

Machine Id 9742 Component **Diesel Engine** DIESEL ENGINE OIL SAE 15W40 (--- QTS)

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RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.	Sample Number		Client Info		WC0891692	WC0874103	
	Sample Date		Client Info		02 Feb 2024	31 Oct 2023	
	Machine Age	mls	Client Info		0	0	
	Oil Age	mls	Client Info		0	0	
	Filter Age	mls	Client Info		0	0	
	Oil Changed		Client Info		Changed	N/A	
	Filter Changed		Client Info		Changed	N/A	
	Sample Status				ABNORMAL	ATTENTION	
WEAR All component wear rates are normal.	Iron	ppm	ASTM D5185m	>100	9	15	
	Chromium	ppm	ASTM D5185m	>20	<1	<1	
	Nickel	ppm	ASTM D5185m	>4	0	1	
	Titanium	ppm	ASTM D5185m		<1	0	
	Silver	ppm	ASTM D5185m	>3	<1	<1	
	Aluminum	ppm	ASTM D5185m	>20	8	16	
	Lead	ppm	ASTM D5185m	>40	<1	<1	
	Copper	ppm	ASTM D5185m	>330	26	63	
	Tin	ppm	ASTM D5185m		2	4	
	Vanadium	ppm	ASTM D5185m		<1	0	
	White Metal	scalar	*Visual	NONE	NONE	NONE	
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
		·····				HOHL	
CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	2	6	
	Potassium	ppm	ASTM D5185m	>20	A 35	64	
There is no indication of any contamination in the oil.	Fuel	%	ASTM D3524	>5	<1.0	0.2	
	Water		WC Method	>0.2	NEG	NEG	
	Glycol	%	*ASTM D2982		NEG	NEG	
	Soot %	%	*ASTM D7844	>3	0.2	0.2	
	Nitration	Abs/cm	*ASTM D7624		6.0	6.3	
	Sulfation	Abs/.1mm	*ASTM D7415		19.2	22.7	
	Silt	scalar	*Visual	NONE	NONE	NONE	
	Debris	scalar	*Visual	NONE	NONE	NONE	
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
	Appearance	scalar	*Visual	NORML	NORML	NORML	
	Odor	scalar	*Visual	NORML	NORML	NORML	
	Emulsified Water		*Visual	>0.2	NEG	NEG	
		Scalal	visuai	>0.2	NEG	NLG	
FLUID CONDITION	Sodium	ppm	ASTM D5185m	>158	2	5	
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.	Boron	ppm	ASTM D5185m		7	53	
	Barium	ppm	ASTM D5185m		0	0	
	Molybdenum	ppm	ASTM D5185m		60	37	
	Manganese	ppm	ASTM D5185m	100	<1	3	
	Magnesium		ASTM D5185m	450	975	471	
	Calcium	ppm	ASTM D5185m		975 1234	1590	
		ppm					
	Phosphorus	ppm	ASTM D5185m		1074	768	
	Zinc	ppm	ASTM D5185m		1245	845	
	Sulfur	ppm	ASTM D5185m		3835	2311	
	Oxidation	Abs/.1mm	*ASTM D7414	>25	14.6	20.4	

Base Number (BN) mg KOH/g ASTM D2896 8.5

ASTM D445 14.4

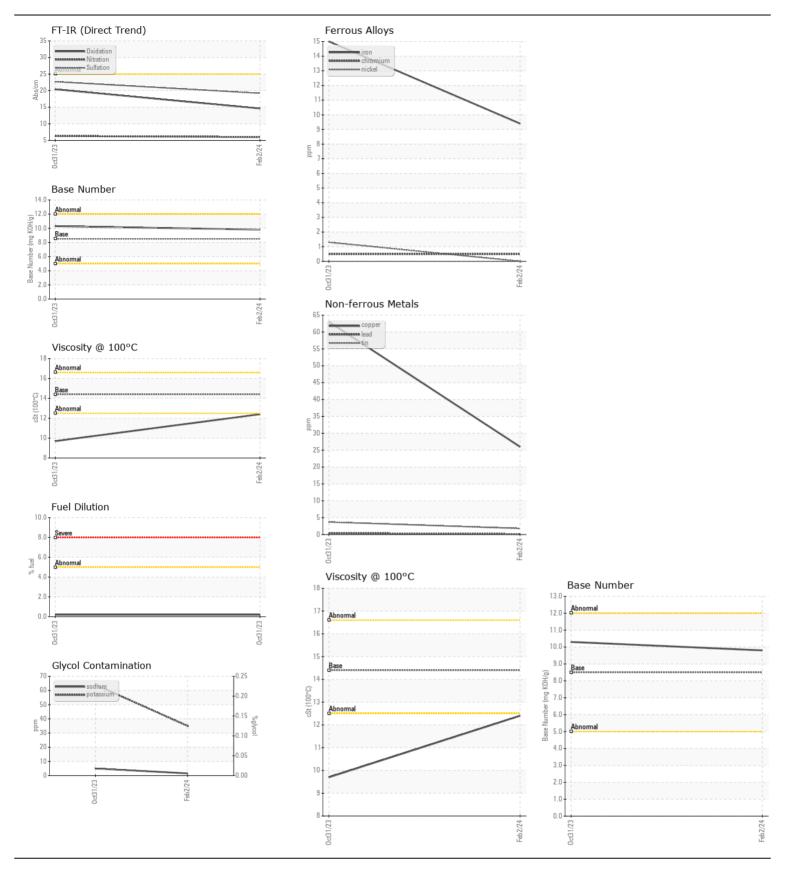
Visc @ 100°C cSt

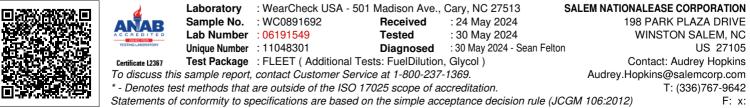
9.8

12.4

10.3

9.7





Contact/Location: Audrey Hopkins - SALWIN Page 2 of 2