

### **OIL ANALYSIS REPORT**





NORMAL

# FORD 613 (S/N 1FM5K8AG4NGA27100)

Gasoline Engine

PETRO CANADA SUPREME 5W20 MOTOR OIL (6 GAL)

#### 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	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0100397	PCA0100388	PCA0097975
Sample Date		Client Info		31 Aug 2023	03 Aug 2023	22 Jun 2023
Machine Age	mls	Client Info		23653	21955	19828
Oil Age	mls	Client Info		1698	2127	2393
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron		ASTM D5185m	>150	4	6	6
Chromium	ppm ppm	ASTM D5185m	>20	4	<1	<1
Nickel		ASTM D5185m	>5	0	<1	0
Titanium	ppm ppm	ASTM D5185m	20	۰ <1	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>40	۰ <1	2	2
Lead	ppm	ASTM D5185m	>50	<1	<1	<1
Copper	ppm	ASTM D5185m	>155	<1	1	1
Tin	ppm	ASTM D5185m	>100	<1	0	0
Vanadium	ppm	ASTM D5185m	210	0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
	le le		1' 't /l	-	-	-
		method	limit/base	current	historv1	nistory2
ADDITIVES Boron	nnm	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	183	40	31	58
Boron Barium	ppm	ASTM D5185m ASTM D5185m	183 0	40 0	31 2	58 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	183 0 36	40 0 66	31 2 68	58 0 62
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	183 0 36 0	40 0 66 <1	31 2 68 <1	58 0 62 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	183 0 36 0 417	40 0 66 <1 570	31 2 68 <1 509	58 0 62 <1 474
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	183 0 36 0	40 0 66 <1	31 2 68 <1	58 0 62 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	183 0 36 0 417 1318	40 0 66 <1 570 1279 725	31 2 68 <1 509 1258	58 0 62 <1 474 1302
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	183 0 36 0 417 1318 773	40 0 66 <1 570 1279	31 2 68 <1 509 1258 701	58 0 62 <1 474 1302 686
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	183 0 36 0 417 1318 773 845	40 0 66 <1 570 1279 725 904	31 2 68 <1 509 1258 701 825	58 0 62 <1 474 1302 686 815
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	183 0 36 0 417 1318 773 845 2690	40 0 66 <1 570 1279 725 904 3033	31 2 68 <1 509 1258 701 825 2763	58 0 62 <1 474 1302 686 815 3137
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	183 0 36 0 417 1318 773 845 2690 limit/base	40 0 66 <1 570 1279 725 904 3033 current	31 2 68 <1 509 1258 701 825 2763 history1	58 0 62 <1 474 1302 686 815 3137 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	183 0 36 0 417 1318 773 845 2690 <b>limit/base</b> >30 >400	40 0 66 <1 570 1279 725 904 3033 current 15	31 2 68 <1 509 1258 701 825 2763 history1 19	58 0 62 <1 474 1302 686 815 3137 history2 15
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	183 0 36 0 417 1318 773 845 2690 <b>limit/base</b> >30 >400	40 0 66 <1 570 1279 725 904 3033 <u>current</u> 15 4	31 2 68 <1 509 1258 701 825 2763 <b>history1</b> 19 5	58 0 62 <1 474 1302 686 815 3137 history2 15 7
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	183 0 36 0 417 1318 773 845 2690 <b>limit/base</b> >30 >400 >20	40 0 66 <1 570 1279 725 904 3033 current 15 4 2	31 2 68 <1 509 1258 701 825 2763 history1 19 5 <1	58 0 62 <1 474 1302 686 815 3137 history2 15 7 0
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	183 0 36 0 417 1318 773 845 2690 <b>Imit/base</b> >30 >400 >20	40 0 66 <1 570 1279 725 904 3033 current 15 4 2 2	31 2 68 <1 509 1258 701 825 2763 history1 19 5 <1 history1	58 0 62 <1 474 1302 686 815 3137 history2 15 7 0 0
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	183 0 36 0 417 1318 773 845 2690 <b>Imit/base</b> >30 >400 >20	40 0 66 <1 570 1279 725 904 3033 <i>current</i> 15 4 2 2 <i>current</i> 0	31 2 68 <1 509 1258 701 825 2763 history1 19 5 <1 19	58 0 62 <1 474 1302 686 815 3137 history2 15 7 0 history2 0.1
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	183 0 36 0 417 1318 773 845 2690 <i>imit/base</i> >30 >400 >20 <i>imit/base</i>	40 0 66 <1 570 1279 725 904 3033 current 15 4 2 current 0 9.0	31 2 68 <1 509 1258 701 825 2763 history1 19 5 <1 19 5 <1 history1 0 9.3	58 0 62 <1 474 1302 686 815 3137 history2 15 7 0 history2 0.1 8.6
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	183 0 36 0 417 1318 773 845 2690 <b>imit/base</b> >30 >400 >20 <b>imit/base</b> >20 >20	40 0 66 <1 570 1279 725 904 3033 <b>current</b> 15 4 2 2 <b>current</b> 0 9.0 18.5	31 2 68 <1 509 1258 701 825 2763 history1 19 5 <1 19 5 <1 0 9.3 19.9	58 0 62 <1 474 1302 686 815 3137 <b>history2</b> 15 7 0 <b>history2</b> 0.1 8.6 19.0
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 ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	183 0 36 0 417 1318 773 845 2690 <b>imit/base</b> >30 >400 >20 <b>imit/base</b> >20 >30 30 <b>imit/base</b>	40 0 66 <1 570 1279 725 904 3033 <i>current</i> 15 4 2 <i>current</i> 0 9.0 18.5 <i>current</i>	31 2 68 <1 509 1258 701 825 2763 history1 19 5 <1 19 5 <1 history1 0 9.3 19.9 history1	58 0 62 <1 474 1302 686 815 3137 history2 15 7 0 history2 0.1 8.6 19.0 history2



