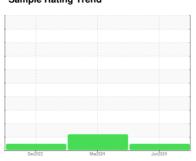


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
619
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.

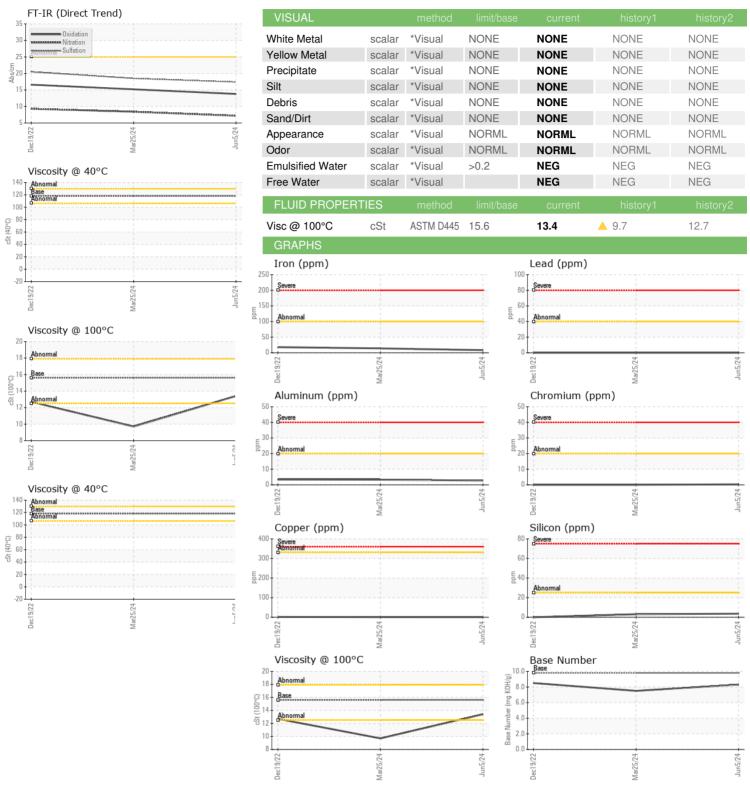
Fluid Condition

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

Sample Date Client Info 05 Jun 2024 25 Mar 2024 19 Dec 2022	AL)		De	2022	Mar2024 Jun20	124	
Sample Date Client Info 05 Jun 2024 25 Mar 2024 19 Dec 2022	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age mls Client Info 54139 50033 0 0 0 0 0 0 0 0 0	Sample Number		Client Info		WC0905902	WC0905936	WC0727283
Oil Age mls Client Info 3000 500 0 Oil Changed Client Info Not Changd N/A Sample Status Imilibrase NORMAL ABNORMAL NORMAL CONTAMINATION method Imilibrase current history1 history2 Fuel WC Method >5 <1.0	Sample Date		Client Info		05 Jun 2024	25 Mar 2024	19 Dec 2022
Cilient Info	Machine Age	mls	Client Info		54139	50033	0
NORMAL ABNORMAL NORMAL	Oil Age	mls	Client Info		3000	5000	0
Fuel	Oil Changed		Client Info		Not Changd	Not Changd	N/A
Fuel	Sample Status				NORMAL	ABNORMAL	NORMAL
Water Glycol WC Method WC Method >0.2 NEG NEG NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 8 14 18 Chromium ppm ASTM D5185m >20 <1	CONTAMINATIO	N	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0	<u>^</u> 2.0	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 <1 0 0 Nickel ppm ASTM D5185m >4 0 0 0 Titanium ppm ASTM D5185m >4 0 0 0 Silver ppm ASTM D5185m >20 3 3 3 Aluminum ppm ASTM D5185m >20 3 3 3 Aluminum ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >15 <1 0 0 Vanadium ppm ASTM D5185m <1 0 0 0 Cadmium ppm ASTM D5185m 7 4 16 16 Barium ppm ASTM D5185m 7 4 16 16 Barium ppm ASTM D5185m 0 0 1 0	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	8		
Titanium	Chromium	ppm	ASTM D5185m	>20	<1	0	0
Silver	Nickel	ppm	ASTM D5185m	>4	0	0	0
Aluminum	Titanium	ppm	ASTM D5185m		<1	0	0
Lead	Silver	ppm					
Copper ppm ASTM D5185m >330 <1 <1 2 Tin ppm ASTM D5185m >15 <1	Aluminum	ppm		>20	3	3	3
Tin	Lead	ppm			0	0	
Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 7 4 16 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 51 49 66 Manganese ppm ASTM D5185m 0 <1 0 Magnesium ppm ASTM D5185m 782 795 695 Calcium ppm ASTM D5185m 1289 1342 1343 Phosphorus ppm ASTM D5185m 974 928 997 Zinc ppm ASTM D5185m 1211 1207 1206 Sulfur ppm ASTM D5185m 3455 3674 3715 CONTAMINANTS method limit/base current history1 hist	Copper	ppm	ASTM D5185m	>330	<1	<1	2
Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 7 4 16 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 51 49 66 Manganese ppm ASTM D5185m 0 <1		ppm		>15			
ADDITIVES	Vanadium	ppm					
Boron	Cadmium	ppm	ASTM D5185m		<1	0	0
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 51 49 66 Manganese ppm ASTM D5185m 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 51 49 66 Manganese ppm ASTM D5185m 0 <1 0 Magnesium ppm ASTM D5185m 782 795 695 Calcium ppm ASTM D5185m 1289 1342 1343 Phosphorus ppm ASTM D5185m 974 928 997 Zinc ppm ASTM D5185m 1211 1207 1206 Sulfur ppm ASTM D5185m 3455 3674 3715 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 25 4 3 0 Sodium ppm ASTM D5185m 20 3 3 11 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >3 0.2 0.3 0.2 Nitration Abs/.1mm *ASTM D7415 <td>Boron</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th></th> <td>4</td> <td></td>	Boron	ppm	ASTM D5185m			4	
Manganese ppm ASTM D5185m 0 <1 0 Magnesium ppm ASTM D5185m 782 795 695 Calcium ppm ASTM D5185m 1289 1342 1343 Phosphorus ppm ASTM D5185m 974 928 997 Zinc ppm ASTM D5185m 1211 1207 1206 Sulfur ppm ASTM D5185m 3455 3674 3715 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 0 Sodium ppm ASTM D5185m 22 <1 <1 Potassium ppm ASTM D5185m 20 3 3 11 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.3 0.2 Nitration Abs/cmm	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 782 795 695 Calcium ppm ASTM D5185m 1289 1342 1343 Phosphorus ppm ASTM D5185m 974 928 997 Zinc ppm ASTM D5185m 1211 1207 1206 Sulfur ppm ASTM D5185m 3455 3674 3715 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 0 Sodium ppm ASTM D5185m 2 <1 <1 Potassium ppm ASTM D5185m >20 3 3 11 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844 >3 0.2 0.3 0.2 Nitration Abs/cm *ASTM D7624 >20 7.2 8.4 9.3 Sulfation Abs/.1mm </td <td>Molybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th></th> <td></td> <td>66</td>	Molybdenum	ppm	ASTM D5185m				66
Calcium ppm ASTM D5185m 1289 1342 1343 Phosphorus ppm ASTM D5185m 974 928 997 Zinc ppm ASTM D5185m 1211 1207 1206 Sulfur ppm ASTM D5185m 3455 3674 3715 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 0 Sodium ppm ASTM D5185m 2 <1	•	ppm	ASTM D5185m				0
Phosphorus ppm ASTM D5185m 974 928 997 Zinc ppm ASTM D5185m 1211 1207 1206 Sulfur ppm ASTM D5185m 3455 3674 3715 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 0 Sodium ppm ASTM D5185m 2 <1	Magnesium	ppm	ASTM D5185m				695
Zinc ppm ASTM D5185m 1211 1207 1206 Sulfur ppm ASTM D5185m 3455 3674 3715 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 0 Sodium ppm ASTM D5185m 2 <1		ppm	ASTM D5185m		1200		
Sulfur ppm ASTM D5185m 3455 3674 3715 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 0 Sodium ppm ASTM D5185m 2 <1		ppm					
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 0 Sodium ppm ASTM D5185m 2 <1	-	ppm			1211		
Silicon ppm ASTM D5185m >25 4 3 0 Sodium ppm ASTM D5185m 2 <1 <1 Potassium ppm ASTM D5185m >20 3 3 11 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.3 0.2 Nitration Abs/cm *ASTM D7624 >20 7.2 8.4 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 18.5 20.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.8 15.2 16.6			ASTM D5185m		3455	3674	3715
Sodium ppm ASTM D5185m 2 <1 <1 Potassium ppm ASTM D5185m >20 3 3 11 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.3 0.2 Nitration Abs/cm *ASTM D7624 >20 7.2 8.4 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 18.5 20.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.8 15.2 16.6	CONTAMINANTS	5		limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 3 3 11 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.3 0.2 Nitration Abs/cm *ASTM D7624 >20 7.2 8.4 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 18.5 20.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.8 15.2 16.6	Silicon	ppm	ASTM D5185m	>25	4		
INFRA-RED	Sodium	ppm	ASTM D5185m		2		<1
Soot % % *ASTM D7844 >3 0.2 0.3 0.2 Nitration Abs/cm *ASTM D7624 >20 7.2 8.4 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 18.5 20.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.8 15.2 16.6	Potassium	ppm	ASTM D5185m	>20	3	3	11
Nitration Abs/cm *ASTM D7624 >20 7.2 8.4 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 18.5 20.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.8 15.2 16.6	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 17.4 18.5 20.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.8 15.2 16.6	Soot %	%	*ASTM D7844	>3	0.2	0.3	0.2
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.8 15.2 16.6	Nitration	Abs/cm	*ASTM D7624	>20	7.2	8.4	9.3
Oxidation Abs/.1mm *ASTM D7414 >25 13.8 15.2 16.6	Sulfation	Abs/.1mm	*ASTM D7415	>30	17.4	18.5	20.5
	FLUID DEGRADA	NOITA	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 8.3 7.5 8.5	Oxidation	Abs/.1mm	*ASTM D7414	>25	13.8	15.2	16.6
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.3	7.5	8.5



OIL ANALYSIS REPORT







Certificate 12367

Laboratory Sample No.

: WC0905902 Lab Number : 06207333

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received **Tested** Unique Number : 11074794

: 11 Jun 2024 : 14 Jun 2024 Diagnosed

: 14 Jun 2024 - Sean Felton Test Package : MOB 1 (Additional Tests: KV40, TBN)

GOLDSBORO, NC US 27530 Contact: BRANDON BRIGGS brandonbriggs@wcps.org T:

1603 SALEM CHURCH RD

WAYNE CO SCHOOL BUS GARAGE

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: WAYGOL [WUSCAR] 06207333 (Generated: 06/15/2024 11:31:32) Rev: 1

Contact/Location: BRANDON BRIGGS - WAYGOL

F: