

## Machine Id 59206 omponent **Diesel Engine** 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		WC0826827	WC0826805	WC0826780
	Sample Date		Client Info		08 Apr 2024	19 Jan 2024	11 Nov 2023
	Machine Age	mls	Client Info		558921	531623	508703
	Oil Age	mls	Client Info		0	0	0
	Filter Age	mls	Client Info		0	0	0
	Oil Changed		Client Info		Changed	N/A	Changed
	Filter Changed		Client Info		Changed	N/A	Changed
	Sample Status				NORMAL	NORMAL	NORMAL
WEAR	Iron	ppm	ASTM D5185m	>100	34	52	16
All component wear rates are normal.	Chromium	ppm	ASTM D5185m	>20	1	1	1
	Nickel	ppm	ASTM D5185m		<1	<1	0
	Titanium	ppm	ASTM D5185m		1	0	0
	Silver	ppm	ASTM D5185m	>3	0	0	0
	Aluminum	ppm	ASTM D5185m		8	6	2
	Lead	ppm	ASTM D5185m		4	2	1
	Copper	ppm	ASTM D5185m		<1	<1	<1
	Tin	ppm	ASTM D5185m		0	<1	<1
	Vanadium	ppm	ASTM D5185m		0	0	0
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	6	7	4
CONTRIMINATION	Potassium	ppm	ASTM D5185m		3	1	0
There is no indication of any contamination in the oil.	Fuel	ppin	WC Method		<1.0	<1.0	<1.0
	Water		WC Method		NEG	NEG	NEG
	Glycol		WC Method	20.L	NEG	NEG	NEG
	Soot %	%	*ASTM D7844	>3	0.6	0.4	0.5
	Nitration	Abs/cm	*ASTM D7624	>20	11.5	9.9	10.0
	Sulfation	Abs/.1mm	*ASTM D7415		25.8	24.9	21.9
	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	NORML
	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water		*Visual	>0.2	NEG	NEG	NEG
FLUID CONDITION	Sodium	ppm	ASTM D5185m	<158 <	2	<1	<1
	Boron		ASTM D5185m		115	165	
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	<1 0
	Molybdenum	ppm ppm	ASTM D5185m		124	107	57
	Manganese	ppm	ASTM D5185m	100	0	<1	<1
	Magnesium	ppm	ASTM D5185m	450	681	713	968
	Calcium	ppm	ASTM D5185m		1514	1483	1108
	Phosphorus		ASTM D5185m		671	691	947
	Zinc	ppm	ASTM D5185m		866	916	1286
	Sulfur	ppm	ASTM D5185m		2406	2303	2839
	Ouidatian	ppm		4230	2400	2000	2009

Oxidation

Visc @ 100°C cSt

20.1

7.6

13.1

18.2

13.5

7.9

21.7

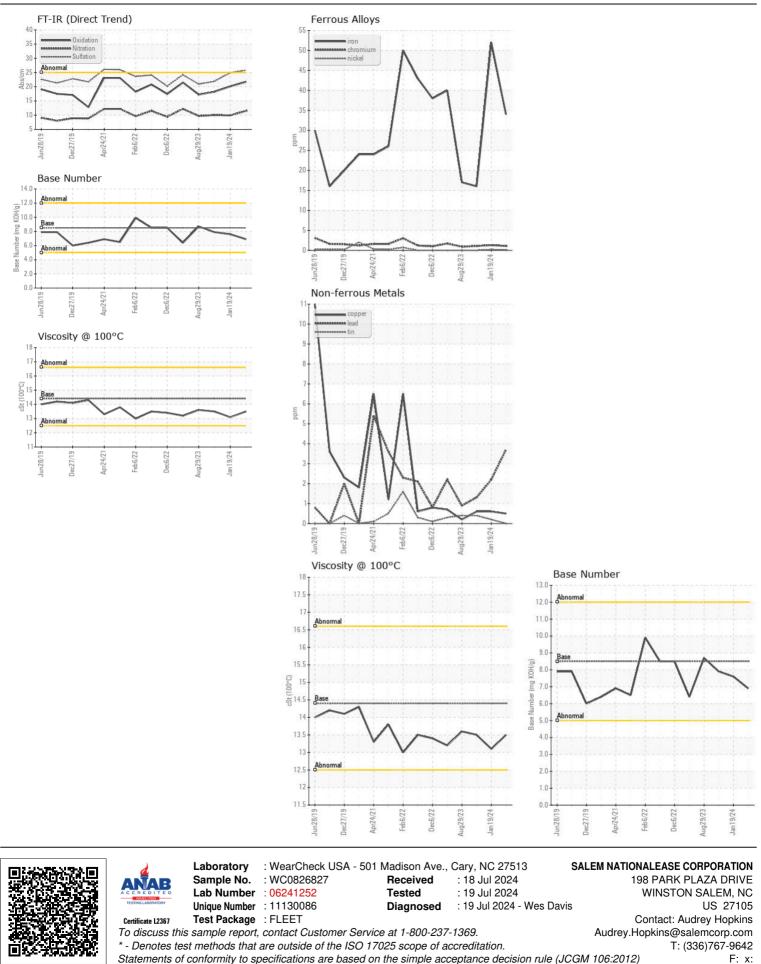
6.9

13.5

Abs/.1mm \*ASTM D7414 >25

ASTM D445 14.4

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



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

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