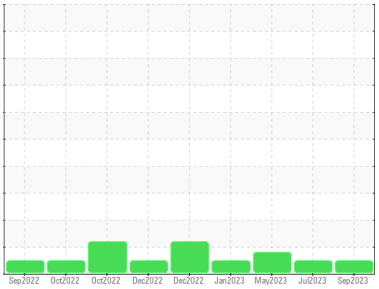
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
VOLVO RA40 EQ0036572 (S/N 141016)
Component
Gearbox
Fluid
SHELL SPIRAX S4 CX 30 (4 GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable.

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		**VKC0000808**	VKC0000810	VKC0000814
Sample Date		Client Info		**28 Sep 2023**	14 Jul 2023	11 May 2023
Machine Age	hrs	Client Info		**3147**	2705	2331
Oil Age	hrs	Client Info		**442**	241	528
Oil Changed		Client Info		**Changed**	N/A	Not Changd
Sample Status				**NORMAL**	NORMAL	ATTENTION

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		**19**	15	14
Iron	ppm	ASTM D5185m	>200	**15**	8	8
Chromium	ppm	ASTM D5185m	>10	**<1**	<1	0
Nickel	ppm	ASTM D5185m	>10	**2**	<1	<1
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**2**	1	2
Lead	ppm	ASTM D5185m	>50	**12**	4	2
Copper	ppm	ASTM D5185m	>200	**9**	5	6
Tin	ppm	ASTM D5185m	>10	**0**	<1	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**24**	8	5
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**6**	3	3
Manganese	ppm	ASTM D5185m		**<1**	<1	0
Magnesium	ppm	ASTM D5185m		**35**	32	0
Calcium	ppm	ASTM D5185m	4200	**3032**	3388	3335
Phosphorus	ppm	ASTM D5185m		**881**	914	855
Zinc	ppm	ASTM D5185m	1080	**1098**	1130	1048
Sulfur	ppm	ASTM D5185m		**3649**	4154	3771

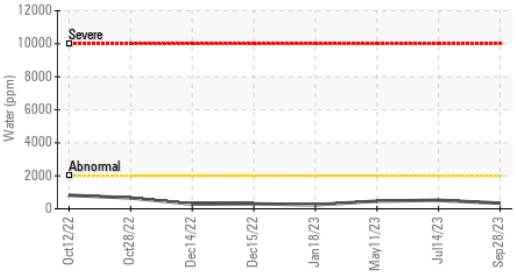
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**6**	5	6
Sodium	ppm	ASTM D5185m		**<1**	2	1
Potassium	ppm	ASTM D5185m	>20	**1**	0	0
Water	%	ASTM D6304	>0.2	**0.033**	0.052	0.046
ppm Water	ppm	ASTM D6304	>2000	**339.1**	520.0	465.2

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	**9960**	14829	▲ 21881
Particles >6µm		ASTM D7647	>5000	**1993**	3423	3520
Particles >14µm		ASTM D7647	>640	**90**	107	48
Particles >21µm		ASTM D7647	>160	**15**	19	13
Particles >38µm		ASTM D7647	>40	**1**	1	1
Particles >71µm		ASTM D7647	>10	**1**	0	1
Oil Cleanliness		ISO 4406 (c)	>21/19/16	**20/18/14**	21/19/14	▲ 22/19/13

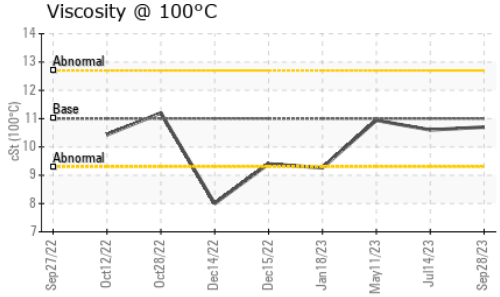
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**1.22**	1.04	1.22

OIL ANALYSIS REPORT

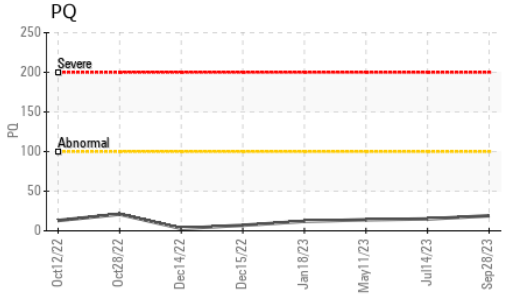
Water (KF)



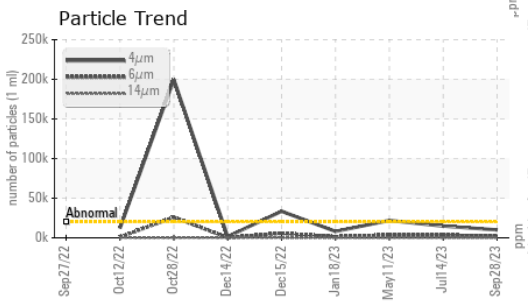
Viscosity @ 100°C



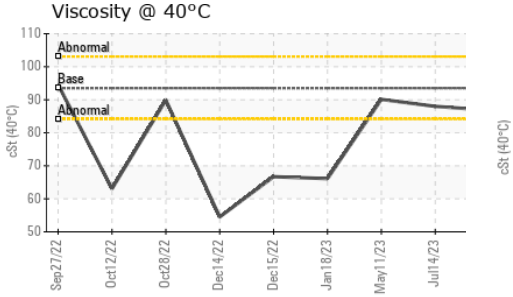
PQ



Particle Trend

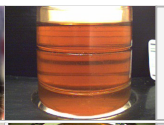


Viscosity @ 40°C



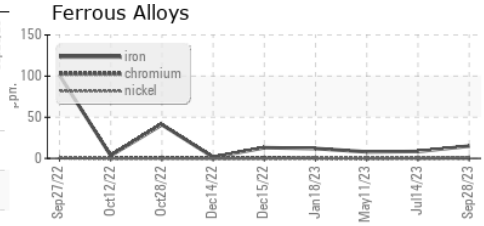
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	93.5	**86.8**	88.0	90.1
Visc @ 100°C	cSt	ASTM D445	11.0	**10.7**	10.6	10.94
Viscosity Index (VI)	Scale	ASTM D2270	102	**107**	103	106

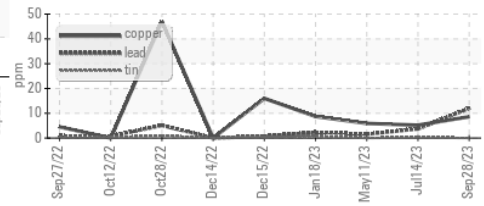
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					*no image*
Bottom					*no image*

GRAPHS

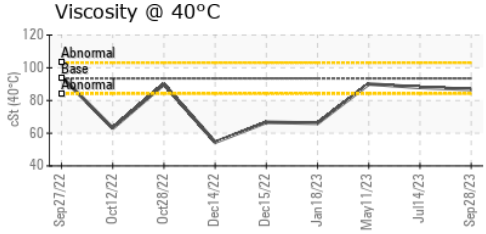
Ferrous Alloys



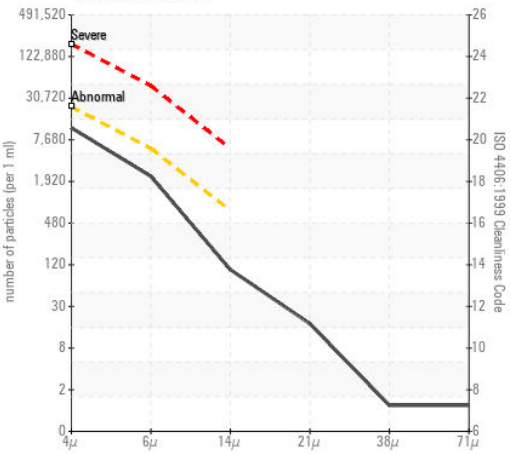
Non-ferrous Metals



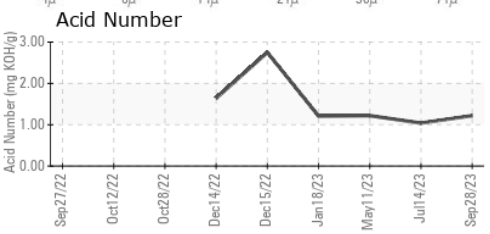
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VKC0000808 **Received** : 03 Oct 2023
Lab Number : 05968342 **Diagnosed** : 04 Oct 2023
Unique Number : 10674893 **Diagnostician** : Wes Davis
Test Package : CONST (Additional Tests: KF, KV100, PQ, PrtCount, VI)

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)

G.W. VAN KEPPEL COMPANY
2218 INDUSTRIAL PARK ROAD
VAN BUREN, AR
US 72956
Contact: SHAWN WHITE
swhite@vankeppel.com
T: (479)474-5281
F: (479)474-6048