



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
PETERBILT T00715
Component
Diesel Engine
Fluid
CASTROL VECTON 15W40 CK4 (40 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		WC0856169	WC0757896	WC0701093
Sample Date		Client Info		20 Jun 2024	22 Feb 2023	09 Sep 2022
Machine Age	mls	Client Info		238190	124863	117022
Oil Age	mls	Client Info		12000	20000	12000
Filter Age	mls	Client Info		12000	20000	12000
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL

WEAR

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>100	▲ 143	48	▲ 118
Chromium	ppm	ASTM D5185m	>20	2	1	3
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	● 15	8	14
Lead	ppm	ASTM D5185m	>40	0	1	1
Copper	ppm	ASTM D5185m	>330	4	2	7
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

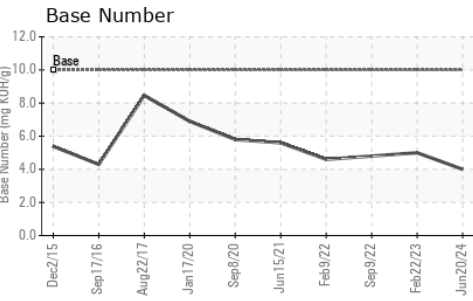
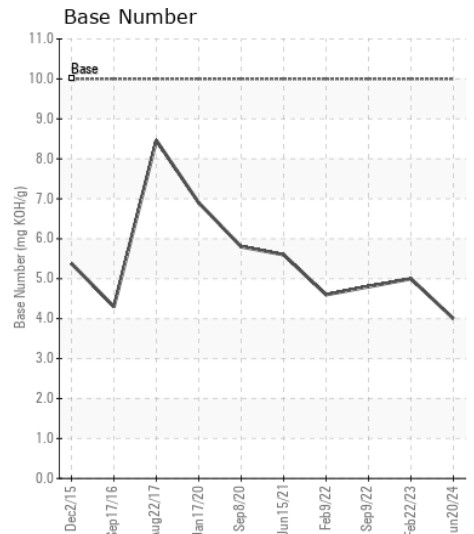
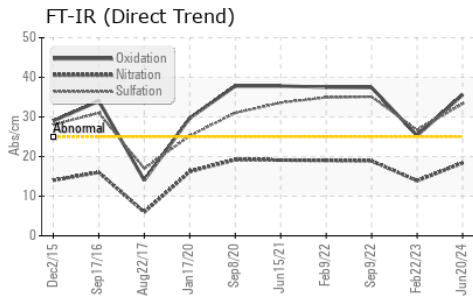
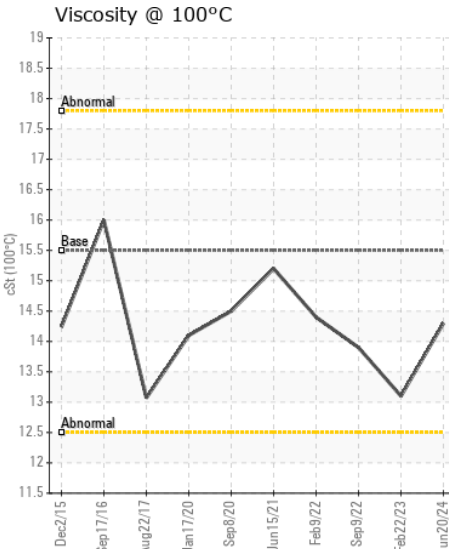
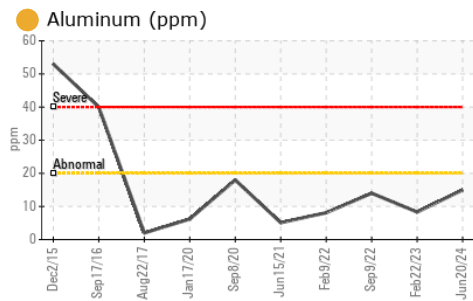
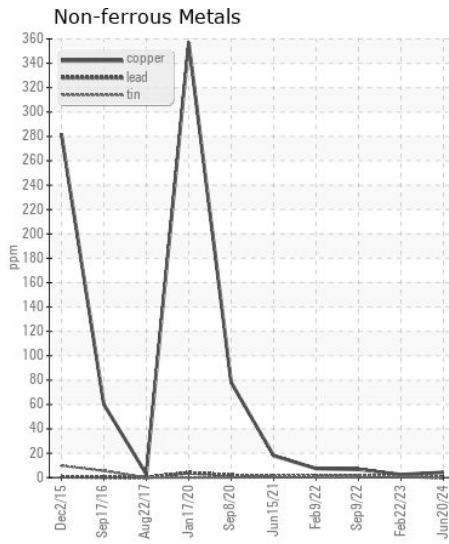
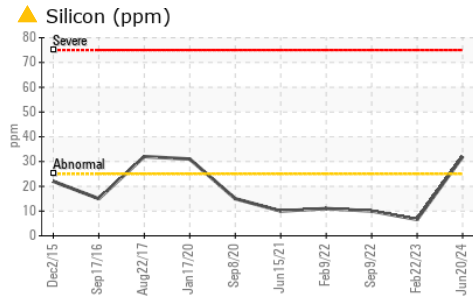
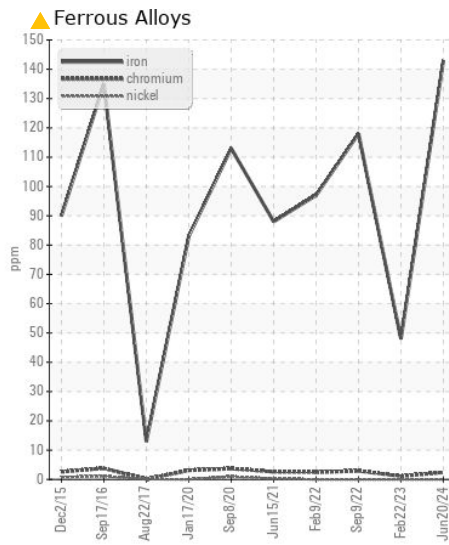
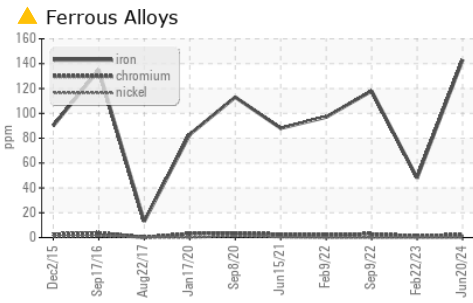
