

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 934054

Component Natural Gas Engine Fluid

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

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. (Customer Sample Comment: Engine oil sample)

Wear

All component wear rates are normal.

Contamination

Elevated aluminum (AI) 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. No other contaminants were detected in the oil.

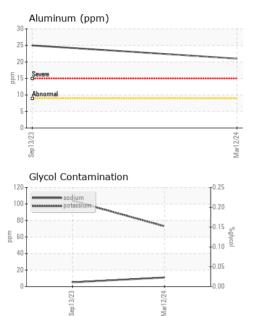
Fluid Condition

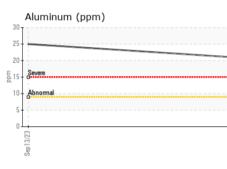
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

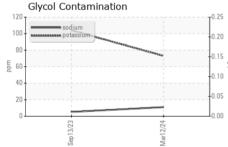
GAL)			Sep2023	Mar2024		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0114477	GFL0093235	
Sample Date		Client Info		12 Mar 2024	13 Sep 2023	
Machine Age	mls	Client Info		1689	600	
Oil Age	mls	Client Info		1689	600	
Oil Changed		Client Info		Not Changd	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	17	35	
Chromium	ppm	ASTM D5185m	>4	2	<1	
Nickel	ppm	ASTM D5185m	>2	<1	<1	
Titanium	ppm	ASTM D5185m		<1	0	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>9	21	25	
Lead	ppm	ASTM D5185m		<1	2	
Copper	ppm	ASTM D5185m		2	14	
Tin	ppm		>4	0	2	
Vanadium	ppm	ASTM D5185m		<1	<1	
Cadmium						
Caumum	ppm	ASTM D5185m		0	0	
ADDITIVES	ppm	method	limit/base	0 current	0 history1	
ADDITIVES	ppm		limit/base 50	-		
ADDITIVES Boron		method		current	history1	history2
ADDITIVES Boron Barium	ppm	method ASTM D5185m	50	current	history1 13	history2
ADDITIVES Boron Barium Molybdenum	ppm ppm	method ASTM D5185m ASTM D5185m	50 5	current 10 0	history1 13 0	history2
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	current 10 0 56	history1 13 0 56	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	current 10 0 56 <1	history1 13 0 56 9	history2
	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	current 10 0 56 <1 615	history1 13 0 56 9 839	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510	current 10 0 56 <1	history1 13 0 56 9 839 1407	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780	current 10 0 56 <1	history1 13 0 56 9 839 1407 749	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870	current 10 0 56 <1	history1 13 0 56 9 839 1407 749 995	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base	Current 10 0 56 <1 615 1750 755 1014 3079	history1 13 0 56 9 839 1407 749 995 2767	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base	current 10 0 56 <1	history1 13 0 56 9 839 1407 749 995 2767 history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >+100	current 10 0 56 <1	history1 13 0 56 9 839 1407 749 995 2767 history1 26	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >+100	current 10 0 56 <1	history1 13 0 56 9 839 1407 749 995 2767 history1 26 5	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >+100	current 10 0 56 <1	history1 13 0 56 9 839 1407 749 995 2767 history1 26 5 104	history2
ADDITIVES 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	method ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >+100 	current 10 0 56 <1	history1 13 0 56 9 839 1407 749 995 2767 history1 26 5 104 history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >+100 	current 10 0 56 <1	history1 13 0 56 9 839 1407 749 995 2767 history1 26 5 104 history1 0.1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >20 limit/base	current 10 0 56 <1	history1 13 0 56 9 839 1407 749 995 2767 history1 26 5 104 history1 0.1 10.4	history2
ADDITIVES 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	method ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 imit/base >2040 imit/base >20	current 10 0 56 <1	history1 13 0 56 9 839 1407 749 995 2767 history1 26 5 104 0.1 10.4 20.8	history2



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	VISUAL		method	limit/base	current	history1	history
	White Metal	scalar	*Visual	NONE	NONE	NONE	
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
	Precipitate	scalar	*Visual	NONE	NONE	NONE	
	Silt	scalar	*Visual	NONE	NONE	NONE	
	Debris	scalar	*Visual	NONE	NONE	NONE	
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
	Appearance	scalar	*Visual	NORML	NORML	NORML	
	Odor	scalar	*Visual	NORML	NORML	NORML	
	Emulsified Wa	ter scalar	*Visual	>0.1	NEG	NEG	
	Free Water	scalar	*Visual		NEG	NEG	
	FLUID PR	OPERTIES	method	limit/base	current	history1	history
	Visc @ 100°C	cSt	ASTM D445	15.1	15.1	14.6	
	GRAPHS						
	Ferrous Alloy	ys					
	35	1					
	30 - nickel	m					
	25 -						
	e ²⁰		Construction of the local division of the lo				
	E ²⁰						
	10-						
	5						
				/24			
	Sep 13/23			12			
	<u>a</u>			ar			
		Motals		Mar12/24			
	्र Non-ferrous	Metals		W			
	Non-ferrous	Metals		War			
	Non-ferrous	Metals		Mar			
	Non-ferrous	Metals		Mar			
	Non-ferrous	Metals		War			
	Non-ferrous	Metals		Mar			
	Non-ferrous	Metals		Mar			
	Non-ferrous			/			
	Non-ferrous						
	Non-ferrous						
	Non-ferrous			/			
	Non-ferrous			Mar1224	Base Numbe	r	
	Non-ferrous			+1221 W	Base	r	
	Non-ferrous			Part 12/2	Base	r	
	Non-ferrous			Part 12/2	Base	r	
	Non-ferrous			Part 12/2	Base	r	
	Non-ferrous			Part 12.0	Base	r	
	Non-ferrous			12.0 biological distance in the second secon	Base	r	
	Non-ferrous			Part 12.0	Base	r	
	Non-ferrous			12.0 12.0 10.0	Base	r	
	Non-ferrous			12.0 12.0 10.0	Base	r	
	Non-ferrous			12.0 (0)(HOX) B00 (0)(HOX) B00	Base	r	
	Non-ferrous	100°C		Mar12/24 Base Number (ng) 6.0 7.0 8.0 8.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9	Base EZUEL das		ast Mount Ha
	Non-ferrous	100°C	n Ave., Cary	Mar12/24 Base Number (ng) 6.0 7.0 8.0 8.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9	Base EXCELLENCE	r vironmental - 865 - E 7213 East Mount	
/).	Non-ferrous	100°C A - 501 Madiso	n Ave., Cary ived : 19	12.0 b727128W 12.0 (b)H03 Bul segg 2.0 0.0 b727128W 12.0 (b)H03 Bul segg 2.0 0.0 b127128W	Base EXCELLENCE	vironmental - 865 - E	t Houston R
y D. er per	Non-ferrous	100°C A - 501 Madiso Recei Teste Diagr	n Ave., Cary ived : 19 id : 21 nosed : 21	12.0 12.0 10.0	EZCEL das GFL Env	vironmental - 865 - E 7213 East Mount	

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

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