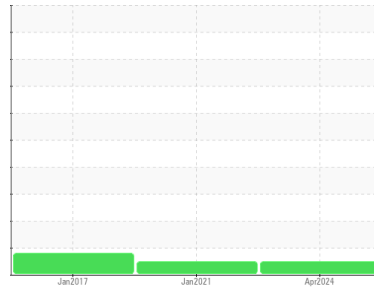




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
HOXIC (S/N 5XF03528)
 Component
Diesel 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			RP0039516	RP0013472	RP170553
Sample Date	Client Info			19 Apr 2024	12 Jan 2021	13 Jan 2017
Machine Age	hrs	Client Info		292	276	260
Oil Age	hrs	Client Info		0	0	33
Oil Changed	Client Info			N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	<1.0	<1.0
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	3	3	2
Chromium	ppm	ASTM D5185m	>20	<1	0	0
Nickel	ppm	ASTM D5185m	>2	<1	<1	0
Titanium	ppm	ASTM D5185m	>2	2	<1	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>25	3	5	3
Lead	ppm	ASTM D5185m	>40	3	2	<1
Copper	ppm	ASTM D5185m	>330	65	71	42
Tin	ppm	ASTM D5185m	>15	<1	<1	8
Antimony	ppm	ASTM D5185m		---	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		1	5	106
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		102	92	88
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		31	11	114
Calcium	ppm	ASTM D5185m		3239	3110	2507
Phosphorus	ppm	ASTM D5185m		1100	1071	901
Zinc	ppm	ASTM D5185m		1229	1133	1071

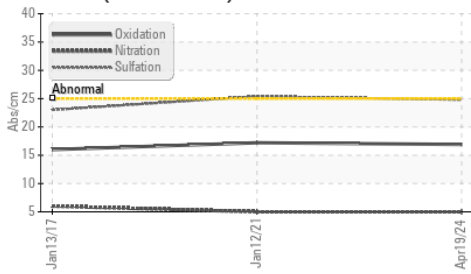
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	6	4	3
Sodium	ppm	ASTM D5185m		2	7	7
Potassium	ppm	ASTM D5185m	>20	3	1	0
Water	%	ASTM D6304	>0.2	NEG	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.1	0.1	0
Nitration	Abs/cm	*ASTM D7624	>20	5.0	5	6.
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.8	25.4	23.

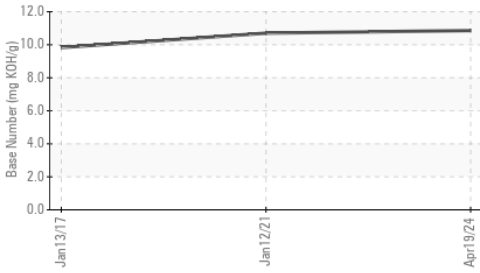
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.9	17.2	16.
Acid Number (AN)	mg KOH/g	ASTM D8045		---	1.115	---
Base Number (BN)	mg KOH/g	ASTM D2896		10.86	10.7	9.83

OIL ANALYSIS REPORT

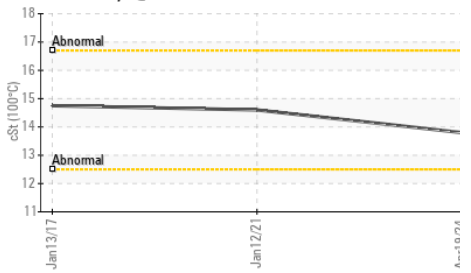
FT-IR (Direct Trend)



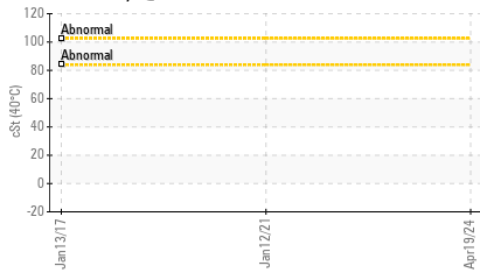
Base Number



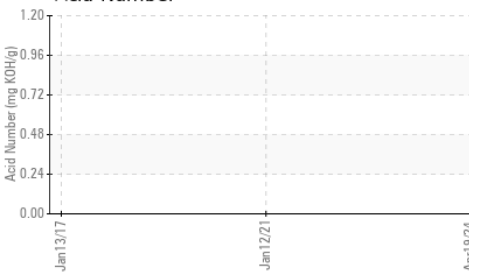
Viscosity @ 100°C



Viscosity @ 40°C



Acid Number

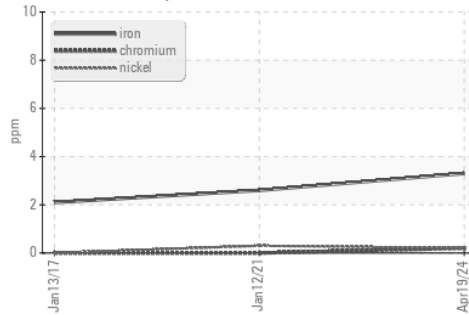


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	▲ MODER
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

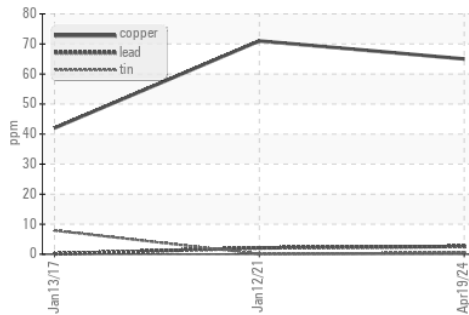
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.8	14.6	● 14.75

GRAPHS

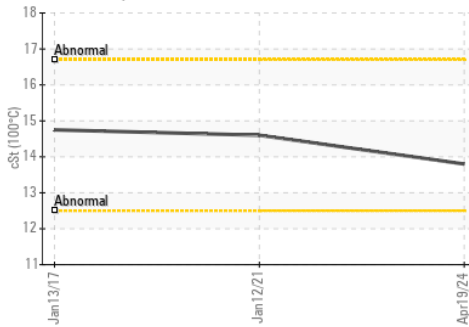
Ferrous Alloys



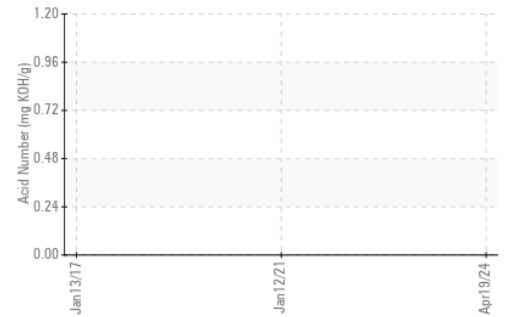
Non-ferrous Metals



Viscosity @ 100°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0039516 **Received** : 14 May 2024
Lab Number : 06179515 **Tested** : 17 May 2024
Unique Number : 11030841 **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)

T:
F: