

OIL ANALYSIS REPORT

SAMPLE INFORMATION meth

Sample Rating Trend



NORMAL

Machine Id

223029-8

Component Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (600 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.

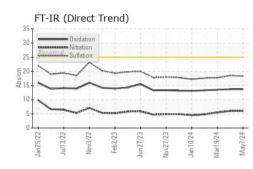
Fluid Condition

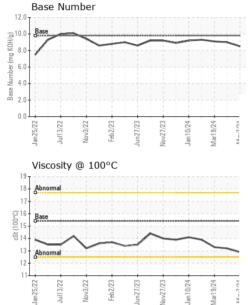
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0118662	GFL0118714	GFL0110573
Sample Date		Client Info		07 May 2024	18 Apr 2024	19 Mar 2024
Machine Age	hrs	Client Info		32790	32723	445391
Oil Age	hrs	Client Info		200	150	400
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
-						
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<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	>80	12	8	8
Chromium	ppm	ASTM D5185m	>5	<1	<1	1
Nickel		ASTM D5185m	>2	0	0	<1
Titanium	ppm ppm	ASTM D5185m	22	0	0	<1
Silver		ASTM D5185m	>3	0	0	<1
Aluminum	ppm ppm	ASTM D5185m	>30	2	<1	2
Lead		ASTM D5185m	>30	0	0	1
	ppm			3	<1	1
Copper Tin	ppm	ASTM D5185m	>150		<1	1
	ppm	ASTM D5185m	>5	<1	0	
Vanadium	ppm	ASTM D5185m		0		<1
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	10	history1 6	history2 7
	ppm ppm					
Boron		ASTM D5185m	0	10	6	7
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	10 0	6 0	7
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	10 0 61	6 0 62	7 1 63
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	10 0 61 1	6 0 62 <1	7 1 63 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	10 0 61 1 999	6 0 62 <1 992	7 1 63 <1 930
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	10 0 61 1 999 1132	6 0 62 <1 992 1108	7 1 63 <1 930 1082
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	10 0 61 1 999 1132 1073	6 0 62 <1 992 1108 1070	7 1 63 <1 930 1082 979
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	10 0 61 1 999 1132 1073 1285 3564	6 0 62 <1 992 1108 1070 1269	7 1 63 <1 930 1082 979 1183
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 0 1010 1070 1150 1270 2060	10 0 61 1 999 1132 1073 1285 3564	6 0 62 <1 992 1108 1070 1269 3555	7 1 63 <1 930 1082 979 1183 3044
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 0 1010 1070 1150 1270 2060	10 0 61 1 999 1132 1073 1285 3564 current	6 0 62 <1 992 1108 1070 1269 3555 history1	7 1 63 <1 930 1082 979 1183 3044 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 method	0 0 60 1010 1070 1150 1270 2060 kimit/base >20	10 0 61 1 999 1132 1073 1285 3564 <i>current</i> 4	6 0 62 <1 992 1108 1070 1269 3555 history1 3	7 1 63 <1 930 1082 979 1183 3044 history2 5
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 1010 1070 1150 1270 2060 kimit/base >20	10 0 61 1 999 1132 1073 1285 3564 <i>current</i> 4 10	6 0 62 <1 992 1108 1070 1269 3555 history1 3 8	7 1 63 <1 930 1082 979 1183 3044 history2 5 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 200 200 200	10 0 61 1 999 1132 1073 1285 3564 <i>current</i> 4 10 0	6 0 62 <1 992 1108 1070 1269 3555 history1 3 8 0 0	7 1 63 <1 930 1082 979 1183 3044 history2 5 6 2 2 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 2060 2060 220 20 20 20 20 20	10 0 61 1 999 1132 1073 1285 3564 <i>current</i> 4 10 0 <i>current</i>	6 0 62 <1 992 1108 1070 1269 3555 history1 3 8 0 history1 0.5	7 1 63 <1 930 1082 979 1183 3044 history2 5 6 2 2 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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >20 <i>limit/base</i> >20	10 0 61 1 999 1132 1073 1285 3564 <i>current</i> 4 10 0 <i>current</i> 0.6 6.0	6 0 62 <1 992 1108 1070 1269 3555 history1 3 8 0 history1 0.5 6.0	7 1 63 <1 930 1082 979 1183 3044 history2 5 6 2 history2 0.3 5.5
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 200 200 200 200 200 200 200	10 0 61 1 999 1132 1073 1285 3564 <i>current</i> 4 10 0 <i>current</i> 0.6 6.0 18.3	6 0 62 <1 992 1108 1070 1269 3555 history1 3 8 0 <u>history1</u> 0.5 6.0 18.5	7 1 63 <1 930 1082 979 1183 3044 bistory2 5 6 2 bistory2 0.3 5.5 17.7
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 <i>limit/base</i> >20 <i>limit/base</i> >20	10 0 61 1 999 1132 1073 1285 3564 <i>current</i> 4 10 0 <i>current</i> 0.6 6.0 18.3	6 0 62 <1 992 1108 1070 1269 3555 history1 3 8 0 history1 0.5 6.0	7 1 63 <1 930 1082 979 1183 3044 history2 5 6 2 history2 0.3 5.5
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 200 200 200 200 200 200 200	10 0 61 1 999 1132 1073 1285 3564 <i>current</i> 4 10 0 <i>current</i> 0.6 6.0 18.3	6 0 62 <1 992 1108 1070 1269 3555 history1 3 8 0 <u>history1</u> 0.5 6.0 18.5	7 1 63 <1 930 1082 979 1183 3044 bistory2 5 6 2 bistory2 0.3 5.5 17.7
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 D7624	0 0 0 1010 1070 1150 1270 2060 2060 2060 200 200 200 200 200 200	10 0 61 1 999 1132 1073 1285 3564 <i>current</i> 4 10 0 <i>current</i> 0.6 6.0 18.3 <i>current</i>	6 0 62 <1 992 1108 1070 1269 3555 history1 3 8 0 0 history1 0.5 6.0 18.5 history1	7 1 63 <1 930 1082 979 1183 3044 history2 5 6 2 history2 0.3 5.5 17.7 history2



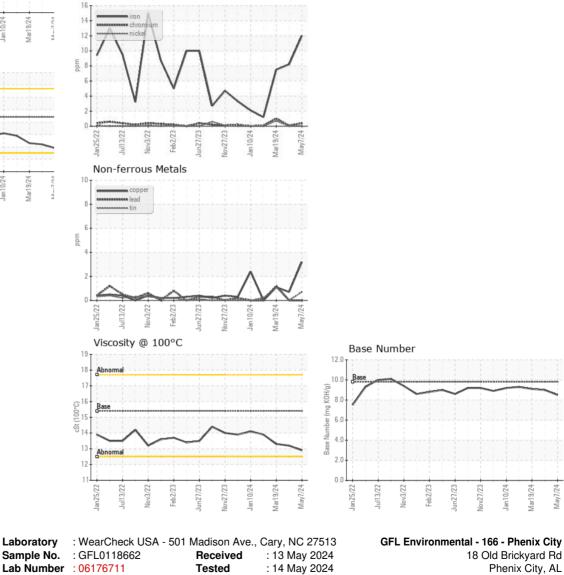
OIL ANALYSIS REPORT





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	12.9	13.2	13.3
GRAPHS						

Ferrous Alloys





Unique Number : 11022764 Diagnosed : 14 May 2024 - Wes Davis Test Package : FLEET Contact: DEAN PEACE JR Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. dean.peace@gflenv.com * - 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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Submitted By: DARRIN WRIGHT

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