

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id BM-119 Component Diesel Engir Fluid PETRO CANA

Component Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (10 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.

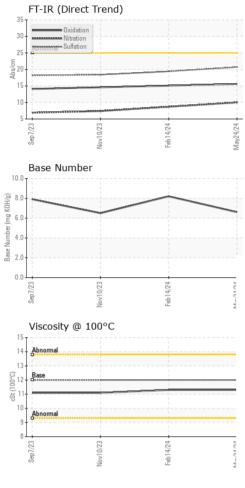
Fluid Condition

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

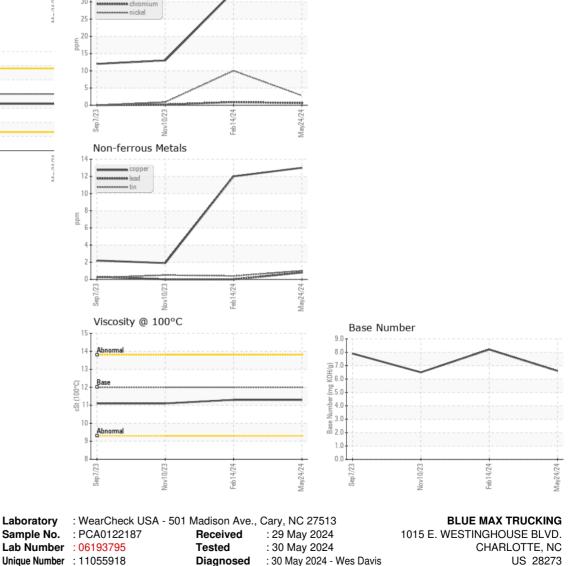
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0122187	PCA0110729	PCA0105217
Sample Date		Client Info		24 May 2024	14 Feb 2024	10 Nov 2023
Machine Age	mls	Client Info		240512	217599	203812
Oil Age	mls	Client Info		22913	13787	10821
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	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	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	33	33	13
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	3	1 0	<1
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	8	8	4
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	13	12	2
Tin	ppm	ASTM D5185m	>15	1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current	history1 3	history2 2
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	2	1	3	2
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	1 0	3 <1	2
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	1 0 61	3 <1 57	2 0 57
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	1 0 61 1	3 <1 57 1	2 0 57 <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	1 0 61 1 925	3 <1 57 1 902	2 0 57 <1 946
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	1 0 61 1 925 1052	3 <1 57 1 902 1033	2 0 57 <1 946 1036
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	2 0 50 950 1050 995	1 0 61 1 925 1052 1013	3 <1 57 1 902 1033 992	2 0 57 <1 946 1036 1011
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	1 0 61 1 925 1052 1013 1232	3 <1 57 1 902 1033 992 1205	2 0 57 <1 946 1036 1011 1253
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	1 0 61 1 925 1052 1013 1232 3253	3 <1 57 1 902 1033 992 1205 2902	2 0 57 <1 946 1036 1011 1253 2935
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	2 0 50 950 1050 995 1180 2600	1 0 61 1 925 1052 1013 1232 3253 current	3 <1 57 1 902 1033 992 1205 2902 history1	2 0 57 <1 946 1036 1011 1253 2935 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 ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	1 0 61 1 925 1052 1013 1232 3253 current 7	3 <1 57 1 902 1033 992 1205 2902 history1 9	2 0 57 <1 946 1036 1011 1253 2935 history2 7
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 method ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	1 0 61 1 925 1052 1013 1232 3253 current 7 6	3 <1 57 1 902 1033 992 1205 2902 history1 9 5	2 0 57 <1 946 1036 1011 1253 2935 history2 7 3
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 imit/base >25 >20	1 0 61 1 925 1052 1013 1232 3253 current 7 6 6 6	3 <1 57 1 902 1033 992 1205 2902 history1 9 5 8	2 0 57 <1 946 1036 1011 1253 2935 history2 7 3 3 3
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	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >20	1 0 61 1 925 1052 1013 1232 3253 current 7 6 6 6	3 <1 57 1 902 1033 992 1205 2902 history1 9 5 8 8	2 0 57 <1 946 1036 1011 1253 2935 history2 7 3 3 3 }
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	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >20	1 0 61 1 925 1052 1013 1232 3253 <i>current</i> 7 6 6 6 <i>current</i> 0.8	3 <1 57 1 902 1033 992 1205 2902 history1 9 5 8 8 history1 0.7	2 0 57 <1 946 1036 1011 1253 2935 history2 7 3 3 3 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 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> >4 >20	1 0 61 1 925 1052 1013 1232 3253 <i>current</i> 7 6 6 6 <i>current</i> 0.8 10.0	3 <1 57 1 902 1033 992 1205 2902 history1 9 5 8 8 history1 0.7 8.7	2 0 57 <1 946 1036 1011 1253 2935 history2 7 3 3 3 history2 0.3 7.4
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 imit/base >4 >20	1 0 61 1 925 1052 1013 1232 3253 <i>current</i> 7 6 6 6 6 <i>current</i> 0.8 10.0 20.7	3 <1 57 1 902 1033 992 1205 2902 history1 9 5 8 8 history1 0.7 8.7 19.4	2 0 57 <1 946 1036 1011 1253 2935 history2 7 3 3 3 history2 0.3 7.4 18.4



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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	12.00	11.3	11.3	11.1
GRAPHS						
Ferrous Alloys						
30 - iron						



Unique Number : 11055918 Diagnosed : 30 May 2024 - Wes Davis Test Package : FLEET Contact: Jody Greer Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. jgreer@bluemaxtrucking.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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