

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 503372

Component Diesel Engine

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.

ITS)		Jan2020 Sep	2020 Jan2021 May2021	Sep2021 Sep2022 Jan2023 Apr202	3 Aug2023	
SAMPLE INFORM	/IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0104311	PCA0095899	PCA0088158
Sample Date		Client Info		31 Aug 2023	27 Apr 2023	06 Jan 2023
Machine Age	mls	Client Info		198914	183799	173390
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	14	17	12
Chromium	ppm	ASTM D5185m	>20	1	1	1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	7	10	8
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	5	7	7
Tin	ppm	ASTM D5185m	>15	<1	0	<1
vanadium	ppm	ASTM D5185m		0	0	0
	ppm ppm	ASTM D5185m ASTM D5185m		0 0	0	0
			limit/base			
Cadmium ADDITIVES		ASTM D5185m	limit/base	0	0	0
Cadmium ADDITIVES	ppm	ASTM D5185m method	2	0 current	0 history1	0 history2
Cadmium ADDITIVES Boron Barium	ppm ppm	ASTM D5185m method ASTM D5185m	2	0 current 7	0 history1 10	0 history2 11
Cadmium ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	2 0 50	0 current 7 0	0 history1 10 0	0 history2 11 1
Cadmium ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	0 current 7 0 63	0 history1 10 0 62	0 history2 11 1 63
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	0 current 7 0 63 <1	0 history1 10 0 62 <1	0 history2 11 1 63 <1
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	0 current 7 0 63 <1 875	0 history1 10 0 62 <1 954	0 history2 11 1 63 <1 860
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	0 current 7 0 63 <1 875 1098	0 history1 10 0 62 <1 954 1135	0 history2 11 1 63 <1 860 1205
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	0 current 7 0 63 <1 875 1098 1006	0 history1 10 0 62 <1 954 1135 1048	0 history2 11 1 63 <1 860 1205 991
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	0 current 7 0 63 <1 875 1098 1006 1238	0 history1 10 0 62 <1 954 1135 1048 1327	0 history2 11 63 <1 860 1205 991 1204
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	0 current 7 0 63 <1 875 1098 1006 1238 3116	0 history1 10 0 62 <1 954 1135 1048 1327 3747	0 history2 11 1 63 <1 860 1205 991 1204 3179
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method 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	0 current 7 0 63 <1 875 1098 1006 1238 3116 current	0 history1 10 0 62 <1 954 1135 1048 1327 3747 history1	0 history2 11 63 <1 860 1205 991 1204 3179 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m method 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	0 current 7 0 63 <1 875 1098 1006 1238 3116 current 4	0 history1 10 0 62 <1 954 1135 1048 1327 3747 history1 3	0 history2 11 63 <1 860 1205 991 1204 3179 history2 3
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m method 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	0 current 7 0 63 <1 875 1098 1006 1238 3116 current 4 1	0 history1 10 0 62 <1 954 1135 1048 1327 3747 3747 history1 3 1	0 history2 11 1 63 <1 860 1205 991 1204 3179 history2 3 0
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m method 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	0 current 7 0 63 <1 875 1098 1006 1238 3116 current 4 1 6	0 history1 10 0 62 <1 954 1135 1048 1327 3747 history1 3 1 9	0 history2 11 1 63 <1 860 1205 991 1204 3179 history2 3 0 11
Cadmium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 -20 limit/base	0 current 7 0 63 <1 875 1098 1006 1238 3116 current 4 1 6 current	0 history1 10 0 62 <1 954 1135 1048 1327 3747 history1 3 1 9 history1	0 history2 11 63 <1 860 1205 991 1204 3179 history2 3 0 11 11 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3	0 current 7 0 63 <1 875 1098 1006 1238 3116 current 4 1 6 current 0.6	0 history1 10 0 62 <1 954 1135 1048 1327 3747 history1 3 1 9 9 history1 0.6	0 history2 11 63 <1 860 1205 991 1204 3179 history2 3 0 11 history2 0.4
Cadmium ADDITIVES 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 method ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>limit/base</i> >25 >20 <i>limit/base</i>	0 current 7 0 63 <1 875 1098 1006 1238 3116 current 4 1 6 current 0.6 7.9	0 history1 10 0 62 <1 954 1135 1048 1327 3747 history1 3 3 1 9 history1 0.6 7.7	0 history2 11 63 <1 860 1205 991 1204 3179 history2 3 0 11 history2 0.4 7.4
Cadmium Cadmium ADDITIVES 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 method 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 >30	0 current 7 0 63 <1 875 1098 1006 1238 3116 current 4 1 6 current 0.6 7.9 18.9	0 history1 10 0 62 <1 954 1135 1048 1327 3747 history1 3 1 9 history1 0.6 7.7 17.8	0 history2 11 63 <1 860 1205 991 1204 3179 history2 3 0 11 history2 0.4 7.4 19.1

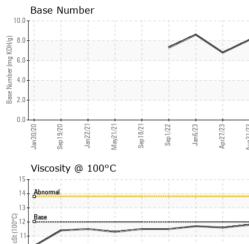


Abnorma

lan30/20 Sep 19/20 lan22/21

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OIL ANALYSIS REPORT



Sep 1/22

an6/23

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Certificate L2367

Contact/Location: MIKE LONGETTE - MILRUT