

## **OIL ANALYSIS REPORT**

### Area (92415X) Walgreens - Tractor [Walgreens - Tractor] 136A62002

**Diesel Engine** 

Fluid PETRO CANADA DURON SHP 10W30 (11 GAL)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

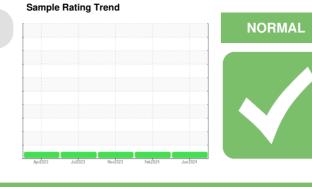
All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

#### Fluid Condition

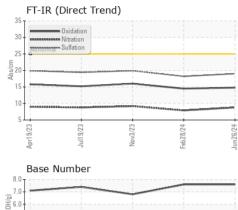
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

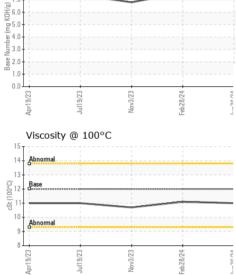


SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0123067	PCA0110601	PCA0093470
Sample Date		Client Info		26 Jun 2024	28 Feb 2024	03 Nov 2023
Machine Age	mls	Client Info		395159	377937	359474
Oil Age	mls	Client Info		17222	18463	359474
Oil Changed		Client Info		Changed	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	23	18	14
Chromium	ppm	ASTM D5185m		<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		14	<1	6
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m		5	3	5
Lead	ppm	ASTM D5185m	>40	0	<1	2
Copper	ppm	ASTM D5185m		0	<1	<1
Tin	ppm	ASTM D5185m	>15	0	0	<1
Vanadium	ppm	ASTM D5185m	210	0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base		history1	history2
ADDITIVES	nom	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	current 16	10	13
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	current 16 0	10 0	13 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 16 0 47	10 0 48	13 0 51
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 16 0 47 <1	10 0 48 <1	13 0 51 <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	current 16 0 47 <1 814	10 0 48 <1 737	13 0 51 <1 861
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	current           16           0           47           <1           814           1258	10 0 48 <1 737 1222	13 0 51 <1 861 1150
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	current           16           0           47           <1           814           1258           1011	10 0 48 <1 737 1222 880	13 0 51 <1 861 1150 1001
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	current           16           0           47           <1           814           1258           1011           1160	10 0 48 <1 737 1222 880 1063	13 0 51 <1 861 1150 1001 1246
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	2 0 50 0 950 1050 995 1180 2600	Current 16 0 47 <1 814 1258 1011 1160 3612	10 0 48 <1 737 1222 880 1063 3278	13 0 51 <1 861 1150 1001 1246 3092
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	2 0 50 950 1050 995 1180 2600	current         16         0         47         <1         814         1258         1011         1160         3612         current	10 0 48 <1 737 1222 880 1063 3278 history1	13 0 51 <1 861 1150 1001 1246 3092 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 0 950 1050 995 1180 2600	current           16           0           47           <1           814           1258           1011           1160           3612           current           5	10 0 48 <1 737 1222 880 1063 3278	13 0 51 <1 861 1150 1001 1246 3092 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 ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25	current           16           0           47           <1           814           1258           1011           1160           3612           current           5           2	10 0 48 <1 737 1222 880 1063 3278 history1 4 1	13 0 51 <1 861 1150 1001 1246 3092 history2 4 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 <b>imit/base</b> >25	current         16         0         47         <1         814         1258         1011         1160         3612         current         5         2         5         5         5         5         5         5         5	10 0 48 <1 737 1222 880 1063 3278 history1 4 1 4	13 0 51 <1 861 1150 1001 1246 3092 history2 4 1 8
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 0 950 1050 995 1180 2600 <b>Imit/base</b> >25 >20	current         16         0         47         <1         814         1258         1011         1160         3612         current         5         2         5         2         5         2         5         2         5         2         5         2         5         2         5         2         5         2         5         2         5         2         5         2         5          2          5	10 0 48 <1 737 1222 880 1063 3278 history1 4 1 4 1 4 history1	13 0 51 <1 861 1150 1001 1246 3092 history2 4 1 8 8 history2
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	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	current         16         0         47         <1         814         1258         1011         1160         3612         current         5         2         5         2         5         2         5         2         5         2         5         2         5         0.3	10 0 48 <1 737 1222 880 1063 3278 history1 4 1 4 1 4 1 4 1 0.2	13 0 51 <1 861 1150 1001 1246 3092 history2 4 1 8 <u>history2</u> 0.3
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	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	current         16         0         47         <1         814         1258         1011         1160         3612         current         5         2         5         2         5         2         5         0.3         8.8	10 0 48 <1 737 1222 880 1063 3278 history1 4 1 4 1 4 1 4 2 .2 7.9	13 0 51 <1 861 1150 1001 1246 3092 history2 4 1 8 <u>history2</u> 0.3 9.2
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	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	current         16         0         47         <1         814         1258         1011         1160         3612         current         5         2         5         2         5         2         5         2         5         2         5         2         5         0.3	10 0 48 <1 737 1222 880 1063 3278 history1 4 1 4 1 4 1 4 1 0.2	13 0 51 <1 861 1150 1001 1246 3092 history2 4 1 8 <u>history2</u> 0.3
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 TS 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	current         16         0         47         <1         814         1258         1011         1160         3612         current         5         2         5         2         5         2         5         0.3         8.8	10 0 48 <1 737 1222 880 1063 3278 history1 4 1 4 1 4 1 4 2 .2 7.9	13 0 51 <1 861 1150 1001 1246 3092 history2 4 1 8 <u>history2</u> 0.3 9.2
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	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 <b>imit/base</b> >3 >20	current         16         0         47         <1         814         1258         1011         1160         3612         current         5         2         5         2         5         2         5         2         5         2         5         2         5         2         5         2         5         2         5         2         5         2         5         2         5         2         5         2         3         8.8         19.0	10 0 48 <1 737 1222 880 1063 3278 history1 4 1 4 1 4 1 4 1 0.2 7.9 18.2	13 0 51 <1 861 1150 1001 1246 3092 <b>history2</b> 4 1 8 <b>history2</b> 0.3 9.2 19.9

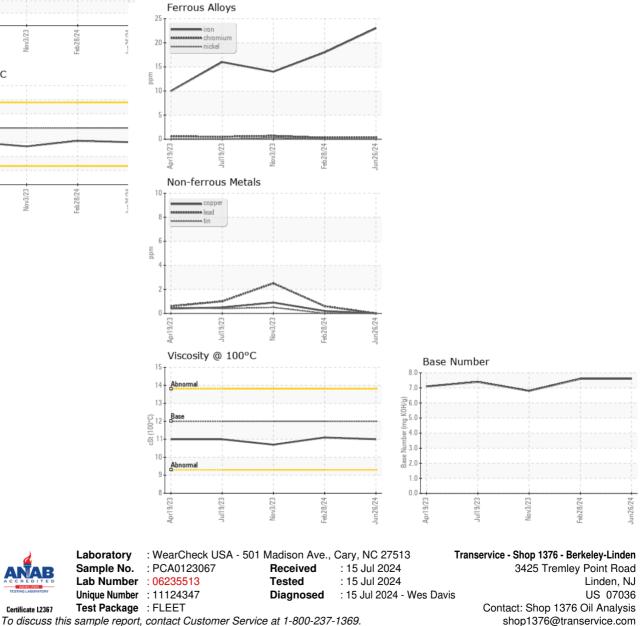


# **OIL ANALYSIS REPORT**





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	11.0	11.1	10.7
GRAPHS						



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) Report Id: TSV1376 [WUSCAR] 06235513 (Generated: 07/15/2024 15:48:42) Rev: 1

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

Certificate 12367

F: Submitted By: Ryan Booth

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