

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL





Sample Number Client Info CFL0084580 GFL0092034 GFL0092034 GFL0092034 GFL0084685 Sample Date Client Info 1062 625869 127982 Oil Age hrs Client Info 625869 625869 0 Oil Changed Client Info 625869 625869 0 Oil Changed Client Info Current history NORMAL NORMAL CONTAMINATION method init/base current history NEG Fuel WC Method >0.2 NEG NEG NEG WEAR METALS method init/base current history history Iron ppm ASTM05185 >40 <1 0 <1 Nickel ppm ASTM05185 >30 0 0 0 Silver ppm ASTM05185 >30 2 1 <1 1 Chromium ppm ASTM05185 >30 2 1 2	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 14082 625869 127982 Oil Age hrs Client Info 625869 0 Oil Changed Client Info 625869 0 Changed Sample Status Imit base current history1 History2 Fuel WC Method >5 <1.0	Sample Number		Client Info		GFL0084580	GFL0092034	GFL0084685
Oil Age hrs Client Info 625869 625869 0 Changed Client Info Changed Not Changed Changed Sample Status Imit Mode Imit Mass Current history1 NormAL CONTAMINATION method Imit Mass current history1 history2 Fuel WC Method >5. <1.0	Sample Date		Client Info		21 Dec 2023	02 Dec 2023	09 Jun 2023
Oil Changed Sample Status Client Info Changed NORIMAL Not Changed NORIMAL NORIMAL NORIMAL NORIMAL NORIMAL Fuel WC Method >5.5 <1.0	Machine Age	hrs	Client Info		14082	625869	127982
Sample Status Image NORMAL NORMAL NORMAL NORMAL CONTAMINATION method imit/base current history1 history2 Fuel WC Method >5 <1.0	Oil Age	hrs	Client Info		625869	625869	0
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Fuel WC Method >5 <1.0	Sample Status				NORMAL	NORMAL	NORMAL
Water WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 20 11 <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS method initicase current history1 history2 Iron ppm ASTM D5185m >100 20 11 7 Chromium ppm ASTM D5185m >20 1 <1	Fuel		WC Method	>5	<1.0	<1.0	<1.0
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Lead ppm ASTM D5185m >40 <1 0 1 Copper ppm ASTM D5185m >330 2 1 <1	Silver	ppm	ASTM D5185m	>3	0	0	0
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Soot % % *ASTM D7844 >3 0 0 0.1 Nitration Abs/cm *ASTM D7624 >20 9.8 8.7 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.4 19.3 22.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.3 16.8 19.7	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 method ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 Limit/base >25	11 13 58 2 555 1454 773 908 2457 current 18 115	15 4 52 <1 523 1385 689 857 2529 history1 11 76	13 0 50 <1 585 1697 745 1029 2983 history2 4 7
Nitration Abs/cm *ASTM D7624 >20 9.8 8.7 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.4 19.3 22.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.3 16.8 19.7	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 Limit/base >25	11 13 58 2 555 1454 773 908 2457 current 18 115 29	15 4 52 <1 523 1385 689 857 2529 history1 11 76 21	13 0 50 <1 585 1697 745 1029 2983 history2 4 7 3
Sulfation Abs/.1mm *ASTM D7415 >30 19.4 19.3 22.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.3 16.8 19.7	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	11 13 58 2 555 1454 773 908 2457 <u>current</u> 18 115 29 0.0	15 4 52 <1 523 1385 689 857 2529 history1 11 76 21 NEG	13 0 50 <1 585 1697 745 1029 2983 history2 4 7 3 NEG
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Oxidation Abs/.1mm *ASTM D7414 >25 17.3 16.8 19.7	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m *ASTM D2982 method *ASTM D7844	0 60 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >3	11 13 58 2 555 1454 773 908 2457 current 18 115 29 0.0 current 0	15 4 52 <1 523 1385 689 857 2529 history1 11 76 21 NEG history1 0	13 0 50 <1 585 1697 745 1029 2983 history2 4 7 3 NEG history2 0.1
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D2982 method *ASTM D7844 *ASTM D7844	0 60 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	11 13 58 2 555 1454 773 908 2457 current 18 115 29 0.0 current 0 9.8	15 4 52 <1 523 1385 689 857 2529 history1 11 76 21 NEG history1 0 8.7	13 0 50 <1 585 1697 745 1029 2983 history2 4 7 3 NEG history2 0.1 10.0
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm ppm 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 ASTM D5185m *ASTM D2982 method *ASTM D7844 *ASTM D7624 *ASTM D7624	0 60 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20 >30	11 13 58 2 555 1454 773 908 2457 <i>current</i> 18 115 29 0.0 <i>current</i> 0 9.8 19.4	15 4 52 <1 523 1385 689 857 2529 history1 11 76 21 NEG history1 0 8.7 19.3	13 0 50 <1 585 1697 745 1029 2983 history2 4 7 3 NEG history2 0.1 10.0 22.7
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm 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 ASTM D5185m *ASTM D2982 method *ASTM D7844 *ASTM D7624 *ASTM D7415	0 60 1010 1070 1150 1270 2060 Imit/base >25 20 >20 Imit/base >3 >20 >30	11 13 58 2 555 1454 773 908 2457 Current 18 115 29 0.0 Current 0 9.8 19.4 Current	15 4 52 <1 523 1385 689 857 2529 history1 11 76 21 NEG 21 NEG history1 0 8.7 19.3	13 0 50 <1 585 1697 745 1029 2983 history2 4 7 3 NEG history2 0.1 10.0 22.7 history2

749005-310061

Component **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

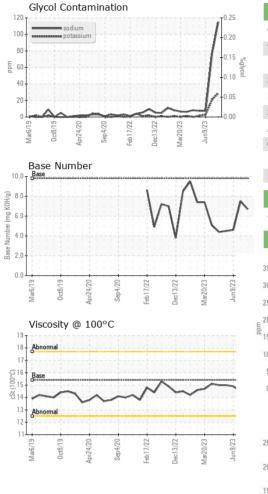
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Test for glycol is negative. There is no indication of any contamination in the oil.

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.



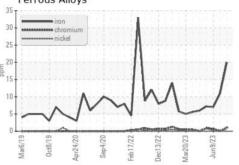
OIL ANALYSIS REPORT

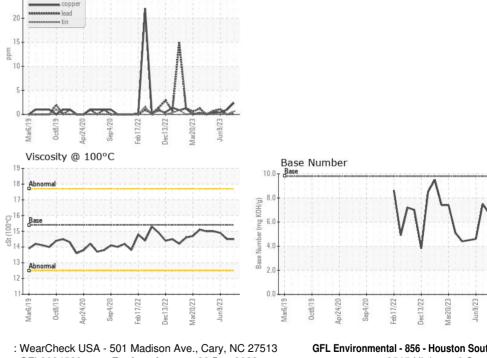


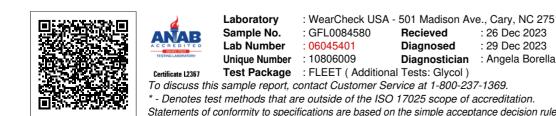
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	14.5	14.5	14.9
GRAPHS						

Ferrous Alloys

Non-ferrous Metals









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

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