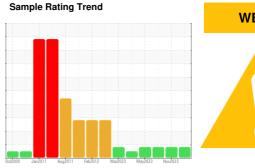


OIL ANALYSIS REPORT

Inactive Off Road **E00**

Component **Diesel Engine**

PETRO CANADA DURON SHP 15W40 (--- GAL)





DIAGNOSIS

Recommendation

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

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

Contamination

There is no indication of any contamination in the

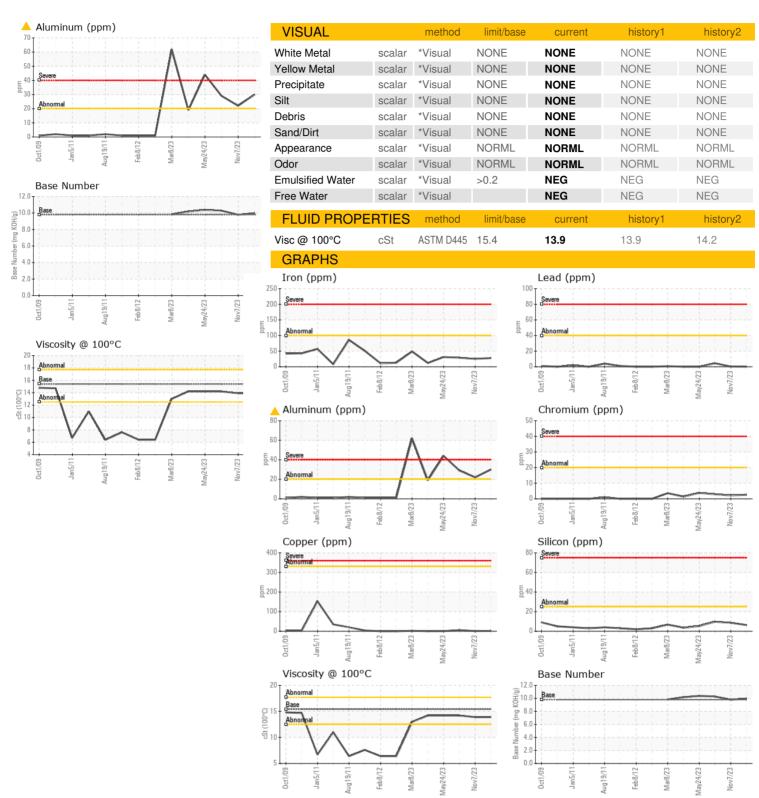
Fluid Condition

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 Number Client Info PCA0109747 PCA0109815 PCA009847 Sample Date Client Info 16 Jan 2024 07 Nov 2023 07 Aug 202 07 Aug 2	Sample Number Sample Date Sample Date Machine Age Oil Age Oil Age Oil Changed Sample Status CONTAMINATION Fuel WC Method Water Glycol WC Method Iron Chromium Ppm ASTM D5185m Chromium Ppm ASTM D5185m Aluminum Ppm ASTM D5185m Copper Ppm ASTM D5185m Cadmium Ppm ASTM D5185m Cadmium Ppm ASTM D5185m Manganese Magnesium Ppm ASTM D5185m Magnesium Ppm ASTM D5185m Mastm D5185m Magnesium Ppm ASTM D5185m Mastm D5185m Magnesium Ppm ASTM D5185m Mastm D5185m Calcium Ppm ASTM D5185m Mastm D5185m Calcium Ppm ASTM D5185m ASTM D5185m Magnesium Ppm ASTM D5185m Mastm D5185m Calcium Ppm ASTM D5185m Mastm D5185m Calcium Ppm ASTM D5185m Mastm D5185m Calcium Ppm ASTM D5	0x2009 Jm2011 Aug2011 Feb2012 Mm2023 Mm2023 Nov2023					
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Molybdenum ppm ASTM D5185m 60 61 57 61 Manganese ppm ASTM D5185m 0 <1 <1 2 Magnesium ppm ASTM D5185m 1010 1006 855 804 Calcium ppm ASTM D5185m 1070 1097 940 1010 Phosphorus ppm ASTM D5185m 1150 1047 985 884 Zinc ppm ASTM D5185m 1270 1284 1180 1139 Sulfur ppm ASTM D5185m 2060 3145 2772 3292 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 9 10 Sodium ppm ASTM D5185m >20 0 <1 3 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >3<	Molybdenum ppm ASTM D5185m Manganese ppm ASTM D5185m Magnesium ppm ASTM D5185m Calcium ppm ASTM D5185m Phosphorus ppm ASTM D5185m Zinc ppm ASTM D5185m Sulfur ppm ASTM D5185m CONTAMINANTS method Silicon ppm ASTM D5185m Sodium ppm ASTM D5185m Potassium ppm ASTM D5185m INFRA-RED method Soot % "ASTM D7844 Nitration Abs/cm "ASTM D7824	0	4	5	11		
Manganese ppm ASTM D5185m 0 <1 <1 2 Magnesium ppm ASTM D5185m 1010 1006 855 804 Calcium ppm ASTM D5185m 1070 1097 940 1010 Phosphorus ppm ASTM D5185m 1150 1047 985 884 Zinc ppm ASTM D5185m 1270 1284 1180 1139 Sulfur ppm ASTM D5185m 2060 3145 2772 3292 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 9 10 Sodium ppm ASTM D5185m >20 0 <1	Manganese ppm ASTM D5185m Magnesium ppm ASTM D5185m Calcium ppm ASTM D5185m Phosphorus ppm ASTM D5185m Zinc ppm ASTM D5185m Sulfur ppm ASTM D5185m CONTAMINANTS method Silicon ppm ASTM D5185m Sodium ppm ASTM D5185m Potassium ppm ASTM D5185m INFRA-RED method Soot % % *ASTM D7844 Nitration Abs/cm *ASTM D7624	0	0	2	0		
Magnesium ppm ASTM D5185m 1010 1006 855 804 Calcium ppm ASTM D5185m 1070 1097 940 1010 Phosphorus ppm ASTM D5185m 1150 1047 985 884 Zinc ppm ASTM D5185m 1270 1284 1180 1139 Sulfur ppm ASTM D5185m 2060 3145 2772 3292 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 9 10 Sodium ppm ASTM D5185m >20 0 <1 3 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >3 0.4 0.7 0.9	Magnesium ppm ASTM D5185m Calcium ppm ASTM D5185m Phosphorus ppm ASTM D5185m Zinc ppm ASTM D5185m Sulfur ppm ASTM D5185m CONTAMINANTS method Silicon ppm ASTM D5185m Sodium ppm ASTM D5185m Potassium ppm ASTM D5185m INFRA-RED method Soot % % *ASTM D7844 Nitration Abs/cm *ASTM D7624	60	61	57	61		
Calcium ppm ASTM D5185m 1070 1097 940 1010 Phosphorus ppm ASTM D5185m 1150 1047 985 884 Zinc ppm ASTM D5185m 1270 1284 1180 1139 Sulfur ppm ASTM D5185m 2060 3145 2772 3292 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 9 10 Sodium ppm ASTM D5185m >20 0 <1	Calcium ppm ASTM D5185m Phosphorus ppm ASTM D5185m Zinc ppm ASTM D5185m Sulfur ppm ASTM D5185m CONTAMINANTS method Silicon ppm ASTM D5185m Sodium ppm ASTM D5185m Potassium ppm ASTM D5185m INFRA-RED method Soot % % *ASTM D7844 Nitration Abs/cm *ASTM D7624	0	<1	<1	2		
Phosphorus ppm ASTM D5185m 1150 1047 985 884 Zinc ppm ASTM D5185m 1270 1284 1180 1139 Sulfur ppm ASTM D5185m 2060 3145 2772 3292 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 9 10 Sodium ppm ASTM D5185m < 1 <1 6 Potassium ppm ASTM D5185m >20 0 <1 3 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >3 0.4 0.7 0.9	Phosphorus ppm ASTM D5185m Zinc ppm ASTM D5185m Sulfur ppm ASTM D5185m CONTAMINANTS method Silicon ppm ASTM D5185m Sodium ppm ASTM D5185m Potassium ppm ASTM D5185m INFRA-RED method Soot % % *ASTM D7844 Nitration Abs/cm *ASTM D7624	1010	1006	855	804		
Zinc ppm ASTM D5185m 1270 1284 1180 1139 Sulfur ppm ASTM D5185m 2060 3145 2772 3292 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 9 10 Sodium ppm ASTM D5185m <1	Zinc ppm ASTM D5185m Sulfur ppm ASTM D5185m CONTAMINANTS method Silicon ppm ASTM D5185m Sodium ppm ASTM D5185m Potassium ppm ASTM D5185m INFRA-RED method Soot % % *ASTM D7844 Nitration Abs/cm *ASTM D7624	1070	1097	940	1010		
Sulfur ppm ASTM D5185m 2060 3145 2772 3292 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 9 10 Sodium ppm ASTM D5185m <1	Sulfur ppm ASTM D5185m CONTAMINANTS method Silicon ppm ASTM D5185m Sodium ppm ASTM D5185m Potassium ppm ASTM D5185m INFRA-RED method Soot % % *ASTM D7844 Nitration Abs/cm *ASTM D7624	1150	1047	985	884		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 9 10 Sodium ppm ASTM D5185m <1	CONTAMINANTS method Silicon ppm ASTM D5185m Sodium ppm ASTM D5185m Potassium ppm ASTM D5185m INFRA-RED method Soot % % *ASTM D7844 Nitration Abs/cm *ASTM D7624	1270	1284	1180	1139		
Silicon ppm ASTM D5185m >25 6 9 10 Sodium ppm ASTM D5185m <1 <1 6 Potassium ppm ASTM D5185m >20 0 <1 3 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >3 0.4 0.7 0.9	Silicon ppm ASTM D5185m Sodium ppm ASTM D5185m Potassium ppm ASTM D5185m INFRA-RED method Soot % % *ASTM D7844 Nitration Abs/cm *ASTM D7624	2060	3145	2772	3292		
Sodium ppm ASTM D5185m <1 <1 6 Potassium ppm ASTM D5185m >20 0 <1 3 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >3 0.4 0.7 0.9	Sodium ppm ASTM D5185m Potassium ppm ASTM D5185m INFRA-RED method Soot % % *ASTM D7844 Nitration Abs/cm *ASTM D7624	limit/base	current	history1	history2		
Potassium ppm ASTM D5185m >20 0 <1 3 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >3 0.4 0.7 0.9	Potassium ppm ASTM D5185m INFRA-RED method Soot % % *ASTM D7844 Nitration Abs/cm *ASTM D7624	>25	6	9	10		
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.7 0.9	INFRA-RED method Soot % % *ASTM D7844 Nitration Abs/cm *ASTM D7624		<1	<1	6		
Soot % % *ASTM D7844 >3 0.4 0.7 0.9	Soot % % *ASTM D7844 Nitration Abs/cm *ASTM D7624	>20	0	<1	3		
	Nitration Abs/cm *ASTM D7624	limit/base	current	history1	history2		
Nitration Abs/cm *ASTM D7624 >20 9.3 7.4 8.1		>3	0.4	0.7	0.9		
7.10	Sulfation Abs/.1mm *ASTM D7415	>20	9.3	7.4	8.1		
Sulfation Abs/.1mm *ASTM D7415 >30 19.7 19.3 20.0	7.50	>30	19.7	19.3	20.0		
FLUID DEGRADATION method limit/base current history1 history2	FLUID DEGRADATION method	limit/base	current	history1	history2		
Oxidation Abs/.1mm *ASTM D7414 >25 14.8 14.6 15.4	Oxidation Abs/.1mm *ASTM D7414		14.8	14.6	15.4		
Base Number (BN) mg KOH/g ASTM D2896 9.8 9.97 9.79 10.28	Base Number (BN) mg KOH/g ASTM D2896	>25		9.79	10.28		



OIL ANALYSIS REPORT







Laboratory Sample No.

Lab Number

Unique Number : 10842527 Test Package

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0109747 Recieved : 19 Jan 2024 : 06065850 Diagnosed : 22 Jan 2024 Diagnostician : Don Baldridge

: MOB 2

Certificate L2367 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)

G LOPES CONSTRUCTION

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Contact: BUTCH MCGRATH

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