

## **OIL ANALYSIS REPORT**

### Area (37351Z) Walgreens - Tractor [Walgreens - Tractor] 136A62520

**Diesel Engine** Fluid

PETRO CANADA DURON SHP 10W30 (11 GAL)

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

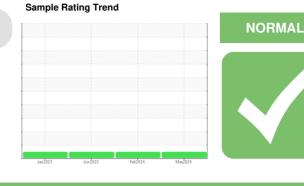
All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

#### Fluid Condition

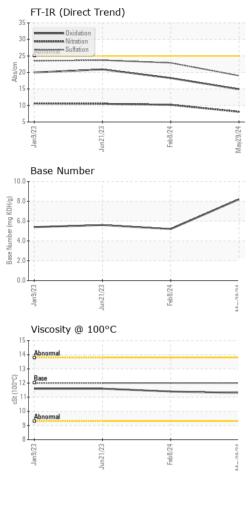
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0127105	PCA0115833	PCA0096036
Sample Date		Client Info		29 May 2024	08 Feb 2024	21 Jun 2023
Machine Age	mls	Client Info		219560	204198	160003
Oil Age	mls	Client Info		15362	50000	50000
Oil Changed		Client Info		Not Changd	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT		method	limit/base	current	history1	history2
Fuel		WC Method		<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	>110	12	22	31
Chromium	ppm	ASTM D5185m	>4	1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	<1	5	4
Lead	ppm	ASTM D5185m	>45	0	0	<1
Copper	ppm	ASTM D5185m	>85	<1	3	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	4	1	1
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	50	60	58	65
Manganese	ppm	ASTM D5185m	0	0	0	<1
Magnesium	ppm	ASTM D5185m	950	916	955	935
Calcium	ppm	ASTM D5185m	1050	1114	1210	1105
Phosphorus	ppm	ASTM D5185m	995	1064	996	1014
Zinc	ppm	ASTM D5185m	1180	1264	1277	1239
Sulfur						0010
	ppm	ASTM D5185m	2600	3431	2866	3019
CONTAMINAN		ASIM D5185m method	2600 limit/base	3431 current	2866 history1	3019 history2
CONTAMINAN Silicon		method				
	TS	method	limit/base	current	history1	history2
Silicon	TS ppm	method ASTM D5185m	limit/base >30	current 3	history1 7	history2 7
Silicon Sodium	TS ppm ppm	method ASTM D5185m ASTM D5185m	limit/base >30	current 3 <1	history1 7 1	history2 7 <1
Silicon Sodium Potassium INFRA-RED	TS ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m method	limit/base >30 >20 limit/base	current 3 <1 3 current	history1 7 1 8 history1	history2 7 <1 16 history2
Silicon Sodium Potassium	TS ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >30 >20 limit/base >3	current 3 <1 3 current 0.3	history1 7 1 8 history1 0.6	history2 7 <1 16 history2 0.7
Silicon Sodium Potassium INFRA-RED Soot %	TS ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m method	limit/base >30 >20 limit/base >3 >20	current 3 <1 3 current	history1 7 1 8 history1	history2 7 <1 16 history2
Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	TS ppm ppm ppm % Abs/cm Abs/.1mm	method ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415	limit/base >30 >20 limit/base >3 >20	current   3   <1   3   current   0.3   8.1	history1 7 1 8 history1 0.6 10.2 22.9	history2 7 <1 16 history2 0.7 10.5 23.7
Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	TS ppm ppm ppm % Abs/cm Abs/cm Abs/1mm	method ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7615 method	limit/base >30 >20 limit/base >3 >20 >30 limit/base	current   3   <1   3   current   0.3   8.1   19.0   current	history1 7 1 8 history1 0.6 10.2 22.9 history1	history2 7 <1 16 history2 0.7 10.5 23.7 history2
Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	TS ppm ppm ppm % Abs/cm Abs/.1mm	method ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415	limit/base >30 >20 limit/base >3 >20 >30	current   3   <1   3   current   0.3   8.1   19.0	history1 7 1 8 history1 0.6 10.2 22.9	history2 7 <1 16 history2 0.7 10.5 23.7



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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
	scalar	*Visual		NORML	NORML	NORML
	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
		method	limit/base	current	history1	history2
	cSt	ASTM D445	12.00	11.3	11.4	11.6
Ferrous Alloys						
g 30 - iron						
25 - 25 -						
E 20						
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Viscosity @ 1009	°C		2	Baso Number		
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0 12 - Base			Ë 5.0-			
र्हें 11-			<sup>2</sup> 4.0			
10-			Z 3.0			
9 -				1		
8			0.0			
1/23		b8/24	29/24	n9/23	21/23	
Jar Jun2		Fet	Mayi	Jai	Jun J	
				Transerv		
e No. : PCA0127105 umber : 06235401	Recei Teste		Jul 2024 Jul 2024			7 Oregon Ro Perrysburg, C
UNDEL . 00233401	reste	au :15	JUI ∠U∠4		1	-envsoura. C
Number : 11124235	Diagr	nosed : 15	Jul 2024 - We	es Davis		US 4355
	White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Water Free Water Fluid PROP Visc @ 100°C GRAPHS Ferrous Alloys	White Metal scalar Yellow Metal scalar Precipitate scalar Silt scalar Debris scalar Sand/Dirt scalar Appearance scalar Odor scalar Emulsified Water scalar Free Water scalar Free Water scalar Free Water scalar Free Water scalar Free Water scalar Mon-ferrous Alloys Visc @ 100°C cSt GRAPHS Ferrous Alloys Viscosity @ 100°C	White Metal scalar *Visual Precipitate scalar *Visual Debris scalar *Visual Debris scalar *Visual Sand/Dirt scalar *Visual Codor scalar *Visual Appearance scalar *Visual Codor scalar *Visual Emulsified Water scalar *Visual Free Water scalar *Visual Ferrous Alloys Mon-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Scalar *Visual Viscosity @ 100°C Viscosity @ 100°C Scalar *Visual Non-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C Scalar *Visual Non-ferrous Metals Viscosity @ 100°C Scalar *Visual Non-ferrous Metals Viscosity @ 100°C Scalar *Visual Non-ferrous Metals Scalar *Visual Scalar *Visual S	White Metal scalar *Visual NONE Yellow Metal scalar *Visual NONE Precipitate scalar *Visual NONE Silt scalar *Visual NONE Sand/Dirt scalar *Visual NORML Odor scalar *Visual NORML Odor scalar *Visual NORML Odor scalar *Visual NORML Emulsified Water scalar *Visual NORML Mon-ferrous Alloys Visc @ 100°C cSt ASTM D445 12.00 GRAPHS Ferrous Alloys Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Uscosity @ 100°C Usco	White Metal scalar *Visual NONE NONE Precipitate scalar *Visual NONE NONE Sitt scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE Enulsified Water scalar *Visual NORML	White Metal scalar 'Visual NONE NONE NONE Precipitate scalar 'Visual NONE NONE NONE Debris scalar 'Visual NONE NONE NONE Sand/Dirit scalar 'Visual NONE NONE NONE Sand/Dirit scalar 'Visual NONE NONE NONE Sand/Dirit scalar 'Visual NONE NONE NONE NONE NONE Sand/Dirit scalar 'Visual NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE

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

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