

COMPONENT CONDITION SUMMARY



RECOMMENDATION

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

PROBLEMATIC TEST RESULTS								
Sample Status				ABNORMAL	NORMAL	ABNORMAL		
Silicon	ppm	ASTM D5185m	>25	<u> </u>	6	<u> </u>		

Customer Id: AVRAPP Sample No.: PCA0082887 Lab Number: 05979426 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data: Jonathan Hester +1 919-379-4092 x4092 jhester@wearcheckusa.com

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

05 Apr 2023 Diag: Wes Davis



Resample at the next service interval to monitor. Please specify the component make and model with your next sample.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

22 Mar 2023 Diag: Don Baldridge



We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.All component wear rates are normal. Elemental levels of silicon (Si) and aluminum (AI) indicate alumina-silicate (coarse dirt) ingress. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

04 Nov 2022 Diag: Wes Davis



Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the component make and model with your next sample All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.





view report





OIL ANALYSIS REPORT



521 Component **Diesel Engine**

Fluid PETRO CANADA DURON HP 15W40 (--- GAL)

DIAGNOSIS

Machine Id

Recommendation

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

Wear

All component wear rates are normal.

Contamination

Elemental level of silicon (Si) above normal indicating ingress of seal material.

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		Client Info		PCA0082887	PCA0069517	PCA0069519
Sample Date		Client Info		26 Sep 2023	05 Apr 2023	22 Mar 2023
Machine Age	hrs	Client Info		0	12026	12152
Oil Age	hrs	Client Info		0	567	11594
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				ABNORMAL	NORMAL	ABNORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	17	14	12
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	0	8	<u> </u>
Lead	ppm	ASTM D5185m	>40	8	<1	<1
Copper	ppm	ASTM D5185m	>330	40	3	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0
			11 11 11			
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	limit/base	current	history1 3	4
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	limit/base	<1 2	history1 3 0	history2 4 0
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 2 60	history1 3 0 61	4 0 65
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 <1 2 60 <1 	history1 3 0 61 <1	history2 4 0 65 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		<1 <1 2 60 <1 852 	history1 3 0 61 <1 947	history2 4 0 65 <1 1059
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		<1 2 60 <1 852 1037	history1 3 0 61 <1 947 1129	history2 4 0 65 <1 1059 1181
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		<1 2 60 <1 852 1037 951	history1 3 0 61 <1 947 1129 1014	history2 4 0 65 <1 1059 1181 1150
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		<1 2 60 <1 852 1037 951 1117	history1 3 0 61 <1 947 1129 1014 1239	history2 4 0 65 <1 1059 1181 1150 1383
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		<1 2 60 <1 852 1037 951 1117 2539	history1 3 0 61 <1 947 1129 1014 1239 3344	history2 4 0 65 <1 1059 1181 1150 1383 4051
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm 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 D5185m	limit/base	<pre>current </pre> <1 2 60 <1 852 1037 951 1117 2539 current	history1 3 0 61 <1 947 1129 1014 1239 3344 history1	history2 4 0 65 <1 1059 1181 1150 1383 4051 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >25	 <1 2 60 <1 852 1037 951 1117 2539 current ▲ 28 	history1 3 0 61 <1 947 1129 1014 1239 3344 history1 6	history2 4 0 65 <1 1059 1181 1150 1383 4051 history2 ▲ 44
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	limit/base	 <1 2 60 <1 852 1037 951 1117 2539 current 28 0 	history1 3 0 61 <1 947 1129 1014 1239 3344 history1 6 2	history2 4 0 65 <1 1059 1181 1150 1383 4051 history2 ▲ 44 1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20	 <1 2 60 <1 852 1037 951 1117 2539 current ▲ 28 0 12 	history1 3 0 61 <1 947 1129 1014 1239 3344 history1 6 2 15	history2 4 0 65 <1 1059 1181 1150 1383 4051 history2 ▲ 44 1 12
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	limit/base limit/base >25 >20 limit/base	 <1 2 60 <1 852 1037 951 1117 2539 current ▲ 28 0 12 current 	history1 3 0 61 <1 947 1129 1014 1239 3344 history1 6 2 15 history1	history2 4 0 65 <1 1059 1181 1150 1383 4051 history2 ▲ 44 1 12 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3	 <1 2 60 <1 852 1037 951 1117 2539 current 28 0 12 current 0.4 	history1 3 0 61 <1 947 1129 1014 1239 3344 history1 6 2 15 history1 0.3	history2 4 0 65 <1 1059 1181 1150 1383 4051 history2 ▲ 44 1 12 history2 0.2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3 >20	 <1 2 60 <1 852 1037 951 1117 2539 current 28 0 12 current 0.4 9.5 	history1 3 0 61 <1 947 1129 1014 1239 3344 history1 6 2 15 history1 0.3 8.0	history2 4 0 65 <1 1059 1181 1150 1383 4051 history2 ▲ 44 1 12 history2 0.2 7.1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3 >20 >30	 <1 2 60 <1 852 1037 951 1117 2539 current 28 0 12 current 0.4 9.5 20.7 	history1 3 0 61 <1 947 1129 1014 1239 3344 history1 6 2 15 history1 0.3 8.0 19.7	history2 4 0 65 <1 1059 1181 1150 1383 4051 history2 ▲ 44 1 12 history2 0.2 7.1 18.6
ADDITIVES Boron Barium Molybdenum Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3 >20 >30 limit/base	 <1 2 60 <1 852 1037 951 1117 2539 current 28 0 12 current 0.4 9.5 20.7 current 	history1 3 0 61 <1 947 1129 1014 1239 3344 history1 6 2 15 history1 0.3 8.0 19.7 history1	history2 4 0 65 <1 1059 1181 1150 1383 4051 history2 ▲ 44 1 12 history2 0.2 7.1 18.6 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm ppm ppm pp	Method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415 method *ASTM D7414	limit/base >25 >20 limit/base >3 >20 >30 limit/base >25	 <1 2 60 <1 852 1037 951 1117 2539 current 28 0 12 current 0.4 9.5 20.7 current 18.0 	history1 3 0 61 <1 947 1129 1014 1239 3344 history1 6 2 15 history1 0.3 8.0 19.7 history1 16.0	history2 4 0 65 <1 1059 1181 1150 1383 4051 history2 ▲ 44 1 12 history2 0.2 7.1 18.6 history2 14.8
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE Oxidation Base Number (BN)	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm ppm ppm pp	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7415	limit/base >25 >20 limit/base >3 >20 >30 limit/base >25 9.8	<urrent <urre<="" <urrent="" th=""><th>history1 3 0 61 <1 947 1129 1014 1239 3344 history1 6 2 15 history1 0.3 8.0 19.7 history1 16.0 8.4</th><th>history2 4 0 65 <1 1059 1181 1150 1383 4051 history2 ▲ 44 1 12 history2 0.2 7.1 18.6 history2 14.8 8.6</th></urrent>	history1 3 0 61 <1 947 1129 1014 1239 3344 history1 6 2 15 history1 0.3 8.0 19.7 history1 16.0 8.4	history2 4 0 65 <1 1059 1181 1150 1383 4051 history2 ▲ 44 1 12 history2 0.2 7.1 18.6 history2 14.8 8.6



OIL ANALYSIS REPORT

method

limit/base

current

VISUAL



Jun22/21	Jan31/22 - /	Noo4/22	Apris23	White Me Yellow M Precipitat Silt Debris Sand/Dirt Appearar Odor Emulsifie Free Wat FLUID Visc @ 1	tal etal ce d Water er PROPE	scalar scalar scalar scalar scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual method	NONE NONE NONE NONE NONE NORMI >0.2 Iimit/ba	N N N N N N N N N N N	ONE ONE ONE ONE ONE ONE ORML EG EG Current	NONE NONE NONE NONE NORML NORML NEG NEG history1 13.3	NON NON NON NON NON NOF NOF NEG NEG NEG 13.4	IE IE IE IE IE IE IE IE IE IE IE IE IC IC IC IC IC IC IC IC IC IC IC IC IC
O Jun22/21	Jan31/22 -	Nov4/22	Apt5/23	GRAP Ferrous	HS Alloys iron chromium nickel								
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history1

history2