

# **OIL ANALYSIS REPORT**

# Area (90361X) Walgreens - Tractor Machine Id [Walgreens - Tractor] 136A66199

**Diesel Engine** 

PETRO CANADA DURON SHP 10W30 (11 GAL)

# DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

#### Wear

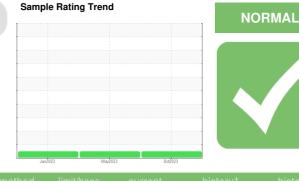
All component wear rates are normal.

### 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		PCA0105850	PCA0091488	PCA0087946
Sample Date		Client Info		10 Oct 2023	18 May 2023	12 Jan 2023
Machine Age	mls	Client Info		723753	669993	669993
Oil Age	mls	Client Info		669993	50000	669993
Oil Changed		Client Info		N/A	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
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	24	11	19
Chromium	ppm	ASTM D5185m	>4	2	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>25	3	1	4
Lead	ppm	ASTM D5185m	>45	<1	0	<1
Copper	ppm	ASTM D5185m	>85	4	2	4
Tin	ppm	ASTM D5185m	>4	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	0	0	0
Barium		AOTH DEADE	0	0	0	0
Canan	ppm	ASTM D5185m	0	U	0	0
Molybdenum	ppm ppm	ASTM D5185m	50	64	62	59
Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m	50 0	64 0	62 <1	59 <1
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950	64 0 947	62 <1 1052	59 <1 915
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050	64 0 947 1058	62 <1 1052 1156	59 <1 915 1130
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995	64 0 947 1058 917	62 <1 1052 1156 1068	59 <1 915 1130 913
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180	64 0 947 1058 917 1205	62 <1 1052 1156 1068 1362	59 <1 915 1130 913 1206
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180 2600	64 0 947 1058 917 1205 2807	62 <1 1052 1156 1068 1362 3668	59 <1 915 1130 913 1206 3274
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180 2600 limit/base	64 0 947 1058 917 1205 2807 current	62 <1 1052 1156 1068 1362 3668 history1	59 <1 915 1130 913 1206 3274 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	50 0 950 1050 995 1180 2600 limit/base >30	64 0 947 1058 917 1205 2807 current 13	62 <1 1052 1156 1068 1362 3668 history1 10	59 <1 915 1130 913 1206 3274 history2 22
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 <b>method</b> ASTM D5185m	50 0 950 1050 995 1180 2600 limit/base >30	64 0 947 1058 917 1205 2807 <u>current</u> 13 29	62 <1 1052 1156 1068 1362 3668 history1 10 17	59 <1 915 1130 913 1206 3274 history2 22 8
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	50 0 950 1050 995 1180 2600 limit/base >30	64 0 947 1058 917 1205 2807 current 13	62 <1 1052 1156 1068 1362 3668 history1 10	59 <1 915 1130 913 1206 3274 history2 22
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 <b>method</b> ASTM D5185m	50 0 950 1050 995 1180 2600 limit/base >30	64 0 947 1058 917 1205 2807 <u>current</u> 13 29	62 <1 1052 1156 1068 1362 3668 history1 10 17	59 <1 915 1130 913 1206 3274 history2 22 8
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	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	50 0 950 1050 995 1180 2600 limit/base >30 >20 limit/base	64 0 947 1058 917 1205 2807 current 13 29 6	62 <1 1052 1156 1068 1362 3668 history1 10 17 4	59 <1 915 1130 913 1206 3274 history2 22 8 22 8 2
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	50 0 950 1050 995 1180 2600 <b>limit/base</b> >30 >20 <b>limit/base</b> >3	64 0 947 1058 917 1205 2807 <u>current</u> 13 29 6 <u>current</u> 0.6 9.4	62 <1 1052 1156 1068 1362 3668 history1 10 17 4 history1	59 <1 915 1130 913 1206 3274 history2 22 8 2 2 8 2 2 history2
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	50 0 950 1050 995 1180 2600 <b>limit/base</b> >30 <b>limit/base</b> >33 >20	64 0 947 1058 917 1205 2807 <u>current</u> 13 29 6 <u>current</u> 0.6	62 <1 1052 1156 1068 1362 3668 history1 10 17 4 history1 0.4	59 <1 915 1130 913 1206 3274 history2 22 8 2 2 8 2 history2 0.6
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	50 0 950 1050 995 1180 2600 <b>limit/base</b> >30 <b>limit/base</b> >33 >20	64 0 947 1058 917 1205 2807 <u>current</u> 13 29 6 <u>current</u> 0.6 9.4	62 <1 1052 1156 1068 1362 3668 history1 10 17 4 history1 0.4 7.9	59 <1 915 1130 913 1206 3274 history2 22 8 2 2 8 2 2 history2 0.6 10.2

7.0

Base Number (BN) mg KOH/g ASTM D2896

6.9

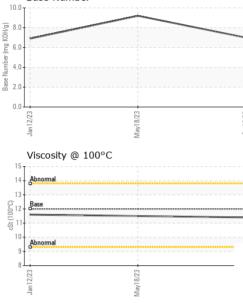
9.2



Base Number

# **OIL ANALYSIS REPORT**

VISUAL



and the second se								
		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
8/23	0/23 -	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
May18/23	0ct10/23	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
		Free Water	scalar	*Visual		NEG	NEG	NEG
1								
		FLUID PROPE Visc @ 100°C	cSt	method ASTM D445	limit/base	current 11.4	history1 11.5	history2 11.6
		GRAPHS	COL	A3110 D443	12.00	11.4	11.5	11.0
		Ferrous Alloys						
		<sup>25</sup> T						
/23		iron						
May18/23		20 - nickel						
2		15		/				
		udd						
		10-						
		5						
		5						
		0			c			
		12/2	May18/23		0ct10/23			
		Lar	Mar		00			
		Non-ferrous Meta	ls					
		copper						
		8 - sessesses lead						
		8- 8-						
		4		-				
		2-						
				11111-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-				
		12/23	May18/23		0ct10/23			
		Jan	May		Oct			
		Viscosity @ 100°	С			Base Number		
		15			10	0.0 T		
		14 - Abnormal			~ 8	10		
		13			B/HO			
		0 12 - Base			Base Number (mg KOH/g)	.0 <b>-</b>		
		12 - Base 00[] 33 11-			mber	H.O		
		10			se Nu			
		Abnormal				2.0-		
		//23	/23 -				/23 -	
		Jan 12/23	May18/23		0ct10/23	Jan 12/23	May18/23	
	Laboratory Sample No. Lab Number	: WearCheck USA - : PCA0105850 : 06002165		d : 08   ed : 09	ry, NC 2751 Nov 2023 Nov 2023 s Davis	3 Transervio	ce - Shop 1361 - I	Berkeley-Winds State Road 1 Windsor, V US 5359
CCREDITED TESTING LABORATORY	Unique Number Test Package		Ū					act: Mike Hur

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