

Machine Id **176** Component **Diesel Engine** Fluid **VALVOLINE PREMIUM BLUE 2000 15W40 (--- QTS)**

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.	Sample Number		Client Info		WC0811882	WC0863930	WC0863926
	Sample Date		Client Info		06 Apr 2024	02 Jan 2024	17 Nov 2023
	Machine Age	mls	Client Info		0	0	0
	Oil Age	mls	Client Info		15000	15000	15000
	Filter Age	mls	Client Info		0	0	0
	Oil Changed		Client Info		Changed	N/A	N/A
	Filter Changed		Client Info		Changed	N/A	N/A
	Sample Status				ABNORMAL	NORMAL	NORMAL
WEAR	Iron	ppm	ASTM D5185m	>100	1 75	39	80
O d'adam annula an anna da funna an 's 'ad'actad	Chromium	ppm	ASTM D5185m	>20	3	<1	3
Cylinder, crank, or cam shaft wear is indicated.	Nickel	ppm	ASTM D5185m	>4	0	0	0
	Titanium	ppm	ASTM D5185m		0	0	<1
	Silver	ppm	ASTM D5185m	>3	0	0	0
	Aluminum	ppm	ASTM D5185m	>20	9	6	9
	Lead	ppm	ASTM D5185m	>40	6	1	4
	Copper	ppm	ASTM D5185m	>330	<1	0	<1
	Tin	ppm	ASTM D5185m	>15	0	0	<1
	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	ppm	ASTM D5185m	>25	11	7	10
	Potassium	ppm	ASTM D5185m	>20	8	5	12
There is no indication of any contamination in the oil.	Fuel	1.1.	WC Method		<1.0	<1.0	<1.0
	Water		WC Method	>0.2	NEG	NEG	NEG
	Glycol		WC Method		NEG	NEG	NEG
	Soot %	%	*ASTM D7844	>3	1.8	0.8	1.6
	Nitration	Abs/cm		>20	14.6	10.4	12.2
	Sulfation	Abs/.1mm	*ASTM D7415	>30	25.8	21.0	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	NORM
	Odor	scalar	*Visual	NORML	NORML	NORML	NORM
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
FLUID CONDITION	Sodium	ppm	ASTM D5185m		3	<1	3
	Boron	ppm	ASTM D5185m		29	30	24
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.	Barium	ppm	ASTM D5185m		0	0	0
	Molybdenum	ppm	ASTM D5185m		54	59	63
	Manganese	ppm	ASTM D5185m		<1	<1	<1
	Magnesium	ppm	ASTM D5185m		674	727	710
	Calcium	ppm	ASTM D5185m		1317	1152	1222
	Phosphorus	ppm	ASTM D5185m		764	696	695
	Zinc	ppm	ASTM D5185m		895	846	879
	Sulfur	ppm	ASTM D5185m		2701	2162	2259
	Oxidation	Abs/.1mm	*ASTM D510311	>25	2701	18.2	20.1
	Base Number (BN)				6.2	8.4	4.2
		nig Koniy		10.0	0.2	10.4	10.4

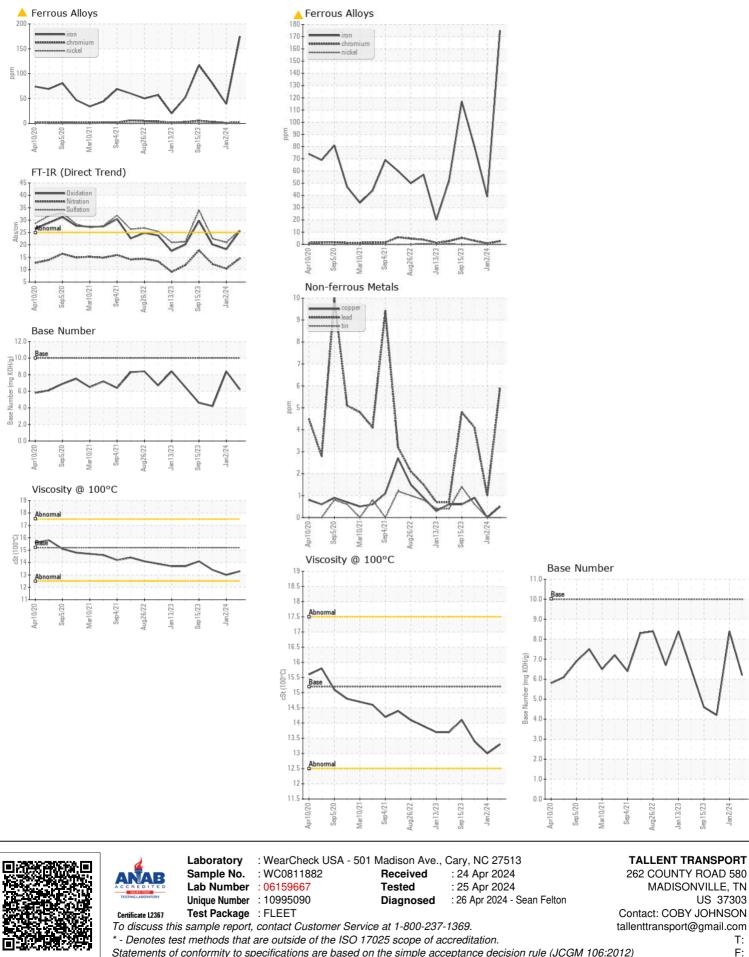
Visc @ 100°C cSt

ASTM D445 15.2

13.0

13.4

13.3



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: COBY JOHNSON - TALATH Page 2 of 2