

# **OIL ANALYSIS REPORT**

Sample Rating Trend

NORMAL



2 (S/N GZJ00315)

Component Natural Gas Engine

PETRO CANADA SENTRON CG 40 (145 GAL)

Base Number (BN) mg KOH/g ASTM D2896 8.1

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2				
Sample Number		Client Info		WC0699064	WC0699057	WC0699050				
Sample Date		Client Info		31 Oct 2022	24 Oct 2022	17 Oct 2022				
Machine Age	hrs	Client Info		114084	113923	113758				
Dil Age	hrs	Client Info		36	140	258				
Oil Changed		Client Info		N/A	N/A	N/A				
Sample Status				NORMAL	NORMAL	ABNORMAL				
CONTAMINATIO	N	method	limit/base	current	history1	history2				
Water		WC Method	>0.1	NEG	NEG	NEG				
WEAR METALS		method	limit/base	current	history1	history2				
ron	ppm	ASTM D5185m	>50	2	2	3				
Chromium	ppm	ASTM D5185m		0	0	2				
Nickel	ppm	ASTM D5185m		0	0	0				
Fitanium	ppm	ASTM D5185m		0	0	0				
Silver	ppm	ASTM D5185m	>3	0	0	0				
Aluminum	ppm	ASTM D5185m		2	2	<1				
_ead	ppm	ASTM D5185m		- <1	<1	4				
Copper	ppm	ASTM D5185m		<1	2	6				
Fin	ppm	ASTM D5185m		<1	2	2				
/anadium	ppm	ASTM D5185m	~7	0	0	<1				
Cadmium	ppm	ASTM D5185m		0	0	0				
ADDITIVES		method	limit/base	current	history1	history2				
Boron	ppm	ASTM D5185m	0	0	0	26				
Barium	ppm	ASTM D5185m	1	<1	0	0				
Nolybdenum	ppm	ASTM D5185m	2	1	2	28				
Manganese	ppm	ASTM D5185m	1	<1	<1	<1				
Magnesium	ppm	ASTM D5185m	9	12	13	12				
Calcium	ppm	ASTM D5185m	2712	2757	2870	2759				
Phosphorus	ppm	ASTM D5185m	292	259	273	268				
Zinc	ppm	ASTM D5185m		321	326	330				
Sulfur	ppm	ASTM D5185m	2575	3470	3847	3486				
CONTAMINANTS	6	method	limit/base	current	history1	history2				
Silicon	ppm	ASTM D5185m	>+100	34	90	<b>1</b> 63				
Sodium	ppm	ASTM D5185m		4	15	<b>A</b> 337				
Potassium	ppm	ASTM D5185m	>20	0	0	22				
Fuel	%	ASTM D3524	>4.0	0.2	0.2	0.2				
INFRA-RED		method	limit/base	current	history1	history2				
Soot %	%	*ASTM D7844		0.1	0.1	0.1				
Nitration	Abs/cm	*ASTM D7624	>20	4.0	4.5	5.1				
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.6	16.6	18.7				
FLUID DEGRADA	ATION	method	limit/base	current	history1	history2				
Dxidation	Abs/.1mm	*ASTM D7414	>25	8.1	8.4	9.3				
Acid Number (AN)	mg KOH/g	ASTM D8045	0.98	0.353	0.81	0.83				

7.34

Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: Total oil added 36 gal. Recent AC water pump for coolant leak.)

Fluic

### Wear

All component wear rates are normal.

### Contamination

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

### Fluid Condition

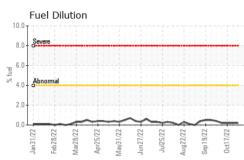
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

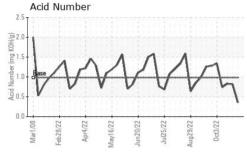
7.40

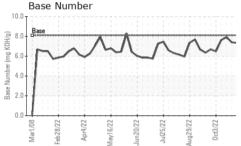
7.92

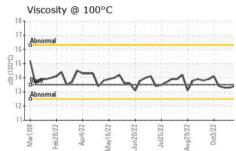


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	VISUAL		method	limit/base	current	history1	history2
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
	Silt		*Visual	NONE	NONE	NONE	NONE
		scalar			-		
	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
	_ Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
May31/22 Jun27/22 Jul25/22 Aug22/22 Sep19/22 Oct17/22	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Au Ju Se Se	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
	Free Water	scalar	*Visual		NEG	NEG	NEG
	FLUID PROPER	TIES	method	limit/base	current	history1	history2
$1 \Lambda \Lambda \Lambda$	Visc @ 100°C	cSt	ASTM D445	13.5	13.4	13.3	13.3
VVVh	GRAPHS						
	Iron (ppm)			6	Lead (ppm)		
/22 - /22 - /22 -	- Severe			5			
Jun20/22 Ju25/22 Aug29/22 Oct3/22	5 60 Abnormal				0- Abnormal		
	Abnormal			Ed 3			
	20-				0		
					0	m	
1 a a A		0/22	Jul25/22 - Aug29/22 -	77/01	Mar1/08 - Feb28/22 - Apr4/22 -	/lay16/22 - Jun20/22 - Jul25/22 -	ug29/22 - 0ct3/22 -
NUN	Mar1/08 Feb28/22 Apr4/22 May16/22	Jun20/22	Jul2 Aug2	50	Mai Feb2	May16/22 Jun20/22 Jul25/22	Aug 29/22 0ct3/22
	Aluminum (ppm)				Chromium (pp		2002
	<sup>20</sup> T				<sup>8</sup> ]		
	15 - Severe				6 - Severe		
Jun20/22 Jul25/22 Aug29/22 Oct3/22	E 10 - Abnormal			dd	7 0		
Jul. Aug	5-	2-1	~ -		2		٨
						~~~~	
3007020103300002330002000	Mar1/08 Feb28/22 Apr4/22 May16/22	Jun20/22	Jul25/22 Aug29/22	77/010	Mar1/08 Feb28/22 Apr4/22	May16/22 Jun20/22 Jul25/22	Aug29/22 0ct3/22
		Jun	nr BuA			May Jun Jul	Aug
	Copper (ppm)				Silicon (ppm)		
	80 Severe			50	. Trendenuclau	n parta an	00600000
man	60			40		11	1 A
	톱 40 - Abnormal			<sup>30</sup> ع	MM	111.	111
	Troublendered				hamal	$\forall \forall \forall \forall f$	1/ 1
/22 /22 /22	20			10	10 - Apromal	* * V	-V - K/
Jun20/22 Jul25/22 Aug29/22 Oct3/22		22	22		22	22	22
20 S	Mar1/08 Feb28/22 Apr4/22 May16/22	Jun20/22	Jul25/22 Aug29/22	den)/	Mar1/08 Feb28/22 Apr4/22	May16/22 Jun20/22 Jul25/22	Aug 29/22 0ct3/22
	H 2		Αu γ		ш. Б	Mi Ju Ju	Au
	Viscosity @ 100°C	<b>.</b> 		10.	Base Number		
	Abnormal	CONTRACTOR		(B/HO	Base	****	
	16			(6)HOX 80 (6)HOX 80 (6)HOX 80 (0) HOX 80 (0) HOX 80 (0) HOX HOX 80 (0) HOX 80 HOX 80 HOX HOX 80 HOX HOX 80 HOX HOX 80 HOX HOX 80 HOX HOX HOX HOX HOX HOX HOX HOX HOX HOX	n	mn	s
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	경 12 - Abnormal			- Mun			
	10						
	10 10 10 10 10 10 10 10 10 10 10 10 10 1	122	(22 - /22 -			/22 - /22 -	122-
	Mar1/08 Feb28/22 Apr4/22 May16/22	Jun20/22	Jul25/22 Aug29/22		Mar1/08 Feb28/22 Apr4/22	May 16/22 Jun 20/22 Jui 25/22	Aug29/22 0ct3/22
l shaustarr				/ NO 07510	9.61		
Laboratory Sample No.			Madison Ave., Cary, NC 27513 Received : 02 Nov 2022			FINLEY BIOENERGY 74265 Bombing Range Road	
Lab Numbe		Teste		4 Nov 2022			g Range Road Boardman, OF
	er : 10202912		Diagnosed : 07 Nov 2022 - Angela Borella			· · · · ·	US 97818
		: MOB 2 (Additional Tests: FuelDilution, PercentFuel)					
To discuss this sample repo						bmiddleton@a	Blain Middletor
- Denotes test methods that	at are outside of the ISO 1	7025 sco	ope of accred	litation.		T:	(541)481-3232
tatements of conformity to	specifications are based	on the cir	nnla acconta	noo dooinion	rule (ICCM 106	2.00101	F

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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