

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

FREIGHTLINER DAIMLER T-27 (S/N 1FVACWDTXFHGN1573)

Diesel Engine

SUPER LUBE TMS 15W40 NN6690 (--- QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a components first oil change.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

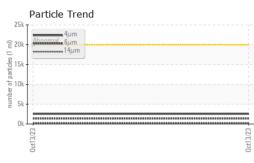
Fluid Condition

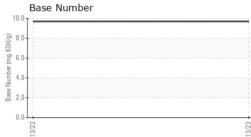
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

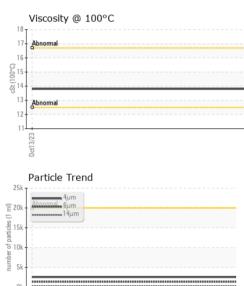
)				0ct2023		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0690577		
Sample Date		Client Info		13 Oct 2023		
Machine Age	mls	Client Info		218717		
Oil Age	mls	Client Info		218717		
Oil Changed		Client Info		Not Changd		
Sample Status				NORMAL		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	49		
Chromium	ppm	ASTM D5185m	>5	0		
Nickel	ppm	ASTM D5185m	>2	0		
Titanium	ppm	ASTM D5185m	0	4		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>30	12		
Lead	ppm	ASTM D5185m	>30	0		
Copper	ppm	ASTM D5185m	>150	4		
Tin	ppm	ASTM D5185m ASTM D5185m	>5	0		
Vanadium	ppm			0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		8		
Barium	ppm	ASTM D5185m		0		
Molybdenum	ppm	ASTM D5185m		59		
Manganese	ppm	ASTM D5185m		0		
Magnesium	ppm	ASTM D5185m		941		
Calcium	ppm	ASTM D5185m		1118		
Phosphorus	ppm	ASTM D5185m		1081		
Zinc	ppm	ASTM D5185m		1294		
Sulfur	ppm	ASTM D5185m		3360		
CONTAMINANTS	6	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	5		
Sodium	ppm	ASTM D5185m		3		
Potassium	ppm	ASTM D5185m	>20	8		
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.4		
Nitration	Abs/cm	*ASTM D7624	>20	8.6		
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.8		



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0k Oct13/23

	Particles >4µm		ASTM D7647	>20000	2540		
	Particles >6µm		ASTM D7647		1384		
	Particles >14µm		ASTM D7647		236		
	Particles >21µm		ASTM D7647		76		
	Particles >38µm		ASTM D7647		12		
	Particles >71µm		ASTM D7647		1		
0ct13/23	Oil Cleanliness		ISO 4406 (c)	>21/19/16	19/18/15		
0	FLUID DEGRADA	TION	method				history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	18.3		
	Base Number (BN)	mg KOH/g	ASTM D2896		9.70		
	VISUAL		method	limit/base	current	history1	history2
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
	Precipitate	scalar	*Visual	NONE	NONE		
0ct13/23	Silt	scalar	*Visual	NONE	NONE		
00001	Debris	scalar	*Visual	NONE	NONE		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
)°C	Appearance	scalar	*Visual	NORML	NORML		
	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPERT	IES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445		13.8		
	GRAPHS						
13/23	Ferrous Alloys				Particle Count		
	60 _T			491,52			T ²⁶
	40 - iron chromium			122,88	Severe		-24
8	nickel						
	20-			30,72	Abnormal		-22
	0 23		*****************	EZ = 7.68			20 8
	0ct13/23			0ct13/23 (per 1 ml)			-18 6
	-	c .		· · · · · · · · · · · · · · · · · · ·			999
	Non-ferrous Metal	5		f bart			10 0
	copper						ean
e e e e e e e e e e e e e e e e e e e				lange 12	- -		-14
	5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 -			E27(17, 7, 68 (m) 1, 92 (particles (per 1 m)) 12 (particles (per 1 m)) 12 (particles (particles (pa			+20 1406: 1999 Cleanfiness Code +16 -114 -114 -114 -114 -114 -114 -112 -112
	5 - 5- energy tin			o Jaquinu 3			14 esa Code 12 de 10
	5 - 5				3 -		
	5 - 5				3 -		
	5 +		******		2 - 2 - 2 - 2 - 4 /	μ 21μ	
	Viscosity @ 100°C			0ct13/23	a_{μ}	μ 21μ	10
	Viscosity @ 100°C			0ct13/23	a_{μ}	μ 21μ	10
	Viscosity @ 100°C			0ct13/23	a_{μ}	μ 21μ	10
	Viscosity @ 100°C			0ct13/23	a_{μ}	μ 21μ	10
	Viscosity @ 100°C			1.01(0) ase Number (mg KOH/0)	d_{μ}	μ 21μ	10 8 38µ 71µ
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	Viscosity @ 100°C			0ct13/23	a_{μ}	μ 21μ	10
Laboratory	Viscosity @ 100°C		;on Ave., Ca	0ct13/23 Base Number (mg K0H/g) 10	4μ 6μ 14 Base Number		10 8 38µ 71µ
Laboratory Sample No.	Viscosity @ 100°C	i01 Madis	d :14 N	cz/cc1120 (0)100	4μ 6μ 14 Base Number	ENER WORL	отранатор 10 10 10 10 10 10 10 10 10 10
Laboratory Sample No. Lab Number	Viscosity @ 100°C	i01 Madis Received Diagnose	d :14 M ed :16 M	ry, NC 27513 Nov 2023 Nov 2023	4μ 6μ 14 Base Number	ENER WORL	Δ SOLUTIONS 3908 128TH ST WASECA, MN
Laboratory Sample No. Lab Number Unique Number	Viscosity @ 100°C	i01 Madis Received Diagnose Diagnost	ad :14 M ed :16 M ician :Wes	(0)10.1 (0)10.	4μ 6μ 14 Base Number	ENER WORL 33	D SOLUTIONS 3908 128TH ST WASECA, MN US 56093
Laboratory Sample No. Lab Number Unique Number Test Package	Viscosity @ 100°C	i01 Madis Received Diagnose Diagnost Tests: Pri	d : 14 M ed : 16 M iician : Wes tCount)	(b)(10.1 (b)(0) (b)(10.1 (c)(10.1) (4μ θμ 14 Base Number	ENER WORL 33 Contact: JE	D SOLUTIONS 3908 128TH ST WASECA, MN US 56093 REMY PAVLIC
Laboratory Sample No. Lab Number Unique Number Test Package To discuss this sample report, c	WearCheck USA - 5 WearCheck USA - 5 WC0690577 I 06007127 10740889 MOB 2 (Additional contact Customer Service	i01 Madis Received Diagnose Diagnost Tests: Pri ice at 1-8	d : 14 M ed : 16 M ician : West tCount) 200-237-1369	exception (MHOX Dul) aquing exception ry, NC 27511 Nov 2023 Nov 2023 s Davis 0.	4μ θμ 14 Base Number	ENER WORL 33 Contact: JE	D SOLUTIONS 38µ 71µ 5008 128TH ST WASECA, MN US 56093 REMY PAVLIC DSOLUTIONS.COM
Laboratory Sample No. Lab Number Unique Number Test Package	WearCheck USA - 5 WearCheck USA - 5 WC0690577 10740889 : MOB 2 (Additional ontact Customer Service outside of the ISO 1	501 Madis Received Diagnose Diagnost Tests: Pri fice at 1-8 7025 sco	d : 14 N ed : 16 N ician : Wes tCount) 200-237-1369 pe of accred	(b)(h(y) 0u) 5 (b)(h(y) 0u) 5 (c)(c)(p) (c)(c)(c)(p) (c)(c)(c)(c)(c)(c)(c)(c)(c)(c)(c)(c)(c)(Base Number	ENER WORL 33 Contact: JE	D SOLUTIONS 3908 128TH ST WASECA, MN US 56093 REMY PAVLIC