

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

FREIGHTLINER 503085

Diesel Engine Fluid

PETRO CANADA DURON SHP 10W30 (--- GAL)

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

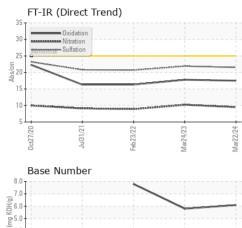
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

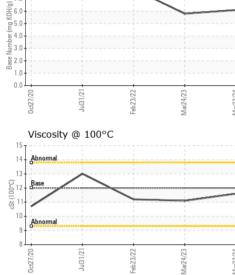
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0101960	PCA0093118	PCA0064767
Sample Date		Client Info		22 Mar 2024	24 Mar 2023	23 Feb 2022
Machine Age	mls	Client Info		102428	80712	57147
Oil Age	mls	Client Info		0	23565	31870
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method		NEG	NEG	NEG
Glycol		WC Method	20.L	NEG	NEG	NEG
-	0		line it /le e e e	-		
WEAR METAL		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>65	25	34	21
Chromium	ppm	ASTM D5185m	>5	2	3	2
Nickel	ppm	ASTM D5185m	>3	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m		10	13	10
Lead	ppm	ASTM D5185m	>10	<1	0	<1
Copper	ppm	ASTM D5185m		12	35	47
Tin	ppm	ASTM D5185m	>8	<1	2	3
Antimony	ppm	ASTM D5185m	>35			0
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 5	history1 <1	history2 7
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	2	5	<1	7
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	5 0	<1 0	7 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	5 0 68	<1 0 62	7 0 60
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	5 0 68 <1	<1 0 62 <1	7 0 60 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	5 0 68 <1 967	<1 0 62 <1 890	7 0 60 <1 951
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	5 0 68 <1 967 1301	<1 0 62 <1 890 1120	7 0 60 <1 951 1122
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	2 0 50 0 950 1050 995	5 0 68 <1 967 1301 1035	<1 0 62 <1 890 1120 855	7 0 60 <1 951 1122 991
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	5 0 68 <1 967 1301 1035 1374	<1 0 62 <1 890 1120 855 1190	7 0 60 <1 951 1122 991 1286
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	5 0 68 <1 967 1301 1035 1374 3396	<1 0 62 <1 890 1120 855 1190 2587	7 0 60 <1 951 1122 991 1286 2431
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	5 0 68 <1 967 1301 1035 1374 3396 current	<1 0 62 <1 890 1120 855 1190 2587 history1	7 0 60 <1 951 1122 991 1286 2431 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >15	5 0 68 <1 967 1301 1035 1374 3396 current 3	<1 0 62 <1 890 1120 855 1190 2587 history1 4	7 0 60 <1 951 1122 991 1286 2431 history2 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >15	5 0 68 <1 967 1301 1035 1374 3396 current 3 1	<1 0 62 <1 890 1120 855 1190 2587 history1 4 1	7 0 60 <1 951 1122 991 1286 2431 history2 3 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >15 >20	5 0 68 <1 967 1301 1035 1374 3396 current 3 1 1	<1 0 62 <1 890 1120 855 1190 2587 history1 4 1 24	7 0 60 <1 951 1122 991 1286 2431 history2 3 <1 20
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >15 -20 Imit/base	5 0 68 <1 967 1301 1035 1374 3396 current 3 1 17 current 0.7	<1 0 62 <1 890 1120 855 1190 2587 history1 4 1 24 24 history1	7 0 60 <1 951 1122 991 1286 2431 history2 3 <1 20 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >15 >20 <i>imit/base</i>	5 0 68 <1 967 1301 1035 1374 3396 current 3 1 17 current	<1 0 62 <1 890 1120 855 1190 2587 history1 4 1 24 24 history1 0.8	7 0 60 <1 951 1122 991 1286 2431 history2 3 <1 20 history2 0.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >15 >20 <i>imit/base</i>	5 0 68 <1 967 1301 1035 1374 3396 <u>current</u> 3 1 17 <u>current</u> 0.7 9.5	<1 0 62 <1 890 1120 855 1190 2587 history1 4 1 24 1 24 history1 0.8 10.2	7 0 60 <1 951 1122 991 1286 2431 history2 3 <1 20 history2 0.5 8.9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >20 imit/base >3 >20	5 0 68 <1 967 1301 1035 1374 3396 <u>current</u> 3 1 17 <u>current</u> 0.7 9.5 21.5	<1 0 62 <1 890 1120 855 1190 2587 history1 4 1 24 1 24 0.8 10.2 21.9	7 0 60 <1 951 1122 991 1286 2431 history2 3 <1 20 history2 0.5 8.9 20.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	2 0 0 50 0 950 1050 995 1180 2600 2600 215 250 20 20 20 20 20 20 20 20 20 20 20 20 20	5 0 68 <1 967 1301 1035 1374 3396 current 3 1 17 current 0.7 9.5 21.5 current	<1 0 62 <1 890 1120 855 1190 2587 history1 4 1 24 history1 0.8 10.2 21.9 history1	7 0 60 <1 951 1122 991 1286 2431 history2 3 <1 20 history2 0.5 8.9 20.7 history2

