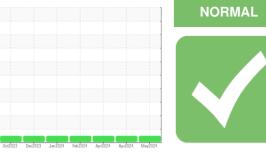


OIL ANALYSIS REPORT

Sample Rating Trend



Component Diesel Engine PETRO CANADA DURON SHP 15W40 (--- GAL)

SAMPLE INFORMATION method

DIAGNOSIS Recommendation

Resample at the next service interval to monitor.

Machine Id 212019

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

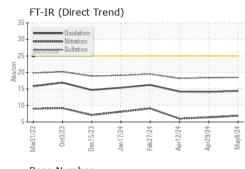
Fluid Condition

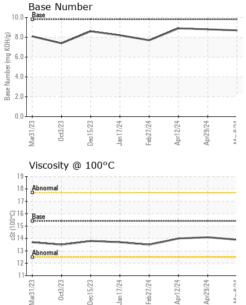
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		methou		Current	nistory i	
Sample Number		Client Info		GFL0109302	GFL0109413	GFL0109419
Sample Date		Client Info		08 May 2024	29 Apr 2024	12 Apr 2024
Machine Age	hrs	Client Info		2764	2636	2636
Oil Age	hrs	Client Info		128	263	263
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
		and the set	Press to Use a second		In the tax work	h is to make
CONTAMINAT		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
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	12	10	8
Chromium	ppm	ASTM D5185m	>20	1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m	>2	7	7	6
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	6	6	4
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	0	1	<1
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		<1	<1	0
ADDITIVES		method				history2
ADDITIVES Boron	maa	method ASTM D5185m	limit/base		history1 7	history2 9
	ppm ppm			current 6 0	history1 7 0	history2 9 <1
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	6 0	7	9 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	6 0 55	7 0	9 <1 53
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 60	6 0	7 0 54	9 <1
Boron Barium Molybdenum	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	6 0 55 <1	7 0 54 <1	9 <1 53 0
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	6 0 55 <1 919	7 0 54 <1 855	9 <1 53 0 871
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	6 0 55 <1 919 1140	7 0 54 <1 855 1061	9 <1 53 0 871 1101
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	6 0 55 <1 919 1140 1027	7 0 54 <1 855 1061 1039	9 <1 53 0 871 1101 1049
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	6 0 55 <1 919 1140 1027 1250	7 0 54 <1 855 1061 1039 1185	9 <1 53 0 871 1101 1049 1187
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	6 0 55 <1 919 1140 1027 1250 3532	7 0 54 <1 855 1061 1039 1185 3169	9 <1 53 0 871 1101 1049 1187 3167
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	0 0 60 0 1010 1070 1150 1270 2060	6 0 55 <1 919 1140 1027 1250 3532 current 4	7 0 54 <1 855 1061 1039 1185 3169 history1 4	9 <1 53 0 871 1101 1049 1187 3167 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 0 60 1010 1070 1150 1270 2060	6 0 555 <1 919 1140 1027 1250 3532 current	7 0 54 <1 855 1061 1039 1185 3169 history1	9 <1 53 0 871 1101 1049 1187 3167 history2
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	0 0 60 0 1010 1070 1150 1270 2060 limit/base	6 0 55 <1 919 1140 1027 1250 3532 current 4 1 1	7 0 54 <1 855 1061 1039 1185 3169 history1 4 9	9 <1 53 0 871 1101 1049 1187 3167 history2 4 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	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 >25	6 0 55 <1 919 1140 1027 1250 3532 current 4 1 11 11 current	7 0 54 <1 855 1061 1039 1185 3169 history1 4 9 27 kistory1	9 <1 53 0 871 1101 1049 1187 3167 history2 4 <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 ppm	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >20	6 0 55 <1 919 1140 1027 1250 3532 current 4 1 11 11 current 0.3	7 0 54 <1 855 1061 1039 1185 3169 history1 4 9 27 history1 0.2	9 <1 53 0 871 1101 1049 1187 3167 history2 4 <1 7 history2 0.2
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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 imit/base >20	6 0 55 <1 919 1140 1027 1250 3532 current 4 1 11 11 current 0.3 6.9	7 0 54 <1 855 1061 1039 1185 3169 history1 4 9 27 history1 0.2 6.4	9 <1 53 0 871 1101 1049 1187 3167 history2 4 <1 7 history2 0.2 6.0
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >6 >20	6 0 55 <1 919 1140 1027 1250 3532 current 4 1 11 11 0.3 6.9 18.5	7 0 54 <1 855 1061 1039 1185 3169 history1 4 9 27 history1 0.2 6.4 18.4	9 <1 53 0 871 1101 1049 1187 3167 history2 4 <1 7 history2 0.2 6.0 18.2
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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 20 20 20 20 20 20 20 20 20	6 0 55 <1 919 1140 1027 1250 3532 <i>current</i> 4 1 11 <i>current</i> 0.3 6.9 18.5 <i>current</i>	7 0 54 <1 855 1061 1039 1185 3169 history1 4 9 27 history1 0.2 6.4 18.4 history1	9 <1 53 0 871 104 1049 1187 3167 history2 4 <1 7 history2 0.2 6.0 18.2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAM	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7414	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >20 imit/base >30	6 0 55 <1 919 1140 1027 1250 3532 current 4 1 11 0.3 6.9 18.5 current 14.4	7 0 54 <1 855 1061 1039 1185 3169 history1 4 9 27 history1 0.2 6.4 18.4 history1 14.1	9 <1 53 0 871 104 1107 1049 1187 3167 history2 4 <1 7 history2 0.2 6.0 18.2 history2 14.2
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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 20 20 20 20 20 20 20 20 20	6 0 55 <1 919 1140 1027 1250 3532 <i>current</i> 4 1 11 <i>current</i> 0.3 6.9 18.5 <i>current</i>	7 0 54 <1 855 1061 1039 1185 3169 history1 4 9 27 history1 0.2 6.4 18.4 history1	9 <1 53 0 871 104 1049 1187 3167 history2 4 <1 7 history2 0.2 6.0 18.2 history2

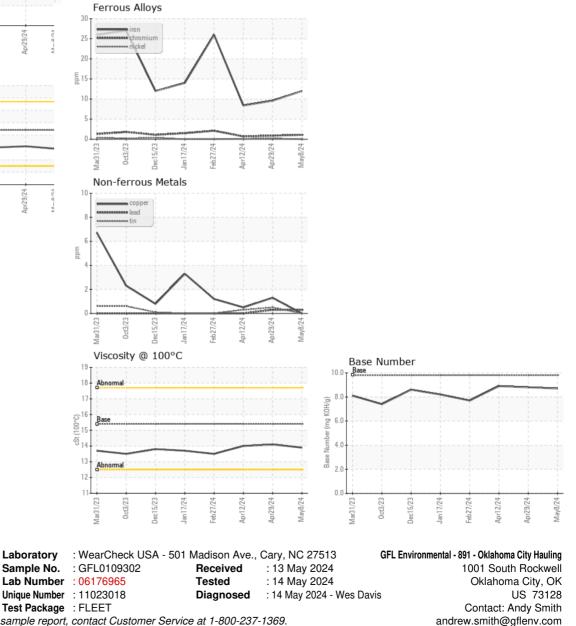


OIL ANALYSIS REPORT





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	13.9	14.1	14.0
GRAPHS						



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)

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Certificate 12367

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