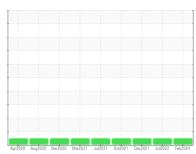


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id **611376**

Component **Diesel Engine**

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

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.

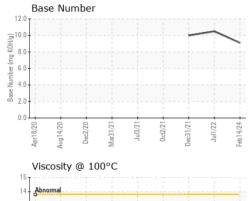
Fluid Condition

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

GAL)		Apr2020 Aug	2020 Dec2020 Mar2021	Jul2021 Oct2021 Dec2021 Jul202	2 Feb2024	
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0110666	PCA0071761	PCA0053402
Sample Date		Client Info		14 Feb 2024	01 Jul 2022	31 Dec 2021
Machine Age	mls	Client Info		306948	290743	286366
Oil Age	mls	Client Info		6990	2454	2350
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	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 METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	14	8	15
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	2
Aluminum	ppm	ASTM D5185m	>20	2	<1	3
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m	>330	1	2	5
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Antimony	ppm	ASTM D5185m				<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	3	11	14
Barium						
	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m ASTM D5185m	50	0 60	0 55	0 58
				-		
Molybdenum	ppm	ASTM D5185m	50	60	55	58
Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m	50	60	55 <1	58 <1
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950	60 0 1041	55 <1 866	58 <1 977
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050	60 0 1041 1180	55 <1 866 1037	58 <1 977 1149
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995	60 0 1041 1180 1135	55 <1 866 1037 945	58 <1 977 1149 1046
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	50 0 950 1050 995 1180	60 0 1041 1180 1135 1336	55 <1 866 1037 945 1123	58 <1 977 1149 1046 1148
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	50 0 950 1050 995 1180 2600	60 0 1041 1180 1135 1336 3532	55 <1 866 1037 945 1123 2841	58 <1 977 1149 1046 1148 2627
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180 2600	60 0 1041 1180 1135 1336 3532 current	55 <1 866 1037 945 1123 2841 history1	58 <1 977 1149 1046 1148 2627 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	50 0 950 1050 995 1180 2600	60 0 1041 1180 1135 1336 3532 current	55 <1 866 1037 945 1123 2841 history1	58 <1 977 1149 1046 1148 2627 history2 6
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	50 0 950 1050 995 1180 2600 limit/base >25	60 0 1041 1180 1135 1336 3532 current 3	55 <1 866 1037 945 1123 2841 history1 4 <1	58 <1 977 1149 1046 1148 2627 history2 6 0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	50 0 950 1050 995 1180 2600 limit/base >25 >20	60 0 1041 1180 1135 1336 3532 current 3 1	55	58 <1 977 1149 1046 1148 2627 history2 6 0 2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	50 0 950 1050 995 1180 2600 limit/base >25 >20	60 0 1041 1180 1135 1336 3532 current 3 1 0	55 <1 866 1037 945 1123 2841 history1 4 <1 0 history1	58 <1 977 1149 1046 1148 2627 history2 6 0 2 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m	50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	60 0 1041 1180 1135 1336 3532 current 3 1 0 current 0.5	55 <1 866 1037 945 1123 2841 history1 4 <1 0 history1 0.6	58 <1 977 1149 1046 1148 2627 history2 6 0 2 history2 0.5
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 D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	60 0 1041 1180 1135 1336 3532 current 3 1 0 current 0.5 8.0	55 <1 866 1037 945 1123 2841 history1 4 <1 0 history1 0.6 8.9	58 <1 977 1149 1046 1148 2627 history2 6 0 2 history2 0.5 8.9
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 D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3 >20 >30	60 0 1041 1180 1135 1336 3532 current 3 1 0 current 0.5 8.0 18.5	55 <1 866 1037 945 1123 2841 history1 4 <1 0 history1 0.6 8.9 20.3	58 <1 977 1149 1046 1148 2627 history2 6 0 2 history2 0.5 8.9 19.7



OIL ANALYSIS REPORT



VISUAL		method				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
	DTIEO		11 11 /1		111	1:
FLUID PROPE	KHES	method				history2

14 - Abnormal				
13-				
12 - Base	 			
11-	 			
Abnormal	 			 ~
9+				
0	 -	-	-	 -

Visc @ 100°C cSt ASTM D445 12.00 10.9 10.0 11.4 **GRAPHS** Lead (ppm) Iron (ppm) 250 100 200 80 150 60 튑 100 Aluminum (ppm) Chromium (ppm) Silicon (ppm) Copper (ppm) E 200 100 Viscosity @ 100°C Base Number 12.0 (mg KOH/g) :St (100°C) 6.0 Base Number 4.0 2.0





Laboratory Sample No.

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

Lab Number : 06106973 Unique Number: 10910470

: PCA0110666

Received **Tested** Diagnosed

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

: 05 Mar 2024 : 05 Mar 2024 - Wes Davis

eb14/24

0.0

66 KELLER AVENUE LANCASTER, PA US 17601

Contact: RON ROBERTS rroberts@millertransgroup.com T: (717)945-6205

MILLER TRUCK LEASING #123

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) F: (717)945-5818 Contact/Location: RON ROBERTS - MILLAN