

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 413007

Component Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (--- LTR)

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.

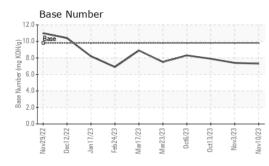
Fluid Condition

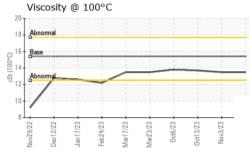
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0098760	GFL0065478	GFL0065467
Sample Date		Client Info		10 Nov 2023	03 Nov 2023	13 Oct 2023
Machine Age	hrs	Client Info		3092	150	2868
Oil Age	hrs	Client Info		600	150	150
Oil Changed		Client Info		Changed	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
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	12	11	4
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m		3	3	1
Titanium	ppm	ASTM D5185m	~7	3 <1	0	0
Silver		ASTM D5185m	2	<1	0	0
	ppm		>3 >20	4	3	3
Aluminum	ppm	ASTM D5185m ASTM D5185m		4 <1	0	0
Lead	ppm		>40		5	2
Copper	ppm	ASTM D5185m	>330	6		_
Tin	ppm		>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES						
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm		limit/base	o current	0	2
	ppm ppm					
Boron		ASTM D5185m	0	0	0	2
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	0 0	0	2 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	0 0 61	0 0 61	2 <1 58
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	0 0 61 <1	0 0 61 0	2 <1 58 <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	0 0 61 <1 946	0 0 61 0 964	2 <1 58 <1 949
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	0 0 61 <1 946 1038	0 0 61 0 964 1049	2 <1 58 <1 949 986
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	0 0 61 <1 946 1038 991	0 0 61 0 964 1049 925	2 <1 58 <1 949 986 1022
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	0 0 61 <1 946 1038 991 1216	0 0 61 0 964 1049 925 1248	2 <1 58 <1 949 986 1022 1232
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	0 0 61 <1 946 1038 991 1216 2572	0 0 61 0 964 1049 925 1248 2832	2 <1 58 <1 949 986 1022 1232 2827
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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	0 0 61 <1 946 1038 991 1216 2572 current	0 0 61 0 964 1049 925 1248 2832 history1	2 <1 58 <1 949 986 1022 1232 2827 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	0 0 61 <1 946 1038 991 1216 2572 current 8	0 0 61 0 964 1049 925 1248 2832 history1 8	2 <1 58 <1 949 986 1022 1232 2827 history2 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 Limit/base >25	0 0 61 <1 946 1038 991 1216 2572 current 8 2	0 0 61 0 964 1049 925 1248 2832 history1 8 2	2 <1 58 <1 949 986 1022 1232 2827 history2 6 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	0 0 61 <1 946 1038 991 1216 2572 current 8 2 2 8	0 0 61 0 964 1049 925 1248 2832 history1 8 2 2 7	2 <1 58 <1 949 986 1022 1232 2827 history2 6 2 2
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 ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	0 0 61 <1 946 1038 991 1216 2572 current 8 2 2 8 2 8	0 0 61 0 964 1049 925 1248 2832 history1 8 2 2 7 history1	2 <1 58 <1 949 986 1022 1232 2827 history2 6 2 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 ppm TS	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >20	0 0 61 <1 946 1038 991 1216 2572 <u>current</u> 8 2 8 2 8 <u>current</u>	0 0 61 0 964 1049 925 1248 2832 history1 8 2 2 7 <i>history1</i> 0.3	2 <1 58 <1 949 986 1022 1232 2827 history2 6 2 2 2 2 2 <i>h</i> istory2 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 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	0 0 61 <1 946 1038 991 1216 2572 <i>current</i> 8 2 2 8 2 8 <i>current</i> 0.4 8.8	0 0 61 0 964 1049 925 1248 2832 history1 8 2 2 7 history1 0.3 8.4	2 <1 58 <1 949 986 1022 1232 2827 history2 6 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 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 ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 2060 225 20 220 220 20 3 20 20 20 3 3 20 20 20 20 20 20 20 20 20 20 20 20 20	0 0 61 <1 946 1038 991 1216 2572 <i>current</i> 8 2 2 8 <i>current</i> 0.4 8.8 20.9 <i>current</i>	0 0 61 0 964 1049 925 1248 2832 history1 8 2 2 7 history1 0.3 8.4 20.4 history1	2 <1 58 <1 949 986 1022 1232 2827 history2 6 2 2 history2 0.3 7.2 19.0 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 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >3 >20	0 0 61 <1 946 1038 991 1216 2572 current 8 2 2 8 2 8 2 8 current 0.4 8.8 20.9	0 0 61 0 964 1049 925 1248 2832 history1 8 2 2 7 history1 0.3 8.4 20.4	2 <1 58 <1 949 986 1022 1232 2827 history2 6 2 2 2 2 bistory2 0.3 7.2 19.0

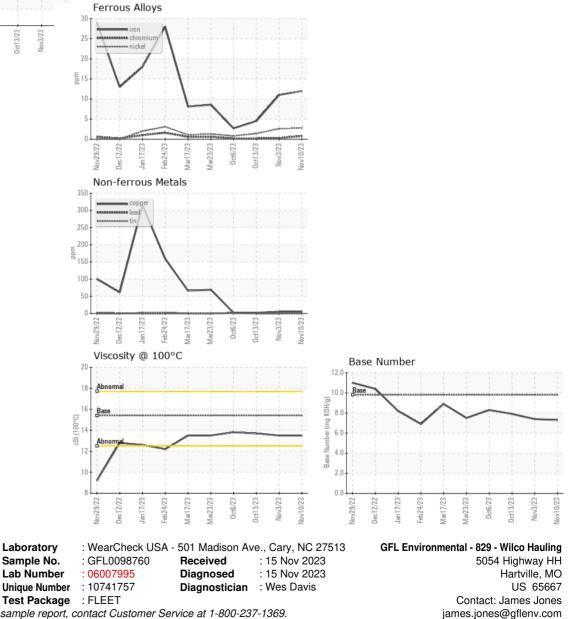


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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*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	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.5	13.5	13.7
GRAPHS						



Certificate 12367 Test Package : FLEET 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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