

OIL ANALYSIS REPORT

NORMAL

Machine Id

728058-361020

Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (8 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

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.

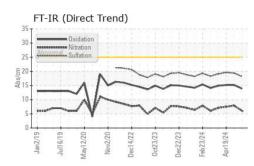
	NATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0112263	GFL0112208	GFL0112204
Sample Date		Client Info		17 May 2024	26 Apr 2024	19 Apr 2024
Machine Age	hrs	Client Info		15003	14831	14782
Oil Age	hrs	Client Info		150	600	150
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	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 METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	3	8	8
Chromium	ppm	ASTM D5185m	>20	0	0	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	1	3
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	2	<1	1
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current	history1 0	history2 0
	ppm ppm		0			
Boron		ASTM D5185m	0	1	0	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	1 0	0	0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	1 0 59	0 0 56	0 0 57
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	1 0 59 <1	0 0 56 0	0 0 57 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	1 0 59 <1 889	0 0 56 0 928	0 0 57 <1 836
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	1 0 59 <1 889 983	0 0 56 0 928 1044	0 0 57 <1 836 981
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	0 0 60 0 1010 1070 1150	1 0 59 <1 889 983 1015	0 0 56 0 928 1044 1015	0 0 57 <1 836 981 885
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	0 0 60 0 1010 1070 1150 1270	1 0 59 <1 889 983 1015 1192	0 0 56 0 928 1044 1015 1205	0 0 57 <1 836 981 885 1135
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	0 0 60 0 1010 1070 1150 1270 2060	1 0 59 <1 889 983 1015 1192 3417	0 0 56 0 928 1044 1015 1205 3404	0 0 57 <1 836 981 885 1135 2873
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	1 0 59 <1 889 983 1015 1192 3417 current	0 0 56 0 928 1044 1015 1205 3404 history1	0 0 57 <1 836 981 885 1135 2873 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	0 0 60 1010 1070 1150 1270 2060	1 0 59 <1 889 983 1015 1192 3417 current 3	0 0 56 0 928 1044 1015 1205 3404 history1 3	0 0 57 <1 836 981 885 1135 2873 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base >25	1 0 59 <1 889 983 1015 1192 3417 current 3 21	0 0 56 0 928 1044 1015 1205 3404 history1 3 3 3	0 0 57 <1 836 981 885 1135 2873 history2 4 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	1 0 59 <1 889 983 1015 1192 3417 current 3 21 26	0 0 56 0 928 1044 1015 1205 3404 history1 3 3 0	0 0 57 <1 836 981 885 1135 2873 history2 4 < 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	1 0 59 <1 889 983 1015 1192 3417 current 3 21 26 current	0 0 56 0 928 1044 1015 1205 3404 history1 3 3 0 bistory1	0 0 57 <1 836 981 885 1135 2873 history2 4 <1 2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	1 0 59 <1 889 983 1015 1192 3417 current 3 21 26 current 0.2	0 0 56 0 928 1044 1015 1205 3404 history1 3 3 0 history1 0.5	0 0 57 <1 836 981 885 1135 2873 history2 4 <1 2 history2 0.4
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 t ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20	1 0 59 <1 889 983 1015 1192 3417 <i>current</i> 3 21 26 <i>current</i> 0.2 6.1	0 0 56 0 928 1044 1015 1205 3404 history1 3 3 0 history1 0.5 7.9	0 0 57 <1 836 981 885 1135 2873 history2 4 <1 2 history2 0.4 7.5
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 t ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >3 >20	1 0 59 <1 889 983 1015 1192 3417 <i>current</i> 3 21 26 <i>current</i> 0.2 6.1 18.2	0 0 56 0 928 1044 1015 1205 3404 history1 3 3 0 history1 0.5 7.9 19.4	0 0 57 <1 836 981 885 1135 2873 history2 4 <1 2 history2 0.4 7.5 19.6

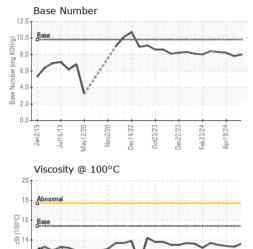


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OIL ANALYSIS REPORT





Vov2/20 -Dec14/22

/av12/20

Feb23/24 sc22/23

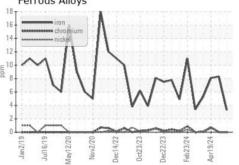
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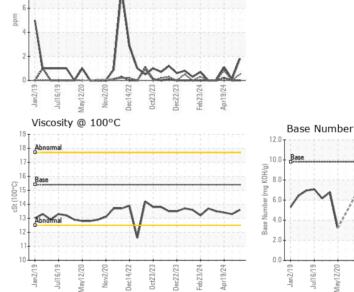
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	ERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	13.3	13.4
CRADHS						

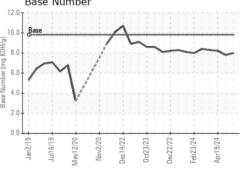
Ferrous Alloys

Non-ferrous Metals

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Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 829 - Wilco Hauling Sample No. : GFL0112263 Received : 21 May 2024 5054 Highway HH Lab Number : 06185842 Tested : 22 May 2024 Hartville, MO Unique Number : 11042594 Diagnosed : 22 May 2024 - Wes Davis US 65667 Test Package : FLEET Contact: James Jones Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. james.jones@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (417)349-5006 F:

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Submitted By: Jerry Hazel Page 2 of 2