

## WEAR NORMAL CONTAMINATION NORMAL FLUID CONDITION ATTENTION

## Machine Id **30631** Component **Diesel Engine** Fluid **MOBIL 15W40 (--- 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		WC0936731	WC0915951	WC0882369
	Sample Date		Client Info		01 Jul 2024	23 Mar 2024	28 Nov 2023
	Machine Age	mls	Client Info		0	35636	0
	Oil Age	mls	Client Info		0	19421	0
	Filter Age	mls	Client Info		15000	19421	0
	Oil Changed		Client Info		Changed	Changed	N/A
	Filter Changed		Client Info		Changed	Changed	N/A
	Sample Status				ATTENTION	ABNORMAL	ABNORMAL
WEAR	Iron	ppm	ASTM D5185m	>100	15	28	36
All component wear rates are normal.	Chromium	ppm	ASTM D5185m	>20	<1	2	1
	Nickel	ppm	ASTM D5185m		0	1	<1
	Titanium	ppm	ASTM D5185m		0	<1	0
	Silver	ppm	ASTM D5185m	>3	<1	<1	0
	Aluminum	ppm	ASTM D5185m	>20	7	15	24
	Lead	ppm	ASTM D5185m	>40	<1	1	0
	Copper	ppm	ASTM D5185m	>330	111	<b>A</b> 333	<b>4</b> 02
	Tin	ppm	ASTM D5185m	>15	0	3	4
	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	5	8	8
	Potassium	ppm	ASTM D5185m		14	47	75
There is no indication of any contamination in the oil.	Fuel	%	ASTM D3524		<1.0	<1.0	0.0
	Water		WC Method	>0.2	NEG	NEG	NEG
	Glycol		WC Method		NEG	NEG	NEG
	Soot %	%	*ASTM D7844	>3	0.5	0.5	0.5
	Nitration	Abs/cm	*ASTM D7624	>20	8.9	9.4	8.7
	Sulfation	Abs/.1mm	*ASTM D7415	>30	23.8	23.8	22.5
	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	>118	2	<1	5
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		193	205	33
	Barium	ppm	ASTM D5185m		<1	2	0
	Molybdenum	ppm	ASTM D5185m		114	117	45
	Manganese	ppm	ASTM D5185m		<1	3	3
	Magnesium	ppm	ASTM D5185m		586	637	538
	Calcium	ppm	ASTM D5185m		1636	1594	1762
	Phosphorus	ppm	ASTM D5185m		851	709	745
	Zinc	ppm	ASTM D5185m		1012	842	967
	Sulfur	ppm	ASTM D5185m	0.5	2969	2201	2172
	Oxidation	Abs/.1mm	*ASTM D7414	>25	17.9	19.8	21.8

Base Number (BN) mg KOH/g ASTM D2896

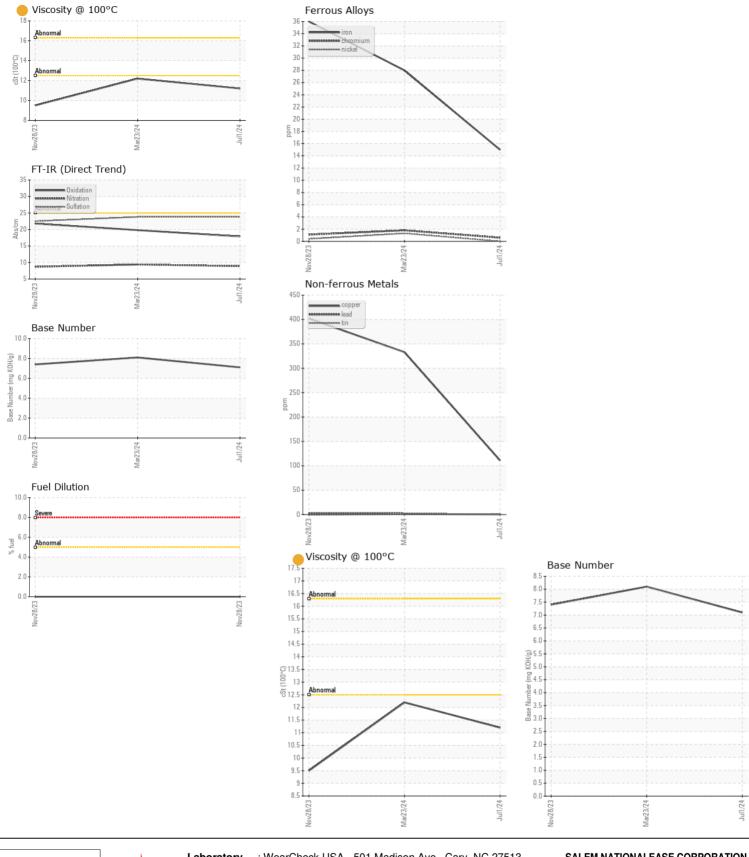
ASTM D445

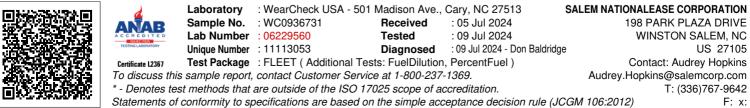
Visc @ 100°C cSt

12.2

7.1 11.2 8.1 7.4

9.5





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