

Machine Id 37123 omponent **Diesel Engine** DIESEL ENGINE OIL SAE 15W40 (--- GAL)

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		WC0912522	WC0817561	WC0787925
	Sample Date		Client Info		30 Mar 2024	07 Aug 2023	19 May 2023
	Machine Age	mls	Client Info		444070	433822	421319
	Oil Age	mls	Client Info		0	12503	25000
	Filter Age	mls	Client Info		0	12503	25000
	Oil Changed		Client Info		Changed	Changed	Changed
	Filter Changed		Client Info		Changed	Changed	Changed
	Sample Status				ATTENTION	NORMAL	NORMAL
WEAR All component wear rates are normal.	Iron	ppm	ASTM D5185m	>100	61	14	22
	Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
	Nickel	ppm	ASTM D5185m	>4	<1	0	<1
	Titanium	ppm	ASTM D5185m		0	<1	0
	Silver	ppm	ASTM D5185m	>3	<1	<1	0
	Aluminum	ppm	ASTM D5185m	>20	7	3	4
	Lead	ppm	ASTM D5185m	>40	<1	<1	0
	Copper	ppm	ASTM D5185m	>330	27	2	3
	Tin	ppm	ASTM D5185m	>15	<1	<1	<1
	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		ASTM D5185m	<u>\</u> 25	5	4	4
	Potassium	ppm ppm	ASTM D5185m		4	2	2
Fuel content negligible. There is no indication of any contamination in the oil.	Fuel	%		>5	0.2	<1.0	<1.0
	Water	70	WC Method		NEG	NEG	NEG
	Glycol		WC Method	20.2	NEG	NEG	NEG
	Soot %	%	*ASTM D7844	~3	0.2	0.2	0.4
	Nitration	Abs/cm	*ASTM D7624	>20	8.0	7.3	9.2
	Sulfation	Abs/.1mm	*ASTM D7415		18.6	18.7	21.2
	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		ASTM D5185m	< 15Q	2	2	0
	Boron	ppm	ASTM D5185m		2 11	6	7
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.	Barium	ppm	ASTM D5185m		0	<1	2
	Molybdenum	ppm ppm	ASTM D5185m		66	69	65
	Manganese	ppm	ASTM D5185m	100	1	<1	<1
	Magnesium	ppm	ASTM D5185m	450	844	938	770
	Calcium	ppm	ASTM D5185m		1101	1220	1232
	Phosphorus	ppm	ASTM D5185m		1022	1024	938
	Zinc	ppm	ASTM D5185m		1156	1274	1160
	Sulfur	ppm	ASTM D5185m		3549	3792	3219
	Oxidation	Abs/.1mm	*ASTM D7414		14.5	14.9	18.5
	Base Number (BN)				8.6	8.8	7.4
						10.0	

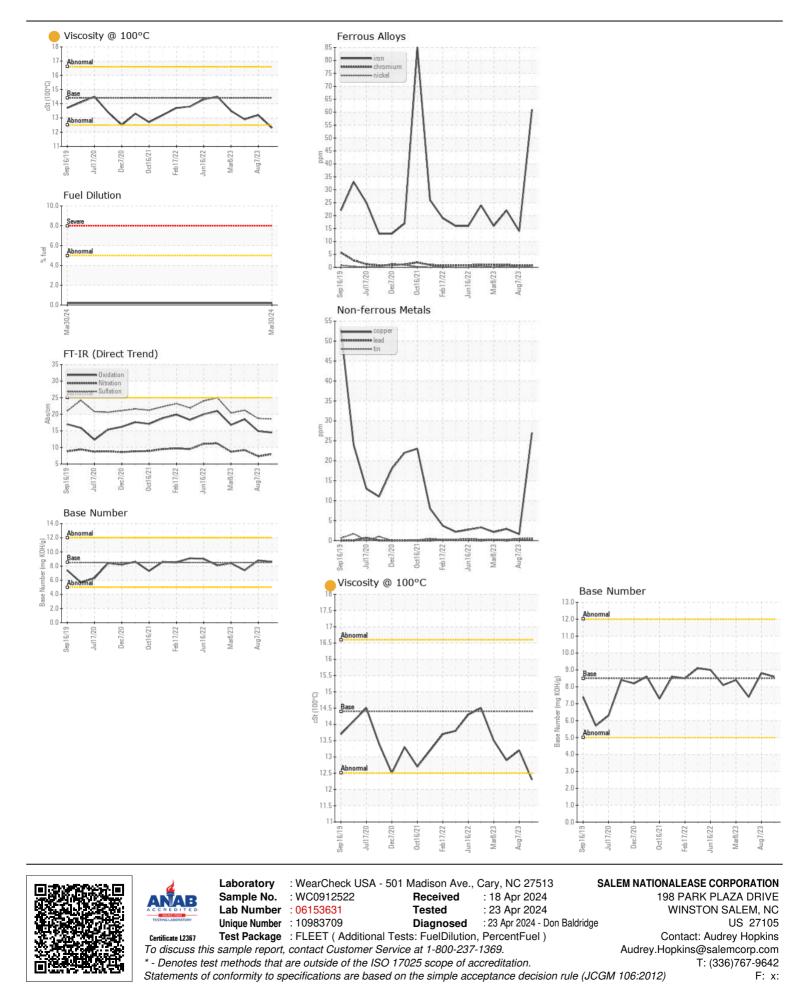
Visc @ 100°C cSt

ASTM D445 14.4

13.2

12.3

12.9



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