

Machine Id 58862 npone **Diesel Engine** DIESEL ENGINE OIL SAE 15W40 (--- QTS)

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
	Sample Number		Client Info		WC0891678	WC0874121	WC0840856
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		03 Feb 2024	12 Nov 2023	12 Aug 2023
	Machine Age	mls	Client Info		235744	213995	187997
brand, type, and viscosity of the off off your next sample.	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	17	18	26
	Chromium	ppm	ASTM D5185m	>20	<1	1	2
All component wear rates are normal.	Nickel	ppm	ASTM D5185m		0	<1	0
	Titanium	ppm	ASTM D5185m		<1	<1	0
	Silver	ppm	ASTM D5185m	>3	<1	0	0
	Aluminum	ppm	ASTM D5185m	>20	4	2	8
	Lead	ppm	ASTM D5185m	>40	<1	<1	0
	Copper	ppm	ASTM D5185m	>330	5	7	10
	Tin	ppm	ASTM D5185m	>15	<1	<1	<1
	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	6	7	5
	Potassium	ppm	ASTM D5185m	>20	5	5	8
There is no indication of any contamination in the oil.	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	0.6	0.7	0.9
	Nitration	Abs/cm	*ASTM D7624	>20	9.4	9.4	11.3
	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.3	22.2	23.5
	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	1	0	2
	Boron	ppm	ASTM D5185m	250	0	0	0
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	1	0
	Molybdenum	ppm	ASTM D5185m	100	67	66	67
	Manganese	ppm	ASTM D5185m		<1	<1	<1
	Magnesium	ppm	ASTM D5185m	450	1117	1021	1081
	Calcium	ppm	ASTM D5185m	3000	1223	1150	1144
	Phosphorus	ppm	ASTM D5185m	1150	1112	1001	1036
	Zinc	ppm	ASTM D5185m	1350	1366	1261	1334
	Sulfur	ppm	ASTM D5185m	4250	3638	3181	2656
	Out death and	Alexidee	*****	05	100	10.0	00.0

Oxidation

Visc @ 100°C cSt

19.2

7.7

13.2

20.8

7.3

13.7

18.0

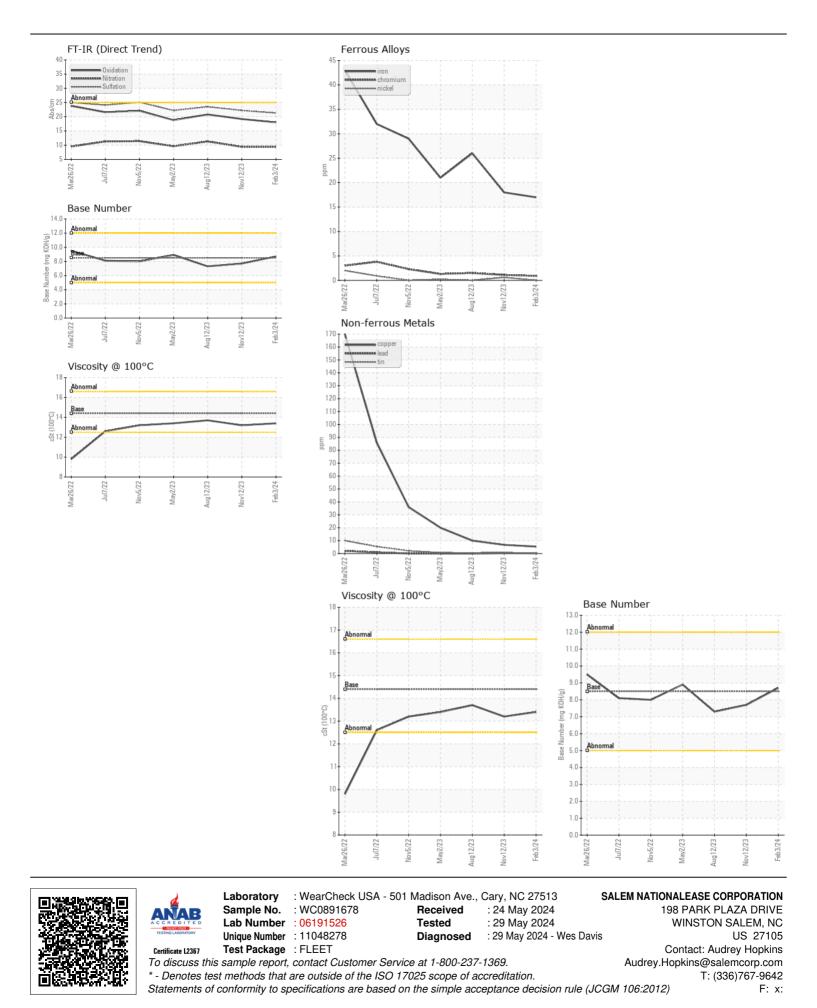
8.7

13.4

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