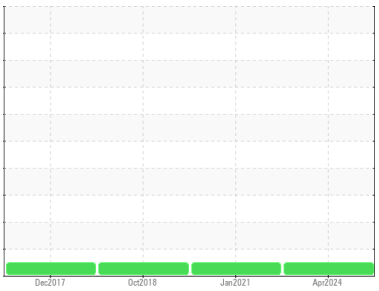
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
BROOKWOOD (S/N GXB04175-OLY00000)
Component
Natural Gas Engine
Fluid
{not provided} (--- QTS)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear
Metal levels are typical for a new component breaking in.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**RP0026038**	RP0016528	RP203916
Sample Date		Client Info		**10 Apr 2024**	19 Jan 2021	23 Oct 2018
Machine Age	hrs	Client Info		**39**	11	7
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**	15	26
Chromium	ppm	ASTM D5185m	>4	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**<1**	<1	<1
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>9	**4**	6	3
Lead	ppm	ASTM D5185m	>30	**<1**	1	6
Copper	ppm	ASTM D5185m	>35	**9**	9	34
Tin	ppm	ASTM D5185m	>4	**<1**	<1	0
Antimony	ppm	ASTM D5185m		**---**	0	1
Vanadium	ppm	ASTM D5185m		**<1**	<1	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**6**	91	196
Barium	ppm	ASTM D5185m		**<1**	0	<1
Molybdenum	ppm	ASTM D5185m		**131**	21	67
Manganese	ppm	ASTM D5185m		**1**	2	4
Magnesium	ppm	ASTM D5185m		**887**	71	14
Calcium	ppm	ASTM D5185m		**2847**	2862	2116
Phosphorus	ppm	ASTM D5185m		**303**	503	678
Zinc	ppm	ASTM D5185m		**343**	551	691

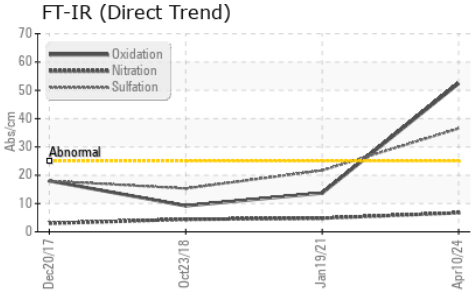
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+100	**16**	37	70
Sodium	ppm	ASTM D5185m		**<1**	10	5
Potassium	ppm	ASTM D5185m	>20	**3**	3	9
Water	%	ASTM D6304	>0.1	**NEG**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0.1**	0.1	0
Nitration	Abs/cm	*ASTM D7624	>20	**6.7**	4.8	4.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**36.5**	21.7	15.3

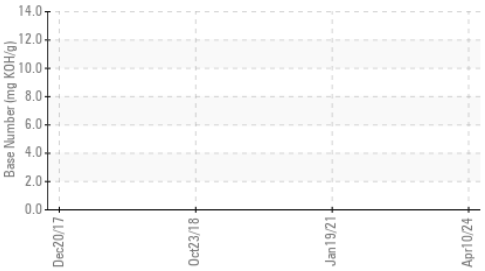
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**52.4**	13.7	9.2
Acid Number (AN)	mg KOH/g	ASTM D8045		**---**	0.562	1.066
Base Number (BN)	mg KOH/g	ASTM D2896		**13.33**	---	---

OIL ANALYSIS REPORT

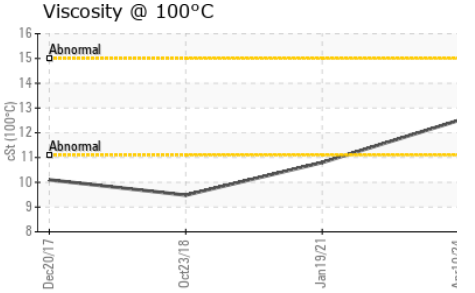
FT-IR (Direct Trend)



