

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

FREIGHTLINER 1171

Component Diesel Engine Fluid

CHEVRON DELO 400 XLE 10W30 (40 LTR)

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.

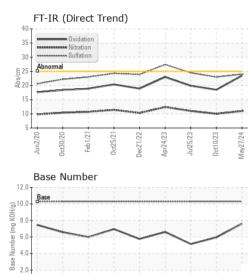
Fluid Condition

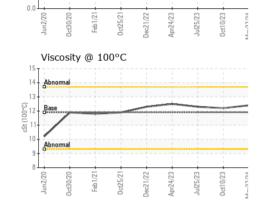
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0851782	WC0733132	WC0733104
Sample Date		Client Info		27 May 2024	10 Oct 2023	25 Jul 2023
Machine Age	mls	Client Info		528408	444577	407219
Oil Age	mls	Client Info		40000	40000	40000
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	١	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	31	11	27
Chromium	ppm	ASTM D5185m	>5	3	<1	2
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>30	15	4	11
Lead	ppm	ASTM D5185m	>30	<1	0	0
Copper	ppm	ASTM D5185m	>150	9	4	5
Tin	ppm	ASTM D5185m	>5	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 23	history1 17	history2 16
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	23	17	16
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	23 2	17 0	16 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	23 2 40	17 0 0	16 0 2
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		23 2 40 1	17 0 0 <1	16 0 2 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		23 2 40 1 600	17 0 0 <1 685	16 0 2 <1 830
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2900	23 2 40 1 600 1750	17 0 0 <1 685 1246	16 0 2 <1 830 1548
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2900 1100	23 2 40 1 600 1750 879	17 0 0 <1 685 1246 672	16 0 2 <1 830 1548 818
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2900 1100 1200	23 2 40 1 600 1750 879 1017	17 0 0 <1 685 1246 672 748	16 0 2 <1 830 1548 818 960
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	2900 1100 1200 4000 limit/base	23 2 40 1 600 1750 879 1017 2786 current 8	17 0 0 <1 685 1246 672 748 2538	16 0 2 <1 830 1548 818 960 3747 history2 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2900 1100 1200 4000 limit/base	23 2 40 1 600 1750 879 1017 2786 current 8 3	17 0 0 <1 685 1246 672 748 2538 history1	16 0 2 <1 830 1548 818 960 3747 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	2900 1100 1200 4000 limit/base >20	23 2 40 1 600 1750 879 1017 2786 current 8	17 0 0 <1 685 1246 672 748 2538 history1 4	16 0 2 <1 830 1548 818 960 3747 history2 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2900 1100 1200 4000 limit/base >20 }20	23 2 40 1 600 1750 879 1017 2786 current 8 3 14 2	17 0 0 <1 685 1246 672 748 2538 history1 4 0 1 1 history1	16 0 2 <1 830 1548 818 960 3747 history2 6 <1 11 11 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	2900 1100 1200 4000 limit/base >20 >20 limit/base >3	23 2 40 1 600 1750 879 1017 2786 current 8 3 14 2 0.8	17 0 0 <1 685 1246 672 748 2538 history1 4 0 1 1 history1 0.6	16 0 2 <1 830 1548 818 960 3747 history2 6 <1 11 11 history2 0.8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2900 1100 1200 4000 limit/base >20 >20 limit/base >3	23 2 40 1 600 1750 879 1017 2786 <i>current</i> 8 3 14 <i>current</i> 0.8 11.0	17 0 0 <1 685 1246 672 748 2538 history1 4 0 1 history1 0.6 10.0	16 0 2 <1 830 1548 818 960 3747 history2 6 <1 11 11 history2 0.8 11.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	2900 1100 1200 4000 limit/base >20 >20 limit/base >3	23 2 40 1 600 1750 879 1017 2786 current 8 3 14 2 0.8	17 0 0 <1 685 1246 672 748 2538 history1 4 0 1 1 history1 0.6	16 0 2 <1 830 1548 818 960 3747 history2 6 <1 11 11 history2 0.8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	29900 1100 1200 4000 imit/base >20 >20 imit/base >3 >20	23 2 40 1 600 1750 879 1017 2786 <i>current</i> 8 3 14 <i>current</i> 0.8 11.0	17 0 0 <1 685 1246 672 748 2538 history1 4 0 1 1 history1 0.6 10.0	16 0 2 <1 830 1548 818 960 3747 history2 6 <1 11 11 history2 0.8 11.0
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	ASTM D5185m ASTM D5185m	2900 1100 1200 4000 20 20 20 20 imit/base >3 >20 >3 >20 >30	23 2 40 1 600 1750 879 1017 2786 current 8 3 14 current 0.8 11.0 24.0	17 0 0 <1 685 1246 672 748 2538 history1 4 0 1 1 history1 0.6 10.0 23.0	16 0 2 <1 830 1548 818 960 3747 history2 6 <1 11 11 history2 0.8 11.0 24.5



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,	VISUAL	methoo	d limit/base	current	history1	history2
	White Metal	scalar *Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar *Visual	NONE	NONE	NONE	NONE
	Precipitate	scalar *Visual	NONE	NONE	NONE	NONE
/	Silt	scalar *Visual	NONE	NONE	NONE	NONE
	Debris	scalar *Visual	NONE	NONE	NONE	NONE
Contracture B	Sand/Dirt	scalar *Visual	NONE	NONE	NONE	NONE
24	Appearance	scalar Visual	NORML	NORML	NORML	NORML
Uct10/23 May27/24						
2 2	Odor	scalar *Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar *Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar *Visual		NEG	NEG	NEG
	FLUID PROPERT			current	history1	history2
	Visc @ 100°C	cSt ASTM D4	45 11.9	12.4	12.2	12.3
	GRAPHS			Load (nnm)		
	Iron (ppm)		80	Lead (ppm)		
- 70 VC	Severe	·····		Sminn		
62/01100	100 Abnormal		60			
NA.	Abnormal		E. 40	Abnormal		
	50-		20		1 1	
	0					
	/20	122	1/23		5/21-	423 - 723 -
	Jun2/20 0ct30/20 Feb1/21 0ct25/21	Dec21/22 Apr24/23 Jul25/23	0ct10/23 May27/24	Jun2/20 0ct30/20 Feb1/21	0ct25/21	Apr24/23 Jul25/23 Oct10/23
	Aluminum (ppm)		2	Chromium (p		
	⁶⁰ Severe		12		, may	
	50 -			Severe		
	40 - Abnormal					
VC/LC/~V	E 30 - Abnormal	~	E E E E E E E E E E E E E E E E E E E	0		
0.000 U	20	\bigvee			$\langle \rangle$	
-	10					
	Jun2/20 - 0ct30/20 - Feb1/21 -	1/22 4/23 5/23		Jun2/20 Dct30/20 - Feb1/21 -	0ct25/21 -	Apr24/23 - Jul25/23 - Oct10/23 -
	Jun. Oct3 Oct2	Dec21/22 Apr24/23 Jul25/23	0ct10/23 May27/24	Jun. Oct3	0ct25/21	Apr24/23 Jul25/23 Oct10/23
	Copper (ppm)		Silicon (ppm)			
	600 T		40			
	500		30	-	1 1	
	400- E					
	5300 Severe		틆 20			
	Abnormal		10			
	Jun2/20 - Dct30/20 - Feb1/21 -)ec21/22 - Apr24/23 - Jul25/23 -		Jun2/20 - 0ct30/20 - Feb1/21 -	0ct25/21 -	Apr24/23 - Jul25/23 - Oct10/23 -
	Jun Oct3 Oct2	Dec21/22 Apr24/23 Jul25/23	0ct10/23 May27/24	Jun Oct3 Feb	0ct25/21 Dec21/22	Apr24/23 Jul25/23 Oct10/23
	Viscosity @ 100°C		—	Base Numbe	r	
	¹⁶) ,		
	14 Abnormal		₹10.0	Base		
	0012 Base		(P) 10.0 HOX 8.0 ta 6.0 ta 6.0 umn 4.0 egg 2.0			~ /
	(0-001) 12- Base		10 6.0 4.0	1 1 1		
	³ 10 Abnormal		₽ 4.0 ₽ 2.0			
	8		0.0) 		
	Jun2/20 0ct30/20 Feb1/21 0ct25/21	Dec21/22 Apr24/23 Jul25/23	0ct10/23 //ay27/24	Jun2/20 0ct30/20 Feb1/21	0ct25/21 Dec21/22	Apr24/23 Jul25/23 Oct1 0/23
	Jun Det3 Oct2	Dec2 Apr2 Jul2	0ct10/23 May27/24	Jur. Oct3 Feb	Octí Dec2	Apr24/23 Jul25/23 Oct10/23
			—			
rator	· MaarChaak LICA 50-	Madican Ava	any NO 07510			- SPRUCE GROV
ratory ble No.	: WearCheck USA - 501 : WC0851782		: 31 May 2024			SON INDUSTRIAL PAR
Number	: 06196874		: 03 Jun 2024	210+0 AC		ACHESON, A
	: 11058997		: 03 Jun 2024 - Se	an Felton		CA T7X 6E
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Package	: MOB 2				COUR	act: Mathieu Carb

To discuss this sample report, contact * - 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)

Report Id: LYNSPR [WUSCAR] 06196874 (Generated: 06/03/2024 16:07:59) Rev: 1

Certificate 12367

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