

OIL ANALYSIS REPORT



Machine Id

BM-255

Component Diesel Engine Fluid

PETRO CANADA DURON SHP 10W30 (11 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.

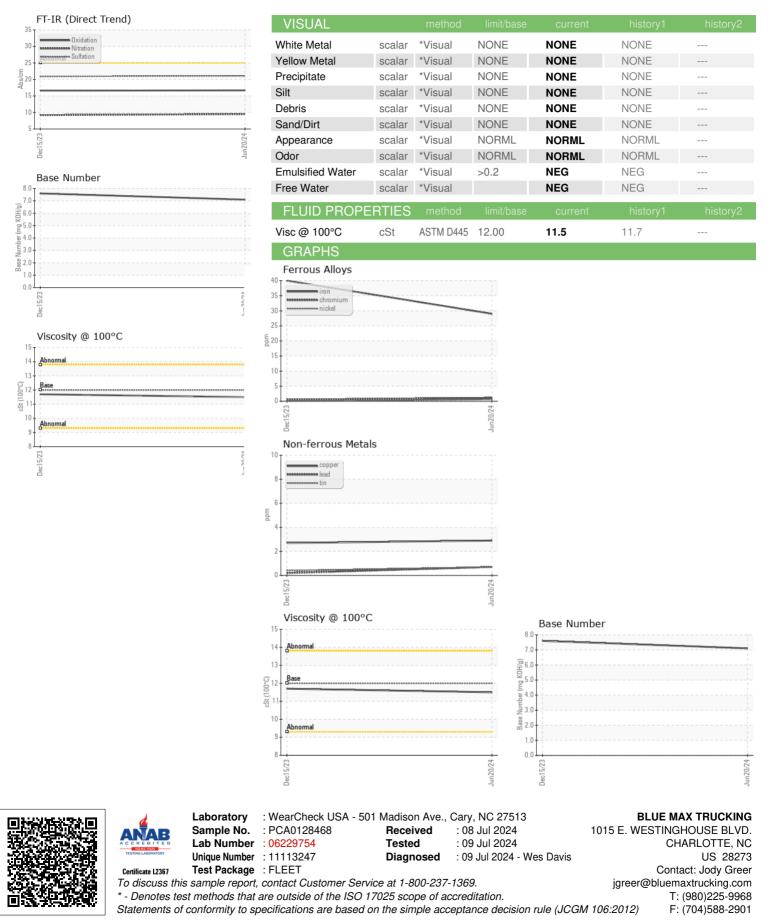
Fluid Condition

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

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0128468	PCA0110713	
Sample Date		Client Info		20 Jun 2024	15 Dec 2023	
Machine Age	mls	Client Info		290978	10148	
Oil Age	mls	Client Info		30170	10148	
Oil Changed		Client Info		Changed	N/A	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<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	>100	29	40	
Chromium	ppm	ASTM D5185m	>20	1	<1	
Nickel	ppm	ASTM D5185m	>4	<1	0	
Titanium	ppm	ASTM D5185m		1	<1	
Silver	ppm	ASTM D5185m	>3	<1	0	
Aluminum	ppm	ASTM D5185m	>20	7	7	
Lead	ppm	ASTM D5185m	>40	<1	<1	
Copper	ppm	ASTM D5185m	>330	3	3	
Tin	ppm	ASTM D5185m	>15	<1	<1	
Vanadium	ppm	ASTM D5185m		<1	<1	
Cadmium	ppm	ASTM D5185m		<1	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 4	history1 3	history2
	ppm ppm					
Boron		ASTM D5185m	2	4	3	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	4 0	3 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	4 0 66	3 0 60	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	4 0 66 <1	3 0 60 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	4 0 66 <1 1003	3 0 60 <1 987	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	4 0 66 <1 1003 1190	3 0 60 <1 987 1143	
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	2 0 50 0 950 1050 995	4 0 66 <1 1003 1190 1071	3 0 60 <1 987 1143 1018	
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	2 0 50 950 1050 995 1180	4 0 66 <1 1003 1190 1071 1349	3 0 60 <1 987 1143 1018 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	2 0 50 950 1050 995 1180 2600	4 0 66 <1 1003 1190 1071 1349 2894	3 0 60 <1 987 1143 1018 1319 2852 history1 15	
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	2 0 50 950 1050 995 1180 2600	4 0 66 <1 1003 1190 1071 1349 2894 current	3 0 60 <1 987 1143 1018 1319 2852 history1	
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	2 0 50 950 1050 995 1180 2600	4 0 66 <1 1003 1190 1071 1349 2894 current 12	3 0 60 <1 987 1143 1018 1319 2852 history1 15	 history2
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	2 0 50 950 1050 995 1180 2600 limit/base >25	4 0 66 <1 1003 1190 1071 1349 2894 <u>current</u> 12 2	3 0 60 <1 987 1143 1018 1319 2852 history1 15 5	 history2
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	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20	4 0 66 <1 1003 1190 1071 1349 2894 <u>current</u> 12 2 5	3 0 60 <1 987 1143 1018 1319 2852 history1 15 5 6	 history2
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	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20	4 0 66 <1 1003 1190 1071 1349 2894 <u>current</u> 12 2 5 5 <u>current</u>	3 0 60 <1 987 1143 1018 1319 2852 history1 15 5 6 kistory1	 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 TS	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >3	4 0 66 <1 1003 1190 1071 1349 2894 <i>current</i> 12 2 5 <i>current</i> 0.9	3 0 60 <1 987 1143 1018 1319 2852 history1 15 5 6 history1 0.9	 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	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	4 0 66 <1 1003 1190 1071 1349 2894 <u>current</u> 12 2 5 <u>current</u> 0.9 9.5	3 0 60 <1 987 1143 1018 1319 2852 history1 15 5 6 history1 0.9 9.2	 history2 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	2 0 50 0 950 1050 995 1180 2600 imit/base >25 20 imit/base >3 >20	4 0 66 <1 1003 1190 1071 1349 2894 <u>current</u> 12 2 5 <u>current</u> 0.9 9.5 21.1	3 0 60 <1 987 1143 1018 1319 2852 history1 15 5 6 history1 0.9 9.2 20.9	 history2 history2 history2 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 D7844 *ASTM D7844 *ASTM D7844	2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30	4 0 66 <1 1003 1190 1071 1349 2894 <i>current</i> 12 2 5 <i>current</i> 0.9 9.5 21.1 <i>current</i>	3 0 60 <1 987 1143 1018 1319 2852 history1 15 5 6 history1 0.9 9.2 20.9 history1	 history2 history2 history2 history2 history2

OIL DIAGNOSTICS

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Submitted By: Jody Greer