

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 191324

Component Diesel Engine

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

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.

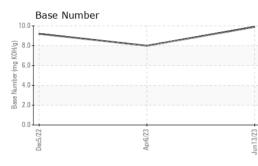
Fluid Condition

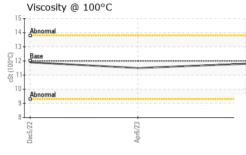
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

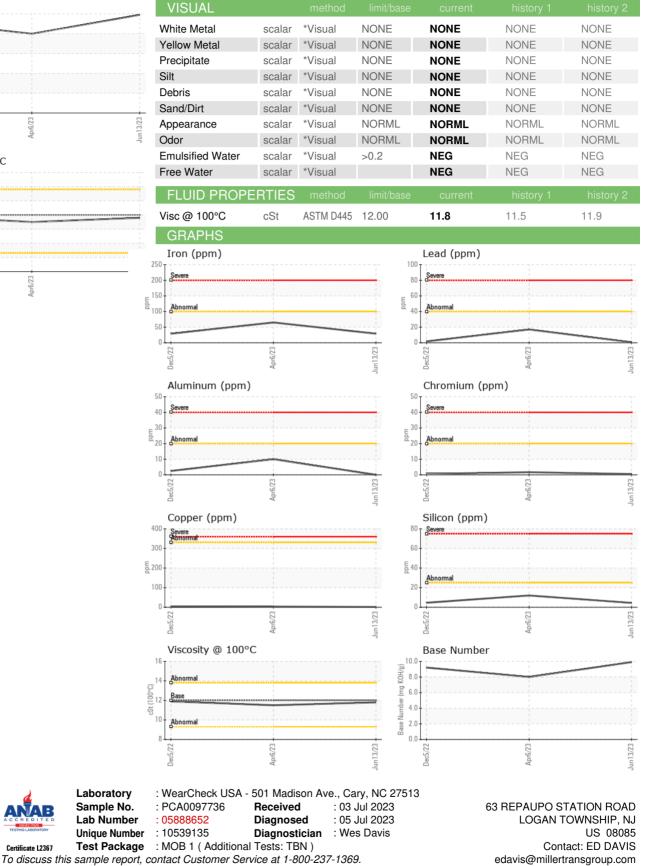
AL)		Dec	2022	Apr2023 Jun20	23	
SAMPLE INFORM	MATION	method	limit/base	current	history 1	history 2
Sample Number		Client Info		PCA0097736	PCA0094479	PCA0082533
Sample Date		Client Info		13 Jun 2023	06 Apr 2023	05 Dec 2022
Machine Age	mls	Client Info		0	7619	58433
Oil Age	mls	Client Info		0	0	58433
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history 1	history 2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>100	29	65	29
Chromium	ppm	ASTM D5185m	>20	<1	2	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		<1	<1	8
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	0	10	2
Lead	ppm	ASTM D5185m	>40	<1	17	2
Copper	ppm	ASTM D5185m	>330	1	4	2
Tin	ppm	ASTM D5185m	>15	<1	2	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history 1	history 2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 2	current 11	history 1 157	history 2 10
	ppm ppm					
Boron		ASTM D5185m	2	11	157	10
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	11 11	157 0	10 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	11 11 70	157 0 131	10 0 58
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	11 11 70 <1	157 0 131 2	10 0 58 <1
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	11 11 70 <1 938	157 0 131 2 599	10 0 58 <1 919
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	11 11 70 <1 938 1196	157 0 131 2 599 1686	10 0 58 <1 919 1372
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	11 11 70 <1 938 1196 1064	157 0 131 2 599 1686 1008	10 0 58 <1 919 1372 1068
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 0 950 1050 995 1180	11 11 70 <1 938 1196 1064 1309	157 0 131 2 599 1686 1008 1302	10 0 58 <1 919 1372 1068 1364 4024
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 0 950 1050 995 1180 2600 limit/base	11 11 70 <1 938 1196 1064 1309 3714	157 0 131 2 599 1686 1008 1302 3417	10 0 58 <1 919 1372 1068 1364 4024
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 0 950 1050 995 1180 2600 limit/base	11 11 70 <1 938 1196 1064 1309 3714 current	157 0 131 2 599 1686 1008 1302 3417 history 1	10 0 58 <1 919 1372 1068 1364 4024 history 2
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 0 950 1050 995 1180 2600 limit/base >25	11 11 70 <1 938 1196 1064 1309 3714 current 4	157 0 131 2 599 1686 1008 1302 3417 history 1 12	10 0 58 <1 919 1372 1068 1364 4024 history 2 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 0 950 1050 995 1180 2600 limit/base >25	11 11 70 <1 938 1196 1064 1309 3714 current 4 2	157 0 131 2 599 1686 1008 1302 3417 history 1 12 3	10 0 58 <1 919 1372 1068 1364 4024 history 2 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 0 950 1050 995 1180 2600 limit/base >25	11 11 70 <1 938 1196 1064 1309 3714 current 4 2 0	157 0 131 2 599 1686 1008 1302 3417 history 1 12 3 2	10 0 58 <1 919 1372 1068 1364 4024 history 2 5 1 1 <1
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 50 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	11 11 70 <1 938 1196 1064 1309 3714 <i>current</i> 4 2 0 0 <i>current</i>	157 0 131 2 599 1686 1008 1302 3417 history 1 12 3 2 2 history 1	10 0 58 <1 919 1372 1068 1364 4024 history 2 5 1 <1 <1
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 50 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	11 11 70 <1 938 1196 1064 1309 3714 <i>current</i> 4 2 0 <i>current</i> 1.2	157 0 131 2 599 1686 1008 1302 3417 history 1 12 3 2 history 1 0.7	10 0 58 <1 919 1372 1068 1364 4024 history 2 5 1 1 <1 history 2 0.6
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>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	11 11 70 <1 938 1196 1064 1309 3714 <i>current</i> 4 2 0 <i>current</i> 1.2 9.9	157 0 131 2 599 1686 1008 1302 3417 history 1 12 3 2 history 1 0.7 7.9	10 0 58 <1 919 1372 1068 1364 4024 history 2 5 1 <1 <1 history 2 0.6 8.6 18.9
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	2 0 50 950 1050 995 1180 2600 limit/base >25 ->20 limit/base >3 >20 >30	11 11 70 <1 938 1196 1064 1309 3714 <i>current</i> 4 2 0 <i>current</i> 1.2 9.9 21.1	157 0 131 2 599 1686 1008 1302 3417 history 1 12 3 2 history 1 0.7 7.9 17.5	10 0 58 <1 919 1372 1068 1364 4024 history 2 5 1 1 <1 history 2 0.6 8.6



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* - 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)

Certificate L2367

Laboratory

Sample No.

Lab Number

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