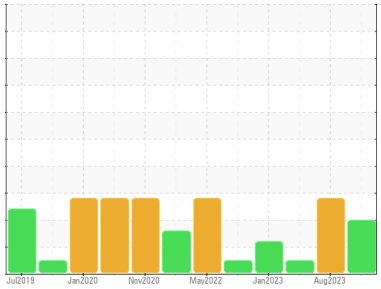
OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Machine Id
PETERBILT VS 9744
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (--- QTS)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. The 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
There is a high amount of particulates present in the oil.

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		**WC0793358**	WC0793353	WC0779700
Sample Date		Client Info		**03 Oct 2023**	02 Aug 2023	07 Mar 2023
Machine Age	hrs	Client Info		**7082**	6606	5937
Oil Age	hrs	Client Info		**480**	2736	2070
Oil Changed		Client Info		**Not Changd**	Changed	Changed
Sample Status				**ABNORMAL**	ABNORMAL	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	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	**20**	13	15
Chromium	ppm	ASTM D5185m	>4	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**3**	2	4
Lead	ppm	ASTM D5185m	>45	**4**	2	6
Copper	ppm	ASTM D5185m	>85	**2**	<1	2
Tin	ppm	ASTM D5185m	>4	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

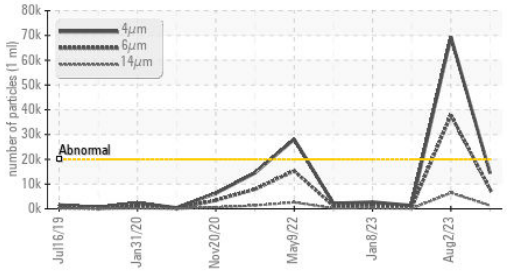
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	316	**1**	3	17
Barium	ppm	ASTM D5185m	0.0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	1.2	**58**	60	54
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	24	**912**	940	701
Calcium	ppm	ASTM D5185m	2292	**1115**	1161	1326
Phosphorus	ppm	ASTM D5185m	1064	**1017**	1081	926
Zinc	ppm	ASTM D5185m	1160	**1239**	1304	1117
Sulfur	ppm	ASTM D5185m	4996	**3394**	4467	4053

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	**6**	5	4
Sodium	ppm	ASTM D5185m		**6**	4	1
Potassium	ppm	ASTM D5185m	>20	**6**	6	6

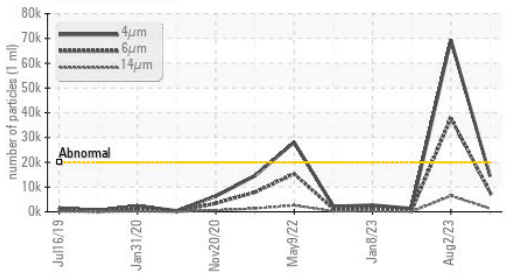
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.4**	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**12.7**	10.2	8.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.9**	20.4	20.2

OIL ANALYSIS REPORT

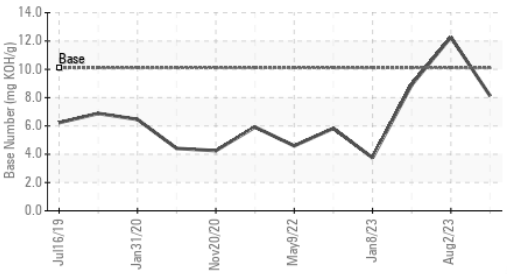
Particle Trend



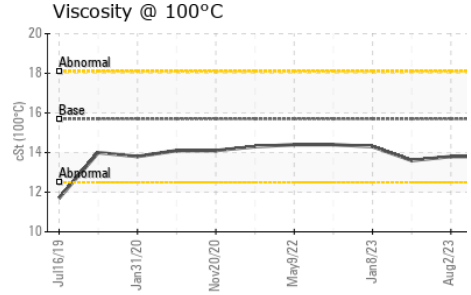
Particle Trend



Base Number



Viscosity @ 100°C



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	**14380**	▲ 69397	1322
Particles >6µm		ASTM D7647	>5000	▲ **7834**	▲ 37805	720
Particles >14µm		ASTM D7647	>640	▲ **1333**	▲ 6434	123
Particles >21µm		ASTM D7647	>160	▲ **449**	▲ 2167	41
Particles >38µm		ASTM D7647	>40	▲ **69**	▲ 335	6
Particles >71µm		ASTM D7647	>10	**7**	▲ 34	1
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ **21/20/18**	▲ 23/22/20	18/17/14

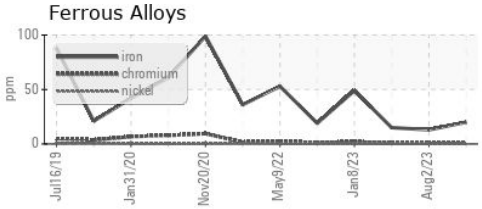
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**22.5**	17.3	16.5
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	**8.12**	12.27	8.91

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	>0.2	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

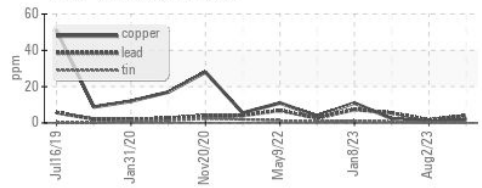
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7	**13.8**	13.8	13.6

GRAPHS

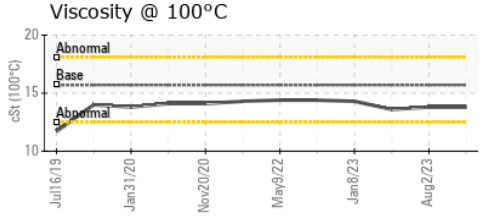
Ferrous Alloys



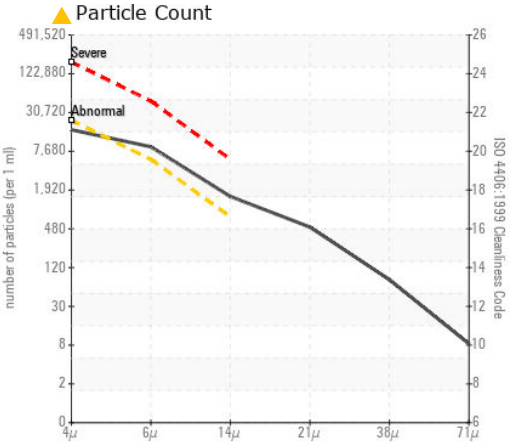
Non-ferrous Metals



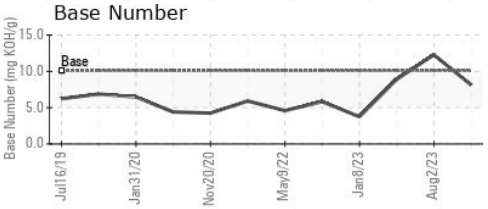
Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0793358 **Received** : 07 Dec 2023
Lab Number : 06028805 **Diagnosed** : 13 Dec 2023
Unique Number : 10778596 **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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