

Machine Id **JOHN DEERE DZR-34** Component **Diesel Engine** Fluid **DIESEL ENGINE OIL SAE 40 (--- GAL)**

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
	Sample Number		Client Info		CL0005473	CL0004969	CL0004594
Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.	Sample Date		Client Info		20 May 2024	31 Oct 2023	17 Aug 2023
brand, type, and viscosity of the off off your next sample.	Machine Age	hrs	Client Info		1645	1120	677
	Oil Age	hrs	Client Info		525	0	0
	Filter Age	hrs	Client Info		0	0	0
	Oil Changed		Client Info		Changed	Changed	Changed
	Filter Changed		Client Info		Changed	Changed	Changed
	Sample Status				NORMAL	NORMAL	NORMAL
WEAR	Iron	ppm	ASTM D5185m	>51	11	11	46
WEAR	Chromium	ppm	ASTM D5185m		0	0	1
All component wear rates are normal.	Nickel	ppm	ASTM D5185m		4	3	9
	Titanium	ppm	ASTM D5185m		0	0	<1
	Silver	ppm	ASTM D5185m	>3	0	0	0
	Aluminum	ppm	ASTM D5185m		3	2	3
	Lead	ppm	ASTM D5185m		0	0	1
	Copper	ppm	ASTM D5185m	>26	1	3	40
	Tin	ppm	ASTM D5185m	>4	<1	0	3
	Vanadium	ppm	ASTM D5185m		0	0	<1
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
CONTAMINATION	Silicon		ASTM D5185m	<pre>> 22</pre>	4	6	11
CONTAMINATION	Potassium	ppm ppm	ASTM D5185m		+ <1	0	2
There is no indication of any contamination in the oil.	Fuel	ppm	WC Method		<1.0	<1.0	0.7
	Water		WC Method		NEG	NEG	NEG
	Glycol		WC Method	20.21	NEG	NEG	NEG
	Soot %	%	*ASTM D7844	>3	0.2	0.2	0.5
	Nitration	Abs/cm		>20	9.5	9.0	9.6
	Sulfation	Abs/.1mm	*ASTM D7415		19.2	18.8	23.6
	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	>0.21	NEG	NEG	NEG
FLUID CONDITION	Sodium		ASTM D5185m	>216	2	3	6
FLOID CONDITION	Boron	ppm	ASTM D5185m		56	52	154
The BN result indicates that there is suitable alkalinity remaining in the	Barium	ppm	ASTM D5185m		0	0	0
oil. The condition of the oil is suitable for further service.	Molybdenum	ppm ppm	ASTM D5185m		93	94	247
	Manganese	ppm	ASTM D5185m	.00	<1	<1	5
	Magnesium	ppm	ASTM D5185m	450	23	63	895
	Calcium	ppm	ASTM D5185m		2312	2054	1523
	Phosphorus	ppm	ASTM D5185m		1091	1015	875
	Zinc	ppm	ASTM D5185m		1279	1200	1125
	Sulfur	ppm	ASTM D5185m		4224	3524	3228
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Oxidation

Visc @ 100°C cSt

Abs/.1mm *ASTM D7414 >25

ASTM D445 14.4

Base Number (BN) mg KOH/g ASTM D2896 8.5

14.3

6.8

13.6

18.5

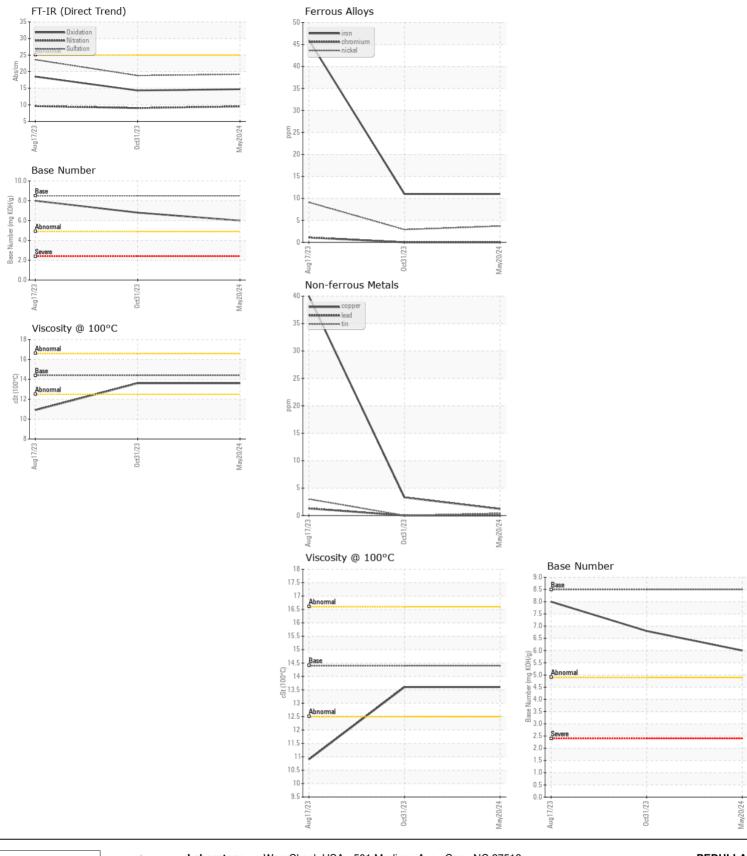
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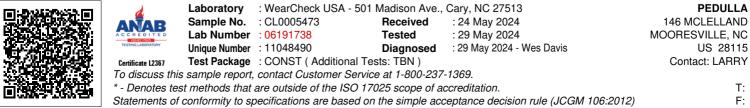
10.9

14.7

6.0

13.6





Submitted By: JEFF CHALMERS Page 2 of 2