

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 811056

Component Diesel Engine Fluid

PETRO CANADA DURON SHP 10W30 (--- LTR)

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 condition of the oil is acceptable for the time in service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0090621	GFL0059999	
Sample Date		Client Info		30 Aug 2023	06 Oct 2022	
Machine Age	hrs	Client Info		1170	0	
Oil Age	hrs	Client Info		0	0	
Oil Changed		Client Info		N/A	N/A	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	32	27	
Chromium	ppm	ASTM D5185(m)	>20	2	2	
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	
Titanium	ppm	ASTM D5185(m)	>2	<1	<1	
Silver	ppm	ASTM D5185(m)	>2	<1	2	
Aluminum	ppm	ASTM D5185(m)	>25	2	2	
Lead	ppm	ASTM D5185(m)	>40	<1	<1	
Copper	ppm	ASTM D5185(m)	>330	4	8	
Tin	ppm	ASTM D5185(m)	>15	0	<1	
Antimony	ppm	ASTM D5185(m)		0	<1	
Vanadium	ppm	ASTM D5185(m)		0	0	
Beryllium	ppm	ASTM D5185(m)		0	0	
Cadmium	ppm	ASTM D5185(m)		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	ASTM D5185(m)	limit/base 2	1	6	history2
Boron Barium	ppm ppm	ASTM D5185(m) ASTM D5185(m)	2 0	1 0	6 0	
Boron Barium Molybdenum		ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2 0 50	1 0 58	6 0 51	
Boron Barium Molybdenum Manganese	ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2 0 50 0	1 0 58 1	6 0 51 2	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2 0 50 0 950	1 0 58 1 972	6 0 51 2 909	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2 0 50 0 950 1050	1 0 58 1 972 1030	6 0 51 2 909 1046	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2 0 50 0 950 1050 995	1 0 58 1 972 1030 1052	6 0 51 2 909 1046 1055	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2 0 50 0 950 1050 995 1180	1 0 58 1 972 1030 1052 1172	6 0 51 2 909 1046 1055 1137	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2 0 50 950 1050 995 1180 2600	1 0 58 1 972 1030 1052 1172 2491	6 0 51 2 909 1046 1055 1137 2538	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2 0 50 0 950 1050 995 1180 2600	1 0 58 1 972 1030 1052 1172 2491 <1	6 0 51 2 909 1046 1055 1137 2538 <1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2 0 50 950 1050 995 1180 2600	1 0 58 1 972 1030 1052 1172 2491 <1 current	6 0 51 2 909 1046 1055 1137 2538 <1 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	2 0 50 0 950 1050 995 1180 2600	1 0 58 1 972 1030 1052 1172 2491 <1 <1 current 11	6 0 51 2 909 1046 1055 1137 2538 <1 history1 12	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2 0 50 950 1050 995 1180 2600	1 0 58 1 972 1030 1052 1172 2491 <1 current	6 0 51 2 909 1046 1055 1137 2538 <1 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185(m) ASTM D5185(m)	2 0 50 950 1050 995 1180 2600	1 0 58 1 972 1030 1052 1172 2491 <1 <1 current 11	6 0 51 2 909 1046 1055 1137 2538 <1 history1 12	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185(m) ASTM D5185(m)	2 0 50 0 950 1050 995 1180 2600 imit/base >25 20 imit/base	1 0 58 1 972 1030 1052 1172 2491 <1 <1 turrent	6 0 51 2 909 1046 1055 1137 2538 <1 history1 12 5 1 1 <i>history</i> 1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm t t t t	ASTM D5185(m) ASTM D5185(m)	2 0 50 0 950 1050 995 1180 2600 2600 20 255 >25 >20 20 20 20 20 20 20	1 0 58 1 972 1030 1052 1172 2491 <1 <1 <i>current</i> 11 5 <1 <i>current</i> 0.3	6 0 51 2 909 1046 1055 1137 2538 <1 history1 12 5 1 1 25 1 history1 0	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	2 0 50 0 950 1050 995 1180 2600 imit/base >25 20 imit/base	1 0 58 1 972 1030 1052 1172 2491 <1 <1 <i>current</i> 11 5 <1 <i>current</i> 0.3 9.9	6 0 51 2 909 1046 1055 1137 2538 <1 history1 12 5 1 1 history1 0 8.2	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm t t t t	ASTM D5185(m) ASTM D5185(m)	2 0 50 0 950 1050 995 1180 2600 2600 20 255 >25 >20 20 20 20 20 20 20	1 0 58 1 972 1030 1052 1172 2491 <1 <1 <i>current</i> 11 5 <1 <i>current</i> 0.3	6 0 51 2 909 1046 1055 1137 2538 <1 history1 12 5 1 1 25 1 history1 0	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185(m) ASTM D7844* ASTM D7624*	2 0 50 0 950 1050 995 1180 2600 i mit/base >25 >20 i mit/base >3 >20	1 0 58 1 972 1030 1052 1172 2491 <1 <1 <i>current</i> 11 5 <1 <i>current</i> 0.3 9.9	6 0 51 2 909 1046 1055 1137 2538 <1 history1 12 5 1 1 history1 0 8.2	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185(m) ASTM D7844* ASTM D7624*	2 0 50 0 950 1050 995 1180 2600 imit/base >25 20 imit/base >3 >20 >30	1 0 58 1 972 1030 1052 1172 2491 <1 <1 current 11 5 <1 current 0.3 9.9 22.2	6 0 51 2 909 1046 1055 1137 2538 <1 history1 12 5 1 1 history1 0 8.2 21.0	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7844* ASTM D7624* ASTM D7624*	2 0 50 0 950 1050 995 1180 2600 imit/base >26 20 imit/base >3 >20 >30 >30	1 0 58 1 972 1030 1052 1172 2491 <1 <1 <i>current</i> 11 5 <1 <i>current</i> 0.3 9.9 22.2 <i>current</i>	6 0 51 2 909 1046 1055 1137 2538 <1 history1 12 5 1 1 history1 0 8.2 21.0 history1 16.9	 history2 history2 history2



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