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				limit/base	e curren	t history1	history	-
	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	
1999 and 0 man to 0 million	Debris	scalar	*Visual	NONE	NONE	NONE	NONE	
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE	
4/23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
Mar24/23 Mar22/24	Odor	scalar	*Visual	NORML	NORML	NORML	NORML	_
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG	
1 1	Free Water	scalar	*Visual		NEG	NEG	NEG	
	FLUID PROPE	RTIES	method	limit/base	e curren	t history1	history	/2
	Visc @ 100°C	cSt	ASTM D445	12.00	11.6	11.1	11.2	
	GRAPHS							
	Iron (ppm)				Lead (ppr	n)		
23	Smurro				25 - Severe			
Mar24/23 л. с. с. с		1			20			
4	톱 100 - Abnormal				15 10 Abnormal			
	50-				10 - A		1	
	0				0			
1	0ct27/20	Feb23/22 -	Mar24/23 -	Mar22/24 -	0ct27/20 -	Jul31/21	4/23 -	2/24 -
	Jul3	Feb 2	Mar2	Mar2	0ct2	Jul3 Feb2	Mar24/23	Mar22/24
	Aluminum (ppm)				Chromiun	n (ppm)		
	⁸⁰				¹²			
	60 - Severe				10			
	E 40 - Abnormal						 	
Mar24/23 л.с.сл.		1			4 Abnormal			
Ma.	20				2			-
	2 2 2 2 2 0 4 0	22	23	24		22	23	24
	0ct27/20	-eb 23/22	Mar24/23	Mar22/24	0ct27/20	Jul31/21	Mar24/23	Mar22/24
	Copper (ppm)		2	Silicon (p		2	2	
	⁸⁰⁰				40 Severe	1	1	
	600				30-			
	E 400			8	20-			
		1					1	
	200 Abnormal				10			
	21+	- 22	23	24		21+	23	24
	0ct27/20 Jul31/21	Feb 23/22	Mar24/23	Mar22/24	0ct27/20	Jul31/21 Feb23/22	Mar24/23	Mar22/24
	viscosity @ 100°C		×	N	⊃ Base Num		N	N
	¹⁶ T				80-	IDEI		
	14 Abnormal			(B/HO)	6.0 - 4.0 - 2.0 -			
	Go 12 Base			(mg K				
	(0-001) 12 33		·····	mber	4.0		1	
	10 - Abnormal			se Nu	2.0-			
	8				0.0 ++	-		
	0ct27/20 Jul31/21	Feb23/22	Mar24/23	Mar22/24	0ct27/20	Jul31/21 Feb23/22	Mar24/23	Mar22/24
	Ju	Fer	Ma	Ma	00	Le Jr	Ma	Mai
Laboratory Sample No. Lab Number Unique Number	: WearCheck USA - 501 : PCA0101960 : 06145666 : 10970474 : MOB 1 (Additional Te	Recei Teste Diagr	ved : 11 d : 12 losed : 12	Apr 2024 Apr 2024	3 Wes Davis	CIN	LEASING # 4 MAINLINE NAMINSON, US 08 t: MIKE BOY	DR , NJ 077

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - 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

Contact/Location: MIKE BOYER - MILPEN

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