

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



(TE6319) Machine Id 425013

Component Diesel Engine

PETRO CANADA DURON SHP 15W40 (7 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.

			Sep2023	Jan2024		
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0075184	GFL0061884	
Sample Date		Client Info		05 Jan 2024	12 Sep 2023	
Machine Age	hrs	Client Info		28791	28299	
Oil Age	hrs	Client Info		28791	28299	
Oil Changed	1110	Client Info		Changed	Changed	
-				NORMAL	Ũ	
Sample Status				NORMAL	SEVERE	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<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	>120	16	52	
Chromium	ppm	ASTM D5185m	>20	<1	1	
Nickel	ppm	ASTM D5185m	>5	0	0	
Titanium	ppm	ASTM D5185m	>2	0	0	
Silver	ppm	ASTM D5185m	>2	0	0	
Aluminum	ppm	ASTM D5185m	>20	1	<1	
Lead	ppm	ASTM D5185m	>40	1	5	
Copper	ppm	ASTM D5185m	>330	1	8	
Tin	ppm	ASTM D5185m	>15	<1	<1	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current	history1 0	history2
		ASTM D5185m				
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	1 0	0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	1 0 57	0 0 58	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	1 0 57 <1	0 0 58 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	1 0 57 <1 937	0 0 58 <1 1033	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	1 0 57 <1 937 1040	0 0 58 <1 1033 1171	
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	0 0 60 0 1010 1070 1150	1 0 57 <1 937 1040 1064	0 0 58 <1 1033 1171 987	
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	0 0 60 0 1010 1070 1150 1270	1 0 57 <1 937 1040 1064 1195	0 0 58 <1 1033 1171 987 1238	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	1 0 57 <1 937 1040 1064	0 0 58 <1 1033 1171 987	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	1 0 57 <1 937 1040 1064 1195	0 0 58 <1 1033 1171 987 1238	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	1 0 57 <1 937 1040 1064 1195 3108	0 0 58 <1 1033 1171 987 1238 3451	
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	0 0 60 1010 1070 1150 1270 2060	1 0 57 <1 937 1040 1064 1195 3108 current	0 0 58 <1 1033 1171 987 1238 3451 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAM Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	0 0 60 0 1010 1070 1150 1270 2060 Limit/base >25	1 0 57 <1 937 1040 1064 1195 3108 current 3	0 0 58 <1 1033 1171 987 1238 3451 history1 4	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 Limit/base >25	1 0 57 <1 937 1040 1064 1195 3108 current 3 <1	0 0 58 <1 1033 1171 987 1238 3451 history1 4 2	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20	1 0 57 <1 937 1040 1064 1195 3108 current 3 <1 0	0 0 58 <1 1033 1171 987 1238 3451 history1 4 2 0	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur CONTAMINAM Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ypm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >20	1 0 57 <1 937 1040 1064 1195 3108 <u>current</u> 3 <1 0 <u>current</u>	0 0 58 <1 1033 1171 987 1238 3451 history1 4 2 0 0 history1 € 6	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAM Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ypm ypm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >4 >20	1 0 57 <1 937 1040 1064 1195 3108 <i>current</i> 3 <1 0 <i>current</i> 0.4 8.8	0 0 58 <1 1033 1171 987 1238 3451 history1 4 2 0 history1 6 6 19.3	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAM Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ypm ypm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 20 20 20 20 20 20 20 20 20 20 20	1 0 57 <1 937 1040 1064 1195 3108 <u>current</u> 3 <1 0 <u>current</u> 0.4 8.8 21.1	0 0 58 <1 1033 1171 987 1238 3451 history1 4 2 0 bistory1 € 6 19.3 36.5	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium NIFRA-RED Soot % Nitration Sulfation FLUID DEGRA	ppm ppm ppm ppm ppm ppm ppm ppm ypm ypm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 220 20 20 20 20 20 20 20 20	1 0 57 <1 937 1040 1064 1195 3108 <i>current</i> 3 <1 0 <i>current</i> 0.4 8.8 21.1 <i>current</i>	0 0 58 <1 1033 1171 987 1238 3451 history1 4 2 0 history1 ♦ 6 19.3 36.5 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRA Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm yc yc Abs/cm Abs/cm Abs/.1mm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7414	0 0 0 1010 1070 1150 1270 2060 imit/base >25 20 imit/base >4 >20 30 imit/base	1 0 57 <1 937 1040 1064 1195 3108 <u>current</u> 3 <1 0 <u>current</u> 0.4 8.8 21.1 <u>current</u> 17.9	0 0 58 <1 1033 1171 987 1238 3451 history1 4 2 0 0 history1 ● 6 19.3 36.5 history1 31.7	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium NIFRA-RED Soot % Nitration Sulfation FLUID DEGRA	ppm ppm ppm ppm ppm ppm ppm ppm ypm ypm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 220 20 20 20 20 20 20 20 20	1 0 57 <1 937 1040 1064 1195 3108 <i>current</i> 3 <1 0 <i>current</i> 0.4 8.8 21.1 <i>current</i>	0 0 58 <1 1033 1171 987 1238 3451 history1 4 2 0 history1 ♦ 6 19.3 36.5 history1	 history2 history2 history2 history2



18

12

Sep12/23

Abnorm

OIL ANALYSIS REPORT

scalar

scalar

scalar

*Visual

*Visual

*Visual

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

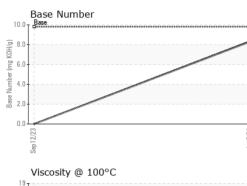
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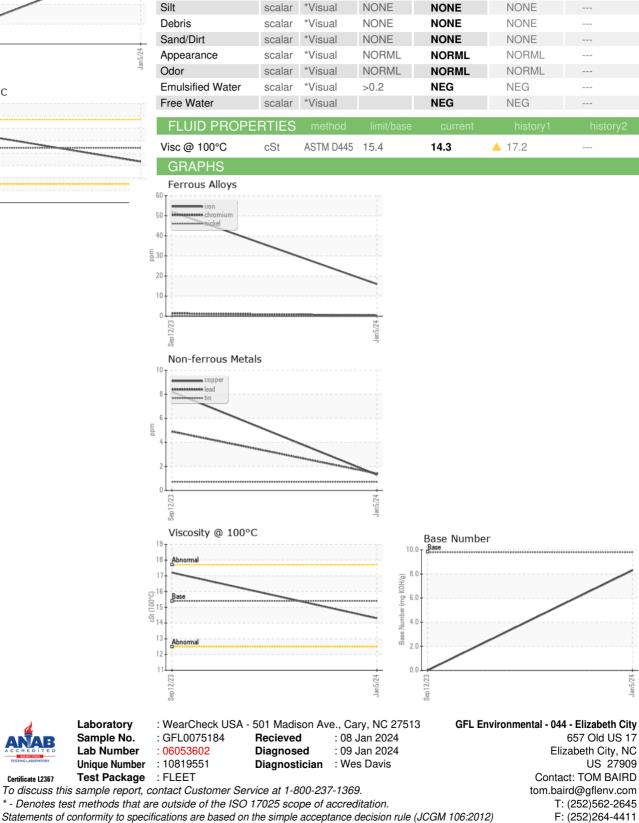
VISUAL

White Metal

Precipitate

Yellow Metal





Submitted By: TOM BAIRD

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