

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

20-88 (S/N 1.2E07)

Component

Diesel Engine

PETRO CANADA DURON XL SYN BLEND 15W40 (--- GA

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.

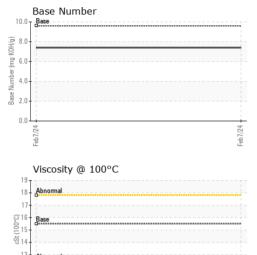
Fluid Condition

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

Sample Number Sample Date Machine Age hrs Client Info Oil Age hrs Client Info Oil Changed Sample Status CONTAMINATION Fuel WC Method Water WC Method Glycol WEAR METALS Iron Chromium ppm ASTM D5185m Chromium ppm ASTM D5185m Silver ppm ASTM D5185m Aluminum ppm ASTM D5185m Copper ppm ASTM D5185m Copper ppm ASTM D5185m Copper ppm ASTM D5185m Cadmium ppm ASTM D5185m ADDITIVES Boron ppm ASTM D5185m Cadmium ppm ASTM D5185m Calcium ppm ASTM D5185m Calcium ppm ASTM D5185m Calcium ppm ASTM D5185m Calcium ppm ASTM D5185m Contamination Calcium ppm ASTM D5185m Contamination Calcium ppm ASTM D5185m Contamination ASTM D5185m Contamination Contamination Astm D5185m Contamination Contamination Astm D5185m Contamination Contamination Astm D5185m Contamination Cont				
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Sample Date Machine Age Machine Age Dil Age Dil Age Dil Changed Client Info Chart WC Method Controlles ASTM D5185m ASTM D5185m Clart ppm ASTM D5185m	limit/base	current	history1	history2
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CONTAMINATION method Fuel WC Method Selection with Method Water WC Method Selection with Method WEAR METALS From ppm ASTM D5185m Selection ppm ASTM D5185m 1000 ppm ASTM D5185m 1000 ppm ASTM D5185m 11000 ppm ASTM D5185m 110000 ppm ASTM D5185m 11000 ppm ASTM D5185m 110000 ppm ASTM D5185m 110000 ppm ASTM D5185m 110000 ppm ASTM D5185m 1	374			
CONTAMINATION Fuel WC Method Selector WC Method Selector WC Method Selector WC Method		anged PRMAL		
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Water Glycol WC Method School WC Method WEAR METALS method with method with method school with method school with method with	limit/base	current	history1	history2
WEAR METALS ron ppm ASTM D5185m > 2 Chromium ppm ASTM D5185m 2 Chromium ppm ASTM D5185m 2 Chromium ppm ASTM D5185m 1 Chromium		11.0		
WEAR METALS ron ppm ASTM D5185m > 2 Chromium ppm ASTM D5185m > 2 Silver ppm ASTM D5185m > 3 Silver ppm ASTM D5185m 3 Silver pp		0.		
Chromium ppm ASTM D5185m > 2 Chromium ppm ASTM D5185m 2 Chromium ppm ASTM D5185m 3 Chromium ppm AST	N	NEG -		
Chromium ppm ASTM D5185m >2 Silver ppm ASTM D5185m >2 Silver ppm ASTM D5185m >3 Silver ppm ASTM D5185m >4 Silver ppm ASTM D5185m 10 Silver ppm ASTM D5185m 11 Silver ppm ASTM D5185m 12 Silver ppm ASTM D5185m 12 Silver ppm ASTM D5185m 20 Silver ppm ASTM D5185m >2 Silver ppm ASTM D51	limit/base	current	history1	history2
ASTM D5185m > 4 ASTM D5185m > 5 ASTM D5185m > 5 ASTM D5185m > 5 ASTM D5185m > 5 ASTM D5185m > 6 ASTM D5185m 1 Calcium ppm ASTM D5185m 2 CONTAMINANTS method 1 CONTAMINANTS method 1 CONTAMINANTS ppm ASTM D5185m 2 CONTAMINANTS ppm 2 CONTAMINANTS ppm 2 CONTAMINANTS		_0		
Description	20 0			
Silver		-		
ASTM D5185m Sead ASTM D5185m	0			
Lead ppm ASTM D5185m >4 Copper ppm ASTM D5185m >6 Zanadium ppm ASTM D5185m >7 Zanadium ppm ASTM D5185m >7 Zadmium ppm ASTM D5185m 1 Zarium ppm ASTM D5185m 1 Zarium ppm ASTM D5185m 1 Manganese ppm ASTM D5185m 1 Zalcium ppm ASTM D5185m 1 Phosphorus ppm ASTM D5185m 2 CONTAMINANTS method 2 Silicon ppm ASTM D5185m 2 Cootassium ppm ASTM D5185m 2 Totassium ppm ASTM D5185m 2 Soot % *ASTM D5185m 2 ASTM D5185m<	-	-		
Copper ppm ASTM D5185m >6 Zanadium ppm ASTM D5185m >7 Zadmium ppm ASTM D5185m >7 Zadmium ppm ASTM D5185m 1 Zarium ppm ASTM D5185m 2	20 3	-		
fin ppm ASTM D5185m > Vanadium ppm ASTM D5185m > Vanadium ppm ASTM D5185m P ADDITIVES method ASTM D5185m 1 Boron ppm ASTM D5185m 1 Barium ppm ASTM D5185m 1 Molybdenum ppm ASTM D5185m 1 Manganese ppm ASTM D5185m 1 Magnesium ppm ASTM D5185m 1 Calcium ppm ASTM D5185m 1 Chosphorus ppm ASTM D5185m 1 Contaminant ppm ASTM D5185m 2 CONTAMINANTS method 2 Coldium ppm ASTM D5185m 2	40 0	0 -		