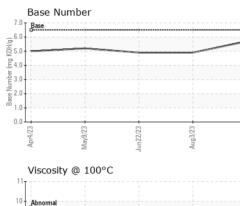
cSt (100°C)

Apr4/73

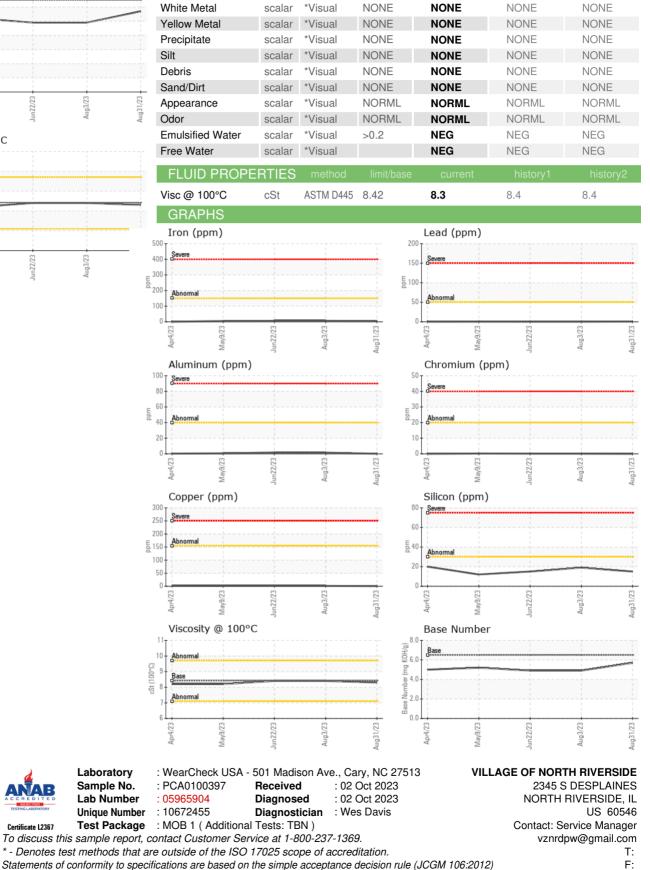
Anv9/73

## **OIL ANALYSIS REPORT**

VISUAL



Aug3/23





Certificate L2367