



OIL ANALYSIS REPORT

WEAR	ATTENTION
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area

Goshen

Machine Id

PETERBILT 4017

Component

Diesel Engine

Fluid

DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0650873	WC0725625	WC0744160
Sample Date		Client Info		28 Mar 2024	19 Oct 2023	23 Sep 2023
Machine Age	hrs	Client Info		0	0	483000
Oil Age	hrs	Client Info		600	100	0
Filter Age	hrs	Client Info		600	100	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	N/A	Changed
Sample Status				ABNORMAL	ABNORMAL	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	22	12	21
Chromium	ppm	ASTM D5185m	>20	2	<1	<1
Nickel	ppm	ASTM D5185m	>2	1	2	▲ 5
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	<1	<1	0
Aluminum	ppm	ASTM D5185m	>20	4	4	4
Lead	ppm	ASTM D5185m	>40	4	▲ 77	▲ 299
Copper	ppm	ASTM D5185m	>330	14	▲ 282	▲ 693
Tin	ppm	ASTM D5185m	>15	2	3	▲ 11
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

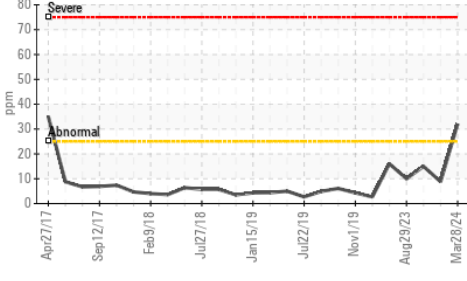
Silicon	ppm	ASTM D5185m	>25	▲ 32	9	15
Potassium	ppm	ASTM D5185m	>20	12	▲ 258	▲ 848
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	▲ 0.12
Soot %	%	*ASTM D7844	>6	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.7	5.5	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.1	16.3	17.4
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

FLUID CONDITION

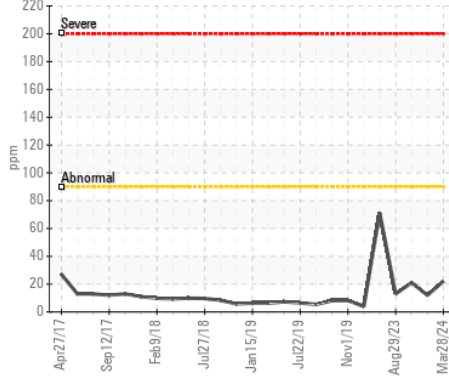
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m	>158	7	▲ 60	▲ 233
Boron	ppm	ASTM D5185m	250	128	31	11
Barium	ppm	ASTM D5185m	10	24	0	0
Molybdenum	ppm	ASTM D5185m	100	4	90	99
Manganese	ppm	ASTM D5185m		4	<1	<1
Magnesium	ppm	ASTM D5185m	450	44	731	330
Calcium	ppm	ASTM D5185m	3000	2759	1051	▲ 879
Phosphorus	ppm	ASTM D5185m	1150	1082	874	881
Zinc	ppm	ASTM D5185m	1350	1343	1147	952
Sulfur	ppm	ASTM D5185m	4250	4585	3235	3316
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.7	11.8	11.8
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.1	12.3	9.7
Visc @ 100°C	cSt	ASTM D445	14.4	13.7	14.3	14.3

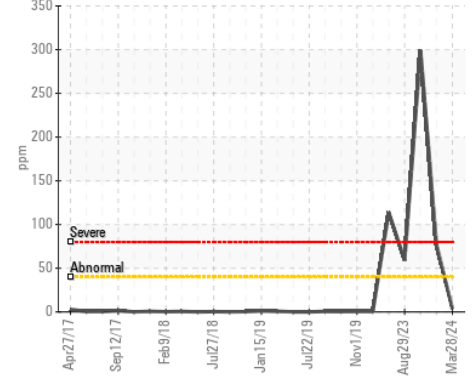
▲ Silicon (ppm)



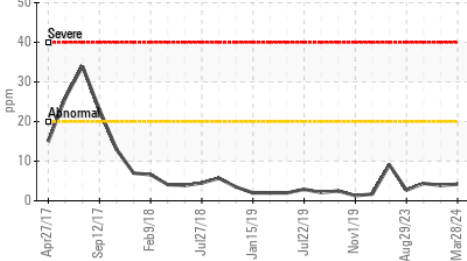
Iron (ppm)



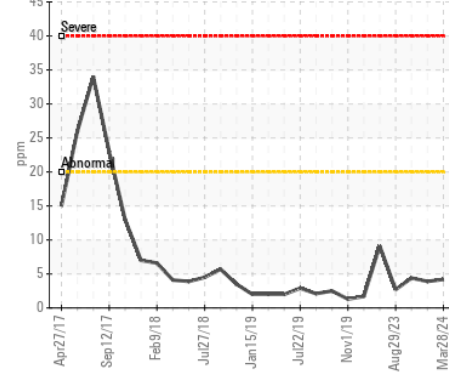
Lead (ppm)



