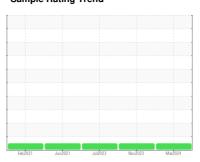


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id **390483**

Component **Diesel Engine**

PETRO CANADA DURON SHP 10W30 (--- 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.

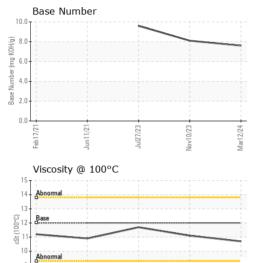
Fluid Condition

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

QTS)		Feb 2021	Jun2021	Jul2023 Nov2023	Mar2024	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0119029	PCA0112244	PCA0100789
Sample Date		Client Info		12 Mar 2024	10 Nov 2023	27 Jul 2023
Machine Age	mls	Client Info		175660	164904	150289
Oil Age	mls	Client Info		175660	0	209
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	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	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	17	36	55
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		0	1	6
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	2	3
Lead	ppm	ASTM D5185m	>40	<1	2	0
Copper	ppm	ASTM D5185m	>330	2	3	2
Tin	ppm	ASTM D5185m	>15	0	<1	0
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method				history2
Boron	ppm	ASTM D5185m	2	6	3	15
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m		6 0	3	15 1
		ASTM D5185m ASTM D5185m	0 50			
Barium Molybdenum Manganese	ppm	ASTM D5185m	0 50	0	2	1
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	0 50	0 64	2 60	1 55
Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0	0 64 0	2 60 <1	1 55 <1
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950	0 64 0 941	2 60 <1 875	1 55 <1 839
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050	0 64 0 941 1232	2 60 <1 875 1176	1 55 <1 839 1150
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180	0 64 0 941 1232 1140	2 60 <1 875 1176 991	1 55 <1 839 1150 1003
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	0 50 0 950 1050 995 1180	0 64 0 941 1232 1140 1273	2 60 <1 875 1176 991 1221	1 55 <1 839 1150 1003 1172
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 ASTM D5185m	0 50 0 950 1050 995 1180 2600	0 64 0 941 1232 1140 1273 3356	2 60 <1 875 1176 991 1221 4026	1 55 <1 839 1150 1003 1172 3386
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 ASTM D5185m	0 50 0 950 1050 995 1180 2600	0 64 0 941 1232 1140 1273 3356	2 60 <1 875 1176 991 1221 4026 history1	1 55 <1 839 1150 1003 1172 3386 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 50 0 950 1050 995 1180 2600 limit/base >25	0 64 0 941 1232 1140 1273 3356 current	2 60 <1 875 1176 991 1221 4026 history1	1 55 <1 839 1150 1003 1172 3386 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 50 0 950 1050 995 1180 2600 limit/base >25	0 64 0 941 1232 1140 1273 3356 current 7	2 60 <1 875 1176 991 1221 4026 history1 11	1 55 < 1 839 1150 1003 1172 3386 history2 12 < 1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 50 0 950 1050 995 1180 2600 limit/base >25 >20	0 64 0 941 1232 1140 1273 3356 current 7 2	2 60 <1 875 1176 991 1221 4026 history1 11 0 3	1 55 <1 839 1150 1003 1172 3386 history2 12 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 50 0 950 1050 995 1180 2600 limit/base >25 >20	0 64 0 941 1232 1140 1273 3356 current 7 2 3	2 60 <1 875 1176 991 1221 4026 history1 11 0 3	1 55
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	0 64 0 941 1232 1140 1273 3356 current 7 2 3	2 60 <1 875 1176 991 1221 4026 history1 11 0 3 history1	1 55 <1 839 1150 1003 1172 3386 history2 <1 2 history2 0.1
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 Method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3 >20	0 64 0 941 1232 1140 1273 3356 current 7 2 3 current 0.7	2 60 <1 875 1176 991 1221 4026 history1 11 0 3 history1 0.7 9.7	1 55
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 Method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3 >20 >30	0 64 0 941 1232 1140 1273 3356 current 7 2 3 current 0.7 9.5 19.1	2 60 <1 875 1176 991 1221 4026 history1 11 0 3 history1 0.7 9.7 19.7	1 55



OIL ANALYSIS REPORT



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
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
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	RTIES	method	limit/base	current	history1	history2

	DTIE		12 24 /1		1111	11.	
FLUID PROPE			limit/base	current	history1	histor	y2
Visc @ 100°C	cSt	ASTM D445	12.00	10.7	11.1	11.7	
GRAPHS				L == d (====)			
Iron (ppm)				Lead (ppm)			
200 Severe			8	0 Severe			
150 Abnormal			E 6	Abaranal			
50			2				
0	33	3		0	33	3	- 4
Feb17/21	Jul27/23	Nov10/23	Mar12/24	Feb17/21	Jul27/23	Nov10/23 ·	Mar12/24
Aluminum (ppm)	-	2	2	Chromium (p	pm)	2	_
50 Severe			5	O Severe			
40 7			4	0			
20 Abnormal			E 3	0 Abnormal			
10			1	1: :			
12/1	Jul27/23 +	0/23 +	2/24	Feb17/21	Jul27/23 -	0/23 -	2/24
Feb17/21	JulZ	Nov10/23	Mar12/24	Feb17/2 Jun11/2	Jul	Nov10/23	Mar12/24
Copper (ppm)				Silicon (ppm)			
Severe Phinomal		***************************************				 	
200			Edd 4	0			
100			2	Abnormal			
0				0			_
Feb17/21	Jul27/23	Nov10/23	Mar12/24	Feb17/21	Jul27/23	Nov10/23	Mar12/24
ت ⊰ Viscosity @ 100°0		2	Ĕ	Base Number	•	2	Σ
16 T	-			⁰ T :			
14 Abnormal			HOX Bull 6.				-
Base		***************************************	ы) b.				
10 - Abnormal			8ase Number (mg KOH/g)				
12/1		0/23				0/23	2/24





Laboratory

Sample No. : PCA0119029

Lab Number : 06120627 Unique Number : 10929460

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 18 Mar 2024 **Tested** : 19 Mar 2024

Diagnosed : 19 Mar 2024 - Wes Davis

Test Package : MOB 1 (Additional Tests: TBN)

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

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

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

MILLER TRUCK LEASING #118

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