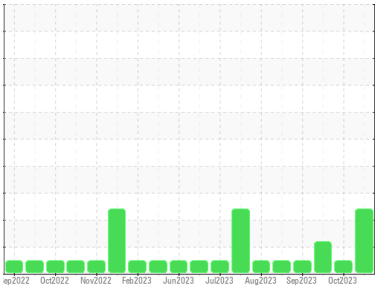
OIL DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION

Area
LONGHORN C
Machine Id
LONGHORN C (S/N 1645612)
Component
Natural Gas Engine
Fluid
PETRO CANADA SENTRON LD 3000 (--- GAL)

DIAGNOSIS

▲ Recommendation

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

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

▲ Fluid Condition

The AN level is above the recommended limit. The BN level is low.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0080858**	PCA0080857	PCA0080861
Sample Date		Client Info		**13 Oct 2023**	03 Oct 2023	20 Sep 2023
Machine Age	hrs	Client Info		**5701**	5462	5155
Oil Age	hrs	Client Info		**3760**	3521	3214
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	NORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**0**	12	10
Chromium	ppm	ASTM D5185m	>4	**0**	0	0
Nickel	ppm	ASTM D5185m	>2	**0**	<1	0
Titanium	ppm	ASTM D5185m		**0**	0	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>9	**<1**	0	3
Lead	ppm	ASTM D5185m	>30	**<1**	2	<1
Copper	ppm	ASTM D5185m	>35	**<1**	2	1
Tin	ppm	ASTM D5185m	>4	**0**	<1	<1
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	5	**0**	2	0
Barium	ppm	ASTM D5185m	1	**0**	2	0
Molybdenum	ppm	ASTM D5185m	2	**<1**	1	<1
Manganese	ppm	ASTM D5185m	1	**0**	<1	<1
Magnesium	ppm	ASTM D5185m	5	**8**	8	6
Calcium	ppm	ASTM D5185m	1220	**1377**	1321	1332
Phosphorus	ppm	ASTM D5185m	298	**267**	305	301
Zinc	ppm	ASTM D5185m	350	**356**	371	363
Sulfur	ppm	ASTM D5185m	1995	**2135**	2646	2101

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+100	**2**	4	3
Sodium	ppm	ASTM D5185m		**6**	<1	6
Potassium	ppm	ASTM D5185m	>20	**2**	2	0
Fuel	%	ASTM D3524	>4.0	**0.5**	0.5	0.4

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0**	0	0
Nitration	Abs/cm	*ASTM D7624	>20	**13.2**	12.2	12.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.7**	20.5	20.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**23.1**	21.2	21.0
Acid Number (AN)	mg KOH/g	ASTM D8045	0.86	▲ **3.47**	3.28	2.65
Base Number (BN)	mg KOH/g	ASTM D2896	3.85	▲ **1.62**	3.91	▲ 2.24

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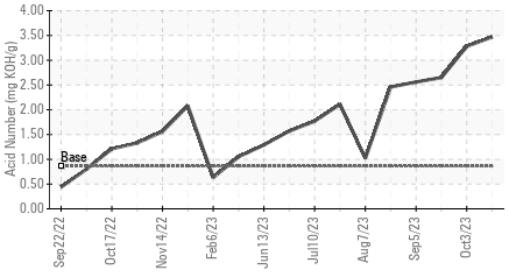
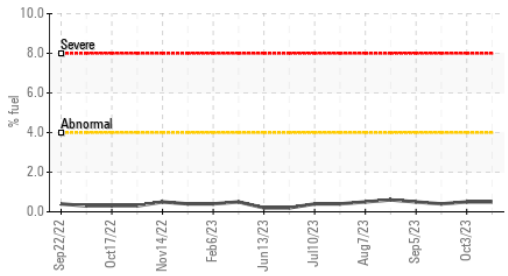
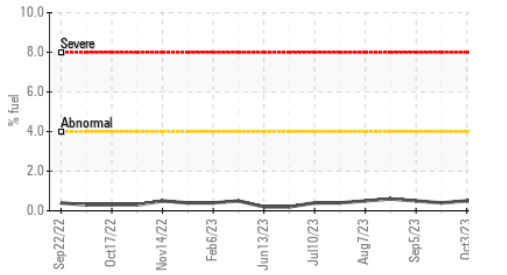
Acid Number



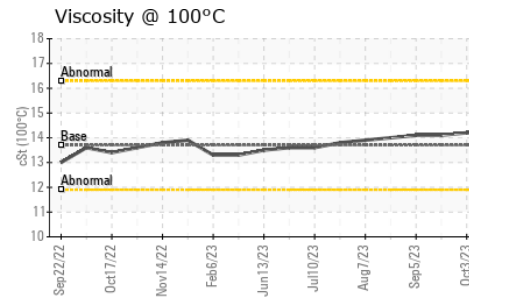
Fuel Dilution



Fuel Dilution



Viscosity @ 100°C

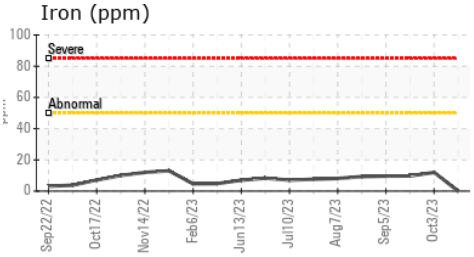


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

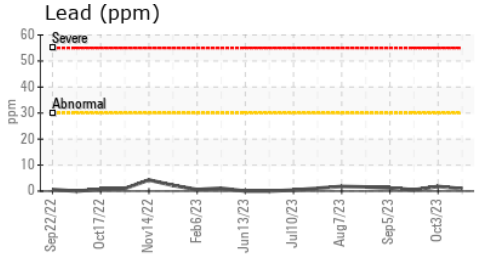
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.7	**14.2**	14.2	14.1

GRAPHS

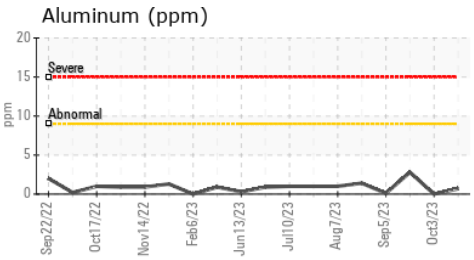
Iron (ppm)



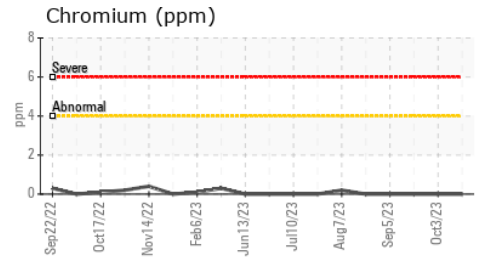
Lead (ppm)



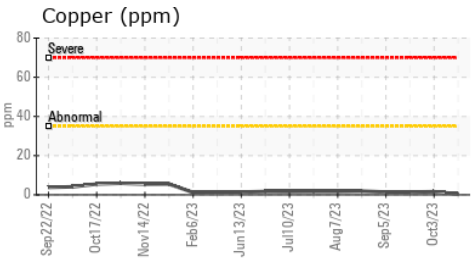
Aluminum (ppm)



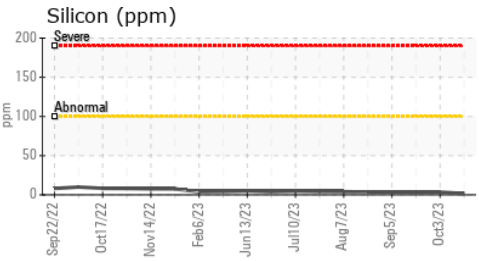
Chromium (ppm)



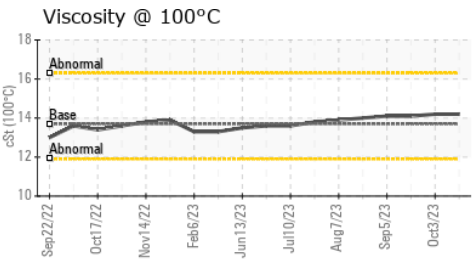
Copper (ppm)



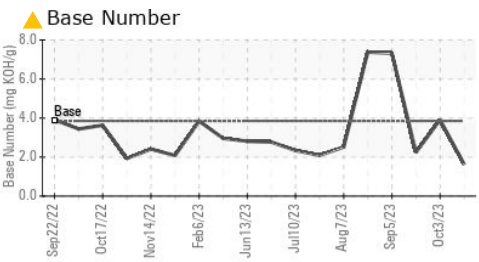
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0080858 **Received** : 08 Nov 2023
Lab Number : 06002376 **Diagnosed** : 13 Nov 2023
Unique Number : 10736138 **Diagnostician** : Don Baldridge
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

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)

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