

OIL ANALYSIS REPORT

Area (89741X) Walgreens - Tractor [Walgreens - Tractor] 136A67179

Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (11 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

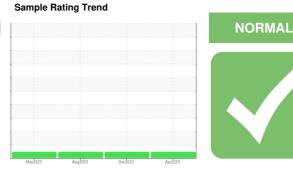
All component wear rates are normal.

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.

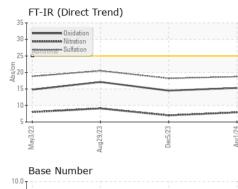


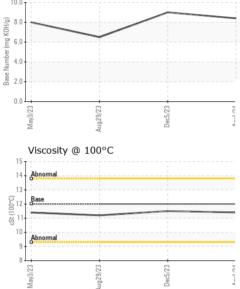


SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0105930	PCA0105875	PCA0091539
Sample Date		Client Info		01 Apr 2024	05 Dec 2023	29 Aug 2023
Machine Age	mls	Client Info		628544	619539	602846
Oil Age	mls	Client Info		611851	602846	50000
Oil Changed		Client Info		N/A	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<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	>110	9	3	14
Chromium	ppm	ASTM D5185m	>4	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	3	2	2
Lead	ppm	ASTM D5185m	>45	<1	0	0
Copper	ppm	ASTM D5185m	>85	8	10	52
Tin	ppm	ASTM D5185m	>4	<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 0	history1 2	history2 0
	ppm ppm					
Boron		ASTM D5185m	2	0	2	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	0 0	2 <1	0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	0 0 65	2 <1 62	0 0 54
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	0 0 65 <1	2 <1 62 <1	0 0 54 <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	0 0 65 <1 944	2 <1 62 <1 959	0 0 54 <1 816
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	0 0 65 <1 944 1075	2 <1 62 <1 959 1077	0 0 54 <1 816 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	2 0 50 0 950 1050 995	0 0 65 <1 944 1075 1030	2 <1 62 <1 959 1077 1119	0 0 54 <1 816 1171 871
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 ASTM D5185m	2 0 50 950 1050 995 1180	0 0 65 <1 944 1075 1030 1197	2 <1 62 <1 959 1077 1119 1274	0 0 54 <1 816 1171 871 1125
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600	0 0 65 <1 944 1075 1030 1197 3023	2 <1 62 <1 959 1077 1119 1274 3097	0 0 54 <1 816 1171 871 1125 3050
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600	0 0 65 <1 944 1075 1030 1197 3023 current	2 <1 62 <1 959 1077 1119 1274 3097 history1	0 0 54 <1 816 1171 871 1125 3050 history2
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 method ASTM D5185m	2 0 50 950 1050 995 1180 2600	0 0 65 <1 944 1075 1030 1197 3023 current 6	2 <1 62 <1 959 1077 1119 1274 3097 history1 4	0 0 54 <1 816 1171 871 1125 3050 history2 4
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 method ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >30	0 0 65 <1 944 1075 1030 1197 3023 current 6 <	2 <1 62 <1 959 1077 1119 1274 3097 history1 4 3	0 0 54 <1 816 1171 871 1125 3050 history2 4 2
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 >30	0 0 65 <1 944 1075 1030 1197 3023 current 6 <1 3	2 <1 62 <1 959 1077 1119 1274 3097 history1 4 3 2	0 0 54 <1 816 1171 871 1125 3050 history2 4 2 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	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >30 -20 limit/base	0 0 65 <1 944 1075 1030 1197 3023 current 6 <1 3 current 0.3	2 <1 62 <1 959 1077 1119 1274 3097 history1 4 3 2 history1 0.3	0 0 54 <1 816 1171 871 1125 3050 history2 4 2 4 4 2 4 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	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 >30 >20 limit/base	0 0 65 <1 944 1075 1030 1197 3023 current 6 <1 3 current	2 <1 62 <1 959 1077 1119 1274 3097 history1 4 3 2 history1	0 0 54 <1 816 1171 871 1125 3050 history2 4 2 4 4 2 4 history2 0.4
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 Iimit/base >30 S 20 Iimit/base >3 >20	0 0 65 <1 944 1075 1030 1197 3023 <i>current</i> 6 <1 3 <i>current</i> 0.3 7.9	2 <1 62 <1 959 1077 1119 1274 3097 history1 4 3 2 history1 0.3 7.0	0 0 54 <1 816 1171 871 1125 3050 history2 4 2 4 2 4 4 2 4 4 2 0.4 9.1
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 >30 imit/base >3 20	0 0 65 <1 944 1075 1030 1197 3023 <i>current</i> 6 <1 3 <i>current</i> 0.3 7.9 18.7 <i>current</i>	2 <1 62 <1 959 1077 1119 1274 3097 history1 4 3 2 history1 0.3 7.0 18.2	0 0 54 <1 816 1171 871 1125 3050 history2 4 2 4 2 4 history2 0.4 9.1 20.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	2 0 0 50 0 950 1050 995 1180 2600 imit/base >30 20 imit/base >30 >20 >30	0 0 65 <1 944 1075 1030 1197 3023 <u>current</u> 6 <1 3 <u>current</u> 0.3 7.9 18.7	2 <1 62 <1 959 1077 1119 1274 3097 history1 4 3 2 history1 0.3 7.0 18.2 history1	0 0 54 <1 816 1171 871 1125 3050 history2 4 2 4 2 4 2 4 5 0.4 9.1 20.5 history2

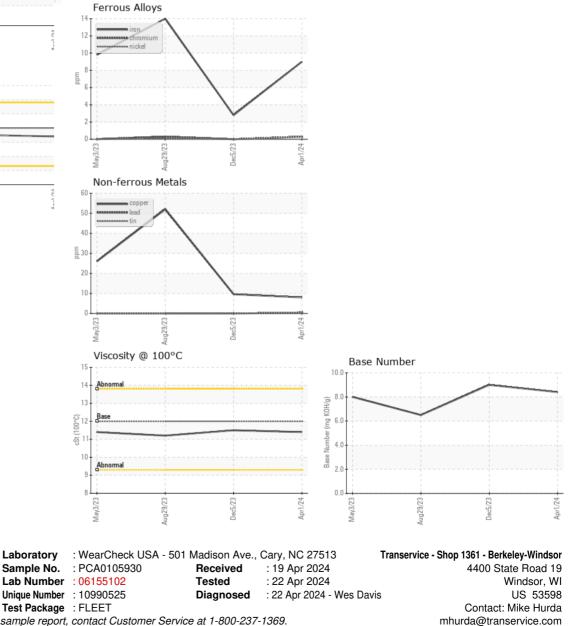


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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*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	11.4	11.5	11.2
GRAPHS						





* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

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

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