

Machine Id 38730 omponent **Diesel Engine** DIESEL ENGINE OIL SAE 15W40 (20 QTS)

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.	Sample Number		Client Info		WC0946097	WC0847857	WC0817595
	Sample Date		Client Info		17 Jun 2024	21 Oct 2023	21 Jul 2023
	Machine Age	mls	Client Info		168456	148193	140941
	Oil Age	mls	Client Info		14000	7500	8400
	Filter Age	mls	Client Info		14000	7500	8400
	Oil Changed		Client Info		Changed	Changed	Changed
	Filter Changed		Client Info		Changed	Changed	Changed
	Sample Status				ABNORMAL	NORMAL	NORMAL
WEAR	Iron	ppm	ASTM D5185m	>100	48	18	13
All component wear rates are normal.	Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
	Nickel	ppm	ASTM D5185m	>4	0	0	0
	Titanium	ppm	ASTM D5185m		0	0	0
	Silver	ppm	ASTM D5185m	>3	0	0	0
	Aluminum	ppm	ASTM D5185m	>20	10	2	2
	Lead	ppm	ASTM D5185m	>40	0	0	0
	Copper	ppm	ASTM D5185m	>330	6	<1	0
	Tin	ppm	ASTM D5185m	>15	0	<1	0
	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	11	6	4
Fuel content negligible. There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185m	>20	20	3	2
	Fuel	%	ASTM D3524	>5	0.7	<1.0	<1.0
	Water		WC Method	>0.2	NEG	NEG	NEG
	Glycol		WC Method		NEG	NEG	NEG
	Soot %	%	*ASTM D7844	>3	0.5	0.3	0.2
	Nitration	Abs/cm	*ASTM D7624	>20	12.9	12.6	10.1
	Sulfation	Abs/.1mm	*ASTM D7415		31.8	25.8	22.8
	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		2	1	4
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.	Boron	ppm	ASTM D5185m		70	16	20
	Barium	ppm	ASTM D5185m		0	0	0
	Molybdenum	ppm	ASTM D5185m	100	226	83	71
	Manganese	ppm	ASTM D5185m		0	<1	<1
	Magnesium	ppm	ASTM D5185m		537	1133	1042
	Calcium	ppm	ASTM D5185m		1626	1454	1297
	Phosphorus	ppm	ASTM D5185m		941	1249	1096
	Zinc	ppm	ASTM D5185m		1324	1611	1396
	Sulfur	ppm	ASTM D5185m		2606	3534	3685
	Oxidation	Abs/.1mm	*ASTM D7414		33.0	25.4	20.2
	Base Number (BN)	mg KOH/g	ASTM D2896	8.5	▲ 3.5	7.5	8.5

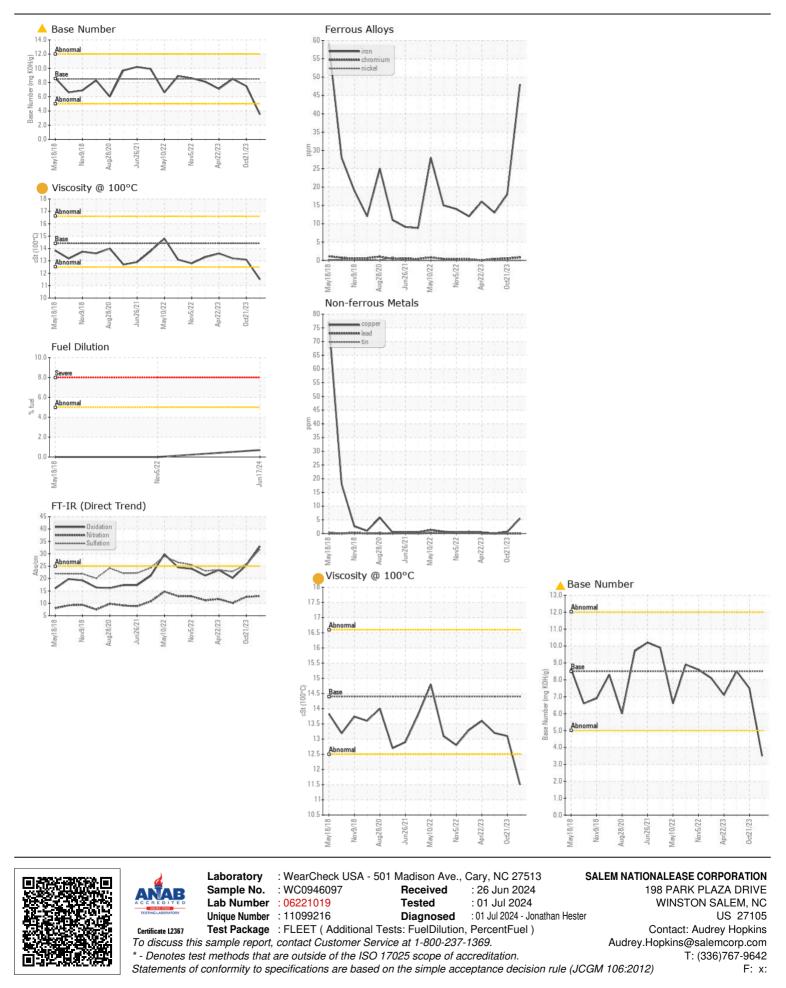
Visc @ 100°C cSt

13.1

13.2

11.5

ASTM D445 14.4



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