

OIL ANALYSIS REPORT

Sample Rating Trend



2 (S/N GZJ00315)

Component Natural Gas Engine

PETRO CANADA SENTRON CG 40 (145 GAL)

DIRT

			ir2022 Apr20	JZZ MayZUZZ JulZUZZ	Aug2022 Sep2022 Oct2022	1012022	
DIAGNOSIS	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
A Recommendation	Sample Number		Client Info		WC0699008	WC0699015	WC0698991
No corrective action is recommended at this time.	Sample Date		Client Info		26 Dec 2022	19 Dec 2022	12 Dec 2022
Resample at the next service interval to monitor. (Machine Age	hrs	Client Info		115351	115230	115070
Customer Sample Comment: Total oil added 34 gal	Oil Age	hrs	Client Info		263	142	1022
)	Oil Changed		Client Info		N/A	N/A	N/A
Wear	Sample Status				ABNORMAL	NORMAL	ABNORMAL
All component wear rates are normal.	CONTAMINATIO	N	method	limit/base	current	history1	history2
Contamination							
Fuel content negligible. Elemental level of silicon (Si) above normal.	Water		WC Method	>0.1	NEG	NEG	NEG
Fluid Condition	WEAR METALS		method	limit/base	current	history1	history2
The BN result indicates that there is suitable	Iron	ppm	ASTM D5185m	>50	3	2	9
alkalinity remaining in the oil. The AN level is	Chromium	ppm	ASTM D5185m	>4	<1	<1	1
acceptable for this fluid. The condition of the oil is	Nickel	ppm	ASTM D5185m		0	0	1
suitable for further service.	Titanium	ppm	ASTM D5185m		<1	<1	<1
	Silver	ppm	ASTM D5185m	>3	0	0	0
	Aluminum	ppm	ASTM D5185m		2	2	3
	Lead	ppm	ASTM D5185m		2 <1	<1	2
			ASTM D5185m		2	<1	4
	Copper	ppm			2		
	Tin	ppm	ASTM D5185m	>4		1	6
	Vanadium	ppm	ASTM D5185m		0	0	0
	Cadmium	ppm	ASTM D5185m		0	0	0
	ADDITIVES		method	limit/base	current	history1	history2
	Boron	ppm	ASTM D5185m	0	0	2	1
	Barium	ppm	ASTM D5185m	1	0	0	0
	Molybdenum	ppm	ASTM D5185m	2	1	<1	2
	Manganese	ppm	ASTM D5185m	1	<1	<1	<1
	Magnesium	ppm	ASTM D5185m		14	13	18
	Calcium	ppm	ASTM D5185m	2712	2857	2795	3210
	Phosphorus	ppm	ASTM D5185m		280	261	322
	Zinc	ppm	ASTM D5185m		320	340	381
	Sulfur	ppm	ASTM D5185m		3622	3773	3867
	CONTAMINANTS		method	limit/base	current	history1	history2
	Silicon	ppm	ASTM D5185m		<u>▲</u> 157	95	▲ 386
	Sodium		ASTM D5185m		1	0	5
	Potassium	ppm	ASTM D5185m		0	<1	0
	Fuel	%	ASTM D3524	>4.0	0.3	0.3	0.3
	INFRA-RED		method	limit/base	current	history1	history2
	Soot %	%	*ASTM D7844		0.1	0.1	0.1
	Nitration Abs/cm		*ASTM D7624	>20	5.3	4.8	6.9
	Sulfation	Abs/.1mm	*ASTM D7415		17.2	17.2	24.8
	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	9.3	9.4	16.3
	Acid Number (AN)	mg KOH/g	ASTM D7414		0.68	0.61	1.32
	Base Number (BN)	0 0	ASTM D8045 ASTM D2896			8.25	6.86
	Dase Mulliper (BN)	mg KOH/g	MO I IVI D2090	0.1	7.63	0.20	0.00

