

Machine Id **1574** Component **Diesel Engine** Fluid **DIESEL ENGINE OIL SAE 15W40 (--- QTS)**

RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample.

WEAR

All component wear rates are normal.

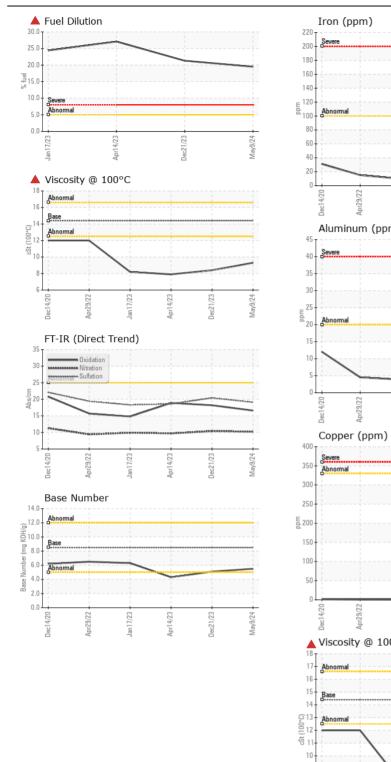
CONTAMINATION

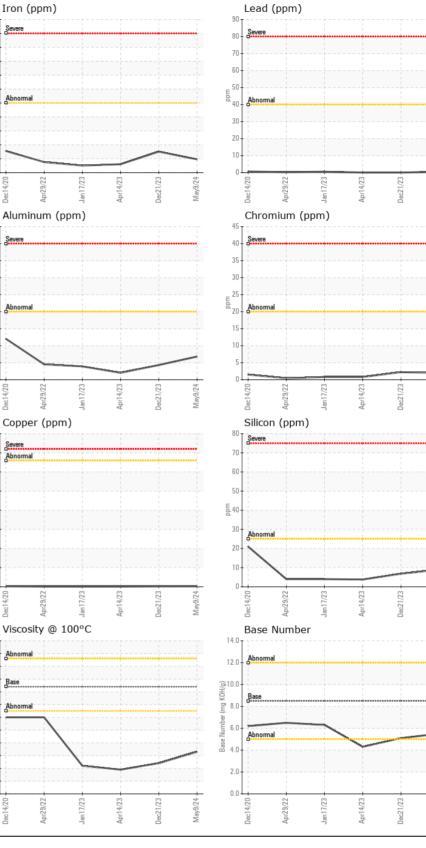
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. 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		WC0932793	WC0870680	WC0806683
Sample Date		Client Info		09 May 2024	21 Dec 2023	14 Apr 2023
Machine Age	mls	Client Info		230643	219649	204312
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				SEVERE	SEVERE	SEVERE
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Iron	ppm	ASTM D5185m	>100	19	30	12
Chromium	ppm	ASTM D5185m	>20	2	2	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	7	4	2
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	1	1	<1
Tin	ppm	ASTM D5185m	>15	1	0	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	9	7	4
Potassium	ppm	ASTM D5185m	>20	4	2	2
Fuel	%	ASTM D3524	>5	1 9.5	1 21.3	2 7.1
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.7	0.4
Nitration	Abs/cm	*ASTM D7624	>20	10.2	10.4	9.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.1	20.4	18.6
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
Sodium	ppm	ASTM D5185m	>158	4	2	0
Boron	ppm	ASTM D5185m	250	38	14	33
Barium		ASTM D5185m	10	0	0	0
Molybdenum	ppm ppm	ASTM D5185m	100	93	59	68
Manganese	ppm	ASTM D5185m	100		<1	<1
Magnesium	ppm	ASTM D5185m	450	113	142	48
Calcium		ASTM D5185m	3000	2201	142	1684
Phosphorus	ppm ppm	ASTM D5185m	1150	1092	737	769
Zinc		ASTM D5185m	1350	1286	874	914
Sulfur	ppm	ASTM D5185m	4250	3915	2409	2685
Oxidation	ppm Abs/.1mm		4250 >25	16.6		
		*ASTM D7414			18.2	18.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	5.5	5.1	4.3
Visc @ 100°C	cSt	ASTM D445	14.4	9.3	8 .4	1 7.9





WAKE COUNTY PUBLIC SCHOOL SYSTEM Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. Received 1551 ROCK QUARRY ROAD : WC0932793 : 23 May 2024 Lab Number : 06189063 RALEIGH, NC Tested : 28 May 2024 : 28 May 2024 - Wes Davis US 27610 Unique Number : 11045815 Diagnosed Test Package : MOB 1 (Additional Tests: PercentFuel, TBN) Contact: DEVIN WEBER Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. dweber@wcpss.net * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (919)856-8076 F: x: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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Contact/Location: DEVIN WEBER - WCPRAL Page 2 of 2

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