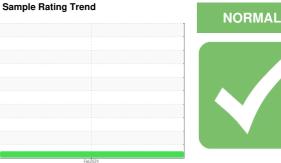


OIL ANALYSIS REPORT



338248

Component **Diesel Engine**

PETRO CANADA DURON SHP 10W30 (--- 0

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Metal levels are typical for a new component breaking in.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

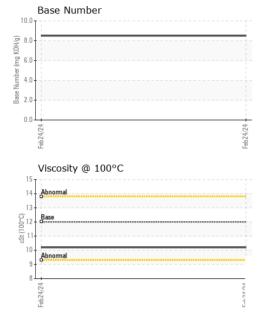
Fluid Condition

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.

SAMPLE INFORMATION method limit/base current history1 history2 sample Number Client Info 24 Feb 2024							
Cample Number Client Info PCA0118674	AL)				Feb 2024		
Client Info 24 Feb 2024	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age mls	Sample Number		Client Info		PCA0118674		
Dil Changed	Sample Date		Client Info		24 Feb 2024		
Contample Client Info N/A Contample Status Normal Contample Status Cont	Machine Age	mls	Client Info		19608		
CONTAMINATION method limit/base current history1 history2	Oil Age	mls	Client Info		0		
CONTAMINATION method limit/base current history1 history2	Oil Changed		Client Info		N/A		
Fuel	Sample Status				NORMAL		
Water WC Method So.2 NEG Silycol WC Method NEG WC Method NEG WC Method NEG WC Method WC Method NEG WC Method WC Method	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	uel		WC Method	>5	<1.0		
WEAR METALS	Vater		WC Method	>0.2	NEG		
Concord	Glycol		WC Method		NEG		
ASTM D5185m	WEAR METAL	.S	method	limit/base	current	history1	history2
Astronometric Astronometri	ron	ppm	ASTM D5185m	>100	117		
Strain S	Chromium	ppm	ASTM D5185m	>20	3		
Silver	lickel	ppm	ASTM D5185m	>4	2		
ASTM D5185m >20 39	itanium	ppm	ASTM D5185m		<1		
Accepted	Silver	ppm	ASTM D5185m	>3	0		
Description	Aluminum	ppm	ASTM D5185m	>20	39		
Description	_ead	ppm	ASTM D5185m	>40	<1		
Acade Acad	Copper	ppm	ASTM D5185m	>330	69		
Anadium			ASTM D5185m	>15	8		
ADDITIVES	/anadium	ppm	ASTM D5185m		<1		
Soron ppm ASTM D5185m 2 56	Cadmium		ASTM D5185m		<1		
Description	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 50 66 Manganese ppm ASTM D5185m 0 13 Magnesium ppm ASTM D5185m 950 852 Calcium ppm ASTM D5185m 1050 2327 Phosphorus ppm ASTM D5185m 1180 1458 Zinc ppm ASTM D5185m 2600 3943 CONTAMINANTS method limit/base current history1 history2 Golium ppm ASTM D5185m 225 17 Goldium ppm ASTM D5185m 20 71 Potassium ppm ASTM D5185m 20 71 Potassium ppm ASTM D5185m 20 71 Soot % *ASTM D7844 >3	Boron	ppm	ASTM D5185m	2	56		
Manganese ppm ASTM D5185m 0 13 Magnesium ppm ASTM D5185m 950 852 Calcium ppm ASTM D5185m 1050 2327 Phosphorus ppm ASTM D5185m 995 1166 Zinc ppm ASTM D5185m 1180 1458 Sulfur ppm ASTM D5185m 2600 3943 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 17 Godium ppm ASTM D5185m >20 71 Potassium ppm ASTM D5185m >20 71 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >3	Barium	ppm	ASTM D5185m	0	0		
Manganese ppm ASTM D5185m 0 13 Magnesium ppm ASTM D5185m 950 852 Calcium ppm ASTM D5185m 1050 2327 Phosphorus ppm ASTM D5185m 995 1166 Zinc ppm ASTM D5185m 1458 Sulfur ppm ASTM D5185m 2600 3943 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 17 Goldium ppm ASTM D5185m >20 71 Potassium ppm ASTM D5185m >20 71 INFRA-RED method limit/base current history1 history2 Solf ation Abs/cm *ASTM D7624 >20	Molybdenum	ppm	ASTM D5185m	50	66		
Magnesium ppm ASTM D5185m 950 852 Calcium ppm ASTM D5185m 1050 2327 Phosphorus ppm ASTM D5185m 995 1166 Zinc ppm ASTM D5185m 1180 1458 Sulfur ppm ASTM D5185m 2600 3943 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 17 Sodium ppm ASTM D5185m >20 71 Potassium ppm ASTM D5185m >20 71 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7644 >3 0.5 Sulfation Abs/.1mm *ASTM D7415 >30	-		ASTM D5185m	0	13		
Calcium ppm ASTM D5185m 1050 2327 Phosphorus ppm ASTM D5185m 995 1166 Pinc ppm ASTM D5185m 1180 1458 Sulfur ppm ASTM D5185m 2600 3943 CONTAMINANTS method limit/base current history1 history2 Solicon ppm ASTM D5185m >25 17 Solicon ppm ASTM D5185m >20 71 Potassium ppm ASTM D5185m >20 71 INFRA-RED method limit/base current history1 history2 Soot % "ASTM D7844 >3 0.5 Sulfation Abs/cm "ASTM D7624 >20 9.3 FLUID DEGRADATION method limit/base	/lagnesium		ASTM D5185m	950	852		
Phosphorus	-		ASTM D5185m	1050	2327		
Contamination Contaminatio Contamination Contamination Contamination Contamination	Phosphorus		ASTM D5185m	995	1166		
Sulfur ppm ASTM D5185m 2600 3943 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 17 Sodium ppm ASTM D5185m >20 71 Potassium ppm ASTM D5185m >20 71 INFRA-RED method limit/base current history1 history2 Goot % % *ASTM D7844 >3 0.5 Sulfration Abs/cm *ASTM D7624 >20 9.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 22.0			ASTM D5185m	1180	1458		
Solicon ppm ASTM D5185m >25 17	Sulfur		ASTM D5185m	2600			
Sodium	CONTAMINAN	NTS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 71 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >3 0.5 Sitration Abs/cm *ASTM D7624 >20 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 22.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 22.0	Silicon	ppm	ASTM D5185m	>25	17		
Potassium ppm ASTM D5185m >20 71 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.5 Sitration Abs/cm *ASTM D7624 >20 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 22.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 22.0							
Soot %				>20			
Nitration	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 22.8 FLUID DEGRADATION method limit/base current history1 history2 Dxidation Abs/.1mm *ASTM D7414 >25 22.0	Soot %	%	*ASTM D7844	>3	0.5		
Sulfation Abs/.1mm *ASTM D7415 >30 22.8 FLUID DEGRADATION method limit/base current history1 history2 Dxidation Abs/.1mm *ASTM D7414 >25 22.0	Nitration	Abs/cm	*ASTM D7624	>20	9.3		
Oxidation Abs/.1mm *ASTM D7414 >25 22.0	Sulfation	Abs/.1mm	*ASTM D7415	>30			
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	22.0		
	Base Number (BN)	mg KOH/g	ASTM D2896	-	8.5		



OIL ANALYSIS REPORT



VISUAL		method	limit/base	current	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		
Appearance	scalar	*Visual	NORML	NORML		
Odor	scalar	*Visual	NORML	NORML		
Emulsified Water	scalar	*Visual	>0.2	NEG		
Free Water	scalar	*Visual		NEG		
FLUID PROPEI	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	10.2		

V	isc @ 100°C	cSt	ASTM D445	12.00	10.2		
	GRAPHS						
250	Iron (ppm)				Lead (ppm)	
250 -	Severe				Severe		
					00		
E 150 -	Abnormal				Abnormal		
50 -	· i				20		
0.1	- 124			724	0 + 47		
	Feb24/24			Feb24/24	Feb24/24		Feb24/24
50 -	Aluminum (ppm)				Chromium	(ppm)	
40-	Severe				Severe		
_∈ 30 -					E 30		
ad 20-	Abnormal		***************************************		Abnormal		
10-					10		
0-	4/24			4/24	0 + 724 + 0		Feb24/24 +
	Feb24/24			Feb24/24	Feb24/24		Feb2
400	Copper (ppm)				Silicon (ppr	m)	
300 -	Severe Abnormal						
틢 200 -					60 +		
					Abnormal		
100-					20		
0.	Feb24/24 -			Feb24/24			Feb24/24 -
				Feb 2	Feb2		Feb2
16	Viscosity @ 100°C	;			Base Numb	oer	
14-	Abnormal				(B)/HO. 8.0		
(0°001)	Base	***************************************			8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 8.0 - 9.0 -		
1) \$2 .					4.0+		
10-	Abnormal				2.0		
8-	4/24 +			4/24	0.0		4/24
	Feb24/24			Feb24/24	Feb24/24		Feb24/24
	01 1 1104 50				=10		





Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Lab Number : 06107197 Unique Number : 10910694

: PCA0118674 Received **Tested**

: 04 Mar 2024 : 05 Mar 2024 Diagnosed Test Package: MOB 1 (Additional Tests: TBN)

: 06 Mar 2024 - Sean Felton

1197 NORTH MAIN ROAD VINELAND, NJ US 08360 Contact: JOHN KEEN

MILLER TRUCK LEASING #116

jkeen@millertransgroup.com

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)

Report Id: MILVIN [WUSCAR] 06107197 (Generated: 03/06/2024 09:58:44) Rev: 1

Contact/Location: JOHN KEEN - MILVIN

F: (856)696-5629