



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
EVAN LIN [DANIEL/502923]

Machine Id
CUMMINS E190570167

Component
Genset

Fluid
VOLVO PENTA SAE 15W40 (2 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VPA053011	VPA045679	VPA035138
Sample Date		Client Info		17 Apr 2024	24 May 2023	13 Jan 2022
Machine Age	hrs	Client Info		492	443	356
Oil Age	hrs	Client Info		0	0	356
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Not Changd
Filter Changed		Client Info		Changed	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>50	3	22	9
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>5	0	<1	<1
Aluminum	ppm	ASTM D5185m	>12	2	4	4
Lead	ppm	ASTM D5185m	>17	<1	1	<1
Copper	ppm	ASTM D5185m	>70	2	7	11
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

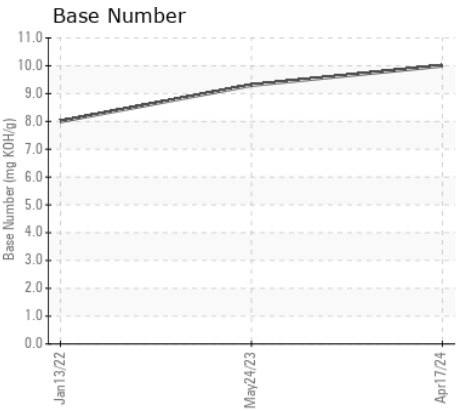
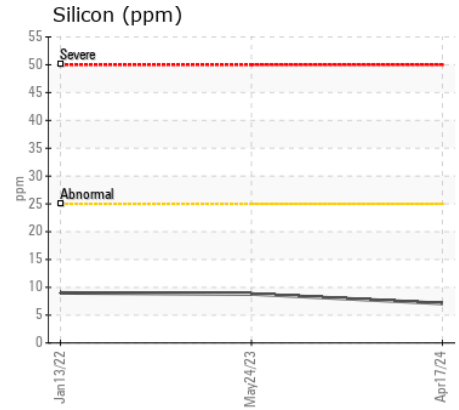
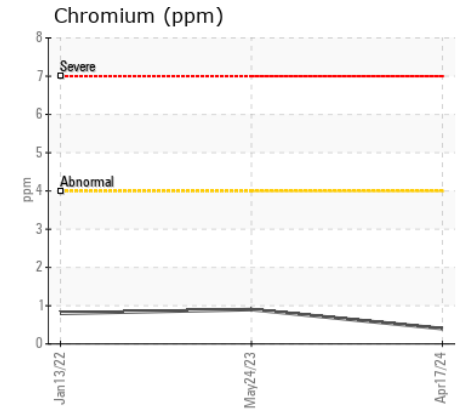
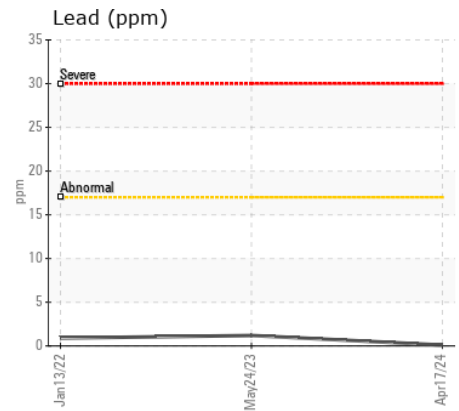
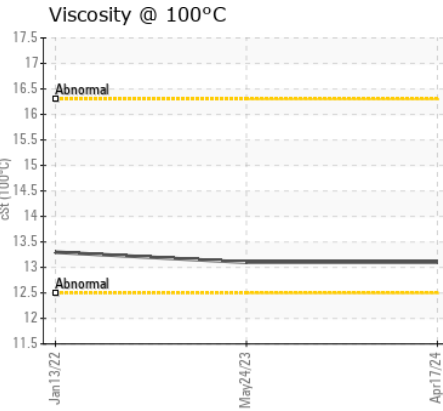
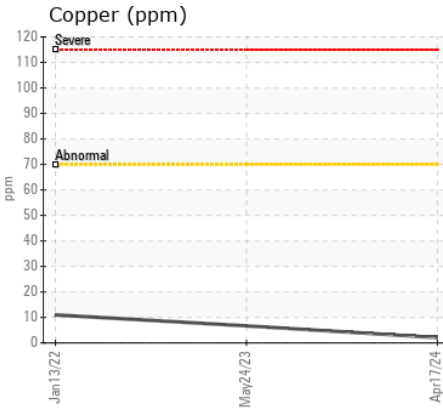
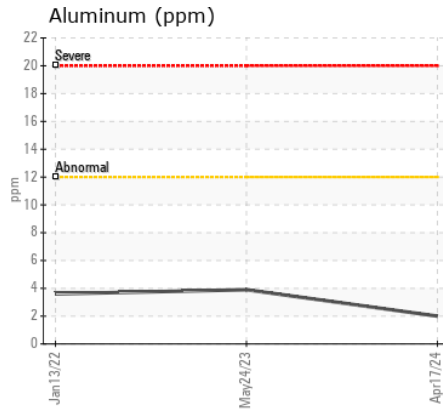
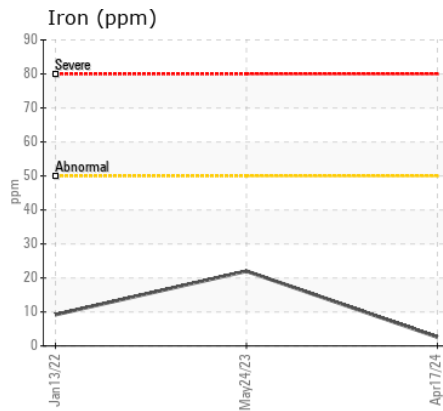
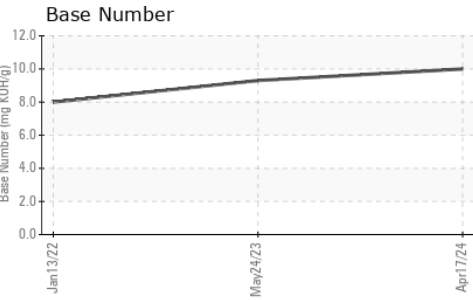
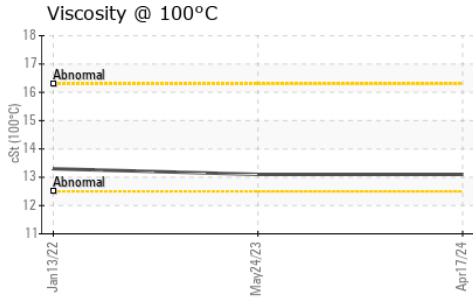
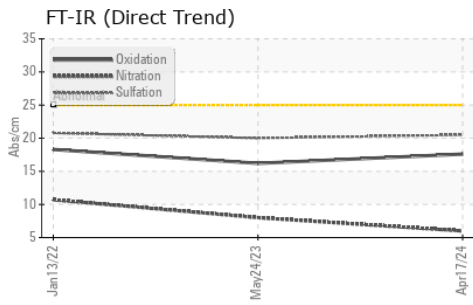
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	7	9	9
Potassium	ppm	ASTM D5185m	>20	2	2	4
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	6.0	8.0	10.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.5	20.0	20.8
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

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<1	7	4
Boron	ppm	ASTM D5185m		45	27	63
Barium	ppm	ASTM D5185m		2	0	0
Molybdenum	ppm	ASTM D5185m		45	37	10
Manganese	ppm	ASTM D5185m		<1	1	<1
Magnesium	ppm	ASTM D5185m		663	860	721
Calcium	ppm	ASTM D5185m		1400	1288	1520
Phosphorus	ppm	ASTM D5185m		890	900	782
Zinc	ppm	ASTM D5185m		996	1087	961
Sulfur	ppm	ASTM D5185m		2960	3348	3182
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.6	16.2	18.3
Base Number (BN)	mg KOH/g	ASTM D2896		10.0	9.3	8.0
Visc @ 100°C	cSt	ASTM D445		13.1	13.1	13.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VPA053011 **Received** : 10 May 2024
Lab Number : 06176428 **Tested** : 13 May 2024
Unique Number : 11022481 **Diagnosed** : 14 May 2024 - Sean Felton
Test Package : MOB 1 (Additional Tests: TBN)

Endor Marine LLC - Coastal Marine - 152124
 4300 11th Ave. NW
 SEATTLE, WA
 US 98107
 Contact: WILLOW YANARELLA
 service@coastalmarineengine.com
 T: (206)784-3703
 F: (206)784-8823

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)