



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
GENERAC NS-WILLARD DAIRY
 Component
Natural Gas Engine
 Fluid
SHELL ROTELLA T 15W40 (4 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0887874	WC0329405	WCM1384317
Sample Date		Client Info		06 May 2024	10 Apr 2019	20 Apr 2018
Machine Age	hrs	Client Info		348	0	259
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>50	2	1	1
Chromium	ppm	ASTM D5185m	>4	0	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>9	5	2	3
Lead	ppm	ASTM D5185m	>30	5	1	<1
Copper	ppm	ASTM D5185m	>35	1	<1	<1
Tin	ppm	ASTM D5185m	>4	0	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

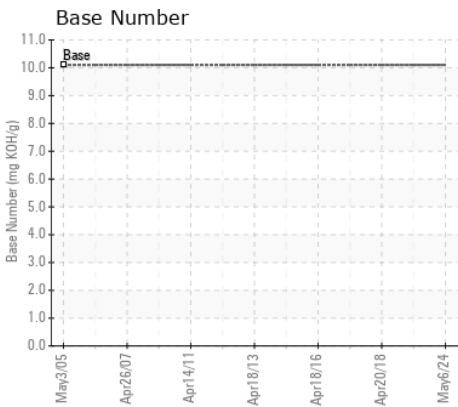
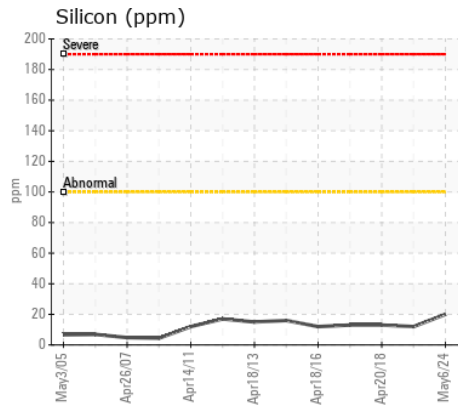
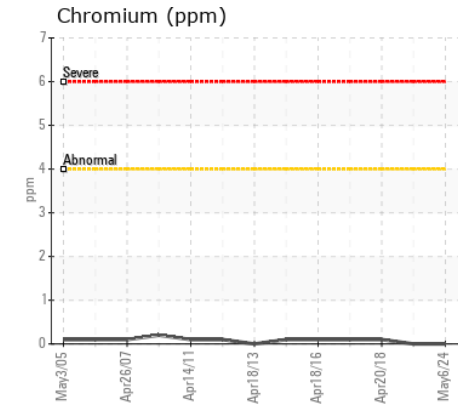
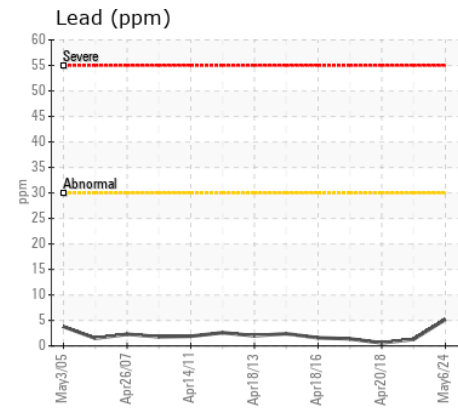
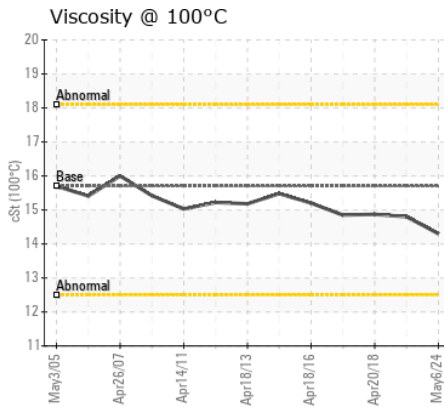
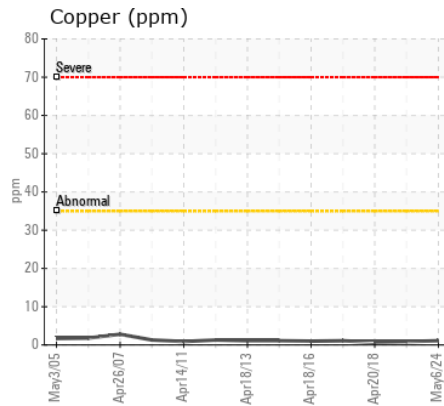
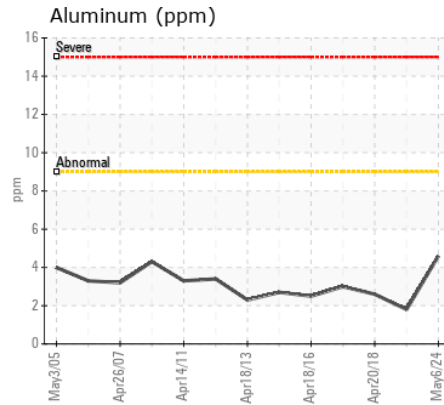
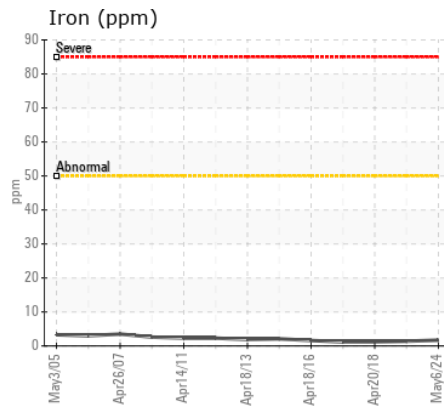
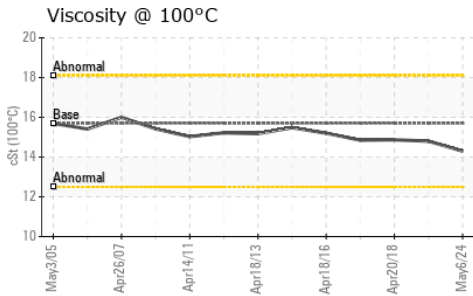
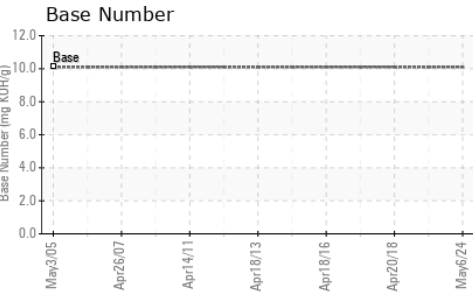
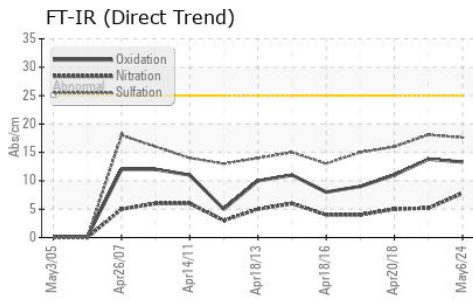
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>+100	20	12	13
Potassium	ppm	ASTM D5185m	>20	1	2	10
Water		WC Method	>0.1	NEG	NEG	NEG
Soot %	%	*ASTM D7844		0	0.1	0
Nitration	Abs/cm	*ASTM D7624	>20	7.8	5.2	5.
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.6	18.1	16.
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		3	2	2
Boron	ppm	ASTM D5185m	316	75	15	24
Barium	ppm	ASTM D5185m	0.0	<1	0	0
Molybdenum	ppm	ASTM D5185m	1.2	92	58	58
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	24	156	892	849
Calcium	ppm	ASTM D5185m	2292	2524	1148	1136
Phosphorus	ppm	ASTM D5185m	1064	1159	915	889
Zinc	ppm	ASTM D5185m	1160	1428	1158	1051
Sulfur	ppm	ASTM D5185m	4996	4672	2695	2537
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.3	13.8	11.
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	6.8	---	---
Visc @ 100°C	cSt	ASTM D445	15.7	14.3	14.8	14.87



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0887874 **Received** : 23 May 2024
Lab Number : 06188862 **Tested** : 24 May 2024
Unique Number : 11045614 **Diagnosed** : 24 May 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: TBN)

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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)