

## **OIL ANALYSIS REPORT**

### Area (89898X) Walgreens - Tractor [Walgreens - Tractor] 136A69045

**Diesel Engine** 

PETRO CANADA DURON SHP 10W30 (11 GAL)

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

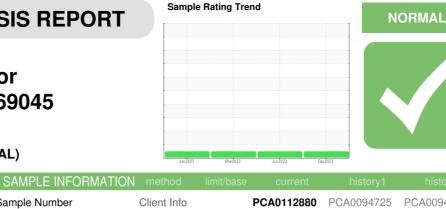
All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

#### Fluid Condition

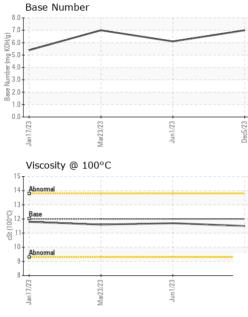
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



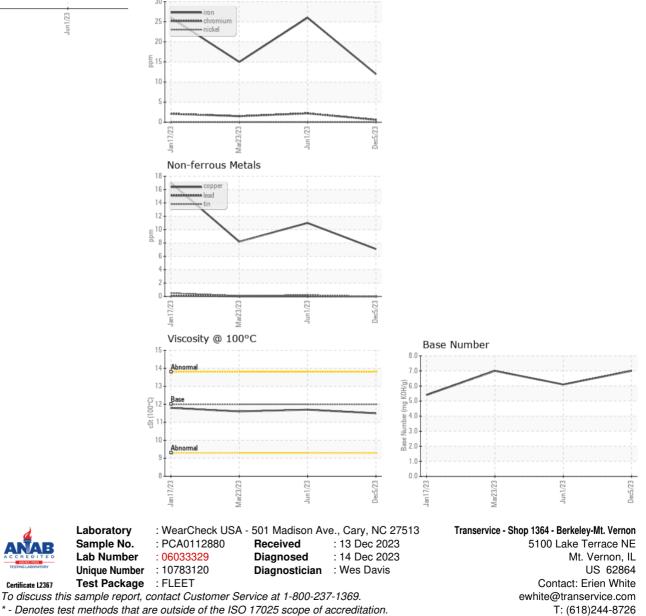
Sample Number Sample Date		Client Info Client Info		PCA0112880 05 Dec 2023	PCA0094725 01 Jun 2023	PCA0094638 23 Mar 2023
Machine Age	mls	Client Info		709866	649549	619568
Oil Age	mls	Client Info		60317	57498	27517
Oil Changed		Client Info		Not Changd	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
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	WEAR METALS meth		limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	12	26	15
Chromium	ppm	ASTM D5185m	>5	<1	2	2
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	4	11	7
Lead	ppm	ASTM D5185m	>30	0	0	0
Copper	ppm	ASTM D5185m	>150	7	11	8
Tin	ppm	ASTM D5185m	>5	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	ASTM D5185m	2	0	0	3
	ppm ppm		2	0 0	0	
Boron		ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	0 0 59	0 0 63	3 2 65
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	0 0 59 0	0 0 63 <1	3 2 65 <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 59 0 937	0 0 63 <1 996	3 2 65 <1 939
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	0 0 59 0 937 1021	0 0 63 <1 996 1165	3 2 65 <1 939 1116
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 59 0 937 1021 988	0 0 63 <1 996 1165 956	3 2 65 <1 939 1116 1032
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	0 0 59 0 937 1021 988 1199	0 0 63 <1 996 1165 956 1251	3 2 65 <1 939 1116 1032 1231
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	2 0 50 0 950 1050 995	0 0 59 0 937 1021 988	0 0 63 <1 996 1165 956	3 2 65 <1 939 1116 1032
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	0 0 59 0 937 1021 988 1199	0 0 63 <1 996 1165 956 1251	3 2 65 <1 939 1116 1032 1231
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 <b>limit/base</b> >20	0 0 59 0 937 1021 988 1199 3073	0 0 63 <1 996 1165 956 1251 2994	3 2 65 <1 939 1116 1032 1231 2727
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 <b>limit/base</b> >20	0 0 59 0 937 1021 988 1199 3073	0 0 63 <1 996 1165 956 1251 2994 history1	3 2 65 <1 939 1116 1032 1231 2727 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 ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>limit/base</b> >20	0 0 59 0 937 1021 988 1199 3073 current	0 0 63 <1 996 1165 956 1251 2994 history1 5	3 2 65 <1 939 1116 1032 1231 2727 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 >20	0 0 59 0 937 1021 988 1199 3073 <u>current</u> 5 0	0 0 63 <1 996 1165 956 1251 2994 history1 5 2	3 2 65 <1 939 1116 1032 1231 2727 history2 4 0
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 <b>limit/base</b> >20	0 0 59 0 937 1021 988 1199 3073 <i>current</i> 5 0 2 2 <i>current</i>	0 0 63 <1 996 1165 956 1251 2994 history1 5 2 <1 5 2 <1 history1 0.9	3 2 65 <1 939 1116 1032 1231 2727 history2 4 0 2 history2 0.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >20 	0 0 59 0 937 1021 988 1199 3073 <i>current</i> 5 0 2 2 <i>current</i> 0.6 8.2	0 0 63 <1 996 1165 956 1251 2994 history1 5 2 2 <1 history1 0.9 10.3	3 2 65 <1 939 1116 1032 1231 2727 history2 4 0 2 history2 0.6 7.8
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 >20 limit/base >3	0 0 59 0 937 1021 988 1199 3073 <i>current</i> 5 0 2 2 <i>current</i>	0 0 63 <1 996 1165 956 1251 2994 history1 5 2 <1 5 2 <1 history1 0.9	3 2 65 <1 939 1116 1032 1231 2727 history2 4 0 2 history2 0.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm spm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >20 imit/base >20 imit/base	0 0 59 0 937 1021 988 1199 3073 <i>current</i> 5 0 2 2 <i>current</i> 0.6 8.2	0 0 63 <1 996 1165 956 1251 2994 history1 5 2 2 <1 history1 0.9 10.3	3 2 65 <1 939 1116 1032 1231 2727 history2 4 0 2 history2 0.6 7.8
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 TS ppm ppm ppm ppm spm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>imit/base</b> >20 <b>imit/base</b> >3 >20 >3	0 0 59 0 937 1021 988 1199 3073 <i>current</i> 5 0 2 2 <i>current</i> 0.6 8.2 19.7	0 0 63 <1 996 1165 956 1251 2994 history1 5 2 <1 5 2 <1 history1 0.9 10.3 22.8	3 2 65 <1 939 1116 1032 1231 2727 <b>history2</b> 4 0 2 <b>history2</b> 0.6 7.8 17.5



# **OIL ANALYSIS REPORT**



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	11.5	11.7	11.6
GRAPHS						
Ferrous Alloys						



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

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