

# **OIL ANALYSIS REPORT**

Sample Rating Trend



#### Area FLEET Machine Id APU 34253 Perdue Component Bottom Auxiliary Engine Fluid

PETRO CANADA 10W30 (6 QTS)

# DIAGNOSIS

## Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

## 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		PCA0116273	PCA0112321	
Sample Date		Client Info		06 Apr 2024	18 Dec 2023	
Machine Age	hrs	Client Info		531	0	
Oil Age	hrs	Client Info		200	0	
Oil Changed		Client Info		Changed	N/A	
Sample Status				NORMAL	ABNORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	<1.0	<1.0	
Water		WC Method	>0.1	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	4	3	
Chromium	ppm	ASTM D5185m	>20	<1	0	
Nickel	ppm	ASTM D5185m	>2	<1	<1	
Titanium	ppm	ASTM D5185m	>2	<1	<1	
Silver	ppm	ASTM D5185m	>2	0	0	
Aluminum	ppm	ASTM D5185m	>20	2	2	
Lead	ppm	ASTM D5185m	>40	1	0	
Copper	ppm	ASTM D5185m	>330	1	2	
Tin	ppm	ASTM D5185m	>15	1	<1	
Vanadium	ppm	ASTM D5185m		<1	<1	
Cadmium	ppm	ASTM D5185m		1	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 27	history1 97	history2
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	27	97	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	27 <1	97 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	27 <1 58	97 0 12	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	27 <1 58 1	97 0 12 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	27 <1 58 1 796 1148 988	97 0 12 <1 654	
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	limit/base	27 <1 58 1 796 1148	97 0 12 <1 654 1434	  
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 ASTM D5185m	limit/base	27 <1 58 1 796 1148 988	97 0 12 <1 654 1434 699	   
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	limit/base	27 <1 58 1 796 1148 988 1065	97 0 12 <1 654 1434 699 835	
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		27 <1 58 1 796 1148 988 1065 3060	97 0 12 <1 654 1434 699 835 3173	
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	limit/base	27 <1 58 1 796 1148 988 1065 3060 current	97 0 12 <1 654 1434 699 835 3173 history1	     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	limit/base	27 <1 58 1 796 1148 988 1065 3060 current 8	97 0 12 <1 654 1434 699 835 3173 history1 ▲ 35	     history2
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	limit/base	27 <1 58 1 796 1148 988 1065 3060 current 8 <	97 0 12 <1 654 1434 699 835 3173 history1 ▲ 35 2	     history2
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	limit/base >25 >20	27 <1 58 1 796 1148 988 1065 3060 current 8 <1 2	97 0 12 <1 654 1434 699 835 3173 history1 ▲ 35 2 0	     history2  
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	limit/base >25 >20	27 <1 58 1 796 1148 988 1065 3060 current 8 <1 2 current	97 0 12 <1 654 1434 699 835 3173 history1 ▲ 35 2 0 0	     history2   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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base	27 <1 58 1 796 1148 988 1065 3060 current 8 <1 2 current 0.1	97 0 12 <1 654 1434 699 835 3173 history1 ▲ 35 2 0 0 history1 0.1	    history2  history2  history2
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	limit/base >25 >20 limit/base	27 <1 58 1 796 1148 988 1065 3060 <i>current</i> 8 <1 2 <i>current</i> 0.1 5.2	97 0 12 <1 654 1434 699 835 3173 history1 ▲ 35 2 0 history1 0.1 6.8	     history2   history2
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	limit/base >25 >20 limit/base >20 20	27 <1 58 1 796 1148 988 1065 3060 current 8 <1 2 current 0.1 5.2 17.1	97 0 12 <1 654 1434 699 835 3173 history1 35 2 0 0 history1 0.1 6.8 17.2	     history2  history2  history2
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	limit/base >25 >20 limit/base >20 >30 limit/base	27 <1 58 1 796 1148 988 1065 3060 current 8 <1 2 current 0.1 5.2 17.1 current	97 0 12 <1 654 1434 699 835 3173 history1 ▲ 35 2 0 history1 0.1 6.8 17.2 history1	     history2  history2  history2  history2



3

30

25

Abs/cm

10

10.

6.

15 14

13 cSt (100°C)

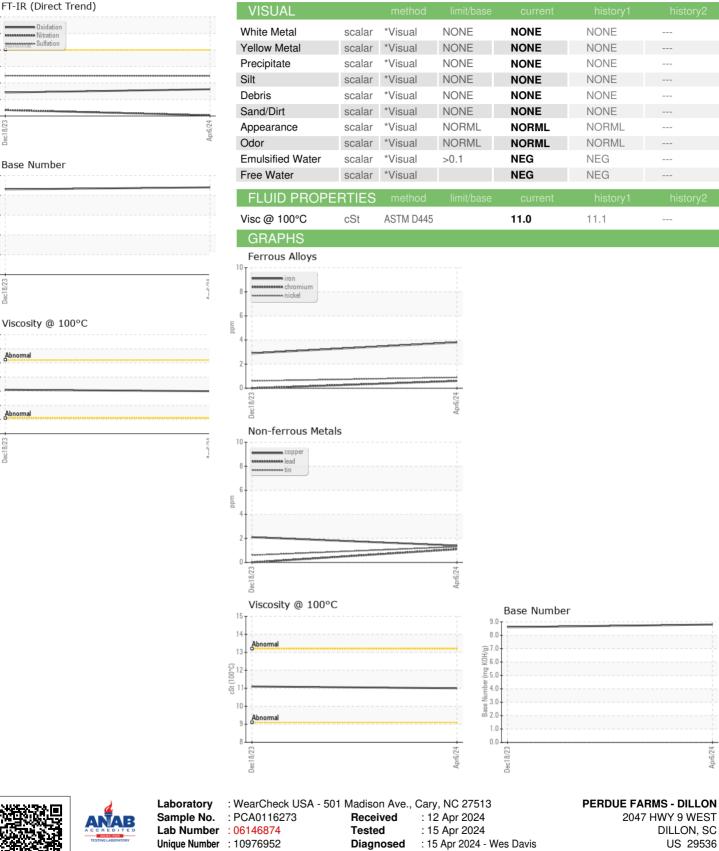
8

(mg KOH/g)

mbe 4.

Base 21

# **OIL ANALYSIS REPORT**



2047 HWY 9 WEST DILLON, SC US 29536 Contact: KEVIN HOOKS kevin.hooks@perdue.com T: (843)841-8069 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (843)841-8070

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Certificate 12367

Test Package : FLEET

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.

Submitted By: KEVIN HOOKS

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