

OIL ANALYSIS REPORT

Machine Id PACCAR 810037

Component Diesel Engine

Fluid

PETRO CANADA DURON SHP 15W40 (28 QTS)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

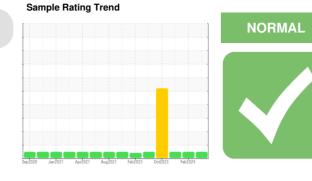
All component wear rates are normal.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

Fluid Condition

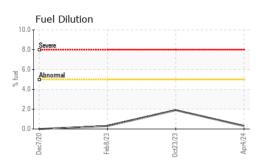
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

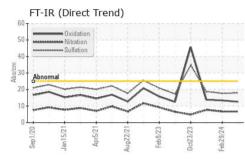


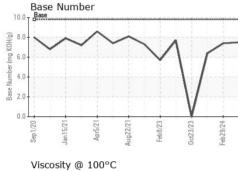
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0116792	GFL0109048	GFL0109102
Sample Date		Client Info		04 Apr 2024	29 Feb 2024	11 Jan 2024
Machine Age	hrs	Client Info		7773	7651	7520
Oil Age	hrs	Client Info		3587	3465	7520
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
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	>100	14	5	41
Chromium	ppm	ASTM D5185m	>20	0	<1	0
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	4	11
Lead	ppm	ASTM D5185m	>40	4	4 0	<1
Copper	ppm	ASTM D5185m	>330	0	<1	<1
Tin	ppm	ASTM D5185m	>15	۰ <1	0	<1
Vanadium	ppm	ASTM D5185m	>10	0	<1	0
Cadmium		ASTM D5185m		0	0	0
	ppm	ASTIM DSTOSIII		0	0	
ADDITIVES			limit/base			history2
ADDITIVES		method	iinii/base	current	history1	
Boron	ppm	ASTM D5185m	0	12	11	18
Boron Barium	ppm ppm		0	12 0	11 0	18 0
Boron		ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	12	11 0 55	18 0 62
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m	0 0 60 0	12 0	11 0 55 0	18 0 62 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	12 0 59	11 0 55 0 755	18 0 62 <1 800
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	12 0 59 <1	11 0 55 0	18 0 62 <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	12 0 59 <1 772	11 0 55 0 755	18 0 62 <1 800
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	12 0 59 <1 772 1105	11 0 55 0 755 1118	18 0 62 <1 800 1074
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	12 0 59 <1 772 1105 921	11 0 55 0 755 1118 771	18 0 62 <1 800 1074 1010
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	12 0 59 <1 772 1105 921 1079	11 0 55 0 755 1118 771 1128	18 0 62 <1 800 1074 1010 1165
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	12 0 59 <1 772 1105 921 1079 3037	11 0 55 0 755 1118 771 1128 3030	18 0 62 <1 800 1074 1010 1165 2812
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	12 0 59 <1 772 1105 921 1079 3037 current	11 0 55 0 755 1118 771 1128 3030 history1	18 0 62 <1 800 1074 1010 1165 2812 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	0 0 60 1010 1070 1150 1270 2060	12 0 59 <1 772 1105 921 1079 3037 <u>current</u> 3 0 0	11 0 55 0 755 1118 771 1128 3030 history1 2 4 6	18 0 62 <1 800 1074 1010 1165 2812 history2 5 < <1 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm 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 1010 1070 1150 1270 2060 kimit/base	12 0 59 <1 772 1105 921 1079 3037 current 3 0	11 0 55 0 755 1118 771 1128 3030 history1 2 4	18 0 62 <1 800 1074 1010 1165 2812 history2 5 <
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 limit/base >25	12 0 59 <1 772 1105 921 1079 3037 <u>current</u> 3 0 0	11 0 55 0 755 1118 771 1128 3030 history1 2 4 6	18 0 62 <1 800 1074 1010 1165 2812 history2 5 <1 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20	12 0 59 <1 772 1105 921 1079 3037 current 3 0 0 0 0 0.3	11 0 55 0 755 1118 771 1128 3030 history1 2 4 6 5 <1.0	18 0 62 <1 800 1074 1010 1165 2812 history2 5 <1 4 4 <1.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >20 >20 >20 >5 S	12 0 59 <1 772 1105 921 1079 3037 <i>current</i> 3 0 0 0 0 0.3 <i>current</i>	11 0 55 0 755 1118 771 1128 3030 history1 2 4 6 < 4 6 < 1.0 history1	18 0 62 <1 800 1074 1010 1165 2812 history2 5 <1 4 <1.0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	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 >20 >20 >20 >5 S	12 0 59 <1 772 1105 921 1079 3037 <i>current</i> 3 0 0 0 0.3 <i>current</i>	11 0 55 0 755 1118 771 1128 3030 history1 2 4 6 < 4 6 < 1.0 history1 0.2	18 0 62 <1 800 1074 1010 1165 2812 history2 5 <1 4 < 2 1 0.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel 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 >20 >20 >5 1imit/base >3 >20	12 0 59 <1 772 1105 921 1079 3037 current 3 0 0 0.3 current 0.4 6.7	11 0 55 0 755 1118 771 1128 3030 history1 2 4 6 <1.0 history1 0.2 6.7	18 0 62 <1 800 1074 1010 1165 2812 history2 5 <1 4 <1.0 history2 0.4 7.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel 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 binit/base >25 >20 >5 binit/base >3 >20 >3 >20	12 0 59 <1 772 1105 921 1079 3037 <i>current</i> 3 0 0 0 0.3 <i>current</i> 0.4 6.7 17.9 <i>current</i>	11 0 55 0 755 1118 771 1128 3030 history1 2 4 6 <1.0 history1 0.2 6.7 17.7	18 0 62 <1 800 1074 1010 1165 2812 history2 5 <1 4 <1.0 history2 0.4 7.7 18.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 /////////////////////////////////	12 0 59 <1 772 1105 921 1079 3037 current 3 0 0 0 0.3 current 0.4 6.7 17.9	11 0 55 0 755 1118 771 1128 3030 history1 2 4 6 <1.0 history1 0.2 6.7 17.7 history1	18 0 62 <1 800 1074 1010 1165 2812 bistory2 5 <1 4 <1.0 bistory2 0.4 7.7 18.7 bistory2

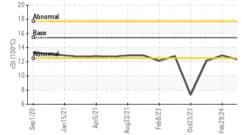


OIL ANALYSIS REPORT



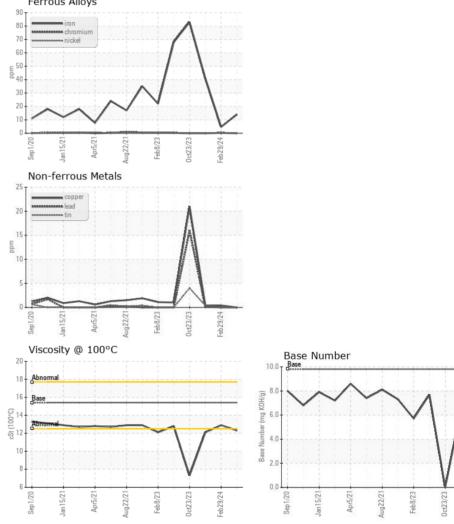






VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	12.3	12.9	12.1
GRAPHS						

Ferrous Alloys



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 009 - Fairburn Sample No. : GFL0116792 Received : 10 Apr 2024 6905 Roosevelt Hwy Lab Number : 06144935 Tested : 15 Apr 2024 Fairburn, GA US 30213 Unique Number : 10969743 Diagnosed : 15 Apr 2024 - Wes Davis Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel) Contact: Eric Jones Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. erjones@gflenv.com T: (678)630-9927 * - 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) E:

Report Id: GFL009 [WUSCAR] 06144935 (Generated: 04/15/2024 09:20:32) Rev: 1

Submitted By: Eric Jones Page 2 of 2

Feb 29/24