

OIL ANALYSIS REPORT

Sample Rating Trend





Component Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (--- QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

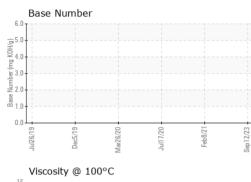
Fluid Condition

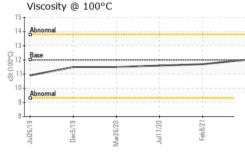
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

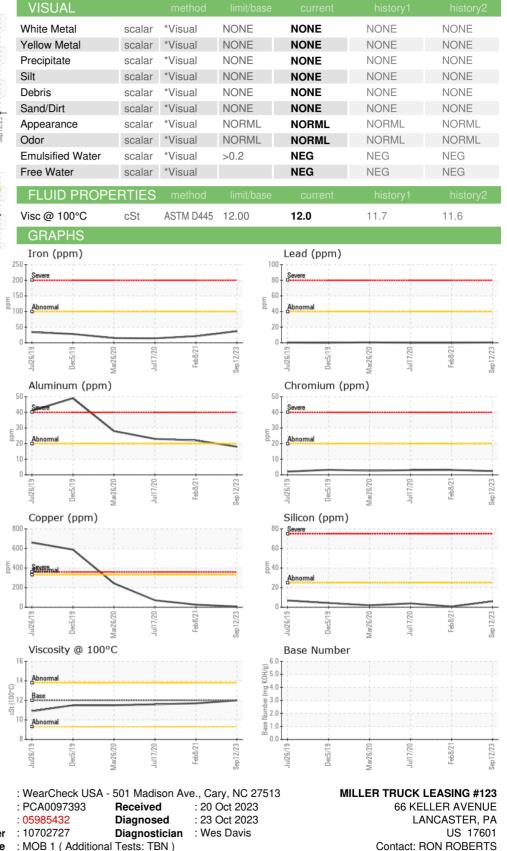
		Jul2019	Dec2019 Mar2020	Jul2020 Feb2021	Sep2023	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0097393	PCA0029334	PCA0018172
Sample Date		Client Info		12 Sep 2023	08 Feb 2021	17 Jul 2020
Machine Age	mls	Client Info		244849	91393	66754
Oil Age	mls	Client Info		56152	24639	16066
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ATTENTION
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	37	21	14
Chromium	ppm	ASTM D5185m	>20	2	3	3
Nickel	ppm	ASTM D5185m	>4	<1	0	1
Titanium	ppm	ASTM D5185m		15	2	3
Silver	ppm	ASTM D5185m	>3	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	18	22	23
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	8	26	71
Tin	ppm	ASTM D5185m	>15	1	1	0
Antimony	ppm	ASTM D5185m			0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	0	<1
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 2	current 4	history1 2	history2 6
	ppm ppm		2			
Boron		ASTM D5185m	2	4	2	6
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	4 0	2 0	6 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	4 0 52	2 0 55	6 0 61
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	4 0 52 1	2 0 55 <1	6 0 61 <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 52 1 841	2 0 55 <1 891	6 0 61 <1 1076
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 52 1 841 1169	2 0 55 <1 891 1026	6 0 61 <1 1076 1233
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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 52 1 841 1169 941	2 0 55 <1 891 1026 944	6 0 61 <1 1076 1233 1116
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 52 1 841 1169 941 1208	2 0 55 <1 891 1026 944 1154	6 0 61 <1 1076 1233 1116 1292
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 52 1 841 1169 941 1208 2845	2 0 55 <1 891 1026 944 1154 2283	6 0 61 <1 1076 1233 1116 1292 2714
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 52 1 841 1169 941 1208 2845 current	2 0 55 <1 891 1026 944 1154 2283 history1	6 0 61 <1 1076 1233 1116 1292 2714 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 ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	4 0 52 1 841 1169 941 1208 2845 2845 current 6	2 0 55 <1 891 1026 944 1154 2283 history1 <1	6 0 61 <1 1076 1233 1116 1292 2714 kistory2 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	2 0 50 950 1050 995 1180 2600 limit/base >25	4 0 52 1 841 1169 941 1208 2845 <u>current</u> 6 6	2 0 55 <1 891 1026 944 1154 2283 history1 <1 2	6 0 61 <1 1076 1233 1116 1292 2714 history2 4 3
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	2 0 50 950 1050 995 1180 2600 limit/base >25 >20	4 0 52 1 841 1169 941 1208 2845 <u>current</u> 6 6 6 12	2 0 55 <1 891 1026 944 1154 2283 history1 <1 2 38	6 0 61 <1 1076 1233 1116 1292 2714 history2 4 3 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	4 0 52 1 841 1169 941 1208 2845 current 6 6 6 12 2	2 0 55 <1 891 1026 944 1154 2283 history1 <1 2 38 history1	6 0 61 <1 1076 1233 1116 1292 2714 history2 4 3 ▲ 42 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 limit/base >25 >20 limit/base	4 0 52 1 841 1169 941 1208 2845 <i>current</i> 6 6 6 12 <i>current</i> 1.7	2 0 55 <1 891 1026 944 1154 2283 history1 <1 2 38 history1 0.8	6 0 61 <1 1076 1233 1116 1292 2714 history2 4 3 ▲ 42 history2 0.5
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 52 1 841 1169 941 1208 2845 <i>current</i> 6 6 6 12 <i>current</i> 1.7 10.4	2 0 55 <1 891 1026 944 1154 2283 history1 <1 2 38 history1 0.8 9	6 0 61 <1 1076 1233 1116 1292 2714 history2 4 3 4 3 4 2 1 4 3 1 1 5 5 7.6
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 >3 >20	4 0 52 1 841 1169 941 1208 2845 current 6 6 6 12 current 1.7 10.4 23.8	2 0 55 <1 891 1026 944 1154 2283 history1 <1 2 38 history1 0.8 9 20.6	6 0 61 <1 1076 1233 1116 1292 2714 history2 4 3 ▲ 42 history2 0.5 7.6 20.2
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 *ASTM D7844	2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30	4 0 52 1 841 1169 941 1208 2845 current 6 6 6 12 current 1.7 10.4 23.8 current	2 0 55 <1 891 1026 944 1154 2283 history1 <1 2 38 history1 0.8 9 20.6 history1	6 0 61 <1 1076 1233 1116 1292 2714 A 1292 2714 A 4 3 ▲ 42 A 105 7.6 20.2 bistory2

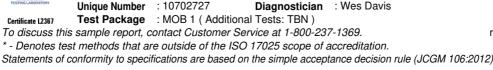


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Laboratory

Sample No.

Lab Number

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