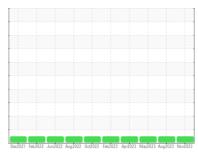


OIL ANALYSIS REPORT

Sample Rating Trend







L120-4-H

Component **Diesel Engine**

PETRO CANADA DURON HP 15W40 (--- 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

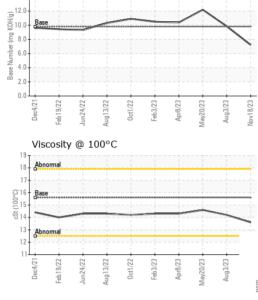
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION method fimit/base current history1 history2	Ox.2021 Feb.2022 Jun2022 Aug/2022 Ox.2022 Feb.2023 Apr/2023 May/2023 May/202 May/202 May/202 May/2022 May/202 May/202 May/202 May/202 May/202 May/202 May/202 May/202							
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2	
Machine Age hrs Client Info 6806 6000 5432 Oil Age hrs Client Info 306 323 260 Oil Changed Client Info Changed Changed Changed Sample Status Image: Client Info NORMAL NORMAL NORMAL CONTAMINATION Image: Client Info Changed Changed Changed Water WC Method 5 <1.0 <1.0 <1.0 Water WC Method NEG NEG NEG NEG Glycol WC Method Image: Current history1 history2 WEAR METALS method limit/base current history1 history2 <td co<="" th=""><th>Sample Number</th><th></th><th>Client Info</th><th></th><th>PCA0109610</th><th>PCA0090556</th><th>PCA0090826</th></td>	<th>Sample Number</th> <th></th> <th>Client Info</th> <th></th> <th>PCA0109610</th> <th>PCA0090556</th> <th>PCA0090826</th>	Sample Number		Client Info		PCA0109610	PCA0090556	PCA0090826
Oil Age hrs Client Info 306 323 260 Oil Changed Changea	Sample Date		Client Info		18 Nov 2023	03 Aug 2023	20 May 2023	
Oil Changed Sample Status Client Info Changed NORMAL Changed NORMAL Changed NORMAL Changed NORMAL Changed NORMAL NORMAL	Machine Age	hrs	Client Info		6806	6000	5432	
NORMAL NORMAL NORMAL	Oil Age	hrs	Client Info		306	323	260	
CONTAMINATION 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 NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 2 5 8 Chromium ppm ASTM D5185m >20 <1 <1 <1 Nickel ppm ASTM D5185m >3 0 <1 <1 Silver ppm ASTM D5185m >3 0 <1 0 Lead ppm ASTM D5185m >30 0 <1 <1 Vanadium ppm ASTM D5185m >330 0 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 <t< th=""><th>Oil Changed</th><th></th><th>Client Info</th><th></th><th>Changed</th><th>Changed</th><th>Changed</th></t<>	Oil Changed		Client Info		Changed	Changed	Changed	
Fuel	Sample Status				NORMAL	NORMAL	NORMAL	
Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 2 5 8 Chromium ppm ASTM D5185m >20 <1	CONTAMINAT	ION	method	limit/base	current	history1	history2	
WEAR METALS	Fuel		WC Method	>5	<1.0	<1.0	<1.0	
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 2 5 8 Chromium ppm ASTM D5185m >20 <1 <1 <1 Nickel ppm ASTM D5185m >20 <1 <1 0 Titanium ppm ASTM D5185m >3 0 <1 0 Aluminum ppm ASTM D5185m >20 1 3 2 Lead ppm ASTM D5185m >20 1 3 2 Lead ppm ASTM D5185m >20 1 3 2 Lead ppm ASTM D5185m >20 0 <1 <1 Copper ppm ASTM D5185m >15 0 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 14 6 4 <th>Water</th> <th></th> <th>WC Method</th> <th>>0.2</th> <th>NEG</th> <th>NEG</th> <th>NEG</th>	Water		WC Method	>0.2	NEG	NEG	NEG	
Iron	Glycol		WC Method		NEG	NEG	NEG	
Chromium ppm ASTM D5185m >20 <1	WEAR METAL	S	method	limit/base	current	history1	history2	
Nickel	Iron	ppm	ASTM D5185m	>100	2	5	8	
Titanium	Chromium	ppm	ASTM D5185m	>20	<1	<1	<1	
Silver	Nickel	ppm	ASTM D5185m	>4	0	<1	0	
Aluminum	Titanium	ppm	ASTM D5185m		0	<1	<1	
Lead ppm ASTM D5185m >40 0 <1	Silver	ppm	ASTM D5185m	>3	0		0	
Copper ppm ASTM D5185m >330 0 <1	Aluminum	ppm	ASTM D5185m	>20	1	3	2	
Tin ppm ASTM D5185m >15 0 <1	Lead	ppm				<1	0	
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 14 6 4 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 24 68 65 Manganese ppm ASTM D5185m 0 0 <1	Copper	ppm			0	<1	<1	
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 14 6 4 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 24 68 65 Manganese ppm ASTM D5185m 0 0 <1		ppm		>15	0		<1	
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 14 6 4 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 24 68 65 Manganese ppm ASTM D5185m 0 0 <1 Magnesium ppm ASTM D5185m 349 990 1031 Calcium ppm ASTM D5185m 1873 1190 1191 Phosphorus ppm ASTM D5185m 947 1104 1096 Zinc ppm ASTM D5185m 947 1104 1096 Zinc ppm ASTM D5185m 3446 3382 3756 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m 0	Vanadium	ppm	ASTM D5185m		-	0		
Boron	Cadmium	ppm	ASTM D5185m		0	0	0	
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 24 68 65 Manganese ppm ASTM D5185m 0 0 <1 Magnesium ppm ASTM D5185m 349 990 1031 Calcium ppm ASTM D5185m 1873 1190 1191 Phosphorus ppm ASTM D5185m 947 1104 1096 Zinc ppm ASTM D5185m 947 1104 1096 Zinc ppm ASTM D5185m 3446 3382 3756 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m >20 <1 1 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 <th>ADDITIVES</th> <th></th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	ADDITIVES		method	limit/base	current	history1	history2	
Molybdenum ppm ASTM D5185m 24 68 65 Manganese ppm ASTM D5185m 0 0 <1	Boron	ppm	ASTM D5185m					
Manganese ppm ASTM D5185m 0 0 <1		ppm			-			
Magnesium ppm ASTM D5185m 349 990 1031 Calcium ppm ASTM D5185m 1873 1190 1191 Phosphorus ppm ASTM D5185m 947 1104 1096 Zinc ppm ASTM D5185m 1148 1339 1304 Sulfur ppm ASTM D5185m 3446 3382 3756 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m 0 1 4 Potassium ppm ASTM D5185m >20 <1								
Calcium ppm ASTM D5185m 1873 1190 1191 Phosphorus ppm ASTM D5185m 947 1104 1096 Zinc ppm ASTM D5185m 1148 1339 1304 Sulfur ppm ASTM D5185m 3446 3382 3756 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m >0 1 4 4 Potassium ppm ASTM D5185m >20 <1 1 0 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.2 0.2 Nitration Abs/.1mm *ASTM D7415 >30 16.5 18.7 18.8 FLUID DEGRADATION method limit/base current <t< th=""><th>-</th><th></th><th></th><th></th><th>-</th><th></th><th></th></t<>	-				-			
Phosphorus ppm ASTM D5185m 947 1104 1096 Zinc ppm ASTM D5185m 1148 1339 1304 Sulfur ppm ASTM D5185m 3446 3382 3756 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m >20 <1 1 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 5.4 7.3 7.1 Sulfation Abs/.1mm *ASTM D7415 >30 16.5 18.7 18.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.0<	-							
Zinc ppm ASTM D5185m 1148 1339 1304 Sulfur ppm ASTM D5185m 3446 3382 3756 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m >20 <1								
Sulfur ppm ASTM D5185m 3446 3382 3756 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m >20 1 4 4 Potassium ppm ASTM D5185m >20 <1 1 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 5.4 7.3 7.1 Sulfation Abs/.1mm *ASTM D7415 >30 16.5 18.7 18.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.0 14.9 14.5								
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m 0 1 4 Potassium ppm ASTM D5185m >20 <1 1 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 5.4 7.3 7.1 Sulfation Abs/.1mm *ASTM D7415 >30 16.5 18.7 18.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.0 14.9 14.5	-							
Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m 0 1 4 Potassium ppm ASTM D5185m >20 <1					3446			
Sodium ppm ASTM D5185m 0 1 4 Potassium ppm ASTM D5185m >20 <1		TS						
Potassium ppm ASTM D5185m >20 <1				>25				
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 5.4 7.3 7.1 Sulfation Abs/.1mm *ASTM D7415 >30 16.5 18.7 18.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.0 14.9 14.5								
Soot % % *ASTM D7844 >3 0.1 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 5.4 7.3 7.1 Sulfation Abs/.1mm *ASTM D7415 >30 16.5 18.7 18.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.0 14.9 14.5	Potassium	ppm	ASTM D5185m	>20	<1	1	0	
Nitration Abs/cm *ASTM D7624 >20 5.4 7.3 7.1 Sulfation Abs/.1mm *ASTM D7415 >30 16.5 18.7 18.8 FLUID DEGRADATION method limit/base current bistory1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.0 14.9 14.5	INFRA-RED		method	limit/base	current	history1	history2	
Sulfation Abs/.1mm *ASTM D7415 >30 16.5 18.7 18.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.0 14.9 14.5								
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.0 14.9 14.5								
Oxidation Abs/.1mm *ASTM D7414 >25 12.0 14.9 14.5	Sulfation	Abs/.1mm	*ASTM D7415	>30	16.5	18.7	18.8	
	FLUID DEGRAD	OATION	method	limit/base	current	history1	history2	
Base Number (BN) mg KOH/g ASTM D2896 9.8 7.22 9.84 12.19	Oxidation	Abs/.1mm	*ASTM D7414	>25	12.0	14.9	14.5	
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.22	9.84	12.19	



