

## Machine Id 41314 Component Diesel Engine Fluid DIESEL ENGINE OIL SAE 15W40 (--- QTS)

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.	Sample Number		Client Info		WC0954602	WC0883263	WC0795945
	Sample Date		Client Info		27 Jun 2024	02 Feb 2024	31 May 2023
	Machine Age	mls	Client Info		0	288864	0
	Oil Age	mls	Client Info		25000	17000	0
	Filter Age	mls	Client Info		0	17000	0
	Oil Changed		Client Info		N/A	Changed	Changed
	Filter Changed		Client Info		N/A	Changed	Changed
	Sample Status				NORMAL	NORMAL	NORMAL
WEAR	Iron	ppm	ASTM D5185m	>100	35	31	26
	Chromium	ppm	ASTM D5185m		2	2	2
All component wear rates are normal.	Nickel	ppm	ASTM D5185m		- <1	0	0
	Titanium	ppm	ASTM D5185m		<1	0	0
	Silver	ppm	ASTM D5185m	>3	<1	0	0
	Aluminum	ppm	ASTM D5185m		4	2	3
	Lead	ppm	ASTM D5185m	>40	9	2	0
	Copper	ppm	ASTM D5185m		8	1	1
	Tin	ppm	ASTM D5185m		<1	1	0
	Vanadium	ppm	ASTM D5185m		<1	<1	0
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	6	4	4
	Potassium	ppm	ASTM D5185m		5	0	<1
There is no indication of any contamination in the oil.	Fuel	1-1-	WC Method		<1.0	<1.0	<1.0
	Water		WC Method	>0.2	NEG	NEG	NEG
	Glycol		WC Method		NEG	NEG	NEG
	Soot %	%	*ASTM D7844	>3	1	0.8	0.6
	Nitration	Abs/cm	*ASTM D7624	>20	10.5	10.5	10.3
	Sulfation	Abs/.1mm	*ASTM D7415	>30	26.5	21.6	22.0
	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
	Appearance	scalar	*Visual	NORML	NORML	NORML	NORM
	Odor	scalar	*Visual	NORML	NORML	NORML	NORM
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
FLUID CONDITION	Sodium	ppm	ASTM D5185m	>158	<1	1	2
	Boron	ppm	ASTM D5185m		78	<1	2
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	0	0
	Molybdenum	ppm	ASTM D5185m	100	91	64	64
	Manganese	ppm	ASTM D5185m		<1	<1	<1
	Magnesium	ppm	ASTM D5185m	450	507	959	974
	Calcium	ppm	ASTM D5185m	3000	1338	1101	1256
	Phosphorus	ppm	ASTM D5185m	1150	997	1006	1081
	Zinc	ppm	ASTM D5185m	1350	1207	1261	1330
	Sulfur	ppm	ASTM D5185m	4250	2732	3151	4063
	Quidation	Alee/der		05	00.1	17.0	17.0

Oxidation

Visc @ 100°C cSt

17.6

5.7

13.4

17.2

8.7

13.1

20.1

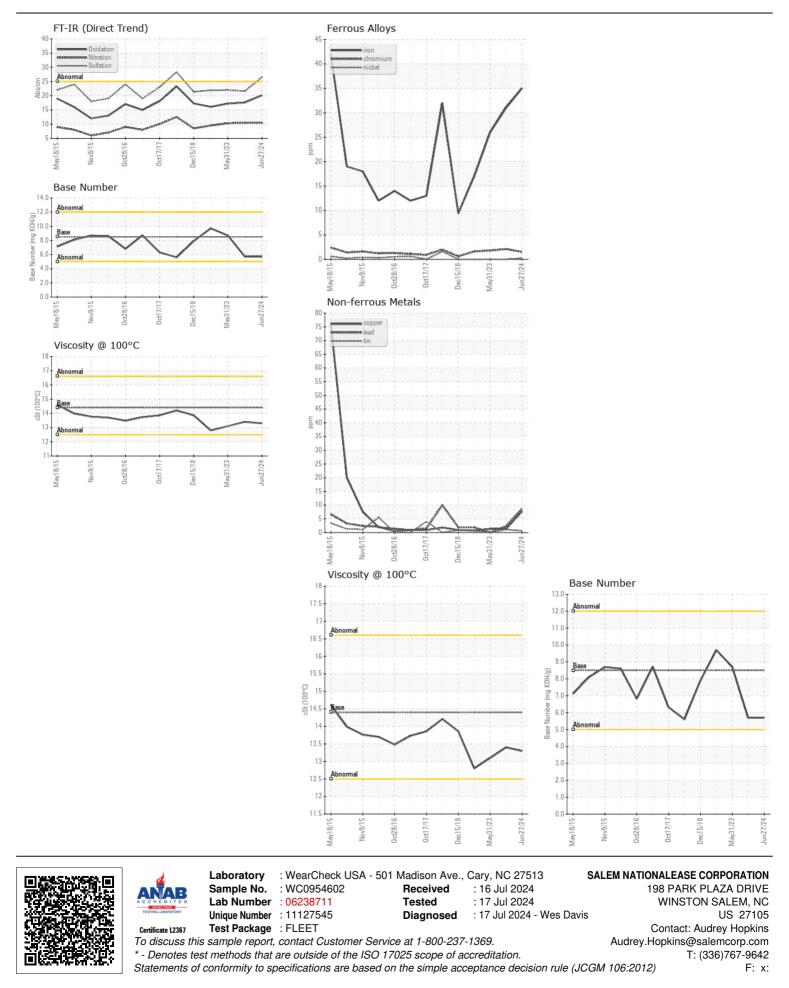
5.7

13.3

Abs/.1mm \*ASTM D7414 >25

ASTM D445 14.4

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



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