

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

829060-101298

Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (--- 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.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0121221	GFL0118617	GFL0118610
Sample Date		Client Info		15 May 2024	29 Apr 2024	04 Apr 2024
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	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	2	5	24
Chromium	ppm	ASTM D5185m	>20	0	0	2
Nickel	ppm	ASTM D5185m		0	0	1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	<1	2
Lead	ppm	ASTM D5185m		0	0	<1
Copper	ppm	ASTM D5185m	>330	<1	0	1
Tin	ppm	ASTM D5185m	>15	<1	0	1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
Cadmium ADDITIVES	ppm	ASTM D5185m method	limit/base		0 history1	
	ppm ppm		limit/base 0	0	-	<1
ADDITIVES		method		0 current	history1	<1 history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	0 current 3	history1 <1	<1 history2 4
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0	0 current 3 <1	history1 <1 0	<1 history2 4 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	0 current 3 <1 54	history1 <1 0 54	<1 history2 4 0 62
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	0 current 3 <1 54 <1	history1 <1 0 54 <1	<1 history2 4 0 62 1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	0 current 3 <1 54 <1 881	history1 <1 0 54 <1 879	<1 history2 4 0 62 1 914
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	0 current 3 <1 54 <1 881 1024	history1 <1 0 54 <1 879 984	<1 history2 4 0 62 1 914 1147
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	0 current 3 <1 54 <1 881 1024 1061	history1 <1 0 54 <1 879 984 976	<1 history2 4 0 62 1 914 1147 968
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270	0 current 3 <1 54 <1 881 1024 1061 1163	history1 <1 0 54 <1 879 984 976 1132	<1 history2 4 0 62 1 914 1147 968 1190
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	0 current 3 <1 54 <1 881 1024 1061 1163 3521 current 5	history1 <1 0 54 <1 879 984 976 1132 3121 history1 4	<1 history2 4 0 62 1 914 1147 968 1190 2906 history2 11
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 Limit/base >25	0 current 3 <1 54 <1 881 1024 1061 1163 3521 current	history1 <1 0 54 <1 879 984 976 1132 3121 history1	<1 history2 4 0 62 1 914 1147 968 1190 2906 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 Limit/base >25	0 current 3 <1 54 <1 881 1024 1061 1163 3521 current 5	history1 <1 0 54 <1 879 984 976 1132 3121 history1 4	<1 history2 4 0 62 1 914 1147 968 1190 2906 history2 11
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 ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	0 current 3 <1 54 <1 881 1024 1061 1163 3521 current 5 2 2 2 current	history1 <1 0 54 <1 879 984 976 1132 3121 history1 4 2 0 history1	<1 history2 4 0 62 1 914 1147 968 1190 2906 history2 11 4 3 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3	0 current 3 <1 54 <1 881 1024 1061 1163 3521 current 5 2 2 2 current 0.2	history1 <1 0 54 <1 879 984 976 1132 3121 history1 4 2 0 history1 0 0.3	<1 history2 4 0 62 1 914 1147 968 1190 2906 history2 11 4 3 history2 0.6
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	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 20 20 20 20 20 20 20 20 20	0 current 3 <1 54 <1 881 1024 1061 1163 3521 current 5 2 2 2 current 0.2 5.6	history1 <1 0 54 <1 879 984 976 1132 3121 history1 4 2 0 history1 0 7.7	<1 history2 4 0 62 1 914 1147 968 1190 2906 history2 11 4 3 history2 0.6 11.3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3	0 current 3 <1 54 <1 881 1024 1061 1163 3521 current 5 2 2 2 current 0.2	history1 <1 0 54 <1 879 984 976 1132 3121 history1 4 2 0 history1 0 0.3	<1 history2 4 0 62 1 914 1147 968 1190 2906 history2 11 4 3 history2 0.6
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	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 20 20 20 20 20 20 20 20 20	0 current 3 <1 54 <1 881 1024 1061 1163 3521 current 5 2 2 2 current 0.2 5.6	history1 <1 0 54 <1 879 984 976 1132 3121 history1 4 2 0 history1 0 7.7	<1 history2 4 0 62 1 914 1147 968 1190 2906 history2 11 4 3 history2 0.6 11.3
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	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 320 33 20 20 20	0 current 3 <1 54 <1 881 1024 1061 1163 3521 current 5 2 2 2 current 0.2 5.6 17.6	history1 <1 0 54 <1 879 984 976 1132 3121 history1 4 2 0 history1 0.3 7.7 19.9	<1 history2 4 0 62 1 914 1147 968 1190 2906 history2 11 4 3 history2 0.6 11.3 23.2

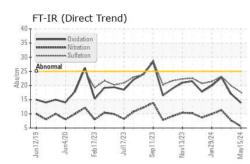


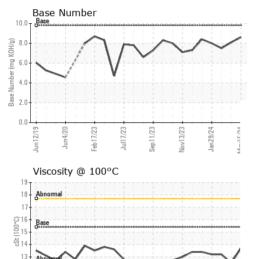
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OIL ANALYSIS REPORT





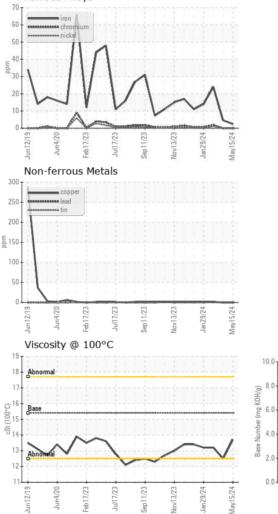
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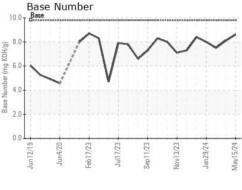
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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*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	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.7	12.5	13.2
GRAPHS						

Ferrous Alloys





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 846 - Mayfield Hauling Sample No. : GFL0121221 Received : 05 Jun 2024 3426 State Route 45 Lab Number : 06199847 Tested : 05 Jun 2024 Mayfield, KY US 42066 Unique Number : 11061970 Diagnosed : 05 Jun 2024 - Wes Davis Test Package : FLEET Contact: Jack Lindsey Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. jack.lindsey@gflenv.com T: (270)970-3690 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. F:

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

Submitted By: Jack Lindsey Page 2 of 2