Base Number

OIL ANALYSIS REPORT



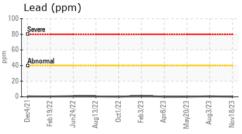
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

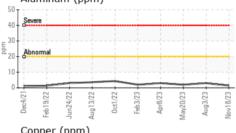
TEGID I HOLEHIN					
Visc @ 100°C cS	st ASTM D445	15.6	13.6	14.2	14.6

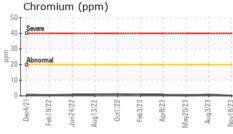
Iron (ppm)							
Severe	į	i	į	i	i	i	į	
50	1							
Abnoma	1							
0	-							
4/21	1/22	3/22	/22	Feb3/23 -	3/23	1/23	1/23	3/23
Dec4/2 Feb19/23	Jun24	Aug13/2	0ct1/2	물	Apr8/23	May20/2	Aug3/23	Nov18/23
Alumi	num ()			_		_
Severe								

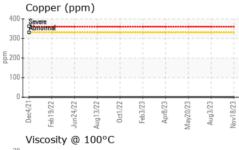
FLUID PROPERTIES

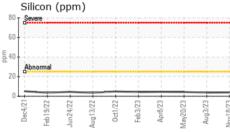
GRAPHS

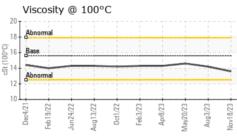


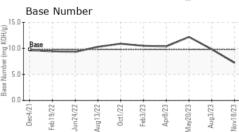














Certificate L2367

Laboratory Sample No. **Lab Number** Test Package : MOB 2

Unique Number

: 06031808

: PCA0109610 : 10781599

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 11 Dec 2023 : 14 Dec 2023 Diagnosed

Diagnostician : Wes Davis

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)

J F PRICE 611 PLEASANT ST E WEYMOUTH, MA US 02189

Contact: JOHN LANG gnalj1970@comcast.net

Submitted By: JOHN LANG

T: (617)435-7199 F: (781)337-4150