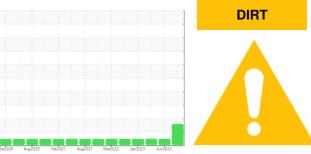


OIL ANALYSIS REPORT





Machine Id

585 Component Diesel Engine Fluid PETRO CANADA DURON HP 15W40 (11 GAL)

DIAGNOSIS

A 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.

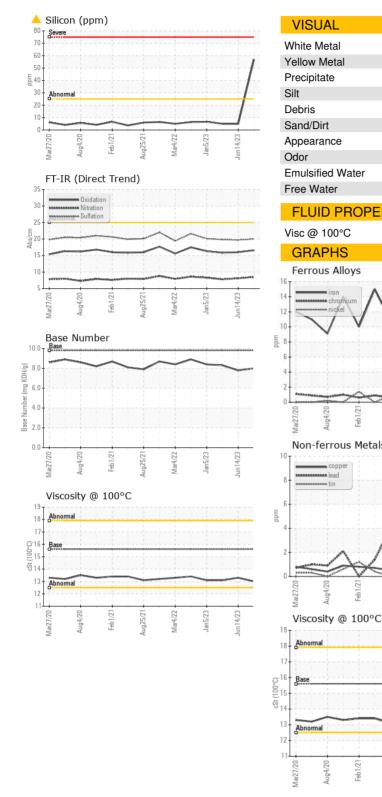
Fluid Condition

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

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0082751	PCA0069599	PCA05813830
Sample Date		Client Info		28 Mar 2024	14 Jun 2023	23 Mar 2023
Machine Age	hrs	Client Info		0	10394	0
Oil Age	hrs	Client Info		0	512	489
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL
CONTAMINAT	ION	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
WEAR METAL	S	method	limit/base	current	history1	history2
Iron		ASTM D5185m	>100	12	10	9
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm ppm	ASTM D5185m	>20	<1	0	0
Titanium	ppm	ASTM D5185m	~	<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	<1	<1
Lead	ppm	ASTM D5185m	>40	2	2	2
Copper	ppm		>330	- <1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	nnm	ASTM D5185m		4	0	0
ouumum	ppm	ASTIVI DJ TOJITI		<1	0	0
ADDITIVES	ррш	method	limit/base	< I current	history1	history2
	ppm		limit/base		-	-
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 3	history1 <1	history2 2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	current 3 0	history1 <1 0	history2 2 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 0 65	history1 <1 0 63	history2 2 0 60
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 0 65 <1	history1 <1 0 63 0	history2 2 0 60 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 0 65 <1 979	history1 <1 0 63 0 1014	history2 2 0 60 <1 938
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185m	limit/base	current 3 0 65 <1 979 1122	history1 <1 0 63 0 1014 1196	history2 2 0 60 <1 938 1097
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 0 65 <1 979 1122 1115	history1 <1 0 63 0 1014 1196 1047	history2 2 0 60 <1 938 1097 1010
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 0 65 <1 979 1122 1115 1293	history1 <1 0 63 0 1014 1196 1047 1313	history2 2 0 60 <1 938 1097 1010 1243
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 0 65 <1 979 1122 1115 1293 3370	history1 <1 0 63 0 1014 1196 1047 1313 3596	history2 2 0 60 <1 938 1097 1010 1243 2768
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 0 65 <1 979 1122 1115 1293 3370 current	history1 <1 0 63 0 1014 1196 1047 1313 3596 history1	history2 2 0 60 <1 938 1097 1010 1243 2768 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >25	Current 3 0 65 <1 979 1122 1115 1293 3370 current 57	history1 <1 0 63 0 1014 1196 1047 1313 3596 history1 5	history2 2 0 60 <1 938 1097 1010 1243 2768 history2 5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >25	Current 3 0 65 <1 979 1122 1115 1293 3370 current 57 <1	history1 <1 0 63 0 1014 1196 1047 1313 3596 history1 5 2 1 history1	history2 2 0 60 <1 938 1097 1010 1243 2768 history2 5 2 2 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 ppm TS ppm ppm	method ASTM D5185m	limit/base >25 >20 limit/base >3	Current 3 0 65 <1 979 1122 1115 1293 3370 current 57 <1 6 current 0.4	history1 <1 0 63 0 1014 1196 1047 1313 3596 history1 5 2 1 bistory1 0.3	history2 2 0 60 <1 938 1097 1010 1243 2768 history2 5 2 history2 0 0.3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	limit/base >25 >20 limit/base >3	Current 3 0 65 <1 979 1122 1115 1293 3370 current 57 <1 6 current	history1 <1 0 63 0 1014 1196 1047 1313 3596 history1 5 2 1 history1 0.3 8.1	history2 2 0 60 <1 938 1097 1010 1243 2768 history2 5 2 2 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 ppm TS ppm ppm	method ASTM D5185m	limit/base >25 >20 limit/base >3	Current 3 0 65 <1 979 1122 1115 1293 3370 current 57 <1 6 current 0.4	history1 <1 0 63 0 1014 1196 1047 1313 3596 history1 5 2 1 bistory1 0.3	history2 2 0 60 <1 938 1097 1010 1243 2768 history2 5 2 history2 0 0.3
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	method ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3 >20	Current 3 0 65 <1 979 1122 1115 1293 3370 current 57 <1 6 current 0.4 8.5	history1 <1 0 63 0 1014 1196 1047 1313 3596 history1 5 2 1 history1 0.3 8.1	history2 2 0 60 <1 938 1097 1010 1243 2768 history2 5 2 history2 0.3 7.8
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 ppm	method ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3 >20 >3 >20	Current 3 0 65 <1 979 1122 1115 1293 3370 current 57 <1 6 current 0.4 8.5 20.0	history1 <1 0 63 0 1014 1196 1047 1313 3596 history1 5 2 1 history1 0.3 8.1 19.7	history2 2 0 60 <1 938 1097 1010 1243 2768 history2 5 2 history2 0.3 7.8 19.8



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
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.6	13.0	13.3	13.1
GRAPHS						
Principal distribution of the second distributio	Aug25/21-	C2/Sue/	Juni 4/23			
Non-ferrous Meta	s					
copper lead 6+ 4+						
2		and the second se	Name of Concession			

Base Number 10.0 Base 8 (mg KOH/g) 6 | umber 4 (Base 0.0 Aug4/20 -Jan5/23 ug25/21 Mar4/22 Jun14/23 Mar27/20 Feb1/21 Jun 14/23

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 **AVR - APPLE VALLEY READY MIX** Sample No. : PCA0082751 Received : 19 Apr 2024 14698 GALAXY AVE Lab Number : 06155110 Tested : 22 Apr 2024 APPLE VALLEY, MN Unique Number : 10990533 Diagnosed : 24 Apr 2024 - Jonathan Hester US 55124 Test Package : FLEET Contact: senia zimmer Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. avrconcrete.senia@gmail.com T: (952)953-2992 * - 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) F: (952)953-2994

/ug25/21

Mar4/22

Mar4/22 -

lan5/23

14/73

eb1/21

Feb1/21

Report Id: AVRAPP [WUSCAR] 06155110 (Generated: 04/24/2024 09:54:15) Rev: 1

Submitted By: senia zimmer