

Machine Id **JW3450** omponen **Diesel Engine** DIESEL ENGINE OIL SAE 15W40 (--- QTS)

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RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
	Sample Number		Client Info		WC0891658	WC0861092	WC0826605
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 Date		Client Info		31 Jan 2024	23 Nov 2023	22 Jun 2023
	Machine Age	mls	Client Info		229191	219784	244023
	Oil Age	mls	Client Info		0	0	0
	Filter Age	mls	Client Info		0	0	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	15	10	9
All component wear rates are normal.	Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
	Nickel	ppm	ASTM D5185m	>4	0	<1	<1
	Titanium	ppm	ASTM D5185m		<1	0	0
	Silver	ppm	ASTM D5185m	>3	<1	0	0
	Aluminum	ppm	ASTM D5185m	>20	3	3	2
	Lead	ppm	ASTM D5185m	>40	0	<1	0
	Copper	ppm	ASTM D5185m	>330	<1	<1	<1
	Tin	ppm	ASTM D5185m	>15	0	<1	0
	Vanadium	ppm	ASTM D5185m		<1	0	0
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	4	4	4
There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185m	>20	4	3	2
	Fuel		WC Method	>5	<1.0	<1.0	<1.0
	Water		WC Method	>0.2	NEG	NEG	NEG
	Glycol		WC Method		NEG	NEG	NEG
	Soot %	%	*ASTM D7844	>3	0.3	0.2	0.2
	Nitration	Abs/cm	*ASTM D7624	>20	10.2	8.0	7.4
	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.6	20.1	19.1
	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	scalar	*Visual	>0.2	NEG	NEG	NEG
FLUID CONDITION	Sodium	ppm	ASTM D5185m		1	2	<1
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.	Boron	ppm	ASTM D5185m	250	0	1	0
	Barium	ppm	ASTM D5185m		0	0	1
	Molybdenum	ppm	ASTM D5185m	100	68	59	62
	Manganese	ppm	ASTM D5185m		<1	<1	0
	Magnesium	ppm	ASTM D5185m	450	1133	944	956
	Calcium	ppm	ASTM D5185m	3000	1236	1029	1062
	Phosphorus	ppm	ASTM D5185m	1150	1137	1094	1015
	Zinc	ppm	ASTM D5185m	1350	1393	1245	1191
	0.16.00		AOTH DELOS	1050	0044	0100	0101

Sulfur

Oxidation

Visc @ 100°C cSt

3136

16.3

9.5

13.3

3134

15.4 9.3

13.3

3841

19.0

8.7

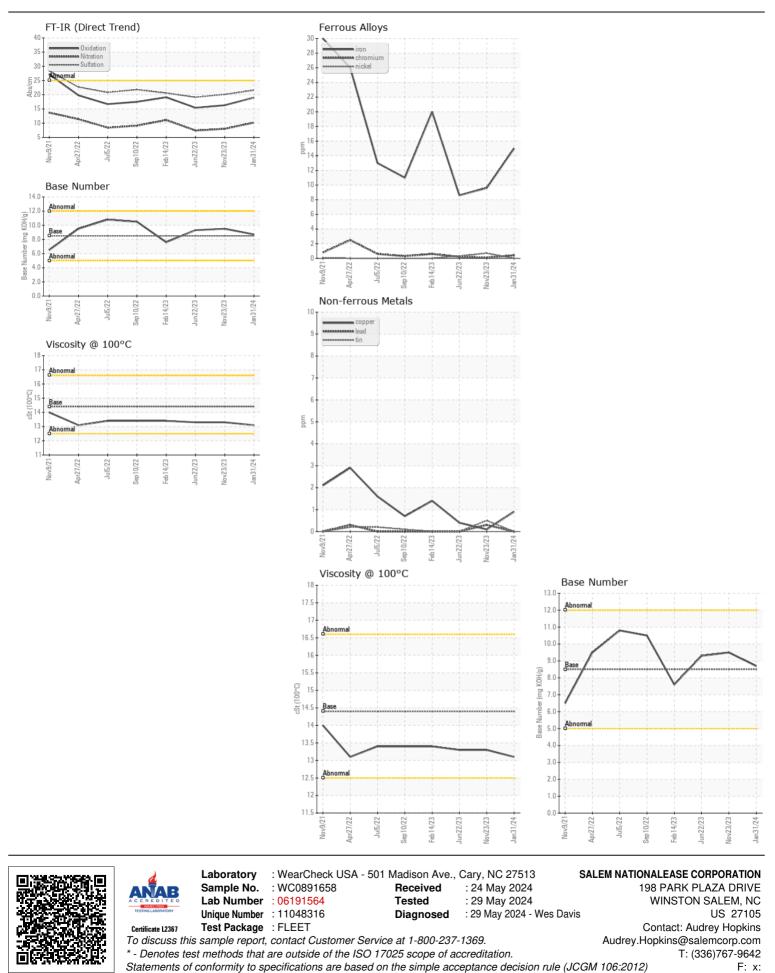
13.1

ppm ASTM D5185m 4250

ASTM D445 14.4

Abs/.1mm *ASTM D7414 >25

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



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