Panadium ppm ASTM D5185m Paddium ppm ASTM D5185m ADDITIVES method Foron ppm ASTM D5185m 1 Barium ppm ASTM D5185m 1 Molybdenum ppm ASTM D5185m 60 Manganese ppm ASTM D5185m 10 Magnesium ppm ASTM D5185m 10 Phosphorus ppm ASTM D5185m 11 Phosphorus ppm ASTM D5185m 12 Bulfur ppm ASTM D5185m 20 CONTAMINANTS method 20 CONTAMINANTS method 20 Podium ppm ASTM D5185m 24	330 3	-		
ADDITIVES method Boron ppm ASTM D5185m 1 Barium ppm ASTM D5185m 1 Molybdenum ppm ASTM D5185m 60 Manganese ppm ASTM D5185m 10 Magnesium ppm ASTM D5185m 10 Bolicium ppm ASTM D5185m 11 Brosphorus ppm ASTM D5185m 12 Bulfur ppm ASTM D5185m 20 CONTAMINANTS method 20 Bodium ppm ASTM D5185m 22 Bodium ppm ASTM D5185m 22 Brotassium	15 0			
ADDITIVES	0	-		
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Description	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 Manganese ppm ASTM D5185m 1 Magnesium ppm ASTM D5185m 1 Calcium ppm ASTM D5185m 10 Phosphorus ppm ASTM D5185m 12 Sulfur ppm ASTM D5185m 12 CONTAMINANTS method Silicon ppm ASTM D5185m >2 Godium ppm ASTM D5185m >2 Potassium ppm ASTM D5185m >2 INFRA-RED method Soot % *ASTM D7844 >3 Vitration Abs/cm *ASTM D7824 >2	3	33 -		
Manganese ppm ASTM D5185m 1 Magnesium ppm ASTM D5185m 10 Calcium ppm ASTM D5185m 10 Phosphorus ppm ASTM D5185m 11 Cinc ppm ASTM D5185m 12 Culfur ppm ASTM D5185m 20 CONTAMINANTS method 20 Solicon ppm ASTM D5185m >2 Codium ppm ASTM D5185m >2 Potassium ppm ASTM D5185m >2 INFRA-RED method 2 Soot % *ASTM D7844 >2 Virtation Abs/cm *ASTM D7624 >2	0	0 -		
Agnesium ppm ASTM D5185m 1 Color Calcium ppm ASTM D5185m 1 Color Chosphorus ppm ASTM D5185m 1 Color Cinc ppm ASTM D5185m 1 Color Sulfur ppm ASTM D5185m 2 Color CONTAMINANTS method Scilicon ppm ASTM D5185m > 2 Color Sodium ppm ASTM D5185m > 2 Color > 2 Color > 2 Color INFRA-RED method Scilicon *ASTM D7844 > 3 Color Soot % *ASTM D7824 > 3 Color * ASTM D7824 > 3 Color	0 5	54 -		
Calcium ppm ASTM D5185m 1 Control Phosphorus ppm ASTM D5185m 1 Control Phosphorus ppm ASTM D5185m 1 Control Pinc ppm ASTM D5185m 2 Control CONTAMINANTS method 2 Control 2 Control Silicon ppm ASTM D5185m 2 Control Podassium ppm ASTM D5185m 2 Control Potassium ppm ASTM D5185m 2 Control INFRA-RED method 2 Control 2 Control Soot % *ASTM D7844 2 Control Abs/cm *ASTM D7624 2 Control	0	0 -		
Phosphorus ppm ASTM D5185m 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	010 7	706 -		
Zinc ppm ASTM D5185m 12 Gulfur ppm ASTM D5185m 20 CONTAMINANTS method 20 Silicon ppm ASTM D5185m >2 Godium ppm ASTM D5185m >2 Potassium ppm ASTM D5185m >2 INFRA-RED method *ASTM D7844 >2 Goot % *ASTM D7844 >2 Mitration Abs/cm *ASTM D7624 >2	070 1	1502 -		
Sulfur ppm ASTM D5185m 20 CONTAMINANTS method Silicon ppm ASTM D5185m >2 Sodium ppm ASTM D5185m >2 Potassium ppm ASTM D5185m >2 INFRA-RED method Soot % *ASTM D7844 >2 Soot % Abs/cm *ASTM D7624 >2	150 9	977 -		
CONTAMINANTS method Silicon ppm ASTM D5185m >2 Sodium ppm ASTM D5185m >2 Totassium ppm ASTM D5185m >2 INFRA-RED method Soot % *ASTM D7844 >2 Siliration Abs/cm *ASTM D7624 >2	270 1	1193 -		
Sodium ppm ASTM D5185m >2 Sodium ppm ASTM D5185m >2 Sodium ppm ASTM D5185m >2 INFRA-RED method	060 3	3615 -		
Godium ppm ASTM D5185m >2 Potassium ppm ASTM D5185m >2 INFRA-RED method *ASTM D7844 >3 Goot % *ASTM D7844 >4 Jitration Abs/cm *ASTM D7624 >2	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >2 INFRA-RED method ASTM D7844 >2 Soot % % *ASTM D7844 >2 Jitration Abs/cm *ASTM D7624 >2	25 6	6 -		
INFRA-RED method 5 Soot % % *ASTM D7844 >2 Vitration Abs/cm *ASTM D7624 >2	<	<1 -		
Soot % % *ASTM D7844 > Jitration Abs/cm *ASTM D7624 >	20 0	0 -		
Abs/cm *ASTM D7624 >2	limit/base	current	history1	history2
	3 0	0.7 -		
	20 8	8.3		
Sulfation Abs/.1mm *ASTM D7415 >3		18.9	-	
FLUID DEGRADATION method	limit/base	current	history1	history2
Oxidation Abs/.1mm *ASTM D7414 >2	25 1	13.5 -		
Base Number (BN) mg KOH/g ASTM D2896 9.				



