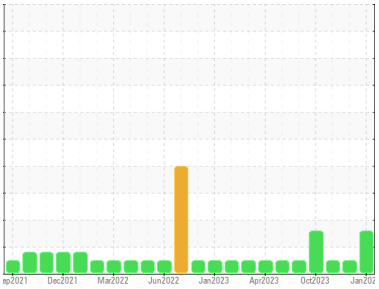
OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Area
GUAY SON/Yavaros [CONHER]
Machine Id
PERKINS Pacifico Ind PISA1 Aux1
Component
Auxiliary Engine
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (40 LTR)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Elemental level of silicon (Si) above normal indicating ingress of seal material. The amount and size of particulates present in the system are acceptable.

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		**KL0013463**	KL0013444	KL0013384
Sample Date		Client Info		**23 Jan 2024**	21 Dec 2023	17 Nov 2023
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	**<1.0**	<1.0	<1.0
Water		WC Method	>0.1	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**42**	6	12
Chromium	ppm	ASTM D5185m	>20	**<1**	0	<1
Nickel	ppm	ASTM D5185m	>2	**0**	0	<1
Titanium	ppm	ASTM D5185m	>2	**0**	0	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**7**	3	2
Lead	ppm	ASTM D5185m	>40	**6**	0	2
Copper	ppm	ASTM D5185m	>330	**30**	7	6
Tin	ppm	ASTM D5185m	>15	**2**	0	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**335**	279	322
Barium	ppm	ASTM D5185m		**2**	0	1
Molybdenum	ppm	ASTM D5185m		**217**	120	128
Manganese	ppm	ASTM D5185m		**0**	0	<1
Magnesium	ppm	ASTM D5185m		**1142**	675	629
Calcium	ppm	ASTM D5185m		**2264**	1473	1517
Phosphorus	ppm	ASTM D5185m	1360	**1234**	720	653
Zinc	ppm	ASTM D5185m	1480	**1349**	836	795
Sulfur	ppm	ASTM D5185m		**4612**	2422	2596

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **37**	6	20
Sodium	ppm	ASTM D5185m		**7**	<1	0
Potassium	ppm	ASTM D5185m	>20	**4**	0	1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**2.1**	0.1	1.2
Nitration	Abs/cm	*ASTM D7624	>20	**9.2**	6.7	7.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**25.5**	22.9	25.1

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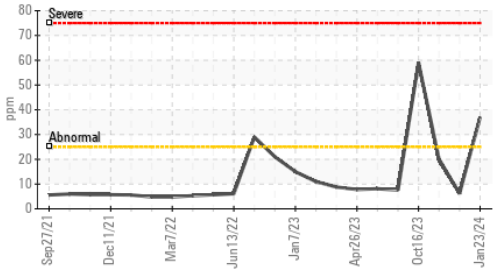
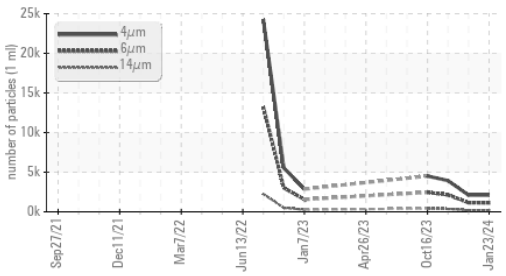
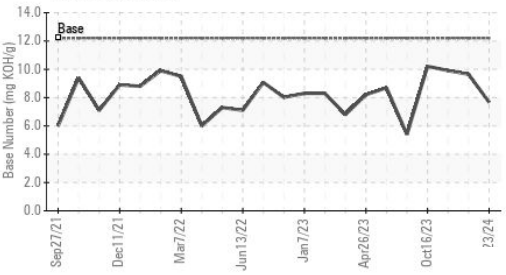
Silicon (ppm)



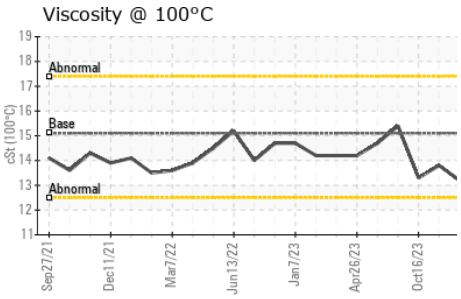
Particle Trend



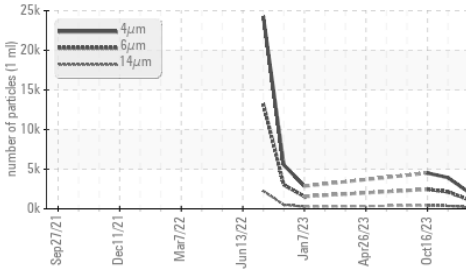
Base Number



Viscosity @ 100°C



Particle Trend



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**2088**	2105	3932
Particles >6µm		ASTM D7647	>5000	**1137**	1147	2142
Particles >14µm		ASTM D7647	>640	**194**	195	365
Particles >21µm		ASTM D7647	>160	**65**	66	123
Particles >38µm		ASTM D7647	>40	**10**	10	19
Particles >71µm		ASTM D7647	>10	**1**	1	2
Oil Cleanliness		ISO 4406 (c)	>19/16	**17/15**	17/15	18/16

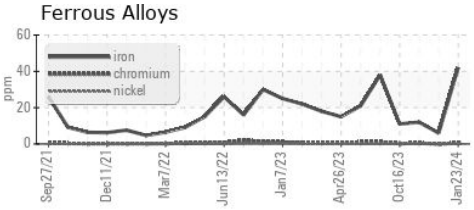
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**17.2**	16.4	16.8
Base Number (BN)	mg KOH/g	ASTM D2896	12.2	**7.68**	9.65	9.91

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

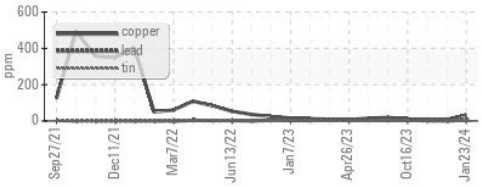
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	**14.1**	13.2	13.8

GRAPHS

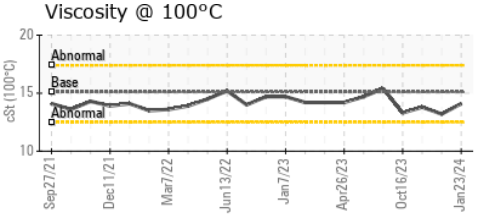
Ferrous Alloys



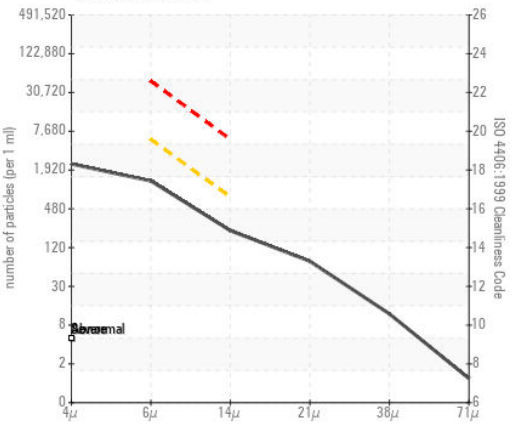
Non-ferrous Metals



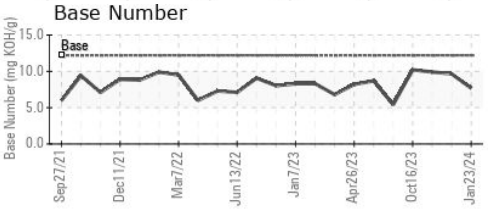
Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013463 **Recieved** : 30 Jan 2024
Lab Number : 06074993 **Diagnosed** : 02 Feb 2024
Unique Number : 10857084 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: PrtCount)

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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