

OIL ANALYSIS REPORT

Sample Rating Trend







Fluid

Diesel Engine PETRO CANADA DURON SHP 10W30 (--- 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.

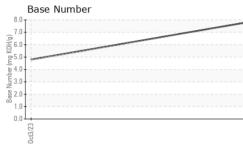
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0114032	PCA0103134	
Sample Date		Client Info		19 Dec 2023	03 Oct 2023	
Machine Age	mls	Client Info		376426	358832	
Oil Age	mls	Client Info		17594	38843	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	16	41	
Chromium	ppm	ASTM D5185m	>20	<1	<1	
Nickel	ppm	ASTM D5185m	>5	0	0	
Titanium	ppm	ASTM D5185m	>2	0	0	
Silver	ppm	ASTM D5185m	>2	0	0	
Aluminum	ppm	ASTM D5185m	>20	3	7	
Lead	ppm	ASTM D5185m	>40	0	2	
Copper	ppm	ASTM D5185m	>330	3	7	
Tin	ppm	ASTM D5185m	>15	<1	<1	
Vanadium	ppm	ASTM D5185m		<1	0	
Cadmium	ppm	ASTM D5185m		0	0	
	ppm	AOTIM DOTOSIII		U	0	
ADDITIVES	ppm	method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base	-	-	
		method		current	history1	history2
Boron	ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current	history1 0	history2
Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0 50	current <1 0	history1 0 0	history2
Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current <1 0 62	history1 0 0 63	history2
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	<pre>current <1 0 62 <1</pre>	history1 0 0 63 <1	history2
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	<pre>current <1 0 62 <1 1013</pre>	history1 0 63 <1 955 1093 923	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	current <1 0 62 <1 1013 1141	history1 0 0 63 <1 955 1093	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	<pre>current <1 0 62 <1 1013 1141 1051</pre>	history1 0 63 <1 955 1093 923	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	current <1 0 62 <1 1013 1141 1051 1290	history1 0 63 <1 955 1093 923 1228	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	2 0 50 950 1050 995 1180 2600	current <1 0 62 <1 1013 1141 1051 1290 2984 current 6	history1 0 0 63 <1 955 1093 923 1228 2581	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	current <1 0 62 <1 1013 1141 1051 1290 2984 current	history1 0 0 63 <1 955 1093 923 1228 2581 history1	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	current <1 0 62 <1 1013 1141 1051 1290 2984 current 6	history1 0 0 63 <1 955 1093 923 1228 2581 history1 6	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	current <1 0 62 <1 1013 1141 1051 1290 2984 current 6 6	history1 0 0 63 <1 955 1093 923 1228 2581 history1 6 8 3 history1	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >20	current <1 0 62 <1 1013 1141 1051 1290 2984 current 6 6 6 1	history1 0 0 63 <1 955 1093 923 1228 2581 history1 6 8 3 history1 0.7	history2 history2 history2
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	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >20	current <1 0 62 <1 1013 1141 1051 1290 2984 current 6 6 6 6 0 0.4 8.1	history1 0 0 63 <1 955 1093 923 1228 2581 history1 6 8 3 history1 0.7 10.3	history2 history2 history2 history2 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 ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >20	current <1 0 62 <1 1013 1141 1051 1290 2984 current 6 6 6 6 6 0.4	history1 0 0 63 <1 955 1093 923 1228 2581 history1 6 8 3 history1 0.7	history2 history2 history2 history2 history2
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	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >4 >20	current <1 0 62 <1 1013 1141 1051 1290 2984 current 6 6 6 6 0 0.4 8.1	history1 0 0 63 <1 955 1093 923 1228 2581 history1 6 8 3 history1 0.7 10.3	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	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	2 0 50 0 950 1050 995 1180 2600 imit/base >25 imit/base >4 >20	current <1 0 62 <1 1013 1141 1051 1290 2984 current 6 6 6 6 0.4 8.1 19.3	history1 0 0 63 <1 955 1093 923 1228 2581 history1 6 8 3 history1 0.7 10.3 22.8	history2 history2

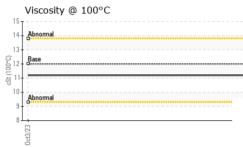


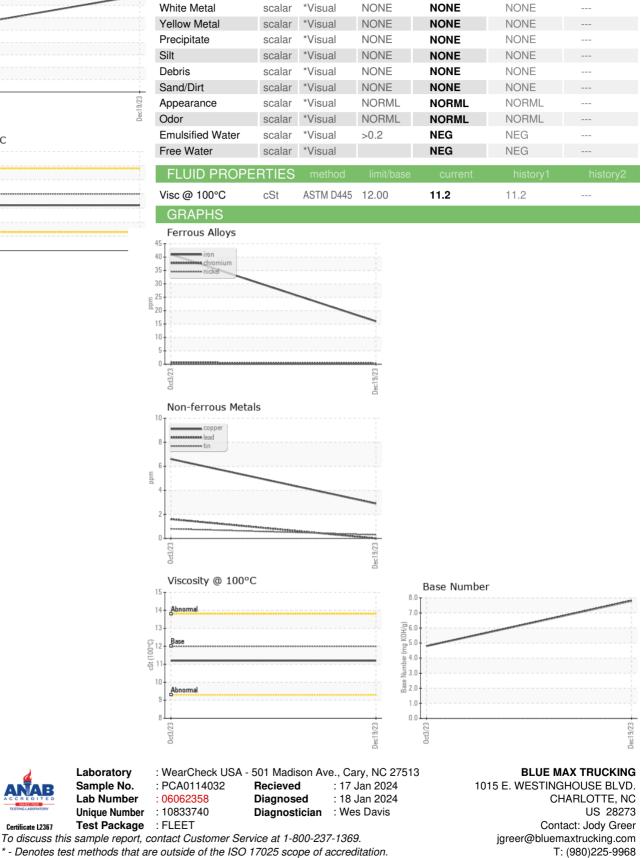
OIL ANALYSIS REPORT

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

VISUAL







Certificate L2367

F: (704)588-2901