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>25	▲ 32	7	10
Potassium	ppm	ASTM D5185m	>20	22	12	35
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.5	0.9	1.5
Nitration	Abs/cm	*ASTM D7624	>20	18.4	13.9	18.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	33.3	26.7	35.1
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		9	6	31
Boron	ppm	ASTM D5185m		17	21	24
Barium	ppm	ASTM D5185m		0	0	2
Molybdenum	ppm	ASTM D5185m		82	79	81
Manganese	ppm	ASTM D5185m		1	2	1
Magnesium	ppm	ASTM D5185m		96	73	116
Calcium	ppm	ASTM D5185m		2202	1909	1931
Phosphorus	ppm	ASTM D5185m		990	879	938
Zinc	ppm	ASTM D5185m		1170	1115	1161
Sulfur	ppm	ASTM D5185m		3664	3634	3072
Oxidation	Abs/.1mm	*ASTM D7414	>25	35.6	25.3	37.4
Base Number (BN)	mg KOH/g	ASTM D2896	10	4.0	5.0	4.8
Visc @ 100°C	cSt	ASTM D445	15.5	14.3	13.1	13.9



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0856169 **Received** : 09 Jul 2024
Lab Number : 06231341 **Tested** : 10 Jul 2024
Unique Number : 11114834 **Diagnosed** : 10 Jul 2024 - Don Baldrige
Test Package : CONST (Additional Tests: TBN)
 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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