

# **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

# 2026868

#### Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (35)

## 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 INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0128353	PCA0119537	PCA0115436
Sample Date		Client Info		12 Jun 2024	23 Mar 2024	07 Jan 2024
Machine Age	mls	Client Info		0	436090	415485
Oil Age	mls	Client Info		20000	0	21312
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS method limit/base current history1 hist						
Iron	ppm	ASTM D5185m	>100	28	40	21
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	1	<1
Titanium	ppm	ASTM D5185m		33	8	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>25	6	5	2
Lead	ppm	ASTM D5185m	>40	<1	<1	3
Copper	ppm	ASTM D5185m	>330	5	9	5
Tin	ppm	ASTM D5185m	>15	0	0	1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 16	history1 8	history2 4
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	2	16	8	4
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	16 0	8 0	4
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	16 0 37	8 0 54	4 0 51
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	16 0 37 1	8 0 54 1	4 0 51 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	16 0 37 1 782	8 0 54 1 939	4 0 51 1 834
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	16 0 37 1 782 1402	8 0 54 1 939 1203	4 0 51 1 834 1005
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	16 0 37 1 782 1402 1083	8 0 54 1 939 1203 1029	4 0 51 1 834 1005 944
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 50 950 1050 995 1180	16 0 37 1 782 1402 1083 1288	8 0 54 1 939 1203 1029 1280	4 0 51 1 834 1005 944 1055
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600	16 0 37 1 782 1402 1083 1288 4076	8 0 54 1 939 1203 1029 1280 3635	4 0 51 1 834 1005 944 1055 3237
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	16 0 37 1 782 1402 1083 1288 4076 current	8 0 54 1 939 1203 1029 1280 3635 history1	4 0 51 1 834 1005 944 1055 3237 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> ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	16 0 37 1 782 1402 1083 1288 4076 current 6	8 0 54 1 939 1203 1029 1280 3635 history1 7	4 0 51 1 834 1005 944 1055 3237 history2 4
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 <b>method</b> ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	16 0 37 1 782 1402 1083 1288 4076 current 6 2	8 0 54 1 939 1203 1029 1280 3635 history1 7 2	4 0 51 1 834 1005 944 1055 3237 history2 4 2
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>limit/base</b> >25	16 0 37 1 782 1402 1083 1288 4076 current 6 2 2	8 0 54 1 939 1203 1029 1280 3635 history1 7 2 2 2	4 0 51 1 834 1005 944 1055 3237 history2 4 2 2
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> >25 >20 <b>imit/base</b> >3	16 0 37 1 782 1402 1083 1288 4076 current 6 2 2 2 2	8 0 54 1 939 1203 1029 1280 3635 history1 7 2 2 2 history1	4 0 51 1 834 1005 944 1055 3237 history2 4 2 2 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 <b>imit/base</b> >25 >20 <b>imit/base</b> >3	16 0 37 1 782 1402 1083 1288 4076 <i>current</i> 6 2 2 2 <i>current</i> 0.4	8 0 54 1 939 1203 1029 1280 3635 history1 7 2 2 2 history1 0.6	4 0 51 1 834 1005 944 1055 3237 history2 4 2 2 history2 0.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc 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 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20	16 0 37 1 782 1402 1083 1288 4076 <i>current</i> 6 2 2 2 <i>current</i> 0.4 8.6	8 0 54 1 939 1203 1029 1280 3635 history1 7 2 2 2 history1 0.6 10.3	4 0 51 1 834 1005 944 1055 3237 history2 4 2 2 history2 0.4 8.4
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> >25 <b>imit/base</b> >3 >20	16 0 37 1 782 1402 1083 1288 4076 <b>current</b> 6 2 2 2 <b>current</b> 0.4 8.6 18.8	8 0 54 1 939 1203 1029 1280 3635 history1 7 2 2 2 history1 0.6 10.3 20.9	4 0 51 1 834 1005 944 1055 3237 <b>history2</b> 4 2 2 <b>history2</b> 0.4 8.4 18.8
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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7615	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 >20 <b>imit/base</b> >3 >20 >30	16 0 37 1 782 1402 1083 1288 4076 <i>current</i> 6 2 2 2 <i>current</i> 0.4 8.6 18.8	8 0 54 1 939 1203 1029 1280 3635 history1 7 2 2 2 history1 0.6 10.3 20.9 history1	4 0 51 1 834 1005 944 1055 3237 history2 4 2 2 history2 0.4 8.4 18.8 history2



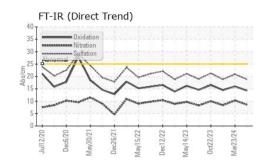
Jul12/20

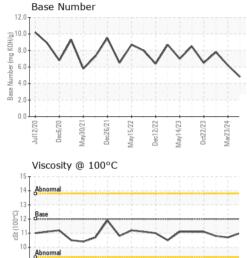
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# **OIL ANALYSIS REPORT**



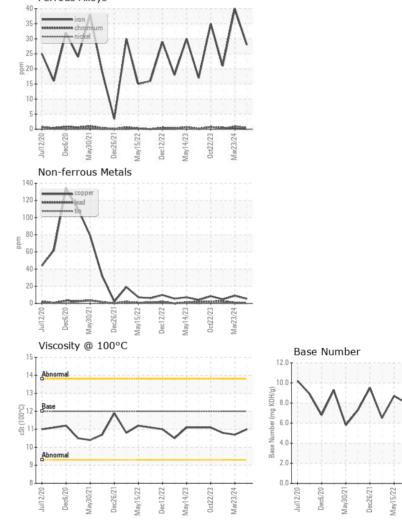


May14/23

Mar23/24

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
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	11.0	10.7	10.8
GRAPHS						

Ferrous Alloys



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 **PERDUE FARMS - GEORGETOWN** Sample No. : PCA0128353 Received : 25 Jun 2024 20621 SAVANAH RD Lab Number : 06219410 Tested : 25 Jun 2024 GEORGETOWN, DE Unique Number : 11097607 Diagnosed : 25 Jun 2024 - Wes Davis US 19947 Test Package : FLEET Contact: ROBERT LOCKWOOD Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. Robert.Lockwood@Perdue.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: ROBERT LOCKWOOD - PERGEODE

0ct22/23

Mar23/24

Mav14/23

Dec12/22