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 PROPE	RTIES	method	limit/base	current	history1	history2

Visc @ 100°C	cSt	ASTM D445	15.5	12.8	
GRAPHS					
Iron (ppm) 250 Servere				Lead (ppm)	
150 - Abnormal				E 60 Abnormal	
50				20	
Feb7/24			Feb7/24	Feb7/24	
Aluminum (ppm)				Chromium (ppm)	
40 Severe				40 Severe	
20 Abnormal			-	E 30 Abnormal	
10-				10	
- Feb7/24			Feb7/24	Feb7/24 1	_
Copper (ppm)				Silicon (ppm)	
Severe Pabriornal				60-	
E 200				E 40 Abnormal	
100				20	
o Feb7/24 —			Feb7/24	Feb7/24 + Feb7/24 +	-
Viscosity @ 100°0	С			Base Number	
18 - Abnormal			0000	(0.0 T Base (0.0 H B.0 T Base	
(5) 16 - Base				E 6.0	
Abnomal				8.0 Vm mper (using VOH (d)) 4.0 Vm mper (using VOH (d)) 4.	
10 +2			24	0.0 ++	-
Feb7/24			Feb7/24	Feb7/24	



Laboratory

Sample No. : PCA0056819

Lab Number : 06120501 Unique Number : 10929334

: 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) 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.

JOHNSON DAVIS CONTRACTORS

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

F: