

OIL ANALYSIS REPORT



Machine Id

23 Component Diesel Engine Fluid PETRO CANADA DURON HP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for possible coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. Fuel content negligible.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0867978	WC0740599	
Sample Date		Client Info		08 Apr 2024	30 May 2023	
Machine Age	mls	Client Info		155000	144520	
Oil Age	mls	Client Info		0	0	
Oil Changed		Client Info		Not Changd	Not Changd	
Sample Status				ABNORMAL	SEVERE	
			11 11 11			
CONTAMINATION	N	method	limit/base	current	nistory i	nistory2
Water		WC Method	>0.2	NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	34	67	
Chromium	ppm	ASTM D5185m	>20	3	4	
Nickel	ppm	ASTM D5185m	>4	2	<1	
Titanium	ppm	ASTM D5185m		<1	0	
Silver	ppm	ASTM D5185m	>3	<1	0	
Aluminum	ppm	ASTM D5185m	>20	4	5	
Lead	ppm	ASTM D5185m	>40	2	3	
Copper	ppm	ASTM D5185m	>330	2	2	
Tin	ppm	ASTM D5185m	>15	1	<1	
Vanadium	ppm	ASTM D5185m		<1	<1	
Cadmium	ppm	ASTM D5185m		1	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	nnm	ASTM D5185m		8	2	
Barium	nom	ASTM D5185m		0	2	
Molybdenum	ppm	ASTM D5185m		69	51	
Manganese	nom	ASTM D5185m		1	<1	
Manganooo	ppin					
Magnesium	nnm	ASTM D5185m		860	744	
Magnesium Calcium	ppm ppm	ASTM D5185m		860 1215	744 921	
Magnesium Calcium Phosphorus	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		860 1215 1166	744 921 812	
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		860 1215 1166 1281	744 921 812 1040	
Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		860 1215 1166 1281 3761	744 921 812 1040 2483	
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	limit/base	860 1215 1166 1281 3761	744 921 812 1040 2483 history1	 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	limit/base	860 1215 1166 1281 3761 current	744 921 812 1040 2483 history1	 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	limit/base	860 1215 1166 1281 3761 current 6 9	744 921 812 1040 2483 history1 13 2	 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >25	860 1215 1166 1281 3761 current 6 9 ▲ 117	744 921 812 1040 2483 history1 13 2 8	 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D524	limit/base >25 >20 >5	860 1215 1166 1281 3761 current 6 9 ▲ 117 1 0	744 921 812 1040 2483 history1 13 2 8 8 ▲ 16 4	 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel Glycol	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 *ASTM D2982	limit/base >25 >20 >5	860 1215 1166 1281 3761 current 6 9 ▲ 117 1.0 NEG	744 921 812 1040 2483 history1 13 2 8 8 ▲ 16.4 NEG	 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel Glycol	ppm ppm ppm ppm ppm ppm % %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 *ASTM D2982	limit/base >25 >20 >5	860 1215 1166 1281 3761 <u>current</u> 6 9 ▲ 117 1.0 NEG	744 921 812 1040 2483 history1 13 2 8 ▲ 16.4 NEG	 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel Glycol INFRA-RED	ppm ppm ppm ppm ppm ppm ppm % %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 *ASTM D2982 method	limit/base >25 >20 >5	860 1215 1166 1281 3761 current 6 9 ▲ 117 1.0 NEG current	744 921 812 1040 2483 history1 13 2 8 ▲ 16.4 NEG history1	 history2 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel Glycol INFRA-RED	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 *ASTM D2982 method	limit/base >25 >20 >5 limit/base >3	860 1215 1166 1281 3761 current 6 9 ▲ 117 1.0 NEG current 1.1	744 921 812 1040 2483 history1 13 2 8 ▲ 16.4 NEG history1 ▲ 3.4	 history2 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel Glycol INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm % % %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 *ASTM D2982 method *ASTM D7844 *ASTM D7844	limit/base >25 >20 >5 limit/base >3 >20	860 1215 1166 1281 3761 current 6 9 ▲ 117 1.0 NEG current 1.1 9.0	744 921 812 1040 2483 history1 13 2 8 ▲ 16.4 NEG history1 ▲ 3.4 15.1	 history2 history2
Magnesium Calcium Phosphorus Zinc Sulfur Sulfur CONTAMINANTS Solicon Sodium Potassium Fuel Glycol INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm % % % % % Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 *ASTM D2982 method *ASTM D7844 *ASTM D7624	limit/base >25 >20 >5 limit/base >3 >20 >30	860 1215 1166 1281 3761 current 6 9 ▲ 117 1.0 NEG current 1.1 9.0 20.8	744 921 812 1040 2483 history1 13 2 8 ▲ 16.4 NEG history1 ▲ 3.4 15.1 30.5	 history2 history2 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Solicon Sodium Potassium Fuel Glycol INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm % % % % Abs/cm Abs/cm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 *ASTM D2982 method *ASTM D7844 *ASTM D7844 *ASTM D7844	limit/base >25 >20 >5 limit/base >3 >20 >30 limit/base	860 1215 1166 1281 3761 current 6 9 ▲ 117 1.0 NEG current 1.1 9.0 20.8 current	744 921 812 1040 2483 history1 13 2 8 ▲ 13.4 16.4 NEG history1 ▲ 3.4 15.1 30.5 history1	 history2 history2 history2 history2
Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Solicon Sodium Potassium Fuel Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA Oxidation	ppm ppm ppm ppm ppm ppm ppm % % % % Abs/cm Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5282 *ASTM D2982 *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7415	limit/base >25 >20 >5 limit/base >3 >20 >30 limit/base >25	860 1215 1166 1281 3761 current 6 9 ▲ 117 1.0 NEG current 1.1 9.0 20.8 current 16.4	744 921 812 1040 2483 history1 13 2 8 ▲ 16.4 NEG history1 ▲ 3.4 15.1 30.5 history1 27.0	 history2 history2 history2
Magnesium Calcium Phosphorus Zinc Sulfur Sulfur CONTAMINANTS Solicon Potassium Potassium Fuel Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA Oxidation Base Number (BN)	ppm ppm ppm ppm ppm ppm ppm % % % Abs/ Abs/cm Abs/.1mm gKOH/g	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 *ASTM D2982 method *ASTM D7624 *ASTM D7624 *ASTM D7614 *ASTM D7414 ASTM D7414	limit/base >25 >20 >5 limit/base >3 >20 >30 limit/base >25 9.8	860 1215 1166 1281 3761 current 6 9 ▲ 117 1.0 NEG current 1.1 9.0 20.8 current 16.4 8.4	744 921 812 1040 2483 history1 13 2 8 ▲ 16.4 NEG history1 ▲ 3.4 15.1 30.5 history1 27.0 6.2	 history2 history2 history2 history2



OIL ANALYSIS REPORT





DD D

18

ර 16

र्स्त 12









(mg KOH/g)

Base N 2.0

8.0

6. mber

4.0

0.0 Apr8/24 Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 ANSON CO SCHOOL BUS GARAGE Sample No. : WC0867978 Received : 17 Apr 2024 89 BOGGAN CUT RD Lab Number : 06152521 Tested : 23 Apr 2024 WADESBORO, NC : 23 Apr 2024 - Jonathan Hester Unique Number : 10982599 Diagnosed US 28135 Test Package : MOB 1 (Additional Tests: Glycol, PercentFuel, TBN) Contact: MATT POWELL Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. powell.berkeley@anson.k12.nc.us * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Report Id: ANSWAD [WUSCAR] 06152521 (Generated: 04/23/2024 16:05:53) Rev: 1

Contact/Location: MATT POWELL - ANSWAD