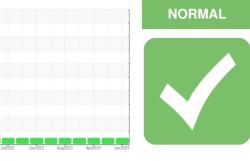


OIL ANALYSIS REPORT

Sample Rating Trend



11197 Component Diesel Engine Fluid

Area (DFX443)

PETRO CANADA DURON SHP 15W40 (8 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 INFURI		methoa	iimii/base	current	nistory i	nistory2
Sample Number		Client Info		GFL0111530	GFL0111568	GFL0111506
Sample Date		Client Info		13 Jun 2024	10 May 2024	02 Apr 2024
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
-				-	-	-
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	c	method	limit/base	current	bioton/1	bioton/2
	5				history1	history2
Iron	ppm	ASTM D5185m	>75	18	12	9
Chromium	ppm	ASTM D5185m	>5	<1	0	0
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>15	5	2	1
Lead	ppm	ASTM D5185m	>25	<1	0	0
Copper	ppm	ASTM D5185m	>100	5	<1	0
Tin	ppm	ASTM D5185m	>4	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm		limit/base	current 2	history1 10	history2 3
	ppm ppm	ASTM D5185m				
Boron Barium	ppm	ASTM D5185m	0	2	10	3
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	0	2 <1 64	10 <1	3 0
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	2 <1 64 <1	10 <1 61	3 0 61
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 <1 64 <1 933	10 <1 61 <1 872	3 0 61 0 1035
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 <1 64 <1 933 1111	10 <1 61 <1 872 1018	3 0 61 0 1035 1134
Boron Barium Molybdenum Manganese Magnesium	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 <1 64 <1 933 1111 1005	10 <1 61 <1 872 1018 937	3 0 61 0 1035 1134 1134
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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 <1 64 <1 933 1111 1005 1212	10 <1 61 <1 872 1018 937 1123	3 0 61 0 1035 1134 1134 1134 1319
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 <1 64 <1 933 1111 1005 1212 2755	10 <1 61 <1 872 1018 937 1123 3365	3 0 61 0 1035 1134 1134 1319 3959
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 00 00 1010 1070 1150 1270 2060	2 <1 64 <1 933 1111 1005 1212 2755 current	10 <1 61 <1 872 1018 937 1123 3365 history1	3 0 61 0 1035 1134 1134 1319 3959 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 00 00 1010 1070 1150 1270 2060	2 <1 64 <1 933 1111 1005 1212 2755 current 6	10 <1 61 <1 872 1018 937 1123 3365 history1 6	3 0 61 0 1035 1134 1134 1319 3959 history2 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 kimit/base >25	2 <1 64 <1 933 1111 1005 1212 2755 current 6 <	10 <1 61 <1 872 1018 937 1123 3365 history1 6 <1	3 0 61 0 1035 1134 1134 1319 3959 history2 3 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 0 1010 1070 1150 1270 2060 limit/base >25	2 <1 64 <1 933 1111 1005 1212 2755 current 6 <1 5	10 <1 61 <1 872 1018 937 1123 3365 history1 6 < 1	3 0 61 0 1035 1134 1134 1319 3959 history2 3 1 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	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	2 <1 64 <1 933 1111 1005 1212 2755 current 6 <1 5 current	10 <1 61 <1 872 1018 937 1123 3365 history1 6 <1 1 1 history1	3 0 61 0 1035 1134 1134 1319 3959 history2 3 1 0 0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	2 <1 64 <1 933 1111 1005 1212 2755 current 6 <1 5	10 <1 61 <1 872 1018 937 1123 3365 history1 6 <1 1 1 history1 0.1	3 0 61 0 1035 1134 1134 1319 3959 history2 3 1 0 history2 0.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	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	2 <1 64 <1 933 1111 1005 1212 2755 current 6 <1 5 current	10 <1 61 <1 872 1018 937 1123 3365 history1 6 <1 1 1 history1	3 0 61 0 1035 1134 1134 1319 3959 history2 3 1 0 bistory2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20	2 <1 64 <1 933 1111 1005 1212 2755 current 6 <1 5 current 0.3	10 <1 61 <1 872 1018 937 1123 3365 history1 6 <1 1 1 history1 0.1	3 0 61 0 1035 1134 1134 1319 3959 history2 3 1 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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >6 >20	2 <1 64 <1 933 1111 1005 1212 2755 <i>current</i> 6 <1 5 <i>current</i> 0.3 5.8	10 <1 61 <1 872 1018 937 1123 3365 history1 6 <1 1 history1 0.1 5.2	3 0 61 0 1035 1134 1134 1319 3959 history2 3 1 0 history2 0.1 4.9
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 D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 20 imit/base >6 >20	2 <1 64 <1 933 1111 1005 1212 2755 current 6 <1 5 current 0.3 5.8 18.0	10 <1 61 <1 872 1018 937 1123 3365 history1 6 <1 1 1 history1 0.1 5.2 18.2	3 0 61 0 1035 1134 134 1319 3959 history2 3 1 0 history2 0.1 4.9 17.3
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 ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 20 20 20 20 20 20 20 20 20	2 <1 64 <1 933 1111 1005 1212 2755 Current 6 <1 5 Current 0.3 5.8 18.0 Current	10 <1 61 <1 872 1018 937 1123 3365 history1 6 <1 1 1 history1 0.1 5.2 18.2 history1	3 0 61 0 1035 1134 134 1319 3959 history2 3 1 0 history2 0.1 4.9 17.3 history2



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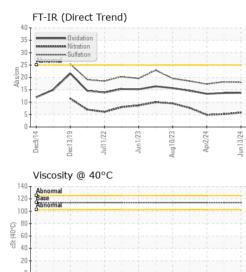
-20.

Jec9/1/

Base

Dec9/1

OIL ANALYSIS REPORT



Jul11/22

Jul11/22

Jul11/22

un1//23

Jun1/23

Jun1/23

ua10/23

Aug 10/23

Aug10/23

pr2/74

Apr2/24

3/19

Viscosity @ 100°C

Jec13/19

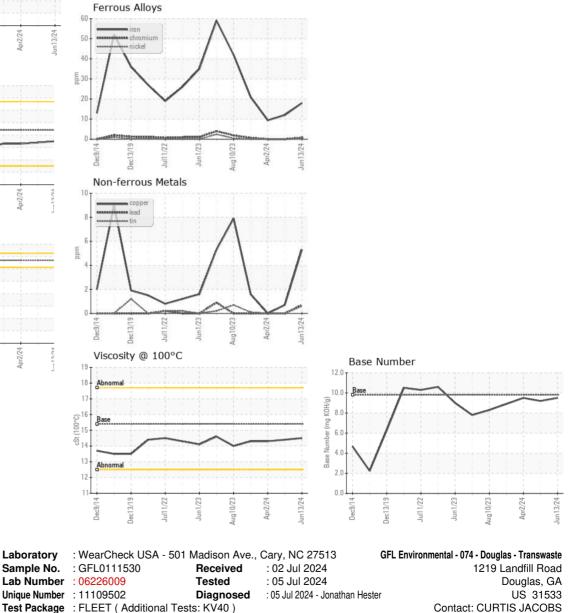
Viscosity @ 40°C

Dec13/19

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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	DTIES	method	limit/base	current	history1	history2
	RHES	methou	innit/base	current	TIISTOLA I	HISTOLAS
Visc @ 100°C	cSt	ASTM D445	15.4	14.5	14.4	14.3

GRAPHS



* - 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)

To discuss this sample report, contact Customer Service at 1-800-237-1369.

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Certificate 12367

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