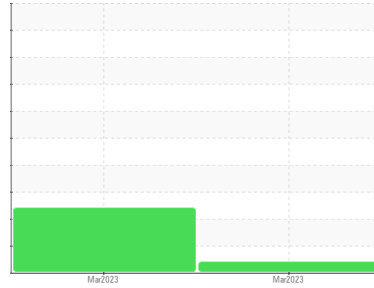




PROBLEM SUMMARY

Area
SAPP BROS PETROLEUM - LINCOLN
 Machine Id
5027
 Component
Diesel Engine
 Fluid
PETRO CANADA 15W40 (--- GAL)

Sample Rating Trend

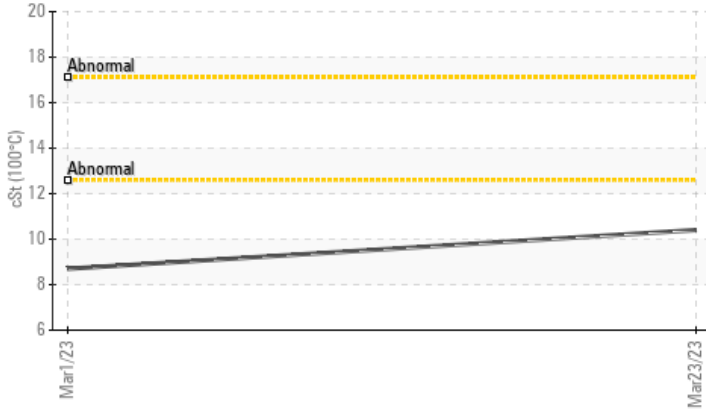


VISCOSITY



COMPONENT CONDITION SUMMARY

▲ Viscosity @ 100°C



RECOMMENDATION

Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	SEVERE	---
Visc @ 100°C	cSt	ASTM D445	▲ 10.4	▲ 8.7	---

Customer Id: SAPPLIN
 Sample No.: SBP0001892
 Lab Number: 05808213
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Angela Borella +1 800-237-1369
angela.borella@wearcheckusa.com

To change component or sample information:
 Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

01 Mar 2023 Diag: Jonathan Hester

FUEL



We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a high amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

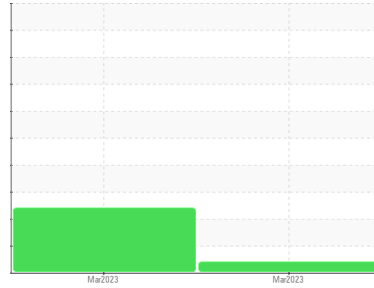
view report





OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Area
SAPP BROS PETROLEUM - LINCOLN
 Machine Id
5027
 Component
Diesel Engine
 Fluid
PETRO CANADA 15W40 (--- GAL)

DIAGNOSIS

Recommendation

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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		SBP0001892	SBP0001886	---
Sample Date	Client Info		23 Mar 2023	01 Mar 2023	---
Machine Age	mls	Client Info	256050	254690	---
Oil Age	mls	Client Info	1090	8000	---
Oil Changed	Client Info		N/A	Changed	---
Sample Status			ABNORMAL	SEVERE	---

CONTAMINATION

	method	limit/base	current	history1	history2
Glycol	WC Method		NEG	NEG	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	8	27	---
Chromium	ppm	ASTM D5185m >20	<1	2	---
Nickel	ppm	ASTM D5185m >4	<1	0	---
Titanium	ppm	ASTM D5185m	2	21	---
Silver	ppm	ASTM D5185m >3	0	<1	---
Aluminum	ppm	ASTM D5185m >20	1	4	---
Lead	ppm	ASTM D5185m >40	0	1	---
Copper	ppm	ASTM D5185m >330	<1	2	---
Tin	ppm	ASTM D5185m >15	0	<1	---
Vanadium	ppm	ASTM D5185m	0	<1	---
Cadmium	ppm	ASTM D5185m	0	0	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	7	33	---
Barium	ppm	ASTM D5185m	0	0	---
Molybdenum	ppm	ASTM D5185m	53	35	---
Manganese	ppm	ASTM D5185m	<1	2	---
Magnesium	ppm	ASTM D5185m	885	613	---
Calcium	ppm	ASTM D5185m	1029	1074	---
Phosphorus	ppm	ASTM D5185m	979	716	---
Zinc	ppm	ASTM D5185m	1199	987	---
Sulfur	ppm	ASTM D5185m	3712	2924	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	2	6	---
Sodium	ppm	ASTM D5185m	<1	2	---
Potassium	ppm	ASTM D5185m >20	<1	3	---
Fuel	%	ASTM D3524 >5	0.7	17.9	---

INFRA-RED

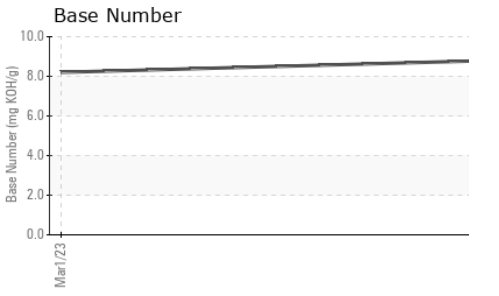
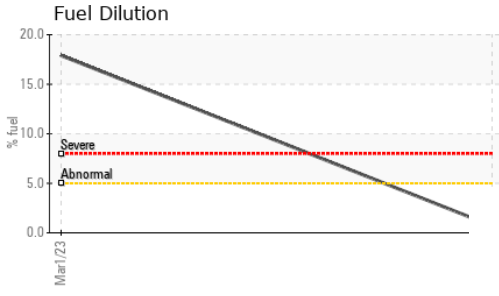
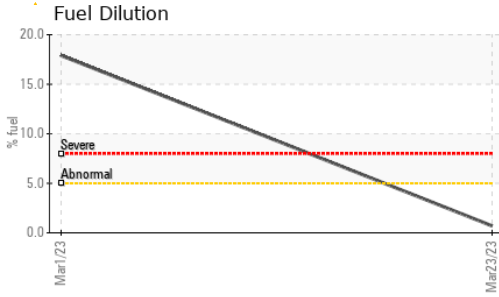
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.3	0.7	---
Nitration	Abs/cm	*ASTM D7624 >20	7.1	8.6	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	17.6	19.6	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	13.0	15.6	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.8	8.2	---



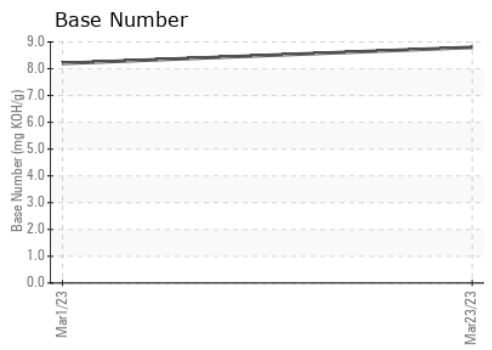
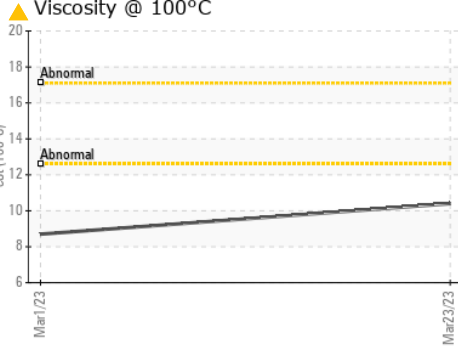
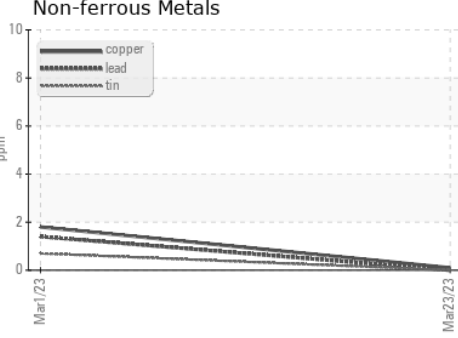
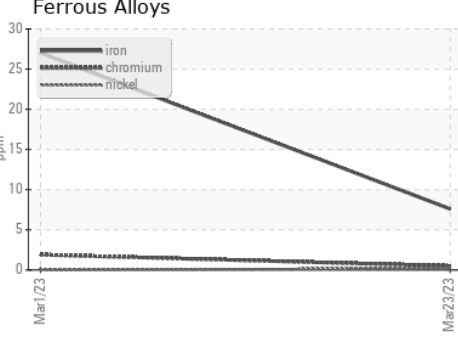
OIL ANALYSIS REPORT



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	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	▲ 10.4	▲ 8.7	---

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : SBP0001892 **Received** : 31 Mar 2023
Lab Number : 05808213 **Diagnosed** : 10 Apr 2023
Unique Number : 10405742 **Diagnostician** : Angela Borella
Test Package : FLEET (Additional Tests: PercentFuel)

Sapp Bros. Petroleum - Lincoln - LIN
 9915 South 148th
 OMAHA, NE
 US 68138
 Contact: KEVIN MEYER
 kmeyer@sappbros.net

Certificate L2367
 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)