

OIL ANALYSIS REPORT

Area (41429UA) Machine Id 829095

Diesel Engine

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

DIAGNOSIS

Recommendation

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.

🛑 Wear

All component wear rates are normal.

Contamination

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition

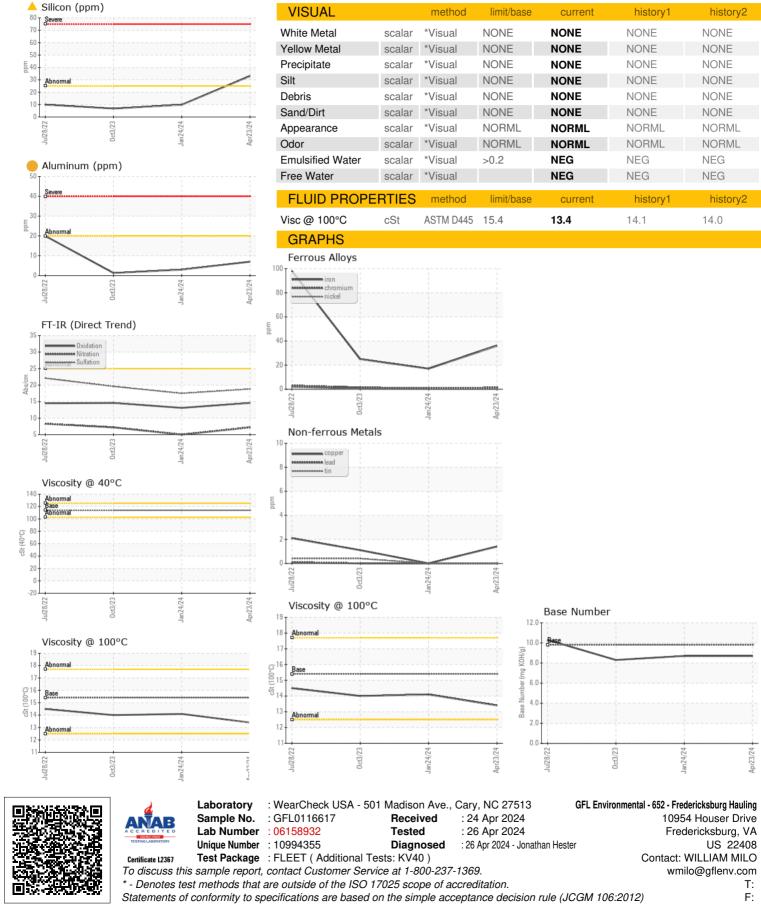
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

ChromiumppNickelppNickelppTitaniumppSilverppAluminumppLeadppCopperppTinppCadmiumppCadmiumppBoronppBariumppMolybdenumppMaganeseppCalciumppPhosphorusppZincpp	CI CI CI SSCI CI CI CI V V V V V V V V V V V V V V	TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m	limit/base >5 >0.2 limit/base >100 >20 >4 >3 >20 >40	Current GFL0116617 23 Apr 2024 8910 8910 Not Changd ABNORMAL ABNORMAL <current <1.0 NEG NEG</current 	history1 GFL0108313 24 Jan 2024 8835 Changed NORMAL history1 <1.0 NEG history1 17 <1 0 0 0 0 0 0 0 0 0 0 <10 0	history2 GFL0083905 03 Oct 2023 8464 0 N/A NORMAL history2 <1.0 NEG history2 25 1 <1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0
SAMPLE INFORMAT Sample Number Sample Date Machine Age Machine Age Machine Age Oil Age Oil Changed Sample Status CONTAMINATION Fuel Water Glycol WEAR METALS Iron Pichromium Nickel pp Aluminum Lead Copper Tin Vanadium pp ADDITIVES Boron pp Manganese pp Magnesium pp Calcium pp Calcium pp	CI SSCI CI SSCI CI CI CI CI CI CI CI CI CI CI CI CI C	method lient Info lient Info lient Info lient Info lient Info dient Info method C Method C Method C Method C Method C Method C Method C Method STM D5185m STM D5185m STM D5185m STM D5185m STM D5185m STM D5185m STM D5185m STM D5185m	limit/base >5 >0.2 limit/base >100 >20 >4 >3 >20 >40 >330	current GFL0116617 23 Apr 2024 8910 8910 Not Changd ABNORMAL current <1.0 NEG NEG 1 0 0 0 0 0 0 0 1 1	history1 GFL0108313 24 Jan 2024 8835 8835 Changed NORMAL history1 <1.0 NEG NEG 17 <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	GFL0083905 03 Oct 2023 8464 0 N/A NORMAL • 1.0 • NEG • NEG • 10 • 1 • 1 • 1 • 1 • 1 • 1 • 1 • 1 •
SAMPLE INFORMAT Sample Number Sample Date Machine Age Machine Age Machine Age Oil Age Oil Changed Sample Status CONTAMINATION Fuel Water Glycol WEAR METALS Iron PChromium Nickel pp Aluminum Lead Copper pp Cadmium pp ADDITIVES Boron pp Manganese pp Magnesium pp Calcium pp Calcium pp	CI SSCI CI SSCI CI CI CI CI CI CI CI CI CI CI CI CI C	method lient Info lient Info lient Info lient Info lient Info dient Info method C Method C Method C Method C Method C Method C Method C Method STM D5185m STM D5185m STM D5185m STM D5185m STM D5185m STM D5185m STM D5185m STM D5185m	limit/base >5 >0.2 limit/base >100 >20 >4 >3 >20 >40 >330	current GFL0116617 23 Apr 2024 8910 8910 Not Changd ABNORMAL current <1.0 NEG NEG 1 0 0 0 0 0 0 0 1 1	history1 GFL0108313 24 Jan 2024 8835 8835 Changed NORMAL history1 <1.0 NEG NEG 17 <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	GFL0083905 03 Oct 2023 8464 0 N/A NORMAL • 1.0 • NEG • NEG • 10 • 1 • 1 • 1 • 1 • 1 • 1 • 1 • 1 •
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Dil Changed Sample Status CONTAMINATION Fuel Water Glycol WEAR METALS ron pp Chromium pp Vickel pp Vickel pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Cadmium pp Cadmium pp Manganese pp Manganese pp Manganese pp Manganese pp Calcium pp	N r WW WW VW VW VW VW VW VW VW VW VW VW VW	method C Method C Method C Method C Method C Method TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m	>5 >0.2 limit/base >100 >20 >4 >3 >20 >20 >40 >330	Not Changd ABNORMAL current <1.0 NEG NEG 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Changed NORMAL history1 <1.0 NEG NEG history1 17 <1 0 0 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 0	N/A NORMAL history2 <1.0 NEG NEG bistory2 25 1 <1 <1 <1 <1 <1 0 1 0 1 0 1
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CONTAMINATION Fuel Water Glycol WEAR METALS ron pp Chromium pp vickel pp fitanium pp Lead pp Copper pp fin pp Auminum pp Lead pp Copper pp fin pp Anadium pp Anadium pp Anadium pp Cadmium pp Anganese pp Magnesium pp Calcium pp Cance pp Cinc pp Cin	WW WM WM Fr Dom AS Dom AS Dom AS Dom AS Dom AS Dom AS Dom AS Dom AS	C Method C Method C Method C Method TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m	>5 >0.2 limit/base >100 >20 >4 >3 >20 >40 >330	Current <1.0 NEG NEG Current 36 1 0 0 0 0 7 0 0 1	history1 <1.0	history2 <1.0
Fuel Vater Silvcol VEAR METALS Vater Silvcol VEAR METALS Vickel Pp Citanium Pp Lead Copper Pin Audium Pp Cadmium Pp Cadmium Pp Manganese Pp Calcium Pp Calcium Pp Cinc	WW WM WM Fr Dom AS Dom AS Dom AS Dom AS Dom AS Dom AS Dom AS Dom AS	C Method C Method C Method C Method TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m	>5 >0.2 limit/base >100 >20 >4 >3 >20 >40 >330	<1.0 NEG NEG Current 36 1 0 0 0 0 0 7 0 0 1	<1.0 NEG NEG history1 17 <1 0 0 0 0 0 3 0 0 0 0 0 0 0 0 0	<1.0 NEG NEG 25 1 <1 <1 0 1 0 1 0 1
Vater Glycol WEAR METALS ron pp Chromium pp Vickel pp Glycol Glycol Chromium pp Lead pp Copper pp Copper pp Copper pp Canadium pp Anadium pp Anadium pp Anadium pp Anadium pp Anadium pp Cadmium pp Anadium pp Cadmium pp Anadium pp Cadmium pp	We We Dom AS Dom AS Dom AS Dom AS Dom AS Dom AS Dom AS Dom AS	C Method C Method TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m	>0.2 limit/base >100 >20 >4 >3 >20 >40 >330	NEG NEG current 36 1 0 0 0 7 0 0 1	NEG NEG history1 17 <1 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0	NEG NEG 25 1 <1 <1 <1 0 1 0 1 0 1 1
Silveol WEAR METALS ron pp Chromium pp Jickel pp Jickel pp Silver pp Silver pp Suminum pp Copper pp Cadmium pp Cadmium pp Boron pp ADDITIVES pp Manganese pp Agnesium pp Calcium pp Chosphorus pp	Wr r com AS com AS com AS com AS com AS com AS com AS com AS com AS	C Method method TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m	limit/base >100 >20 >4 >3 >20 >40 >330	NEG current 36 1 0 0 0 7 0 0 1	NEG history1 17 <1 0 0 0 0 3 0 0 0 0 0 0	NEG history2 25 1 <1 <1 0 1 0 1 0 1
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Vickel pp Vickel pp Fitanium pp Silver pp Numinum pp Lead pp Copper pp Tin pp Zanadium pp Anadium pp Anadium pp ADDITIVES Soron Barium pp Anganese pp Magnesium pp Calcium pp Phosphorus pp	om AS om AS om AS om AS om AS om AS	TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m	>4 >3 >20 >40 >330	0 0 7 0 1	0 0 3 0 0	<1 <1 0 1 0 1
Titanium pp Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp /anadium pp /anadium pp ADDITIVES Boron pp Barium pp Anganese pp Anganesium pp Calcium pp Phosphorus pp Zinc pp	om AS om AS om AS om AS om AS	TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m	>3 >20 >40 >330	0 0 7 0 1	0 0 3 0 0	<1 0 1 0 1
Silver pp Numinum pp ead pp Copper pp Tin pp Aanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp	om AS om AS om AS om AS	TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m	>20 >40 >330	0 7 0 1	0 3 0 0	0 1 0 1
Numinum pp Lead pp Copper pp Tin pp Vanadium pp Cadmium pp Cadmium pp ADDITIVES Boron Boron pp Aldoperation pp Aldoperation pp Alaganese pp Alagnesium pp Calcium pp Phosphorus pp	om AS om AS om AS	TM D5185m TM D5185m TM D5185m TM D5185m	>20 >40 >330	7 0 1	3 0 0	1 0 1
ead pp Copper pp Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Calcium pp	om AS [°] om AS [°]	TM D5185m TM D5185m TM D5185m	>40 >330	0 1	0 0	0 1
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Cadmium pp ADDITIVES Pp Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp		THERE			-	<1
ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp	om AS	STM D5185m		0	0	<1
Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp Zinc pp	om AS	TM D5185m		0	0	<1
Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp Zinc pp	r	method	limit/base	current	history1	history2
Aolybdenum pp Aanganese pp Aagnesium pp Calcium pp Phosphorus pp Zinc pp	om AS	TM D5185m	0	10	8	4
ManganeseppMagnesiumppCalciumppPhosphorusppZincpp	om AS	TM D5185m	0	0	0	0
Aagnesium pp Calcium pp Phosphorus pp Cinc pp	om AS	TM D5185m	60	57	58	64
Calcium pp Phosphorus pp Cinc pp	om AS	TM D5185m	0	<1	<1	<1
Phosphorus pp Zinc pp	om AS	TM D5185m	1010	931	1002	1019
Zinc pp	om AS	TM D5185m	1070	1130	1135	1123
	om AS	TM D5185m	1150	1023	1079	1034
Sulfur pr	om AS	TM D5185m	1270	1233	1306	1288
pp	om AS	TM D5185m	2060	3332	3398	3094
CONTAMINANTS	r	method	limit/base	current	history1	history2
Silicon pp	om AS	TM D5185m	>25	A 33	10	7
Sodium pp	om AS	5TM D5185m		3	3	5
Potassium pp	om AS	TM D5185m	>20	5	10	27
INFRA-RED	r	method	limit/base	current	history1	history2
Soot % %		STM D7844	>3	0.4	0.1	0.7
Ab Ab	• *AS	STM D7624	>20	7.2	5.0	7.2
Sulfation Abs			>30	18.8	17.5	19.6
FLUID DEGRADAT	os/cm *AS	STM D7415				
Dxidation Abs	os/cm *AS s/.1mm *AS	STM D7415 method	limit/base	current	history1	history2
Base Number (BN) mg	os/cm *AS s/.1mm *AS FION r		limit/base	current 14.6	history1 13.1	history2 14.6

Sample Rating Trend



OIL ANALYSIS REPORT



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