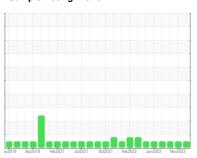


# **OIL ANALYSIS REPORT**

### Sample Rating Trend



NORMAL



## Machine Id 04563 Component

**Diesel Engine** 

PETRO CANADA DURON SHP 10W30 (16 QTS)

# 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

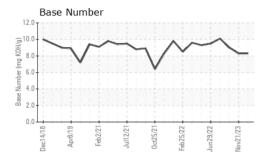
### **Fluid Condition**

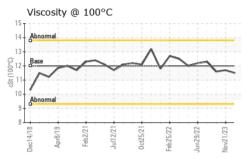
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0116243	PCA0112380	PCA0090107
Sample Date		Client Info		26 Feb 2024	21 Nov 2023	11 Jan 2023
Machine Age	hrs	Client Info		10676	10538	10061
Oil Age	hrs	Client Info		10061	10538	10061
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	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		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	69	31	26
Chromium	ppm	ASTM D5185m	>20	3	<1	<1
Nickel	ppm	ASTM D5185m	>4	3	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	7	2	2
Lead	ppm	ASTM D5185m	>40	3	6	2
Copper	ppm	ASTM D5185m	>330	2	2	2
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES	ppm	ASTM D5185m method	limit/base	<1 current	0 history1	0 history2
			limit/base			
ADDITIVES	ppm	method ASTM D5185m		current	history1	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m	2	current 22	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m ASTM D5185m	2 0 50	current 22 2	history1 11 0	history2 13 4
ADDITIVES Boron Barium Molybdenum	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 22 2 102	history1 11 0 64	history2 13 4 63
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method  ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m	2 0 50 0	current 22 2 102 2	history1 11 0 64 <1	history2 13 4 63 <1
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium	ppm ppm ppm ppm	method  ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	current 22 2 102 2 1361	history1  11  0  64  <1  989	history2  13  4  63  <1  848
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 0 950 1050	current 22 2 102 2 1361 1638	history1  11  0  64  <1  989  1112	history2  13  4  63  <1  848  1031
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus	ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	2 0 50 0 950 1050 995	current  22  2  102  2  1361  1638  1503	history1  11  0  64  <1  989  1112  1047	history2  13  4  63  <1  848  1031  931
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180	current  22  2  102  2  1361  1638  1503  1840	history1  11  0 64 <1 989 1112 1047 1325	history2  13  4  63  <1  848  1031  931  1160
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc  Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	current  22  2  102  2  1361  1638  1503  1840  5319	history1  11  0 64 <1 989 1112 1047 1325 3112	history2  13  4  63  <1  848  1031  931  1160  3239
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base	current  22 2 102 2 1361 1638 1503 1840 5319 current	history1  11  0  64  <1  989  1112  1047  1325  3112  history1	history2  13  4  63  <1  848  1031  931  1160  3239  history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base	current  22  2  102  2  1361  1638  1503  1840  5319  current	history1  11  0  64  <1  989  1112  1047  1325  3112  history1  3	history2  13  4  63  <1  848  1031  931  1160  3239  history2  4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base	current  22  2  102  2  1361  1638  1503  1840  5319  current  19  8	history1  11  0 64 <1 989 1112 1047 1325 3112 history1 3 3	history2  13  4  63  <1  848  1031  931  1160  3239  history2  4  1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25	current  22  2  102  2  1361  1638  1503  1840  5319  current  19  8  21	history1  11  0  64  <1  989  1112  1047  1325  3112  history1  3  3	history2  13  4  63  <1  848  1031  931  1160  3239  history2  4  1
ADDITIVES 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	method  ASTM D5185m  method	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	current  22  2  102  2  1361  1638  1503  1840  5319  current  19  8  21  current	history1  11  0 64 <1 989 1112 1047 1325 3112 history1  3 0	history2  13  4  63  <1  848  1031  931  1160  3239  history2  4  1  history2
ADDITIVES 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	method  ASTM D5185m  method  *ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	current  22  2  102  2  1361  1638  1503  1840  5319  current  19  8  21  current  0.5	history1  11  0 64 <1 989 1112 1047 1325 3112 history1 3 0 history1 0.6	history2  13  4  63  <1  848  1031  931  1160  3239  history2  4  1  history2  1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	method  ASTM D5185m method  ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20	current  22  2  102  2  1361  1638  1503  1840  5319  current  19  8  21  current  0.5  7.3	history1  11  0 64 <1 989 1112 1047 1325 3112 history1 3 0 history1 0.6 8.1	history2  13  4 63 <1 848 1031 931 1160 3239 history2 4 1 1 history2 1 7.3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	method  ASTM D5185m  method  *ASTM D5185m ASTM D5185m  *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  *ASTM D7844  *ASTM D7624  *ASTM D7415	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3 >20 >30	current  22  2  102  2  1361  1638  1503  1840  5319  current  19  8  21  current  0.5  7.3  19.2	history1  11  0 64 <1 989 1112 1047 1325 3112 history1 3 0 history1 0.6 8.1 20.4	history2  13  4  63  <1  848  1031  931  1160  3239  history2  4  1  1  history2  1  7.3  19.6



# **OIL ANALYSIS REPORT**

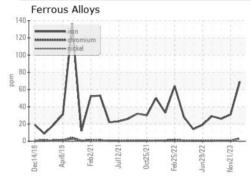


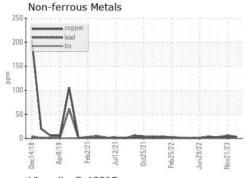


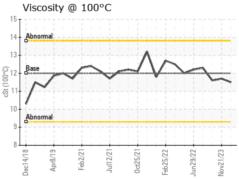
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

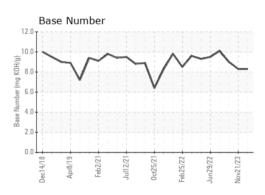
FLUID PROPERTIES		method				history2	
Visc @ 100°C	cSt	ASTM D445	12.00	11.5	11.7	11.6	

## **GRAPHS**













Certificate L2367

Laboratory Sample No.

: PCA0116243 Lab Number : 06101374 Unique Number : 10899604 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 27 Feb 2024 **Tested** : 28 Feb 2024

Diagnosed : 29 Feb 2024 - Jonathan Hester

2047 HWY 9 WEST DILLON, SC US 29536

**PERDUE FARMS - DILLON** 

Contact: KEVIN HOOKS kevin.hooks@perdue.com T: (843)841-8069

To discuss this sample report, contact Customer Service at 1-800-237-1369. \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

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

Submitted By: KEVIN HOOKS

F: (843)841-8070