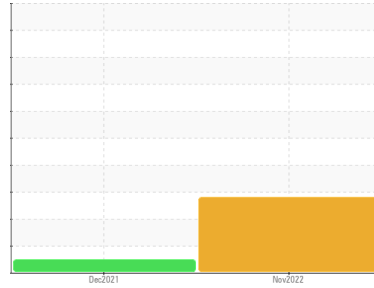




OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id
2014 Sienna

Component
Gasoline Engine

Fluid
PENNZOIL PLATINUM FULL SYNTHETIC 0W20 (6 LTR)

DIAGNOSIS

Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. The oil change at the time of sampling has been noted. We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate concentration of dirt present in the oil.

Fluid Condition

The BN level is low. The oil is no longer serviceable.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0763972	WC0763971	---
Sample Date	Client Info		06 Nov 2022	12 Dec 2021	---
Machine Age	hrs	Client Info	124000	109100	---
Oil Age	hrs	Client Info	14900	13700	---
Oil Changed	Client Info		Changed	Changed	---
Sample Status			ABNORMAL	NORMAL	---

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>4.0	<1.0	<1.0	---
Glycol	WC Method		NEG	NEG	---

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>150	21	19	---
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	---
Nickel	ppm	ASTM D5185(m)	>5	<1	0	---
Titanium	ppm	ASTM D5185(m)		2	2	---
Silver	ppm	ASTM D5185(m)	>2	0	0	---
Aluminum	ppm	ASTM D5185(m)	>40	4	4	---
Lead	ppm	ASTM D5185(m)	>50	<1	0	---
Copper	ppm	ASTM D5185(m)	>155	3	2	---
Tin	ppm	ASTM D5185(m)	>10	0	0	---
Antimony	ppm	ASTM D5185(m)		0	0	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
Beryllium	ppm	ASTM D5185(m)		0	0	---
Cadmium	ppm	ASTM D5185(m)		0	0	---

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	220	36	36	---
Barium	ppm	ASTM D5185(m)	0	0	0	---
Molybdenum	ppm	ASTM D5185(m)	75	69	68	---
Manganese	ppm	ASTM D5185(m)	0	<1	<1	---
Magnesium	ppm	ASTM D5185(m)	650	612	609	---
Calcium	ppm	ASTM D5185(m)	925	848	847	---
Phosphorus	ppm	ASTM D5185(m)	550	445	482	---
Zinc	ppm	ASTM D5185(m)	620	526	546	---
Sulfur	ppm	ASTM D5185(m)	2800	2583	2563	---
Lithium	ppm	ASTM D5185(m)		<1	<1	---

CONTAMINANTS

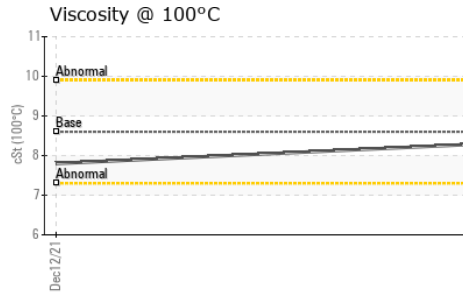
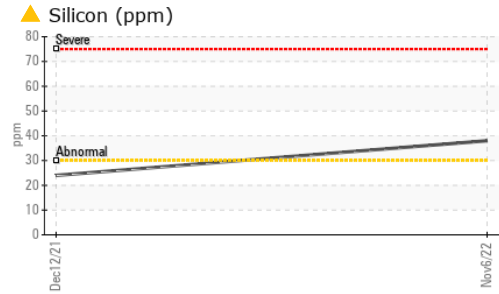
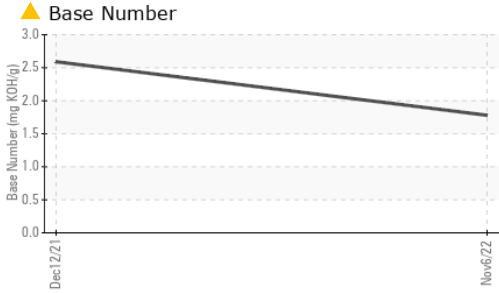
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>30	▲ 38	24	---
Sodium	ppm	ASTM D5185(m)	>400	8	8	---
Potassium	ppm	ASTM D5185(m)	>20	5	6	---

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*		0	0	---
Nitration	Abs/cm	ASTM D7624*	>20	15.2	13.7	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	31.1	30.4	---



OIL ANALYSIS REPORT

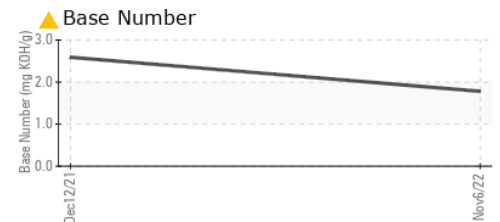
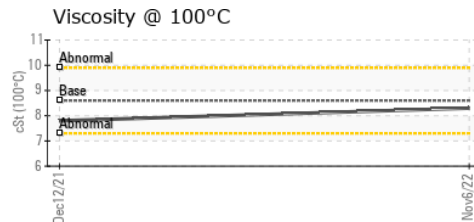
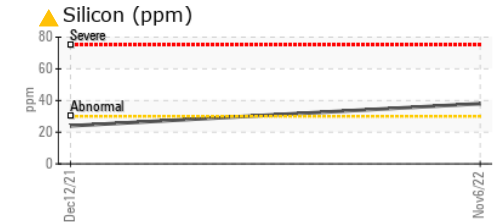
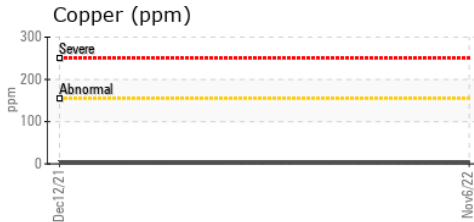
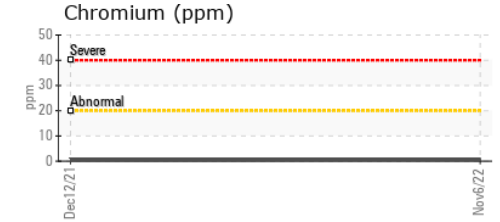
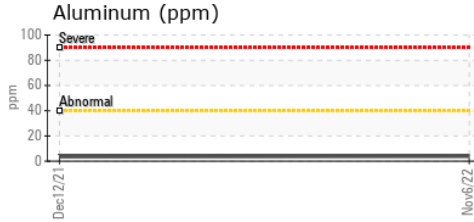
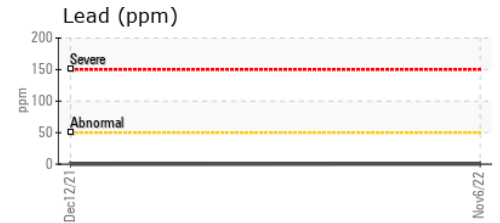
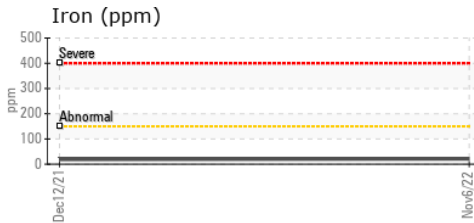


FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	ASTM D7414*	>25	28.8	25.1	---
Base Number (BN)	mg KOH/g	ASTM D2896*		▲ 1.78	2.59	---

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	---
Precipitate	scalar	Visual*	NONE	NONE	---
Silt	scalar	Visual*	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D7279(m)	8.6	8.3	7.8	---

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0763972 **Received** : 23 Aug 2023
Lab Number : **02577707** **Diagnosed** : 25 Aug 2023
Unique Number : 5630767 **Diagnostician** : Kevin Marson
Test Package : MOB 2

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 F: x:

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.