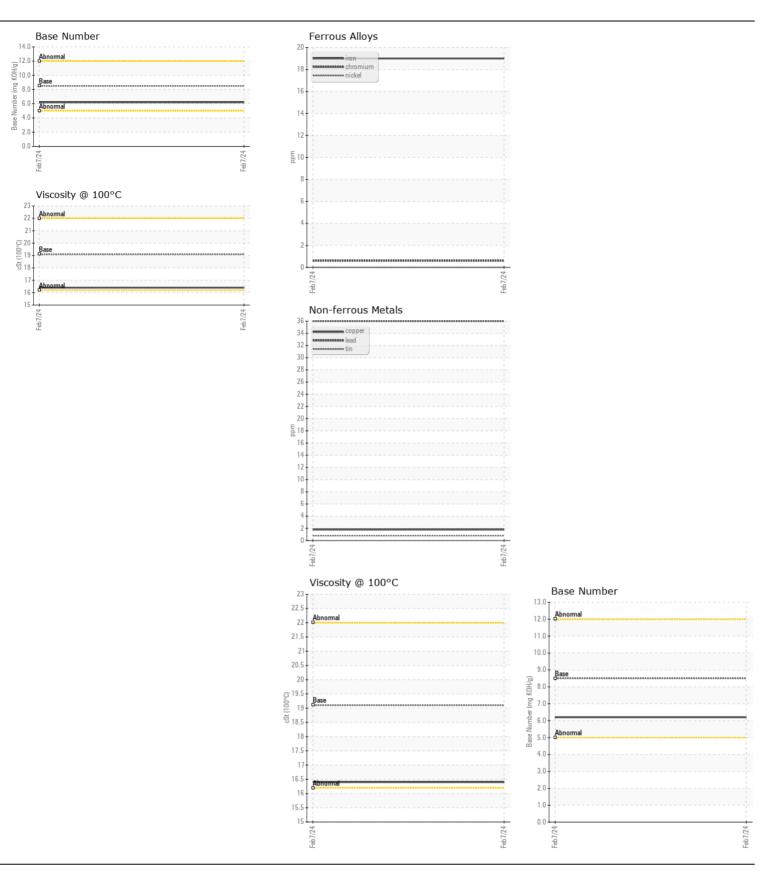


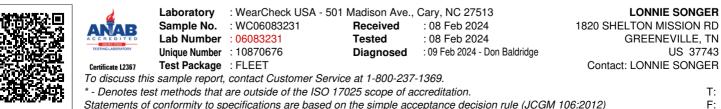
Machine Id **176** Component **Diesel Engine** Fluid **DIESEL ENGINE OIL SAE 50 (--- GAL)**

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
	Sample Number		Client Info		WC06083231		
Resample at the next service interval to monitor.	Sample Date		Client Info		07 Feb 2024		
	Machine Age	mls	Client Info		427212		
	Oil Age	mls	Client Info		0		
	Filter Age	mls	Client Info		0		
	Oil Changed		Client Info		N/A		
	Filter Changed		Client Info		N/A		
	Sample Status				NORMAL		
WEAR	Iron	ppm	ASTM D5185m		19		
All component wear rates are normal.	Chromium	ppm	ASTM D5185m		<1		
	Nickel	ppm	ASTM D5185m	>4	0		
	Titanium	ppm	ASTM D5185m		94		
	Silver	ppm	ASTM D5185m		0		
	Aluminum	ppm	ASTM D5185m		2		
	Lead	ppm	ASTM D5185m		36		
	Copper	ppm	ASTM D5185m		2		
	Tin	ppm	ASTM D5185m	>15	<1		
	Vanadium	ppm	ASTM D5185m		1		
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
	0''''''''''''''''''''''''''''''''''''''			05	•		
CONTAMINATION	Silicon	ppm	ASTM D5185m		8		
There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185m		3		
	Fuel			>5	<1.0		
	Water		WC Method	>0.2	NEG		
	Glycol		WC Method	0	NEG		
	Soot %	%	*ASTM D7844		0.3		
	Nitration	Abs/cm	*ASTM D7624	>20	12.4		
	Sulfation	Abs/.1mm	*ASTM D7415		29.8		
	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	nnm	ASTM D5185m		6		
	Boron	ppm	ASTM D5185m	250	59		
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.	Barium	ppm	ASTM D5185m		0		
	Molybdenum	ppm	ASTM D5185m		13		
		ppm	ASTM D5185m	100			
	Manganese	ppm	ASTM D5185m	450	<1 492		
	Magnesium	ppm	ASTM D5185m ASTM D5185m		482		
	Calcium	ppm			1900		
	Phosphorus	ppm	ASTM D5185m		1098		
	Zinc	ppm	ASTM D5185m		1368		
	Sulfur	ppm	ASTM D5185m		3789		
	Oxidation	Abs/.1mm	*ASTM D7414		27.2		
	Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.2		

Visc @ 100°C cSt ASTM D445 19.1

16.4





Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: LONNIE SONGER - LONGRETN