

#### WEAR NORMAL CONTAMINATION NORMAL FLUID CONDITION NORMAL

## Machine Id 21150 Component **Diesel Engine** MOBIL 15W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

## **WEAR**

All component wear rates are normal.

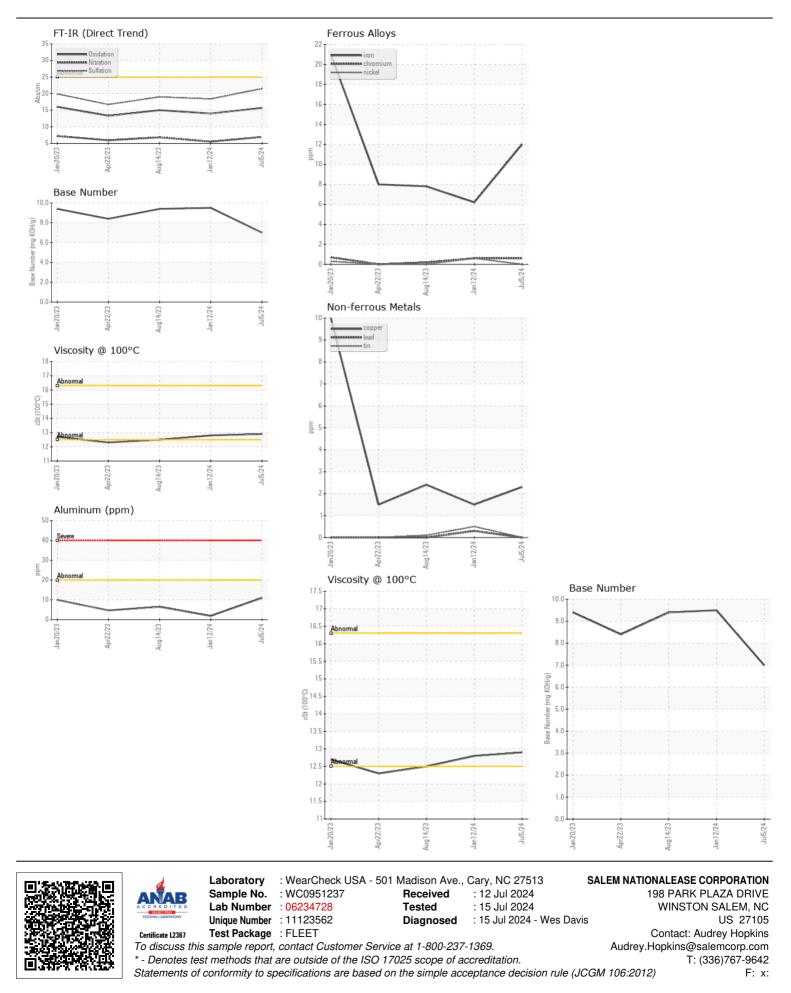
# CONTAMINATION

Elevated aluminum (AI) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

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	Test	UOM	Method	Limit/Abn	Current	History1	History2
	Sample Number		Client Info		WC0951237	WC0861115	WC0815394
	Sample Date		Client Info		05 Jul 2024	12 Jan 2024	14 Aug 2023
	Machine Age	mls	Client Info		0	30000	29983
	Oil Age	mls	Client Info		25000	30000	20000
	Filter Age	mls	Client Info		25000	30000	20000
	Oil Changed		Client Info		Changed	N/A	Changed
	Filter Changed		Client Info		Changed	N/A	Changed
	Sample Status				NORMAL	NORMAL	NORMAL
	Iron	ppm	ASTM D5185m	>100	12	6	8
	Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
	Nickel	ppm	ASTM D5185m	>4	0	<1	0
	Titanium	ppm	ASTM D5185m		<1	<1	<1
	Silver	ppm	ASTM D5185m	>3	0	0	0
	Aluminum	ppm	ASTM D5185m	>20	11	2	6
	Lead	ppm	ASTM D5185m	>40	0	<1	0
	Copper	ppm	ASTM D5185m	>330	2	2	2
	Tin	ppm	ASTM D5185m	>15	0	<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
	Cilicon			. 05	6	4	4
	Silicon	ppm	ASTM D5185m ASTM D5185m	>25 >20	27	4	4
	Potassium Fuel	ppm		>20 >5		o <1.0	<1.0
	Water		WC Method		<1.0 NEG	<1.0 NEG	<1.0 NEG
			WC Method	>0.2			NEG
	Glycol	0/		0	NEG 0.2	NEG	
	Soot % Nitration	%	*ASTM D7844 *ASTM D7624	>3 >20	0.2 6.9	0.1 5.5	0.1 6.8
	Sulfation	Abs/cm	*ASTM D7624	>20		5.5 18.4	
		Abs/.1mm			21.5 NONE		19.0
	Silt	scalar	*Visual	NONE NONE	NONE	NONE	NONE
	Debris	scalar	*Visual				
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
	Appearance Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual *Visual	NORML >0.2	NORML NEG	NORML NEG	NORML
		scalar	visual	>0.2	NEG	NEG	NEG
	Sodium	ppm	ASTM D5185m	>118	1	0	<1
	Boron	ppm	ASTM D5185m		348	4	6
	Barium	ppm	ASTM D5185m		0	0	0
	Molybdenum	ppm	ASTM D5185m		90	66	66
	Manganese	ppm	ASTM D5185m		0	<1	<1
	Magnesium	ppm	ASTM D5185m		492	979	890
	Calcium	ppm	ASTM D5185m		1516	1004	1062
	Phosphorus	ppm	ASTM D5185m		1171	920	992
	Zinc	ppm	ASTM D5185m		1356	1238	1198
	Sulfur	ppm	ASTM D5185m		3311	3146	3640
	Oxidation	Abs/.1mm	*ASTM D7414	>25	15.7	14.0	15.0
	Base Number (BN)	mg KOH/g	ASTM D2896		7.0	9.5	9.4
	Visc @ 100°C	cSt	ASTM D445		12.9	12.8	12.5

## **FLUID CONDITION**

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



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