

OIL ANALYSIS REPORT

Sample Rating Trend



Area (89655X) Walgreens Machine Id [Walgreens] 136A69076 Component

Diesel Engine

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

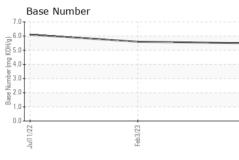
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

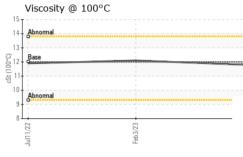
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0101026	PCA0090854	PCA0076373
Sample Date		Client Info		07 Jul 2023	03 Feb 2023	11 Jul 2022
Machine Age	mls	Client Info		663120	602696	543506
Oil Age	mls	Client Info		60424	59190	42855
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
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	>80	65	52	26
Chromium	ppm	ASTM D5185m	>5	3	2	2
Nickel	ppm	ASTM D5185m	>2	۵ <1	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>30	23	18	13
Lead	ppm	ASTM D5185m	>30	0	0	0
Copper	ppm	ASTM D5185m	>150	9	6	5
Tin	ppm	ASTM D5185m	>5	1	<1	1
Vanadium	ppm	ASTM D5185m	20	0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
	ppin			Ŭ	-	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	4	1	10
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	4 0	1 0	10 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	4 0 94	1 0 63	10 0 58
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	4 0 94 1	1 0 63 <1	10 0 58 <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 94 1 1197	1 0 63 <1 886	10 0 58 <1 809
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 94 1 1197 1530	1 0 63 <1 886 1139	10 0 58 <1 809 1361
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 94 1 1197 1530 1307	1 0 63 <1 886 1139 1000	10 0 58 <1 809 1361 959
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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 94 1 1197 1530 1307 1600	1 0 63 <1 886 1139 1000 1220	10 0 58 <1 809 1361 959 1221
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 0 950 1050 995	4 0 94 1 1197 1530 1307	1 0 63 <1 886 1139 1000	10 0 58 <1 809 1361 959
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 94 1 1197 1530 1307 1600	1 0 63 <1 886 1139 1000 1220	10 0 58 <1 809 1361 959 1221
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 method	2 0 50 950 1050 995 1180 2600	4 0 94 1 1197 1530 1307 1600 3678	1 0 63 <1 886 1139 1000 1220 2556	10 0 58 <1 809 1361 959 1221 3169
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 94 1 1197 1530 1307 1600 3678 current	1 0 63 <1 886 1139 1000 1220 2556 history1	10 0 58 <1 809 1361 959 1221 3169 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	2 0 50 950 1050 995 1180 2600 limit/base >20	4 0 94 1 1197 1530 1307 1600 3678 current 10	1 0 63 <1 886 1139 1000 1220 2556 history1 8	10 0 58 <1 809 1361 959 1221 3169 history2 5
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 >20	4 0 94 1 1197 1530 1307 1600 3678 <u>current</u> 10 0	1 0 63 <1 886 1139 1000 1220 2556 history1 8 2	10 0 58 <1 809 1361 959 1221 3169 history2 5 1
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 50 950 1050 995 1180 2600 <i>limit/base</i> >20	4 0 94 1 1197 1530 1307 1600 3678 <i>current</i> 10 0 10	1 0 63 <1 886 1139 1000 1220 2556 history1 8 2 8	10 0 58 <1 809 1361 959 1221 3169 history2 5 1 5 1 5
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 >20 \$20	4 0 94 1 1197 1530 1307 1600 3678 current 10 0 10 20	1 0 63 <1 886 1139 1000 1220 2556 history1 8 2 8 8 history1	10 0 58 <1 809 1361 959 1221 3169 history2 5 1 5 5 1 5 5 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 ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >20 \$20	4 0 94 1 1197 1530 1307 1600 3678 <i>current</i> 10 0 10 <i>current</i> 1.3	1 0 63 <1 886 1139 1000 1220 2556 history1 8 2 8 8 2 8 <i>history1</i> 1.2	10 0 58 <1 809 1361 959 1221 3169 history2 5 1 5 1 5 <i>history2</i> 1.1
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 50 950 1050 995 1180 2600 <i>imit/base</i> >20 <i>imit/base</i> >20	4 0 94 1 1197 1530 1307 1600 3678 <i>current</i> 10 0 10 <i>current</i> 1.3 11.1	1 0 63 <1 886 1139 1000 1220 2556 history1 8 2 8 2 8 history1 1.2 1.2 11.1	10 0 58 <1 809 1361 959 1221 3169 history2 5 1 1 5 history2 1.1 1.1 11.6
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 D7844 *ASTM D7844	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >20 <i>imit/base</i> >3 >20 >30	4 0 94 1 1197 1530 1307 1600 3678 <i>current</i> 10 0 10 <i>current</i> 1.3 11.1 25.0 <i>current</i>	1 0 63 <1 886 1139 1000 1220 2556 history1 8 2 8 2 8 history1 1.2 11.1 24.4 history1	10 0 58 <1 809 1361 959 1221 3169 history2 5 1 5 1 5 history2 1.1 1.6 26.4 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 <i>imit/base</i> >20 <i>imit/base</i> >3 >20 >30	4 0 94 1 1197 1530 1307 1600 3678 <i>current</i> 10 0 10 0 10 <i>current</i> 1.3 11.1 25.0	1 0 63 <1 886 1139 1000 1220 2556 history1 8 2 8 8 <u>history1</u> 1.2 1.2 11.1 24.4	10 0 58 <1 809 1361 959 1221 3169 history2 5 1 5 history2 1.1 5 history2 1.1 25.



OIL ANALYSIS REPORT

VISUAL





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20 10 22 10 10 10 10 10 10 10 10 10 10
20 10 0 Z7 11 0 Z7 11 T T T T T T T T T T T T T
20 10 0 EX 11 Non-ferrous Metals
20 10 27 11 10 27 11 10 27 11 10 27 11 10 27 11 10 27 11 10 27 11 10 27 11 10 27 11 10 10 10 10 10 10 10 10 10 10 10 10
60 - ren chromium 50 - nickel

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