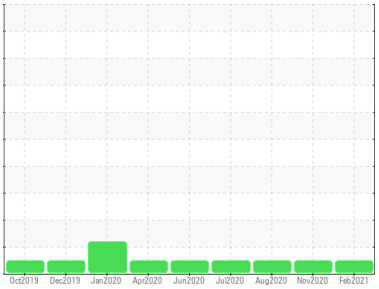
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
PETERBILT 20
Component
Diesel Engine
Fluid
CHEVRON URSA SUPER PLUS EC 15W40 (48 QTS)

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 system and fluid cleanliness is 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		**KLM2339026**	KLM2339665	KLM2339116
Sample Date		Client Info		**16 Feb 2021**	12 Nov 2020	31 Aug 2020
Machine Age	mls	Client Info		**111050**	91000	77770
Oil Age	mls	Client Info		**10000**	31000	47070
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**NORMAL**	NORMAL	NORMAL

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
Glycol		WC Method		**NEG**	NEG	0.0

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**19**	14	51
Chromium	ppm	ASTM D5185m	>20	**<1**	0	<1
Nickel	ppm	ASTM D5185m	>4	**0**	0	0
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m	>3	**<1**	0	<1
Aluminum	ppm	ASTM D5185m	>20	**10**	4	34
Lead	ppm	ASTM D5185m	>40	**<1**	0	1
Copper	ppm	ASTM D5185m	>330	**1**	3	11
Tin	ppm	ASTM D5185m	>15	**<1**	0	1
Antimony	ppm	ASTM D5185m		**0**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

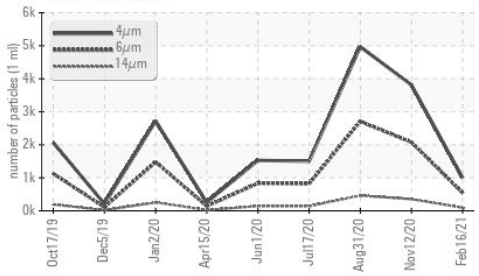
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**259**	273	91
Barium	ppm	ASTM D5185m		**0**	0	<1
Molybdenum	ppm	ASTM D5185m		**117**	121	122
Manganese	ppm	ASTM D5185m		**<1**	0	<1
Magnesium	ppm	ASTM D5185m		**578**	517	563
Calcium	ppm	ASTM D5185m		**1591**	1496	1554
Phosphorus	ppm	ASTM D5185m	1200	**735**	695	713
Zinc	ppm	ASTM D5185m	1300	**827**	785	833
Sulfur	ppm	ASTM D5185m		**2941**	2647	2422

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**6**	8	12
Sodium	ppm	ASTM D5185m		**2**	2	4
Potassium	ppm	ASTM D5185m	>20	**15**	17	101

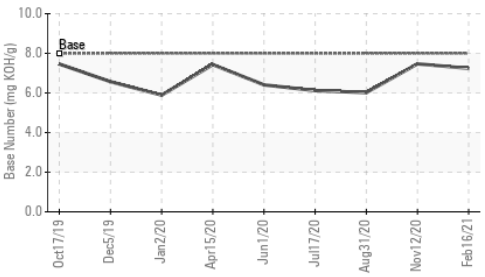
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.3**	0.3	0.6
Nitration	Abs/cm	*ASTM D7624	>20	**7.4**	8	10.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.7**	22.1	24.9

OIL ANALYSIS REPORT

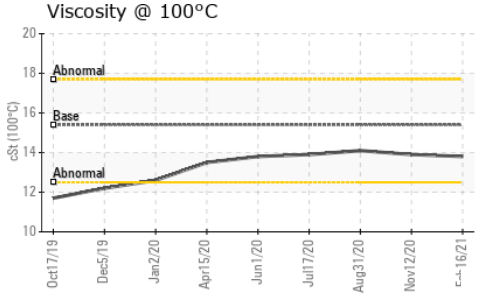
Particle Trend



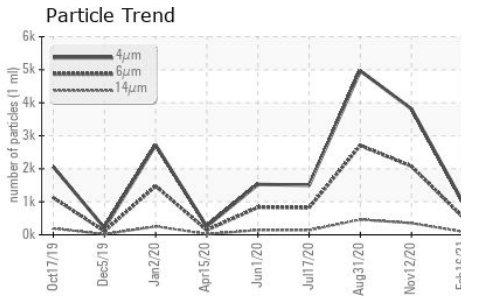
Base Number



Viscosity @ 100°C



Particle Trend



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**1002**	3812	4967
Particles >6µm		ASTM D7647	>5000	**547**	2077	2706
Particles >14µm		ASTM D7647	>640	**93**	353	461
Particles >21µm		ASTM D7647	>160	**31**	119	155
Particles >38µm		ASTM D7647	>40	**5**	18	24
Particles >71µm		ASTM D7647	>10	**0**	2	2
Oil Cleanliness		ISO 4406 (c)	>19/16	**16/14**	18/16	19/16

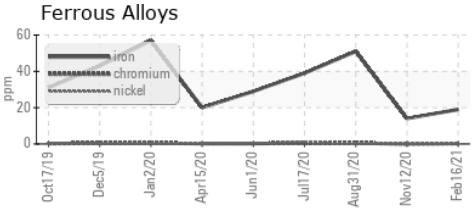
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**17.9**	18.8	24.5
Base Number (BN)	mg KOH/g	ASTM D2896	8.0	**7.24**	7.47	6.02

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

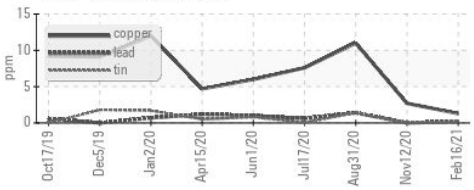
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**13.8**	13.9	14.1

GRAPHS

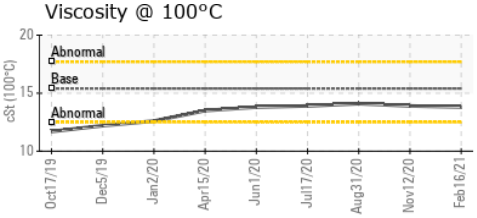
Ferrous Alloys



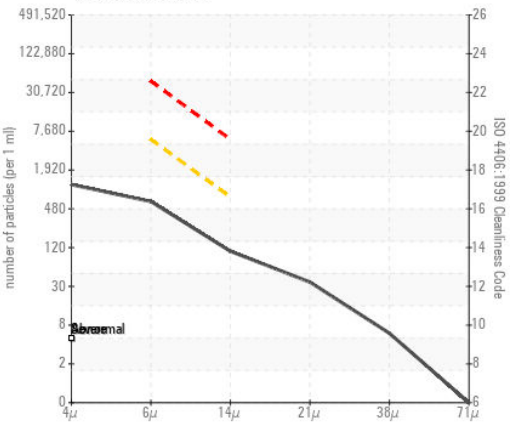
Non-ferrous Metals



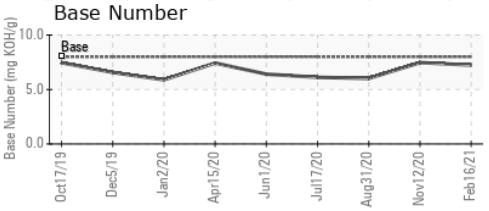
Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KLM2339026
Lab Number : 05195522
Unique Number : 9390833
Test Package : MOB 2 (Additional Tests: PrtCount)

Received : 03 Mar 2021
Tested : 04 Mar 2021
Diagnosed : 04 Mar 2021 - Wes Davis

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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