

OIL ANALYSIS REPORT

Sample Rating Trend



FREIGHTLINER 1174

Diesel Engine

Fluid CHEVRON DELO 400 XLE 10W30 (40 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

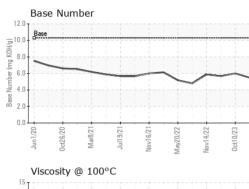
Fluid Condition

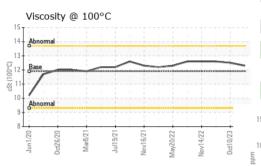
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0851826	WC0733134	WC0733097
Sample Date		Client Info		08 Jan 2024	10 Oct 2023	26 Jun 2023
Machine Age	kms	Client Info		958432	894893	831569
Oil Age	kms	Client Info		65000	65000	65000
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	27	24	47
Chromium	ppm	ASTM D5185m	>5	1	1	2
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	7	6	16
Lead	ppm	ASTM D5185m	>30	<1	0	<1
Copper	ppm	ASTM D5185m	>150	4	4	11
Tin	ppm	ASTM D5185m	>5	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Codmium	0.00					
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES	рртт	ASTM D5185m method	limit/base		0 history1	0 history2
	ppm		limit/base		-	-
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 21	history1 21	history2 24
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	current 21 <1	history1 21 0	history2 24 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 21 <1 1	history1 21 0 0	history2 24 0 3
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 21 <1 1 <1	history1 21 0 0 <1	history2 24 0 3 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		Current 21 <1 1 <1 792	history1 21 0 0 <1 736	history2 24 0 3 <1 766
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2900	Current 21 <1 1 <1 792 1367	history1 21 0 0 <1 736 1319	history2 24 0 3 <1 766 1483
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2900 1100	Current 21 <1 1 <1 792 1367 781	history1 21 0 0 <1 736 1319 697	history2 24 0 3 <1 766 1483 773
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2900 1100 1200	Current 21 <1 1 <1 792 1367 781 876 3129	history1 21 0	history2 24 0 3 <1 766 1483 773 910
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2900 1100 1200 4000 limit/base	Current 21 <1 1 <1 792 1367 781 876 3129	history1 21 0 0 <1 736 1319 697 792 2575	history2 24 0 3 <1 766 1483 773 910 3218
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2900 1100 1200 4000 limit/base	Current 21 <1 1 <1 792 1367 781 876 3129 Current	history1 21 0 0 736 1319 697 792 2575 history1	history2 24 0 3 <1 766 1483 773 910 3218 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2900 1100 1200 4000 limit/base >20	Current 21 <1 1 <1 792 1367 781 876 3129 Current 6	history1 21 0 0 <1 736 1319 697 792 2575 history1 5	history2 24 0 3 <1 766 1483 773 910 3218 history2 6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2900 1100 1200 4000 limit/base >20	Current 21 <1 1 <1 792 1367 781 876 3129 Current 6 0 6 0 6	history1 21 0	history2 24 0 3 <1 766 1483 773 910 3218 history2 6 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2900 1100 1200 4000 limit/base >20	Current 21 <1 1 <1 792 1367 781 876 3129 Current 6 0 6 0 6	history1 21 0 - 736 1319 697 792 2575 history1 5 <1 3 history1 0.8	history2 24 0 3 <1 766 1483 773 910 3218 history2 6 0 13 history2 0.8
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2900 1100 1200 4000 limit/base >20 20 limit/base	Current 21 <1 1 <1 792 1367 781 876 3129 Current 6 0 6 0 6	history1 21 0 0 <1 736 1319 697 792 2575 history1 5 <1 3 history1	history2 24 0 3 <1 766 1483 773 910 3218 history2 6 0 13 history2 0.8 11.0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2900 1100 1200 4000 limit/base >20 >20 limit/base >3	Current 21 <1 1 <1 792 1367 781 876 3129 current 6 0 6 0 6 0.8	history1 21 0 - 736 1319 697 792 2575 history1 5 <1 3 history1 0.8	history2 24 0 3 <1 766 1483 773 910 3218 history2 6 0 13 history2 0.8
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2900 1100 1200 4000 limit/base >20 20 limit/base >3 >20	Current 21 <1 1 <1 792 1367 781 876 3129 current 6 0 6 0.8 10.7 25.6	history1 21 0 - 736 1319 697 792 2575 history1 5 <1 3 history1 0.8 10.8	history2 24 0 3 <1 766 1483 773 910 3218 history2 6 0 13 history2 0.8 11.0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	2900 1100 1200 4000 limit/base >20 limit/base >3 >20 >3 >20	Current 21 <1 1 <1 792 1367 781 876 3129 current 6 0 6 0.8 10.7 25.6	history1 21 0 - 736 1319 697 792 2575 history1 5 <1 3 history1 0.8 10.8 24.8	history2 24 0 3 <1 766 1483 773 910 3218 history2 6 0 13 history2 0.8 11.0 24.7



OIL ANALYSIS REPORT





	VISUAL		method	limit/base	С	urrent		his	story1		his	tory2
	White Metal	scalar	*Visual	NONE	NO	NF		NO	NF		NON	IF
	Yellow Metal	scalar	*Visual	NONE	NO			NO			NON	
		scalar	*Visual	NONE	NO			NO			NON	
\sim	Precipitate				-							
	Silt	scalar	*Visual	NONE	NO			NO			NON	
	Debris	scalar	*Visual	NONE	NO			NO			NON	
~ ~ ~	Sand/Dirt	scalar	*Visual	NONE	NO			NO			NON	
Nov14/22 Oct10/23	Appearance	scalar	*Visual	NORML	NO	RML			RML		NOF	
No.	Odor	scalar	*Visual	NORML	NO	RML		NO	RML		NOF	RML
	Emulsified Water	scalar	*Visual	>0.2	NE	G		NE	3		NEG	
	Free Water	scalar	*Visual		NE	G		NEC	G		NEG	
	FLUID PROPERT		method	limit/base		urrent			story1			tory2
	Visc @ 100°C	cSt	ASTM D445	11.9	12.	3		12.5	5		12.6	
	GRAPHS				Lood	(<u>،</u>					
	Iron (ppm)			8		l (ppm)					
22 +	Severe			6	Severe							
Nov14/22 Oct10/23	100 Abnormal											
2 0	dd d			E.4	Abnor	nal						
	50-			2								
	0	\checkmark	~		0							
	Jun1/20 - Oct26/20 - Mar8/21 -	Nov16/21-	9/22	0ct10/23 -	Jun1/20	0ct26/20 -	Mar8/21-	Jul19/21-	Nov16/21-	0/22	Nov14/22 -	Oct10/23 -
	Jun Oct2 Ma	Nov1	May20/22 Nov14/22	0ct1	Jun	0ct2	Ma	Jul	Novi	May20/22	Nov1	0ct1
	Aluminum (ppm)				Chro	mium	(ppr	n)		_		
	60 Severe			1	²]						1	
	50			1								
	40 E 20 Abnorma				8							
	Abromat			h	6 Abnor	nal	~					
	10				2		~	>				
	0		\sim	-	0				-			
	Jun1/20 Jet26/20 Mar8/21	Nov16/21	May20/22 Nov14/22	0ct10/23	Jun1/20	0ct26/20	Mar8/21	Jul19/21	Nov16/21	May20/22	Nov14/22	0ct10/23
	Jul Mi Mi	Nov	May	Oct	ηr	Oct	Ň	Ju	Nov	May	Nov	Oct
	Copper (ppm)					on (pp	m)					
	600			4	Severe			1				
	500			3	0			-				
	300 Severe			<u></u> <u></u> <u></u> <u></u> <u></u>	Abnor	nal						
i	200 Abnormal											
	100			1			~	1	-			
		21-	2 - 2			0	21	- 1-	- 12	2	2	
	Jun1/20 Oct26/20 Mar8/21	Nov16/21	May20/22 Nov14/22	0ct10/23	Jun1/20	0ct26/20	Mar8/21	Jul19/21	Nov16/21	May20/22	Nov14/22	0ct10/23
	5		Ma	Ó		_		7	Nc	Ma	No	õ
	Viscosity @ 100°C	;				Numl	ber					
				(B) 10.	Base							
	14 - Abnormal			(B)H03 H03 Bun Jangung 4. 2.								
	000112 Base			Li L	0		-			-	-	-
	행 10 - Abnormal			5 4.								
				ଛୁ 2.				-				
	/20 /20 3/21	3/21	//22	0.		6/20	8/21	9/21	5/21	122	/22	1/23
		Nov16/21	May20/22 Nov14/22	0ct10/23	Jun1/20	0ct26/20	Mar8/21	Jul19/21	Nov16/21	May20/22	Nov14/22	0ct10/23
	Jun1/20 Oct26/20 Mar8/21 Jul19/21	ž										
poratory nple No. o Number que Number	: WearCheck USA - 5 : WC0851826 : 06065115 : 10836497	2	son Ave., Ca I : 18 ad : 22	ary, NC 2751 Jan 2024 Jan 2024 an Felton	3			Son Ri	d, ache	ESON IN AC	RUCE IDUSTR CHESC CA T	IAL PAF DN, A 7X 6B
oratory nple No. Number que Number t Package	: WearCheck USA - 5 : WC0851826 : 06065115	501 Madis Recieved Diagnose Diagnost	son Ave., Ca I : 18 d ed : 22 d ician : Sea	Jan 2024 Jan 2024 an Felton	3			Son Ri	D, ACHE Conta	AC AC act: M	IDUSTR	IAL PAF DN, A 7X 6B I Carb

To discuss this sample report * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

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

Certificate L2367

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