

OIL ANALYSIS REPORT



Machine Id 426748

Component Diesel Engine Fluid

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

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

🔺 Wear

The aluminum level is abnormal. All other component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

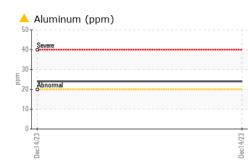
Fluid Condition

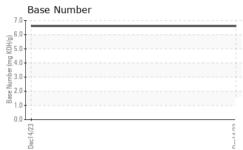
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

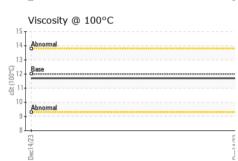
(15)						
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0105835		
Sample Date		Client Info		14 Dec 2023		
Machine Age	mls	Client Info		93630		
Oil Age	mls	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				ABNORMAL		
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METALS	S	method	limit/base	current	history1	history2
ron	ppm	ASTM D5185m	>100	59		
Chromium	ppm	ASTM D5185m	>20	1		
Nickel	ppm	ASTM D5185m	>4	0		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	<u> </u>		
Lead	ppm	ASTM D5185m	>40	0		
Copper	ppm	ASTM D5185m	>330	8		
Tin	ppm	ASTM D5185m	>15	0		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	4		
Barium	ppm	ASTM D5185m	0	0		
Molybdenum	ppm	ASTM D5185m	50	72		
Manganese	ppm	ASTM D5185m	0	<1		
Magnesium		ACTIVI DOTOCITI	0	N		
Magnosiani	ppm	ASTM D5185m	950	1083		
-						
Calcium	ppm	ASTM D5185m	950	1083		
Calcium Phosphorus	ppm ppm	ASTM D5185m ASTM D5185m	950 1050	1083 1437		
Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995	1083 1437 1162		
Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180	1083 1437 1162 1503		
Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600	1083 1437 1162 1503 3607		
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	950 1050 995 1180 2600 limit/base	1083 1437 1162 1503 3607 current	 history1	 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	950 1050 995 1180 2600 limit/base	1083 1437 1162 1503 3607 current 6	 history1	 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 limit/base >25	1083 1437 1162 1503 3607 <u>current</u> 6 4	 history1 	 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 limit/base >25 >20	1083 1437 1162 1503 3607 current 6 4 33	 history1 	 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	1083 1437 1162 1503 3607 current 6 4 33 current	 history1 history1	 history2 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	1083 1437 1162 1503 3607 current 6 4 33 current 1	 history1 history1 	 history2 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN [*] Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm TS ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7844	950 1050 995 1180 2600 limit/base >25 >20 limit/base >3 >20	1083 1437 1162 1503 3607 current 6 4 33 current 1 1 12.2	 history1 history1	 history2 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm TS ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7844	950 1050 995 1180 2600 iimit/base >25 >20 iimit/base >3 >20 >30	1083 1437 1162 1503 3607 current 6 4 33 current 1 12.2 24.1	 history1 history1 	 history2 history2 history2



OIL ANALYSIS REPORT







		VISUAL		method	limit/base	curre	ent history1	history2
		White Metal	scalar	*Visual	NONE	NONE		
		Yellow Metal	scalar	*Visual	NONE	NONE		
		Precipitate	scalar	*Visual	NONE	NONE		
*********	-	Silt	scalar	*Visual	NONE	NONE		
		Debris	scalar	*Visual	NONE	NONE		
		Sand/Dirt	scalar	*Visual	NONE	NONE		
	Dec14/23	Appearance	scalar	*Visual	NORML	NORM	L	
	Dec	Odor	scalar	*Visual	NORML	NORM	L	
		Emulsified Water	scalar	*Visual	>0.2	NEG		
		Free Water	scalar	*Visual		NEG		
		FLUID PROP	ERTIES	method	limit/base	curre	ent history1	history2
		Visc @ 100°C	cSt	ASTM D445	12.00	11.7		
		GRAPHS						
		Iron (ppm)				Lead (p	pm)	
		250 Severe				Severe		
	CCI V F	200						
	ć	Abnormal			L L	60 40 Abnormal		
		50 -				20-		
		0			23+	23		
		Dec14/23			Dec14/23	Dec14/23		
		Aluminum (ppm)				um (ppm)	
		⁵⁰ T :)			50 _T :		
		40 - Severe				40 - Severe		
		E 30 -				30		
	COLL	E 30 20 Abnormal				20 - Abnormal		
	L.	10-				10-		
		0 L						
		Dec14/23			Dec14/23	Dec14/23		
					Dei			
		Copper (ppm)				Silicon (ppm)	
		Approximat						
		300				60		
		톱 200 -			udd	40		
		100 -				20 - Abnormal		
		0						
					4/23 -	1/23		
		Dec14/23			Dec14/23	Dec14/23		
		 Viscosity @ 100°	°C			Base Nu	ımber	
		¹⁶	-					
		14 Abnormal			KOH/6	6.0		
		00 12 Base			Bm).	10		
		(5,0012 - Base 12 - 8			Base Number (mg KOH/g)	1.0		
		Abnormal			Se No	2.0		
		84				0.0 ++		
		Dec14/23			Dec14/23	Dec14/23		
		E.			Dei	Der		
	Laboratory Sample No. Lab Number Unique Number		i01 Madiso Recei Teste Diagr	ived : 21 d : 22	, NC 27513 Mar 2024 2 Mar 2024 Mar 2024 - Do		MILLER TRUCK 63 REPAUPO LOGAN	
cate L2367	Test Package	: MOB 1 (Additional contact Customer Ser	Tests: TBN	I)		Ŭ		ntact: ED DAV ertransgroup.cc

* - 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)

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