

Machine Id **42650** Component **Diesel Engine** Fluid **DIESEL ENGINE OIL SAE 15W40 (--- QTS)**

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
	Sample Number		Client Info		WC0939066	WC0826886	WC0717978
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		25 Jun 2024	15 Dec 2023	05 Jul 2023
	Machine Age	mls	Client Info		692170	631268	584535
	Oil Age	mls	Client Info		0	0	0
	Filter Age	mls	Client Info		0	0	0
	Oil Changed		Client Info		Changed	Changed	Changed
	Filter Changed		Client Info		Changed	Changed	Changed
	Sample Status				NORMAL	NORMAL	NORMAL
WEAR	Iron	ppm	ASTM D5185m	>100	30	14	10
	Chromium	ppm	ASTM D5185m	>20	1	<1	<1
All component wear rates are normal.	Nickel	ppm	ASTM D5185m	>4	<1	1	0
	Titanium	ppm	ASTM D5185m		0	0	0
	Silver	ppm	ASTM D5185m	>3	0	0	<1
	Aluminum	ppm	ASTM D5185m	>20	6	4	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		0	<1	0
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	10	6	6
There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185m	>20	3	2	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	0.5	0.4	0.4
	Nitration	Abs/cm	*ASTM D7624	>20	8.8	8.6	7.5
	Sulfation	Abs/.1mm	*ASTM D7415	>30	23.3	19.7	19.6
	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	>158	3	3	2
	Boron	ppm	ASTM D5185m	250	164	6	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	10	0	0	0
	Molybdenum	ppm	ASTM D5185m	100	93	72	66
	Manganese	ppm	ASTM D5185m		0	<1	<1
	Magnesium	ppm	ASTM D5185m	450	418	966	1039
	Calcium	ppm	ASTM D5185m	3000	1366	1043	1158
	Phosphorus	ppm	ASTM D5185m	1150	966	1067	1116
	Zinc	ppm	ASTM D5185m	1350	1191	1256	1351
	Sulfur	ppm	ASTM D5185m	4250	2982	3154	3996
	Outidation	Alex / discuss	****	05	100	4 - 4	445

Oxidation

Visc @ 100°C cSt

Abs/.1mm *ASTM D7414 >25

ASTM D445 14.4

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

15.1

8.1

13.2

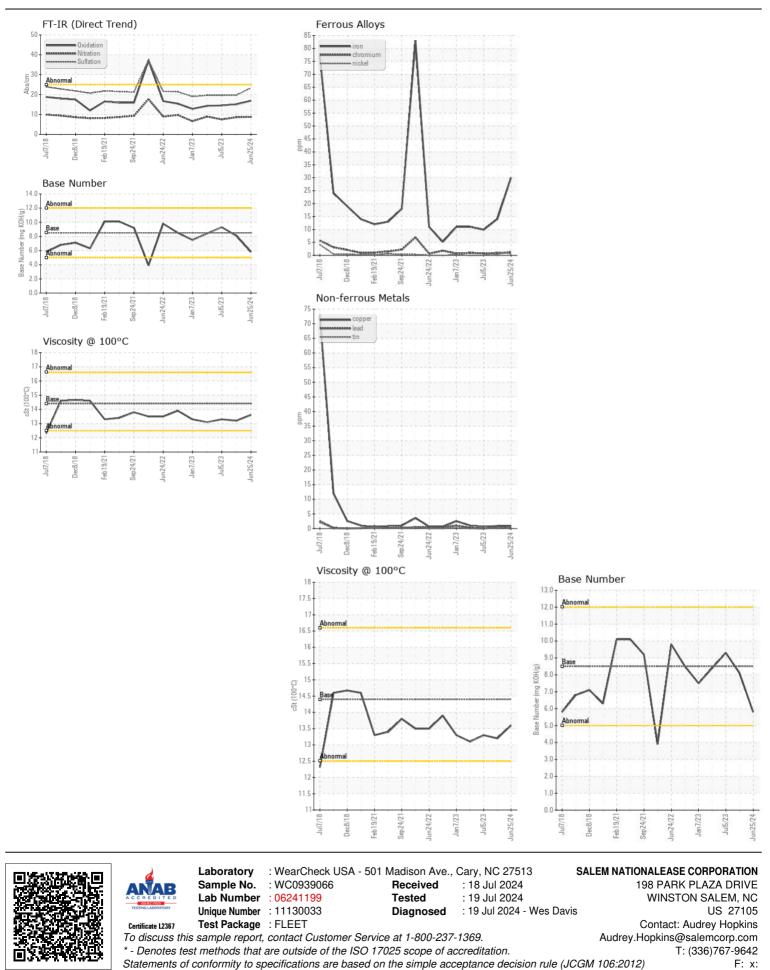
14.5 9.3

13.3

16.9

5.8

13.6



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