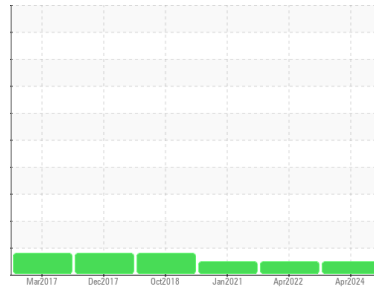




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
WARWICK NECK (S/N 241307)

Component
Natural Gas Engine
 Fluid
 {not provided} (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			RP0039458	RP0025677	RP0013474
Sample Date	Client Info			10 Apr 2024	08 Apr 2022	12 Jan 2021
Machine Age	hrs	Client Info		832	827	810
Oil Age	hrs	Client Info		0	0	0
Oil Changed	Client Info			N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	16	20	11
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>9	4	6	6
Lead	ppm	ASTM D5185m	>30	3	2	2
Copper	ppm	ASTM D5185m	>35	45	19	34
Tin	ppm	ASTM D5185m	>4	1	<1	<1
Antimony	ppm	ASTM D5185m		---	---	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		<1	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		2	197	15
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		149	99	8
Manganese	ppm	ASTM D5185m		<1	4	<1
Magnesium	ppm	ASTM D5185m		882	237	19
Calcium	ppm	ASTM D5185m		2829	2461	3028
Phosphorus	ppm	ASTM D5185m		303	680	355
Zinc	ppm	ASTM D5185m		325	808	399

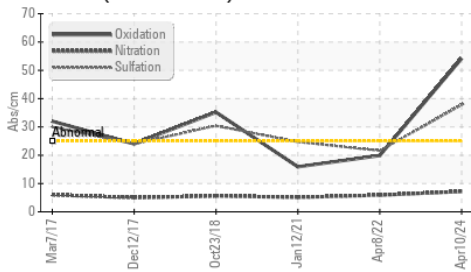
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+100	14	85	7
Sodium	ppm	ASTM D5185m		6	4	4
Potassium	ppm	ASTM D5185m	>20	5	10	2
Water	%	ASTM D6304	>0.1	NEG	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.2	5.9	5.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	37.8	21.6	24.7

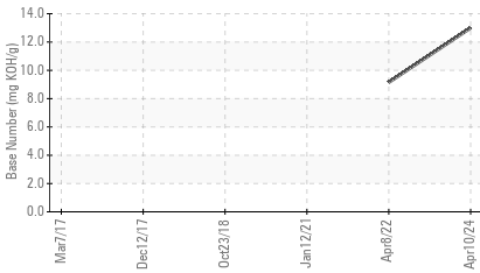
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	54.2	19.9	15.9
Acid Number (AN)	mg KOH/g	ASTM D8045		---	---	0.806
Base Number (BN)	mg KOH/g	ASTM D2896		13.00	9.15	---

OIL ANALYSIS REPORT

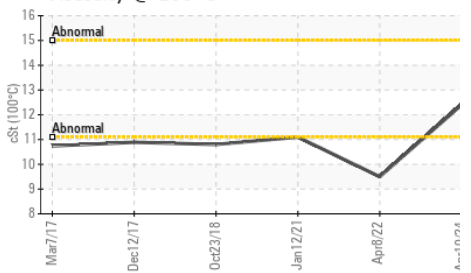
FT-IR (Direct Trend)



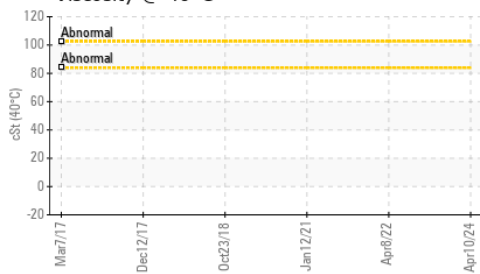
Base Number



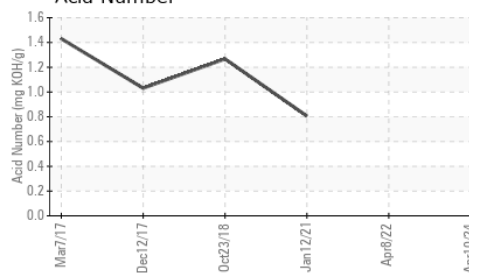
Viscosity @ 100°C



Viscosity @ 40°C



Acid Number

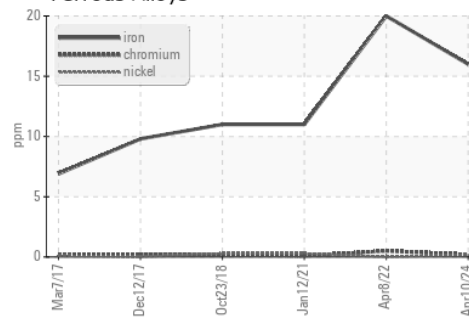


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

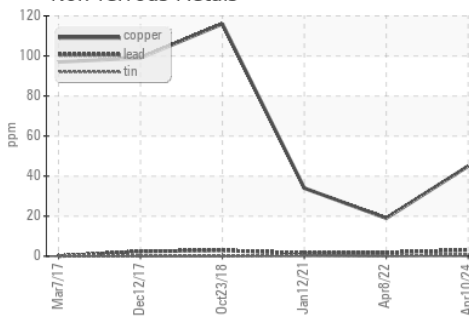
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.4	9.5	11.1

GRAPHS

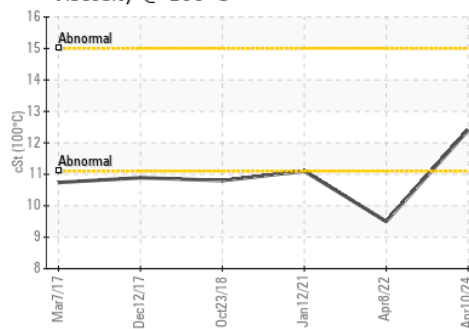
Ferrous Alloys



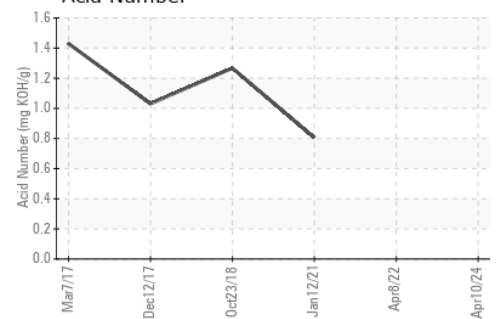
Non-ferrous Metals



Viscosity @ 100°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0039458 **Received** : 14 May 2024
Lab Number : 06179521 **Tested** : 17 May 2024
Unique Number : 11030847 **Diagnosed** : 17 May 2024 - Sean Felton
Test Package : IND 2 (Additional Tests: FT-IR, KV100, TBN)

WARWICK SEWER AUTHORITY
 125 ARTHUR DEVINE BLVD
 WARWICK, RI
 US 02888
 Contact: JOHN BROSNAHAN
 john.s.brosnahan@warwickri.com

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)