



OIL ANALYSIS REPORT

WEAR	ATTENTION
CONTAMINATION	ABNORMAL
FLUID CONDITION	ATTENTION

Area
Store 1 - Cowen [136262]
 Machine Id
BANDIT 2590 4FMUS3020MR517323
 Component
Diesel Engine
 Fluid
CAT DIESEL ENGINE OIL 15W40 (5 GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LEC0036945	---	---
Sample Date		Client Info		16 Feb 2023	---	---
Machine Age	hrs	Client Info		399	---	---
Oil Age	hrs	Client Info		399	---	---
Filter Age	hrs	Client Info		399	---	---
Oil Changed		Client Info		Not Changd	---	---
Filter Changed		Client Info		Not Changd	---	---
Sample Status				ABNORMAL	---	---

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>100	51	---	---
Chromium	ppm	ASTM D5185m	>20	2	---	---
Nickel	ppm	ASTM D5185m	>4	<1	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>3	<1	---	---
Aluminum	ppm	ASTM D5185m	>20	17	---	---
Lead	ppm	ASTM D5185m	>40	2	---	---
Copper	ppm	ASTM D5185m	>330	8	---	---
Tin	ppm	ASTM D5185m	>15	2	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

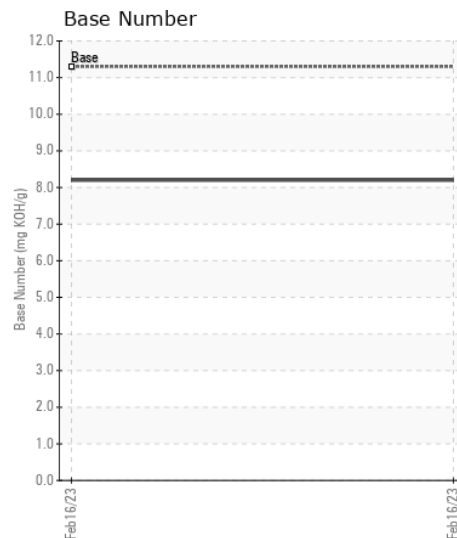
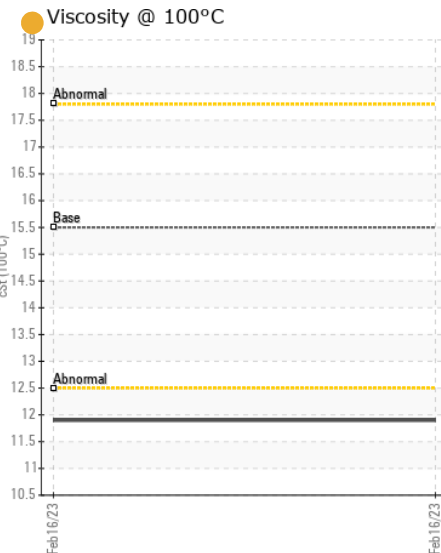
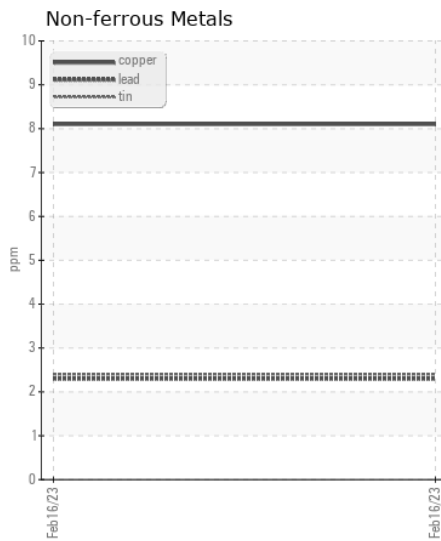
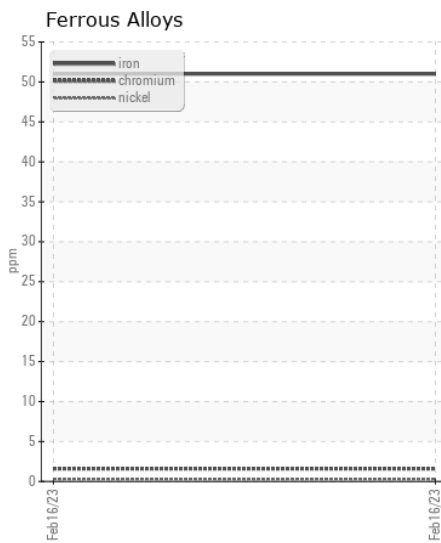
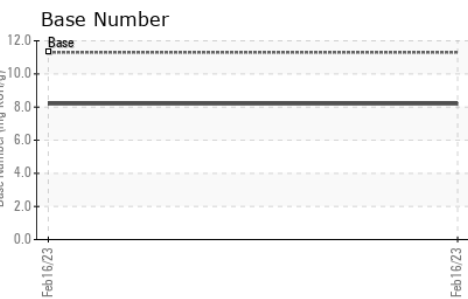
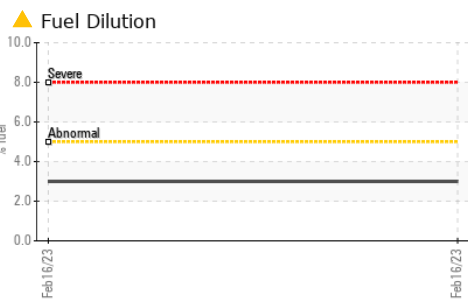
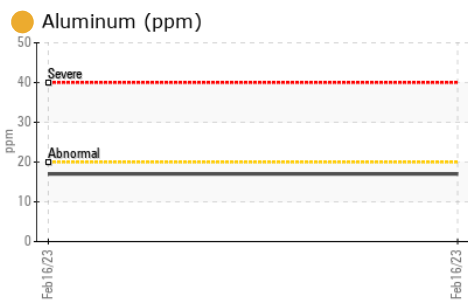
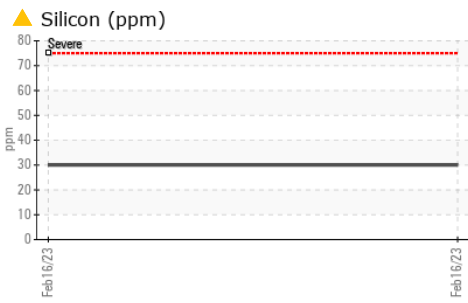
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. Light fuel dilution occurring.

Silicon	ppm	ASTM D5185m	>120	30	---	---
Potassium	ppm	ASTM D5185m	>20	15	---	---
Fuel	%	ASTM D3524	>5	3.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.5	---	---
Nitration	Abs/cm	*ASTM D7624	>20	11.2	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.7	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---	---

FLUID CONDITION

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		7	---	---
Boron	ppm	ASTM D5185m		45	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		36	---	---
Manganese	ppm	ASTM D5185m		2	---	---
Magnesium	ppm	ASTM D5185m		443	---	---
Calcium	ppm	ASTM D5185m		1760	---	---
Phosphorus	ppm	ASTM D5185m		800	---	---
Zinc	ppm	ASTM D5185m	1460	961	---	---
Sulfur	ppm	ASTM D5185m		3276	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.0	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	11.3	8.2	---	---
Visc @ 100°C	cSt	ASTM D445	15.5	11.9	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0036945 **Received** : 20 Feb 2023
Lab Number : 05771689 **Tested** : 22 Feb 2023
Unique Number : 10346306 **Diagnosed** : 22 Feb 2023 - Jonathan Hester
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

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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)