

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id 839M Component Diesel Engine Fluid

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

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.

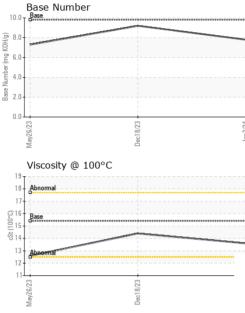
Fluid Condition

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

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0108818	GFL0105705	GFL0069894
Sample Date		Client Info		02 Jan 2024	18 Dec 2023	26 May 2023
Machine Age	hrs	Client Info		12183	12126	10510
Oil Age	hrs	Client Info		0	0	600
Oil Changed		Client Info		Changed	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<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	ppm	ASTM D5185m	>90	18	3	19
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	2	<1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	<1	16	<1
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current <1	history1 19	history2 2
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	0	<1	19	2
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	<1 0	19 0	2 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	<1 0 58	19 0 68	2 0 54
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	<1 0 58 0	19 0 68 0	2 0 54 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	<1 0 58 0 987	19 0 68 0 1007	2 0 54 <1 882
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	<1 0 58 0 987 1089	19 0 68 0 1007 1073	2 0 54 <1 882 1024
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	0 0 60 0 1010 1070 1150	<1 0 58 0 987 1089 1005	19 0 68 0 1007 1073 976	2 0 54 <1 882 1024 938 1190 3309
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 58 0 987 1089 1005 1289	19 0 68 0 1007 1073 976 1266	2 0 54 <1 882 1024 938 1190
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm 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 58 0 987 1089 1005 1289 2939	19 0 68 0 1007 1073 976 1266 3273	2 0 54 <1 882 1024 938 1190 3309 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm 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 1010 1070 1150 1270 2060	<1 0 58 0 987 1089 1005 1289 2939 current	19 0 68 0 1007 1073 976 1266 3273 history1	2 0 54 <1 882 1024 938 1190 3309 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 method	0 0 60 0 1010 1070 1150 1270 2060 limit/base	<1 0 58 0 987 1089 1005 1289 2939 current 7	19 0 68 0 1007 1073 976 1266 3273 history1 11	2 0 54 <1 882 1024 938 1190 3309 history2 4
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 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 limit/base	<1 0 58 0 987 1089 1005 1289 2939 current 7 <1	19 0 68 0 1007 1073 976 1266 3273 history1 11 0	2 0 54 <1 882 1024 938 1190 3309 history2 4 2 2 history2
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	<1 0 58 0 987 1089 1005 1289 2939 current 7 <1 1 1 current	19 0 68 0 1007 1073 976 1266 3273 history1 11 0 1 1 1 0 1 history1 0.1	2 0 54 <1 882 1024 938 1190 3309 history2 4 2 2 history2 0.7
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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	<1 0 58 0 987 1089 1005 1289 2939 current 7 <1 1 1	19 0 68 0 1007 1073 976 1266 3273 history1 11 0 1 1 1 0 1 history1	2 0 54 <1 882 1024 938 1190 3309 history2 4 2 2 history2
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	<1 0 58 0 987 1089 1005 1289 2939 current 7 <1 1 1 current	19 0 68 0 1007 1073 976 1266 3273 history1 11 0 1 1 1 0 1 history1 0.1	2 0 54 <1 882 1024 938 1190 3309 history2 4 2 2 history2 0.7
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	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 20 1imit/base >20	<1 0 58 0 987 1089 1005 1289 2939 current 7 <1 1 1 current 0.5 8.9	19 0 68 0 1007 1073 976 1266 3273 history1 11 0 1 1 0 1 0.1 4.4	2 0 54 <1 882 1024 938 1190 3309 history2 4 2 2 history2 0.7 8.8
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 imit/base >6 >20 20	<1 0 58 0 987 1089 1005 1289 2939 current 7 <1 1 1 current 0.5 8.9 20.0	19 0 68 0 1007 1073 976 1266 3273 history1 11 0 1 1 <u>history1</u> 0.1 4.4 17.7	2 0 54 <1 882 1024 938 1190 3309 history2 4 2 2 history2 0.7 8.8 20.7



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	15.4	13.6	14.4	12.6
GRAPHS						
15 iron nickel		/	/			
15 - nickel	Deci 18/23		Jan2.24			
15 10 5 0	_		Jan2/24			

Base Number

10.0

(mg KOH/g)

Base Number (mg)

0.0

Mav26/23

Jan2/24 -

: 05 Jan 2024



 Lab Number
 : 06051769
 Diagnosed
 : 05 Jan 2024

 Unique Number
 : 10817718
 Diagnostician
 : Wes Davis

 Certificate L2367
 Test Package
 : FLEET

 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - 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)

Dec18/23

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Recieved

Viscosity @ 100°C

19

18

()-16 ()-00 () 15 () 14

12

Laboratory

Sample No.

Mav26/23

: GFL0108818

Contact: Frank Wolak fwolak@gflenv.com T: (586)825-9514 2) F: Submitted By: Frank Wolak

Dec18/23 -

GFL Environmental - 415 - Michigan East

6200 Elmridge

US 48313

Sterling Heights, MI

Jan2/24