

Machine Id **297074** Component **Diesel Engine** Fluid **DIESEL ENGINE OIL SAE 15W40 (--- QTS)**

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
	Sample Number		Client Info		WC0903065	WC0875736	WC0787765
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		30 Apr 2024	13 Feb 2024	22 Aug 2023
	Machine Age	mls	Client Info		175266	159443	119212
	Oil Age	mls	Client Info		60000	0	0
	Filter Age	mls	Client Info		60000	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	9	11	4
	Chromium	ppm	ASTM D5185m	>20	<1	0	<1
All component wear rates are normal.	Nickel	ppm	ASTM D5185m		<1	<1	0
	Titanium	ppm	ASTM D5185m		4	0	0
	Silver	ppm	ASTM D5185m	>3	0	<1	<1
	Aluminum	ppm	ASTM D5185m		2	3	2
	Lead	ppm			- <1	<1	0
	Copper	ppm	ASTM D5185m	>330	3	4	2
	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	5	4	3
	Potassium	ppm	ASTM D5185m		4	2	2
There is no indication of any contamination in the oil.	Fuel	le le	WC Method		<1.0	<1.0	<1.0
	Water		WC Method		NEG	NEG	NEG
	Glycol		WC Method		NEG	NEG	NEG
	Soot %	%	*ASTM D7844	>3	0.2	0.3	0.2
	Nitration	Abs/cm	*ASTM D7624	>20	8.2	8.3	6.0
	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.9	23.8	18.2
	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	0	2	<1
	Boron	ppm	ASTM D5185m		199	93	6
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		2	0	0
	Molybdenum	ppm	ASTM D5185m		73	83	64
	Manganese	ppm	ASTM D5185m		<1	<1	<1
	Magnesium	ppm	ASTM D5185m	450	494	498	984
	Calcium	ppm	ASTM D5185m		1403	1246	1132
	Phosphorus	ppm	ASTM D5185m		1016	968	1065
	Zinc	ppm	ASTM D5185m	1350	1109	1205	1316
	Sulfur	ppm	ASTM D5185m		3403	2913	3988
	Outstat	Alee/door	******	05	10.0	10.0	10.5

Oxidation

Visc @ 100°C cSt

18.8

5.0

12.8

13.5

9.5

12.7

16.6

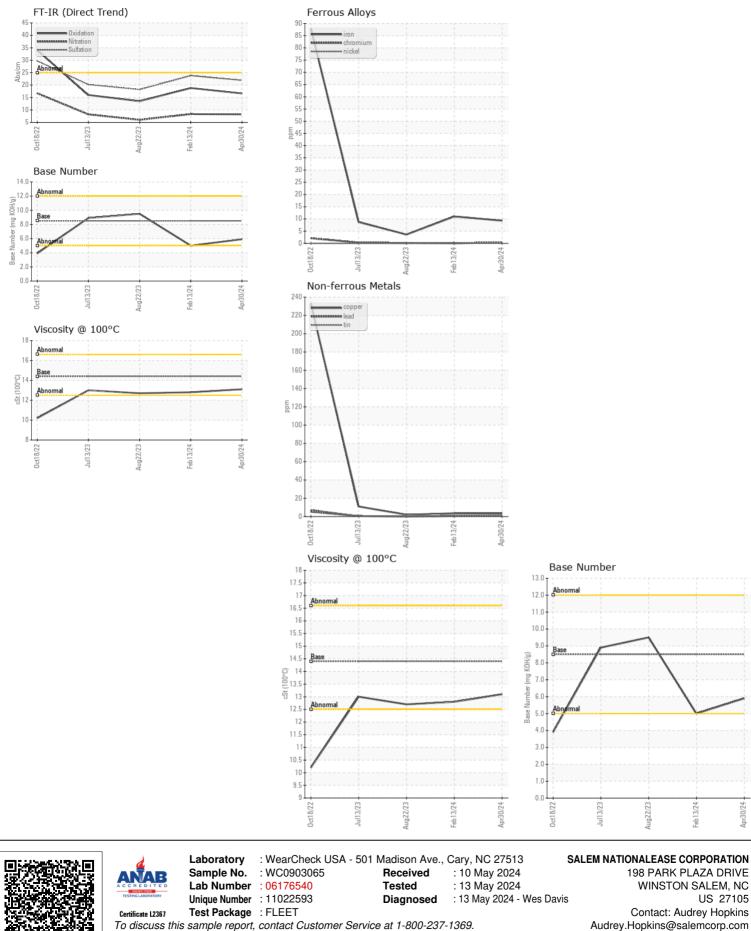
5.9

13.1

Abs/.1mm *ASTM D7414 >25

ASTM D445 14.4

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



To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

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

回绕

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