

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id 811069 Component

Component Diesel Engine

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

SAMPLE INFORMATION

c2022 Feb2023	Megtaza Augtaza	Ocz023 Jan2024 Maz2024	Jun2024	
method				
Client Info		GFL0111432	GFL0111476	GFL
Client Info	:	28 Jun 2024	05 Jun 2024	20 M
Client Info		9974	9859	9628

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.

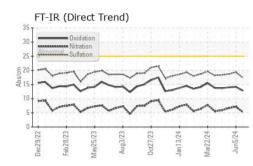
Fluid Condition

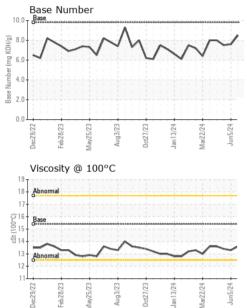
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number Sample Date Machine Age Oil Age Oil Changed Sample Status CONTAMINAT	hrs hrs	Client Info Client Info Client Info Client Info Method	limit/base	GFL0111432 28 Jun 2024 9974 115 Not Changd NORMAL	GFL0111476 05 Jun 2024 9859 623 Changed NORMAL history1	GFL0111410 20 May 2024 9628 392 Not Changd NORMAL 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	>120	2	6	4
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	2	1
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	0	1	<1
Tin Vanadium	ppm	ASTM D5185m	>15	0	<1	0 <1
Cadmium	ppm	ASTM D5185m ASTM D5185m		0	0 <1	<1
	ppm	ASTIVI DOTODIII		U	< 1	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	4	history1 2	1
	ppm ppm					
Boron		ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	4 0 55	2 0 59	1 0 60
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	4 0 55 0	2 0 59 0	1 0 60 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	4 0 55 0 900	2 0 59 0 911	1 0 60 0 1006
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	4 0 55 0 900 1005	2 0 59 0 911 1022	1 0 60 0 1006 1121
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	4 0 55 0 900 1005 1017	2 0 59 0 911 1022 914	1 0 60 0 1006 1121 1057
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	4 0 55 0 900 1005 1017 1205	2 0 59 0 911 1022 914 1186	1 0 60 0 1006 1121 1057 1318
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	4 0 55 0 900 1005 1017	2 0 59 0 911 1022 914	1 0 60 0 1006 1121 1057
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	4 0 55 0 900 1005 1017 1205	2 0 59 0 911 1022 914 1186	1 0 60 0 1006 1121 1057 1318
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 1010 1070 1150 1270 2060	4 0 55 0 900 1005 1017 1205 2864	2 0 59 0 911 1022 914 1186 2958	1 0 60 0 1006 1121 1057 1318 3446
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	4 0 55 0 900 1005 1017 1205 2864 current	2 0 59 0 911 1022 914 1186 2958 history1	1 0 60 0 1006 1121 1057 1318 3446 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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	4 0 55 0 900 1005 1017 1205 2864 <u>current</u> 4	2 0 59 0 911 1022 914 1186 2958 history1 4	1 0 60 0 1006 1121 1057 1318 3446 history2 3
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	4 0 55 0 900 1005 1017 1205 2864 <u>current</u> 4 2	2 0 59 0 911 1022 914 1186 2958 history1 4 2	1 0 60 0 1006 1121 1057 1318 3446 history2 3 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	4 0 55 0 900 1005 1017 1205 2864 <i>current</i> 4 2 1 <i>current</i>	2 0 59 0 911 1022 914 1186 2958 history1 4 2 1 1 history1	1 0 60 0 1006 1121 1057 1318 3446 history2 3 2 1 1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	4 0 55 0 900 1005 1017 1205 2864 <i>current</i> 4 2 1 <i>current</i> 0.2	2 0 59 0 911 1022 914 1186 2958 history1 4 2 1	1 0 60 0 1006 1121 1057 1318 3446 history2 3 2 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	4 0 55 0 900 1005 1017 1205 2864 <i>current</i> 4 2 1 <i>current</i>	2 0 59 0 911 1022 914 1186 2958 history1 4 2 1 1 history1 0.6	1 0 60 0 1006 1121 1057 1318 3446 history2 3 2 1 history2 0.5
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 ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 20 20 20 20 20 20 20 20 20 20 20	4 0 55 0 900 1005 1017 1205 2864 <i>current</i> 4 2 2 1 <i>current</i> 0.2 5.2 17.4	2 0 59 0 911 1022 914 1186 2958 history1 4 2 2 1 1 history1 0.6 7.2 19.3	1 0 60 0 1006 1121 1057 1318 3446 history2 3 2 1 1 history2 0.5 6.7 18.7
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 ppm TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7615	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 220 20 20 20 20 20 20 20 20 20 20 20	4 0 55 0 900 1005 1017 1205 2864 <i>current</i> 4 2 2 1 <i>current</i> 0.2 5.2 17.4	2 0 59 0 911 1022 914 1186 2958 history1 4 2 1 4 2 1 history1 0.6 7.2 19.3 history1	1 0 60 0 1006 1121 1057 1318 3446 history2 3 2 1 1 history2 0.5 6.7 18.7 history2
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 20 20 20 20 20 20 20 20 20 20 20 20	4 0 55 0 900 1005 1017 1205 2864 <i>current</i> 4 2 2 1 <i>current</i> 0.2 5.2 17.4	2 0 59 0 911 1022 914 1186 2958 history1 4 2 2 1 1 history1 0.6 7.2 19.3	1 0 60 0 1006 1121 1057 1318 3446 history2 3 2 1 1 history2 0.5 6.7 18.7



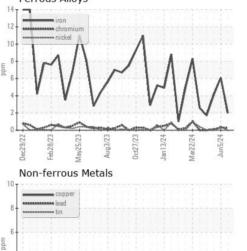
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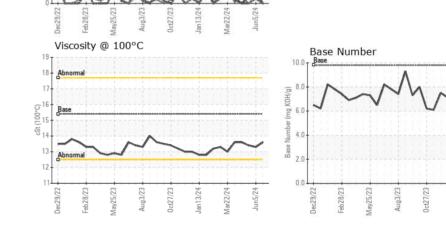




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	13.6	13.3	13.4
GRAPHS						

Ferrous Alloys





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 073 - Warner Robins - Transwaste Sample No. : GFL0111432 Received : 03 Jul 2024 155 Story Road Lab Number : 06227085 Tested : 05 Jul 2024 Warner Robins, GA Unique Number : 11110578 Diagnosed : 05 Jul 2024 - Wes Davis US 31093 Test Package : FLEET Contact: JOSH MALONEY Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. jmaloney@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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Submitted By: JOSH MALONEY

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