

## **OIL ANALYSIS REPORT**

Sample Rating Trend

# NORMAL

## (89635X) Walgreens - Tractor [Walgreens - Tractor] 136A68023

**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.

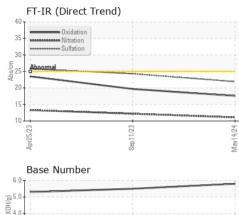
#### Fluid Condition

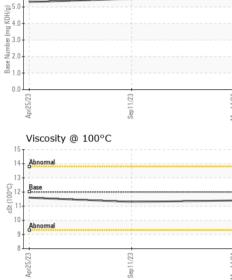
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0123050	PCA0093528	PCA0096551
Sample Date		Client Info		14 May 2024	11 Sep 2023	25 Apr 2023
Machine Age	mls	Client Info		181766	161163	150701
Oil Age	mls	Client Info		20603	10462	150701
Oil Changed		Client Info		Changed	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	20.L	NEG	NEG	NEG
WEAR METAL	0		limit/bass	-		
		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	27	35	41
Chromium	ppm	ASTM D5185m		<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	0	18	24	32
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m		3	1	<1
Lead	ppm	ASTM D5185m	>30	<1	0	0
Copper	ppm	ASTM D5185m		<1	1	1
Tin	ppm	ASTM D5185m	>5	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	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 14	history1 12	history2 29
	ppm ppm					
Boron		ASTM D5185m	2	14	12	29
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	14 0	12 0	29 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	14 0 44	12 0 39	29 0 34
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	14 0 44 <1	12 0 39 <1	29 0 34 <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	14 0 44 <1 753	12 0 39 <1 691	29 0 34 <1 602
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	14 0 44 <1 753 1337	12 0 39 <1 691 1367	29 0 34 <1 602 1457
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	14 0 44 <1 753 1337 999	12 0 39 <1 691 1367 870	29 0 34 <1 602 1457 863
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	14 0 44 <1 753 1337 999 1209	12 0 39 <1 691 1367 870 1114	29 0 34 <1 602 1457 863 1104
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	14 0 44 <1 753 1337 999 1209 3700	12 0 39 <1 691 1367 870 1114 3506	29 0 34 <1 602 1457 863 1104 3486
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	14 0 44 <1 753 1337 999 1209 3700 current	12 0 39 <1 691 1367 870 1114 3506 history1	29 0 34 <1 602 1457 863 1104 3486 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	14 0 44 <1 753 1337 999 1209 3700 current 5	12 0 39 <1 691 1367 870 1114 3506 history1 7	29 0 34 <1 602 1457 863 1104 3486 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 <b>limit/base</b> >20	14 0 44 <1 753 1337 999 1209 3700 current 5 2	12 0 39 <1 691 1367 870 1114 3506 history1 7 7	29 0 34 <1 602 1457 863 1104 3486 history2 8 3
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> >20	14 0 44 <1 753 1337 999 1209 3700 current 5 2 2 2	12 0 39 <1 691 1367 870 1114 3506 history1 7 7 7 4	29 0 34 <1 602 1457 863 1104 3486 history2 8 3 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 0 950 1050 995 1180 2600 <b>Imit/base</b> >20 >20	14 0 44 <1 753 1337 999 1209 3700 current 5 2 2 2 2 2	12 0 39 <1 691 1367 870 1114 3506 history1 7 7 7 4 history1	29 0 34 <1 602 1457 863 1104 3486 history2 8 3 4 4 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 >20 20 limit/base >20	14 0 44 <1 753 1337 999 1209 3700 current 5 2 2 2 2 2 current 0.7	12 0 39 <1 691 1367 870 1114 3506 history1 7 7 7 4 4 history1 0.8	29 0 34 <1 602 1457 863 1104 3486 history2 8 3 4 4 history2 0.8
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> >20 <i>imit/base</i> >20	14 0 44 <1 753 1337 999 1209 3700 current 5 2 2 2 2 current 0.7 11.1	12 0 39 <1 691 1367 870 1114 3506 history1 7 7 7 4 4 history1 0.8 12.2	29 0 34 <1 602 1457 863 1104 3486 history2 8 3 4 4 history2 0.8 13.3
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 <b>imit/base</b> >20 <b>imit/base</b> >3 >20 >30	14 0 44 <1 753 1337 999 1209 3700 current 5 2 2 2 current 0.7 11.1 21.9 current	12 0 39 <1 691 1367 870 1114 3506 history1 7 7 7 4 history1 0.8 12.2 24.3	29 0 34 <1 602 1457 863 1104 3486 <b>history2</b> 8 3 4 <b>history2</b> 0.8 13.3 25.8 <b>history2</b>
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAC	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	2 0 0 50 0 950 1050 995 1180 2600 2600 20 20 20 20 20 3 20 20 20 3 3 20 20 20 20 20 20 20 20 20 20 20 20 20	14 0 44 <1 753 1337 999 1209 3700 current 5 2 2 2 2 2 current 0.7 11.1 21.9	12 0 39 <1 691 1367 870 1114 3506 history1 7 7 7 4 <b>history1</b> 0.8 12.2 24.3 history1	29 0 34 <1 602 1457 863 1104 3486 <b>history2</b> 8 3 4 <b>history2</b> 0.8 13.3 25.8



## **OIL ANALYSIS REPORT**





	VISUAL		method		current		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
Managan	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Sep11/23.		scalar	*Visual	NORML	NORML	NORML	NORML
Sep11/22 Mav14/24	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual		NEG	NEG	NEG
	FLUID PROF	PERTIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	12.00	11.4	11.3	11.6
	GRAPHS						
	Ferrous Alloys						
1/23	40 - iron						
Sep11/23	35 nickel						
				/			
	E <sup>25</sup> 20						
	15						
	10-						
	5						
		/23 -		1/24			
1	Apr25/23	Sep11/23		May14/24			
	Non-ferrous Me			~			
	NULL-LELLOUS ME	tals					
1/23	<sup>10</sup> T	tals					
Sep11/23 -		tals					
Sep11/23 + ма…талла	10 copper	tals					
Sep11/23 -	8 6	tals					
Sep11/23 -	10 copper	tals					
Sep11/23 -	8 6	tals					
Sep11/23 -	8 6	tals					
Sep11/23 -	8 6	tals					
Sep11/23 -	10 8 6 4 2 0 set						
Sep11/23-	10 8 6 4 2 0 set						
Sep11/23-	10 8 6 4 2 0 Copper lead tin tin Copper tin tin	Sep11/23		May14/24			
Sep11/23-	Viscosity @ 100	Sep11/23		May14/24	Base Numbé	21	
Sep11/23-	Viscosity @ 100	Sep11/23			Base Numbe	21	
Sep 11/23 -	Viscosity @ 100	Sep11/23		+72714/2	Base Numbe	2 <b>°</b>	
Sep 11/23 -	Viscosity @ 100	Sep11/23		+72714/2	Base Numbe	2F	
Sep11/23 -	Viscosity @ 100	Sep11/23		+72714/2	Base Numbe	217	
Sep11/23 -	Viscosity @ 100	Sep11/23		+72714/2	Base Numbe	2 <b>r</b>	
Sep 11/23	Viscosity @ 100	Sep11/23		+72714/2	Base Numbe	9 <b>r</b>	
Sep11/23-	Viscosity @ 100	Sep11/23		6.0 5.0 (5,0 (0,0 (1,0 (1,0 (1,0)) (1,0)) (1,0)(	Base Numbe	51.	
Sep11/23-	Viscosity @ 100	Sep11/23		6.0- 5.0- (5)HOX buy 3.0- buy	Base Numbe	21.	
Sap11/23 -	Viscosity @ 100	°C Sep11/23		6.0 5.0 (0,HO) 4.0 9 asee 8 1.0 0.0			
Sep 11/23 -	Viscosity @ 100	°C Sep11/23		6.0 5.0 (0,HO) 4.0 9 asee 8 1.0 0.0			
Sep11/23	Viscosity @ 100	Sep11/23		6.0- 5.0- (5)HOX buy 3.0- buy	Base Numbe	212 Sep 11/23	
	Viscosity @ 100	Sep11/23		6.0 (0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0	Apr25/23	Sep11/23	Berkelev-Linde
Laboratory Sample No	Viscosity @ 100	Sep11/23	n Ave., Cary ived : 30	6.0- 5.0- (0)HOX Bull 33.0- bull 35.0- bull	Apr25/23	EZZITLE EXTERNATION OF THE SECOND SECONDO SECONDO SECOND SECOND SECOND SECOND SECOND S	
Laboratory Sample No Lab Numbe	Viscosity @ 100 Viscosity @ 100 Viscosity @ 100	°C	n Ave., Cary ived : 30 d : 31	6.0- 6.0- 6.0- 6.0- 6.0- 1.0- 6.0-	Transe	EZZITLE EXTERNATION OF THE SECOND SECONDO SECONDO SECOND SECOND SECOND SECOND SECOND S	Berkeley-Linden Ney Point Roa Linden, N
Laboratory Sample No Lab Numbe Unique Numb	Viscosity @ 100	°C C 501 Madiso Recei	n Ave., Cary ived : 30 d : 31	6.0- 5.0- (0)HOX Bull 33.0- bull 35.0- bull	EZJSZION Transe es Davis	EZZITLE EXTERNATION OF THE SECOND SECONDO SECONDO SECOND SECOND SECOND SECOND SECOND S	Berkeley-Linden Ney Point Roa Linden, N US 0703

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

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Submitted By: Ryan Booth Page 2 of 2

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