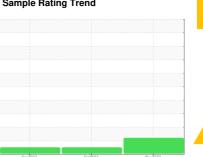


# **OIL ANALYSIS REPORT**

Sample Rating Trend



**DEGRADATION** 



Machine Id 44

Component **Natural Gas Engine** 

PETRO CANADA SENTRON LD 3000 (--- G

## DIAGNOSIS

## Recommendation

The oil is near the end of it's useful service life. recommend schedule an oil change. Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

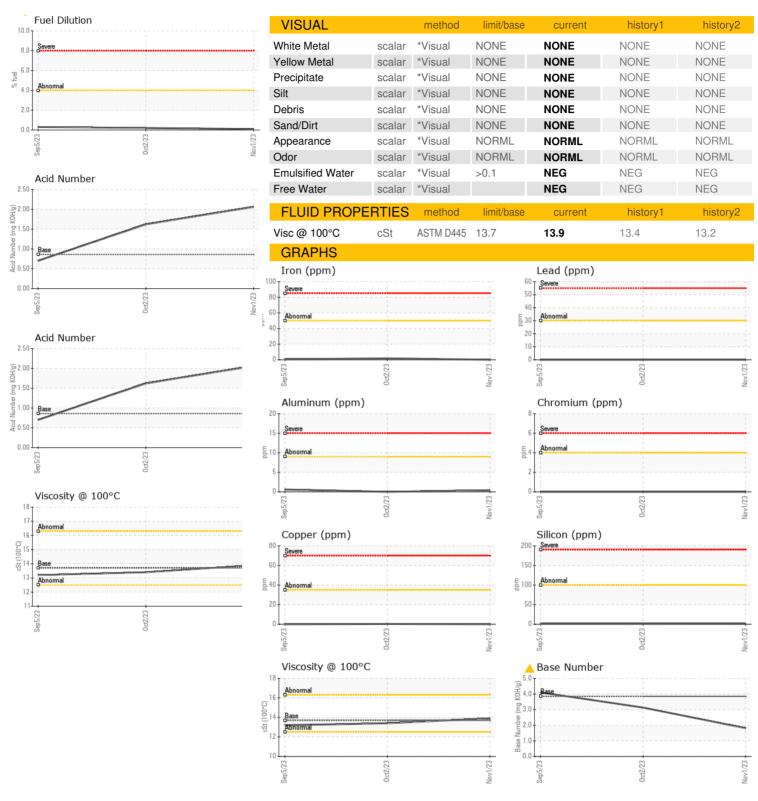
### Fluid Condition

The BN level is low. The AN level is acceptable for this fluid.

AL)		Society	2023	Oct2023 Nov20		
SAMPLE INFORI	MATION	,	limit/base	current	history1	history2
Sample Number		Client Info		PCA0103430	PCA0103461	PCA0092161
Sample Date		Client Info		01 Nov 2023	02 Oct 2023	05 Sep 2023
Machine Age	hrs	Client Info		101282	100568	99931
Oil Age	hrs	Client Info		1663	949	312
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				ABNORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	0	2	<1
Chromium	ppm	ASTM D5185m	>4	0	0	0
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	<1	0	<1
Lead	ppm	ASTM D5185m	>30	0	0	0
Copper	ppm	ASTM D5185m	>35	0	<1	0
Tin	ppm	ASTM D5185m	>4	<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 0	history1 0	history2 0
	ppm ppm					
Boron	• • • • • • • • • • • • • • • • • • • •	ASTM D5185m	5 1 2	0 0 0	0	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	5 1	0 0	0	0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	5 1 2 1 5	0 0 0	0 0 1	0 0 0
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 1 2 1	0 0 0 <1	0 0 1 0	0 0 0 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 1 2 1 5 1220 298	0 0 0 <1 8 1327 285	0 0 1 0 7 1246 276	0 0 0 <1 7 1370 288
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 1 2 1 5 1220	0 0 0 <1 8 1327 285 346	0 0 1 0 7 1246 276 354	0 0 0 <1 7 1370
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	5 1 2 1 5 1220 298	0 0 0 <1 8 1327 285	0 0 1 0 7 1246 276	0 0 0 <1 7 1370 288
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 ASTM D5185m ASTM D5185m ASTM D5185m	5 1 2 1 5 1220 298 350	0 0 0 <1 8 1327 285 346	0 0 1 0 7 1246 276 354	0 0 0 <1 7 1370 288 346
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 1 2 1 5 1220 298 350 1995	0 0 0 <1 8 1327 285 346 2209 current	0 0 1 0 7 1246 276 354 2818 history1	0 0 0 <1 7 1370 288 346 2965 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 1 2 1 5 1220 298 350 1995 Iimit/base >+100	0 0 0 <1 8 1327 285 346 2209 current 1	0 0 1 0 7 1246 276 354 2818 history1 2	0 0 0 <1 7 1370 288 346 2965 history2 2 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 1 2 1 5 1220 298 350 1995 Iimit/base	0 0 0 <1 8 1327 285 346 2209 current 1 <1	0 0 1 0 7 1246 276 354 2818 history1 2 0 <1	0 0 0 <1 7 1370 288 346 2965 history2 2 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 1 2 1 5 1220 298 350 1995 Iimit/base >+100	0 0 0 <1 8 1327 285 346 2209 current 1	0 0 1 0 7 1246 276 354 2818 history1 2	0 0 0 <1 7 1370 288 346 2965 history2 2 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 1 2 1 5 1220 298 350 1995 Iimit/base >+100	0 0 0 <1 8 1327 285 346 2209 current 1 <1	0 0 1 0 7 1246 276 354 2818 history1 2 0 <1	0 0 0 <1 7 1370 288 346 2965 history2 2 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 1 2 1 5 1220 298 350 1995 Iimit/base >+100 >20 >4.0	0 0 0 1 8 1327 285 346 2209 current 1 <1 0 0.1 current 0	0 0 1 0 7 1246 276 354 2818 history1 2 0 <1 0.2 history1 0	0 0 0 <1 7 1370 288 346 2965 history2 2 <1 0 0.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 1 2 1 5 1220 298 350 1995 Iimit/base >+100 >20 >4.0	0 0 0 <1 8 1327 285 346 2209 current 1 <1 0 0.1 current 0	0 0 1 0 7 1246 276 354 2818 history1 2 0 <1 0.2	0 0 0 <1 7 1370 288 346 2965 history2 2 <1 0 0.3 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 1 2 1 5 1220 298 350 1995 Iimit/base >+100 >20 >4.0	0 0 0 1 8 1327 285 346 2209 current 1 <1 0 0.1 current 0	0 0 1 0 7 1246 276 354 2818 history1 2 0 <1 0.2 history1 0	0 0 0 <1 7 1370 288 346 2965 history2 2 <1 0 0.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624	5 1 2 1 5 1220 298 350 1995 limit/base >+100 >20 >4.0 limit/base	0 0 0 <1 8 1327 285 346 2209 current 1 <1 0 0.1 current 0	0 0 1 0 7 1246 276 354 2818 history1 2 0 <1 0.2 history1 0 6.3	0 0 0 <1 7 1370 288 346 2965 history2 2 <1 0 0.3 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624	5 1 2 1 5 1220 298 350 1995 limit/base >+100 >20 >4.0 limit/base	0 0 0 1 8 1327 285 346 2209  current 1 <1 0 0.1  current 0 10.9 19.2	0 0 1 0 7 1246 276 354 2818 history1 2 0 <1 0.2 history1 0 6.3 15.0	0 0 0 17 1370 288 346 2965 history2 2 <1 0 0.3 history2 0 4.6 14.0 history2 8.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624 *ASTM D7415 method	5 1 2 1 5 1220 298 350 1995 limit/base >+100 >20 >4.0 limit/base	0 0 0 1 8 1327 285 346 2209  current 1 <1 0 0.1  current 0 10.9 19.2  current	0 0 1 0 7 1246 276 354 2818 history1 2 0 <1 0.2 history1 0 6.3 15.0 history1	0 0 0 17 1370 288 346 2965 history2 2 <1 0 0.3 history2 0 4.6 14.0 history2



# **OIL ANALYSIS REPORT**







Certificate L2367

Laboratory Sample No. Lab Number **Unique Number** 

: 06010252 : 10749396 Test Package

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : PCA0103430 Diagnosed

: 16 Nov 2023 : 12 Dec 2023 Diagnostician : Doug Bogart

: MOB 2 ( Additional Tests: FuelDilution, PercentFuel )

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)

**ENERVEST OPERATING - WATKINS** 

3896 SUNSET HOLLOW ROAD GRUNDY, VA

US 24614

Contact: Service Manager

T:

F: