

## **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

#### 48 Component Natural Gas Engine Fluid PETRO CANADA SENTRON LD 3000 (--- GAL)

### 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

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

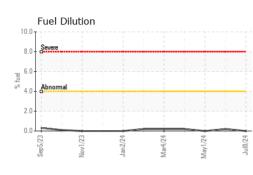
#### Fluid Condition

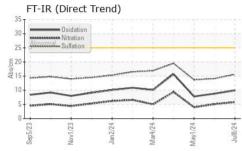
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

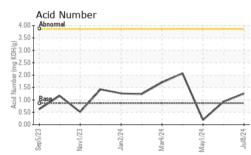
SAMFLE INFORM	MATION	method	limit/base	current	history1	history2	
Sample Number		Client Info		PCA0117273	PCA0112045	PCA0112037	
Sample Date		Client Info		08 Jul 2024	03 Jun 2024	01 May 2024	
Machine Age	hrs	Client Info	<b>100725</b> 99891		99126		
Oil Age	hrs	Client Info		1926	1092	327	
Oil Changed		Client Info		Not Changd	Not Changd	Changed	
Sample Status				NORMAL	NORMAL	NORMAL	
CONTAMINATION		method	limit/base	current	history1	history2	
Water		WC Method	>0.1	NEG	NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>50	4	3	2	
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1	
Nickel	ppm	ASTM D5185m	>2	0	0	<1	
Titanium	ppm	ASTM D5185m		<1	0	<1	
Silver	ppm	ASTM D5185m	>3	0	0	0	
Aluminum	ppm	ASTM D5185m	>9	2	2	<1	
Lead	ppm	ASTM D5185m	>30	0	3	1	
Copper	ppm	ASTM D5185m	>35	2	4	3	
Tin	ppm	ASTM D5185m	>4	0	1	<1	
Vanadium	ppm	ASTM D5185m		<1	0	<1	
Cadmium	ppm	ASTM D5185m		0	0	<1	
ADDITIVES		method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	5	<1	0	0	
Barium	ppm	ASTM D5185m	1	0	0	0	
Molybdenum	ppm	ASTM D5185m	2	2	4	2	
Manganese	ppm	ASTM D5185m	1	0	2	<1	
Magnesium	ppm	ASTM D5185m	5	9	8	8	
Calcium	ppm	AOTH DELOF					
	ppin	ASTM D5185m	1220	1497	1347	1257	
Phosphorus	ppm	ASTM D5185m ASTM D5185m	1220 298	1497 334	1347 298	1257 291	
Phosphorus Zinc				-			
	ppm	ASTM D5185m	298	334	298	291	
Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m	298 350	334 416	298 356	291 343 2744 history2	
Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	298 350 1995 limit/base >+100	334 416 2682	298 356 2763 history1 3	291 343 2744 history2 2	
Zinc Sulfur CONTAMINAN	ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m method	298 350 1995 limit/base >+100	334 416 2682 current	298 356 2763 history1	291 343 2744 history2	
Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	298 350 1995 limit/base >+100	334 416 2682 current 2	298 356 2763 history1 3 3 3 10	291 343 2744 history2 2 0 6	
Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	298 350 1995 limit/base >+100	334 416 2682 current 2 2	298 356 2763 history1 3 3	291 343 2744 history2 2 0	
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	298 350 1995 limit/base >+100 >20	334 416 2682 current 2 2 8	298 356 2763 history1 3 3 3 10	291 343 2744 history2 2 0 6	
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	298 350 1995 <b>limit/base</b> >+100 >20 >4.0	334 416 2682 current 2 2 8 0.0	298 356 2763 history1 3 3 10 0.2	291 343 2744 history2 2 0 6 0.0	
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	298 350 1995 <b>limit/base</b> >+100 >20 >4.0	334 416 2682 current 2 2 8 0.0 current	298 356 2763 history1 3 3 10 0.2 history1	291 343 2744 history2 2 0 6 0.0 history2	
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 <b>method</b> *ASTM D7844	298 350 1995 <i>limit/base</i> >+100 >20 >4.0 <i>limit/base</i>	334 416 2682 current 2 2 8 0.0 current 0	298 356 2763 history1 3 3 3 10 0.2 history1 0	291 343 2744 history2 2 0 6 0.0 history2 0	
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm TS ppm ppm ppm % % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 <b>method</b> *ASTM D7844	298 350 1995 <i>limit/base</i> >+100 >20 >20 <i>limit/base</i> >20	334 416 2682 2 2 8 0.0 current 0 5.8	298 356 2763 history1 3 3 3 10 0.2 history1 0 5.1	291 343 2744 history2 2 0 6 0.0 history2 0 4.0	
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm TS ppm ppm ppm % % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 <b>method</b> *ASTM D7844 *ASTM D7844	298 350 1995 <i>limit/base</i> >+100 >20 >20 >4.0 <i>limit/base</i> >20 >30	334 416 2682 current 2 2 8 0.0 current 0 5.8 15.6	298 356 2763 history1 3 3 3 10 0.2 history1 0 5.1 14.1	291 343 2744 history2 2 0 6 0.0 history2 0 4.0 13.7	
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm TS ppm ppm ppm % % Abs/cm Abs/cm Abs/1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 Method *ASTM D7844 *ASTM D7844 *ASTM D7624	298 350 1995 <i>limit/base</i> >+100 >20 >20 >4.0 <i>limit/base</i> >20 >30	334 416 2682 current 2 2 8 0.0 current 0 5.8 15.6 current	298 356 2763 history1 3 3 3 10 0.2 history1 0 5.1 14.1 history1	291 343 2744 history2 2 0 6 0.0 history2 0 4.0 13.7 history2	

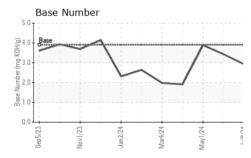


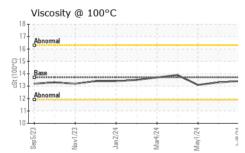
# **OIL ANALYSIS REPORT**











Certificate L2367

	VISUAL		method	limit/base	e curre	nt his	story1	histo	ory2	
	White Metal	scalar	*Visual	NONE	NONE	NOI	NE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE	NO	NE	NONE		
	Precipitate	scalar	*Visual	NONE	NONE	NO	NE	NONE		
	Silt		*Visual	NONE	NONE	NO	NONE		NONE	
	Debris		*Visual	NONE	NONE	NO	NE	NONE		
	Sand/Dirt		*Visual	NONE	NONE	NO	NE	NONE		
May1/24 Jul8/24	Appearance		*Visual	NORML	NORM	L NOI	NORML		NORML	
Ma	Odor	scalar	*Visual	NORML	NORM	L NO	RML	NORM	1L	
	Emulsified Water	scalar	*Visual	>0.1	NEG	NEC	G	NEG		
	Free Water	scalar	*Visual		NEG	NEC	G	NEG		
	FLUID PROPE	RTIES	method	limit/base	e curre	nt his	story1	histo	ory2	
	Visc @ 100°C	cSt	ASTM D445	13.7	13.4	13.3	3	13.1		
1	GRAPHS									
	Iron (ppm)				_ Lead (pp	om)				
	100 Severe				60 50					
May1/24 Jul8/24	80				40					
2	Abnormal			a a a a a a a a a a a a a a a a a a a	30 - Abnormal					
	20				20					
	0		-		10			~	_	
	Sep5/23 -	Mar4/24	May1/24 -	Jul8/24 .		Jan 2/24 -	Mar4/24 -	May1/24 -	Jul8/24	
		ž	Ma	ĥ			Ma	Ma	٦ ۲	
	Aluminum (ppm)				Chromiu <sup>8</sup> -	m (ppm)				
	15 - Severe			1	Severe					
V										
May1/24 Jul8/24	E 10 - Abnormal			1	Abnormal			1		
Ma	5				2 -					
		4	4	4	0	4		4	4	
	Sep5/23 Nov1/23	Mar4/24	May1/24	Jul8/24 -	Sep 5/23	Nov1/23 Jan2/24	Mar4/24	May1/24	Jul8/24 -	
~	Copper (ppm)				Silicon (p	opm)				
	80 Severe				200 Severe					
/	60 -				150-					
	E 40 - Abnormal			E.	100 - Abnormal		1			
	20				50 -					
ay1/24										
May1/24	Sep5/23	4/24	1/24	Jul8/24	Sep 5/23	Jan2/24 -	Mar4/24 -	1/24 -	Jul8/24	
	Sep5/23 Nov1/23	Mar4/24	May1/24	Jul	Sept	Janá	Maré	May1/24	Jul	
	Viscosity @ 100°C	2			Base Nu	mber				
	Abnormal			(B/H(	4.0 Base					
				mg KC	3.0					
	0 14 Base			mber	2.0	$\sim$	$\sim$			
	3 12 - Abnormal			2	1.0					
	10				0.0					
ay1/24	Sep5/23 Nov1/23	Mar4/24	May1/24	Jul8/24	Sep 5/23	Nov1/23 Jan2/24	Mar4/24	May1/24	Jul8/24 -	
May1/24	is 2 =	2	Ň	7	õ	z ř	Z	W	7	
Laboratory	: WearCheck USA - 50				3 EN	IERVEST OPE				
Sample No. Lab Number	: PCA0117273 : 06238566	Recei Teste		3 Jul 2024 7 Jul 2024		1	018 CRE	SCENT F		
		Diagr		1ul 2024					1, VA 24614	

: 17 Jul 2024 - Wes Davis



Report Id: ENEGRUPGA [WUSCAR] 06238566 (Generated: 07/17/2024 14:32:51) Rev: 1

Unique Number : 11127400

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.

Diagnosed

Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

F: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) Contact/Location: Service Manager - ENEGRUPGA

Contact: Service Manager

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