

# **OIL ANALYSIS REPORT**

## Area (89796X) Walgreens - Tractor Machine Id [Walgreens - Tractor] 136A68074

**Diesel Engine** 

PETRO CANADA DURON SHP 10W30 (11 GAL)

# DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

#### Wear

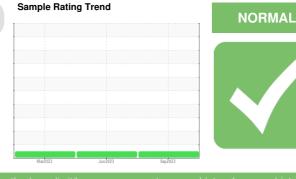
All component wear rates are normal.

#### 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 INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0093993	PCA0093852	PCA0093917
Sample Date		Client Info		05 Sep 2023	12 Jun 2023	12 Mar 2023
Machine Age	mls	Client Info		666061	659864	646305
Oil Age	mls	Client Info		0	659864	0
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	9	9	14
Chromium	ppm	ASTM D5185m	>5	2	1	2
Nickel	ppm	ASTM D5185m	>2	<1	0	1
Titanium	ppm	ASTM D5185m		1	1	1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>30	9	6	6
Lead	ppm	ASTM D5185m	>30	0	0	<1
Copper	ppm	ASTM D5185m	>150	3	3	4
Tin	ppm	ASTM D5185m	>5	<1	<1	1
Vanadium	ppm	ASTM D5185m		0	0	1
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES		method			<b>,</b>	,
Boron	ppm	ASTM D5185m	2	7	9	6
	ppm ppm			7 0		
Boron		ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	7	9 0 61	6 0 58
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m	2 0 50	7 0	9 0 61 <1	6 0 58 2
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	7 0 62	9 0 61	6 0 58 2 877
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	7 0 62 <1	9 0 61 <1 867 1075	6 0 58 2 877 1010
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995	7 0 62 <1 1032 1140 1131	9 0 61 <1 867 1075 995	6 0 58 2 877 1010 883
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	7 0 62 <1 1032 1140 1131 1402	9 0 61 <1 867 1075 995 1163	6 0 58 2 877 1010 883 1156
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 50 950 1050 995	7 0 62 <1 1032 1140 1131	9 0 61 <1 867 1075 995	6 0 58 2 877 1010 883 1156 2848
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	7 0 62 <1 1032 1140 1131 1402 3394 current	9 0 61 <1 867 1075 995 1163 3283 history1	6 0 58 2 877 1010 883 1156 2848 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 <b>method</b>	2 0 50 950 1050 995 1180 2600	7 0 62 <1 1032 1140 1131 1402 3394 current 4	9 0 61 <1 867 1075 995 1163 3283 history1 4	6 0 58 2 877 1010 883 1156 2848 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm TS ppm	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	7 0 62 <1 1032 1140 1131 1402 3394 current 4 2	9 0 61 <1 867 1075 995 1163 3283 history1 4 0	6 0 58 2 877 1010 883 1156 2848 history2 5 4
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 <b>method</b>	2 0 50 950 1050 995 1180 2600	7 0 62 <1 1032 1140 1131 1402 3394 current 4	9 0 61 <1 867 1075 995 1163 3283 history1 4	6 0 58 2 877 1010 883 1156 2848 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm TS ppm	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	7 0 62 <1 1032 1140 1131 1402 3394 current 4 2	9 0 61 <1 867 1075 995 1163 3283 history1 4 0	6 0 58 2 877 1010 883 1156 2848 history2 5 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >20	7 0 62 <1 1032 1140 1131 1402 3394 current 4 2 5	9 0 61 <1 867 1075 995 1163 3283 history1 4 0 5	6 0 58 2 877 1010 883 1156 2848 history2 5 4 5 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >20 <b>limit/base</b>	7 0 62 <1 1032 1140 1131 1402 3394 current 4 2 5 5	9 0 61 <1 867 1075 995 1163 3283 history1 4 0 5 5 history1	6 0 58 2 877 1010 883 1156 2848 history2 5 4 5 5 4 5 5 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 ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >20 >20 limit/base >20	7 0 62 <1 1032 1140 1131 1402 3394 current 4 2 5 5 current 0.4	9 0 61 <1 867 1075 995 1163 3283 history1 4 0 5 <u>history1</u> 0.3	6 0 58 2 877 1010 883 1156 2848 history2 5 4 5 4 5 5 4 5 5 4 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 ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >20 <i>imit/base</i> >20 <i>imit/base</i>	7 0 62 <1 1032 1140 1131 1402 3394 <i>current</i> 4 2 5 <i>current</i> 0.4 6.9	9 0 61 <1 867 1075 995 1163 3283 history1 4 0 5 <u>history1</u> 0.3 6.5	6 0 58 2 877 1010 883 1156 2848 history2 5 4 5 4 5 5 4 5 5 4 5 5 4 5 5 4 5 5 4 5 5 6 8.5
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 D7844 *ASTM D7624 *ASTM D7415	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >20 <b>imit/base</b> >3 >20 >30	7 0 62 <1 1032 1140 1131 1402 3394 <u>current</u> 4 2 5 <u>current</u> 0.4 6.9 18.3	9 0 61 <1 867 1075 995 1163 3283 history1 4 0 5 <u>history1</u> 0.3 6.5 18.9	6 0 58 2 877 1010 883 1156 2848 <b>history2</b> 5 4 5 5 4 5 <b>history2</b> 0.6 8.5 19.8

7.9

Base Number (BN) mg KOH/g ASTM D2896

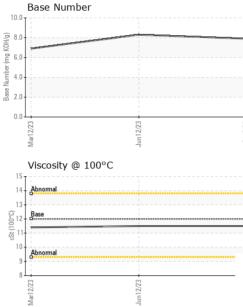
6.9

8.3



# **OIL ANALYSIS REPORT**

VISUAL



	VISUAL		method	limit/base	current	history i	nistory2
	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
un12/23 -		scalar	*Visual	NORML	NORML	NORML	NORML
Jun 12/23	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual		NEG	NEG	NEG
	-			limit/base			
	FLUID PROPE Visc @ 100°C	cSt	method ASTM D445	limit/base	current 11.5	history1	history2 11.4
		COL	ASTNI D445	12.00	11.5	11.5	11.4
	GRAPHS						
	Ferrous Alloys						
23	iron						
Jun 12/23	nickel						
7	10						
	E 8						
	6						
	4						
	2	The Lot on the subscription of the subscriptio	attenattenattenattenatte	ABurnetten			
	0		00000000000000000000000000000000000000	(7)			
	Mar12/23	Jun 12/23		Sep 5/23			
	-			0			
	Non-ferrous Meta	ls					
	copper						
	8 - tin						
	E d						
	4						
	2						
	0						
	Mar1 2/23	Jun 12/23		Sep 5/23			
				\$			
	Viscosity @ 100°C	ن 			Base Number		
	14 - Abnormal			9.0	1		
	13			31.0	-		
				6,7.0 HO 6.0			
				НО 6.0 Ш 5.0	-		
	G 12 - Base 3 11- 3 11-			0)H0 6.0 © 5.0 # 4.0			
	G 12 Base 11 5 11 10			0H0X 6.0 (U) 5.0 (U) 3.0 (U) 3			
	G 12 - Base 3 11- 3 11-			000 6.0 000 5.0 4.0 8.0 9.0 9.0 1.0			
	Base 3 11 10 4bnormal 9 8	en		LE 5.0 Jaq 4.0 Jaq 4.0 geg 2.0 1.0 0.0		m	
	Base 3 11 3 11 10 Abnormal	Juni 2/23 +		E 5.0 Ja 4.0 W 3.0 B 2.0 1.0		Jun12/23	