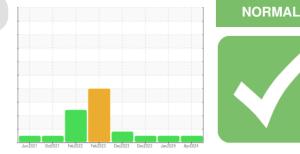


OIL ANALYSIS REPORT

Sample Rating Trend



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

SAMPLE INFORMATION method

DIAGNOSIS Recommendation

Resample at the next service interval to monitor.

Machine Id 537M

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

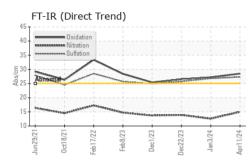
Fluid Condition

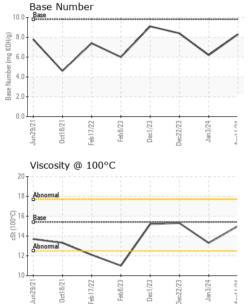
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

				Current	nistory i	
Sample Number		Client Info		GFL0117659	GFL0108829	GFL0105843
Sample Date		Client Info		11 Apr 2024	03 Jan 2024	22 Dec 2023
Machine Age	hrs	Client Info		20033	19685	19620
Oil Age	hrs	Client Info		19685	19620	19482
Oil Changed		Client Info		Not Changd	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
		and the second	Page 14 // 2010 10		In the transmission	la la tarra O
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
			>80		79	71
Iron	ppm	ASTM D5185m		63		3
Chromium	ppm	ASTM D5185m	>5	3	3	
Nickel	ppm		>2	1	0	<1
Titanium	ppm	ASTM D5185m	0	<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>30	5	4	4
Lead	ppm	ASTM D5185m	>30	3	4	3
Copper	ppm	ASTM D5185m	>150	3	3	3
Tin	ppm	ASTM D5185m	>5	1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base	current <1	history1 1	history2 <1
	ppm ppm		0			
Boron		ASTM D5185m	0	<1	1	<1
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	<1 0	1 0	<1 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	<1 0 73	1 0 56	<1 0 68
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	<1 0 73 <1	1 0 56 <1	<1 0 68 <1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	<1 0 73 <1 1159	1 0 56 <1 940	<1 0 68 <1 1059
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 1070	<1 0 73 <1 1159 1328	1 0 56 <1 940 1073	<1 0 68 <1 1059 1206
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 73 <1 1159 1328 1297	1 0 56 <1 940 1073 1018	<1 0 68 <1 1059 1206 1069
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 73 <1 1159 1328 1297 1495	1 0 56 <1 940 1073 1018 1329	<1 0 68 <1 1059 1206 1069 1381
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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	<1 0 73 <1 1159 1328 1297 1495 3243 current	1 0 56 <1 940 1073 1018 1329 2512 history1	<1 0 68 <1 1059 1206 1069 1381 3065 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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	<1 0 73 <1 1159 1328 1297 1495 3243 <i>current</i> 11	1 0 56 <1 940 1073 1018 1329 2512 history1 10	<1 0 68 <1 1059 1206 1069 1381 3065 history2 10
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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	<1 0 73 <1 1159 1328 1297 1495 3243 current	1 0 56 <1 940 1073 1018 1329 2512 history1	<1 0 68 <1 1059 1206 1069 1381 3065 history2
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 method ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >20	<1 0 73 <1 1159 1328 1297 1495 3243 <i>current</i> 11 4 2	1 0 56 <1 940 1073 1018 1329 2512 history1 10 4	<1 0 68 <1 1059 1206 1069 1381 3065 history2 10 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 220 200 200 200	<1 0 73 <1 1159 1328 1297 1495 3243 <i>current</i> 11 4 2 <i>current</i>	1 0 56 <1 940 1073 1018 1329 2512 history1 10 4 <1 history1	<1 0 68 <11 1059 1206 1069 1381 3065 history2 10 4 3 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 ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 2060 220 20 20 20 20 20	<1 0 73 <1 1159 1328 1297 1495 3243 <i>current</i> 11 4 2 <i>current</i> 1.6	1 0 56 <1 940 1073 1018 1329 2512 history1 10 4 <1 history1 1.2	<1 0 68 <1 1059 1206 1069 1381 3065 history2 10 4 3 history2 1.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc 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 <i>limit/base</i> >20 <i>limit/base</i> >20	<1 0 73 <1 1159 1328 1297 1495 3243 <u>current</u> 11 4 2 <u>current</u> 1.6 15.0	1 0 56 <1 940 1073 1018 1329 2512 history1 10 4 <1 history1 1.2 1.2 12.6	<1 0 68 <1 1059 1206 1069 1381 3065 history2 10 4 3 history2 1.3 1.3 13.9
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >20 imit/base >3 >20 >3 >20	<1 0 73 <1 1159 1328 1297 1495 3243 <u>current</u> 11 4 2 <u>current</u> 1.6 1.6 15.0 27.3	1 0 56 <1 940 1073 1018 1329 2512 history1 10 4 <1 10 4 <1 1.2 1.2 12.6 26.8	<1 0 68 <11 1059 1206 1069 1381 3065 history2 10 4 3 history2 1.3 13.9 25.7
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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 2060 2060 200 200 200 200 200 200	<1 0 73 <1 1159 1328 1297 1495 3243 Current 11 4 2 Current 1.6 15.0 27.3 Current	1 0 56 <1 940 1073 1018 1329 2512 history1 10 4 <1 10 4 <1 1.2 1.2 12.6 26.8 history1	<1 0 68 <11 1059 1206 1069 1381 3065 history2 10 4 3 history2 1.3 13.9 25.7 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 imit/base >20 imit/base >3 >20 30 imit/base	<1 0 73 <1 1159 1328 1297 1495 3243 Current 11 4 2 Current 1.6 15.0 27.3 Current 28.5	1 0 56 <1 940 1073 1018 1329 2512 history1 10 4 <1 10 4 <1 1.2 12.6 26.8 history1 27.2	<1 0 68 <11 1059 1206 1069 1381 3065 10 10 4 3 10 10 4 3 10 1.3 13.9 25.7 history2 26.5
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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 2060 2060 200 200 200 200 200 200	<1 0 73 <1 1159 1328 1297 1495 3243 Current 11 4 2 Current 1.6 15.0 27.3 Current	1 0 56 <1 940 1073 1018 1329 2512 history1 10 4 <1 10 4 <1 1.2 1.2 12.6 26.8 history1	<1 0 68 <11 1059 1206 1069 1381 3065 history2 10 4 3 history2 1.3 13.9 25.7 history2



OIL ANALYSIS REPORT





VISUAL		method	limit/base	current	history1	
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	NORM
Ddor	scalar	*Visual	NORML	NORML	NORML	NORM
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	histor
/isc @ 100°C	cSt	ASTM D445	15.4	15.0	13.3	15.3
GRAPHS						
Ferrous Alloys						
iron chromium						
nickel						
	-					
•						
	dimension of the second se					
21	23	24	24			
	Feb8/23	ec22/23	pr11/24			
Jun 29/21 Oct18/21 Feb 17/22		Dec22/23	Apr11/24			
Jun 29/21 Oct18/21 Feb 17/22 Nou-ferrors Metal		Dec22/23 -	Apr11/24			
Non-ferrous Metal		Dec22/23	Apr11/24			
Von-ferrous Metal		Dec22/23	Apri 1/24			
Non-ferrous Metal		Dec22/23	Apri 1/24			
Non-ferrous Metal		Dec22/23	Apri 1/24			
Non-ferrous Metal		Dec22/23	April 1/24			
Non-ferrous Metal		Dec2273	Apri 1/24			
Non-ferrous Metal		Dec22/23	Apri 1/24			
Non-ferrous Metal	s					
Non-ferrous Metal	s					
Jun29/21 Oct18/21 Got18/21 Feb17/22 Feb17/22 Feb17/22	Peet 1/23	Dec2223 - Dec222	Apri1/24 Apri1/24			
Non-ferrous Metal	Peet 1/23		April124	Base Numbe	r	
Viscosity @ 100°C	Peet 1/23				r	
Jun29/21 Oct18/21 Got18/21 Feb17/22 Feb17/22 Feb17/22	Peet 1/23		4pr(1/24	Base	r	
Non-ferrous Metal	Peet 1/23		4pr(1/24	Base	r	
Viscosity @ 100°C	Peet 1/23		4pr(1/24	Base	r	
Non-ferrous Metal	Peet 1/23		4pr(1/24	Base	r	
Non-ferrous Metal	Peet 1/23		4pr(1/24	Base	r	
Non-ferrous Metal	Peet 1/23		0.0 Peer (und KOH(0)	Base	r	
Non-ferrous Metal	Peet 1/23		10.0 (0,HQX) Bull and 4.0 8.0 8.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9	Base	r	
Non-ferrous Metal	Petebliza	Dec2223	10.0 billion (0)(0)(0) billion (0)(0)(0) billion (0)(0)(0)(0) billion (0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(Base		24
Non-ferrous Metal	Peet 1/23	Dec2223	10.0 billion (0)(0)(0) billion (0)(0)(0) billion (0)(0)(0)(0) billion (0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(Base		Jam3/24
Non-ferrous Metal	Petebliza	D + 5/Errel	10.0 (0,HQX) Bull and 4.0 8.0 8.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9	Asse		Dec22/23

Laboratory Sample No. Lab Number : 06148396 : 16 Apr 2024 Sterling Heights, MI Tested Unique Number : 10978474 : 17 Apr 2024 - Sean Felton Diagnosed Contact: Frank Wolak Test Package : FLEET Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. fwolak@gflenv.com T: (586)825-9514 * - 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)

Report Id: GFL415 [WUSCAR] 06148396 (Generated: 04/17/2024 14:31:15) Rev: 1

Submitted By: Frank Wolak

Page 2 of 2

F:

US 48313