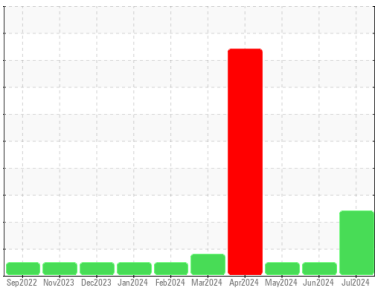
OIL DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION

Machine Id
Smith Ridge 1
Component
Natural Gas Engine
Fluid
CITGO PACEMAKER GAS ENGIN 1700 SERIES 40W (--- GAL)

DIAGNOSIS

Recommendation
We recommend that you drain the oil and perform a filter service on this component if not already done. Resample at the next service interval to monitor.

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 level is low. The AN level is at the top-end of the recommended limit. The oil is no longer serviceable.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0117266**	PCA0117262	PCA0117195
Sample Date		Client Info		**09 Jul 2024**	04 Jun 2024	02 May 2024
Machine Age	hrs	Client Info		**188161**	187336	186556
Oil Age	hrs	Client Info		**187381**	780	237
Oil Changed		Client Info		**Not Changd**	Not Changd	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**6**	6	3
Chromium	ppm	ASTM D5185m	>4	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**0**	0	<1
Titanium	ppm	ASTM D5185m		**<1**	0	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>9	**2**	2	<1
Lead	ppm	ASTM D5185m	>30	**25**	14	11
Copper	ppm	ASTM D5185m	>35	**4**	7	5
Tin	ppm	ASTM D5185m	>4	**<1**	1	1
Vanadium	ppm	ASTM D5185m		**<1**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**<1**	0	0
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**1**	4	2
Manganese	ppm	ASTM D5185m		**0**	2	<1
Magnesium	ppm	ASTM D5185m		**10**	12	8
Calcium	ppm	ASTM D5185m		**1506**	1589	1366
Phosphorus	ppm	ASTM D5185m		**320**	349	303
Zinc	ppm	ASTM D5185m		**418**	435	363
Sulfur	ppm	ASTM D5185m		**2360**	3075	2867

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+100	**2**	3	2
Sodium	ppm	ASTM D5185m		**<1**	3	0
Potassium	ppm	ASTM D5185m	>20	**2**	5	2
Fuel	%	ASTM D3524	>4.0	**0.3**	0.5	0.1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0**	0.1	0
Nitration	Abs/cm	*ASTM D7624	>20	**7.7**	6.0	4.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.2**	19.0	16.0

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**21.1**	15.7	10.8
Acid Number (AN)	mg KOH/g	ASTM D8045		▲ **2.37**	1.57	0.76
Base Number (BN)	mg KOH/g	ASTM D2896		▲ **2.13**	2.82	3.43

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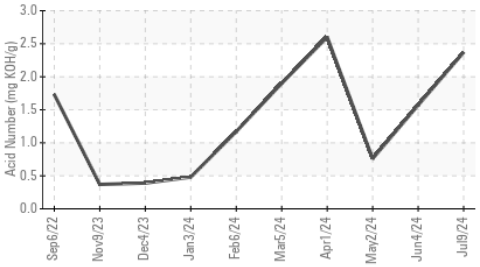
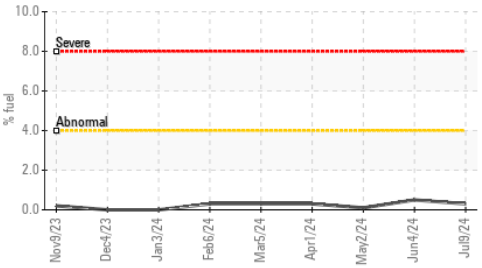
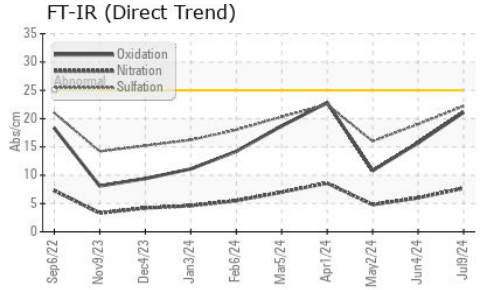
Acid Number



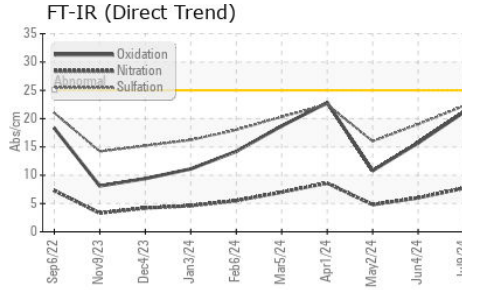
Fuel Dilution



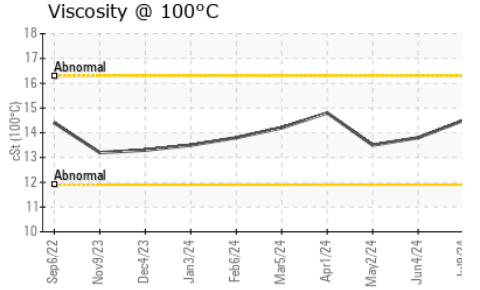
FT-IR (Direct Trend)



FT-IR (Direct Trend)



Viscosity @ 100°C

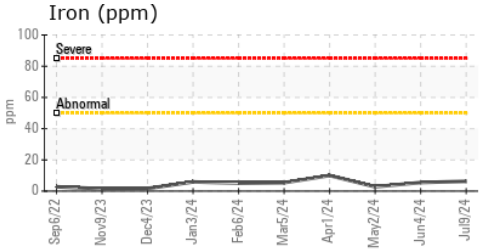


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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

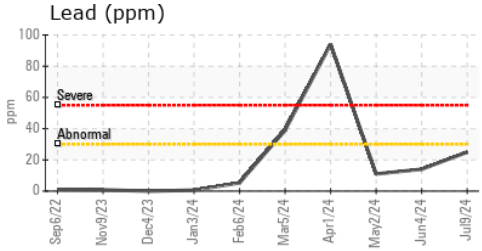
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**14.5**	13.8	13.5

GRAPHS

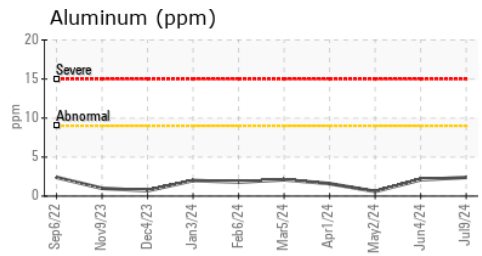
Iron (ppm)



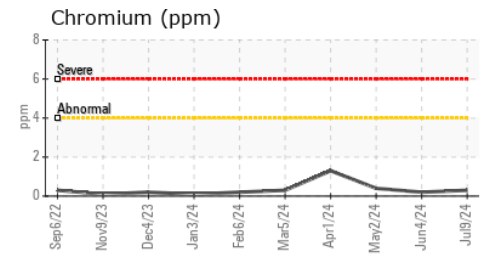
Lead (ppm)



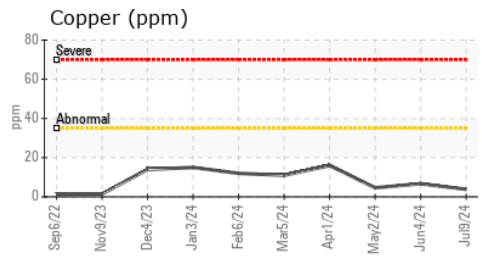
Aluminum (ppm)



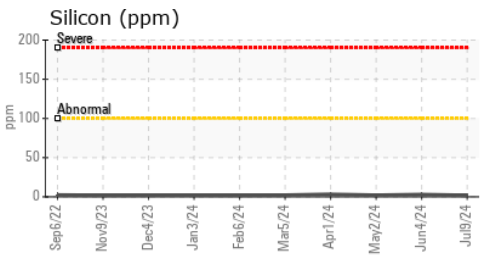
Chromium (ppm)



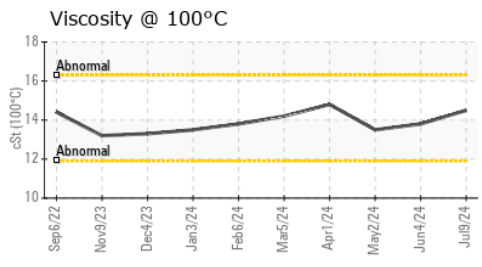
Copper (ppm)



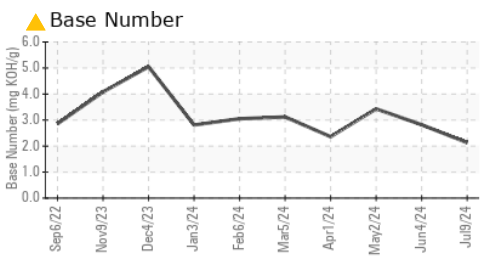
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0117266
Lab Number : 06238557
Unique Number : 11127391
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

Received : 16 Jul 2024
Tested : 17 Jul 2024
Diagnosed : 18 Jul 2024 - Doug Bogart

ENERVEST OPERATING - SMITH RIDGE
2305 SMITH RIDGE
MCCLURE, VA
US 24269
Contact: Service Manager

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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