

OIL ANALYSIS REPORT

Area (35746Z) Walgreens - Tractor [Walgreens - Tractor] 136A62542

Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (1 QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Top Up Amount: 1 QT)

Wear

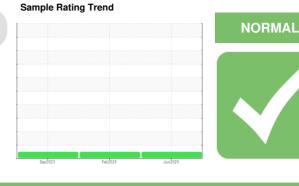
All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

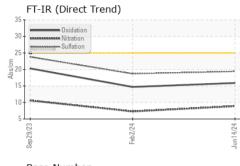
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

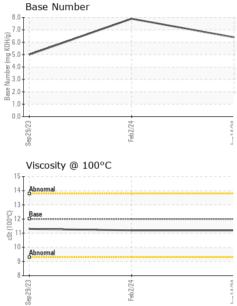


SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0117317	PCA0107552	PCA0107547
Sample Date		Client Info		14 Jun 2024	02 Feb 2024	29 Sep 2023
Machine Age	mls	Client Info		159194	147456	135970
Oil Age	mls	Client Info		11738	147456	135970
Oil Changed		Client Info		Not Changd	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>2.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	49	42	38
Chromium	ppm	ASTM D5185m	>20	2	2	3
Nickel	ppm	ASTM D5185m	>4	2	5	7
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum	ppm	ASTM D5185m		8	6	9
Lead	ppm	ASTM D5185m	>40	2	2	7
Copper	ppm	ASTM D5185m		8	7	18
Tin	ppm	ASTM D5185m	>15	<1	1	2
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 4	history1 1	history2 7
	ppm ppm					
Boron	ppm	ASTM D5185m	2	4	1	7
Boron Barium Molybdenum		ASTM D5185m ASTM D5185m	2 0	4 0	1 13	7 0
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	4 0 57	1 13 60	7 0 60
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	4 0 57 1	1 13 60 1	7 0 60 <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	4 0 57 1 933	1 13 60 1 892	7 0 60 <1 920
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	4 0 57 1 933 1069	1 13 60 1 892 1046	7 0 60 <1 920 1114
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	4 0 57 1 933 1069 1074	1 13 60 1 892 1046 962	7 0 60 <1 920 1114 974
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 50 950 1050 995 1180	4 0 57 1 933 1069 1074 1257	1 13 60 1 892 1046 962 1175	7 0 60 <1 920 1114 974 1306
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	2 0 50 0 950 1050 995 1180 2600	4 0 57 1 933 1069 1074 1257 3294	1 13 60 1 892 1046 962 1175 3350	7 0 60 <1 920 1114 974 1306 2591
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	2 0 50 950 1050 995 1180 2600	4 0 57 1 933 1069 1074 1257 3294 current	1 13 60 1 892 1046 962 1175 3350 history1	7 0 60 <1 920 1114 974 1306 2591 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN 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	2 0 50 0 950 1050 995 1180 2600 limit/base >25	4 0 57 1 933 1069 1074 1257 3294 current 5	1 13 60 1 892 1046 962 1175 3350 history1 5	7 0 60 <1 920 1114 974 1306 2591 history2 8
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 0 950 1050 995 1180 2600 limit/base >25	4 0 57 1 933 1069 1074 1257 3294 <u>current</u> 5 3	1 13 60 1 892 1046 962 1175 3350 history1 5 0	7 0 60 <1 920 1114 974 1306 2591 history2 8 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 50 950 1050 995 1180 2600 imit/base >25	4 0 57 1 933 1069 1074 1257 3294 <u>current</u> 5 3 14	1 13 60 1 892 1046 962 1175 3350 history1 5 0 12	7 0 60 <1 920 1114 974 1306 2591 history2 8 1 20
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 ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	4 0 57 1 933 1069 1074 1257 3294 <i>current</i> 5 3 3 14 <i>current</i> 0.2	1 13 60 1 892 1046 962 1175 3350 history1 5 0 12 history1 0.2	7 0 60 <1 920 1114 974 1306 2591 history2 8 1 20 history2 0.4
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 ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20	4 0 57 1 933 1069 1074 1257 3294 current 5 3 14 current	1 13 60 1 892 1046 962 1175 3350 history1 5 0 12 history1	7 0 60 <1 920 1114 974 1306 2591 history2 8 1 20 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 50 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	4 0 57 1 933 1069 1074 1257 3294 <i>current</i> 5 3 3 14 <i>current</i> 0.2 8.9	1 13 60 1 892 1046 962 1175 3350 history1 5 0 12 history1 0.2 7.3	7 0 60 <1 920 1114 974 1306 2591 history2 8 1 20 history2 0.4 10.6
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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	2 0 0 50 0 950 1050 995 1180 2600 2600 255 20 220 20 30 20 30 30 20 30	4 0 57 1 933 1069 1074 1257 3294 <i>current</i> 5 3 3 14 <i>current</i> 0.2 8.9 19.4 <i>current</i>	1 13 60 1 892 1046 962 1175 3350 history1 5 0 12 history1 0.2 7.3 18.7 history1	7 0 60 <1 920 1114 974 1306 2591 history2 8 1 20 history2 0.4 10.6 23.8 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 0 50 0 950 1050 995 1180 2600 2600 255 20 220 20 30 20 30 30 20 30	4 0 57 1 933 1069 1074 1257 3294 <i>current</i> 5 3 3 14 <i>current</i> 0.2 8.9 19.4	1 13 60 1 892 1046 962 1175 3350 history1 5 0 12 history1 0.2 7.3 18.7	7 0 60 <1 920 1114 974 1306 2591 history2 8 1 20 history2 0.4 10.6 23.8

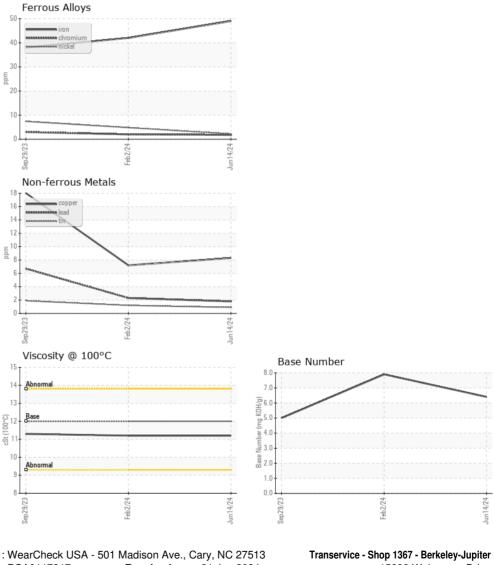


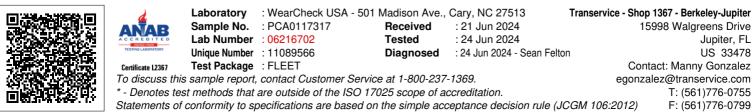
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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	11.2	11.2	11.3
GRAPHS						





Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)