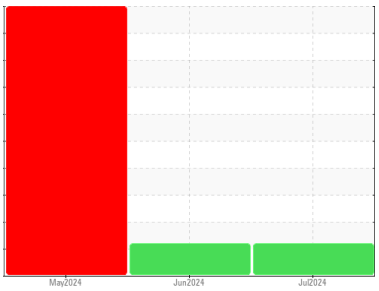
OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Area
MINING
Machine Id
ME-021 KOMATSU WA500-8 KMTWA134ALNA97209
Component
Diesel Engine
Fluid
SHELL RIMULA SUPER SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor. (Customer Sample Comment: 250hr normal sample)

Wear
All component wear rates are normal.

Contamination
Sodium and/or potassium levels are high. Test for glycol is negative.

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		**WC0934829**	WC0934828	WC0929536
Sample Date		Client Info		**11 Jul 2024**	24 Jun 2024	20 May 2024
Machine Age	hrs	Client Info		**10655**	10555	10216
Oil Age	hrs	Client Info		**250**	339	638
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**ATTENTION**	ATTENTION	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**17**	8	67
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	2
Nickel	ppm	ASTM D5185m	>4	**0**	0	3
Titanium	ppm	ASTM D5185m		**0**	<1	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>20	**3**	2	6
Lead	ppm	ASTM D5185m	>40	**9**	8	▲ 167
Copper	ppm	ASTM D5185m	>330	**97**	60	▲ 67
Tin	ppm	ASTM D5185m	>15	**<1**	<1	6
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**19**	18	120
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**71**	69	144
Manganese	ppm	ASTM D5185m		**0**	0	2
Magnesium	ppm	ASTM D5185m		**399**	400	411
Calcium	ppm	ASTM D5185m	2840	**1752**	1720	1702
Phosphorus	ppm	ASTM D5185m	1150	**944**	1016	1087
Zinc	ppm	ASTM D5185m	1270	**1319**	1371	1377
Sulfur	ppm	ASTM D5185m	2829	**2852**	3128	3488

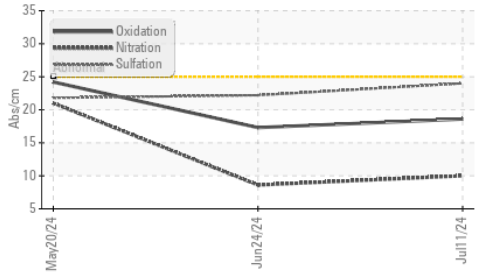
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**7**	5	13
Sodium	ppm	ASTM D5185m		**57**	53	▲ 1697
Potassium	ppm	ASTM D5185m	>20	● **62**	● 58	▲ 1966
Glycol	%	*ASTM D2982		**NEG**	NEG	▲ 0.20

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**1.4**	1	1.9
Nitration	Abs/cm	*ASTM D7624	>20	**10.0**	8.6	21.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.0**	22.2	21.8

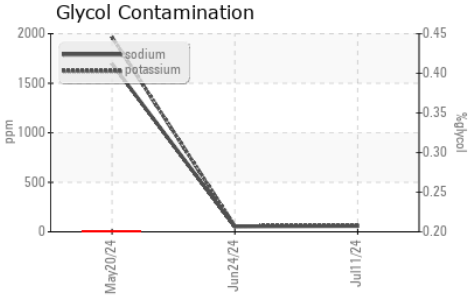
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**18.6**	17.3	24.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.6	**8.1**	8.8	38.0

OIL ANALYSIS REPORT

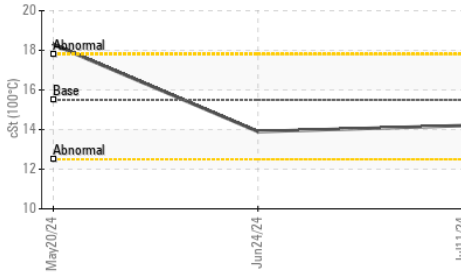
FT-IR (Direct Trend)



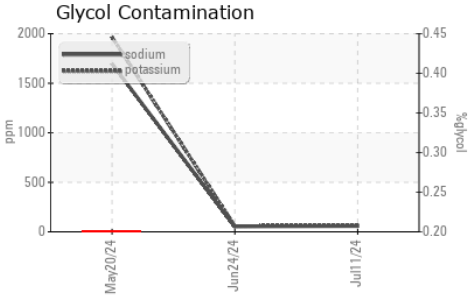
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

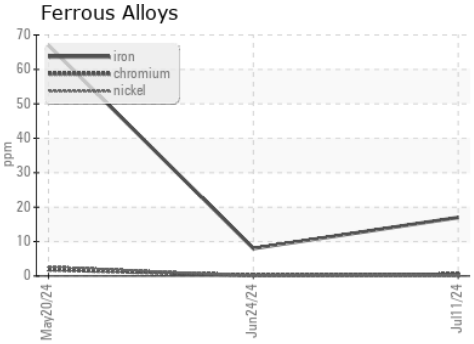


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

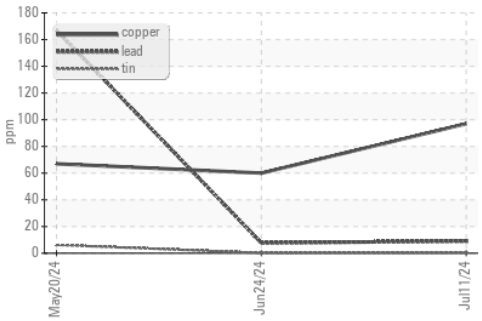
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.5	**14.2**	13.9	▲ 18.3

GRAPHS

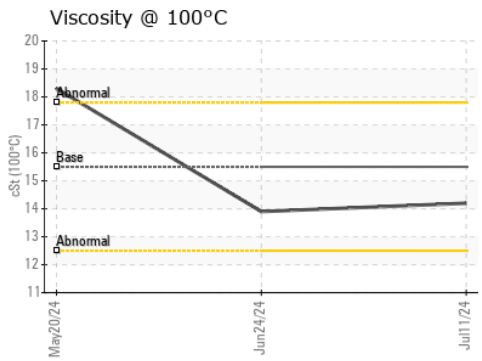
Ferrous Alloys



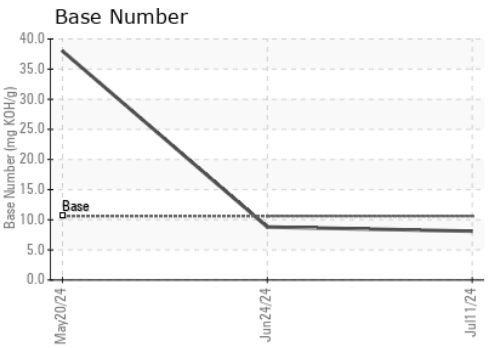
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0934829 **Received** : 16 Jul 2024
Lab Number : 06237583 **Tested** : 18 Jul 2024
Unique Number : 11126417 **Diagnosed** : 18 Jul 2024 - Sean Felton
Test Package : CONST (Additional Tests: Glycol, TBN)

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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Report Id: COVLUG [WUSCAR] 06237583 (Generated: 07/18/2024 09:47:21) Rev: 1

Submitted By: Chris Bowers