

# **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id 413115 ٢

Component Diesel Engine PETRO CANADA DURON UHP 5W30 (--- GAL)

SAMPLE INFORMATION method

## 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.

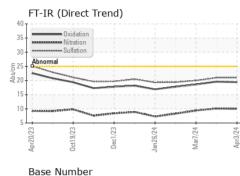
#### Fluid Condition

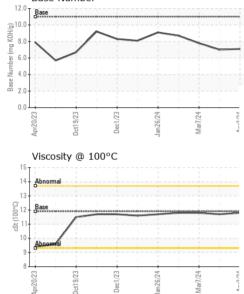
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI		method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0114165	GFL0114163	GFL0108038
Sample Date		Client Info		03 Apr 2024	28 Mar 2024	07 Mar 2024
Machine Age	hrs	Client Info		2741	2704	2561
Oil Age	hrs	Client Info		1934	1897	1879
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
		ام م ال م ما	1:00:14/10:00:00		Istatawał	la i a ta muQ
CONTAMINAT	ION	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	>120	11	15	11
Chromium	ppm	ASTM D5185m	>20	0	<1	0
Nickel	ppm	ASTM D5185m	>15	<1	2	<1
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	2	6	2
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	5	5	4
Tin	ppm	ASTM D5185m	>15	1	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 23	history1 23	history2 31
	ppm ppm					
Boron		ASTM D5185m	0	23	23	31
Boron Barium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 64	23 0	23 0	31 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 64	23 0 55	23 0 59	31 0 58
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 64 0	23 0 55 <1	23 0 59 <1	31 0 58 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 64 0 1160	23 0 55 <1 1092	23 0 59 <1 1195	31 0 58 <1 1162
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 64 0 1160 820	23 0 55 <1 1092 796	23 0 59 <1 1195 948	31 0 58 <1 1162 851
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 64 0 1160 820 1160	23 0 55 <1 1092 796 1035	23 0 59 <1 1195 948 1102	31 0 58 <1 1162 851 1080
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 64 0 1160 820 1160 1260	23 0 55 <1 1092 796 1035 1255 3157	23 0 59 <1 1195 948 1102 1415	31 0 58 <1 1162 851 1080 1290
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 64 0 1160 820 1160 1260 3000	23 0 55 <1 1092 796 1035 1255 3157	23 0 59 <1 1195 948 1102 1415 4099	31 0 58 <1 1162 851 1080 1290 3902
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 64 0 1160 820 1160 1260 3000	23 0 55 <1 1092 796 1035 1255 3157 current	23 0 59 <1 1195 948 1102 1415 4099 history1	31 0 58 <1 1162 851 1080 1290 3902 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 <b>method</b>	0 0 64 0 1160 820 1160 1260 3000 limit/base >25	23 0 55 <1 1092 796 1035 1255 3157 current 4	23 0 59 <1 1195 948 1102 1415 4099 history1 15	31 0 58 <1 1162 851 1080 1290 3902 history2 4
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 64 0 1160 820 1160 1260 3000 limit/base >25	23 0 55 <1 1092 796 1035 1255 3157 current 4 4 4	23 0 59 <1 1195 948 1102 1415 4099 history1 15 4	31 0 58 <1 1162 851 1080 1290 3902 history2 4 4
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 64 0 1160 820 1160 1260 3000 limit/base >25 >20	23 0 55 <1 1092 796 1035 1255 3157 current 4 4 4	23 0 59 <1 1195 948 1102 1415 4099 history1 15 4 6	31 0 58 <1 1162 851 1080 1290 3902 history2 4 4 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 64 0 1160 820 1160 1260 3000 <b>limit/base</b> >25 >20 <b>limit/base</b>	23 0 55 <1 1092 796 1035 1255 3157 current 4 4 4 4	23 0 59 <1 1195 948 1102 1415 4099 history1 15 4 6 Kistory1	31 0 58 <1 1162 851 1080 1290 3902 history2 4 4 4 4 4 4
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 64 0 1160 820 1160 1260 3000 <b>limit/base</b> >25 >20 <b>limit/base</b>	23 0 55 <1 1092 796 1035 1255 3157 <i>current</i> 4 4 4 4 <i>current</i>	23 0 59 <1 1195 948 1102 1415 4099 history1 15 4 6 history1 0.3	31 0 58 <1 1162 851 1080 1290 3902 history2 4 4 4 4 4 history2 0.3
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 64 0 1160 820 1160 1260 3000 limit/base >25 >20 limit/base >20	23 0 55 <1 1092 796 1035 1255 3157 <i>current</i> 4 4 4 4 4 4 0.3 10.0 21.0	23 0 59 <1 1195 948 1102 1415 4099 history1 15 4 6 history1 0.3 10.1	31 0 58 <1 1162 851 1080 1290 3902 history2 4 4 4 4 4 5 0.3 9.4
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 D7844 *ASTM D7844 *ASTM D7844	0 0 64 0 1160 820 1160 1260 3000 <b>limit/base</b> >25 20 <b>limit/base</b> >4 >20 >30	23 0 55 <1 1092 796 1035 1255 3157 Current 4 4 4 4 5 Current 0.3 10.0 21.0 Current	23 0 59 <1 1195 948 1102 1415 4099 history1 15 4 6 history1 0.3 10.1 21.0 history1	31 0 58 <1 1162 851 1080 1290 3902 history2 4 4 4 4 4 5 0.3 9.4 20.0 history2
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 64 0 1160 820 1160 1260 3000 <b>imit/base</b> >25 20 <b>imit/base</b> >20 >30 <b>imit/base</b>	23 0 55 <1 1092 796 1035 1255 3157 <i>current</i> 4 4 4 4 4 <i>current</i> 0.3 10.0 21.0	23 0 59 <1 1195 948 1102 1415 4099 history1 15 4 6 <u>history1</u> 0.3 10.1 21.0	31 0 58 <1 1162 851 1080 1290 3902 <b>history2</b> 4 4 4 4 4 <b>history2</b> 0.3 9.4 20.0

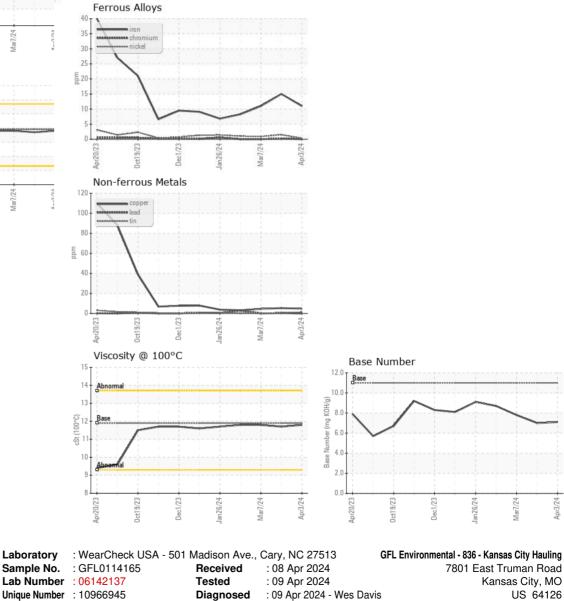


# **OIL ANALYSIS REPORT**





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	11.9	11.8	11.7	11.8
GRAPHS						





Test Package : FLEET Certificate 12367 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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Laboratory

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