

OIL ANALYSIS REPORT





PETERBILT 29

Component Diesel Engine

PETRO CANADA DURON HP 15W40 (7 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.

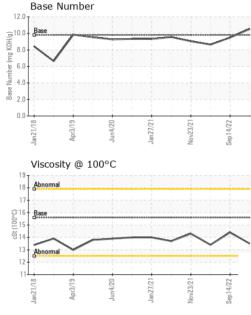
Fluid Condition

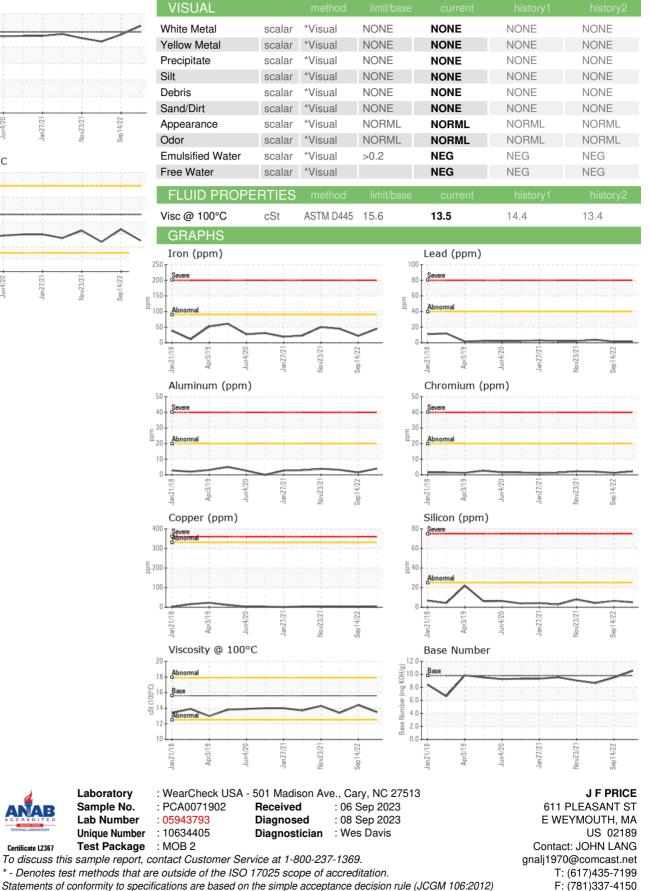
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0071902	PCA0072135	WC0594352
Sample Date		Client Info		06 Aug 2023	14 Sep 2022	18 Jun 2022
Machine Age	mls	Client Info		278272	268583	264800
Oil Age	mls	Client Info		9690	4500	8000
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	c	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	45	22	45
Chromium	ppm	ASTM D5185m		2	1	2
Nickel	ppm	ASTM D5185m	>2	1	<1	2
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185m		4	2	3
Lead	ppm	ASTM D5185m	>40	2	2	4
Copper	ppm	ASTM D5185m		2	2	2
Tin	ppm		>15	<1	1	1
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES						
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	limit/base	current 0	history1 2	history2 13
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	0	2	13
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	0 0	2 0	13 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 65	2 0 58	13 0 63
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 65 <1	2 0 58 1	13 0 63 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 65 <1 1058	2 0 58 1 995	13 0 63 <1 964
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 65 <1 1058 1195	2 0 58 1 995 1198	13 0 63 <1 964 1072
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	limit/base	0 0 65 <1 1058 1195 1105	2 0 58 1 995 1198 1030	13 0 63 <1 964 1072 1040
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	limit/base	0 0 65 <1 1058 1195 1105 1367	2 0 58 1 995 1198 1030 1313	13 0 63 <1 964 1072 1040 1245
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	limit/base	0 0 65 <1 1058 1195 1105 1367 3811	2 0 58 1 995 1198 1030 1313 3553	13 0 63 <1 964 1072 1040 1245 2921
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	limit/base	0 0 65 <1 1058 1195 1105 1367 3811 current	2 0 58 1 995 1198 1030 1313 3553 history1	13 0 63 <1 964 1072 1040 1245 2921 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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	limit/base	0 0 65 <1 1058 1195 1105 1367 3811 current 5	2 0 58 1 995 1198 1030 1313 3553 history1 6	13 0 63 <1 964 1072 1040 1245 2921 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 ASTM D5185m ASTM D5185m	limit/base	0 0 65 <1 1058 1195 1105 1367 3811 current 5 2	2 0 58 1 995 1198 1030 1313 3553 history1 6 3	13 0 63 <1 964 1072 1040 1245 2921 history2 4 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20	0 0 65 <1 1058 1195 1105 1367 3811 current 5 2 0	2 0 58 1 995 1198 1030 1313 3553 history1 6 3 0	13 0 63 <1 964 1072 1040 1245 2921 history2 4 4 4 0
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	limit/base >25 >20 limit/base	0 0 65 <1 1058 1195 1105 1367 3811 <i>current</i> 5 2 0 <i>current</i> 1.1	2 0 58 1 995 1198 1030 1313 3553 history1 6 3 0 history1 0.7	13 0 63 <1 964 1072 1040 1245 2921 history2 4 4 4 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	limit/base >25 >20 limit/base >6	0 0 65 <1 1058 1195 1105 1367 3811 <i>current</i> 5 2 0 0 <i>current</i>	2 0 58 1 995 1198 1030 1313 3553 history1 6 3 0 0 history1	13 0 63 <1 964 1072 1040 1245 2921 history2 4 4 4 0 history2 0.9
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 ppm ppm ppm	ASTM D5185m ASTM D5185m	Imit/base >25 >20 Imit/base >20 Se >20 >20 >30	0 0 65 <1 1058 1195 1105 1367 3811 <u>current</u> 5 2 0 <u>current</u> 1.1 9.0 20.7	2 0 58 1 995 1198 1030 1313 3553 history1 6 3 0 0 history1 0.7 7.7 21.2	13 0 63 <1 964 1072 1040 1245 2921 history2 4 4 4 0 bistory2 0.9 9.0 21.2
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 D7844	limit/base >25 >20 limit/base >20 >30 >30	0 0 65 <1 1058 1195 1367 3811 <i>current</i> 5 2 0 <i>current</i> 1.1 9.0 20.7	2 0 58 1 995 1198 1030 1313 3553 history1 6 3 0 history1 0.7 7.7 21.2 history1	13 0 63 <1 964 1072 1040 1245 2921 history2 4 4 4 0 history2 0.9 9.0 21.2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7414	limit/base >25 >20 limit/base >6 >20 >30 limit/base >30	0 0 65 <1 1058 1195 1105 1367 3811 <u>current</u> 5 2 0 <u>current</u> 1.1 9.0 20.7 <u>current</u> 15.9	2 0 58 1 995 1198 1030 1313 3553 history1 6 3 0 history1 0.7 7.7 21.2 history1 15.8	13 0 63 <1 964 1072 1040 1245 2921 history2 4 4 4 4 0 0 history2 0.9 9.0 21.2 history2 16.8
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	limit/base >25 >20 limit/base >20 >30 >30	0 0 65 <1 1058 1195 1367 3811 <i>current</i> 5 2 0 <i>current</i> 1.1 9.0 20.7	2 0 58 1 995 1198 1030 1313 3553 history1 6 3 0 history1 0.7 7.7 21.2 history1	13 0 63 <1 964 1072 1040 1245 2921 history2 4 4 4 0 history2 0.9 9.0 21.2 history2



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Certificate L2367