

OIL ANALYSIS REPORT

Area (P798349) Preferred Service-Tractor [Preferred Service-Tractor] 192A02017

Diesel Engine Fluid

PETRO CANADA DURON SHP 10W30 (36 QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

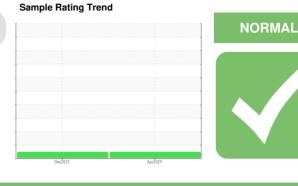
All component wear rates are normal.

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 INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0120226	PCA0114391	
Sample Date		Client Info		01 Apr 2024	01 Dec 2023	
Machine Age	mls	Client Info		350515	332403	
Oil Age	mls	Client Info		18115	25416	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>6.0	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	17	15	
Chromium	ppm	ASTM D5185m		<1	<1	
Nickel	ppm	ASTM D5185m	>2	<1	<1	
Titanium	ppm	ASTM D5185m		<1	<1	
Silver	ppm	ASTM D5185m	>2	0	0	
Aluminum	ppm	ASTM D5185m		4	3	
Lead	ppm	ASTM D5185m	>40	2	2	
Copper	ppm	ASTM D5185m		6	4	
Tin	ppm	ASTM D5185m	>15	1	<1	
Vanadium	ppm	ASTM D5185m		<1	0	
Cadmium	ppm	ASTM D5185m		<1	<1	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	maa	method ASTM D5185m	limit/base		history1 0	history2
	ppm ppm	ASTM D5185m	2	current <1 0		
Boron	ppm			<1	0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	2 0	<1 0	0 12	
Boron Barium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	<1 0 59	0 12 64	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	<1 0 59 <1	0 12 64 <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	<1 0 59 <1 955	0 12 64 <1 990	
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	<1 0 59 <1 955 1071	0 12 64 <1 990 1103	
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	<1 0 59 <1 955 1071 1025	0 12 64 <1 990 1103 1049	
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	<1 0 59 <1 955 1071 1025 1249	0 12 64 <1 990 1103 1049 1290	
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 limit/base	<1 0 59 <1 955 1071 1025 1249 3013	0 12 64 <1 990 1103 1049 1290 3059	
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 limit/base	<1 0 59 <1 955 1071 1025 1249 3013 current	0 12 64 <1 990 1103 1049 1290 3059 history1	
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	<1 0 59 <1 955 1071 1025 1249 3013 current 5	0 12 64 <1 990 1103 1049 1290 3059 history1 3	 history2
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	<1 0 59 <1 955 1071 1025 1249 3013 <u>current</u> 5 2	0 12 64 <1 990 1103 1049 1290 3059 history1 3 2	 history2
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 limit/base >25 >20	<1 0 59 <1 955 1071 1025 1249 3013 <u>current</u> 5 2 3	0 12 64 <1 990 1103 1049 1290 3059 history1 3 2 4	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	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	<1 0 59 <1 955 1071 1025 1249 3013 <i>current</i> 5 2 3 3 <i>current</i>	0 12 64 <1 990 1103 1049 1290 3059 history1 3 2 4 history1	 history2 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 limit/base >25 .20 limit/base >3 >20	<1 0 59 <1 955 1071 1025 1249 3013 <i>current</i> 5 2 3 <i>current</i> 0.5	0 12 64 <1 990 1103 1049 1290 3059 history1 3 2 4 history1 0.6	 history2 history2
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 limit/base >25 .20 limit/base >3 >20	<1 0 59 <1 955 1071 1025 1249 3013 <i>current</i> 5 2 3 <i>current</i> 0.5 8.8	0 12 64 <1 990 1103 1049 1290 3059 history1 3 2 4 history1 0.6 8.6	 history2 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 D7844 *ASTM D7844	2 0 50 0 950 1050 995 1180 2600 imit/base >25 	<1 0 59 <1 955 1071 1025 1249 3013 current 5 2 3 current 0.5 8.8 20.8	0 12 64 <1 990 1103 1049 1290 3059 history1 3 2 4 history1 0.6 8.6 20.6 history1	 history2 history2 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 50 950 1050 995 1180 2600 imit/base >25 imit/base >3 >20 >30	<1 0 59 <1 955 1071 1025 1249 3013 current 5 2 3 current 0.5 8.8 20.8	0 12 64 <1 990 1103 1049 1290 3059 history1 3 2 4 history1 0.6 8.6 20.6	 history2 history2 history2



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