

WEAR NORMAL CONTAMINATION SEVERE FLUID CONDITION ATTENTION

Machine Id INTERNATIONAL 4600 Component Diesel Engine Fluid EXXON 15W40 (--- QTS)

RECOMMENDATION

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. The fluid was specified as EXXON 15W40, however, a fluid match indicates that this fluid is SAE 40 Diesel Engine Oil. Please confirm the oil type and grade on your next sample.

WEAR

All component wear rates are normal.

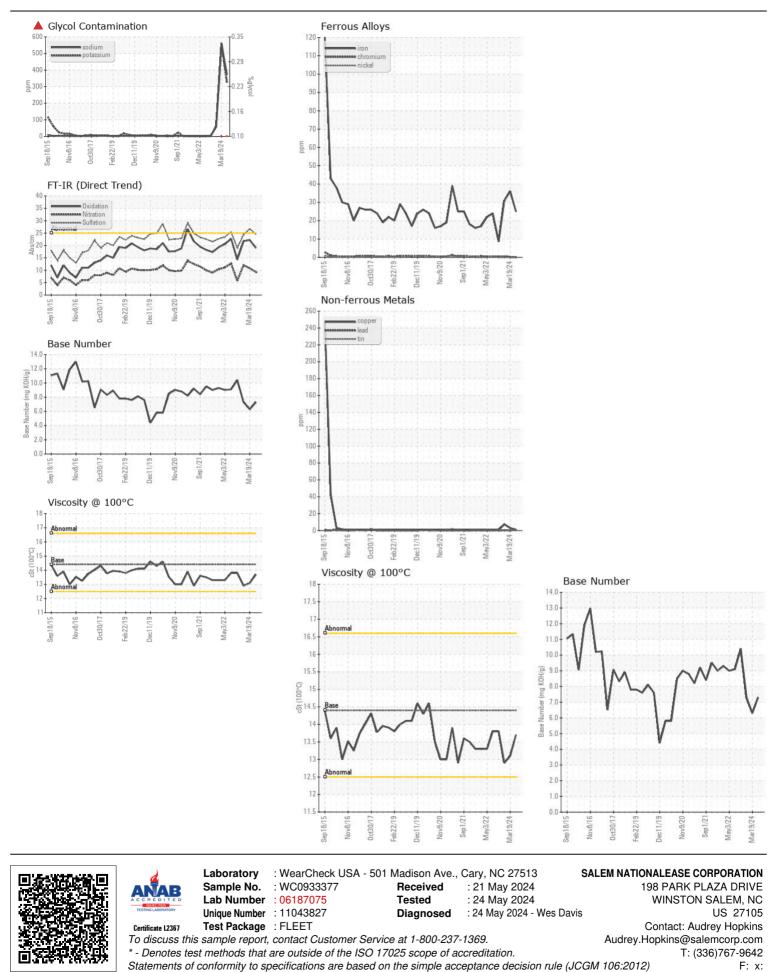
CONTAMINATION

Test for glycol is positive. There is a high concentration of glycol present in the oil.

FLUI		

Additive levels indicate the addition of a different brand, or type of oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

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Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0933377	WC0903491	WC0885566
Sample Date		Client Info		01 May 2024	19 Mar 2024	18 Jan 2024
Machine Age	mls	Client Info		444666	434266	418215
Oil Age	mls	Client Info		10400	16051	24000
Filter Age	mls	Client Info		10400	16051	24000
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	SEVERE	ABNORMAL
Iron	ppm	ASTM D5185m	>100	25	36	31
Chromium	ppm	ASTM D5185m	>20	0	<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	7	6	6
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	1	3	7
Tin	ppm	ASTM D5185m	>15	<1	<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
Silicon		ASTM D5185m	>25	8	8	E
Potassium	ppm	ASTM D5185m		8	_	5
Fuel	ppm	WC Method	>20 >2.0	320	▲ 556 <1.0	<1.0
Water		WC Method	>2.0	<1.0 NEG		
	%	*ASTM D2982	>0.2	NEG ▲ 0.10	NEG	NEG NEG
Glycol Soot %	%	*ASTM D2962	>3	0.10	0.6	0.7
Nitration	Abs/cm	*ASTM D7644	>3 >20	9.3	10.8	12.0
Sulfation	Abs/.1mm	*ASTM D7024	>30	24.5	26.7	24.3
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
	304141	visual	20.2		NLG	NLG
Sodium	ppm	ASTM D5185m		9373	561	5 9
Boron	ppm	ASTM D5185m		9316	146	3
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		123	114	73
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		<u> </u>	448	1123
Calcium	ppm	ASTM D5185m		1501	1390	1209
Phosphorus	ppm	ASTM D5185m		1155	1050	1115
Zinc	ppm	ASTM D5185m		1372	1281	1445
Sulfur	ppm	ASTM D5185m		3753	3513	2870
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.0	22.2	21.7
Base Number (BN)	mg KOH/g	ASTM D2896		7.3	6.3	7.3
Visc @ 100°C	cSt	ASTM D445	14.4	13.7	13.1	12.9



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