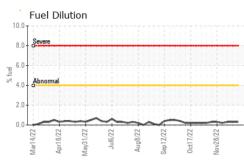


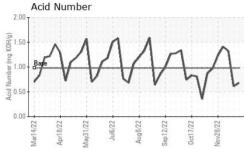
OIL ANALYSIS REPORT

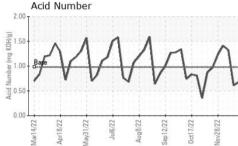
VISUAL

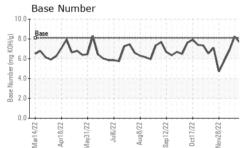
White Metal

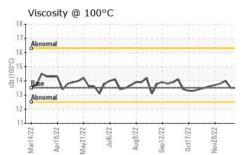
Yellow Metal











	Yellow Metal	scalar	visual	NONE	NONE	NONE	NONE
	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
8/22	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Oct17/22 Nov28/22	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Wat	ter scalar	*Visual	>0.1	NEG	NEG	NEG
	Free Water	scalar	*Visual		NEG	NEG	NEG
1Λ	FLUID PRO		method	limit/base	current	history1	history2
h/t	Visc @ 100°C GRAPHS	cSt	ASTM D445	13.5	13.5	13.5	14.0
V L	Iron (ppm)				Lead (ppm)		
in the state	100 Transportants			60			
0ct17/22 Nov28/22	80 - Severe	· · · · · · · · · · · · · · · ·		50			
Oct1 Nov2	Abnormal			4(톮 30			
	8 40			분 30 20	The second		
	20-			10	A CONTRACTOR OF A DESCRIPTION OF A DESCRIPANTE A DESCRIPANTE A DESCRIPANTE A DESCRIPTION OF A DESCRIPTION OF		
						2	
	Mar14/22 Apr18/22 May31/22	Jul6/22 Aug8/22	Sep 12/22 Oct17/22 Nov28/22		Mar14/22 Apr18/22 May31/22	Jul6/22 Aug8/22 Sep12/22	0ct17/22 Nov28/22
1 /1	_ 2		Ser Nov	2	2000 C-100	4 00	Nov
hrt	Aluminum (p	opm)			Chromium (pr	om)	
V V	20				Courses.		
	15 - Severe			(6 - Severe		
22 -	and a second sec			und d	4 - Abnormal		
0ct17/22 Nov28/22	5				1.0.01100000000		
U N		$\sim\sim$	\sim	\sim			An
	22	22	22	(22	22	122
	Mar14/22 Apr18/22 May31/22	Jul6/22 - Aug8/22 -	Sep12/22 0ct17/22 Mov/28/22		Mar14/22 Apr18/22 May31/22	Jul6/22 Aug8/22 Sep12/22	0ct17/22 Vov28/22
M.A	Copper (ppn	1)	0, - 2		aili ()	07	- 2
· ~/	80 -	י י היידקיייייייייייייייייייייייייייייייייי		500			
V	Severe 60 -			400	0		1 1
	_			E 200	A A	A AI	1 /1
	Abnormal			ā 200	Severe		1/1
2 2	20			100	0 - Apnormal	VV	N/V
0ct17/22 Nov28/22	0	-					V
No Oc	Mar14/22 Apr18/22 May31/22	Jul6/22 Aug8/22	Sep 12/22 Oct17/22 Nov28/22		Mar14/22 Apr18/22 May31/22	Jul6/22 Aug8/22 Sep12/22	0ct17/22 Nov28/22
	Mar Apr May	Ju	Sep Oct	2	Mar Apr May	Ju Au Sep	0ct Nov
	Viscosity @ 1	L00°C			Base Number		
	Abnormal	12222000000000000		10.0 Sp	Base	THEFT	
	16 - 60000000			(b/HOX 8.0 Buy 6.0 Buy For the second		NA	1 m
	0014- Base	-00	~	E 6.0	A PERSON AND A PER		V
1	Abnormal	• • •		4.0	The second s		
	100000000000000000000000000000000000000			92 Z.(
ALCONTRACTOR	10 10 22	22	22 - 22 -	0.0		22 -	22
0ct17/22 Nov28/22	Mar14/22 Apr18/22 May31/22	Jul6/22 Aug8/22	Sep 12/22 Oct17/22 Nov28/22		Mar14/22 Apr18/22 May31/22	Jul6/22 Aug8/22 Sep12/22	0ct17/22 Vov28/22
Oct Nov	e ~ 2		710 J. T. 2	53	- ~ 2	0	- 2
Laboratory	: WearCheck USA	A - 501 Madisc	n Ave., Cary	, NC 27513			BIOENERGY
Sample No.	: WC0699008	Rece) Dec 2022			ig Range Road
	: 05728198	Teste		3 Jan 2023	Detaile		Boardman, OR
Unique Number				Jan 2023 - Don	Baldridge	Contract	US 97818
	: MOB 2 (Addition contact Customer						Blain Middleton archaea.energy
	are outside of the						(541)481-3232
	pecifications are ba				rule (JCGM 106		(341)401-3232 F:
, -1		-	. ,		,	,	

limit/base

NONE

NONE

current

NONE

NONE

method

*Visual

scalar

scalar *Visual

history1

NONE

NONE

history2

NONE

NONE

To discuss this sa * - Denotes test m

Statements of cor IJ sj

Certificate L2367

Page 2 of 2