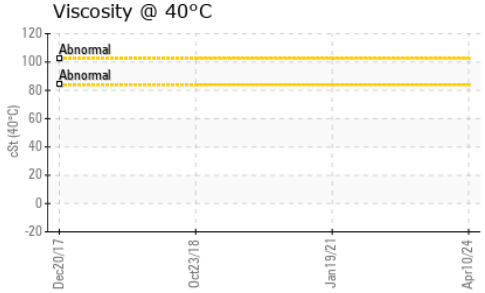
Base Number



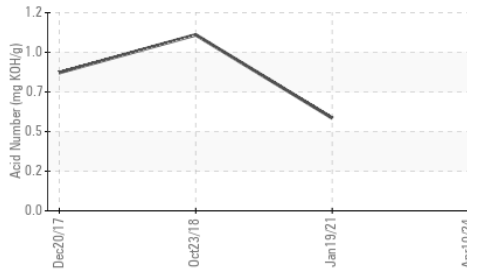
Viscosity @ 100°C



Viscosity @ 40°C



Acid Number

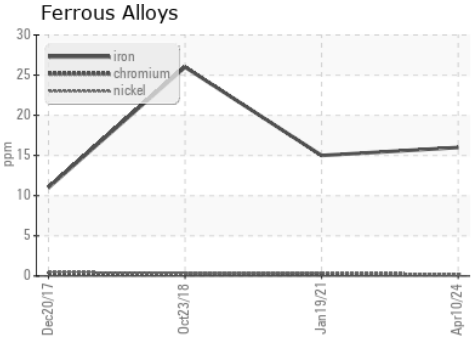


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

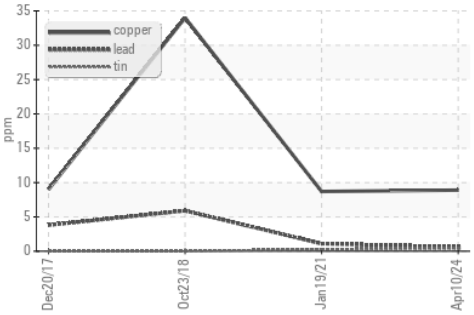
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**12.5**	10.8	9.48

GRAPHS

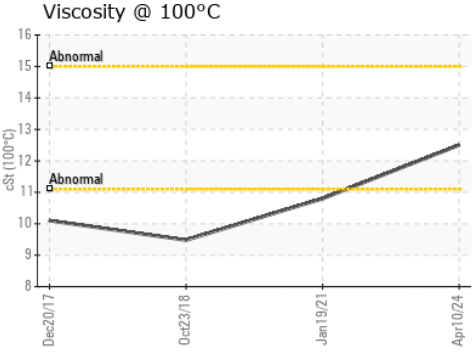
Ferrous Alloys



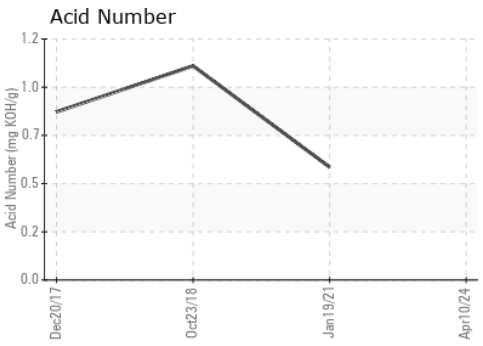
Non-ferrous Metals



Viscosity @ 100°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0026038
Lab Number : 06179527
Unique Number : 11030853
Test Package : IND 2 (Additional Tests: FT-IR, KV100, TBN)
Received : 14 May 2024
Tested : 17 May 2024
Diagnosed : 17 May 2024 - Sean Felton

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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john.s.brosnahan@warwickri.com
T:
F:

Report Id: WARWARRI [WUSCAR] 06179527 (Generated: 05/17/2024 10:11:21) Rev: 1
Contact/Location: JOHN BROSNAHAN - WARWARRI