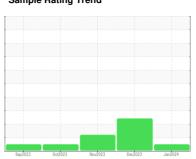


## **OIL ANALYSIS REPORT**

Sample Rating Trend



NORMAL



Machine Id

Component **Natural Gas Engine** 

PETRO CANADA SENTRON LD 3000 (--- GAL)

## DIAGNOSIS

## Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

## Contamination

Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil.

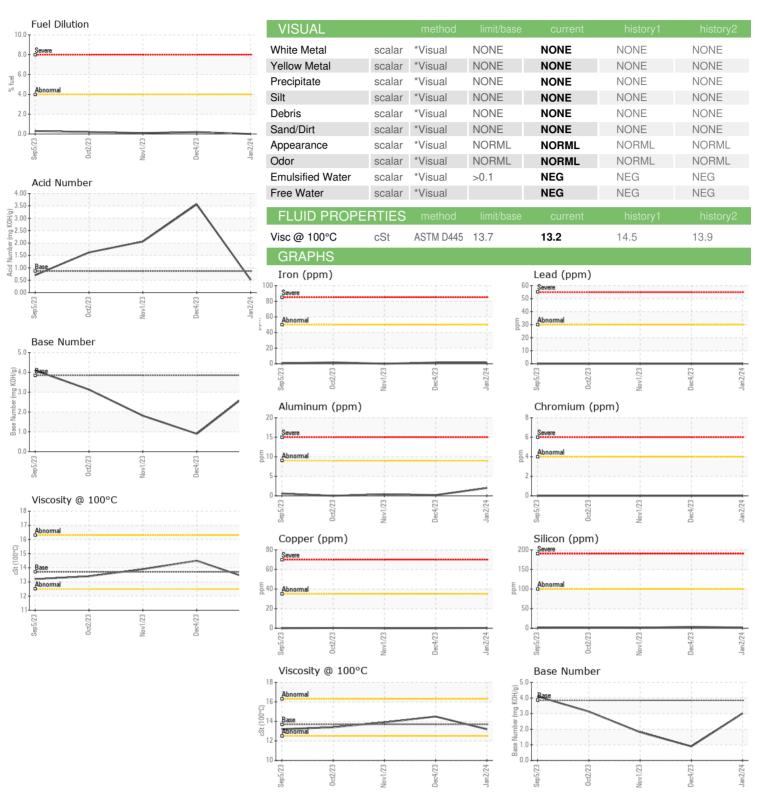
## **Fluid Condition**

The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION   method   limit/base   current   history1   history2	A1 A						
Sample Number   Client Info   PCA0103428   PCA0111956   PCA0103438   PCA0111956   PCA01103438   PCA0111956   PCA0111956   PCA0103438   PCA0111956   PCA0103438   PCA0111956   PCA0111956   PCA0103438   PCA0111956   PCA0111956	AL)				Nov2023 Dec2023		
Client Info	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age	Sample Number				PCA0103428	PCA0111956	PCA0103430
Dil Age	Sample Date		Client Info		02 Jan 2024	04 Dec 2023	01 Nov 2023
Dil Changed Sample Status	•	hrs	Client Info			102073	101282
CONTAMINATION   method   limit/base   current   history1   history2	Oil Age	hrs	Client Info		357	2454	1663
Mater	Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Water         WC Method         >0.1         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           ron         ppm         ASTM D5185m         >50         1         2         0           Chromium         ppm         ASTM D5185m         >4         0         0         0           Vickel         ppm         ASTM D5185m         >2         0         0         0           Siliver         ppm         ASTM D5185m         >3         0         0         0           Aluminum         ppm         ASTM D5185m         >3         0         0         0           Aluminum         ppm         ASTM D5185m         >30         0         0         0           Lead         ppm         ASTM D5185m         >30         0         0         0           Copper         ppm         ASTM D5185m         >4         0         0         1           Janadium         ppm         ASTM D5185m         5         0         0         0           Janadium         ppm         ASTM D5185m         1         0         0         0      <	Sample Status				NORMAL	ABNORMAL	ABNORMAL
WEAR METALS         method         limit/base         current         history1         history2           ron         ppm         ASTM D5185m         >50         1         2         0           Chromium         ppm         ASTM D5185m         >4         0         0         0           Nickel         ppm         ASTM D5185m         >2         0         0         0           Silver         ppm         ASTM D5185m         >3         0         0         0           Aluminum         ppm         ASTM D5185m         >9         2         <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
Chromium	Water		WC Method	>0.1	NEG	NEG	NEG
Chromium	WEAR METAL	S	method	limit/base	current	history1	history2
Action   Act	ron	ppm	ASTM D5185m	>50	1	2	0
Description	Chromium	ppm	ASTM D5185m	>4	0	0	0
Saliver	Nickel	ppm	ASTM D5185m	>2	0	0	0
Aluminum ppm ASTM D5185m >9 2 < -1 <1 <1 color	Γitanium	ppm	ASTM D5185m		0	0	0
Lead         ppm         ASTM D5185m         >30         0         0         0           Copper         ppm         ASTM D5185m         >35         <1         0         0           Cin         ppm         ASTM D5185m         >4         0         0         <1           Zadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         5         0         0         0           Barium         ppm         ASTM D5185m         1         0         0         0           Barium         ppm         ASTM D5185m         2         1         0         0           Manganese         ppm         ASTM D5185m         2         1         0         0         <1           Manganesium          ppm         ASTM D5185m         1220         1565         1389         1327           Phosphorus         ppm         ASTM D5185m         298         378         290         285           Zinc         ppm         ASTM D5185m         350         399	Silver	ppm	ASTM D5185m	>3	0	0	0
Description	Aluminum	ppm	ASTM D5185m	>9	2	<1	<1
Tin	_ead	ppm	ASTM D5185m	>30	0	0	0
Acade   Aca	Copper	ppm	ASTM D5185m	>35	<1	0	0
Anadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         5         0         0         0           Barium         ppm         ASTM D5185m         1         0         0         0           Molybdenum         ppm         ASTM D5185m         1         0         0         0           Manganese         ppm         ASTM D5185m         1         0         0         <1           Magnesium         ppm         ASTM D5185m         1220         1565         1389         1327           Phosphorus         ppm         ASTM D5185m         298         378         290         285           Zinc         ppm         ASTM D5185m         298         378         290         285           Zinc         ppm         ASTM D5185m         1995         3107         2206         2209           CONTAMINANTS         method         limit/base         current         history1         history2 </td <td></td> <td>ppm</td> <td>ASTM D5185m</td> <td>&gt;4</td> <th>0</th> <td>0</td> <td>&lt;1</td>		ppm	ASTM D5185m	>4	0	0	<1
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         5         0         0         0           Barium         ppm         ASTM D5185m         1         0         0         0           Molybdenum         ppm         ASTM D5185m         2         1         0         0         0           Manganese         ppm         ASTM D5185m         1         0         0         <1	/anadium		ASTM D5185m		0	0	0
Boron   ppm   ASTM D5185m   5   0   0   0   0   0   0   0   0   0	Cadmium		ASTM D5185m		0	0	
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         2         1         0         0           Manganese         ppm         ASTM D5185m         1         0         0         <1           Magnesium         ppm         ASTM D5185m         5         8         24         8           Calcium         ppm         ASTM D5185m         1220         1565         1389         1327           Phosphorus         ppm         ASTM D5185m         298         378         290         285           Zinc         ppm         ASTM D5185m         298         399         369         346           Sulfur         ppm         ASTM D5185m         1995         3107         2206         2209           CONTAMINANTS         method         limit/base         current         history1         history2           Goldium         ppm         ASTM D5185m         >+100         2         4         1           Potassium         ppm         ASTM D5185m         >20         1         0         0           Fuel         %         ASTM D5185m         >20         1         0         0           Fuel         %         ASTM D5185m         >20	Boron	ppm	ASTM D5185m	5	0	0	0
Manganese         ppm         ASTM D5185m         1         0         0         <1           Magnesium         ppm         ASTM D5185m         5         8         24         8           Calcium         ppm         ASTM D5185m         1220         1565         1389         1327           Phosphorus         ppm         ASTM D5185m         298         378         290         285           Zinc         ppm         ASTM D5185m         350         399         369         346           Sulfur         ppm         ASTM D5185m         1995         3107         2206         2209           CONTAMINANTS         method         limit/base         current         history1         history2           Goldium         ppm         ASTM D5185m         >+100         2         4         1           Potassium         ppm         ASTM D5185m         >20         1         0         0         <1           Fuel         %         ASTM D5185m         >20         1         0         0         <1           Potassium         ppm         ASTM D5185m         >20         1         0         0         <1           Fuel	Barium	ppm	ASTM D5185m	1	0	0	0
Magnesium         ppm         ASTM D5185m         5         8         24         8           Calcium         ppm         ASTM D5185m         1220         1565         1389         1327           Phosphorus         ppm         ASTM D5185m         1220         1565         1389         1327           Phosphorus         ppm         ASTM D5185m         298         378         290         285           Zinc         ppm         ASTM D5185m         350         399         369         346           Sulfur         ppm         ASTM D5185m         1995         3107         2206         2209           CONTAMINANTS         method         limit/base         current         history1         history2           Soliticon         ppm         ASTM D5185m         >+100         2         4         1           Soliticon         ppm         ASTM D5185m         >20         1         0         0         <1           Potassium         ppm         ASTM D5185m         >20         1         0         0         <1           Potassium         ppm         ASTM D5185m         >20         1         0         0         <1           Fuel	Molybdenum	ppm	ASTM D5185m	2	1	0	0
Calcium         ppm         ASTM D5185m         1220         1565         1389         1327           Phosphorus         ppm         ASTM D5185m         298         378         290         285           Zinc         ppm         ASTM D5185m         350         399         369         346           Sulfur         ppm         ASTM D5185m         1995         3107         2206         2209           CONTAMINANTS         method         limit/base         current         history1         history2           GOILIGO DE PPM         ASTM D5185m         >+100         2         4         1           GOILIGO DE PPM         ASTM D5185m         >20         1         0         0         <1	Manganese	ppm	ASTM D5185m	1	0	0	<1
Phosphorus         ppm         ASTM D5185m         298         378         290         285           Zinc         ppm         ASTM D5185m         350         399         369         346           Sulfur         ppm         ASTM D5185m         1995         3107         2206         2209           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >+100         2         4         1           Sodium         ppm         ASTM D5185m         >20         1         0         0           Potassium         ppm         ASTM D5185m         >20         1         0         0           Fuel         %         ASTM D3524         >4.0         0.0         0.2         0.1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0         0         0           Nitration         Abs/.1mm         *ASTM D7415         >30         13.7         21.8         19.2           FLUID DEGRADATION         method         limit/base         curre	Magnesium	ppm	ASTM D5185m	5	8	24	8
Zinc         ppm         ASTM D5185m         350         399         369         346           Sulfur         ppm         ASTM D5185m         1995         3107         2206         2209           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >+100         2         4         1           Sodium         ppm         ASTM D5185m         0         0         <1	Calcium	ppm	ASTM D5185m	1220	1565	1389	1327
2	Phosphorus	ppm	ASTM D5185m	298	378	290	285
Gulfur         ppm         ASTM D5185m         1995         3107         2206         2209           CONTAMINANTS         method         limit/base         current         history1         history2           Gilicon         ppm         ASTM D5185m         >+100         2         4         1           Godium         ppm         ASTM D5185m         >0         0         <1           Potassium         ppm         ASTM D5185m         >20         1         0         0           Fuel         %         ASTM D5185m         >20         1         0         0           INFRA-RED         method         limit/base         current         history1         history2           Goot %         %         *ASTM D7624         >20         4.9         13.8         10.9           Goot %         %         *ASTM D7415         >30         13.7         21.8         19.2 </td <td></td> <td></td> <td>ASTM D5185m</td> <td>350</td> <th>399</th> <td>369</td> <td>346</td>			ASTM D5185m	350	399	369	346
Solition   ppm   ASTM D5185m   >+100   2   4   1	Sulfur		ASTM D5185m	1995	3107	2206	2209
Sodium	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         1         0         0           Fuel         %         ASTM D3524         >4.0         0.0         0.2         0.1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0         0         0           Nitration         Abs/cm         *ASTM D7624         >20         4.9         13.8         10.9           Sulfation         Abs/.1mm         *ASTM D7415         >30         13.7         21.8         19.2           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         8.5         23.2         17.5           Acid Number (AN)         mg KOH/g         ASTM D8045         0.86         0.51         3.56         2.06	Silicon	ppm	ASTM D5185m	>+100	2	4	1
Fuel % ASTM D3524 >4.0 0.0 0.2 0.1  INFRA-RED method limit/base current history1 history2  Soot % % *ASTM D7844 0 0 0 0  Nitration Abs/cm *ASTM D7624 >20 4.9 13.8 10.9  Sulfation Abs/.1mm *ASTM D7415 >30 13.7 21.8 19.2  FLUID DEGRADATION method limit/base current history1 history2  Oxidation Abs/.1mm *ASTM D7414 >25 8.5 23.2 17.5  Acid Number (AN) mg KOH/g ASTM D8045 0.86 0.51 ▲ 3.56 2.06	Sodium	ppm	ASTM D5185m		0	0	<1
INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0         0         0           Nitration         Abs/cm         *ASTM D7624         >20         4.9         13.8         10.9           Sulfation         Abs/.1mm         *ASTM D7415         >30         13.7         21.8         19.2           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         8.5         23.2         17.5           Acid Number (AN)         mg KOH/g         ASTM D8045         0.86         0.51         △         3.56         2.06	Potassium	ppm	ASTM D5185m	>20	1	0	0
Goot %         %         *ASTM D7844         0         0         0           Nitration         Abs/cm         *ASTM D7624         >20         4.9         13.8         10.9           Sulfation         Abs/.1mm         *ASTM D7415         >30         13.7         21.8         19.2           FLUID DEGRADATION method limit/base current history1         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         8.5         23.2         17.5           Acid Number (AN)         mg KOH/g         ASTM D8045         0.86         0.51         △         3.56         2.06	uel	%	ASTM D3524	>4.0	0.0	0.2	0.1
Nitration         Abs/cm         *ASTM D7624         >20         4.9         13.8         10.9           Sulfation         Abs/.1mm         *ASTM D7415         >30         13.7         21.8         19.2           FLUID DEGRADATION method limit/base current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         8.5         23.2         17.5           Acid Number (AN)         mg KOH/g         ASTM D8045         0.86         0.51         △         3.56         2.06	INFRA-RED		method	limit/base	current	history1	history2
Sulfation         Abs/.1mm         *ASTM D7415         >30         13.7         21.8         19.2           FLUID DEGRADATION method limit/base current         history1         history2           Dxidation         Abs/.1mm         *ASTM D7414         >25         8.5         23.2         17.5           Acid Number (AN)         mg KOH/g         ASTM D8045         0.86         0.51         ▲ 3.56         2.06	Soot %	%	*ASTM D7844		0	0	0
Sulfation         Abs/.1mm         *ASTM D7415         >30         13.7         21.8         19.2           FLUID DEGRADATION method limit/base current         history1         history2           Dxidation         Abs/.1mm         *ASTM D7414         >25         8.5         23.2         17.5           Acid Number (AN)         mg KOH/g         ASTM D8045         0.86         0.51         ▲ 3.56         2.06	Nitration	Abs/cm	*ASTM D7624	>20	4.9	13.8	10.9
Oxidation         Abs/.1mm         *ASTM D7414         >25         8.5         23.2         17.5           Acid Number (AN)         mg KOH/g         ASTM D8045         0.86         0.51         3.56         2.06	Sulfation		*ASTM D7415	>30	13.7	21.8	19.2
Acid Number (AN) mg KOH/g ASTM D8045 0.86 0.51 △ 3.56 2.06	FLUID DEGRAI	OITAC	method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g ASTM D8045 0.86 0.51 △ 3.56 2.06	Oxidation	Abs/.1mm	*ASTM D7414	>25	8.5	23.2	17.5
	Base Number (BN)	mg KOH/g	ASTM D2896	3.85	3.01	△ 0.90	<u> 1.81</u>



# **OIL ANALYSIS REPORT**







Laboratory

Sample No. Lab Number **Unique Number** 

: PCA0103428 : 06057456 : 10823405

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Recieved : 10 Jan 2024 Diagnosed : 12 Jan 2024 Diagnostician : Sean Felton

Test Package : 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: