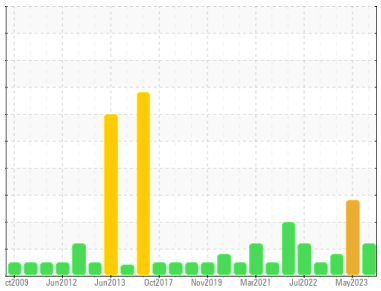
OIL ANALYSIS REPORT

OIL DIAGNOSTICS

Sample Rating Trend



GLYCOL

Area
KEMP QUARRIES / MUSKOGEE SAND
Machine Id
ENG021
Component
Diesel Engine
Fluid
MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

DIAGNOSIS

Recommendation
Check for low coolant level. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Sodium and/or potassium levels are high.

Fluid Condition
The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0085603**	PCA0087183	PCA0087163
Sample Date		Client Info		**20 May 2024**	01 May 2023	23 Mar 2023
Machine Age	hrs	Client Info		**7179**	6095	5958
Oil Age	hrs	Client Info		**0**	435	298
Oil Changed		Client Info		**Changed**	Changed	Not Changd
Sample Status				**ATTENTION**	ABNORMAL	ABNORMAL

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	**25**	27	22
Chromium	ppm	ASTM D5185m	>20	**<1**	0	<1
Nickel	ppm	ASTM D5185m	>2	**0**	<1	<1
Titanium	ppm	ASTM D5185m	>2	**0**	0	0
Silver	ppm	ASTM D5185m	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>25	**1**	<1	<1
Lead	ppm	ASTM D5185m	>40	**10**	▲ 52	▲ 51
Copper	ppm	ASTM D5185m	>330	**32**	▲ 113	88
Tin	ppm	ASTM D5185m	>15	**0**	1	<1
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	0	**0**	5	8
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	0	**68**	84	78
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	0	**1159**	956	982
Calcium	ppm	ASTM D5185m		**1276**	1076	1052
Phosphorus	ppm	ASTM D5185m		**1233**	999	1064
Zinc	ppm	ASTM D5185m		**1499**	1258	1376
Sulfur	ppm	ASTM D5185m		**4069**	3168	3823

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**8**	6	6
Sodium	ppm	ASTM D5185m		● **85**	▲ 356	262
Potassium	ppm	ASTM D5185m	>20	**3**	11	9
Glycol	%	*ASTM D2982		**NEG**	NEG	0.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.3**	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**8.7**	11.6	9.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	**20.0**	21.5	20.3

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**16.9**	19.1	16.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.4	**8.9**	8.6	8.6

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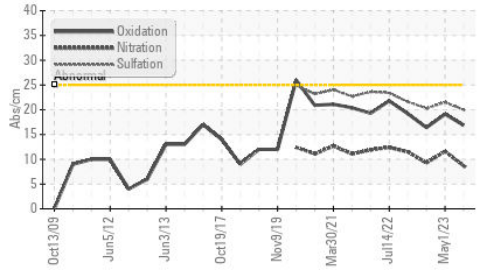
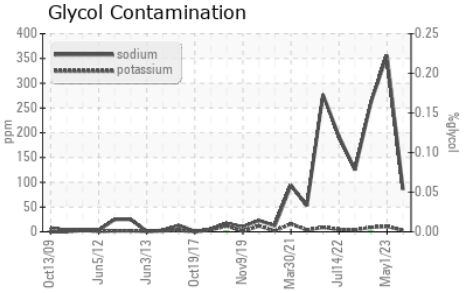
OIL ANALYSIS REPORT

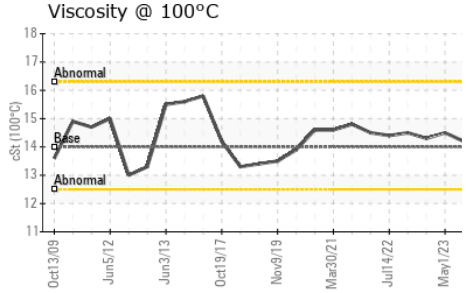
FT-IR (Direct Trend)



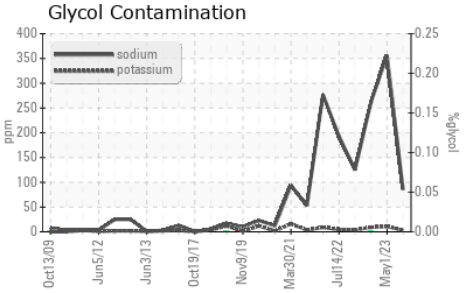
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

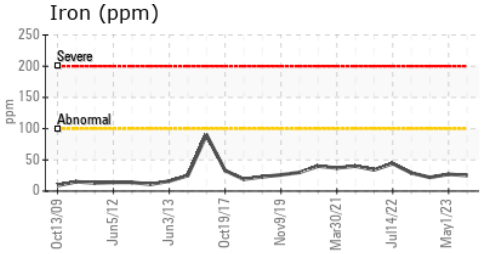


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

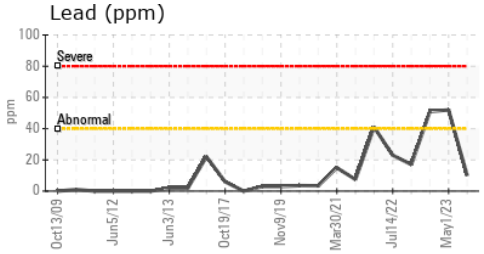
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14	**14.2**	14.5	14.3

GRAPHS

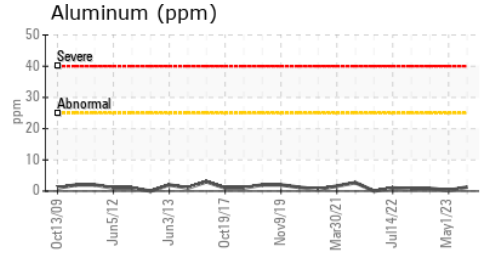
Iron (ppm)



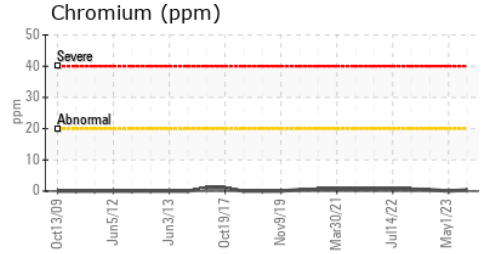
Lead (ppm)



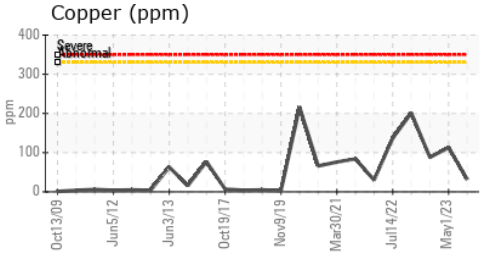
Aluminum (ppm)



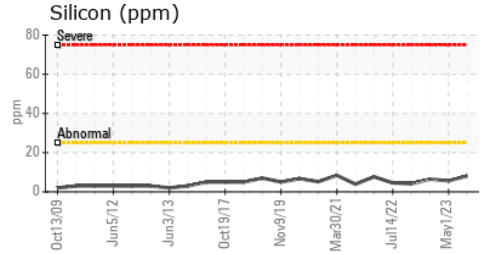
Chromium (ppm)



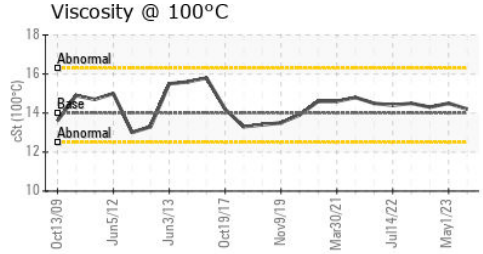
Copper (ppm)



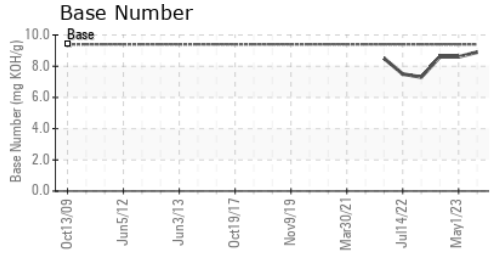
Silicon (ppm)



Viscosity @ 100°C



Base Number



ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0085603
Lab Number : 06193292
Unique Number : 11050044
Test Package : MOB 1 (Additional Tests: Glycol, TBN)

Received : 28 May 2024
Tested : 30 May 2024
Diagnosed : 30 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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Contact:
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Report Id: KEMPOR [WUSCAR] 06193292 (Generated: 05/30/2024 21:03:00) Rev: 1

Submitted By: