

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 685327 Component Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (42 QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

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.

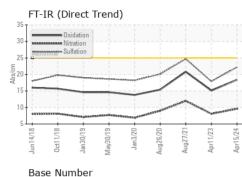
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0121018	PCA0094490	PCA0055023
Sample Date		Client Info		15 Apr 2024	11 Apr 2023	27 Aug 2021
Machine Age	mls	Client Info		250293	209450	0
Oil Age	mls	Client Info		40843	23076	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT		method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method		NEG	NEG	NEG
Glycol		WC Method	20.2	NEG	NEG	NEG
-	•			-		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	25	23	40
Chromium	ppm	ASTM D5185m	>20	1	1	4
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m		4	4	13
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	5	10	12
Tin	ppm	ASTM D5185m	>15	0	0	2
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base	current 2	history1 15	history2 3
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	2	2	15	3
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	2 0	15 0	3
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	2 0 65	15 0 73	3 0 66
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	2 0 65 <1	15 0 73 <1	3 0 66 <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	2 0 65 <1 897	15 0 73 <1 910	3 0 66 <1 991
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	2 0 65 <1 897 1164	15 0 73 <1 910 1077	3 0 66 <1 991 1160
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	2 0 65 <1 897 1164 985	15 0 73 <1 910 1077 984	3 0 66 <1 991 1160 1057
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	2 0 65 <1 897 1164 985 1185	15 0 73 <1 910 1077 984 1226	3 0 66 <1 991 1160 1057 1323
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	2 0 65 <1 897 1164 985 1185 2796	15 0 73 <1 910 1077 984 1226 3367	3 0 66 <1 991 1160 1057 1323 2226
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	2 0 65 <1 897 1164 985 1185 2796 current	15 0 73 <1 910 1077 984 1226 3367 history1	3 0 66 <1 991 1160 1057 1323 2226 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 method	2 0 50 950 1050 995 1180 2600 limit/base >25	2 0 65 <1 897 1164 985 1185 2796 current 3	15 0 73 <1 910 1077 984 1226 3367 history1 4	3 0 66 <1 991 1160 1057 1323 2226 history2 5
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 >25	2 0 65 <1 897 1164 985 1185 2796 current 3 3	15 0 73 <1 910 1077 984 1226 3367 history1 4 1	3 0 66 <1 991 1160 1057 1323 2226 history2 5 3
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 <i>limit/base</i> >25	2 0 65 <1 897 1164 985 1185 2796 <u>current</u> 3 3 5	15 0 73 <1 910 1077 984 1226 3367 history1 4 1 10	3 0 66 <1 991 1160 1057 1323 2226 history2 5 3 19
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 >25 -20 Imit/base	2 0 65 <1 897 1164 985 1185 2796 current 3 3 5 5 current	15 0 73 <1 910 1077 984 1226 3367 history1 4 1 1 0 <i>history1</i> 0.5	3 0 66 <1 991 1160 1057 1323 2226 history2 5 3 19 history2 1.4
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> >25 >20 <i>imit/base</i> >3 >20	2 0 65 <1 897 1164 985 1185 2796 current 3 3 5 current 1	15 0 73 <1 910 1077 984 1226 3367 history1 4 1 10 history1	3 0 66 <1 991 1160 1057 1323 2226 history2 5 3 19 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc 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> >25 >20 <i>imit/base</i> >3 >20	2 0 65 <1 897 1164 985 1185 2796 current 3 3 5 current 1 9.6	15 0 73 <1 910 1077 984 1226 3367 history1 4 1 10 history1 0.5 8.1	3 0 66 <1 991 1160 1057 1323 2226 history2 5 3 19 history2 1.4 1.4
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 >25 imit/base >3 >20 >30	2 0 65 <1 897 1164 985 1185 2796 current 3 3 5 current 1 9.6 22.2	15 0 73 <1 910 1077 984 1226 3367 history1 4 1 10 history1 0.5 8.1 17.9	3 0 66 <1 991 1160 1057 1323 2226 history2 5 3 19 history2 1.4 12 24.7
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	2 0 0 50 0 950 1050 995 1180 2600 2600 25 20 220 20 20 20 20 20 20 20 20 20 20 20	2 0 65 <1 897 1164 985 1185 2796 current 3 3 3 5 current 1 9.6 22.2 current	15 0 73 <1 910 1077 984 1226 3367 history1 4 1 10 history1 0.5 8.1 17.9 history1	3 0 66 <1 991 1160 1057 1323 2226 history2 5 3 19 history2 1.4 12 24.7 history2

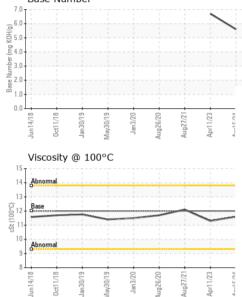
Report Id: MILLOG [WUSCAR] 06175131 (Generated: 05/13/2024 15:52:50) Rev: 1

Contact/Location: ED DAVIS - MILLOG



OIL ANALYSIS REPORT





nd)	VISUAL		method	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	
Australius and Australia and Austra	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE	
Maysu/19 Jan3/20 Aug26/20 Aug27/21 Apr1 1/23 Apr1 5/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
May30/19 Jan3/20 Aug26/20 Aug26/20 Apr11/23	Odor	scalar	*Visual	NORML	NORML	NORML	NORML	
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG	
	Free Water	scalar	*Visual		NEG	NEG	NEG	
````	FLUID PROPE		method	limit/base	current	history1	history2	
	Visc @ 100°C	cSt	ASTM D445	12.00	11.6	11.3	12.1	
	GRAPHS							
	Iron (ppm)			100	Lead (ppm)			
3 211	250 Severe	1		100	Severe			
Maysur13. Jan3/20 Aug26/20 Apr11/23 Apr11/23	200			80				
AL AI	a 150 - Abnormal			E 40				
C	50-			20	÷			
	0	-		o				
	Jun 14/18 Oct1 1/18 Jan 30/19 May 30/19	Jan3/20	Aug26/20 - Aug27/21 - Apr11/23 -	Apr15/24	Jun14/18 Oct11/18 Jan30/19	May30/19 Jan3/20 Aug26/20	Aug27/21 Apr11/23 Apr15/24	
	, , 2	Ξ,	Au	Ap			Au Ap	
	Aluminum (ppm)		-,	50	Chromium (pr	om)		
	40 - Severe			40	Severe			
	E 30			= ³⁰				
маузилэ Jan3/20 Aug26/20 Aug27/21 April1/23	Barrier Abnormal			e ³⁰	Abnormal			
Aug Aug Apr	10		$\frown$	10				
		20	20 + - 21 + - 23 + 1	24			23	
	Jun 14/18 Oct1 1/18 Jan 30/19	Jan3/20	Aug26/20 - Aug27/21 - Apr11/23 -	Apr15/24 -	Jun14/18 Oct11/18 Jan30/19	May30/19 . Jan3/20 . Aug26/20 .	Aug27/21 Apr11/23 Apr15/24	
	Copper (ppm)	•			Silicon (ppm)	2 4		
				80	Severe			
	600-			60				
	E 400 - Style ma			틆 40				
	200			20	Abnormal			
	0			0				
		Jan 3/20 -	Aug26/20 - Aug27/21 - Apr11/23 -	Apr15/24	Jun14/18 Oct11/18 -	May30/19 - Jan3/20 - Aug26/20 -	Aug27/21+ Apr11/23 + Apr15/24 +	
	Jun 14/18 Oct11/18 Jan 30/19 May30/19	Jan	Aug26/20 Aug27/21 Apr11/23	Apr1	Jun1 Oct1 Jan3	May30/19 Jan3/20 Aug26/20	Aug27/21 Apr11/23 Apr15/24	
	Viscosity @ 100°C				Base Number			
	16 T			( ^{8.0} /H				
	14 - Abnormal		*****	(D)HOX Base Number Base Same				
	(3-00) 12 - Base							
	³ ¹⁰ Abnormal			N 2.0				
	8							
	Jun 14/18 Oct1 1/18 Jan 30/19	Jan3/20	Aug26/20 Aug27/21 Apr11/23	Apr15/24	Jun14/18 Oct11/18 Jan30/19	May30/19 Jan3/20 Aug26/20	Aug27/21 Apr11/23 Apr15/24	
	Jur Jar Ma		Au Au Ap	Ap	Jur	Ma J.	Au Ap	
Laboratory Sample No. Lab Number Unique Number	· : 11021184	Received: 1Tested: 1Diagnosed: 1		v, NC 27513 0 May 2024 3 May 2024 8 May 2024 - Wes Davis		MILLER TRUCK LEASING #114 63 REPAUPO STATION ROAD LOGAN TOWNSHIP, NJ US 08085		
Certificate L2367 Test Package To discuss this sample report	: MOB 1 ( Additional Te	ests: TBN	l) 300-237-1369	9.		Contact: ED DAVIS edavis@millertransgroup.com T: (856)214-3521		

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

Report Id: MILLOG [WUSCAR] 06175131 (Generated: 05/13/2024 15:52:50) Rev: 1

Contact/Location: ED DAVIS - MILLOG

F: (856)214-3663