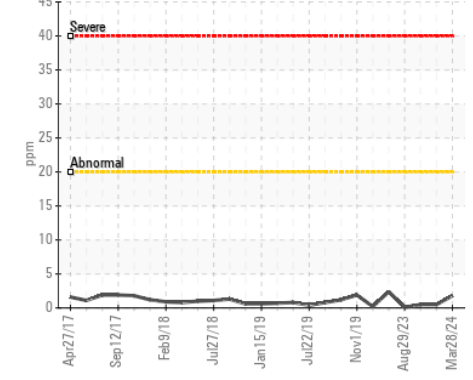
● Aluminum (ppm)



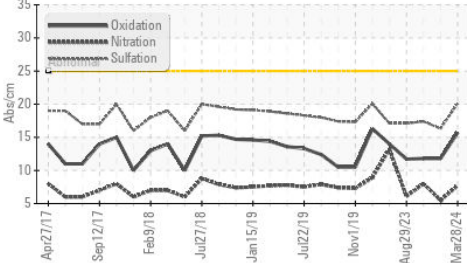
● Aluminum (ppm)



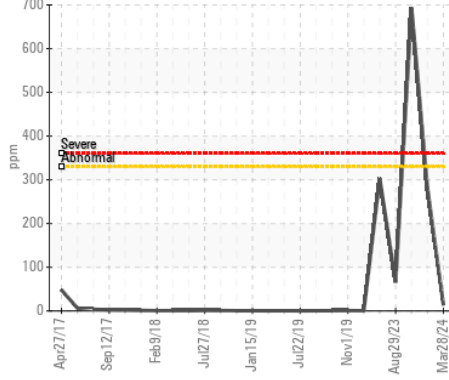
Chromium (ppm)



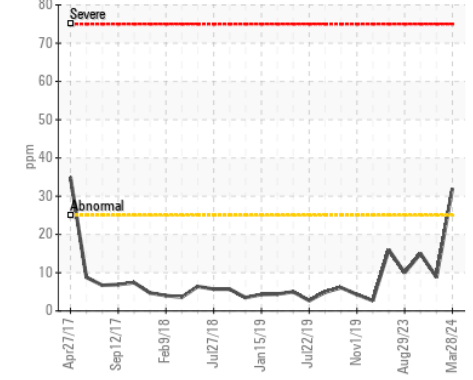
FT-IR (Direct Trend)



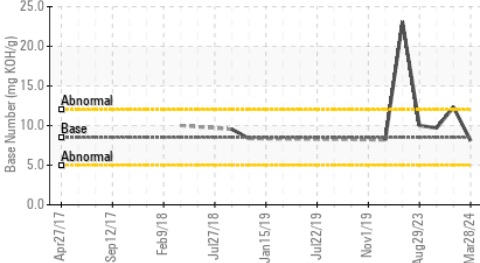
Copper (ppm)



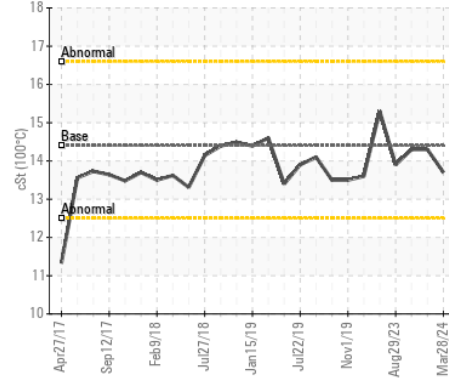
▲ Silicon (ppm)



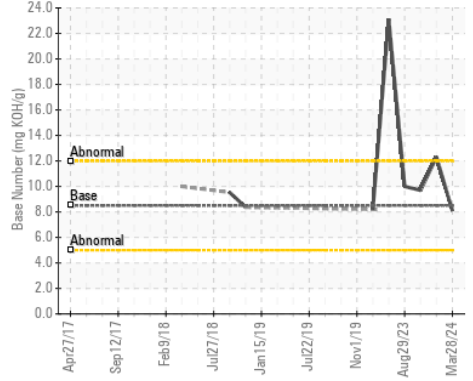
Base Number



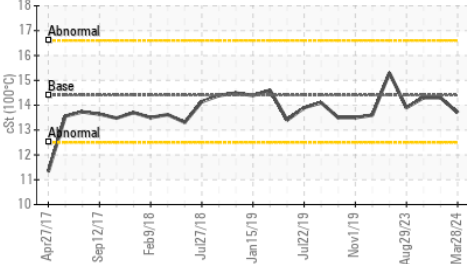
Viscosity @ 100°C



Base Number



Viscosity @ 100°C



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0650873
Lab Number : 06223180
Unique Number : 11101377
Test Package : MOB 1 (Additional Tests: TBN)

INTERSTATE WASTE-GOSHEN
 95 HARTLEY ROAD
 GOSHEN, NY
 US 10924
 Contact: Service Manager

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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F: