

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Machine Id

810015 AUTOCAR L9

Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (48 QTS)

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.

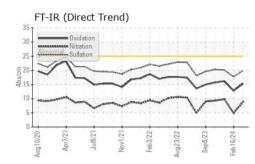
Fluid Condition

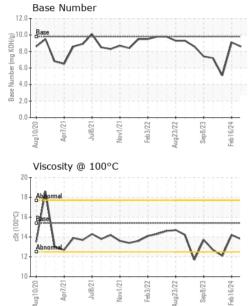
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0117475	GFL0103197	GFL0103205
Sample Date		Client Info		16 Apr 2024	16 Feb 2024	12 Feb 2024
Machine Age	hrs	Client Info		9915	9475	9432
Oil Age	hrs	Client Info		483	43	598
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	NORMAL	SEVERE
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	0.8	▲ 7.0
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	>90	22	4	32
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	5	2	7
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	<1	2	26
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		and the set	Provide Anna anna			history.0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	limit/base	current 2	history1 1	<1
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	0	2	1	<1
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	2 0	1 0	<1 8
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	2 0 59	1 0 60	<1 8 54
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	2 0 59 0	1 0 60 0	<1 8 54 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	2 0 59 0 945	1 0 60 0 1024	<1 8 54 0 799
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	2 0 59 0 945 1021	1 0 60 0 1024 1051	<1 8 54 0 799 916
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	2 0 59 0 945 1021 1021	1 0 60 0 1024 1051 1125	<1 8 54 0 799 916 799
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	2 0 59 0 945 1021 1021 1242	1 0 60 0 1024 1051 1125 1324	<1 8 54 0 799 916 799 1031
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	2 0 59 0 945 1021 1021 1242 3346	1 0 60 0 1024 1051 1125 1324 3369	<1 8 54 0 799 916 799 1031 2502
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	0 0 60 1010 1070 1150 1270 2060	2 0 59 0 945 1021 1021 1242 3346 current	1 0 60 0 1024 1051 1125 1324 3369 history1	<1 8 54 0 799 916 799 1031 2502 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 0 1010 1070 1150 1270 2060 limit/base >25	2 0 59 0 945 1021 1021 1242 3346 current 4	1 0 60 0 1024 1051 1125 1324 3369 history1 4	<1 8 54 0 799 916 799 1031 2502 history2 6
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 ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	2 0 59 0 945 1021 1021 1242 3346 <u>current</u> 4 2	1 0 60 0 1024 1051 1125 1324 3369 history1 4 2	<1 8 54 0 799 916 799 1031 2502 history2 6 1
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 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	2 0 59 0 945 1021 1021 1242 3346 current 4 2 3	1 0 60 0 1024 1051 1125 1324 3369 history1 4 2 1	<1 8 54 0 799 916 799 1031 2502 history2 6 1 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >20 20	2 0 59 0 945 1021 1021 1242 3346 <u>current</u> 4 2 3 3 <i>current</i>	1 0 60 0 1024 1051 1125 1324 3369 history1 4 2 1 1 history1	<1 8 54 0 799 916 799 1031 2502 history2 6 1 7 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 >20 imit/base >6 >20	2 0 59 0 945 1021 1021 1242 3346 <u>current</u> 4 2 3 3 <u>current</u>	1 0 60 0 1024 1051 1125 1324 3369 history1 4 2 1 1 <u>history1</u> 0.2	<1 8 54 0 799 916 799 1031 2502 history2 6 1 7 history2 1
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 >20 imit/base >6 >20	2 0 59 0 945 1021 1021 1242 3346 <i>current</i> 4 2 3 <i>current</i> 1 8.8	1 0 60 0 1024 1051 1125 1324 3369 history1 4 2 1 4 2 1 history1 0.2 4.9	<1 8 54 0 799 916 799 1031 2502 history2 6 1 7 history2 1 9.8
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 <u>imit/base</u> >6 >20 20	2 0 59 0 945 1021 1021 1242 3346 <u>current</u> 4 2 3 3 <u>current</u> 1 8.8 19.9	1 0 60 0 1024 1051 1125 1324 3369 history1 4 2 1 1 <u>history1</u> 0.2 4.9 17.7	<1 8 54 0 799 916 799 1031 2502 history2 6 1 7 history2 1 9.8 20.1
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	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	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	2 0 59 0 945 1021 1021 1242 3346 <i>current</i> 4 2 3 <i>current</i> 1 8.8 19.9 <i>current</i>	1 0 60 0 1024 1051 1125 1324 3369 history1 4 2 1 4 2 1 history1 0.2 4.9 17.7 history1	<1 8 54 0 799 916 799 1031 2502 history2 6 1 7 history2 1 9.8 20.1 history2



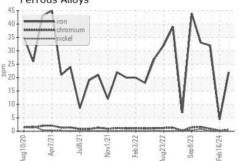
OIL ANALYSIS REPORT



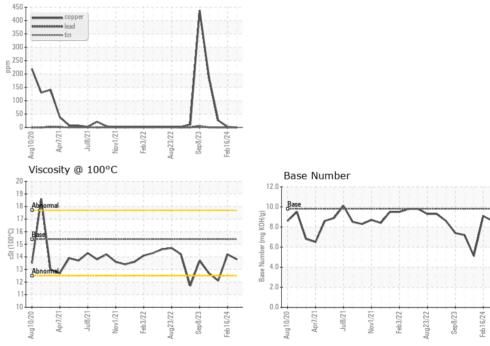


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	13.8	14.2	▲ 12.1
GRAPHS						

Ferrous Alloys







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 001 - Raleigh(CNG) Sample No. : GFL0117475 Received : 17 Apr 2024 3741 Conquest Drive Lab Number : 06151696 Tested : 18 Apr 2024 Garner, NC Unique Number : 10981774 Diagnosed : 18 Apr 2024 - Wes Davis US 27529 Test Package : FLEET Contact: Craig Johnson Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. craig.johnson@gflenv.com T: (919)662-7100 * - 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) F: (919)662-7130

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Submitted By: aka Keith - Ronald Gregory