

OIL ANALYSIS REPORT

Sample Rating Trend

GLYCOL

[GFL865] Machine Id 2024 Peterbilt 520

Component Diesel Engine

PETRO CANADA DURON GEO LD 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. (Customer Sample Comment: Engine oil sample)

Wear

Metal levels are typical for a new component breaking in.

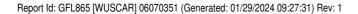
Contamination

Sodium and/or potassium levels are high. Test for glycol is negative.

Fluid Condition

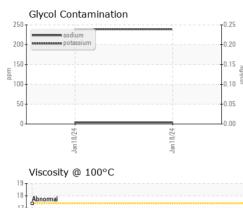
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

				Jan2024		
SAMPLE INFORM	/ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0103933		
Sample Date		Client Info		18 Jan 2024		
Machine Age	hrs	Client Info		594		
Oil Age	hrs	Client Info		594		
Oil Changed		Client Info		Changed		
Sample Status				ABNORMAL		
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
WEAR METALS	5	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	42		
Chromium	ppm	ASTM D5185m	>4	2		
Nickel	ppm	ASTM D5185m	>2	1		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>2	0		
Aluminum	ppm	ASTM D5185m	>25	58		
Lead	ppm	ASTM D5185m	>45	2		
Copper	ppm	ASTM D5185m	>85	16		
Tin	ppm	ASTM D5185m	>4	2		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	50	9		
Barium	ppm	ASTM D5185m	5	15		
Molybdenum	ppm	ASTM D5185m	50	49		
	1010	no nii Boroonii	00	45		
Manganese	ppm	ASTM D5185m		12		
				-		
Magnesium	ppm	ASTM D5185m	0	12		
Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m	0 560	12 874		
Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 560 1510 780	12 874 1427		
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 560 1510 780	12 874 1427 797		
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 560 1510 780 870	12 874 1427 797 892		
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ⁻	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 560 1510 780 870 2040	12 874 1427 797 892 2410	 	
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	0 560 1510 780 870 2040 limit/base	12 874 1427 797 892 2410 current	 history1	 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ⁻ Silicon Sodium	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	0 560 1510 780 870 2040 limit/base	12 874 1427 797 892 2410 current 31	 history1 	 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	0 560 1510 780 870 2040 limit/base >30	12 874 1427 797 892 2410 current 31 4	 history1 	 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon Sodium Potassium	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	0 560 1510 780 870 2040 limit/base >30	12 874 1427 797 892 2410 <u>current</u> 31 4 239	 history1 	 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED	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 D2982	0 560 1510 780 870 2040 limit/base >30 >20	12 874 1427 797 892 2410 current 31 4 239 NEG	 history1 	 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon Sodium Potassium Glycol INFRA-RED Soot %	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 D2982	0 560 1510 780 870 2040 limit/base >30 >20 limit/base >3	12 874 1427 797 892 2410 current 31 4 239 NEG current	 history1 history1	 history2 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 method *ASTM D7844	0 560 1510 780 870 2040 limit/base >30 	12 874 1427 797 892 2410 current 31 4 ▲ 239 NEG current 0	 history1 history1	 history2 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	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 D2982 *ASTM D2982 *ASTM D7844 *ASTM D7624	0 560 1510 780 870 2040 limit/base >30 	12 874 1427 797 892 2410 current 31 4 ≥ 239 NEG current 0 11.5	 history1 history1	 history2 history2
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 D2982 *ASTM D2982 *ASTM D7844 *ASTM D7624	0 560 1510 780 870 2040 limit/base >30 >20 limit/base >3 >20 >30	12 874 1427 797 892 2410 current 31 4 ▲ 239 NEG current 0 11.5 22.9	 history1 history1 history1	 history2 history2

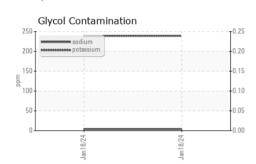




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		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE		
Yellow Metal	scalar	*Visual	NONE	NONE		
Precipitate	scalar	*Visual	NONE	NONE		
Silt	scalar	*Visual	NONE	NONE		
Debris	scalar	*Visual	NONE	NONE		
Sand/Dirt	scalar	*Visual	NONE	NONE		
Appearance	scalar	*Visual	NORML	NORML		
Odor	scalar	*Visual	NORML	NORML		
Emulsified Water	scalar	*Visual	>0.2	NEG		
Free Water	scalar	*Visual		NEG		
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	14.5		
GRAPHS						
Ferrous Alloys						
0 Iron 5 Normium						
0						
5						
5						
5						
Jan 18/24			Jan 18/24			
2			Ja			
Non-ferrous Meta	IS					
4 - copper						
2						
0-						
8-						
6						
-						
4						
4						
4 2			/24			
4			Jan18/24			
Viscosity @ 100°C	2		Jan18/24	Base Number		
Viscosity @ 100°C	2		47/81/uer 12.0	Base Number		
4 2 2 2 2 3 3 4 3 4 3 4 3 4 3 4 3 4 3 4	2		12.0	Base Number		
4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2		12.0	1		
4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2		12.0	1		
4 2 0 Viscosity @ 100°C			12.0	1		
4 2 4 5 4 4 4 5 4 4 4 4 4 4 4 4 4 4 4 4 4	2		12.0 (0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(1		
4 2 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4	2		12.0	1		
Viscosity @ 100°C	2		12.0 (0) (0) (0) (0) (0) (0) (0) (0) (0) (0	Base		
Viscosity @ 100°C			12.0 (0) (0) (0) (0) (0) (0) (0) (0) (0) (0	Base		an 18.24
4 2 4 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2		12.0 10.0	1		Jan1824
Abnormal Abnorm	501 Madis		12.0 10.0	Base b b b b C 8 L Env	ironmental - 865 - E	ast Mount Hauling
Viscosity @ 100°C	501 Madis Recieved	d : 25 .	12.0 10.0	Base b b b b C 8 L Env		ast Mount Hauling Houston Road
4 2 4 2 4 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4	501 Madia Recieved Diagnose	d : 25 . ed : 29 .	12.0 10.0	Base b b b b C 8 L Env	ironmental - 865 - E	ast Mount Hauling Houston Road Houston, TX
4 2 4 2 4 2 4 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4	501 Madis Recieved Diagnost Diagnost Tests: Gl	d : 25 . ed : 29 . iician : Jon ycol)	12.0 10.0	Base b b b b C 8 L Env	ironmental - 865 - E '213 East Mount Contac	ast Mount Hauling Houston Road

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)

Certificate L2367

Laboratory

Sample No. Lab Number **Unique Number Test Package**

T:

F: